

M A S A N
HIGH-TECH MATERIALS



ANNUAL & SUSTAINABILITY REPORT 2022





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Craig Richard Bradshaw
Chief Executive Officer



Despite external volatility, the fundamentals that underpin our business are positive and strongly position MHT for enduring success.”

MESSAGE FROM MANAGEMENT TEAM

I am pleased to provide the MHT Annual Report for Full Year 2022 to our shareholders. On the back of ongoing continued strong demand and pricing for our Tungsten products, MHT delivered FY2022 record revenue of VND15,550 billion, a VND1,985 billion improvement over FY2021. Some further FY2022 key points as compared to FY2021 include:

- 5% increase in EBITDA to VND3,203 billion – second highest EBITDA ever achieved.
- NPAT pre-MI of VND105 billion – a reduction of 60% over FY2021 (VND261 billion) mainly due to impact of higher financial expenses.
- 13% increase in WO3 revenue to third party customers in which 70% coming from the H.C. Starck (“HCS”) midstream products – tungsten carbides and powders.
- VND1,192 billion contributed to the Vietnam state budget.

While the result was positive for the full year it was certainly a year of challenges with two distinct halves, with the first half of the year delivering both top line and bottom line growth, while the second half saw challenges to both top line and bottom line due to various regional and global factors.

HCS order book for EMEA and NAFTA remained robust for the year but 2H2022 saw some headwinds for demand in China and APAC mainly due to sluggish market consumption with customers reducing inventories heading into year end and concerns over global economic conditions. In our China business the China Zero COVID policy significantly reduced sales in the second half with many customers being closed down suddenly and orders then being either delayed or cancelled due to business closures or non-availability of customer workers. On the positive side as we move into 2023 we are seeing improved customer orders in China coming through post Lunar New Year and expect this to continue as China emerges from the closures and undertakes initiatives to stimulate their economy. The wider HCS business recorded a revenue increase of 12% over FY2021 due to strong realized prices due to underlying APT price strength. The second half of FY2022 also saw significant cost pressures for the business in particular in our European operations with significantly higher energy, hydrogen, nitrogen, caustic soda and gas prices due to the energy crisis created by the Russia – Ukraine conflict. Our HCS management team is continuing to implement various initiatives for cost

saving and improving plant efficiency to mitigate the impact of rising input costs which will be progressively delivered through 2023.

The Vietnam based businesses, Nui Phao Mining Company (“NPMC”) and Masan Tungsten Company (“MTC”), were also negatively impacted by rising fuel, explosives and chemical prices during FY2022. Additionally, higher financial expenses caused by rising cost of capital in Vietnam in 2H2022 also negatively contributed to the overall profitability of the business. This was mitigated by a strong order book for Tungsten, Fluorspar, and higher realized price for all the products. Our Vietnam based management team is continuing to control costs through optimization and to increase the production efficiency of the plants.

From a strategic perspective we continued on our strategic growth path with further improvement and investment across the business. As a result of drilling undertaken at Nui Phao throughout 2020 and 2021 we have been able to increase the JORC Compliant Mineral Reserves by 36% as compared to the 2019 JORC Compliant Mineral Reserves. At November 2022 this leaves 44.1 million tonnes of ore available to be mined and processed giving an indicative mine life of further 12 years. In addition, through the reprocessing of historical exploration data with modern technology and the work conducted by the team during the latest resources and reserves preparation, the Nui Phao team have identified new exploration opportunities of which permit has now also been applied for, providing future expected mine life extensions. Relevant license extensions and new licenses applications are in process with the relevant authorities and are expected to be granted over the next 12 months.

In our HCS business we also expanded into battery materials and on 15 July 2022 executed definitive agreements to invest £45m (approx. €52m) into Nyobolt Limited (“Nyobolt”), a fast-charging Li-ion battery solutions company. Since the signing of the agreement, management has been collaborating continuously with Nyobolt to advance the product offering and look for opportunities to partner in the manufacturing and commercialization of the battery products as part of its strategy to go into higher value-added tungsten applications.

In 2022 we strengthened our governance and compliance framework with the initiation of MHT Internal Audit and Compliance teams. This provides the board with independent review and confirmation of systems, processes and performance across the business as well as ensuring a consistent approach to the identification and mitigation or elimination of risk. During 2022 we also set up a Business Process

Optimization team and an Enterprise Portfolio Management Office to drive consistent, standardized and costs effective systems and processes across the organization. This is expected to deliver significant cost savings as we integrate the business operations globally.

Disappointingly we have still not been able to successfully monetize our stockpile of Copper Concentrate outside some minor local sales which were achieved in Q4 2022. Gross market value of the Copper Stocks currently sits at US\$218m. We continue to work with Government agencies to monetize this stockpile, however progress has been slower than planned. The management team continues to explore options to convert this stockpile to cash in the near term on financial terms that are fair and reasonable.

Our employees continue to work tirelessly for you, our shareholders, to ensure that MHT reaches its full potential. We now have 2,237 employees across nine countries to deliver on the Vision of the company. With the world largely opening across 2022 we have finally been able to get many of the cross disciplinary teams from respective operations together to workshop initiatives from improved safety, energy reduction improvements, product advancements and general cost improvements. We expect to see the benefits of these collaborations flowing through over the next few years.

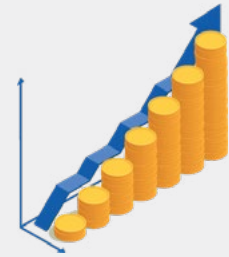
As we look forward, while 2023 is expected to be challenging with ongoing global turmoil and inflationary pressures and recessionary concerns, our business is well placed to navigate the challenges and our people are more than up for the challenge and to overcome such obstacles.

Personally, I am excited about our plans for the year ahead and for the future. Despite external volatility, the fundamentals that underpin our business are positive and strongly position MHT for enduring success.

Thank you for your ongoing support.

Craig Richard Bradshaw
Chief Executive Officer

OUTSTANDING ACHIEVEMENTS IN 2022



Net revenue reached
 VND **15,550** billion
 a 15% increase compared to 2021



Tungsten revenue increased by
13%
 of which 70% came from
 deep-processing tungsten products



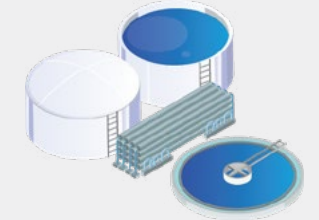
Invested
 EUR **52** million
 in Nyobolt, a UK-based fast-charging
 Li-ion battery solutions company



Actual operating time of the
 factory was
95.8%



65%
 of generated waste was
 recycled



7.3 million m³
 of wastewater were treated before
 discharge



Contributed
 VND **1,192** billion
 to the State budget



2,237
 global employees



46,223
 hours of training



Obtained
2
 ISO 50001 certificates
 at MTC and Goslar



Maintained
4
 ISO 14001 certificates at MTC, Goslar,
 Sarnia, and Ganzhou



Tungsten was listed in the
TOP 10
 Golden Products of Vietnam
TOP 50
 Leading Brands of Vietnam

2022 AWARDS AND RECOGNITION

Masan High-Tech Materials and its subsidiaries have won many prestigious awards for its efforts and accomplishments in 2022, including Tungsten - Top 10 Vietnam Gold Products, Top 50 Vietnam Excellent Brands, Top 100 Vietnam Gold Star Awards, Top 100 Vietnam Strong Brands, and Top 100 Sustainable Businesses in Vietnam. These honors represent significant acknowledgement of the Company's continued efforts, as well as encouragement for the Company to strive for larger production and commercial goals, affirming the position of Masan High-Tech Materials in both national and international markets.

CERTIFICATE OF "VIETNAM'S TOP TEN GOLDEN PRODUCTS - 2022" FOR TUNGSTEN PRODUCTS OF MASAN HIGH-TECH MATERIALS

Voted and awarded by Vietnam Intellectual Property Association (VIPA)

CERTIFICATE OF "TOP 50 VIETNAM LEADING BRANDS" FOR MASAN HIGH-TECH MATERIALS

Voted and awarded by Vietnam Intellectual Property Association (VIPA)

CERTIFICATE OF "TOP 50 VIETNAM BEST GROWTH 2022" FOR MASAN HIGH-TECH MATERIALS

Voted and awarded by Vietnam Report JSC

CERTIFICATE OF "TOP 50 VIETNAM EXCELLENT BRANDS" FOR MASAN HIGH-TECH MATERIALS

Voted and awarded by Vietnam Report JSC

CERTIFICATE OF "TOP 100 SUSTAINABLE BUSINESSES IN VIETNAM 2022" FOR MASAN HIGH-TECH MATERIALS

Voted and awarded by the Vietnam Chamber of Commerce and Industry (VCCI)

CERTIFICATE OF "TOP 100 VIETNAM GOLD STAR AWARD 2021" FOR NUI PHAO MINING

Awarded by the Young Entrepreneurs Vietnam Association

CERTIFICATE OF "TOP 100 VIETNAM STRONG BRANDS" FOR MASAN HIGH-TECH MATERIALS

Voted and awarded by the Vietnam Economic Times

CERTIFICATE OF MERIT FOR NUI PHAO MINING FOR "ITS EXCELLENT ACHIEVEMENTS IN BUILDING A STRONG TRADE UNION IN 2022"

Voted and awarded by the Vietnam General Confederation of Labor

CERTIFICATE OF MERIT FOR NUI PHAO MINING FOR "ITS EXCELLENT ACHIEVEMENTS IN THE PREVENTION OF THE COVID-19 EPIDEMIC"

Voted and awarded by the Thai Nguyen People's Committee

CERTIFICATE OF MERIT FOR NUI PHAO MINING FOR "ITS ACHIEVEMENTS IN REPAYMENT ACTIVITIES IN THE PERIOD 2017 - 2022"

Voted and awarded by the Department of Labor, War Invalids and Social Affairs of Thai Nguyen Province

CERTIFICATE OF MERIT FOR NUI PHAO MINING FOR "ITS EXCELLENT ACHIEVEMENTS IN IMPLEMENTING REGULATIONS ON COORDINATION IN THE IMPLEMENTATION OF FIRE PREVENTION, FIGHTING, RELIEF AND RESCUE"

Voted and awarded by Thai Nguyen Provincial Police

CERTIFICATE OF MERIT FOR NUI PHAO MINING FOR BEING "A ROLE MODEL ENTERPRISE IN THE PEOPLE'S MOVEMENT TO UNITE AND BUILD CULTURAL LIFE FOR EIGHT YEARS (2015-2022)"

Voted and awarded by Dai Tu District People's Committee

CERTIFICATE OF MERIT FOR NUI PHAO MINING FOR "ITS ACHIEVEMENTS IN THE TET PEAK WEEK PROGRAM FOR THE POOR IN DAI DISTRICT FROM 2022"

Voted and awarded by Dai Tu District People's Committee

CERTIFICATE OF MERIT FOR NUI PHAO MINING FOR "ITS CONTRIBUTIONS TO THE 100th ANNIVERSARY OF DAI TU DISTRICT ESTABLISHMENT AND DEVELOPMENT (01/08/1922 - 01/08/2022)"

Voted and awarded by Dai Tu District People's Committee



BUSINESS OPERATION REPORT

Business Overview Report

Business Performance

Management Team Assessment Report

Board of Directors Assessment Report

Audit Committee's Review of the Company's Operations

Corporate Governance Report

Risk Management



BUSINESS OVERVIEW REPORT

2022 - 2023 Economic & Financial Review and Outlook

Global economic activity is experiencing a broad-based and sharper-than-expected slowdown, with inflation higher than seen in several decades. The cost-of-living crisis, tightening financial conditions in most regions, Russia-Ukraine conflict, and the lingering COVID-19 pandemic all weigh heavily on the outlook. Global growth is forecast to slow from 6.0% in 2021 to 3.2% in 2022 and fall to 2.9% in 2023, rise to 3.1% in 2024. This is the weakest growth profile since 2001 except for the global financial crisis and the acute phase of the COVID-19 pandemic. Global inflation is forecast to rise from 4.7% in 2021 to 8.8% in 2022 but to decline to 6.5% in 2023 and to 4.1% by 2024. Monetary policy should stay the course to restore price stability, and fiscal policy should aim to alleviate the cost-of-living pressures while maintaining a sufficiently tight stance aligned with monetary policy. Structural reforms can further support the fight against inflation by improving productivity and easing supply constraints, while multilateral cooperation is necessary for fast-tracking the green energy transition and preventing fragmentation.

In our main markets, Vietnam's GDP rapidly increased from expansion of 5.5% to reached 8.02% in 2022, and expect at 6.3% in 2023. German GDP increased from 2.7% in 2021 to 4.5% in 2022, and expect to continue increasing by 0.2% in 2023. The US GDP expanded by 2.1% in 2022 from 5.9% in 2021, expect to continue expanding by 1.3% in 2023. China grew by 3% in 2022, and is expected to expand by 5% in 2023 after recent reopening post COVID19.

As reported by the World Bank, global inflation is expected to fall to 6.6% in 2023 and 4.3% in 2024, still above pre-pandemic levels. Inflationary impacts in 2022 have been felt in our business throughout 2022, particularly in the second half of 2022 in our European operations with negative impacts on both our production and freight costs. This trend is expected to slightly reduce in 2023 with improved energy costs in Europe and China's recent reopening which has paved the way for a faster-than-expected recovery. We continue to monitor these developments very closely.



2022 Market Report

Tungsten

2022 was a generally robust year for tungsten demand and tungsten prices, albeit a year of two halves. Business got off to a strong start in 1Q before the shock invasion of the Ukraine by Russia caused supply chain disruptions and panic buying across downstream sectors directly impacted by the conflict such as energy and defense. The market stabilized through the middle of the year and saw overall strong demand in line with general global macroeconomic strength, whilst additional new demand was brought forward thanks to the asymmetric recovery for global travel and tourism post COVID. The market began to show signs of strain towards the end of the year as elevated inflation and rampant energy prices put cost pressure on manufacturing businesses, and the surprise and extreme lockdowns in China quenched industrial output and consumer spending.

Major macro themes in 2022 include global conflict, heightened geopolitical tensions between the U.S. and China, the first sustained inflationary environment in decades, aggressive interest rate activity of central banks and restrictive monetary policy. Tungsten fundamentals were positive throughout 2022 with continued tightness in the upstream raw materials markets, and the ongoing de-risking and reshoring of supply chains creating further opportunities for arbitrage. The rearming and restocking of militaries resulting in increased global defense spending, and the focus on energy security and localization of production were beneficial to the demand side, whilst the traditional tungsten consuming segments such as transport, mining & construction, and industrial performed well.

As we move into FY2023 the Tungsten price is likely to remain stable as business confidence recovers across EMEA and NAFTA and the Chinese economic engine starts to hum again after months of disruption caused by COVID lockdowns. Welcome signs of softening inflation have begun to appear; U.S. inflation has fallen for six consecutive months, supply chains are mostly debottlenecked, wage growth is slowing, and energy prices have returned to levels present before Russia's invasion of Ukraine. Actual economic activity as measured by unemployment, industrial output, and retail sales are still indicating global growth and as central banks ease of interest rate hikes we expect a bounce in sentiment and anticipate another solid year for tungsten.

Fluorspar

The Acid Grade Fluorspar market ex. China consists of a very limited number of producers, which coupled with a relatively well-balanced supply and demand situation throughout 2021 left the market particularly exposed to supply side effects. In first half 2022 the closure of Canada Fluorspar's St. Lawrence mine through insolvency, and the temporary closure of Koura's Las Cuevas mine due to geotechnical issues, delivered a double shock that helped to lift the spot price above \$550/MT and left consumers scrabbling to secure supply and lock up forward volumes. In the second half of the year the supply shortfall was somewhat dampened by exports from China; material that would have under normal conditions been consumed in the domestic market but due to COVID lockdowns was available for export sale. Even with the temporary relief of Chinese supply the market finished the year at \$465 with expectations of further support as the domestic economy recovers into 2023, and further increased demand from capacity expansions at a number of consumer locations worldwide.

Moving into FY2023 demand for non-China supply of Acid Grade Fluorspar has been given a boost by the U.S. CHIPS act and IRA which strongly favor supply for strategic materials such as Fluorine Chemicals for semiconductor process gases, from partner nations with free trade agreements. As a result of this MHT has grown its market share to account for approximately 30% of the supply into Japan, is actively engaged in business development with Korean customers and is a strategic supplier to most of the major consumers in the EU and USA. Further price increases look possible with a dearth of high-quality new projects in the pipeline, and demand growth forecast required to facilitate the energy transition as HF is used to produce fluorinated products such as LiPF₆ and polymer separators for Lithium-Ion batteries.

Cobalt

Cobalt prices took a rollercoaster ride in 2022 continuing the run from 2021 to a peak at over \$40/lb in April, before correcting sharply downwards throughout 2H22 as the reality of subdued demand from the China domestic market set in. The The Russia-Ukraine conflict on 24th February was a significant driver of the price increase, with one company Nor Nickel accounting for ~ 12% of the refined Cobalt metal supply

globally and fear of sanctions resulting in a de-facto boycott of Russian material. Additional supply side restrictions in the DRC, which represents approx. 70% of global primary production, caused by ongoing labor shortages, lack of containers, and competition for export freight routes, helped to lift the price further. The peak was followed by a sharp correction as the China lockdowns kicked in and the sentiment turned strong negative; China is the largest consumer of Cobalt raw materials, predominantly for the production of Li-Ion battery precursor chemicals, and also the largest existing market for EV's and consumer electronics in which these chemicals are used.

The start of FY2023 is not looking particularly exciting for Cobalt prices as the China economy will take some months to get back on its feet, and high inventories will have to be worked down. On the demand side there are headwinds in consumer electronics as the COVID 'work from home' bonanza fades, and China is scheduled to withdraw government subsidies for NEV's at the end of Dec 22 which will likely result in slower sales. On the supply side things look very relaxed as supply chain pressures ease, and additional production coming on stream in DRC and Indonesia is hitting the market during a slump in demand. We maintain a balance outlook on Cobalt for the remainder of 2023 as the battery precursor markets recover and the traditional metallurgical sectors such as Aerospace and Defense continue to outperform.

Bismuth

Bismuth prices continued a historic run of relative stability throughout

2022 ending the year with an average up 4% on 2021 at US\$4.0/lb. Exports from China, the world's largest producer of Bismuth continued to increase throughout 2022 as demand recover in the Automotive, Pharmaceutical, Cosmetics and Pigmentation sectors, and supply remains constrained and well balanced. We forecast a slightly positive forward curve throughout 2023 with some downside risk as the consumer electronics and semiconductor materials sectors remain weak as they work through excess inventory.

Copper

Whilst the average copper price came off in 2022 down to \$8,814/MT as compared with \$9,319/MT in 2021 the near-term future is definitely bright; analysts and producers predict a structural supply deficit if up to 6mio MT by 2030 as the developed world undertakes the energy transition and rapidly shifts towards electric vehicles and renewable energy. Copper intensity in renewables such as wind and photovoltaics is four to six times higher compared with fossil fuels, and the average EV contains five times more copper than the equivalent IC vehicle. On the supply side the project pipeline looks relatively weak with a deficit of late-stage projects indicating that supply will lag demand growth. Copper underperformed in 2022 as a result of tighter U.S. monetary policy, weak demand from the housing market, and a weak second half from the largest copper consumer - China. We expect moderate growth in consumption in 2023 and a tightly balanced market with minimal physical stocks on exchange, supported by ongoing green spending on grid infrastructure and renewable power.

| Average Commodity Prices | Unit | Average FY22 | Average FY21 | % Change | At 31.12.22 | At 31.12.2021 |
|-----------------------------|---------|--------------|--------------|----------|-------------|---------------|
| APT | USD/mtu | 338 | 286 | 18% | 330 | 320 |
| Bismuth | USD/lb | 3.8 | 3.6 | 4% | 3.7 | 4.0 |
| Copper | USD/MT | 8,814 | 9,319 | 0 | 8,387 | 9,691 |
| Fluorspar Acid Grade | USD/MT | 421 | 419 | 0% | 465 | 448 |
| Cobalt | USD/lb | 27.9 | 22.6 | 24% | 23.5 | 31.9 |

2022 BUSINESS PERFORMANCE

ANNUAL PRODUCTION

Oxides, Powders, Carbides & Specialty Chemicals

Overall Tungsten production decreased by 2% over 2021, mainly due to a slight reduction of Tungsten feed grade in Nui Phao mine, partly offset by an increase in Tungsten carbides and powders production within HCS business. Production from the recycling of tungsten scraps increased by 13%. MHT is working to increase the share of production coming from secondary or green sources (scrap), in line with the company's strategy and philosophy of reduce, reuse, recycle.

Fluorspar, Copper, Bismuth Cement and Cobalt

Fluorspar production in 2022 was

1.4% higher than last year, mainly due to the unforeseen machinery breakdown which occurred in 3Q2021.

Bismuth Cement production in 2022 reduced by

6% to 1,938 tons (2,067 tons in 2021) primarily due to lower mined feed grade and lower recovery due to lower feed grade.

Copper production was

25% lower than in 2021 due to lower feed grades.

Cobalt production in 2022 was in line with 2021 at

278 tons contained

Net Revenues

MHT reported net revenue of VND15,550 billion in 2022, a 15% increase compared to VND13,564 billion recorded in 2021. Tungsten revenues climbed by 13% due to increased volumes and higher pricing due to increased market demand. Fluorspar revenues increased by 30% to VND1,948 billion with increased sales volumes and higher realized pricing due to higher market demand. Bismuth revenues were at VND291 billion (VND261 billion in 2021) – a slight increase due to higher pricing and sale volume. Copper revenues totaled VND48 billion from sales to a local Vietnam smelter in 4Q2022. Management expects that additional gains from copper sales will continue to be realized throughout 2023 either through additional domestic sales or approval of the company's application for export licence.



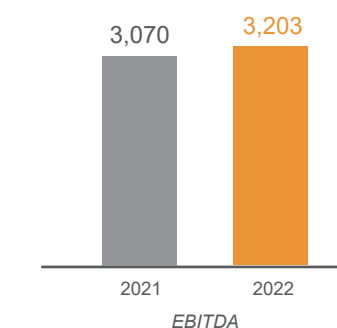
Increase

15%

net revenue

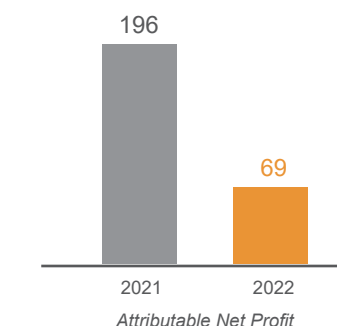
EBITDA

EBITDA increased by 4% to VND3,203 billion for 2022 (FY2021: VND3,070 billion). EBITDA margin was at 21% - slightly down on the prior year (2021 23%) due to increases in energy and input raw material costs flowing through to all parts of the business. Main driver of cost inflation in Europe was as a result of the Russia and Ukraine conflict impacting energy costs and the zero COVID policy of China throughout 2022 which led to lower supply of reagents and raw material, and hence higher costs in the market. Management is implementing various initiatives for cost saving and improving plant efficiency to mitigate the impact of raising input costs as mentioned above.



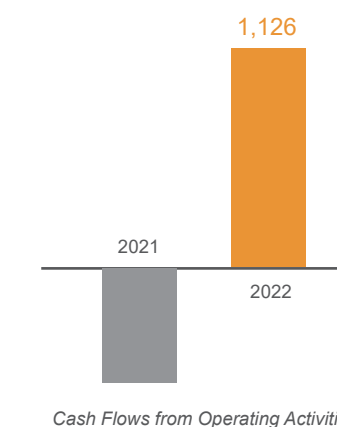
Attributable Net Profit

Masan High-Tech Materials delivered an NPAT Post-MI profit of VND69 billion in 2022, a VND127 billion decrease compared with last year. While achieving higher revenues, profitability for the year was negatively impacted by rising input material and production costs caused by the inflationary factors being felt throughout the world, particularly in the European business. In addition, higher financial expenses caused by the rising cost of capital and market restrictions in availability of credit by State Bank of Vietnam in 2H2022 also negatively contributed to the overall NPAT level for the year.



Cash Flows from Operating Activities

The Company reported cash inflows from operating activities of VND1,126 billion, an increase of VND1,718 billion year on year (2021 cash outflows of VND592 billion). The improvement in cash flows from operations was due to an increase in EBITDA and a significant improvement in working capital management across different subsidiaries. In 2023 the business focus will remain on close working capital management during the current cost-rising business environment through inventory optimization and continuous improvement in the cash collection cycle.



Cash Flows from Investing Activities

In 2022 the company's cash outflows for investing activities is VND2,658 billion (2021 cash inflows of VND300 billion), a VND2,958 billion increase year on year. Adjusted for the collection of long-term deposits to banks and interest earned from such deposits, the net spending on investment in other entities and fixed assets totaled VND2,644 billion (2021 adjusted cash outflows of VND894 billion). Major capital expenditure in 2022 was for ongoing land compensation, expansionary capital projects focused on improving efficiencies and plant performance and sustaining capital projects primarily related to the tailings facility at Nui Phao. Additionally, the investing cashflow in 2022 included £45m (VND 1,342 billion) of investment to acquire a 16% share of Nyobolt Limited - a fast-charging, high energy density battery solutions company, to accelerate MHT's vision of becoming a high-tech, value-added business by developing new tungsten applications critical for the technologies of the future.

Debit Maturity

Of the Company's total debt obligations, 81% is maturing within 1 year. The Debt/EBITDA ratio slightly increased from 4.6x in 2021 to 5.0x in 2022. Despite improvement in EBITDA performance as mentioned above, higher borrowings lead to a small increase in the 2022 Debt/EBITDA ratio.

Net Assets & Owner's Equity

The net assets/owner's equity increased 6.3% year on year to VND15,247 billion in 2022 from VND14,341 billion in 2021. This increase was primarily due to NPAT for 2022 of VND69 billion and other balance sheet adjustments with regard to foreign exchange differences and pension liability in HCS business.

Cash outflows for investing activities is

VND **2,658** billion

Total debit obligations

81%

is maturing within 1 year

The net assets/owner's equity increased

6.3%

MANAGEMENT TEAM ASSESSMENT REPORT

Dear Shareholders,

On the back of ongoing continued strong demand and pricing for Tungsten products, Masan High-Tech Materials Corporation ("Company" or "MHT") delivered a record revenue of VND15,550 billion for the fiscal year 2022, a significant improvement of VND1,985 billion over FY2021. The Company's EBITDA was VND3,203 billion, a 4% increase over 2021 and the second-highest EBITDA ever achieved.

In July 2022, via H.C. Starck Tungsten GmbH (HCS), MHT executed definitive agreements to invest £45m into Nyobolt Limited ("Nyobolt"), a fast-charging, high energy density Li-ion battery solutions company incorporating Tungsten – Niobium Bronze into its battery composition. This acquisition is aligned with the company's vision of becoming a high-tech, value-added business by developing new Tungsten applications critical for the technologies of the future.

Record Net Revenue of

VND 15,550 bn

15% growth over 2021

EBITDA of **VND 3,203 bn**
a 4% increase in comparison with 2021

Investment of **VND 1,342 billion**

(£45m)
into Nyobolt Limited ("Nyobolt"), a fast-charging Li-ion battery solutions company

We highlighted below the significant outcomes delivered in 2022:

OPERATIONS

In Vietnam, our NPMC operation processed 1.5% more ore compared to the previous year. We were able to replicate recoveries of Tungsten and bismuth from 2021, while increasing copper recovery by 3.0%. Production of Tungsten, copper, and bismuth decreased by 21.5%, 24.5%, and 6.2% respectively due to processing lower-grade ore while transitioning from the Eastern pit to the larger orebody in the Western pit. On the other hand, there was an increase in production of acid grade fluorspar by 1.4% due to increased process recoveries / yield of 4.3% through progressive process improvements compared to 2021.

In our ChemiLytics analytical business, we saw a 3% rise in sample submissions year-on-year due to increased operations of our three main customers, which account for 95% of our revenue.

WORKFORCE

At Masan High-Tech Materials, people have been a core pillar of the success of the business over the past 12 years. With 2,237 employees working across our operations around the globe, we seek to create safe, positive, engaging and cohesive working environments. Steadfast in our global focus, we adhere to a cross company set of values, a code of conduct and a core set of policies, including the Human Resources Policy, Compliance Policy, Commitment to Responsibility and Sustainable Development - Four Principles of Success, and External Relations Policy.

Attracting, training, and sustainable development of human resources are always top priorities at MHT. We aim to improve and transform the quality of our training programs while also implementing recruitment policies, talent attraction strategies, and competitive remuneration policies. Every employee works together to create action plans and nurture individual career journeys, which provide opportunities for each person to leverage their internal strengths and achieve success in partnership with MHT. Our goal is to create great value together as we build MHT.

To adapt to changes and improve the competitiveness of our organization, we believe that establishing a transparent and healthy internal foundation is crucial. We take pride in our team of excellent, understanding, and exemplary global leaders who are at the forefront of reviewing, building, and innovating transparency across processes, people, and technology.

In 2022, we established the Business Process Management (BPM) Unit and Portfolio Management Office (PMO) to improve and launch priority initiatives that harmonize and manage business processes throughout MHT, and establish a framework for managing a portfolio of transformation initiatives, thereby achieving the Company's strategy based on a unified and consistent system. We also initiated the Internal Audit and Compliance Departments function to independently inspect and evaluate process systems, business risk areas, and ensure strict compliance commitments, thereby promoting transparency within the organization. The new functions have delivered opportunities for standardisation and identified areas for improvement and optimisation of costs within the business which will be progressively implemented across future periods.

The Company is committed to improving healthcare programs for employees, such as strengthening the activities of the Company Clinic and organizing health consulting seminars. In the future, the Company intends to expand its scope of care by providing mental health care packages for employees. Health consultants provide consulting services, organize and coordinate with all units, analyze potential hazards, and assess the current state of occupational health in the organization to find solutions that improve the health of workers. These efforts may seem small, but they can help our workers balance their work and personal lives, provide them with peace of mind, and enable them to perform at their best.

SAFETY

In 2022, the Total Recordable Injuries Frequency Rate (TRIFR) and Lost Time Injury Frequency Rate, per million man-hours worked at MHT Vietnam were 3.42 (2021: 1.64) and 1.44 (2021: 0.62) respectively. For our HCS operations, the Lost Time Injury Frequency Rate was 6.6 (2021: 5.5 / 2020:12.7). ChemiLytics recorded an LTIFR of 32.2 (2021 10.0 / 2020: 10.3) with three accidents within the year 2022. In response to the increase in the number of accidents, the H&S department at Goslar was strengthened to improve focus and support to the operations.

In response to the increase in reportable incidents focus was increased on identification and reporting and addressing potential hazards, taking resolute action to reduce risk and preventing incidents. At HCS, there was a slight increase in accidents in Goslar, but the reintegration of the occupational safety and health department into the HSEQ department has led to more intensive supervision and fewer accidents in Sarnia and Ganzhou since the change.

In Vietnam, the Covid-19 pandemic broke out strongly in early 2022. However, thanks to proactive measures taken to prevent the spread of the virus, the Company has not been significantly impacted by the pandemic. The Company continues to implement measures to prevent the epidemic and ensure the health of its employees. In 2022, the Company Clinic provided health care services to 5,573 employees and administered seasonal flu vaccines to 1,196 employees.

The "Rank Your Day" (R.Y.D) program has been implemented to encourage positive attitudes and enhance the proactive role of each individual in safety work. The Company successfully organized a "Safety Day" event, which included sharing health and safety orientations, recognizing the achievements of collectives and individuals, launching the 5S program, and hosting a "Health Day" that featured the "MHT Amazing Race 2022" program with lively and appealing physical activities to promote fitness.

MHT Vietnam analyzed the conformity of its Health & Safety Management System with the Occupational Health and Safety (OHS) Standard Management System ISO 45001:2018, paving the way for the application of this standard at MHT. To more closely assess the working environment of employees, the Company added 219 sampling points in annual environmental testing, bringing the total number of samples to 1,212, with 98.1% of samples found to be satisfactory. The Company has also implemented Take5 Online, which was launched in August 2022, to bring convenience to users. In Q4 2022, there were 19,388 Take5 Online reviews, which identified 43,619 hazards related to the 5 major risk groups.

ENVIRONMENT

Environmental protection is particularly important in MHT's strategic orientation for sustainable growth. In 2022, environmental protection activities was focused on maintaining and strengthening the administration of environment protection and development works.

In 2022, 7,677 thousand m³ of wastewater was reused for production activities at Nui Phao mine. NPMC also reused 501,079 m³ of waste soil and rock from the mining to construct the tailings dam and other internal projects. At Goslar and Sarnia operations, the waste generated in the production process is often rich in valuable materials (especially metals), which will be used as raw materials by other companies. Waste recycling rates at the Goslar and Sarnia plants are high, at 54% and 67% respectively. At the MTC plant, the rate of waste being recycled

is also very high, reaching more than 71%, mainly coming from the use of leaching residues (PLR residues) that meet low-grade lime standards to provide for the pH neutralization activities of the Nui Phao processing facility.

MTC, Goslar, Sarnia and Ganzhou plants continue to maintain ISO14001 environmental certification. Goslar operation in Germany continues to develop an energy management system according to ISO 50001 standard. In particular, in 2022, MTC established an energy management system according to ISO 50001:2018 and obtained certification. The application of the ISO 50001:2018 will be a premise to control the use of energy in a strict, sustainable and systematic way to deliver energy-saving solutions.

At Goslar, a reverse osmosis plant was commissioned in Tungsten chemistry for the crystallization of ammonium metatungstate (AMT). It replaces an older, energy-intensive plant in which liquid was removed by heating the solution with steam. The energy saving (in terms of GJ) is approximately 80-95%. In addition, since the energy source changed from natural gas to "green" electricity, this process is now CO₂ neutral. The savings are around 1,000 tons of CO₂eq per year. NPMC and MTC have also applied many energy-saving solutions, estimated to reduce more than 4,032 MWh, equivalent to 14,409 GJ, reducing emissions by about 3,219 tons of CO₂eq.

COMMUNITY RELATIONS

In 2022, MHT maintained and continued to promote community engagement activities, including community development and economic recovery programs. The Company is committed to fulfilling its responsibilities to the community by implementing various community development and economic recovery projects with a total investment amount of approximately VND 1,954 billion. These projects have directly benefited about 3,216 households, including over 390 ethnic minority households and 90 vulnerable households.

The Community Relations team always facilitate two-way communication channels between the Company and its stakeholders, especially the local community, through community consultation and information transparency. The team actively coordinates with departments within the Company and external partners to provide timely information and address the questions and concerns of the local community. Information dissemination is diversified through various channels such as direct messaging, community message boards, and direct phone calls.

In Vietnam, throughout the year, 812 newsletters were published to the community containing 133 articles. Additionally, the Company conducted 67 meetings, field tests, and community consultations with 473 participants. These efforts reflect the Company's commitment to promoting communication activities, enhancing its positive image, and increasing transparency for all parties involved.

We believe that these community development initiatives will play an important role in helping the Company achieve sustainable growth and actively contribute to the implementation of plans aimed at achieving the Sustainable Development Goals (SDGs).

FINANCE

In FY2022 MHT achieved a record net revenue of VND15,550 billion in the fiscal year 2022, a 15% increase compared to VND13,564 billion recorded in FY2021. Despite concerns over global economic conditions and China's Zero COVID policy impacting the demand, the Company's revenue and order book still saw the consistent growth throughout the last 3 years, since the acquisition of HCS business in 2020.

EBITDA increased by 4% in FY2022, the second highest EBITDA ever achieved, and the Company delivered an Attributed NPAT Post-MI profit of VND69 billion. Profitability was impacted by sharply rising input raw material and conversion costs in term of energy, reagent and consumables – mainly caused by the Russian and Ukraine conflict and zero COVID policy of China throughout 2022. The Management team remains focused on keeping costs under control through optimization and improvement in its production efficiency of the plants.

BOARD OF DIRECTORS ASSESSMENT REPORT

The Board of Directors (the "BOD") of Masan High-Tech Materials Corporation ("MHT") is honored to submit to shareholders the BOD's Company's 2022 performance assessment report.

BOD's Assessment of the Company's Performance

The BOD's role is to represent shareholders interests and ensure high level oversight of corporate activities and performance of the business. Against the backdrop of ongoing challenges facing the global business including ongoing COVID 19 challenges in China throughout 2022, the Russia – Ukraine conflict and its flow-on effect in energy markets globally and in particular Europe, and ongoing general cost input inflationary pressure, the Management Team of MHT has delivered a solid result.

The result delivered in 2022 continue to support the decision to grow into the downstream tungsten powders and chemicals business despite the challenges in the second half of 2022. From a financial perspective, we achieved record revenue of VND15,550 billion, an increase of 15% as compared to 2021, which was the previous revenue record. This result was achieved through increased general market pricing along with increased volumes in various industry segments.

2022 NPAT Pre MI was VND105 billion, a reduction of 60% over 2021 (VND261billion). NPAT was negatively impacted by a combination of higher interest costs due to general increases in the cost of funds in debt markets in Vietnam as well as increased material input costs as a result of the energy crisis in Europe and general inflationary pressures.

On the positive side FY2022 delivered a 5% increase in EBITDA to VND3,203 billion – second highest EBITDA ever achieved.

MHT continues making significant tax contributions to both the Vietnamese State budget, and to the local economies surrounding each of our global operations. In Vietnam specifically, MHT has contributed significantly to the state budget and fulfilled its tax obligations and fee payment responsibilities to the state and provincial budget which amounted to VND1,192 billion for the 2022 year, including corporate income tax, personal income tax, royalty tax, etc.

MHT continues applying world-class standards and practices across all our businesses and areas relating to the community, health, environment, sustainability, and safety. In Vietnam the business continues to be recognized as a leader in sustainability and aims to meet all require-

ments of international sustainable business practices.

The BOD sees the implementation of an Internal Audit and Compliance Team in 2022 as part of the development of the organisation as a positive step and expects this to provide further confidence that the company has the necessary and appropriate, robust and validated systems, processes and people in place to deliver in accordance with respective regulatory frameworks in the jurisdictions within which the company operates.

During 2022 we also set up a Business Process Optimization team and an Enterprise Portfolio Management Office to streamline the business and move towards standardized efficient and scalable systems and processes across the organization. This is expected to deliver significant cost savings as we integrate the business operations globally.

MHT is the recipient of a number of prestigious awards in 2022 including Tungsten - Top 10 Vietnam Gold Products, Top 50 Vietnam Excellent Brands, Top 100 Vietnam Gold Star Awards, Top 100 Vietnam Strong Brands, and Top 100 Sustainable Businesses in Vietnam. These honors represent significant acknowledgement of the continued efforts and dedication of the company in its pursuit of its Mission and Vision and provide independent validation and affirmation of the position of MHT in both national and international markets.

The BOD has accomplished its duties in reviewing and approving the resolutions on the operation of the Company and its subsidiaries. In 2022, no members of the BOD received any remuneration for their duties as BOD's members, nor have they incurred any expenses.

The resolutions passed in the 2022 Annual General Meeting but not yet implemented are:

- To approve the issuance plan of new shares and plan of using proceeds.
Reason: Due to the market situation and the Company's business development strategy, we have decided to put the plan to issue new shares and use proceeds into 2023 Annual General Meeting.
- To approve the merger of Masan Thai Nguyen Resources Company Limited ("MRTN") and Thai Nguyen Trading and Investment Company Limited ("TNTI") into Masan High-Tech Materials Corporation ("MHT").
Reason: Due to the Company's restructuring plan and organizational changes within the Masan High-Tech Materials Corporation group companies, the merger of MRTN and TNTI into MHT will not be implemented.

BOD's Assessment of the Company Management Team Performance

The global Management Team continues to manage the Company in a manner deserving the BOD's and shareholders on-going trust and support. The Chief Executive Officer and other managers fulfilled their duties and functions in 2022, and properly implemented all resolutions from the General Meetings of Shareholders.

BOD Plans and Directions

The company developed its Vision and Mission in 2020 following the acquisition of the HCS business.

Vision

To be the leading integrated supplier of high-tech advanced materials critical to global innovation.

Mission

We aim to be the partner of choice to high-tech industries where our products are a key component in evolving and shaping the future of our world. Through the application of our materials, we will create unparalleled solutions to drive innovation and productivity which will deliver superior outcomes for all our partners and stakeholders.

The vision and mission were reviewed by executive management and they remain unchanged in 2022, as they are still considered appropriate for our business at this time.

We have continued to progress delivery in achieving the vision and mission throughout 2022 with the acquisition of a 15% shareholding in Nyobolt Limited ("Nyobolt"), a fast-charging Li-ion battery solutions company. The company continues to work with the executives of Nyobolt to strengthen the co-operation between the companies and push forward with commercialisation of the product range.

Works continued to improve efficiency with investment in expanding the oxide recovery circuit nearing completion and expecting to be commissioned in second quarter 2023, an additional water treatment facility being commissioned in first quarter 2023 and ongoing research and development work being progressed for the H.C. Starck Black Mass Recycling Project.

Given the foregoing, the BOD fully supports the Management Team's efforts to continue to grow the company and deliver on the Vision and Mission, providing superior outcomes for all our partners and stakeholders, including you, our shareholders.



AUDIT COMMITTEE'S REVIEW OF THE COMPANY'S OPERATIONS

Review on the Accounting and Financial Operations of the Company

The Audit Committee confirms that the financial figures presented in the report of the Board of Directors submitted to the 2022 Annual General Meetings of Shareholders are a fair reflection of the Company's and its subsidiaries' current financial situation.

Key figures of the financial situation as of December 31, 2022:

Part 1: Balance Sheet

| | The Group | | The Company | |
|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | 31/12/2022 VND'000 | 1/1/2022 VND'000 | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
| ASSETS | | | | |
| Current assets | 12,228,222,738 | 10,576,736,330 | 1,076,331,106 | 84,602,412 |
| Cash and cash equivalents | 1,502,879,248 | 1,043,789,572 | 1,152,355 | 5,600,363 |
| Short-term financial investments | 8,110,000 | 7,400,000 | - | - |
| Accounts receivable – short-term | 2,940,659,090 | 2,652,953,397 | 1,071,869,168 | 78,800,192 |
| Inventories | 6,858,167,780 | 5,930,372,391 | - | - |
| Other current assets | 918,406,620 | 942,220,970 | 3,309,583 | 201,857 |
| Long term assets | 29,292,777,451 | 28,774,460,852 | 14,188,893,090 | 15,181,439,646 |
| Accounts receivable – long-term | 1,403,254,299 | 1,344,574,789 | 2,000,000,000 | 3,000,000,000 |
| Fixed assets | 20,185,726,072 | 21,507,557,062 | - | - |
| Investment property | 722,403,002 | 800,547,308 | - | - |
| Long-term work in progress | 2,081,826,883 | 1,157,484,188 | 32,416,701 | 24,963,257 |
| Long-term financial investments | 1,532,527,099 | 180,510,490 | 12,156,476,389 | 12,156,476,389 |
| Other long-term assets | 3,367,040,096 | 3,783,787,015 | - | - |
| TOTAL ASSETS | 41,521,000,189 | 39,351,197,182 | 15,265,224,196 | 15,266,042,058 |
| RESOURCES | | | | |
| Liabilities | 26,273,561,415 | 25,010,017,858 | 3,106,878,067 | 3,108,407,105 |
| Current liabilities | 17,154,059,090 | 7,877,179,852 | 1,606,878,067 | 108,407,105 |
| Long-term liabilities | 9,119,502,325 | 17,132,838,006 | 1,500,000,000 | 3,000,000,000 |
| Equity | 15,247,438,774 | 14,341,179,324 | 12,158,346,129 | 12,157,634,953 |
| TOTAL RESOURCES | 41,521,000,189 | 39,351,197,182 | 15,265,224,196 | 15,266,042,058 |

Review on the Company's Business Performance

In 2022, the Audit Committee did not find any abnormal signs in the Company's business operations. All of business activities were conducted in compliance with the Company's Charter, the Law on Enterprises and other relevant legal regulations.

Business performance results and accounting figures have been carefully checked to ensure the accuracy and legality of accounting books.

The Company fully observed all current legal regulations required for information disclosure to the stock market. Figures of business results as of December 31, 2022:

Part 2: Income statement

| | The Group | | The Company | |
|-------------------------------------|-----------------|-----------------|-----------------|-----------------|
| | 2022 VND'000 | 2021 VND'000 | 2022 VND'000 | 2021 VND'000 |
| Net operating (loss)/profit | (97,418,623) | 98,986,743 | 889,435 | 839,074 |
| Results of other activities | 74,772,222 | 57,529,171 | - | - |
| Accounting (loss)/profit before tax | (22,646,401) | 156,515,914 | 889,435 | 839,074 |
| Income tax expense – current | 45,262,566 | 59,707,083 | 178,259 | 328,916 |
| Income tax benefit – deferred | (173,060,025) | (164,314,798) | - | - |
| Net profit after tax | 105,151,058 | 261,123,629 | 711,176 | 510,158 |
| Net profit attributable to: | | | | |
| Shareholders of the Company | 69,024,617 | 195,611,320 | 711,176 | 510,158 |
| Non-controlling interest | 36,126,441 | 65,512,309 | - | - |

Review on the Governance and Management

a The Board of Directors

The Audit Committee opines that the Board of Directors has fulfilled their management responsibilities in compliance with the Company's Charter, the Resolutions of the General Meetings of Shareholders, the Law on Enterprises and other relevant legal regulations. The Board of Directors has duly executed all resolutions of the General Meetings of Shareholders in 2022.

The Board of Directors' resolutions were issued in compliance with the legal authority of the Board of Directors and the contents of the resolutions were in compliance with the Company's Charter, the resolutions of the General Meetings of Shareholders, the Law on Enterprises and other relevant legal regulations.

b The Management Team

The Audit Committee opines that the Management Team has executed the Company's business operations efficiently and in compliance with the Board of Directors' resolutions.

Conclusions

The Company's operations in 2022 were in compliance with the Company's Charter, the Law on Enterprises and other relevant legal regulations and based on the Resolutions of the General Meetings of Shareholders and the resolutions of the Board of Directors.



CORPORATE GOVERNANCE REPORT

Activities of the General Meeting of Shareholders

Information on meetings and Resolutions/Decisions of the General Meeting of Shareholders (including the Resolutions of the General Meeting of Shareholders adopted in the form of collection of written opinions):

Resolution/Decision No. 154/2022/NQ-DHDCD
Date 25/04/2022

- Content**
- Approve the Board of Directors' assessment report for 2021;
 - Approve the Audit Committee's report on the Company's business results and performance results of the Board of Directors and the Chief Executive Officer in 2021;
 - Approve the 2021 Financial Statements of the Company as audited by KPMG Company Limited;
 - Approve the 2022 business plan of the Company on a consolidated basis;
 - Approve the 2021 dividend distribution plan;
 - Approve the 2022 dividend advance;
 - Approve the selection of one of the following auditing companies as the audit unit for the fiscal year 2022 of the Company and authorizing the Board of Directors to select and sign an audit contract with one of these companies. That company:
 - › KPMG Co., Ltd;
 - › Deloitte Vietnam Co., Ltd;
 - › PwC (Vietnam) Company Limited; and
 - › Ernst & Young Vietnam Co., Ltd.
 - Approve the remuneration for members of the Board of Directors of the Company in 2022: VND 0 dong and a budget plan for the operating expenses of the Board of Directors, including committees under the Board of Directors. The value in 2022 is not more than VND 1 billion;
 - Approve the plan to issue new shares under the employee selection program (ESOP);
 - Approve the plan to offer new shares and use capital from the offering;
 - Approve the merger of Masan Thai Nguyen Resources Company Limited and Thai Nguyen Investment and Trading Company Limited into Masan High-Tech Materials Joint Stock Company.

The Board of Directors

Information about the members of the Board of Directors (BOD)

| MEMBER OF THE BOARD OF DIRECTORS | POSITION (independent member of the Board of Directors, non-executive member of the Board of Directors) | DAY BECOMING/NO LONGER INDEPENDENT MEMBER OF THE BOARD OF DIRECTORS/ BOARD OF DIRECTORS | |
|----------------------------------|--|---|-------------------|
| | | Date of appointment | Date of dismissal |
| Mr. Danny Le | Chairman (non-executive member) | 19/04/2019 | - |
| Mr. Nguyen Thieu Nam | First Vice Chairman of the Board of Directors (non-executive member) | 18/02/2013 | - |
| Mr. Craig Richard Bradshaw | Member of the Board of Directors (executive member) | 16/04/2019 | - |
| Mr. Akira Osada | Member of the Board of Directors (non-executive member) | 12/04/2021 | - |
| Ms. Nguyen Thu Hien | Member of the Board of Directors (independent member) | 12/04/2021 | - |

Supervision by the BOD over the Management Team

- At the meetings of the BOD, the CEO reported the operations of the Company and the key operations of the Company's subsidiaries;
- Supervising and directing the implementation of the investment plans of the Company and its subsidiaries;
- Implementing the tasks as delegated under the resolutions of the BOD

Activities of the Board of Directors' Committee

a Activities of the Sustainability Committee

- Review and monitor the performance of the Company as it affects matters related to sustainability, the environment, communities and other key stakeholders.
- Review and provide guidance to management on sustainability issues and impacts and the integration of sustainability into Company's business, including innovation, manufacturing and sourcing and operations.
- Review the activities of the Company's community impact initiatives.
- Review and provide recommendations to management on reporting to shareholders and other communities regarding corporate responsibility activities;
- Review and provide guidance to management, and report to the Board regarding the involvement of signification corporate responsibility issues in major business decisions, in order to protect the Company's valuable goodwill, and human and intellectual capital.
- Review and provide recommendations to the Board on any shareholder proposal that relates to the matters overseen by the committee;
- Oversee the management of risks related to sustainability, the environment, and the Company's interactions with communities.

b Activities of the Risk Committee

- Review and discuss with management and the Company's independent auditor the Company's quarterly financial statements.
- Assess compliance with the Company's code of business practices and its code of conduct, and consider and (if appropriate) approve any waiver provided in the codes;
- Review periodically with management and the legal counsel the Company's compliance with laws and regulations, including corporate securities trading policies, legal matters, litigation or any other contingency that could have a significant impact on the Company's financial statements.
- Discuss with the Management Team the Company's policies regarding risk assessment and risk management, and the steps the Management Team has undertaken to monitor and control them.



Resolutions of the Board of Directors

| RESOLUTION NO. | DATE | CONTENT | PERCENTAGE |
|------------------|------------|--|------------|
| 127/2022/NQ-HĐQT | 12/04/2022 | <ul style="list-style-type: none"> • Approve the meeting date of the Annual General Meeting of Shareholders for 2022 which is Monday, April 25, 2022. • Approve the scheduled meeting agenda of the General Meeting of Shareholders in 2022. • Approve the submission of the financial statements for 2021 audited by KPMG Co., Ltd. to the General Meeting of Shareholders; | 100% |
| 203/2022/NQ-HĐQT | 17/05/2022 | Approval of guarantee for payment obligations of Nui Phao Mining Company Limited and Masan Tungsten Limited Liability Company related to short-term interconnected credit lines up to VND 400,000,000 at HD Bank. | 100% |
| 253/2022/NQ-HĐQT | 16/06/2022 | <ul style="list-style-type: none"> • Approve the establishment of the Company's Internal Audit Committee; • Approve the Company's Internal Audit Committee to operate in accordance with the Internal Audit Regulations, Internal Audit Process, and internal audit plan of Masan Group Corporation. The Internal Audit Committee of the Company reports directly to the Chairman of the Audit Committee of the Company, and at the same time reports on expertise to the Internal Audit Department of Masan Group Corporation; • Authorize the General Director of the Company to: (i) approve the structure and personnel of the Internal Audit Committee of the Company at the proposal of the Head of the Internal Audit Committee of Masan Group Corporation; (ii) issue decisions on appointment, dismissal and replacement (if any) for personnel of the Company's Internal Audit Committee. | 100% |
| 266/2022/NQ-HĐQT | 21/06/2022 | • Approval of the Company's guarantee for payment obligations of Nui Phao Mining Company Limited in relation to a short-term credit line of up to VND 1,000,000,000,000 (one trillion VND) provided by VPBank grant. | 100% |
| 272/2022/NQ-HĐQT | 28/06/2022 | <ul style="list-style-type: none"> • Approving the plan to implement the plan to issue shares according to the selection program for employees according to Article 9 of the Resolution of the General Meeting of Shareholders No. 154/2022/NQ-ĐHĐCD dated April 25, 2022; • Approving and promulgating the Regulation on the issuance of shares under the selection program for employees according to the provisions of Article 9 of the Resolution of the General Meeting of Shareholders No. 154/2022/NQ-ĐHĐCD dated April 25, 2022; • Authorize the Chairman of the Board of Directors, or the CEO to decide the work and sign the relevant documents. | 100% |
| 280/2022/NQ-HĐQT | 30/06/2022 | <ul style="list-style-type: none"> • Approving the resignation of Mr. Stuart James Wells, Australian national, passport number N7583837 issued in Australia on 11/4/2013, from the position of Chief Financial Officer of the Company. The resignation takes effect from July 1, 2022; • Approval of the appointment of Mr. Nguyen Huy Tuan, Vietnamese nationality, holding citizen identification number 001091033978 issued on April 25, 2021 at the Police Department for Administrative Management of Social Order, holding the position of Acting Director Finance of the Company, effective from July 1, 2022; | 100% |

Audit Committee

Information about members of the Audit Committee

| Member of the Audit Committee | Position | Date of becoming/ no longer member of the Audit Committee | Qualification |
|-------------------------------|---------------------------|--|--|
| Ms. Nguyen Thu Hien | Head of Audit Committee | 12/04/2021 | <ul style="list-style-type: none"> Bachelor of Foreign Trade Economics, Foreign Trade University, Hanoi Master of Business Administration, Asian Institute of Management, Makati, Manila, Philippines International Internal Auditor, American Institute of International Internal Auditors |
| Mr. Nguyen Thieu Nam | Member of Audit Committee | 12/04/2021 | Bachelor of Commerce |

► Surveillance activities of the Audit Committee toward the Board of Directors, Management Team and shareholders:

- Supervising and reviewing the management and execution of 2021 business activities by the Board of Directors and the Management Team.
- Reviewing and supervising the issuing of resolutions and decisions of the Board of Directors and the Management Team.
- Reviewing the reasonableness, legality, honesty and diligence in implementing accounting operations and forming financial statements.
- Supervising the accuracy of the financial statements of the Company and making official disclosures related to the Company's financial performance.
- Reviewing transactions with affiliated persons subject to approval by the Board of Directors or the General Meeting of Shareholders and providing recommendations on transactions requiring approval of the Board of Directors or the General Meeting of Shareholders.

► The coordination among the Audit Committee with the Board of Directors, Management Team and other managers:

- Attending and providing comments at meetings of the BOD
- Supervising the implementation of the resolutions of the General Meeting of Shareholders and the BOD passed in 2021.
- Supervising compliance with regulations of the Law on Enterprises, the Law on Securities, the Company Charter, the resolutions of the General Meeting of Shareholders regarding the administration and management of the Company's business activities.
- Reviewing financial statements of 2021.

Other activities of the Audit Committee (if any): None

Training on Corporate governance: None

Transactions of affiliated person of the Company with the Company

Transactions between the company and the affiliated persons or between the Company and major shareholders, internal persons and related persons of internal persons.

| Name of organization/ individual | Relationship with the Company | ID/Registration number*, date of issue, place of issue | Head office address/ contact address | Transaction time with the company | Resolution/Decision Number passed by the General Meeting of Shareholders/ Board of Directors, etc. (if any, specify the date of issue) | Ghi chú |
|--|-------------------------------|--|--|-----------------------------------|--|--|
| Masan Tungsten Limited Liability Company | Subsidiary | 4601163743 issued on 15 January 2014 in Thai Nguyen | Suoi Cat Hamlet, Ha Thuong Commune, Dai Tu District, Thai Nguyen Province. | 2022 | 149/2021/NQ-DHDCD dated 12/04/2021 | MHT's income from business cooperation agreement |
| Masan Tungsten Limited Liability Company | Subsidiary | 4601163743 issued on 15 January 2014 in Thai Nguyen | Suoi Cat Hamlet, Ha Thuong Commune, Dai Tu District, Thai Nguyen Province. | 2022 | 149/2021/NQ-DHDCD dated 12/04/2021 | Loan granted by MTC to MHT |
| Nui Phao Mining Company Limited | Subsidiary | 4600864513 issued on 15 January 2014 in Thai Nguyen | Suoi Cat Hamlet, Ha Thuong Commune, Dai Tu District, Thai Nguyen Province. | 2022 | 149/2021/NQ-DHDCD dated 12/04/2021 | MHT's income from business cooperation agreement |
| Nui Phao Mining Company Limite | Subsidiary | 4600864513 issued on 15 January 2014 in Thai Nguyen | Suoi Cat Hamlet, Ha Thuong Commune, Dai Tu District, Thai Nguyen Province. | 2022 | 149/2021/NQ-DHDCD dated 12/04/2021 | NPM's income from back charge |
| Nui Phao Mining Company Limited | Subsidiary | 4600864513 issued on 15 January 2014 in Thai Nguyen | Suoi Cat Hamlet, Ha Thuong Commune, Dai Tu District, Thai Nguyen Province. | 2022 | 149/2021/NQ-DHDCD dated 12/04/2021 | MHT's income from back charge |

Transaction between internal persons of the Company, related persons of internal persons and the Company's subsidiaries of which the Company takes controlling power:

| NO. | PERSON EXECUTING TRANSACTION | RELATIONSHIP WITH THE INTERNAL PERSON | NAME OF THE SUBSIDIARY, COMPANY IN WHICH LISTED COMPANY TAKES CONTROLLING POWER | TRANSACTION TIME | NOTE |
|-----|---|---------------------------------------|---|------------------|---|
| 1 | Nui Phao Mining Company Limited | Related person of the internal person | Masan Tungsten Limited Liability Company | 2022 | NPM's sale of good to MTC |
| 2 | Nui Phao Mining Company Limited | Related person of the internal person | Masan Tungsten Limited Liability Company | 2022 | NPM's income from back charge |
| 3 | Nui Phao Mining Company Limited | Related person of the internal person | Masan Tungsten Limited Liability Company | 2022 | Loan granted by NPM to MTC |
| 4 | Nui Phao Mining Company Limited | Related person of the internal person | Masan Tungsten Limited Liability Company | 2022 | NPM's income from land sublease to MTC |
| 5 | Masan Consumer Corporation | Related person of the internal person | Nui Phao Mining Company Limited | 2022 | Sale of goods to NPM |
| 6 | Masan Consumer Corporation | Related person of the internal person | Nui Phao Mining Company Limited | 2022 | Provide IT services to NPM |
| 7 | WinCommerce General Commercial Services Joint Stock Company | Related person of the internal person | Nui Phao Mining Company Limited | 2022 | Provide goods and services to NPM |
| 8 | Masan Tungsten Limited Liability Company | Related person of the internal person | Nui Phao Mining Company Limited | 2022 | Sale of goods to NPM |
| 9 | Masan Tungsten Limited Liability Company | Related person of the internal person | Nui Phao Mining Company Limited | 2022 | Loan granted by MTC to NPM |
| 10 | Masan Tungsten Limited Liability Company | Related person of the internal person | Nui Phao Mining Company Limited | 2022 | Share the profit |
| 11 | Masan Tungsten Limited Liability Company | Related person of the internal person | H.C. Starck Tungsten GmbH | 2022 | MTC's sale of goods to H.C. Starck Tungsten GmbH (APT/BTO/YTO) |
| 12 | Masan Tungsten Limited Liability Company | Related person of the internal person | H.C. Starck Tungsten LLC (USA) | 2022 | MTC's sale of goods to H.C. Starck Tungsten LLC (USA) (APT/BTO/YTO) |

| NO. | PERSON EXECUTING TRANSACTION | RELATIONSHIP WITH THE INTERNAL PERSON | NAME OF THE SUBSIDIARY, COMPANY IN WHICH LISTED COMPANY TAKES CONTROLLING POWER | TRANSACTION TIME | NOTE |
|-----|--|---------------------------------------|---|------------------|--|
| 13 | Masan Tungsten Limited Liability Company | Related person of the internal person | H.C. Starck Canada Inc | 2022 | MTC's sale of goods to H.C. Starck Canada Inc. (APT/BTO/YTO) |
| 14 | Masan Tungsten Limited Liability Company | Related person of the internal person | Thai Nguyen trading and investment company limited | 2022 | Share the profit |
| 15 | H.C. Starck Tungsten LLC (USA) | Related person of the internal person | Masan Tungsten Limited Liability Company | 2022 | H.C. Starck Tungsten LLC (USA)'s sale of good to MTC |
| 16 | H.C. Starck Canada INC | Related person of the internal person | Masan Tungsten Limited Liability Company | 2022 | H.C. Starck Canada Inc. 's sale of good to MTC |
| 17 | H.C. Starck Tungsten GmbH | Related person of the internal person | Masan Tungsten Limited Liability Company | 2022 | H.C. Starck Tungsten GmbH 's sale of good to MTC |
| 18 | H.C. Starck Holding GmbH | Related person of the internal person | Nui Phao Mining Company Limited | 2022 | Loan granted by H.C. Starck Holding GmbH to NPM |
| 19 | Masan Group Corporation | Related person of the internal person | Công ty TNHH Vonfram Masan | 2022 | Loan granted by Masan Group Corporation to MTC |
| 20 | Masan Group Corporation | Related person of the internal person | Nui Phao Mining Company Limited | 2022 | Loan granted by Masan Group Corporation to NPM |

Transactions between the Company and other objects

Transactions between the Company and companies that members of the Board of Directors, members of the Audit Committee, or the CEO of the Company is or was a founding member, members of the Board of Directors, or the CEO of those companies (the "Related persons") in the last three (03) years (as at the time of reporting).

| YEAR | RELATED PERSON (HAVING TRANSACTIONS WITH THE COMPANY) | RELATIONSHIP WITH THE COMPANY | DESCRIPTION OF TRANSACTION |
|------|---|--|---|
| 2019 | Masan Tungsten Limited Liability Company | BOD member of the Company is also an MC member of the related person | Guarantee for MTC's payment obligations related to credit lines and foreign exchange transactions between MTC and BNP Paribas Bank – Ho Chi Minh City Branch and BNP Paribas Bank, Hanoi Branch |
| 2020 | Nui Phao Mining Company Limited | BOD member of the Company is also an MC member of the related person | Guarantee for NPM's obligations in connection with the Termination Agreement with 5N Plus Inc and 5N Plus Asia Limited |
| 2020 | Nui Phao Mining Company Limited | BOD member of the Company is also an MC member of the related person | Guarantee for NPM's obligations in connection with the Prepaid Payment Agreement with Traxys Europe S.A. |
| 2020 | Nui Phao Mining Company Limited | BOD member of the Company is also an MC member of the related person | Guarantee for payment obligations of MTC related to the credit line between MTC and Vietnam Prosperity Joint Stock Commercial Bank |
| 2021 | Nui Phao Mining Company Limited | BOD member of the Company is also an MC member of the related person | Business Cooperation Agreement |
| 2021 | Nui Phao Mining Company Limited | BOD member of the Company is also an MC member of the related person | MHT's income from backcharge |
| 2021 | Masan Tungsten Limited Liability Company | BOD member of the Company is also an MC member of the related person | Business Cooperation Agreement |
| 2021 | Masan Tungsten Limited Liability Company | BOD member of the Company is also an MC member of the related person | MHT's income from backcharge |
| 2021 | Masan Tungsten Limited Liability Company | BOD member of the Company is also an MC member of the related person | Loan granted by MTC to MHT |
| 2021 | Nui Phao Mining Company Limited | BOD member of the Company is also an MC member of the related person | NPM's income from backcharge |
| 2022 | Masan Tungsten Limited Liability Company | BOD member of the Company is also an MC member of the related person | Guarantee for payment obligations of MTC related to the credit line between MTC and Ho Chi Minh City Development Commercial Joint Stock Bank |
| 2022 | Nui Phao Mining Company Limited | BOD member of the Company is also an MC member of the related person | Guarantee for payment obligations of NPM related to the credit line between NPM and Ho Chi Minh City Development Commercial Joint Stock Bank |
| 2022 | Nui Phao Mining Company Limited | BOD member of the Company is also an MC member of the related person | Guarantee for NPM's payment obligations related to the credit line between NPM and Vietnam Prosperity Commercial Joint Stock Bank |

Transactions between the Company and the company that the related persons of members of Board of Directors, members of the Audit Committee, Director (CEO) as a member of Board of Directors, Director (CEO): None

Other transactions of the Company (if any) that may be beneficial material or immaterial for members of the Board of Directors, members of the Audit Committee, Director (CEO): None

SHARE TRANSACTIONS OF INTERNAL PERSONS AND RELATED PERSON OF INTERNAL PERSON

Transactions of internal persons and affiliated persons on shares of the listed company: None.

OTHER SIGNIFICANT MATTERS

As for list of affiliated persons and related benefits, please refer to Report on Corporate Governance for 2021 as announced on website of the company.



RISK MANAGEMENT

MHT Risk Management

At MHT, risk management is an integral part of the comprehensive, organization wide, corporate governance system and a success factor for sustainably improving the value of the company. MHT is fully committed to maintain its risk management processes in relation to international best practices and the relevant aspects of the applicable law.

The risks identified under a risk assessment process may represent material risks for MHT which, if they materialize, could have adverse effects on products, processes, and stakeholders inclusive of shareholders, and therefore robust management of risk remains integral to the MHT way of doing business.

MHT seeks to embed risk management into the critical business activities, functions, processes, and corporate systems through the following mechanisms:



1 Risk assessments

Each business unit and MHT corporate risk management function conducts a detailed risk assessment on all the material risks to understand their potential causes and impacts, then develop and monitor mitigating controls to reduce the likelihood of a risk event occurring and/or its potential impacts if it were to occur.

2 Risk reporting

Businesswide MHT has systems in place to ensure all the identified material risks which have potential to affect the short-term and long-term business plans of MHT are reported to the management in a timely manner. The materiality of the risks is assessed on the basis of financial and non-financial impacts including but not limited to sustainability, community, health, safety, environment, security, reputational and legal impacts.

MHT applies established processes when commencing new activities or making changes to established practices including risk assessments and supporting risk management plans to ensure potential business conduct. Issues related to corruption, statutory compliances, reputational risk, and legal exposures are diligently reported and actioned to ensure business continuity and growth consistent with the long-term vision of the organization.

3 Risk controls

Controls are in place for all the identified risks and are managed at the functional level across the MHT business units. Besides this, the preventive and mitigating controls are audited regularly for their effectiveness and improvement plans implemented as and when required.

Principal Risks

Robust Risk Assessment Statement

The MHT Board has carried out a robust assessment of MHT's principal risks, including those that could threaten the business model, future performance, reputation, solvency, or liquidity over the next three-year period.

The Directors believe a three-year period is the appropriate period considering the following reasons:

MHT has an annual budget, a three-year plan, and a long-term outlook. MHT considers the three-year period to be the appropriate balance between long-term and short-term performance drivers.

Though our relevant commodity prices, currency exchange rates and interest rates volatility have material bearing on MHT's annual budget, the three-year plan and longer term outlook, based on current commodity prices and macroeconomic indicators forecasts, sensitivity analyses, the latest funding and liquidity update, maturity profile of MHT's existing short-term and long-term debt, MHT's risk profile and the controls and mitigation measures in place should the particular risks materialize; the regular Board strategic and capital expenditure review discussions and review of MHT's mineral assets' life, the Directors have a reasonable expectation that MHT will be able to continue its operations and meet its liabilities as they fall due.

Risk Factors

External Risks

Fluctuations in commodity prices (including sustained price shifts) and impacts of ongoing global economic volatility may negatively affect our results, including cash flows and asset values.

The prices we obtain for our minerals, metals, chemicals, powders, and carbides are influenced or linked to global commodity markets which have historically been subject to significant volatility. Our policy is to sell our products in a mix of long-term and short-term contracts linked to the prevailing market prices. The diversity provided by our relatively broad portfolio of products does not necessarily insulate MHT from the vagaries of price changes.

Fluctuations in the commodity prices can occur due to price shifts reflecting underlying global economic and geopolitical factors, industry demand, increased supply due to the development of new productive resources or increased production from the existing resources, technological changes, product substitution and national tariffs. We are particularly exposed to price movements in tungsten, fluor spar, copper, cobalt and bismuth.

Volatility in global economic growth, particularly due to the continuing Covid-19 pandemic, the Russia-Ukraine conflict, and continuing trade tensions resulting in redirection of trade flows or the global recessionary pressures has the potential to adversely affect future demand and prices for our commodities and industrial products. On-going geopolitical disturbances, uncertainties and market-based protectionism have the potential to inhibit international trade and weigh on business confidence, which may create the risk of further constraints on our ability to trade in certain markets and have the potential to increase price volatility. The impact of sustained price shifts and short-term price volatility, including the impacts of the rising inflation and gradual windup of the monetary stimulus program by the global central banks, create the risk that our financial and operating results, including cash flows and asset values, might be materially affected.

Our financial results may be negatively affected by exchange rate fluctuations

The geographic diversity of the countries in which our assets are located means that our assets, earnings, and cash flows are influenced by a variety of currency rates.

Fluctuations in the exchange rates of those currencies may have a significant impact on our financial results. The Vietnamese Dong, US Dollar, Euro, Canadian Dollar, Chinese Yuan and Japanese Yen are the currencies in which the majority of our sales would be denominated, while we present our financial performance in Vietnamese Dong only. Operating costs are influenced by the currencies of those countries where our assets and facilities are located and by those currencies in which the costs of labor, imported equipment and services are determined.

Business framework impacted by political, judicial, regulatory and climate change, or alleged compliance issues within the countries in which we operate or assets in which we have an interest could have a negative impact on our business.

Risks in the locations in which we have operating assets could include terrorism, civil unrest, judicial activism, regulatory investigation or inquiry, nationalization, protectionism, renegotiation or nullification of existing contracts, leases, permits or other agreements, imposts, controls or prohibitions on the production or use of certain products, restrictions on repatriation of earnings or capital and changes in laws and policy, as well as other unforeseeable risks. Risks relating to bribery and corruption, including possible delays or disruption resulting from a refusal to make so-called facilitation payments, may be prevalent in some of the countries where our assets are located. If any of our operating assets are affected by one or more of these risks, it could have a material adverse effect on MHT's overall operating results, financial condition, and prospects. Our governance and compliance processes (which include the review of internal controls over financial reporting and specific internal controls in relation to competition, data protection and privacy, offers of anything of value to government officials and representatives of state-owned enterprises and disclosure of state or commercial secrets) may not operate to identify financial misstatements or prevent potential breaches of law, or of accounting or governance practice. Our Code of Conduct, together with our policies such as the anti-corruption, and competition policies, may not prevent instances of fraudulent behavior and dishonesty nor guarantee compliance with legal or regulatory requirements. This may lead to regulatory fines, loss of profits, litigation, allegations or investigations by regulatory authorities, loss of operating licenses and/ or reputational damage.

Our operating assets are based on material long-term investments that are dependent on long-term fiscal stability and could be adversely affected by changes in fiscal legislation, changes in interpretation of fiscal legislation, periodic challenges and disagreements with tax authorities and legal proceedings relating to fiscal matters. The natural resources industry continues to be regarded as a source of tax revenue and can also be adversely affected by broader fiscal measures applying to businesses generally. The information related to the applicable taxes can be referred from the notes to the consolidated financial statements.

Our business is affected by new and evolving government regulations and international standards, such as controls on imports, exports, prices, compliances, greenhouse gas emissions, unforeseen closure and site rehabilitation expenses. The nature of the industries in which we operate means many of our activities are highly regulated by laws relating to community, health, environment, and safety impacts. Increasing requirements relating to regulatory, community, health, environment and safety approvals can potentially result in significant delays or interruptions and may adversely affect the economics of new development, the expansion of existing assets and operations and the performance of our operating assets. As regulatory standards and expectations are constantly developing, we may be exposed to increased regulation and compliance costs to meet new operating and reporting standards, as well as unforeseen closure and site rehabilitation expenses.

Infrastructure, such as rail, ports, power, and water, is critical to our business operations. The impact of climate change may increase competition for, and the regulation of, limited resources, such as power and water. These factors could materially and adversely affect the expansion of our business and ability of our assets to operate efficiently.

New or evolving regulations and international standards can be difficult to predict, difficult to influence, and complex to understand. Potential compliance costs, litigation expenses, regulatory delays, rehabilitation expenses and operational impacts and costs arising from government action, court decisions, regulatory change and evolving standards could materially and adversely affect MHT's future results, prospects and our financial condition.

Business Risks

Failure to discover or acquire new resources, maintain reserves, grant or required licenses/permits, or develop new assets could negatively affect our future results and financial condition.

The demand for our products and production from our assets results in existing reserves being depleted over time. As our revenues and profits are derived in part from our minerals, our future results and financial condition are directly related to the success of our exploration and acquisition efforts, and our ability to generate reserves to meet our future production requirements at a competitive cost. Exploration activity occurs adjacent to our established asset. These activities may increase land tenure, infrastructure and related political risks. A failure in our ability to discover or acquire new resources, maintain reserves, maintain our scrap collection supply chain, or develop new assets including but not limited to scrap recycling, or operations in sufficient quantities to maintain or grow the current level of our reserves could negatively affect our future results, financial condition and prospects. Deterioration in commodities pricing may make some existing reserves uneconomic. Our actual exploration drilling activities and future drilling budget will depend on our resource and reserve inventory size and quality, drilling results, commodity prices, drilling and production costs, lease expirations, land access, roads and other infrastructure constraints, regulatory approvals and other factors.

There are numerous uncertainties inherent in estimating mineral reserves. Geological assumptions about our mineralization that are valid at the time of estimation may change significantly when new information becomes available. Estimates of reserves that will be recovered, or the cost at which we anticipate reserves will be recovered, are based on uncertain assumptions. The uncertain global financial outlook may affect economic assumptions related to reserve recovery and may require reserve restatements. Changes to reserve estimates could affect our asset carrying values and may also negatively impact our future financial condition and results.

Potential changes to our portfolio of assets through merger, acquisition and divestment activity may have a material adverse effect on our future results and financial condition.

There are several potential risks associated with acquisitions (or divestments). These include:

- Loss of value from a poor investment decision or from a missed investment opportunity,
- Adverse market reaction to the basis/timing/terms on which changes are made,
- The imposition of adverse regulatory conditions and obligations,
- Commercial objectives not being achieved as expected,
- Unforeseen liabilities arising from changes to the portfolio,
- Sales revenues and operational performance not meeting our expectations,
- Anticipated synergies or cost savings being delayed or not being achieved, and
- Inability to retain key staff and transaction-related costs being more than anticipated.

Increased costs and schedule delays may adversely affect our capital development projects.

Although we dedicate significant time, effort, and resources to our project planning, review and approval processes, some of our development projects are highly complex and rely on the factors that are outside our control, which may cause us to underestimate the cost or time required to complete a project. For instance, incidents or unexpected conditions encountered during development projects may cause setbacks or cost overruns, required licenses, permits or authorizations to build a project may be unobtainable at anticipated costs, or may be obtained only after significant delay and market conditions may change, thereby making a project less profitable than initially projected.

In addition, we may fail to develop and manage projects as effectively as we anticipate due to both foreseeable and unforeseen challenges that may emerge.

Any of these may result in increased capital costs and schedule delays at our development projects and materially and adversely affect anticipated financial returns.

Financial Risks

If our liquidity, or cash flow deteriorate significantly, it may adversely affect our ability to fund our major capital programs.

We seek to maintain a strong balance sheet. However, fluctuations in commodity prices and ongoing global economic volatility could materially and adversely affect our future cash flows and ability to access capital from financial markets at acceptable pricing. If our key financial ratios and credit ratings are not maintained, our liquidity and cash reserves, interest rate costs on borrowed debt, future access to financial capital markets and the ability to fund current and future major capital projects could be adversely affected.

The commercial counterparties with whom we transact may not meet their obligations, which may negatively affect our results.

We contract with many commercial and financial counterparties, including end-customers, suppliers and financial institutions in the context of global financial markets that remain volatile. We maintain a single book approach with commercial counterparties to make sure all credit exposures are quantified and assessed consistently. However, our existing counterparty credit controls may not prevent a material loss due to credit exposure to a major customer segment or financial counterparty. In addition, customers, suppliers, or contractors may fail to perform against existing contracts and obligations and could negatively affect our financial condition and results of assets.



Operational Risks

Unexpected natural and operational catastrophes may adversely impact our assets, functions, or people.

We have production assets in several geographic locations. Our operational processes may be subject to operational accidents, such as fires, gas leaks, road and vehicle incidents, port and shipping incidents, aircraft incidents, open-cut pit wall or tailings/waste storage facility failures, loss of power supply, environmental pollution, mechanical critical equipment failures, and cyber or conventional security attacks on MHT's infrastructure. If an operational crisis occurs, the failure to provide adequate communications response to our external stakeholders could result in Group-wide reputational damage.

Our minerals asset may also be subject to unexpected natural catastrophes, such as earthquakes, floods and typhoons.

We operate corporate offices and operations globally. A serious natural pandemic, civil unrest, terror or criminal event in any or all of these locations could have an impact on the services provided to the Group and on our people and the local community.

Based on our risk management and the limited value of external insurance in the natural resource sector, our risk financing (insurance) approach is to purchase external insurance for certain risks, including property damage and business interruption, sabotage and terrorism, marine cargo, construction, primary public liability and employee health benefits. Existing business continuity plans may not provide protection for all the costs that arise from such events, including clean-up costs, litigation, and other claims. The impact of these events could lead to disruptions in production, increased costs, and loss of facilities. Where external insurance cover is purchased, third party claims arising from these events may exceed the limit of liability of the insurance policies we have in place. Additionally, any uninsured or underinsured losses could have a material adverse effect on our financial position or results of assets.

Information technology and operational technology services are subject to cybersecurity risks and threats that may materially affect our business and reputation.

Our strategy of owning and operating, long-life and low-cost assets is underpinned by our ability to become fully integrated and highly automated, from resource to end-use customer and the market.

Our business and operational processes are heavily dependent on traditional and emerging technologies to improve safety, lower cost and unlock value. Increases in the frequency and magnitude of global cyber events pose potential increased risk of sensitive information being compromised, as well as unplanned and/or extended outages to our systems and networks. These events may include (but are not limited to) exploitation of system vulnerabilities, malware, phishing, and other sophisticated cyber-attacks, and other incidents, for example, due to human error. Such events may result in misappropriation of funds, a negative impact on asset productivity, negative health and safety impacts, environmental damage, poor product quality, loss of intellectual property, disclosure of commercially or personally sensitive information, regulatory fines and/ or other costs and reputational damage. As Masan High-Tech Materials continues successfully realizing its growth strategy, its more prominent global profile and increased online presence will likely make a more attractive target for cyber security attack.

Despite our ongoing reasonable attempts to protect us from cyber events, we may be vulnerable to targeted and non-targeted cyber-attacks. In FY2022, we did not detect any cyber events that led to a significant breach of our business-critical technology environment or a material disclosure of market-sensitive information.

Cost pressures and reduced productivity could negatively impact our operating margins and expansion plans.

Cost pressures continue to occur across industry. As the prices for our products are influenced and driven by the global commodity markets, we have limited ability to offset these cost pressures through corresponding price increases, which can adversely affect our operating margins. Although our efforts to reduce costs and several key cost inputs are commodity price-linked, the inability to reduce costs and a timing lag could materially and adversely impact our operating margins for an extended period.

Besides secular rise in the costs, MHT's earnings could be materially and adversely affected by disruption in supply of key raw materials, reagents, and consumables. These could include the unavailability of energy, fuel, or water due to various reasons, including climate changes, inadequate infrastructure capacity, interruptions in supply due to equipment failure or other causes and the inability to extend supply contracts on economic terms.

Broadly, cost and productivity pressures on MHT and our contractors and sub-contractors may increase the risk of industrial action and employ-

ment litigation. These factors could lead to increased operating costs at existing assets, interruptions or delays and could negatively impact our operating margins and expansion plans.

Commercial counterparties have their own management and operating standards may take action contrary to our standards or fail to adopt or comply with standards equivalent to MHT's standards.

Commercial counterparties, such as our suppliers, contractors and customers, may not comply with our internal CHES standards or other standards we apply causing adverse reputational and legal impacts.

Sustainability Risks

Community, Health, Environmental and Safety impacts, incidents, or accidents may adversely affect our people, assets and reputation or license to operate.



Community

Our assets and activities may directly impact communities and risk the potential for adverse impacts on human rights or breaches of other international laws or conventions.

Local communities may become dissatisfied with our operations or oppose our new development projects, including through legal action, leading to potential schedule delay, increased costs, and reduced production. Community-related risks may include community protests or civil unrest, adverse human rights impacts, community health and safety complaints and grievances, shareholder activism and civil society activism. In extreme cases the risks may affect viability, adversely impacting our reputation and license to operate.



Climate change

The physical and non-physical impacts of climate change may affect our assets, productivity, and the markets in which we sell our products. This includes acute and chronic changes in weather patterns, policy and regulatory change, technological development and market and economic responses. Fossil fuel-related emissions are a significant source of greenhouse gases contributing to climate change. We use fossil fuels in our mining and processing operations either directly or through the purchase of fossil fuel-based utilities and consumables such as electricity, reagents, etc.

Globally most national governments have already introduced, or are contemplating the introduction of, regulatory responses to greenhouse gas emissions, including the extraction and combustion of fossil fuels to address the impacts of climate change. This includes all countries where we have assets including Vietnam, Germany, Canada, China, North America and Japan. In addition, the international community completed a global climate agreement at the 21st Conference of the Parties (COP21) in Paris in December 2015. The absence of regulatory certainty, global policy inconsistencies and the challenges associated in managing our diversified businesses portfolio across a variety of regulatory frameworks have the potential to adversely affect our assets and supply chain. These proposed regulatory mechanisms may adversely affect our assets directly, or indirectly through our suppliers and customers. Assessments of the potential impact of future climate change regulation are uncertain given the wide scope of potential regulatory change in the many countries in which we do business.

The physical effects of climate change on our assets may include changes in rainfall patterns, water shortages, rising sea levels, increased storm intensities and higher temperatures. These effects could materially and adversely affect the financial performance of our assets



Health

The health risks that must be addressed include age-related issues, fatigue management, and negative impacts from exposure to harmful agents such as noise, fine dust, diesel exhaust, cobalt, nickel, sulfuric acid fumes, ammonia, radiation, and others. These effects pose potential risks that could adversely affect human health and the company's reputation, create difficulties in the licensing process as well as disrupt business operations.

Due to the global production and business facilities of the company, emergencies related to community health such as Covid-19, influenza, dengue fever, or other infectious outbreaks can cause unforeseen difficulties and damages. Therefore, the company always prioritizes the readiness of emergency response plans for community health situations to maintain the effectiveness of production and business operations.



Environment

Our assets by their nature have the potential to adversely impact air quality, biodiversity, water resources and related ecosystem services. Changes in scientific understanding of these impacts, regulatory requirements or stakeholder expectations may prevent, delay or reverse project approvals and result in increased costs for mitigation, offsets, or compensatory actions. Environmental incidents, historical and present and future, have the potential to lead to material adverse impacts on our people, communities, assets, reputation, or license to operate. These include uncontrolled tailings containment breaches and escape of polluting substances. We provide for operational closure and site rehabilitation. Our operating mining facilities are required to have closure plans. Changes in regulatory or community expectations may result in the relevant plans not being adequate. This may increase financial provisioning and costs at the affected assets.



Safety

Risks that could have serious impacts on people, property, reputation, and the company's operating license include landslides, chemical accidents, toxic gas leaks, traffic collisions, mine explosions, radiation, waste management, lifting operations, and high-altitude work. We control these risks through the efficient operation of the company-wide health and safety management system. Risk identification is regularly performed to provide appropriate corrective and improvement actions.



Governance and compliance

Our processes are mandated and governed by the global standards and supporting strategies and frameworks. A failure to maintain effective global frameworks and associated controls may lead to a major health, safety, or environmental incident.

Management of Principal Risks External risks Business risks

The scope of our operations and the industries in which we operate and engage mean that a range of factors may impact our results. Principal risks that could negatively affect our results and performance along with our approach to managing and mitigating these risks is outlined below.

External risks

Principal risk Risks arise from fluctuations in commodity prices and demand in major markets or changes in currency exchange rates, interest rates and actions by governments, including new regulations and standards, alleged compliance breaches, pandemics, and political events that impact long-term fiscal stability.

Mitigation approach The diversification of our portfolio of commodities, markets, geographies, and currencies is a key strategy for reducing the effects of volatility. The Risk & Audit Committee oversees these risks as described in sections Risk Management and Principal Risks. We also engage with governments and other key stakeholders to make sure the potential adverse impacts of proposed fiscal, tax, investment, infrastructure access, regulatory changes and evolving local and international standards are understood and, where possible, mitigated.

Our Code of Conduct set out requirements related to working with integrity, including dealings with government officials and third parties. Processes and controls are in place for the internal control over financial reporting. The Legal function oversees our compliance with securities dealing obligations and continuous and periodic disclosure obligations.

Business risks

Principal risk Risks include the inherent uncertainty of identifying and proving reserves, adding assets and managing our capital development projects.

Mitigation approach Our use of qualified 3rd parties helps us to manage the technical integrity and provide assurance for our Mineral Resource development and Ore Reserves reporting, along with meeting audit and specialist needs.

We have established investment approval and monitoring processes applicable to all investment decisions, including mergers and acquisitions activities. An internal investment committee oversees these. Our capital expenditure request framework provides the structure and governance for adding growth options to our portfolio.

The operating model is being redesigned to deliver a simple and scalable MHT, providing a competitive advantage through defining work, organizational and performance measurements. Defined global business processes, including SAP, will provide an enterprise way of working across MHT.

Common processes generate useful data and improve operating discipline. Global sourcing arrangements are being established to ensure continuity of supply and competitive costs for key supply inputs.

From an industrial relations perspective, detailed planning was undertaken to support the ongoing integration of the HCS business into MHT. From a sustainability risk perspective, the project's function aims to make sure our projects are safe, predictable, and competitive.

Financial risks

Principal risk Continued volatility in global financial markets may adversely impact future cash flows, our ability to adequately access and source capital from financial markets and our credit rating. Volatility may impact planned expenditures, as well as the ability to recover investments in mining manufacturing projects. In addition, the commercial counterparties (customers, suppliers, contractors, and financial institutions) we transact with may, due to adverse market conditions, fail to meet their contractual obligations.

Mitigation approach We seek to maintain a strong balance sheet, supported by our portfolio risk management strategy. As part of this strategy, the diversification of our portfolio reduces overall cash flow volatility. We use regular cash flow analysis to monitor volatilities and key financial ratios. Credit limits and review controls are established for all customers and financial counterparties.

Operational risks

Principal risk Unexpected natural and operational catastrophes may adversely affect our assets. Information technology and operational technology services are subject to cybersecurity risks and threats that may materially affect our business and reputation. Operating cost pressures and reduced productivity could negatively affect operating margins and expansion plans.

Mitigation approach By applying our risk management processes, we seek to identify catastrophic operational risks and implement critical controls and performance requirements to maintain control effectiveness. Business continuity plans and crisis and emergency management plans are established to mitigate consequences. Consistent with our risk management approach, we continue to be largely 3rd party insured for losses arising from property damage, business interruption and construction.

Given we rely heavily on information technology and operational technology to operate assets, we employ several measures to protect, detect and respond to cyber events. An enterprise-wide cyber risk management strategy is evolving to address how we maintain the security of our technology assets that support our operations across the globe. This strategy will include activities to be undertaken, including employee cybersecurity awareness and training, monitoring of our enterprise and operational technology networks, vulnerability identification and remediation activities, secure-by-design architecture and processes for the management of 3rd party technology risks. When incidents occur, they are investigated through root-cause analysis and, as required, follow-up actions are undertaken.

The Board receives periodic updates on cyber risk management activities, including relevant information on any significant cyber incidents that have occurred.

We aim to maintain adequate operating margins through our strategic objective to position MHT to match our values, capabilities and competitive resources to the evolving needs of markets, to create sustainable long-term value for shareholders and other stakeholders. Our concentrated effort to reduce operating costs and drive productivity improvements has realized tangible results, with a reduction in controllable costs.

The capability to sustain productivity improvements is being further enhanced through continued refinements to our operating model. The operating model is being redesigned to deliver a simple and scalable MHT, providing a competitive advantage through defining work, organizational and performance measurements. Defined global business processes, including SAP, will provide an enterprise way of working across MHT. Common processes generate useful data and improve operating discipline. Global sourcing arrangements are being established to ensure continuity of supply and competitive costs for key supply inputs. From an industrial relations perspective, detailed planning was undertaken to support the on-going integration of the HCS business into MHT.

Sustainability risks

Principal risk CHESS incidents or accidents may adversely affect people or neighboring communities, assets, reputation and our license to operate. The potential physical impacts and related responses to climate change may impact the value of MHT, our assets and markets.

Mitigation approach Our approach to sustainability risks is best reflected in the Sustainability part of this annual integrated report. The standards set out Group-wide CHESS-related performance requirements designed to support effective management control of these risks. The global CHESS planning process will look to identify gaps in these standards and inform global improvements to the CHESS framework.

Our approach to corporate planning, investment decision-making and business management provide a focus on the identification, assessment, and management of climate change risks. Through a comprehensive and strategic approach to corporate planning, we use scenarios to assess our portfolio.

Our approach to engagement with community stakeholders is also outlined in this integrated report.

We seek to conduct internal audits to test compliance with our standards and develop action plans to address any gaps. Key findings are reported to senior management and reports are considered by the Board Sustainability committee.





HCS RISK MANAGEMENT

As a first step, the risks and opportunities at HCS and ChemiLytics are conducted as part of context analysis in accordance with the ISO standards to which the companies are certified. A distinction is made between risks arising from the expectations and requirements of our stakeholders and risks arising from internal and external issues relevant to the companies. Prioritization differentiates between the topics of quality management, energy, the environment, occupational health and safety, and the continued existence of the company. The issues with the highest priority are incorporated into the corporate objectives. On this basis, the individual departments then carry out their risk analyses and define measures to minimize risks and exploit opportunities as they arise.

Risks resulting from stakeholder needs and expectations

| STAKEHOLDER | EXPECTATIONS AND NEEDS | RISKS | MITIGATION APPROACH |
|-------------------|---|---|---|
| Customer | <ul style="list-style-type: none"> • Goods according to specification/ punctual delivery/ flexibility • Sustainability (incl. Carbon footprint) | <ul style="list-style-type: none"> • Loss of customers • High manufacturing • Costs for narrow specs • Stocks • Loss of reputation | <p>Through controlled production processes and the know-how of our employees, we continuously increase the quality level (QL) of our production. A regular analysis of the QL reveals systematic problems that can then be rectified.</p> <p>Due to the recycling process established at HCS, we can offer our customers products with a comparatively low carbon footprint compared to production from primary raw materials. We investigate our process both for energy or fresh water saving opportunities and develop new processes with a lower carbon footprint than conventional production processes.</p> |
| Public / Politics | <ul style="list-style-type: none"> • Responsible sourcing of raw materials • Emergency management / pro-active information / crisis management | <ul style="list-style-type: none"> • Security of supply • Costs • Loss of reputation • Claims for damages | <p>HCS has been certified as a “Conformant Smelter” for many years and meets the corresponding OECD and EU requirements. We are a founding member of the Tungsten Industries - Conflict Minerals Council (TI-CMC) and provide a Director of the Board. As part of Responsible Supply Chain Management, we are already addressing the upcoming due diligence requirements for companies within their supply chain.</p> <p>The buildings of HCS and ChemiLytics at the Goslar site are located in the immediate vicinity of residential buildings. Compliance with permits and limit values is our highest priority, as is regular monitoring. Open communication with our neighbors is recognized by them.</p> |

| STAKEHOLDER | EXPECTATIONS AND NEEDS | RISKS | MITIGATION APPROACH |
|------------------------------------|--|---|---|
| Capital | <ul style="list-style-type: none"> • Fire protection systems • Hedging (investments/ products/ reserves / risk minimization) • Fast reaction to damage events | <ul style="list-style-type: none"> • High premiums / high costs for HCS in the case of an incident • Costs for measures and implementation • Completeness • High own contribution | Insurance companies in particular expect high security standards. To meet expectations, we are prepared to invest in protective equipment that goes beyond the standard required by law. In addition, our own plant fire department and the high standard of training of our employees ensure rapid and routine intervention in the event of possible damage. |
| Organizations and employees | <ul style="list-style-type: none"> • Training/ Education and Jobs | <ul style="list-style-type: none"> • Headhunters (poaching well-trained employees) • Employee structures • Expectations (management, employees and associations) | We are addressing the shortage of skilled workers caused in particular by demographic change by offering attractive training and working conditions. For example, we have set up our own training programs. |
| Management and authorities | <ul style="list-style-type: none"> • Compliance | <ul style="list-style-type: none"> • Liability risk • Loss of reputation • costs for measures and implementation | Through a legal cadastre, we are aware of legal guidelines and requirements. Regular updates ensure that we are always up to date. The processing status of the legal register is regularly checked and reported. Compliance audits supplement the monitoring of legal conformity. |

Risks resulting from relevant external and internal topics

| TOPIC | RISKS | MITIGATION APPROACH |
|---|--|---|
| <ul style="list-style-type: none"> • Uncertainties on financial markets • Geopolitical risks (Trade Wars, Sanctions,...) • Cost pressure | <ul style="list-style-type: none"> • Loss of sales due to cautious customers • Restricted market access • Energy prices and/or availability • Threats to the preservation of supply chains/ customer relationships • Lower margins/ losses/ less cash • Staff reductions | The risks associated with these issues are taken into account as part of our annual strategic planning. We counter them in particular by efficient processes, innovation, and cost advantage through flexible use of raw materials. |
| <ul style="list-style-type: none"> • Currency risks (translation and transaction risks) • Risks relating from political, legal and social changes | <ul style="list-style-type: none"> • More expensive supply chain • Worse margins • Lower market share • Difficulties within the raw material supply (CAHRAs) | We respond to these issues with hedging transactions, corporations and joint ventures. |
| <ul style="list-style-type: none"> • Plant and product safety • Occupational accidents ("Zero Accidents"), near misses | <ul style="list-style-type: none"> • Damage (people, environment) • Production losses | Within our standardizes integrated management system we have a portfolio of measures to counter these risks. This includes, for example: high safety standards, emergency management, reporting of critical incidents, security checks of employees within defined security areas, regulation for the handling of occupational accidents, accident and safety reports, trainings and training management. |
| <ul style="list-style-type: none"> • Total Productive Management (TPM) | <ul style="list-style-type: none"> • Production losses | Production downtime not only leads to extended delivery times, it can also affect our customers' confidence in our performance. We can minimize these risks through preventive maintenance, redundancies, and business continuity plans (BCP) on the one hand, as well as the approval of several plants at one customer and the qualification of alternative raw materials at a global materials management. |

| TOPIC | RISKS | MITIGATION APPROACH |
|--|---|---|
| <ul style="list-style-type: none"> • Delivery reliability (Raw materials, supplies, technical goods) • Transport and storage risks • Price volatility of energies | <ul style="list-style-type: none"> • Single sourcing (security and prices) • Production costs • Dependence | <p>We avoid supply risks through long-term contracts and framework agreements and by avoiding single sourcing (multi-supplier strategy), consignment stocks + magazines and strategic raw material hedging. We also counter price developments on the energy market by continuously improving our energy-related performance and planning for an independent, regenerative energy supply</p> |
| <ul style="list-style-type: none"> • Confidentiality (unauthorized to know or disclose confidential information)/ data protection. • Cybercrime/ image (shitstorm,...) • Network independence (cloud-based systems), back-up solution | <ul style="list-style-type: none"> • Loss of production (undefined period) • Loss of know-how/ loss of data/ loss of money | <p>The measures in the IT area are diverse: from a risk assessment based on ISO 27001 as well as the BSI basic protection hazard catalogue, BSI standard 100-3), to access restrictions, appropriateness of IT systems (IT landscape, roadmap), redundancies, and separation of office and production networks. Important data should be located on the company's own servers instead of in a cloud.</p> |
| <ul style="list-style-type: none"> • Demographics • Competition on labor market • Motivation and workload, mental stress • Shift/ working time models • Generation change ("Generation Z") | <ul style="list-style-type: none"> • Shortage of skilled workers • Staff turnover/ Headhunters • Employability • Loss of knowledge • Openness to innovations • Loss of personnel (burn out) | <p>The labor market is highly competitive and the shortage of skilled workers is increasing, particularly in the EMEA and NAFTA economic regions. HCS and ChemiLytics are an attractive employer with an open management culture, work-life balance, work-life balance and flexible working time models. After outsourcing occupational health management and occupational safety for several years, these topics were reintegrated into the HSEQ management department. The complex of topics is rounded off by the offer of apprenticeships at HCS and ChemiLytics.</p> |



SUSTAINABILITY PERFORMANCE REPORT

Sustainability Framework

Improved Sustainability Governance Structure

Energy Management Committee

Sustainability Innovation

Sustainability Mining & Raw Materials

Sustainability Processing

Sustainability Supply Chain Management

Sustainability Human Resources

Sustainability Health & Safety

Sustainability Security

Sustainability Environment

Sustainability Community



SUSTAINABILITY FRAMEWORK

Masan High-Tech Materials are committed to compliance with international standards of corporate governance for the sustainable and long-term development of the Company. Therefore, the company and its subsidiaries are all developed in a manner that complies with the local regulatory requirements and World Bank guidelines/policies on social and environmental safeguards, the IFC Sustainability Framework and the Sustainable Development Framework issued by the ICMM for the mining and high-tech materials sector. We do so by integrating these practices into all our business areas towards the highest standards of transparency and consistency.

The sustainability framework makes our approach more effective by enabling us to benchmark our performance and continuously improve our sustainability initiatives. Our core values govern our approach, meaning that we place equal importance on investor returns, people and community, the environment and sound governance that adheres to our ethics. At the highest level, policies are designed to define the standards of measurement. Procedures are derived to monitor adherence to the Company's standards, while indicators enable top management and stakeholder to track our performance transparently. Targets are periodically reviewed and updated to align with our aspirations. Finally, reports are consolidated to present the information to our stakeholders. Our commitments and initiatives have been demonstrated through the following objectives.

- Operating in a consistent manner in line with leading international practices in all business areas towards transparency and consistency of corporate governance;
- Building and maintaining enduring relationships based on recognition and respect with the stakeholders and contributing to the long-term economic, social and institutional development of our communities;
- Seeking continual improvement in safety, health and environmental performance through robust management systems.

We embed our sustainability framework into all our operations. The sustainability framework is implemented at the employee level with aid of a document which outlines clearly and transparently the values employees need to demonstrate in their day-to-day activities. Our policies set out what we believe in and what we promise to achieve in the areas of health and safety, environment, community relations and supply chain management.



Our Sustainability Values

Sustainability means more than taking responsibility for one's environment, employees and supply chains. It must take all stakeholders into account, as well as compliance with applicable laws, regulations and guidelines.

As a global company, Masan High-Tech Materials (MHT) bears a high level of responsibility to all its stakeholders including customers, employees, investors and the communities in which it conducts business. This was summarized in the first joint Code of Conduct of the MHT Group in 2022.

The employees of MHT are taking all reasonable and necessary steps to comply with the Code, the law, as well as Company policies and procedures.



Code of conduct - the basis for our success

1 Fair Competition

MHT is committed without reservation to fair competition and to fair contracting practices with its business partners. Any forms of collusion, or coordination that result in the unfair advantage for one party are prohibited among competitors, as is the abuse of a dominant market position.

2 Business and financial records

Documents, including those in electronic form, are the property of MHT and are kept secure. Personal data is treated with the utmost care and in strict confidence. MHT's financial reports are prepared in accordance with the relevant legal requirements and internationally accepted accounting practices and principles. All necessary measures to prevent money laundering are taken within MHT's sphere of influence.

3 Compliance with International Commercial Law and Provisions on Exports

MHT complies with all international agreements, conventions and treaties, as well as national laws controlling trade and financial transactions, and consistently monitors compliance with international and national export control laws.

4 Company assets

All employees are similarly responsible for the protection of MHT's material and immaterial assets. Particular importance is attached to the results of scientific research and technical developments, such as inventions, patents and other know-how. It is prohibited to disclose company and business secrets to third parties in any form. Third-party confidential information that is within MHT's responsibility must also be protected with the same care.

5 Conflicts of interest

MHT has a zero-tolerance policy for bribery and corruption. MHT does not enter into business relationships whose existence or desired scope is dependent on the payment of bribes. At MHT, preventing corruption also means obtaining information about business partners in advance. Business decisions on behalf of MHT may not be influenced by the acceptance of advantages or the granting of benefits and privileges ("perks").

6 Behaviour toward Government Agencies Cooperation

The Company is committed to complying with all laws and legislation regulating its businesses. Therefore MHT is dealing with all relevant government agencies cooperatively and with an open approach. If an employee learns that a government agency, legislative body, or other authorized institution, is conducting an investigation of MHT, the legal department must be informed immediately.

7 Environmental Protection and Safety

MHT and its employees bear responsibility for protecting people and the environment in accordance with all legal and regulatory requirements in the relevant jurisdiction, as well as international industry practice. The Health & Safety, Environment, and Quality policies are the primary guide for all employees on these matters. Safety is the top priority in all dealings involving products that pollute the environment. Additionally, every employee shares the responsibility for ensuring the occupational safety in their area.

8 Labour and Employment

MHT does not tolerate discrimination or harassment, abuse or corporal punishment in any form, whether by business partners, candidates or applicants, or employees. Furthermore, MHT has a zero-tolerance policy towards any form of forced labour, modern slavery or the most severe form of child labour.

9 Behaviour towards Suppliers of Raw Materials

MHT is working together with partners whose stance on ethical, social and environmental policy matters is consistent with that of MHT. For this reason, all suppliers of raw materials have to prove that all applicable guidelines laws and regulations, like the OECD Due Diligence and EU regulation for conflict raw materials are complied with and that they are in possession of all of the necessary permits, authorizations and approvals. Furthermore, all parties involved in our supply chain commit to complying with our purchasing guidelines.

10 Ensuring Compliance

MHT does not tolerate any legal violations whatsoever and consistently complies with the guidelines and rules described. Therefore compliance with this Code of Conduct, the law and Company's policies is subject to regular reviews, executed on behalf of the executive management by the supervisors.

11 External Relations

MHT has a policy on how to deal with external stakeholders and who is authorised to communicate with them. Therefore, in all matters concerning the company, employees who do not have authorization must avoid giving the impression that they speak on behalf of the company.

12 The Compliance Organisation and Contact Persons

Your Line Manager / Supervisor is the first point of contact for any questions you may have regarding the Code of Conduct. If the matter concerns your supervisor him or herself, you can contact the HR department or your next higher supervisor.

The Executive Management Team performs the corporate compliance function in the MHT Group. A member of the Team is your contact person for any questions you may have regarding the Code of Conduct. Inquiries can also be made anonymously, and all reasonable efforts are made to maintain confidentiality, although MHT is, of course, obligated to initiate investigations and comply with the law and support law enforcement.

If you have specific legal questions, particularly regarding whether certain actions are lawful, please contact the appropriate Legal Department. MHT guarantees that no employee will be subject to discrimination, retaliation or any other adverse treatment based on the employee having made a report in good faith.

Sustainability Goals reflected in HCS Policies and Regulations

Our vision is to be the leading integrated supplier of advanced high-tech materials critical to global innovation. In order to sustain and continuously improve all our processes and functions we focus on the following:

Customer satisfaction

We increase customer satisfaction and loyalty by responding:

- Flexibly with the desired quality (Zero defect strategy) and
- Competitively on customer requirements.

Occupational health & safety

Our employees enjoy a working environment in which they:

- Stay healthy
- and are actively involved in its improvement

We implement the necessary safety measures and pursue a Zero accidents strategy.

Competitive Ability

We maintain our competitive advantage in the marketplace:

- On the basis of our Code of Conduct and in compliance with ISO 37301
- By demonstrating a high level of security of supply through a “multi-supplier” strategy in which we continuously develop our suppliers
- By increasing process efficiency continuously
- Through innovations in technologies and products. We identify new trends at an early stage and align our research and processes accordingly
- By maintaining our know-how through active knowledge management
- With a strong corporate culture

IT safety

Availability of systems and data is ensured by negating third party criminal influence. Both personal and company data is handled responsibly.

Employee satisfaction

We promote employee satisfaction through:

- A secure job
- Performance based remuneration
- An appreciative management culture
- A culture of coexistence and
- The elimination of cultural and language barriers

Sustainability

We commit to work responsibly with the resources at our disposal.

For this purpose, we:

- Use our recycling expertise, offer our customers a “closed loop” process and buy our raw materials responsibly (Conflict free sourcing)
- Increase our process efficiency of energy use and availability of our production equipment
- Improve both our environmental and energy performance continuously to achieve climate neutrality by 2045 at the latest
- Offer our employees flexible working hours, good training and needs based education

Continued existence of the company

In order to manage risks to the continued existence of the company, we will:

- Actively manage the financial situation of the company in accordance with the defined KPIs (e.g.: sales, net income) including liquidity targets
- Monitor the sales and supply markets and react flexibly
- React flexibly to transport and storage risks
- Develop concepts to mitigate risks such as natural disasters and force majeure

Applicable Standards

- The standards mentioned in MHT Annual & Sustainability Report 2020
- ISO standards (ISO 9001, ISO 14001, ISO 45001, ISO 50001)
- Eco Management and Audit Scheme (EMAS)
- OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas
- Regulation (EU) 2017/821 of the European Parliament and the Council of 17 May 2017 laying down supply chain due diligence obligations for Union importers of tin, tantalum and tungsten, their ores, and gold originating from conflict-affected and high-risk areas
- Modern Slavery act
- REACH, RoHS



Sustainability Management Team Goslar

Back in 1987, the United Nations World Commission on Environment and Development defined sustainability as follows: *“Humanity has the ability to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs”*. Accordingly, sustainability affects all areas of our lives and economic activity and is thus a task for the whole society. This calls for social development that is ecologically compatible, socially fair, and economically efficient.

The site in Germany is certified according to the standards Energy (ISO 50001:2018) and Environment (ISO 14001:2015). The scopes from these two areas, supplemented by the topics of “social” and “economic”, are combined in the Sustainability Team at the site Goslar.

The combination of these topics served to prepare the validation of the Goslar site according to the criteria of the Eco- Management and Audit Scheme (EMAS), the world’s strictest environmental management system.

The validation was successfully passed in September 2022. Registration with the Chamber of Industry and Commerce was applied for. In addition to enhancing the company’s image, certification is expected to lead to easier dealings with authorities (fewer inspections by the authorities) and, above all, to simplified approval procedures for new plants and thus to corresponding cost savings.

The focus of sustainability management at H.C. Starck Tungsten GmbH is on climate strategy (mainly CO₂ emissions and water consumption), emissions, wastewater, and waste. The area of energy is mapped via the energy management system (EnMS). External and internal issues as well as the requirements and expectations of interested parties were taken into account when defining the scope of the EnMS. In addition, however, social aspects are also incorporated, whether for the company’s employees or the community, such as a tree planting campaign in Goslar initiated by H.C. Starck Tungsten GmbH in November 2021.

The sustainability team essentially consists of people who have knowledge of the environmentally relevant processes and technologies in our company. Their knowledge is to be used to positively influence the direct and indirect environmental aspects of our companies in a sustainable manner.



Sustainability Management Officer Jan Torben Bornkessel, as Head, is therefore supported by representatives of the following corporate divisions:

- Site Management
- Operations (Technical Services, Production)
- Maintenance; Process Control Technology
- Sales (Sales, Business Development)
- Procurement
- Technology & Innovation
- Controlling
- HSEQ Management
- Materials Management

The Sustainability Team is assigned to the following responsibilities and authorities:

- Ensuring effective implementation, maintenance and improvement of the EMS
- Establishing and maintaining action plans that lead to continuous improvement in sustainability-related performance
- Establishing criteria and procedures necessary to ensure effective functioning and governance of the EMS
- Promoting awareness of the EMS and binding commitments regarding the EMS across divisions
- Delegation of tasks
- Planning of projects relevant to sustainability and monitoring of project implementation (schedule, time, cost control)

ACTIONS IN 2022

- Installation of 17 EV charging points for refuelling employees electric vehicles in conjunction with a design competition on the 17 Sustainable Development Goals.
- For training sessions on the topic of “illegal waste disposal”, a mobile Escape Room was set up for several days on the grounds of Metallurige Park Oker (MPO), where H.C. Starck Tungsten GmbH is also located.
- Care of the forest area planted in 2021, such as cutting away raspberries and watering the planted trees.
- Adhering to the corporate climate protection network of the Association of German Chambers of Industry and Commerce.
- Validation of the Eco-Management and Audit Scheme (EMAS) by TÜV Nord.
- Open Day of Metallurgy Park Oker, with a focus on recycling and sustainability. In addition to exhibits on the recycling of tungsten, the possibilities of sustainable living were demonstrated in “Tent 17” in connection with the 17 sustainability goals.



FOCUS 2023

- EMAS registration by the Chamber of Commerce and Industry
- Verification by a third party of the CO₂e calculation based on Scope 1 & 2
- Launch of a project to calculate Scope 3 data - the goal is to determine Product Carbon Footprint figures in 2024.

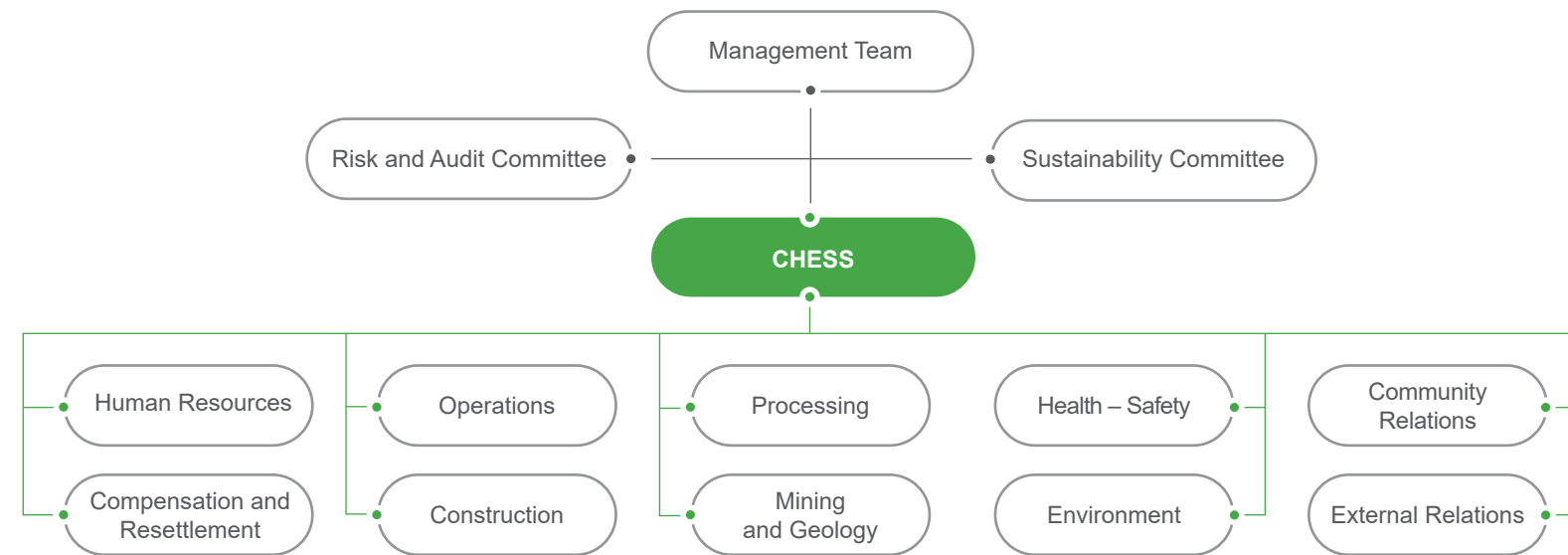


IMPROVED SUSTAINABILITY GOVERNANCE STRUCTURE 2022

The role and influence of the CHES Committee (Community, Health, Environment, Safety & Sustainability Committee) in 2022 have been strengthened in all areas. The three key goals of CHES Committee including health and safety for employees, environmental protection, and community communication transparency continued to be drastically implemented and closely attached to the production and business activities of our company and contractors.

Members of the CHES Committee are active participants in the activities of all departments and divisions within MHT and its subsidiaries, collaborating to execute the sustainability initiatives as well as providing additional supervision and strategic guidance.

Acting as a bridge to connect internal departments, the members of CHES Committee for the 2020-2022 term have actively participated in the safety inspection of the areas, monitored compliance, conducted communication activities, and implemented the performance assessment of the Committee through a lot of issues reported and updated on CHES Zalo group, and directly sending emails to CHES chairman and secretary for timely handling, combined with periodic meetings (monthly and quarterly) with the attendance of managers of the Company.



2022 was a very challenging and volatile year due to the geopolitical tensions and COVID-19 pandemic. With united efforts of MHT, each member of CHESSE Committee as a representative of different internal departments actively participated in the movements such as:



supporting the prevention and control of the COVID-19 pandemic



Coordinating with the professional Fire Fighting force to help local communities extinguish the fire



Participating in Blood donation; Voluntary donations



Participating in the emergency response and rescue to road accidents happened on the National Highway 37 near the company and in Dai Tu district



Providing internal training courses combined with other departments to inspect safety and environment in the areas as well as coordinating with the Firefighting and Rescue Police Department of Thai Nguyen province to conduct emergency response drills, etc.

In addition, the CHESSE Committee approves the “Monthly Safety Awards”, through which employees and contractors are recognized for their outstanding achievements, contributions, initiatives and typical hazard report in workplace safety, health and hygiene. This helps en-

courage our people to work relentlessly towards the goals of enhancing safety and clean environmental culture at the workplace to ensure “Everyone working at Masan High-Tech Materials returns home safe and healthy every day”.



FOCUS 2023

In 2023, CHESSE Committee members will continue to develop their personal capacity and act as a representative of the department in the fields of community, environment, occupational safety and health. Each representative speaks on behalf of their department, raises outstanding issues for the Committee to address in a flexible and timely manner.



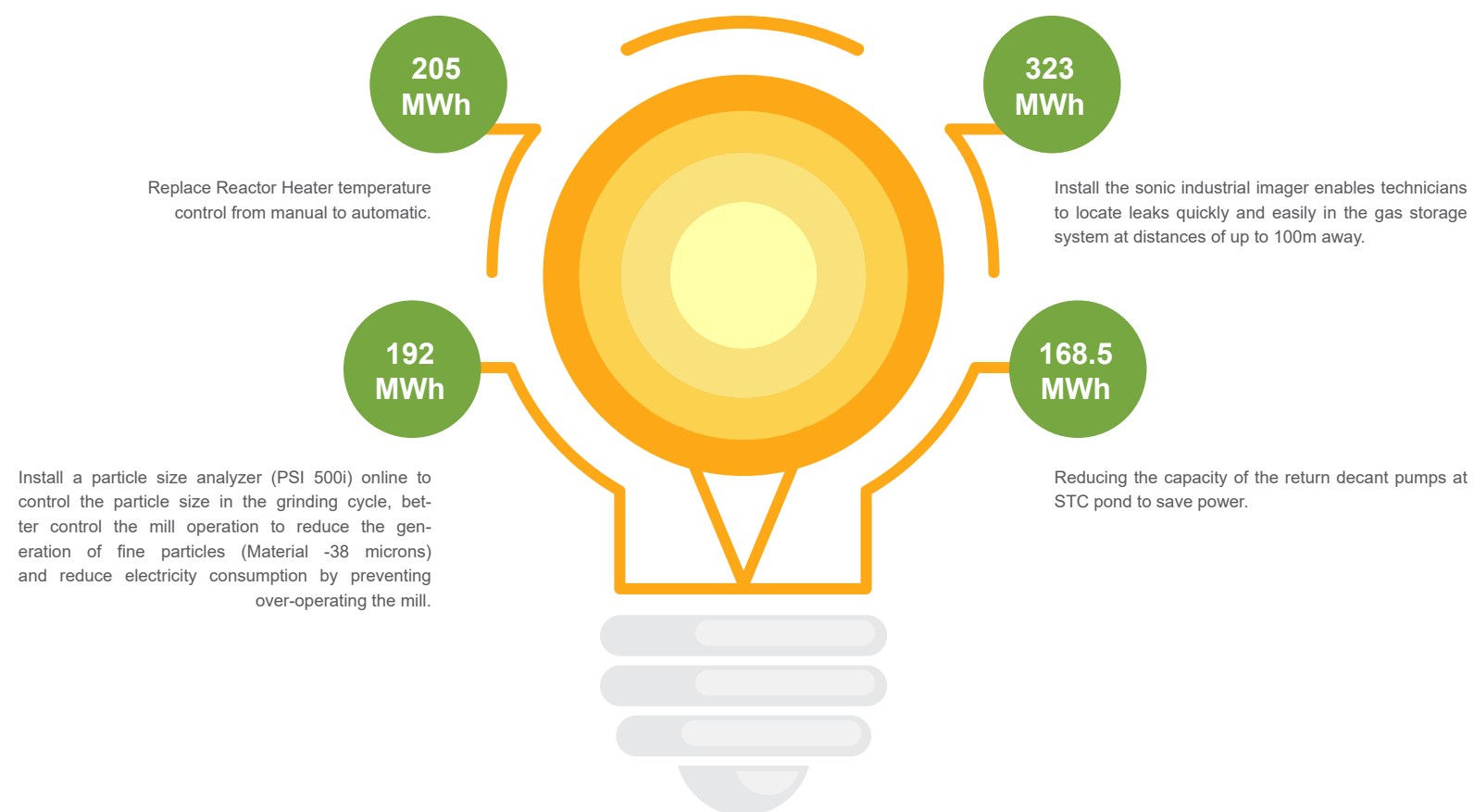
ENERGY MANAGEMENT COMMITTEE

Energy Management Committee at NPMC and MTC

The Energy Management Committee has been operating since 2019 to implement and monitor energy management activities with the aim of saving and using energy efficiently and effectively. In 2022, the Energy Management Committee held regular monthly meetings to discuss the implementation of savings targets as well as develop solutions to use energy more efficiently and save costs in the long run.

NPMC – Estimated savings reach 888.5 MWh

In 2022, the production, maintenance and repair processes at NPMC were optimized by implementation of numerous solutions that yielded positive results. Total energy savings is estimated at 888.5 MWh, equivalent to 3,199 GJ.



MTC – Successfully applied ISO 50001:2018

In 2022, MTC established and obtained certification for an energy management system in accordance with ISO 50001:2018. The application of the ISO 50001:2018 will be a prerequisite for controlling the use of energy in a strict, sustainable and systematic way in order to develop energy saving solutions.

MTC has applied a number of simultaneous solutions such as: Using trial process instead of hot water for the second wash of secondary filters to reduce the amount of steam used and load for LPI chiller; and Utilize the excess steam from condensate water to heat boiler feed water. As a result the company saved an estimated 3,114 MWh.

FOCUS 2023

- Maintain energy management system according to ISO 50001:2018 at MTC
- Install power meters for high-power consumption equipment at MTC for tracking and control
- Implement, test and research solutions for saving energy: change the large size circuit of the crusher to the small size circuit to reduce energy consumption; Rooftop solar power...



HCS ENERGY COMMITTEE

The site in Germany is the only one within H.C. Starck Tungsten Powders that is certified to ISO 50001:2018. The aim of the energy management system (EnMS) in accordance with ISO 50001:2018, which we are committed to complying with, is to continuously improve energy performance.

As part of the energy management system (EnMS), all facilities and processes were assessed, in particular those with significant energy use (SEUs). The focus of the work in 2021 was to normalize the data of the SEU's in order to facilitate the ongoing improvement of the EnPIs ("Energy Performance Indicators") taking into account the influences of relevant variables. Previously, an energy team was founded in 2019, headed by the Energy Management System Officer Andreas König in order to meet the requirements of ISO 50001:2018.

The Energy Team is assigned the following responsibilities and authorities:

- (a) Ensuring effective implementation, maintenance and improvement of the EnMS;
- (b) Implementing and maintaining action plans that result in continuous improvement of energy-related performance;
- (c) establishing criteria and procedures necessary to ensure effective operation and management of the EnMS, such as:
 - Promoting awareness of the EnMS and energy goals across divisions
 - Delegation of tasks
 - Planning energy efficiency projects and monitoring project implementation (schedule, time, cost control).

The interoperation energy team led by the Energy Management System officer, as well as the department heads, are responsible for ensuring that all employees receive further education and training on a regular basis.

The energy team is mainly composed of people who are familiar with our company's energy-intensive processes and technologies. Their knowledge shall be used to positively influence energy consumption within our subsidiaries in the long run.

The energy team's projects in 2022 were:

- Start heat recovery from roasting process - Completion planned in Q2/2023
- Tank insulation in the chemical plant - First calculations after completion of the project show savings of 6-7 tons of steam per month (84 tons of steam per year result in a saving of 69,491 kWh)
- Installation of steam measuring sections for chemistry - Completed.
- Optimization of the heating systems in administration buildings – ongoing in 2023
- Procurement of a hydrogen burner for reduction. Installation by the end of Q1/2023
- Throughput increase on extruder / belt dryer
- Idea start for the installation of the Triple Helix in a rotary kiln
- A PV concept was created and discussed.

Our operational and ISO 14001 environmental component targets emphasize Sarnia's efforts to conserve energy and reduce waste, specifically improving auxiliary gaseous streams and electricity use.

Significant improvement in energy consumption has been achieved by altering production scheduling to strategically optimize and balance power demands. All upgrades or replacements of current equipment, whether new or used, must take energy factors into account.

FOCUS 2023

Heat recovery from roasting process

Replacement of control air compressors

Measuring point concept

Capacity expansion at the rotary furnace using AI (TIG Project)

Energy efficiency (TIG Project)



SUSTAINABILITY INNOVATION

In 2022, a multitude of R&D research activities targeting areas such as high product purity, raw material flexibility and new efficient production processes continued to support Masan High-Tech Materials' efforts in the areas of overall sustainability and establishing green global circular economies for the materials it produces currently and possibly in the future.

Innovation has long been key to making significant improvements in corporate environmental performance and sustainability. Masan High-Tech Materials has understood the importance of innovation in sustainability since its inception and consequently has a well-established platform for cultivating a strong culture of technological innovation.

Masan High-Tech Materials operates two state-of-the-art research facilities with one located in Germany and the other located in Vietnam. These facilities are focused on technology and innovation across the entire mineral and metal processing chain and recognised as a key pillar in Masan High-Tech Materials' success in the business arena and maintaining long-term sustainability. With the ongoing commitment and continuously high expenditures in technology and innovation over all its process chains, Masan High-Tech Materials not only secures the technology leadership position in the processing and production of Tungsten, Fluorite, Bismuth, Copper, and other materials. It also results in significant improvements in the company's sustainability, environmental impacts and contribution to the green economy.

Substantial funding and manhours are dedicated to the support and optimisation of Masan High-Tech Materials' global network of processing facilities with the objective of improving the consistency of product quality and production efficiency. Superior and more precise production processes result in increased product yields, reduced waste, and minimisation of important environmental factors. Consumption of items



such as energy, water, reagents, and other auxiliaries can all be reduced and the production of waste and by-product streams minimised, therefore improving the sustainability and environmental impact of the processes being utilised.

One way in which sustainability is fostered is through focusing on new and alternative product development. Special sustainable R&D issues are also shaped with an ongoing dialogue with key customers and downstream users of our high-tech materials as well as monitoring global megatrends. In 2022, we continued to have an open ear to better understand their needs and to develop under mutual confidentiality new and innovative products for the future. By mindful listening to the market, we do advanced research and development to accurately adapt the chemical and physical properties of our materials according to customer needs and requirements.

Masan High-Tech Materials' commitment to advanced technological development and innovation is not only demonstrated through the highly efficient and highly automated processing facilities that it operates around the world. But also, through the issuance of over 105 patents for the manufacturing of innovative products. Its Vietnamese MTC production facility has also been granted Hi-Tech Enterprise status by the government of Vietnam.

To achieve and maintain its focus on research and development, Masan High-Tech Materials utilises the latest in analytical laboratory technology in combination with extensive pilot plants that can mimic all parts of its own and customers manufacturing processes. With the ability to conduct systematic research and development activities for hydrometallurgical, pyrometallurgical and classical physical metallurgical process technologies, these facilities are pivotal in refining and improving our products and processes.

Improving Recycling Capability

The recycling of tungsten scraps and wastes plays an important part and is one of the foundations of Masan High-Tech Materials sustainability within the industry. This enables not only access low-cost tungsten units but also prevents these materials being disposed into landfill preserving primary tungsten resources and establishes a circular economy. In this regard, below are some of the research and development activities undertaken by Masan High-Tech Materials in 2022 to increase the effectiveness and efficiency of its current and future recycling capabilities.

Optimization and Expansion of Scrap Pyrometallurgical Digestion

From a business and sustainability perspective, the company is aiming to further expand our recycling capabilities and with MHT's strong belief and commitment to the establishment of sustainable green circular economies. The company has made the decision to construct an additional tungsten scrap recycling facility in Vietnam.

Market competition for sourcing and procuring high quality tungsten scraps continues to increase and recently exacerbated during the current geopolitical environment. However, quite a lot of different tungsten-containing materials are not being recycled. According to the International Tungsten Industry Association (ITIA), recycling rates for cemented carbides scraps can reach up to 80 %, whereas tungsten containing spent catalysts are often deposited in hazardous waste disposal sites, which of course, is not a sustainable solution and presents an area where we definitely strive to improve.

The reason for these materials not being recycled is usually that tungsten units are contaminated with other elements, like molybdenum, which are difficult to be separated. Therefore, it is crucial to understand the chemical behavior of these materials within the established process.

To achieve this, the company has a new lab-scale equipment to simulate our smelting process with just a few grams of raw material. This

enables us to evaluate the digestion of different scrap types in a relatively short time. This allows for not only the fine tuning of the treatment of existing feed stocks, but also the evaluation of other raw materials such as spent W/ Mo catalysts and W/Pb scraps. This makes it possible to develop specifically tailored digestion recipes aimed at higher tungsten selectivity, thus enabling us to expand our resource base to formerly unattractive materials. To further improve and accelerate research in this area MHT has started to develop a lab-scale and pilot-scale testing area within the MHT's Vietnam R&D facilities to complement those already in place in Goslar. This new equipment will further increase MHT's capabilities in performing advanced research in this area and recycling more diverse scrap materials.

Processing of Low-grade Tailings

As extraction and processing technologies advance over time it makes the retreatment and recycling of historical low-grade tungsten mine tailings a significant opportunity to source additional primary tungsten units in a more sustainable manner.

Masan High-Tech Materials has not only completed extensive test work on its own tailings to evaluate the economic extraction of additional Tungsten units in the future but is also participating in a joint research

project investigating the recycling low-grade Tungsten containing tailings in Brazil. Partners in the project include multiple government departments, universities and industry players from both Germany and Brazil.

Masan High-Tech Materials is also investigating alternative uses for its tailings within other industries such as the cement manufacture and fabrication within Vietnam.



Tailings Dam for recycling

More Efficient Production and Auxiliary Consumption

To remain competitive and sustainable as a company, MHT must always be investigating and developing innovative processes which have higher capacities, higher efficiencies and consume less auxiliaries. During 2022 as with past years MHT remains very active in this area.

More efficiency in developing high-purity sodium tungstate (ST)

With special requirements from customers for high-purity ST products with very low impurities, research activities have been performed in the laboratory to develop alternate methods for producing this product with the mindset of improving efficiencies and producing high-quality ST product. A research project to evaluate the method of producing high-quality product using an internal byproduct tungsten stream was undertaken and resulted in an innovative process alternative for retreating the material in just a few simple steps to produce the required high-purity ST. The resultant product is sold directly as a final product with high quality as per customer requirements which negated the stream being recycled back to the start of the process. The new process has been applied and operated on an operational full scale basis with benefits such as reducing reprocessing costs, producing a high-quality product, and increasing plant capacity.



Improving raw material flexibility

To develop a sustainable business within the tungsten industry there is a growing requirement to produce high-quality tungsten products in large quantities from changing and more complex feed materials. As such one of MHT key activities is constantly evaluating the new and different raw materials and either optimizing existing processing parameters in the leaching and purification parts of the process or developing new and innovative ways to treat the material efficiently and effectively. During 2022 a number of new complex feed materials were accessed and the existing process successfully adapted and optimized or new processes developed to enable the treatment of these materials on a production scale greatly increasing the diversity of the plants feed materials. Further to this, new technologies such as ion exchange were investigated on a laboratory scale to evaluate their effectiveness. Initial results showed potential and will continue to be evaluated in the coming year.



Production reliability in a global crisis environment

The global political climate continued to greatly impact auxiliary supply chains and created issues with both availability and pricing. A significant portion of time was spent within the R&D departments focused on securing access to crucial auxiliaries and raw materials required to support our highly specialized production processes. The R&D work is comprised of evaluating new suppliers of the auxiliaries as well as the evaluation of potential new alternatives. This work enabled production and product quality to continue unhindered.



Recycling Wastewater

In times of climate change, water is also becoming scarcer throughout the world. It is therefore important to reduce the use of fresh water in our production processes. In cooperation with a renowned German and Vietnamese research institutes, the company is investigating opportunities for recycling process wastewater in our production. This is intended to create a closed loop for the water that is used in the process. In addition to reducing the amount of fresh water, it may be possible to use heat recovery through innovative technology and thereby reduce energy consumption as well. Furthermore, chemicals contained in the wastewater can be recovered and reused in the production process.



Energy Efficiency

Energy efficiency is also a focus area of Masan High-Tech Materials's research and development activities. Innovation in this area not only delivers a reduction in the company's direct and indirect CO₂ emissions but also delivers substantial cost savings to the business. Some of the key areas of innovation in energy efficiency are discussed below:

Implementation of Membrane Technology in the AMT Production Process

The commissioning and optimisation of membrane concentration technology with the company's Ammonium Meta-tungstate (AMT) production process took place in 2022 and continued to be supported by the MHT R&D departments. This process was developed earlier on in 2017 from lab to pilot-scale in close collaboration with an industrial equipment supplier. At the end of 2018 a substantial funding was granted for the project by the German Federal Ministry for the Environment, Nature Conversation and Nuclear Safety (BMU). Besides debottlenecking of the existing production plant and making it more efficient, the introduction of this innovative concentration approach using modern environmentally friendly membrane technology allows the company to significantly reduce the energy consumption within the AMT production line. This reduction corresponds to yearly savings of several hundred tonnes of CO₂ emissions each year. Anticipated growth in this product area will only continue to improve the reduction in emissions.

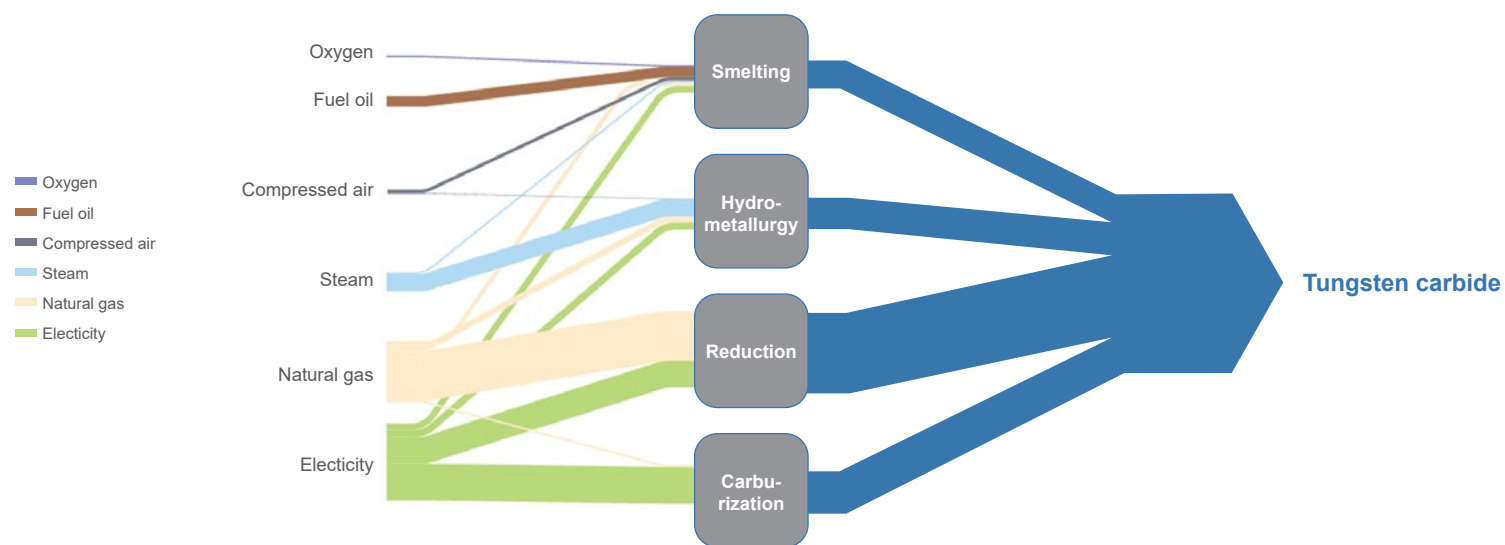
Participation in Global Energy Reduction Programs

As a responsible corporate citizen, Masan High-Tech Materials actively engages in government and industry programs to reduce energy consumption across its global footprint. This is not only done at each of its individual operating centres but also in a holistic approach covering the entire life cycle of the materials that it produces.

Following the effort to decrease the global energy footprint Masan High-Tech Materials in combination with other industry leaders, universities and research institutes continue to cooperate within the German government sponsored "Innovation for Energy Revolution" program. The project investigates innovative technology to increase the energy efficiency of the hard metal production process from ore/ scrap to finished tools.

The energy demand of approx. 22 kWh/kg of product was determined in our first analyses of the energy consumption of Masan High-Tech Materials' tungsten Carbide (WC) process in Goslar, which is already roughly 20% lower than comparable non-Chinese WC production in literature. By gaining deeper insights in the energy demand of each single process step, the significant energy users were identified, which includes the reduction of tungsten oxide to tungsten metal. Thus, a close cooperation with computational specialists was set up to further develop our rotary furnaces and improve their energy efficiency. This cooperation proved to be very fruitful and the realization of the developed solutions is planned for 2023.

Energy Management Teams have been established at all of Masan High-Tech Materials' production sites which are in turn all overseen by the company's sustainability committee. The goal of these teams is to better understand and manage energy consumption with the drive to either reduce or move to more sustainable sources of energy. Through the actions of these teams the company has determined a number of opportunities that will be actioned in future years. In addition, the Goslar operation has not only been certified in the areas of ISO 50001:2018 and ISO 50003:2016 for energy management but also obtained the certificate following the Eco-Management and Audit Scheme (EMAS).



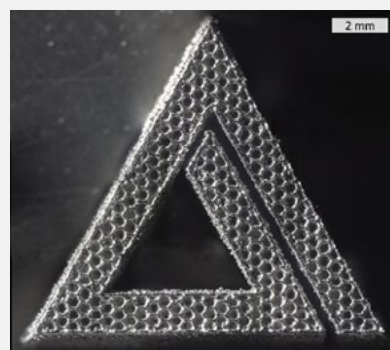
Energy consumption HCS Tungsten carbide process

More Sustainable Products and Processes

Additive Manufacturing

Additive manufacturing (AM), also commonly known as 3D printing, is the direct construction of a three-dimensional object from a digital model. Conventionally, three-dimensional objects are produced subtractively, e.g. via machining of casted metal blocks. Conventional machining produces a lot of waste, as excess material needs to be removed from the object. AM constructs objects additively, thus layer by layer. Ideally, the material is deposited in a way that makes additional machining unnecessary. This saves a lot of the valuable material and is considered to be a real game changer for the sustainable production of parts.

For this purpose, MHT have developed and qualified two different tungsten metal powders with support of the well-known Fraunhofer ILT, Aachen, Germany. These two products, one dedicated for the Laser Powder Bed Fusion (LPBF) technique, the other one dedicated for the Electron Beam Melting (EBM technology), allow people to use tungsten to construct parts generating less waste. Both powders have been released within a dedicated product line called starck2print®. We are working on expanding this product line with more specifically tailored materials as well as with newly developed tungsten carbide powders.



Honeycomb structure printed with starck2print® metal powder via LPBF

Material Development for Fusion Reactor Shielding

Fusion power generation is proposed as one potential alternative to reduce the human dependency on fossil fuels. This technique utilises the heat energy which is released when two lighter atomic nuclei are combined to form a heavier nucleus. While nuclear fusion as a source for energy has been investigated since the 1940's, major technical challenges have prevented its commercial use up to now. Only recently and for the first time in history, the US National Ignition Facility has managed to generate more power from the reaction itself than they have invested into the activation of the reaction.

Tungsten with its outstanding physical properties is a key material for bringing fusion power generation into reality. For example, tungsten metal composites are used as plasma facing materials in current setups. There is also a huge potential for tungsten carbides and tungsten borides to be used as heat and neutron shielding components applied in current and future fusion reactor setups. For this reason, we have partnered up with the Imperial College London and other partners to develop new materials enabling fusion power generation. A key question is, how certain promising powders can be produced in larger scales and with sufficient quality, because some of the common trace impurities of commercial tungsten powders may form long-lasting radioactive wastes if irradiated with neutrons. The collaboration with Imperial College London will include co-funding a PhD position dealing with this topic.

Innovating for the Future and Strengthening Circular Economies



A large part of achieving sustainability is through the establishment of circular economies whereby the consumption of raw materials and primary resources are minimised, waste streams are minimized and the processing and reuse of recycled material is enhanced. This is an inherent part of Masan High-Tech Materials' current business and innovation focus but also extends externally where it regularly participates in industry and government initiatives promoting and advancing the topic.

The company is a technical expert member of the European Raw Materials Alliance (ERMA) focusing on "Materials for Energy Storage and

Conversion" and to support the Secretary General of the European Recycling Industries' Confederation (EuRIC) in his work to strengthen the production of raw and advanced materials and more specially the recycling of lithium ion/polymer batteries.

Ongoing participation in REWIMET e.V. which is a cluster of companies, scientific institutions, and local authorities mainly within the Harz region, Germany. Its main purpose is to ensure the availability of raw materials through recycling. H.C. Starck Tungsten currently holds the seat of second Chairman on the board of REWIMET.

Taking Part in the Global Megatrends

In the search for sustainability, the world strives towards an electric future. This includes the electrification of most technologies including almost all mobility solutions. This in conjunction with Masan High-Tech Materials' endeavour to expand its recycling horizon beyond its current capability within the tungsten space, seen the company continue to progress its Black Mass recycling project with the commencement of initial engineering and piloting test work of its innovative recycling process. Black Mass is a mixture of active materials from lithium-ion batteries and the main ingredients we aim to recycle from this black mass are for example cobalt, nickel, manganese, and lithium.

Masan High-Tech Materials not only has considerable knowledge and expertise in developing and operating complex processing circuits and are highly experienced in the recycling business, but also apt at maintaining the rigorous HSE requirements for handling materials across the business chain. ChemiLytics, which is also a member of the Masan High-Tech Materials Group, is a knowledgeable and experienced analytical partner in black mass chemistries giving direct support to its research and development facilities.

Nurturing new innovators

Innovation plays a major part in achieving and improving the sustainability of a business. Not only does it deliver improvements in environmental practices and performance but also improvements in social welfare and economic growth. Masan High-Tech Materials is very cognisant of this fact and is why it places such a high importance on ensuring the company has a strong culture of innovation.

Successfully embracing a culture of technological development and innovation within a company not only requires support from company directors and funding of strategic work programs. It also requires a sustainable supply of intelligent and skilled individuals capable of developing these innovative solutions for not only for the benefit of the company but also the industry and the world. This is recognised by Masan High-Tech Materials and to ensure that it has access to the required talented individuals, it cultivates close relationships and works collaboratively with universities, scientific institutes and local schools in both Vietnam and Germany. This involves establishing joint projects, providing access to company resources, sponsorship of key awards and events and regular tours and site visits to each of our production and research facilities. These activities nurture and support the development of young academics and scientifically interested students into the field of technological innovation therefore ensuring its sustainability into the future.



SUSTAINABILITY MINING & RAW MATERIALS

The Mining and Geology (M&G) Department's efforts are focused on producing sustainable mining outcomes by reducing costs, minimizing ore loss and dilution, providing sufficient fresh ore for the processing plant and to explore revenue generating opportunities in order to produce sustainable mining outputs.

In 2022, the M&G team mined roughly 6.67 million bank cubic metres (MBCM) of material, yielding 3.45 million tonnes or 1.06 MBCM of mineral ore at a strip ratio of around 4.8 (BCM waste/BCM ore). All mining operations complied with required environmental and community standards.

Mining

- Complete drilling programs to monitor possible contaminants in the water table
- Complete all required grade control drilling to allow accurate planning/input to the process plant system
- Maintain consistent feed grade to the mill in line with the plan
- Continue to optimize waste dumping strategies by categorizing waste products based on sulfur content, soil parameters, etc. In the following years, high Sulphur wastes will be dumped into mined-out pits and encapsulated in surface waste dumps. Low Sulphur materials will be used in the Tailings Storage Facility development, for road construction and encapsulation. Efforts will also be made to reduce the disturbed footprint and to ensure dumps are rehabilitated upon completion.
- Continue to monitor and develop the contractor by improving the maintenance and operational strategies used.



6.67 million

bank cubic metres of material



3.45 million tons

mineral ore



1.06 MBCM

of mineral ore

TSF

- MHT are committed to the prevention of hazards at tailings storage facilities that could lead to incidents affecting employees or communities, causing environmental damage and economic losses
- We adhere to the principles of effective risk-management strategies and responsible design, use, reuse, recycling, continual improvement of environmental performance, and disposal of products containing metals and minerals
- We adhere to the mine waste and tailings regulations established by the Ministry of Natural Resources and Environment (MoNRE) and the Ministry of Industry and Trade (MoIT)
- We are committed to implementing the requirements set by the Global Industry Standard on Tailings Management (GISTM) developed by the PRI, ICMM, and UNEP
- We ensure that TSF management complies with all the applicable regulatory requirements of the local jurisdiction and corporate standards
- We apply the appropriate risk management approaches to TSFs
- We take geographical conditions into account during TSF management
- We follow regulatory requirements and hold public hearings to inform/get feedback from local communities on plans to build TSF and their operations to minimise their environmental and social impact
- We improve safety and reduce risks wherever possible to ensure the safe management of TSFs
- We establish effective measures to ensure proper management during emergencies
- We only engage employees who are adequately trained and have the necessary professional skills to operate TSFs
- We constantly seek to improve our employees' professional skills by conducting regular training
- We continuously monitor the quality of discharge water and that of local water bodies to ensure competent, socially, and environmentally responsible management of Acid Rock Drainage (ARD).





Raw Materials

H.C. Starck Tungsten Powders' raw material sourcing is based on two principles: the continuous expansion of recycling activities and a fair, ethical, and environmentally friendly raw material sourcing.

The stringent, globally applicable procurement guidelines detailed in the Responsible Supply Chain Management System (RSCM) guarantee that H.C. Starck Tungsten Powders buys raw materials only from suppliers who comply with strict requirements with regard to environmental protection, occupational safety and social responsibility.

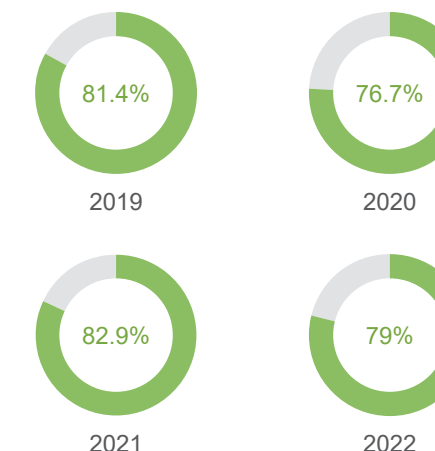
H.C. Starck Tungsten Powders condemns all activities in connection with the unlawful exploitation of mineral resources, no matter where such activities take place. As part of this commitment we have implemented an on-going policy of only purchasing raw materials that are conflict-free and that always meet the requirements of the OECD (relevant version of the "OECD Due Diligence Guidance for Supply Chains of Minerals from Conflict-Affected and High-Risk Areas"), and the "Regulation (EU) 2017/821 of the European Parliament and of the Council of 17 May 2017 laying down supply chain due diligence obligations for Union importers of tin, tantalum and tungsten, ores, and gold originating from conflict-affected and high-risk areas".

Before starting new business with a supplier, there is a detailed check by the procurement and the legal department to confirm that this potential supplier fulfils all legal requirements and the requirements of the RSCM process. This check is repeated on a regularly basis during the whole time of the business relationship. Also, H.C. Starck Tungsten GmbH has incorporated due diligence requirements into legally binding agreements with direct suppliers. H.C. Starck Tungsten Powders has repeatedly been awarded the certificate for the processing of "conflict-free" Tungsten raw materials; the last audit was conducted in October 2021 (three-year audit cycle, so the next audit will be in 2024). All corresponding evaluations were done by independent auditors on behalf of the Responsible Minerals Initiative (RMI), a joint effort by the Responsible Business Alliance (RBA) and the Global e-Sustainability Initiative (GeSI).

Both the H.C. Starck Tungsten Powders Raw Materials Procurement Statement and the current OECD 5-Step Report, audit report and certificate can be viewed and downloaded from the H.C. Starck Tungsten Powders website.

At the Goslar site, the focus is on the recycling of scrap metal as a raw material, which we obtain both on the free market and from our customers. Intermediates such as APT or tungsten oxides are mainly purchased from MHT. While the plant in Sarnia gets tungsten oxide from Masan High Tech Materials and within the scope of a swap from another, selected supplier, the site in Ganzhou is currently supplied by JV Partner in Ganzhou.

The global end-of-life recycling rate of tungsten is approximately 30% and, thus, belongs to the top third of the recycled metals. With our highly efficient recycling platform in Goslar we cover approx. 80% of our raw material needs from scrap.



Recycling rate of raw materials - Goslar site



Backed by decades of experience we are able to recycle almost all our products and compounds after use

Focus 2023

In January 2023, the German Act on Due Diligence in the Supply Chain “Lieferkettensorgfaltspflichtengesetz (LkSG)” came into force. Even though the site in Goslar is not directly affected due to its size (less than 3,000 employees in Germany), a few obligations of customers who have to comply with the law can still be delegated to H.C. Starck Tungsten GmbH in Goslar.

It is expected that in the future we will be affected by a corresponding European regulation on the subject of due diligence obligations in the value chain, which in essence sets similar requirements to the LkSG. We are therefore planning to implement the LkSG at the Goslar site as part of a voluntary commitment in order to be prepared for the future.





SUSTAINABILITY PROCESSING

In 2022 Nui Phao Processing Operations (NPMC and MTC) has maintained and improved our sustainability performance across all functional areas with the goal of contributing to the overall sustainability of Masan High-Tech Materials. This coupled with the integration of H.C. Starck has continued the development of a holistic approach to tungsten product development commencing in Vietnam with mining to concentration and then high-end specific tungsten products delivered to the world.

MHT Vietnam processing

Producing More with Less

The Nui Phao Operation mines and processes around 3.5 million tonnes of ore per year, containing Tungsten, Bismuth, Fluorspar, Copper, and small amounts of gold. It is a polymetallic orebody, and given the nature of the minerals, we are continuously identifying opportunities and implementing them in a prioritized manner to extract more products from the resource and do all activities with a lower impact.

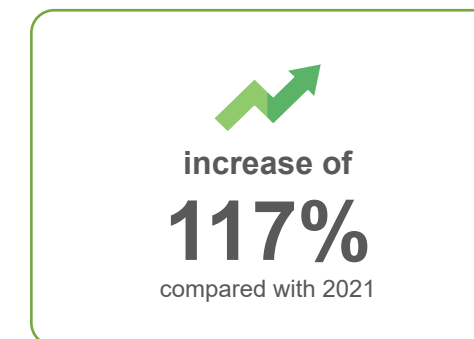
In 2022, Masan High-Tech Materials replicated the previous year's recoveries of tungsten and bismuth, as well as exceeded the previous year's recoveries of copper and acid grade fluorspar whilst transitioning from the ore bodies from the East to the West

pits with lower head grades. In the year the construction of the Oxide Expansion Project commenced which will ensure that both recoveries and throughputs will be sustained whilst processing lower grade ore whilst transitioning to the larger orebody in the Western pit. Commissioning of the Oxide Expansion project will commence in the first quarter of 2023 and is scheduled to be completed in the second quarter of 2023. Additionally, construction of the Site Water Treatment Plant commenced in 2023 with commissioning scheduled for the first quarter of 2023. The Site Water Treatment Plant is to treat additional water flows from the mine expansion to comply with the environmental discharge license limits.

Improving production efficiency and the ability to process a wide variety of variable grade and sustainably sourced feed materials

In 2022 MTC focused on optimizing operation efficiency, maximizing process of low-grade materials to maximize resource utilisation. A total of 1,125t of WO_3 from low grade tungsten concentrate by-products from NPMC were processed to high value products during the year, an increase of 117% compared with 2021. Commissioning of a Low-Grade Batch Tank will commence in Q1 2023, facilitating easier feeding of low-grade materials into the process. Additional improvements to the MTC process included optimised impurity removal capacity which permits process-

ing of a wider variety of external tungsten concentrates primarily from recycled scrap sources. These alternative sources provide a greater variation in feed materials from sustainable sources to compliment the mined high-grade and low-grade concentrates. Ongoing sustainability projects focused on improving the energy consumption efficiency with minimizing leach reactor cycle times, upgrading feed & discharge control automation and minimising steam consumption requirements.



Advanced Management Software

At MHT, we use cutting-edge processing technology and all processed products, including Tungsten, Bismuth, Fluorspar, and other products, are recognized by the Ministry of Industry and Trade as key industrial products. Especially, MHT is the only mining company in Vietnam that adopts the world's advanced mining and processing management software to minimize resource losses and optimize the value of mineral resources by operating the German technology-based Tungsten chemical production line.



HCS processing

Sustainable Processing in Goslar

Sustainability from a maintenance perspective

Different and changing challenges have an impact on a company and therefore on the availability of the equipment. The machinery at H.C. Starck Tungsten GmbH consists of continuous, quasi-continuous and batch-operated machines. Therefore, it is essential that the maintenance program is flexible and specifically designed for each machine. For this reason, a strategy mix of reactive, preventive and condition-oriented maintenance is used and will be continuously improved. In 2022 a pilot project for implementing Total Productive Management (TPM) in practice was introduced and the first optimization has already taken place.

Every year, a maintenance and shut-down schedule is drawn up thanks to close collaboration between the sales, production planning and operations teams. This allows both resources and materials to be used in specific areas, and unplanned downtimes in the facilities have been significantly reduced. In addition to the TPM project, new roles of maintenance, planners have been introduced to enhance the cooperation between Production planning operations and maintenance further.

This cooperative effort could reduce not only unscheduled shutdowns, but also energy usage. Using optimised displays, the consumed energies can be visualised more transparently, and change effects are immediately visible.

Additionally, the process control systems were upgraded to prepare for new challenges in terms of IT security, availability and optimisation of the equipment and processes. New standards in the programming of the control system were introduced for this task. The adoption of this

modular system ensures standardised programming, which also helps reduce costs and effort.

As part of the restructuring and modification of the maintenance strategies, it was therefore possible to have a positive influence on operating and maintenance costs.

The objective of our maintenance is to increase the availability and reliability of the equipment in the long term, and we will continue working towards this goal.

Sustainable processing in Sarnia in 2022

Sarnia Canada is focused on developing technological solutions for our current and future product portfolio. This includes detailed analysis to introduce state-of-the-art technology for advancements in efficiency, sustainability, and life cycle longevity.

Transitioning complex manufacturing processes to the latest technological SCADA control and automation has permitted immediate productivity improvements in troubleshooting and downtime, due to achieving real-time process control. This also enables expanded understanding and knowledge from data acquisition to continuously improve long-term efficiency and performance simultaneously across multiple disciplines.

With expanded process data accessibility, the complexity of improvement to the current high performance best in class will continue to outperform for a sustainable and extended life cycle.

Sustainable processing in Ganzhou in 2022

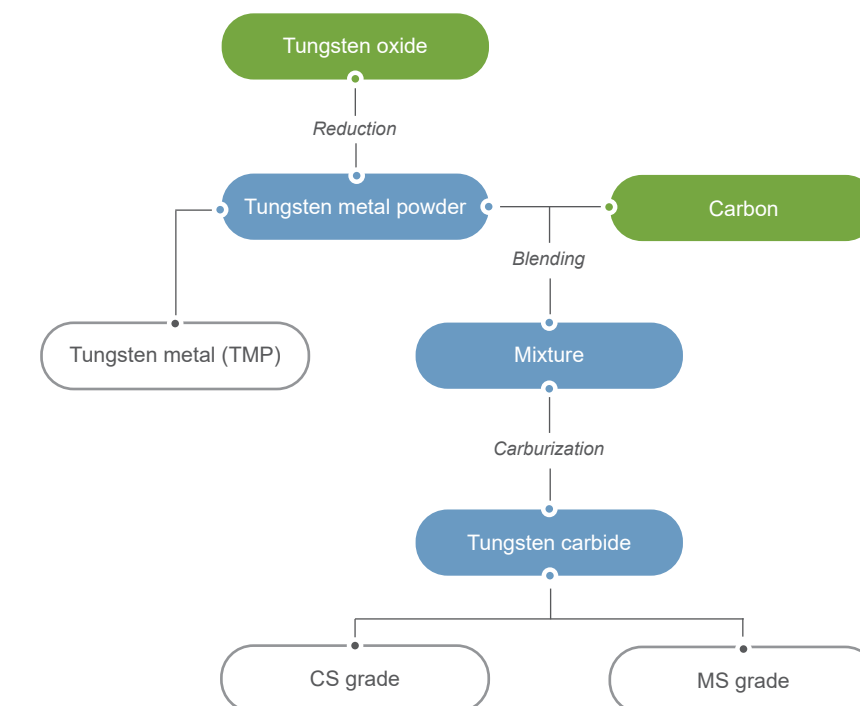
Sustainability processing

Using Tungsten oxide as raw material, undergoing reduction and carburization, the CS grades and MS grades products are produced by different equipment and different process parameters. Normally, CS grades products are suitable for cutting tools and MS products for mining solutions.

Despite facing significant challenges in 2022, such as city lockdowns due to the pandemic and sluggish downstream demand, the Ganzhou plant successfully managed to still achieve relative high levels of production and sales volume, while maintaining profitability. The plant's success is attributed to management's implementation of measures to enhance production efficiency, to optimize the supply chain, and to ensure employee safety during the pandemic.

Aiming to improve overall equipment management and increase the work efficiency of the maintenance team, a new program named EAMic for "Equipment management" is tested. This program covers equipment and asset management, maintenance documents, automatic scheduling of preventive maintenance plans, work order management and even spare parts management. It is also a powerful program to generate technical, managerial reports for all maintenance activities. Moreover, this program allows maintenance staff to work with mobile devices and bar code system, so that papers like the Inspection Checklist or maintenance worksheet can be saved. All information recorded via mobile devices and computers will be automatically saved in a local server and is transparent to all related authorities. This program can be connected to SAP and all data can be transferred into SAP for accounting purposes. It is not only in the language of Chinese but also in English, Germany and Vietnamese and is running based on international standards, which can be implemented in the whole group.

Processing flow at the Ganzhou site



SUPPLY CHAIN MANAGEMENT REPORT 2022

2022 was the year that showed promising signs of an end to Covid-related restrictions and the possibility of a semblance of order returning to the world of Supply Chain within the NPMC and MTC operations. The Supply Chain Management (SCM) team had been working hard during Covid times, enduring many new challenges that they have never had to face before. However, despite the promising signs that lockdowns and restrictions were finally disappearing from our daily lives and that overloaded shipping lines and ports were starting to show signs of clearing, a new set of challenges were looming on the horizon to test the strength and sustainability of our SCM and its team once again.

The first challenge was China's decision to shut down industrial activities in order to clear the skies before the Winter Olympics and the second was the Russian – Ukraine conflict. These two major issues added new challenges for the team to overcome with many manufacturers seeing the cost of raw materials increasing and shortages of many other materials starting to appear as SCM departments around the world pushed the panic button and started the wheels in motion to stretch already burgeoning Supply Chains to new lengths.

Despite these and many other issues the Supply Chain Department continued to ensure that throughout 2022 both the NPMC and MTC processing plants received all required materials to operate at targeted production levels. They also made sure that the site maintenance team received all critical plant spares on time so they could continue providing the high levels of plant availability for which they are renowned.



Inventory reduction



The increase in inventory levels and value at the start of 2022 due to concerns with manufacturer production lead times and shipping delays resulted in an increase in site safety inventories to cover for the longer delivery times throughout the Covid period of 2020-2022. Prices were rising as manufacturers continued to raise the costs of a number of the 32 reagents used in the processing facilities, as well as many of the crucial spares and consumables necessary to maintain the processing plants and activities working at peak efficiency. As we moved into the second half of 2022 and saw the backlogs at manufacturers and shipping lines starting to clear, plans were being developed as well as risk evaluations being conducted to start the process to bring down the safety levels of a number of reagents during 2023. Many business improvement initiatives were also developed to reduce inventory levels and subsequently the values for 2023 and beyond.

Logistics initiatives



Our logistics team including inbound, outbound and site were kept busy with the many demands from all parts of the business and operations calling on them to perform to a level they had not been to before. The inbound/outbound team were using all their skills and knowledge to work miracles with our logistics partners to bring materials from all parts of the globe, including the many construction packages ordered by the projects team. In an effort to reduce costs we will be looking at how we can better utilize the rail and barging systems in Northern Vietnam in 2023 to move our finished goods and inbound freight in and out of the site. This will help reduce our reliance on road transport.

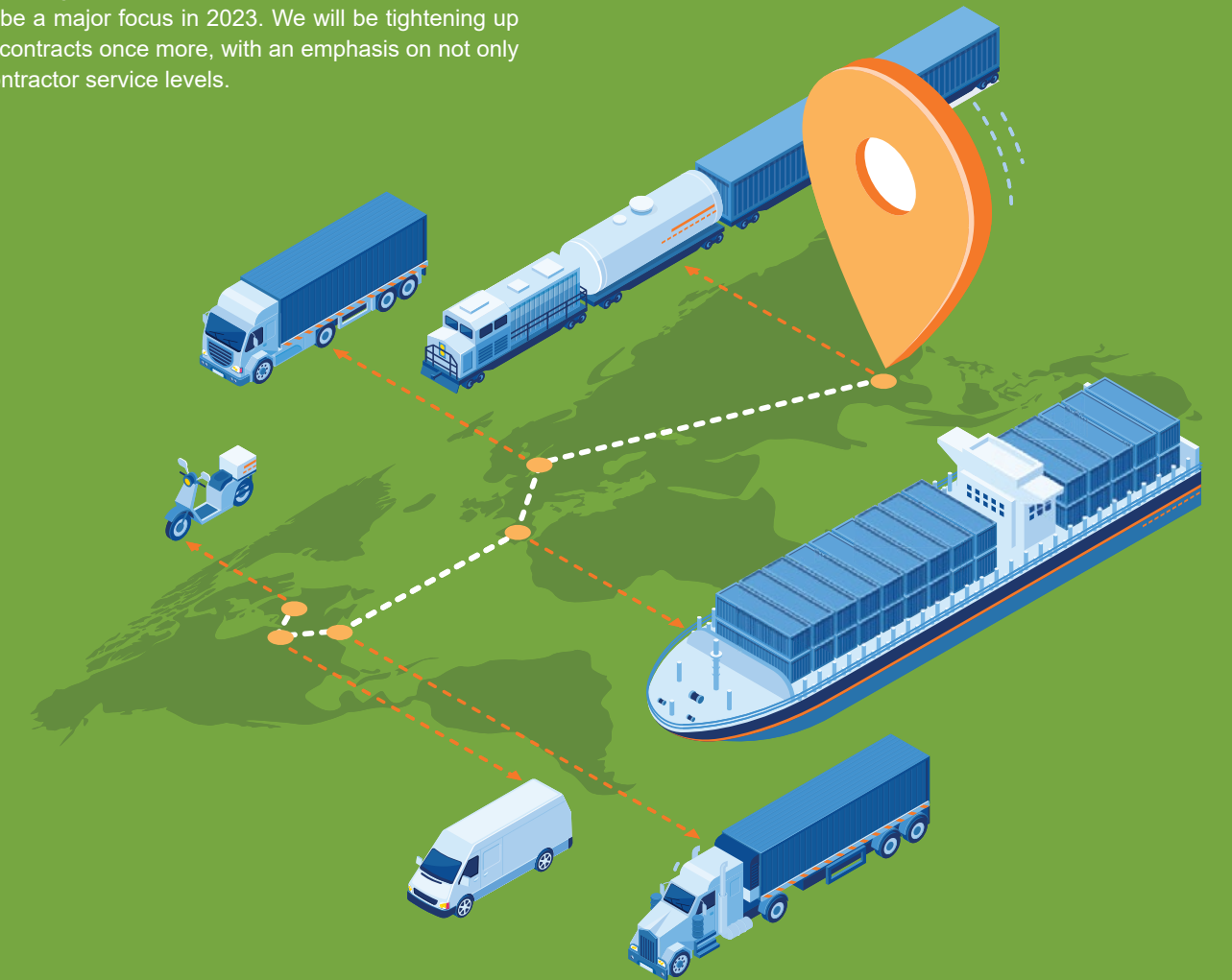
Internal audit



SCM during the year was audited by both the internal audit and compliance teams. A number of issues were found within our processes and functions of the various areas of our Supply Chain. The SCM and IA teams have worked hand in hand to resolve the issues and build a stronger, more resilient and cost-effective SCM team moving into 2023 and beyond.

FOCUS 2023

Tough conditions for Supply Chains over the last two years forced us to place some of the cost saving and streamlining plans for the SCM function on hold while we battled through the maze that was Covid. In 2023 our focus will be on cost reductions through inventory and vendor optimization, building up our Fixed Price Agreements coverage through the implementation of a sourcing department focused primarily on cost reduction. Our procurement team will be focused on process optimization and building a structure around their daily/weekly workloads to ensure we are putting more emphasis on expediting of orders already in the system as a way to improve inventory optimization. Contract management and optimization on both the processes and contractor selection will be a major focus in 2023. We will be tightening up on how we evaluate and award contracts once more, with an emphasis on not only cost but also management of contractor service levels.



HCS sustainability within materials management global

Logistics

One main focus in 2022 was to establish our own logistics team in order to be able to handle the inbound/outbound shipments independently from January 2023 onwards.

In the past, the logistics approach of H.C. Starck Tungsten included a large amount of outsourcing logistics services such as warehousing and shipping to a logistics service provider. Establishing the expertise and know-how of logistics within H.C. Starck Tungsten now allows us to review and evaluate all aspects of logistics such as warehousing, internal logistics as well as external transportation/ shipping. It is our overall logistics strategy to manage bottlenecks, be more agile, flexible, faster, and have better cost transparency and tighter cost control as well as general control over logistics processes.

2022 was marked by heavy congestion in the ports with an impact on the entire logistics industry. For example, in the Port of Hamburg the situation has been very tense for several months. In October the vessels had to wait up to one week for container unloading, customs clearance took up to two weeks, and in addition there was a shortage of trucks and drivers.

According to an official statement, the delayed arrival of containers or the fact that it is not always possible to find an optimal parking space for a container due to the increased capacity utilization also had an impact on other transport routes such as road and rail and thus on the entire logistics industry. At the end of the year, congestion in container shipping slowly receded at a high level.

International Trade Law & Customs (ITLC)

Our ITLC team supports the entire organization navigate the complex and changing rules that govern the import and export of Tungsten products. Export control, for example, is an integral part of compliance by establishing internal control measures to ensure that H.C. Starck Tungsten adheres to relevant export control regulations. Besides their contribution to compliance, ITLC also fosters sustainability by facilitating our international trade, which in general is recognized as a contributing factor to global warming. ITLC's role is to streamline customs clearance procedures, use best practices and tools to control trade transactions so that they can reduce the time and cost of moving goods across borders.

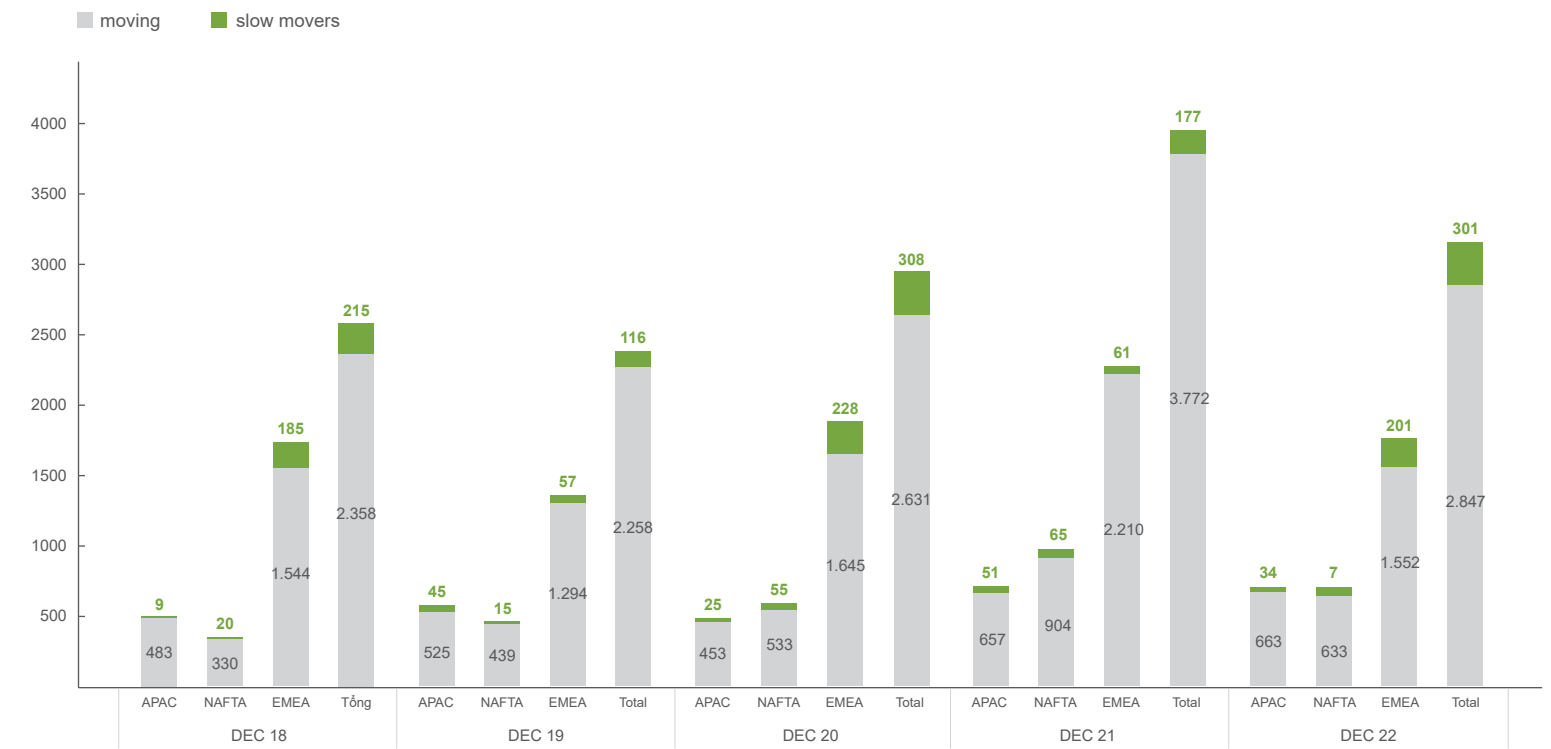


Raw Material & Inventory Planning (RMIP)

The Covid-19 pandemic and its related effects on logistics, longer lead times and hence higher inventory levels to buffer against these supply chain disruptions have made it difficult to control slow-moving inventory (defined as no inventory turns for more than 90 days).

In 2022, we saw that deliveries to/from APAC took much longer compared to previous years. This had a direct impact on the on-time supply of raw materials to Goslar and Sarnia.

It is a major challenge to balance these framework conditions with on-time production and at the same time a stock reduction, which became decisive in the course of 2022 due to the global economic circumstances, especially in view of the war in Ukraine and the energy crisis in Europe. Cooperation with a real-time supply chain visibility platform to track shipments has helped a lot to stay up-to-date and make timely decisions.



Slow movers worldwide (in t WO₃)

Distribution Management

Continuing the close cooperation with the logistics service provider, Distribution Management successfully kept our airfreight volumes at a constantly low level. The roll-out of a new release process for airfreight shipments in 2021 increased awareness throughout the organization and supports our goal to keep volumes, costs, and carbon footprint at a minimum. The trend from 2018 to 2021 continued in 2022 despite the severe supply chain disruptions and logistics challenges that the Covid-19 pandemic caused. Overall shipping volumes by air, sea and road increased by 13 percent in 2022 compared to 2021.

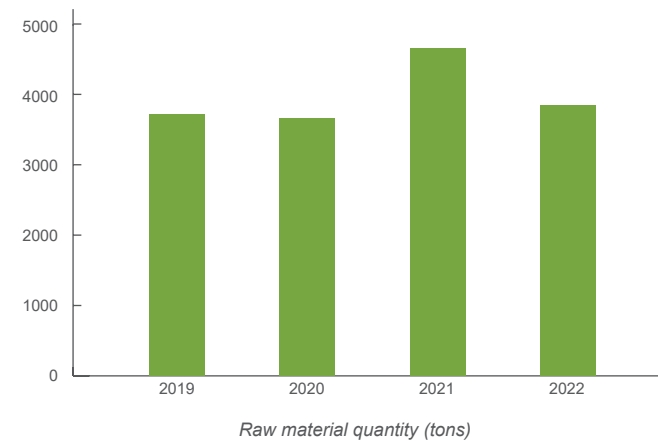
Air freight accounted for an average of 0.21% of the total volume handled from Goslar. That represents 3.7% of the overall freight costs.

Technical Materials/ Equipment Procurement in Ganzhou

The lead time is incredibly long for 2022 due to the ongoing Covid-2019 and the unforeseen war in Ukraine. The Technical Procurement Department in Ganzhou has worked hard to ensure that all materials/services/miscellaneous and petty construction projects, excluding raw materials, were delivered in the right quality, at the right time, and in the right quantity to support the regular operation of equipment and production as required by every related department. Also, the technical procurement department was able to save ¥138.98k through negotiating a lower price and optimizing suppliers.

Furthermore, the team completely supported and collaborated with the Production & Equipment department in order to move forward with the investment project and promote it in order to meet the production capacity and product quality targets on time.

Raw Material Procurement in Ganzhou



Although the sales order has been challenging during the Covid pandemic and its impact on the decline in demand for raw materials we managed to ensure a steady supply of raw materials, and the qualified rate of raw materials is getting higher.

Supply Chain Management in Sarnia

Pandemic challenges continued for the Sarnia site in 2022, specifically with regard to supply chain constraints and rapid inflation, requiring robust materials management from the Sarnia team to leverage critical supply and delivery relations

The increasingly challenging environment was countered with significant improvements to logistics tracking, supplier negotiations, and inventory control. This includes achieving a new successful and competitive long-term electricity and steam agreement that allows Sarnia opportunities to meet future carbon neutrality targets

Achieved a newly negotiated long-term service level agreement for electricity and steam

New logistical channels and gateways were developed to meet the challenges of new and increasing European customer base



SUSTAINABILITY HUMAN RESOURCES

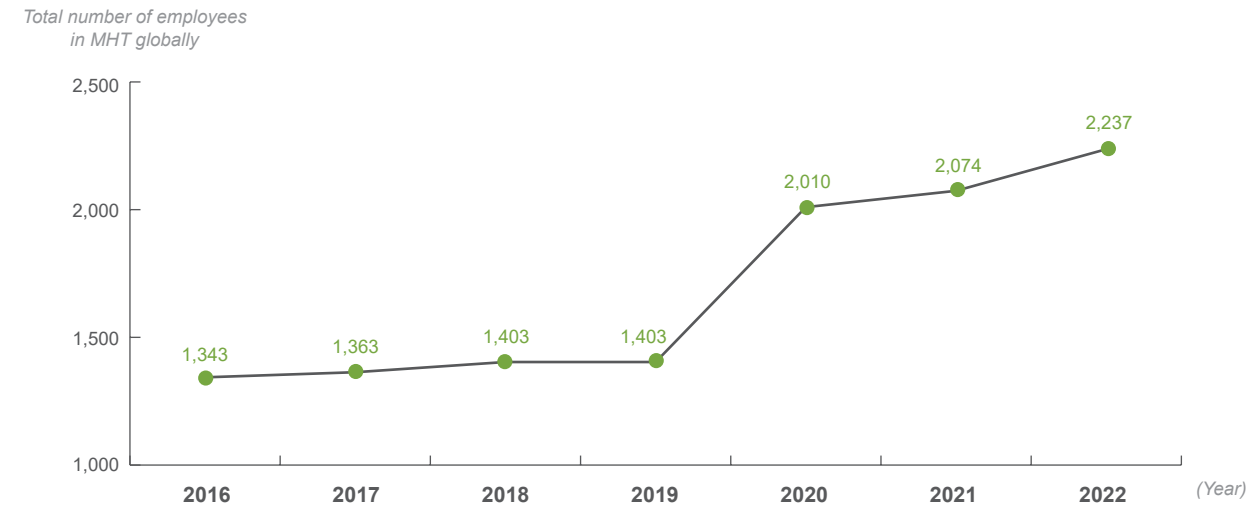
People are the key factor in the development of an organization, especially during the process of post-Covid19 business production recovery and growth. The world is strongly changing due to the impact of various factors, including change in economy, politics, society and technology. To adapt to such rapid changes, organizational building and development is strongly focused with specific actions to adapt flexibly and maximize the strength of human resources and make them truly happy in an engaged environment.

At Masan High-Tech Materials, we call it personnel reshaping, a key mission for 2022, to identify methods and human resources programs to create more value for the organization and employees.

With ongoing operation toward global centralization, we comply with the Code of conducts and core policies, including Human Resource Policy, Compliance policy, Commitment to responsibility and sustainability - four principles of our success, and External Relations Policy.

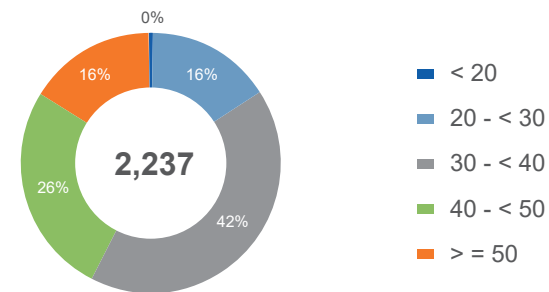
WORKFORCE STRUCTURE

The total number of employees in MHT globally is provided in the table below:



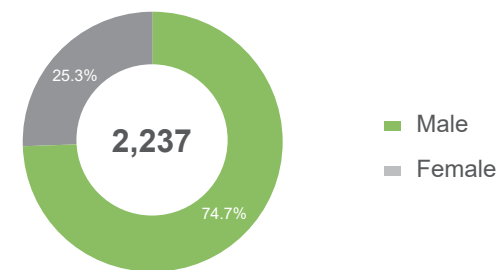
BY AGE

The Company's employee age ranges within the golden working age, mostly from 30 to 40 years old, accounting for 41.7%.



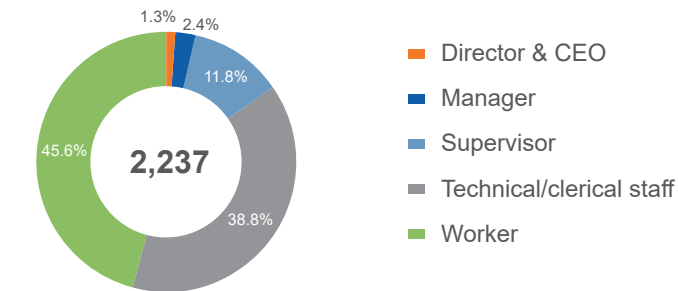
BY GENDER

Due to the characteristics in a heavy industry and mining company with special working roster, good physical health, the number of female employees remains stable, accounting for 25.3% of the total workforce in 2022.



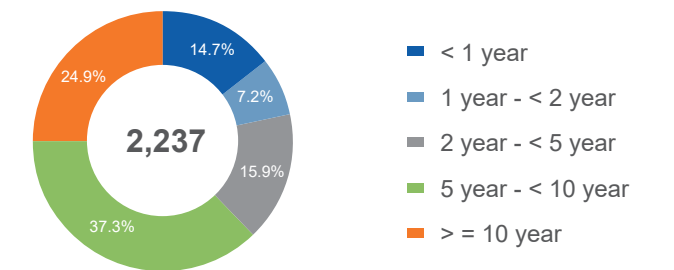
BY RANK

The highest percentage in MHT's workforce structure is direct operators, accounting for 45.6%. Next, technicians and supervisors account for 11.8% and 38.8% respectively. Members of the Board of Directors and middle management account for 1.3% – 2.4% respectively.



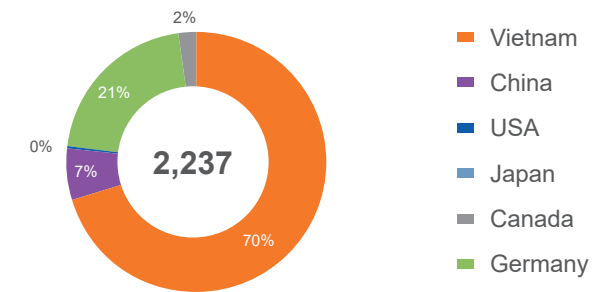
BY LENGTH OF SERVICE

A friendly and engaging work environment helps attract and retain the employees. The length of service indicator has showed that 24.9% of the employees have worked at MHT for more than 10 years, 37.3% and 15.9% of employees have worked for 5-10 years and 2-5 years respectively, and percentage of new hired employees increased by 14.7%.



BY COUNTRIES

With 5 processing plants and many business operations, representative offices located in many countries in the world, the workforce percentage of MHT by workplace is 70%, 21%, 7%, 2% in Vietnam, Germany, China and Canada respectively, and the rest in USA and Japan.



Total number of employees and average income at MHT Vietnam:

| YEAR | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total employees | 1,343 | 1,363 | 1,403 | 1,403 | 1,403 | 1,454 | 1,575 |
| NPMC | 1,027 | 1,072 | 1,150 | 1,157 | 1,096 | 1,133 | 1,219 |
| MTC | 316 | 291 | 253 | 246 | 307 | 321 | 356 |
| Of which | | | | | | | |
| Vietnamese | 1,236 | 1,261 | 1,303 | 1,309 | 1,329 | 1,394 | 1,516 |
| Expatriates | 107 | 102 | 100 | 94 | 74 | 60 | 59 |
| Average income (VND million per month) for Vietnamese employees | 10.3 | 11.1 | 11.4 | 11.8 | 11.9 | 11.9 | 12.3 |

(* In compliance with the information security policy, the detailed information of employees working in other countries is not provided)

TALENT ACQUISITION, TRAINING AND DEVELOPMENT - A CLEAR HUMAN RESOURCES PATH

During implementation of the talent acquisition and development programs, MHT conducts small surveys on reasons why the talented have chosen to work for and engage with MHT. The main reason from the feedback is a transparent, honest and respected working environment. Talent acquisition is the initial important step to create a distinct competitive advantage of the business. Our know-how for effective talent recruitment, acquisition and retention is to build a skilled, knowledgeable, healthy and flexible workforce based on valuing people. In 2022, we maintain a flexible and effective online and offline recruitment methods; optimize recruitment channels, develop an external relations network with potential candidate groups; build a diverse, rich recruitment data system; establish a good relationship with universities, colleges, vocational training facilities, career orientation and job promotion centers through external relations, exchange and participate in job fairs etc. All of these activities help the Company quickly access young, potential candidates, especially building an employer image and branding, trust and attraction of the Company in a challenging and competitive labor market.

Being well aware of the importance of talent training and development, we are willing to invest in and accompany our employees in getting harmonized with the corporate culture, and adapt to work on the basis of employee respect.

In 2022, MHT has rolled out training activities by group and by job following learner-centered approach, while trainers are competent, qualified to teach and guide training activities to achieve expected outcomes. We continue to take advantage of the robust development of information technology and online training platforms to design learning materials, class management tools for various in-house training courses that bring new experience to attendees, including Awareness course on Internal Labor Regulations, Collective Labor Agreement, and IT Security Training Campaign, etc.

The trainers and trainees at MHT do not just teach or learn in the classrooms, but are directors, managers, engineers, scientists, accountants or purchasing officers, etc. in charge of daily management and expertise. They accompany the organization in building and developing an



active culture, continuous learning and look forward to improvement of each individual and team. Especially, together we and employees create a learning environment with the mentoring of leaders, commitment to accompanying and allowing for making and correcting mistakes with a lot of opportunities for learning and challenges.

Each and every MHT employee seems to be transplanted with a special genome containing 3 core values of "Respect, Innovation, Results." With this genome, we set out action plans, nurture and develop specific career path for each individual, create opportunities for them to shine based on their internal strength and our companionship, and together we create greater value on the journey of development of MHT.



 **MHT in Germany**

H.C. Starck in Goslar, the largest site in the HCS structure of MHT with around 470 employees, around 500 training hours in addition to the usual onboarding of new employees and on-the-job training activities for the year 2022. In addition, around 12,000 online training courses have been rolled out covering cross-cutting topics such as compliance, data protection and occupational safety and health. In addition to first aid courses and fire drills (around 500 hours p.a.), “Safety Days” are held on a regular basis. (around 1,800 training hours p.a.).

In order to counter the increasing shortage of skilled workers in Germany and to counteract the impending loss of elementary know-how and process experience due to the high average age of the workforce, the clear focus at H.C. Starck still is personnel development. In order to be able to increasingly develop junior staff from within its own ranks, H.C. Starck has once again significantly sharpened its strategy for the areas of training and qualification in 2022.

 **MHT in China**

In 2022, total professional training man-hours are 952.5 hours with 249 training sessions. A number of internal and external training courses for employees were conducted such as New Employee Orientation, Operational skill training, Equipment Training, Technology process Training, HSEQ Training, Processing and Maintenance Management, Confidential Management Regulation Training, special equipment operation training such as forklift, cranes, etc.

The Company further focuses on individual capacity building and leadership development, creating favorable conditions for employees to learn at their demand, orients future career planning and promotes their work ability to deliver better achievements for the Company.

In the first step, the existing structure for the professional entry of young school graduates is to be further expanded both with regard to new job profiles and to cross-divisional knowledge transfer. In a further step, the topics of qualification and knowledge transfer are to be structured and developed more comprehensively in the overall organization. In order to remain a recognized market partner in HCS’s industry segment in the future, issues such as sustainability, environmental protection and energy management are increasingly playing a differentiating role. These aspects will therefore also require more attention in the future in the context of training and continuing education.

In order to take account of these complex requirements, approval has now been given for a separate departmental structure focused on the development of these topics, which is to start work as soon as possible at the beginning of 2023.

 **MHT in Canada**

Training and employee development are indispensable parts in the human resource strategy, contributing to providing a safe and efficient work environment. Three employees attended management and leadership courses at the Canadian Management Center. It is a standard practice for all new hires to attend specific health and safety training provided by Industrial Educational Cooperative (IEC) and in 2022, 7 employees attended this course provided with outstanding support for learners and best practice approaches, which has met various training requirements and helped to improve qualification and competence for employees.

In addition, employees participated in an annual 2-day training course to improve the current skills through training modules, including external training conducted by IEC, on-the-job training by external training providers and internal exercises to simulate different scenarios. Especially, the company provides financial support for employees to join capacity building courses, helping attract and retain the employees who are interested in improving their knowledge, skills and career progression.

 **MHT in Vietnam**

In fact, 93% of the employees say they will serve longer when the Company invests in their career development. To adapt to the post Covid-19 “new normal”, MHT has focused on human resources development to keep pace with the market. Training activities have gradually resumed starting from QII/2022 with offline training sessions and outsourced training programs after more than 2 years of disruption due to the Covid-19 pandemic. As of December, the number of training man hours recorded was 43,423 hours for 24,250 attendees of both NPMC, MTC and Contractors.

The anywhere-anytime learning model diversely delivered either online or offline or self-study methods has provided employees with opportunities to choose, experience and understand their jobs. Site tours, orientations, and exchanges of practical, valuable experience from typical personnel have helped employees get more motivated for self-development within the organization. In 2022, 257 employees were promoted and internally transferred to other roles, an increase by 162% compared to 2021, contributing to effective human resources optimization for the Company. Especially, the Company focused on attracting talented students, create human resources and develop talented engineers for key positions within the organization. MHT employs around 25 - 30% of the students doing an internship at the Company each year. This is also a channel to help promoting the Company’s image to the young, potential labor market.

DEVELOP A TRANSPARENT ORGANIZATION AND CHANGE MANAGEMENT

Together we touch, look in the same direction and take action for one goal; together we move on, respect and innovate on a road to gain success, this is the common ideal for MHT people. We keep in mind MHT is home. Only if MHT employees are engaged, healthy and happy will the organization be well-engaged, strong and happy by geometric progression to reach new heights and deliver outstanding values to business partners. So, the unique engagement experiences with profound meaning, touching people's heart, love, compassion and responsibility for employees, their families and community has been fostered every day.

We are so proud of our global excellent management team who understand the true value of two-way communication between the Company and employees and therefore, besides maintaining public announcement of the Company business performance, the management is willing to take time to participate in Q&A sessions or employee dialogues. Especially, in 2022, MHT officially launched "Your voice matters" service, an independent whistleblowing service managed by a third party on behalf of MHT to receive information from employees and external sources globally on violations relating to the matters such as abuse of influence, bribery/corruption, breach of policy/procedure, bullying/harassment, conflict of interest, discrimination, fraud, health/safety/environment, supplier misconduct, theft, other unethical behavior or misconduct.

This service allows and encourages employees and business partners to make their voice heard, based on which MHT would investigate and take proper action accordingly. All reports and disclosure are completely confidential, and whistleblowers are not required to reveal their identity unless they choose to do so to secure the information as well as protect the whistleblowers.

Change management is implemented through regular interaction, establishing switching programs with information sharing forums and dialogues, creating tools for employees to contribute their opinions, share ideas and together with the management address the issue, help the management to get closer to employees, while employees feel their voice is heard, respected and want to devote to the organization.

Business Process Management (BPM) Unit and Portfolio Management Office (PMO) are established in 2022 with the purpose of identifying key improvement opportunities and providing a prioritized plan of initiatives to harmonize and manage business processes across the whole MHT Group, as well as to establish a framework of governing its portfolio of transformation initiatives in order to achieve the Company's strategy of being one consistent and integrated platform and system.

CHANGE MANAGEMENT



ENHANCE EMPLOYEE EXPERIENCE - BUILD A HAPPY MHT

Recognizing initiatives, ideas of work performance improvement, plant performance improvement, cost effectiveness in business and production, and long-term value creation, MHT has presented 45 Monthly Star Awards to individuals and teams for the recognition of their outstanding achievements, 13 employees with Kaizen awards, 11 employees with Certificates of Merits by Chairman of Thai Nguyen Provincial People's Committee, and 111 employees with 10 years of service Awards. In addition, the Company has also held production skills competitions in some sites, including China and Germany at the end of 2022. The company also held the annual commendation award for outstanding employees and gave service awards in January in some countries. Especially, 02 outstanding MHT employees in Top 20 warriors selected from 40,000 employees of Masan Group have demonstrated their preeminent competence of 6 qualities of Masaner. We are so proud of the prestigious awards and prizes for our colleagues. This helps each and every MHTer motivate to contribute to the sustainable development of Masan High-Tech Materials.

Life has gradually resumed to normal in many countries. Picnics and offline meetings have been held to enhance cooperation and engagement such as cultural exchange events and expertise exchanges between employees all around the world. Especially, a series of business process management (BPM) workshops gathered all the global top management in Vietnam. In addition to the discussions on the existing processes across MHT's locations and functions, getting alignment to proceed, the leaders were also engaged in various cultural activities and interesting destinations in Vietnam to refresh after every working day.



Let us review highlights of 2022 in Vietnam through the pictures below:



Open MHT Football Tournament 2022



Summer tour program 2022 "Beyond limits"

Employee engagement activities

Annual cultural, sports and travel activities have been continually improved with the support of the Company and NPMC Trade Union taking care of both physical and mental health for employees and their families. It's the Blog Radio - MHT in my heart, Beloved Shutdown, Summer BBQ lunch, MHT Detox, MHT Football Club, Cozy Tet, MHT Amazing Race, Dragon boat Festival and Children's Day etc. These programs not only care for the employees' well being, but also they care for their families, parents, spouse and children with both practical physical and mental values.

The 12th anniversary of Masan High-Tech Materials

In 2022, in celebration of the 12th anniversary of Masan High-Tech Materials, all the sites and business operations in China, Canada, Germany and Vietnam held a meaningful celebration activity with the theme "Beyond Limits". Activities like mountain climbing, celebration, picnic training, travel with family by thousands of MHTers have strengthened our determination and effort to reach a new height together.

Masaners care for Masaners Fund

The spirit of "No one left behind" is a guiding principle for us to accompany, take care of each other through "Masaners care for Masaners Fund" (established on 18/06/2021). Every year, employees and the Company contribute to the Fund to maintain and develop meaningful activities. As of now, the Fund plays an important role during the Covid-19 outbreak and helps timely visit, support people with disadvantaged conditions, and scholarships to the students with outstanding academic performance.



The MHT Amazing Race

In December, the MHT Amazing Race was held with a wide participation of over 400 employees across MHT, creating a healthy playground for each employee to build an exercise habit such as walking, running or cycling to boost physical health as well as to spread positive energy to community. Every MHTer chose a suitable sport and participated in the exercise activities of the company for 21 consecutive days. Participants have a chance to join an online sports competition with interesting experience with their colleagues and family members. Total distance gained is 23,163 km equivalent to 1.8 times of the distance around the Earth. Each employee's step also contributed to Masaners' Fund for Masaners' Care. In Canada, employees were given the opportunity to buy any item/ product that relates to fitness and wellbeing such home gym equipment, bicycles, yoga matt, and sporting equipment such as golf clubs, rackets etc. In 2022, more than 85% of the employee submitted claims which is new record.



Health care programs

The Company focuses on improving healthcare programs for employees, not only improving the work environment, but also providing tools and methods to support employees such as Company Clinic, health expert, and in the future, we are intended to expand the scope of healthcare, provide mental health packages for employees. Health experts provide health consultation services, organize and work with all teams to analyze potential risks and actual occupational health situation within the organization to give out measures to improve the health for employees.

Our colleagues in Germany have their own area in our intranet to get an overview about all health and safety activities at H.C. Starck and ChemiLytics Germany, for example, information on yoga classes, massage, including registration links and other important dates for health and safety activities. Furthermore, the colleagues have the possibility to find recipes and links for healthy food under a steering committee called "Well home".

Below there are outstanding sports events of HCS in 2022:



Altstadt Lauf Goslar (Running event)

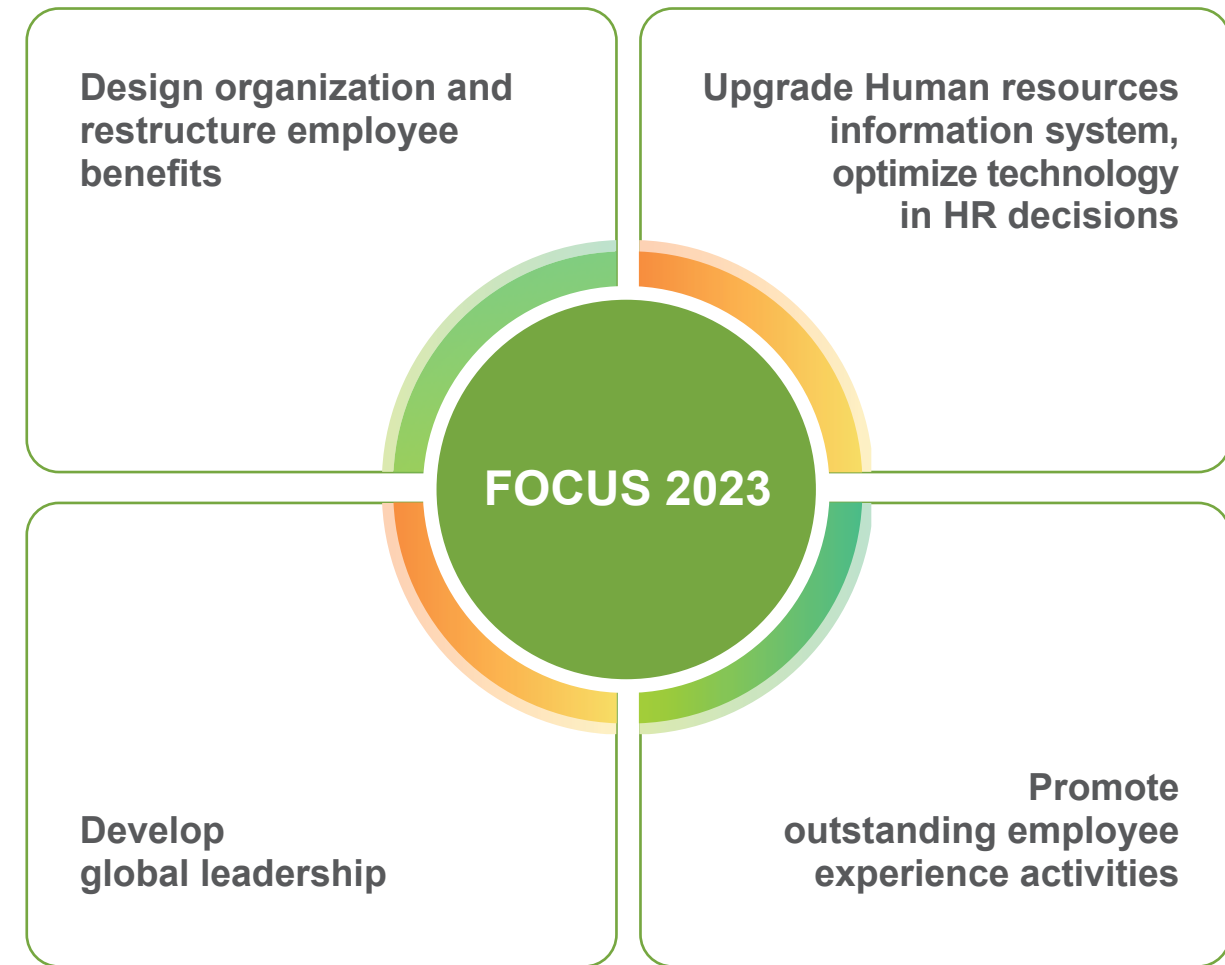
Each activity has a significant impact on employee engagement at each subsidiary of MHT. We work together to build a friendly working environment where everyone can learn from one another, interact, unite and be determined to take MHT reach further.

Notably, the management change, establishment and adjustment of the business, production plan to adapt to the actual situation, organizational restructure and strengthening employees' experience, etc. are important efforts and advancement of MHT over the past years.

In 2023, we continue to set out important and consistent goals to clearly determine the strategy, develop a plan and together follow the right track with the ambition of global sustainable development for Masan High-Tech Materials.



A team cooking event, led by a nutritionist





SUSTAINABILITY HEALTH & SAFETY

HEALTH AND SAFETY AT VIETNAM

- In 2022, the Covid-19 pandemic was controlled in Vietnam, however, the Company continued to put preventive measures in place in order to guarantee the health and wellbeing of employees.
- Assess the working conditions to classify and register an additional list of arduous, hazardous and dangerous occupations.
- Coordinate and develop a training matrix for each individual and department.
- Implement the program “Rank Your Day” (R.Y.D) to encourage positive attitude and improve the active role of each individual in safety.
- Maintain area safety observation with the participation of Supervisors, Managers and Management Team.
- Analyze the conformity of the company’s Health and Safety Management System with the Occupational Health and Safety standard ISO 45001:2018 in order to get ready for applying this standard at MHT.

HEALTH

OUR CLINIC

There are 10 healthcare workers providing 24-hour support in the MHT Vietnam Clinic, consisting of four doctors having general practitioner degrees and medical specialty certificates, five nurses, one medical assistants, one pharmacist with full equipment and facilities to take over daily healthcare services for employees as well as response to emergency cases. In 2022, the Clinic provided health care for 5,573 employees, and flu vaccines for 1,196 employees.

Frequently taking part in emergency drills on various scenarios in partnership with the Emergency Response Team ensures that rescue equipment is used proficiently and that emergency circumstances are handled as best as possible. Also, we collaborate closely with local authorities and hospitals to deliver quick and efficient emergency care.

Training courses were conducted throughout the year to upskill healthcare workers and meet the legal requirements. These include continuous medical training, ear, nose and throat endoscopy, safety vaccination, occupational health, working environment monitoring, chemical safety.



Medical staff participated in a chemical incident response drill

1 Covid-19 prevention and control

In early 2022, the Covid-19 pandemic broke out, infecting more than 70% of the MHT workforce. Yet, by adopting preemptive steps in the Covid-19 prevention and control, MHT was only minimally affected by the pandemic, no employees were hospitalized for treatment, and the business continued as usual. Despite the low risk, MHT always maintains vigilance, tracks and evaluates the epidemic condition, and makes preparations to handle any recurrence of the Covid-19.

2 Periodic health checkup and occupational disease prevention

Pre-employment health screening and routine health checkups are conducted in parallel to the planned occupational health examination twice a year. In 2022, the Clinic examined and gave medical advice to 1,864 employees (559 employees and 1,305 in batch 1 and 2 respectively).

In 2022, the Health and Safety Department also gave advice to contractors to conduct health checks for their employees working at MHT based on the list recommended by the Company.

3 Training, health communication & community support

Community support, health communication and training activities continued to be conducted, specifically as below:

- Conduct mandatory training programs on occupational health prevention for employees before starting work, and other occupational health training sessions.
- Offered 27 first aid training courses for 276 MHT employees with a total of 1,104 training hours.
- Provided guidance on disinfection and storage of the respiratory protection equipment (RPE) for MTC employees.
- Released and conducted health talks on the following topics: heat-wave, heat stroke prevention, flu prevention, monkeypox prevention, dengue fever, etc.

- Successfully organized the “Health Day” program in conjunction with the launch of “MHT Amazing Race 2023” with exciting and appealing physical activities, promoting the exercise and sports movement. Through this event, the analysis and statistics of health trends were shared and discussed positively, solutions were recommended to improve the health of employees.
- In addition, the company’s professionalism and competence were well regarded when working with the neighboring health centers to provide free medical services, conduct health examinations and first aid in case of emergencies.



Internal first aid training



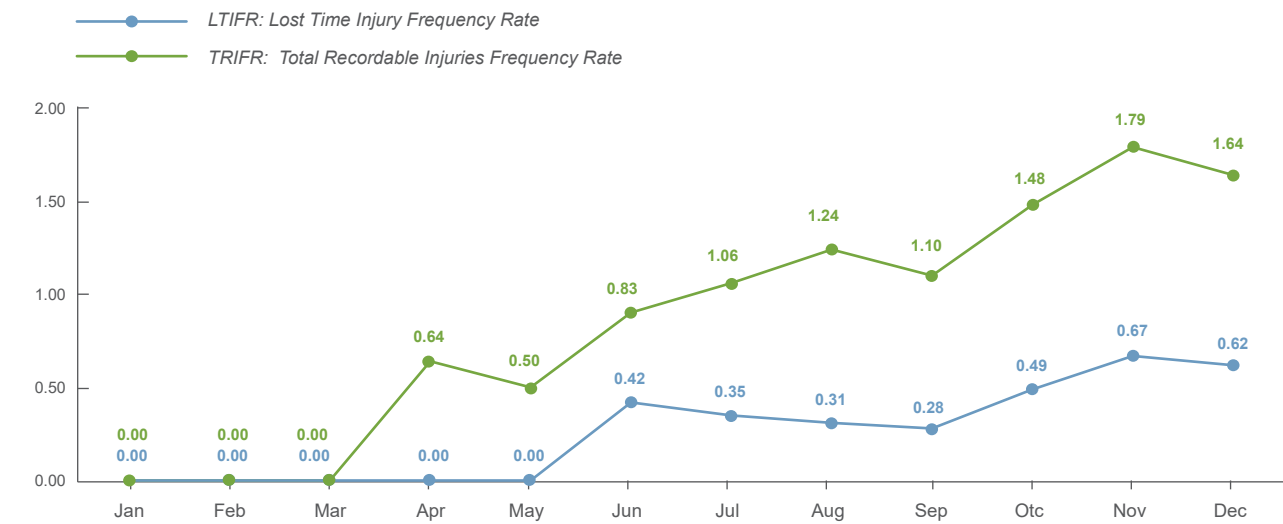
Health Day and launching exercise program

SAFETY

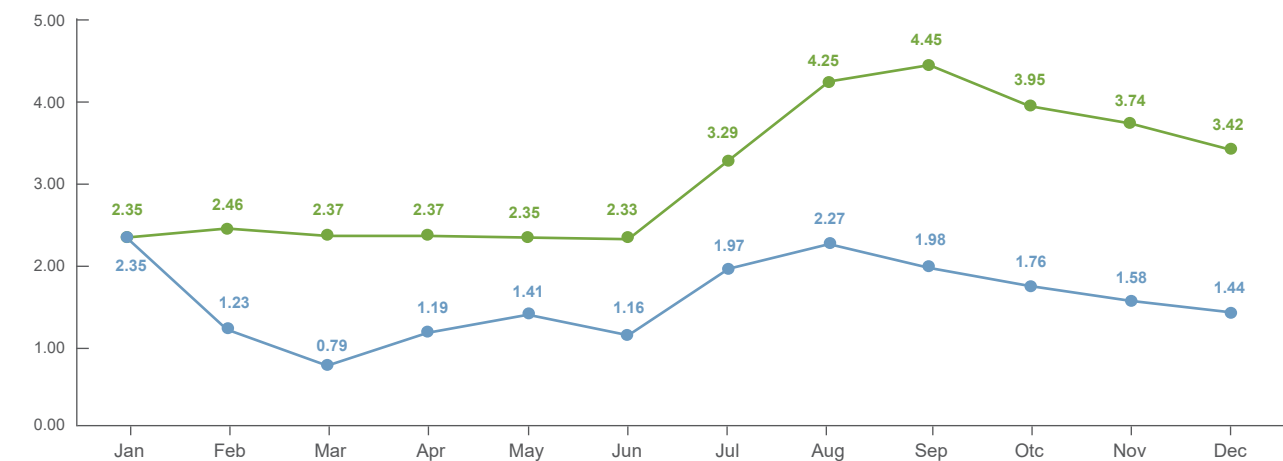
1 Accident and Incident

The incident report for 2022 indicated that occurrences tended to rise, but it also revealed that incident reporting had improved throughout the organization. Most of the incidents were related to traffic, chemicals, and equipment maintenance activities. One serious traffic accident claimed the life of a contractor worker who was moving around the

mine site. This urged us to pay more attention to hazard identification and implement it closely and comprehensively; it is also required to strictly and effectively implement actions to eliminate, control the risk as well as prevent the incident.



YTD Injury Frequency Rate - 2021



YTD Injury Frequency Rate - 2022

2 Management system

In 2022, our Standard Operating Procedures (SOP) related to Health and Safety (HS) were reviewed and revised. We planned to move on to review and update the procedures according to the document management system.

With the aim of standardizing management systems, the Company commenced the implementation of the Occupational Health and Safety

(OHS) Standard Management System ISO 45001:2018 after analyzing the OHS management system's compliance with the Standard. The Company developed action plans to standardize in preparation for the ISO 45001:2018 completion and implementation next year.

The safety principles for hazards mainly identified from some specific processing operations at MHT were also reviewed and amended in 2022:



8 SAFETY PRINCIPLES

Moreover, the amendment and application of the Guidelines on Contractor Health and Safety Management will help assess and provide guidance for contractors to understand as well as proactively meet the

standards and specific requirements on Health and Safety so that they can well prepare for their activities at MHT Vietnam in an effective and safe manner.

3 Hazard identification and risk management at the workplace

Risk assessment

The Company focuses on comprehensive risk analysis and assessment for all activities on a regular basis, then take additional preventive measures and stronger and more effective actions. In 2022 risk assessment period, there were 17 new risks related to Health and Safety and processing operations were identified and controlled.

Occupational hygiene and working environment

In 2022, in order to thoroughly assess the employees' working environment, an additional 219 sampling points were added increasing the total sampling points of 1,212 points with 98.1% satisfactory samples.

Conduct monthly food safety and hygiene assessments at the Company's catering service area, and request them to improve.

Assess the working conditions to classify and register an additional list of arduous, hazardous and dangerous occupations. Complete the job titles at the Company in accordance with legal regulations.

Vehicles and equipment safety

Standardize the list and management procedures for equipment with strict occupational safety and health requirements.

There were 158 equipment due which were inspected throughout the year, ensuring 100% equipment was inspected and registered for use according to the regulations.

Maintain the pre-start checks for plant and equipment, periodic equipment inspection by Departments.

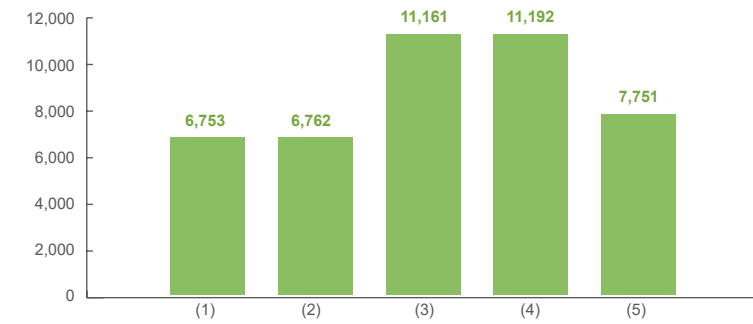
One of the measures to enhance the efficiency and ensure safety for vehicles is establishing a Vehicle and Mobile Equipment Safety team with the participation and involvement of high-expertise employees to raise awareness, controlling and problem-solving skills for operators; ensure compliance with the regulations and standards; monitor the reliability of vehicles through proactive maintenance, test and inspection, etc.



Safety supervision and inspection

Each employee is encouraged to self-inspect safety through task observation, hazards observation and identification, incident reporting by various methods, including “Hazard Report” tool on the Ocsafe system and Take5 step.

Online Take5 has been applied since August 2022 and is convenient for users. In Quarter 4/2022 only, there were 19,388 Online Take5 completed with 43,619 hazards identified related to 5 major hazard groups. These are useful statistics from the actual activities of each employee in hazard identification and making appropriate control plans.



Most of hazards identified through Online Take5 in Quarter 4, 2022

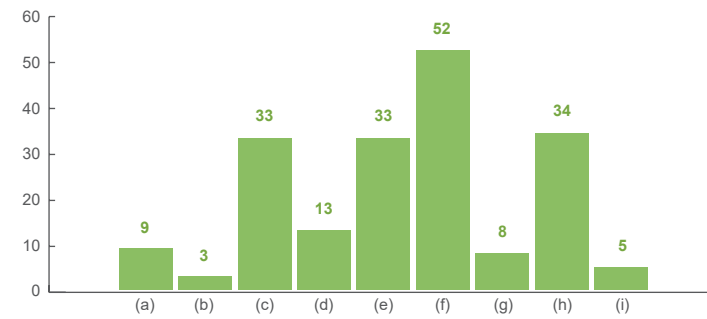
Note:

- (1) Sharp, pointed edge
- (2) Electrical equipment/chemical/high pressure/falling object
- (3) Slippery, strip, fall, untidiness
- (4) Emitted gas/fumes, noise/vibration, dust, smoke, biological
- (5) Manually moving heavy object

Safety officers worked with internal departments to conduct regular and monthly inspections at the processing areas.

Strengthen safety observation at working areas with the participation of the Management Team, Health and Safety Department and related departments.

Through safety inspections and observations, existing hazards or issues are identified, monitored and addressed completely with the support of the top management.

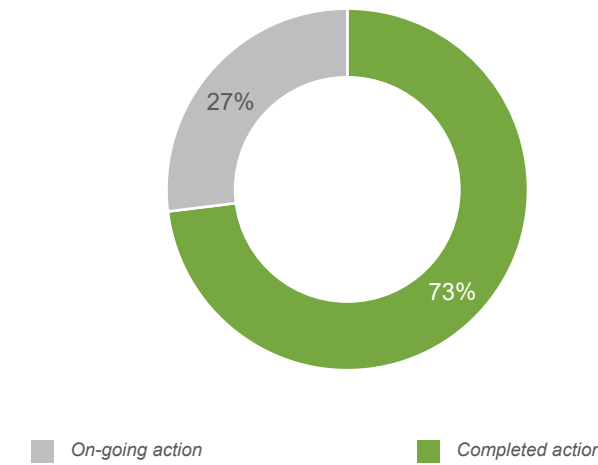


Main importer points from the observation of the management team

Note:

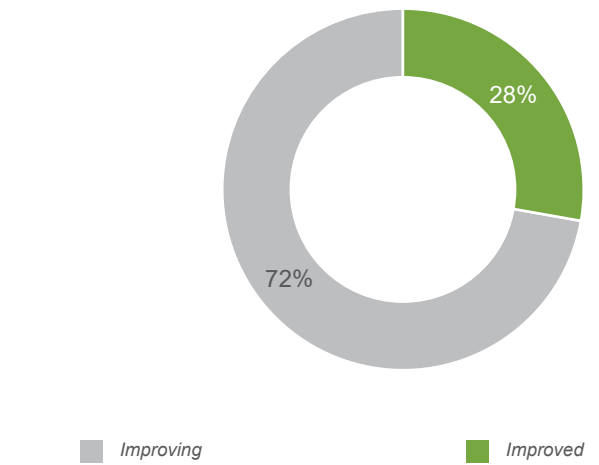
- (a) Chemical
- (b) Corrosion
- (c) Procedure
- (d) Emergency Equipment
- (e) Equipment
- (f) Hygiene/5S
- (g) Lifting Equipment
- (h) SOP/JHA
- (i) PPE

Completion rate of recommendations from safety observation report



Contractor safety assessment

Improvement of improper points by contractors:



From the effectiveness of the contractor occupational safety and hygiene (OSH) assessment program conducted for the first year (2021), the Company continues to maintain and strengthen this program. Taking this to encourage contractors to promote their good points, improve their inappropriate points in OSH performance at MHT by identifying and implementing corrective actions.

Contractors rectified and completed 187 out of 261 improper points identified.

4 Building a safety culture

In 2022, MHT conducted various action programs to raise awareness aiming towards the objective of building a safety culture at the Company, specifically:

- Implemented safety discussion sessions with the direct participation of managers with employees.
- Released 40 occupational health and safety topics that were useful and outstanding issues at the Company.
- The “Safety Day” was successfully held with a wide participation of employees and contractors. The Health and Safety team and the Management Team shared Health and Safety trend for the participants; praised the teams and individuals with high achievements, and launched the implementation of 5S at workplace.
- Rolled out “Rank Your Day” (R.Y.D) program to all departments and individuals. R.Y.D program is to encourage a positive attitude and enhance the active role of each individual in safety, help the management get informed and provide prompt support in the rectification of the identified hazards. The program is well received by departments and will continue to be communicated to all employees and contractors.



Safety training

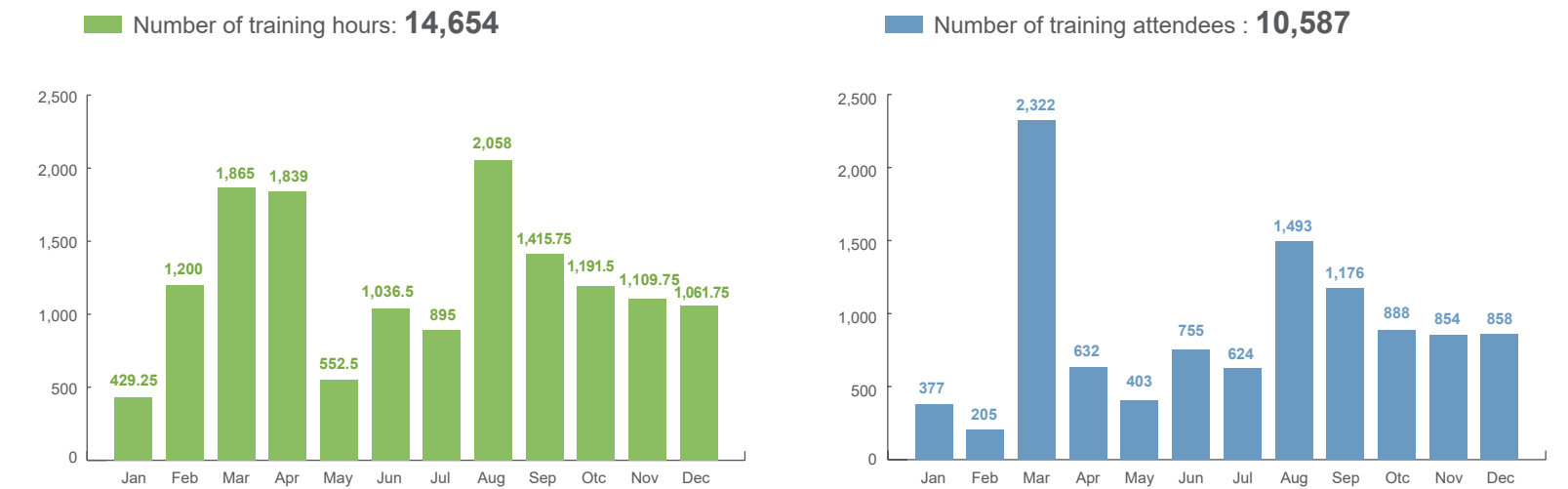


The “Safety Day”

5 Enhancing the capability and awareness of occupational safety and hygiene (OSH)

In parallel to maintaining the OSH trainings for employees, improving capability and awareness of OSH in 2022, we:

- Coordinate and develop a training matrix for each individual and department. The training matrix consists of 97 compulsory training contents, 27 internal training contents related to OSH. This enabled us to make a plan and allocate appropriate personnel to conduct more training courses or necessary skills for each employee.
- The task observation is added to the General Site Induction to help new employees get familiar and practice identifying related hazards, determine control measures in each area or participating activity.



Statistics of internal safety training in 2022

FOCUS 2023

Standardize and apply MHT's occupational health and safety management system according to ISO 45001:2018.

Strengthen vehicle and equipment safety control program.

Maintain the implementation of the R.Y.D program for all departments, individuals and contractors.

Optimize medical examination and treatment for employees.

Enhance risk management, focus on supporting departments in implementing corrective and preventive actions.

Maintain and expand the assessment scope on health and safety performance of contractors.



HEALTH AND SAFETY AT HCS

SAFETY

Maintain a Zero Harm Working Environment

The safety and health of all employees, both those employed by the company and external companies on the factory premises, is a top priority for H.C. Starck Tungsten Powders. This is also documented by the certification of the Goslar and Ganzhou sites according to ISO 45001 "Management Systems for Safety and Health at Work"; the Sarnia site is pursuing the goals of a Toxic Reduction Plan.

The SARS-Cov-2 pandemic was a recurrent subject in 2022, just as it was in 2020 and 2021. Numerous measures were decided upon and put into place to prevent a decline in performance. These included flexible work schedules, increased use of virtual meetings, special protection for high-risk patients and staggered working hours to reduce contact. Regularly SARS Cov-2 meetings were held between management, site management and the operating board in order to be able to react immediately to current developments. All employees were informed via email and information screens about the results of the meetings.

In order to achieve the "zero accidents" target set in the company's objectives, both accidents and near-hits are handled according to a defined process. The incidents, along with the resulting measures and lessons learned, are presented at the monthly management meetings and partly (fatal accidents and accident with days off) at the Critical Incident Report. A further publication takes place on the information screens. Additionally, components of the monthly reporting are also the reported safety deficiencies, which are discussed in the companies at the daily morning meeting.

After the main cause of accidents in Goslar in previous years was due to a lack of attentiveness, no trend could be identified here in 2022. Compared to 2021, there was a slight increase in the number of accidents in Goslar in 2022. In order to achieve a permanent reduction in the number of accidents at this site, the previously outsourced occupational safety and health department was reintegrated into the HSEQ department of H.C. Starck Tungsten GmbH Goslar. As a result, HCS GS is appropriately positioned to address H&S issues in the depth necessary to sustainably reduce accident rates and strengthen preventive work. There were fewer accidents at the Sarnia and Ganzhou sites in 2022 than in 2021.

The cooperation with the previous service provider in the field of Health & Safety will continue in a reduced form in order to maintain and coordinate the cooperation of the companies located at the MPO.

As part of the cooperation:

- In 2022, 19 inspections and safety tours were carried out (18 in 2021 and 14 in 2020), which are supplemented by regular tours of the company's safety officers.
- To determine and assess the concentrations of hazardous substances in the air in working areas, 15 work area analyses / control measurements were carried out in 2022 in accordance with the Technical Rules for Hazardous Substances 402 (TRGS 402) (2020: 7 / 2021: 10). In a few areas, limit values were found to have been exceeded, requiring measures to be taken and forming the basis for the procurement of blower respiratory protection.
- Committee meetings for occupational safety (2020: 4 / 2021: 4 / 2022: 4), with the security safety officers (2020: 6 / 2021: 7 / 2022: 4), and with the foremen (2020: 1 / 2021: 2 / 2022: 2) were held.
- 61 first aid training were offered (2020: 52 participants / 2021: 24), whereby H.C. Starck Tungsten GmbH already clearly exceeds the required minimum of 10% of all employees to be trained as first aiders.
- Further safety training courses were organized by the trade association BGRCI (2020: 8 courses / 2021: 12 / 2022: 31).

In addition to the security training courses offered online, some of which are required by law, 4 "Days of Security" (2020: 4 / 2021: 4; participants: all employees of Operations and Site Management) were held with extensive instruction and information. One component is the fire drills for all employees, which are flanked by unannounced evacuation drills, PMG-training or the handling of personal protective equipment (PPE).



Ensuring a Secure Plant

Work in chemical industry plants is associated with specific risks. In addition to the described measures and training for H.C. Starck Tungsten employees, we also feel responsible for the safety of employees of external companies who perform services on our behalf. Before starting work at H.C. Starck Tungsten, employees of external companies must complete and pass a Tungsten-specific safety training course in addition to receiving a preliminary safety briefing from plant security upon entering the premises.

We have implemented a system of coordinators, H.C. Starck Tungsten Engineers, who are responsible for the execution of work by third parties and discuss the risks with them on site. The coordinators serve as the contractors' contact persons and, as required, carry out inspections of equipment that the contractors

bring in. The coordinator is responsible for the security of "his" construction site.

The plant area in Goslar is fenced in and monitored 24/7 by factory security via CCTV and regular inspection tours. Visitors and external companies are registered in advance by the receiver/requester at H.C. Starck Tungsten and must identify themselves at the access control. Vehicles belonging to outside companies are weighed at the entrance and exit to and from the factory premises, bag checks (also for H.C. Starck Tungsten employees) are carried out at random. PPE will be made available to visitors by plant security if required. Private cars and bicycles are not allowed on the entire fenced-in factory premises, parking spaces are located outside.

Goslar Plant

Fire Brigade

To combat fires and chemical accidents, a plant fire department with two full-time firefighters and volunteer firefighters from the plants is available 24/7 in Goslar. Regular training with the fire departments surrounding the plant ensures smooth cooperation between the fire departments in the event of major damage. The plant fire department can be called in from outside if necessary due to their experience in fighting chemical accidents.

Statistics of the Fire Brigade

| | 2020 | 2021 | 2022 |
|----------------------------------|-----------|------------|------------|
| Fire operations | 5 | 1 | 3 |
| False alarm (Fire alarm system) | 11 | 29 | 27 |
| Technical assistance | 22 | 41 | 58 |
| Other missions (on-call service) | 38 | 104 | 280 |
| Total | 76 | 175 | 368 |



Responders performed a total of 318 response hours in 2022, of which approximately 32 hours were performed by the On-call service alone.

A total of 5 fire prevention inspections were carried out with the district of Goslar in 2022. In addition, 2 unannounced evacuation exercises took place at H.C. Starck Tungsten GmbH.



Sarnia Plant

The Sarnia location supports involvement and participation in a local large multi-industrial cooperative that promotes safety culture which has provided the Sarnia site with world-class management tools that have enabled the continued achievement of safety objectives.

HS&E leadership is prevention-based which includes a Joint Health and Safety Committee that is committed to improvement through proactive workplace inspections, personal and group training, and risk prevention.

The 2022 transition to post pandemic society continued with an improved employee fitness and benefits program resulting in high team-mate contributions with low absenteeism rates.

H.C. Starck Sarnia respects employees' rights and has developed and implemented policies within current guidelines and culture with regard to "Employees' Right to Disconnect" from the workplace and "Workplace Employee Electronic Monitoring" notification.



Sarnia Plant

Ganzhou Plant

Traffic Safety

Given the poor condition of current roads and notably the government's recent increase in road construction, road traffic safety is particularly important for most employees who commute to work by electric vehicle. The traffic police were invited to conduct road traffic safety training for employees. As a result, no road accidents occurred in 2022.



Traffic Safety training at Ganzhou

Fire protection

In order to

- improve the staff's fire protection knowledge,
- equip every employee with basic knowledge of fire protection,
- know how to put out small fires with a fire extinguisher and large fires with fire hydrant water,
- and to eliminate the fire in the early stage of the fire, professional firefighters have conducted special training for the employees. This training will be conducted on a yearly basis in the future.



Training about Health/ Safety/ Environment

In order to improve and strengthen the knowledge and awareness of safety, occupational health and environmental protection, HSEQ engineers organized several rolling relevant training and analyzed the production cases together to make correct improvement actions. Like the fire protection, training on a yearly basis will be implemented.



Review of production safety standardization

The Ganzhou plant was one of the first local enterprises to pass the standardization of safety production. In 2022, the plant was proudly selected by the local government as one of the several enterprises to receive the inspection of the national Emergency Department. Although the national inspection team did not come due to the epidemic, the safety work was recognized by the local government.



INCIDENT DATA MANAGEMENT

In Goslar

| | 2022 | 2021 | 2020 | 2019 | 2018 |
|---|------------|------------|------------|------------|------------|
| Fatal Accidents (FA) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| DAWC with 1-3 Days Away From Work | 3.00 | 0.00 | 2.00 | 2.00 | 0.00 |
| DAWC with >3 days away from work (BGC) | 2.00 | 2.00 | 4.00 | 2.00 | 2.00 |
| Days Away From Work Cases (DAWC) | 5.00 | 2.00 | 6.00 | 4.00 | 2.00 |
| Total Recordable Cases (TRC) | 5.00 | 2.00 | 6.00 | 4.00 | 2.00 |
| Days Away From Work (Total DAW) | 12.00 | 75.00 | 67.00 | 33.00 | 16.00 |
| Lost Calendar Days (incl. Weekend) | 12.00 | 21.00 | 83.00 | 43.00 | 18.00 |
| Headcount (HC) | 352.00 | 358.00 | 349.00 | 332.00 | 249.00 |
| Total Hours Worked (THW) | 532,918.00 | 524,927.00 | 493,289.00 | 492,143.00 | 336,575.00 |
| Number of Regular Occupational Health Checkups | 539.00 | 600.00 | 520.00 | 397.00 | 562.00 |
| First Aid trained employees | 61.00 | 24.00 | 52.00 | 36.00 | 24.00 |
| Number of Days Away from Work Cases of third party Contractors (DAWC 3) | 127.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Health and Safety training for HCST employees. (Number of training courses completed) | 44.00 | 52.00 | 38.00 | 37.00 | 32.00 |
| German Accident Rate (MAQ) | 9.38 | 3.81 | 12.16 | 8.13 | 5.94 |
| German Accident Rate (BG-MAQ) | 3.75 | 3.81 | 8.11 | 4.06 | 5.94 |
| German Severity Rate (USQ) | 22.52 | 142.88 | 135.82 | 67.05 | 47.54 |
| German 1,000 employee Rate (1000-Mann-Quote) | 5.68 | 5.59 | 11.46 | 6.02 | 8.03 |
| Total Recordable Cases Rate (TRCR) | 1.88 | 0.76 | 2.43 | 1.63 | 1.19 |
| Days Away From Work Cases Rate (DAWCR) | 1.88 | 0.76 | 2.43 | 1.63 | 1.19 |
| Severity Rate (according to OSHA) | 4.50 | 28.58 | 27.16 | 13.41 | 9.51 |

In Ganzhou

| | 2022 | 2021 | 2020 | 2019 | 2018 |
|---|-------------|-------------|-------------|-------------|-------------|
| Fatal Accidents (FA) | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 |
| DAWC with 1-3 Days Away From Work | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| DAWC with >3 days away from work (BGC) | 0.00 | 2.00 | 4.00 | 3.00 | 3.00 |
| Days Away From Work Cases (DAWC) | 1.00 | 2.00 | 5.00 | 4.00 | 3.00 |
| Total Recordable Cases (TRC) | 1.00 | 4.00 | 5.00 | 4.00 | 3.00 |
| Days Away From Work (Total DAW) | 1.00 | 39.00 | 92.00 | 57.00 | 135.00 |
| Lost Calendar Days (incl. Weekend) | 1.00 | 53.00 | 106.00 | 69.00 | 189.00 |
| Headcount (HC) | 135.00 | 136.00 | 128.00 | 132.00 | 122.00 |
| Total Hours Worked (THW) | 310,014.00 | 289,428.00 | 285,487.00 | 287,834.00 | 274,252.00 |
| Number of Regular Occupational Health Checkups | 145.00 | 109.00 | 141.00 | 145.00 | 122.00 |
| First Aid trained employees | 25.00 | 25.00 | 25.00 | 20.00 | 30.00 |
| Number of Days Away from Work Cases of third party Contractors (DAWC 3) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Health and Safety training for HCST employees. (Number of training courses completed) | 248.00 | 220.00 | 207.00 | 356.00 | 345.00 |
| German Accident Rate (MAQ) | 3.23 | 13.82 | 17.51 | 13.90 | 10.94 |
| German Accident Rate (BG-MAQ) | 0.00 | 13.82 | 14.01 | 10.42 | 10.94 |
| German Severity Rate (USQ) | 3.23 | 134.75 | 322.26 | 198.03 | 492.25 |
| German 1,000 employee Rate (1000-Mann-Quote) | 0.00 | 29.41 | 31.25 | 22.73 | 24.59 |
| Total Recordable Cases Rate (TRCR) | 0.65 | 2.76 | 3.50 | 2.78 | 2.19 |
| Days Away From Work Cases Rate (DAWCR) | 0.65 | 1.38 | 3.50 | 2.78 | 2.19 |
| Severity Rate (according to OSHA) | 0.65 | 26.95 | 64.45 | 39.61 | 98.45 |

In Sarnia

| | 2022 | 2021 | 2020 | 2019 | 2018 |
|---|------------|-----------|-----------|-------------|-------------|
| Fatal Accidents (FA) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| DAWC with 1-3 Days Away From Work | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| DAWC with >3 days away from work (BGC) | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| Days Away From Work Cases (DAWC) | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Total Recordable Cases (TRC) | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Days Away From Work (Total DAW) | 0.00 | 2.00 | 0.00 | 2.00 | 4.00 |
| Lost Calendar Days (incl. Weekend) | 0.00 | 2.00 | 0.00 | 2.00 | 4.00 |
| Headcount (HC) | 50.00 | 46.00 | 42.00 | 48.00 | 49.00 |
| Total Hours Worked (THW) | 103,534.00 | 89,012.22 | 87,209.94 | 99,421.18 | 101,172.00 |
| Number of Regular Occupational Health Checkups | 8.00 | 6.00 | 4.00 | 15.00 | 18.00 |
| First Aid trained employees | 25.00 | 32.00 | 0.00 | 0.00 | 22.00 |
| Number of Days Away from Work Cases of third party Contractors (DAWC 3) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Health and Safety training for HCST employees. (Number of training courses completed) | 25.00 | 21.00 | 19.00 | 54.00 | 18.00 |
| German Accident Rate (MAQ) | 0.00 | 11.23 | 0.00 | 10.06 | 9.88 |
| German Accident Rate (BG-MAQ) | 0.00 | 0.00 | 0.00 | 0.00 | 9.88 |
| German Severity Rate (USQ) | 0.00 | 22.47 | 0.00 | 20.12 | 39.54 |
| German 1,000 employee Rate (1000-Mann-Quote) | 0.00 | 0.00 | 0.00 | 0.00 | 20.41 |
| Total Recordable Cases Rate (TRCR) | 0.00 | 2.25 | 0.00 | 2.01 | 1.98 |
| Days Away From Work Cases Rate (DAWCR) | 0.00 | 2.25 | 0.00 | 2.01 | 1.98 |
| Severity Rate (according to OSHA) | 0.00 | 4.49 | 0.00 | 4.02 | 7.91 |

SECURITY

Security

The Security team has well fulfilled its roles in safeguarding the inviolability of the Company's assets, employees' lives and health, maintaining the plant security, contributing to the development of the business, strengthening integrity and transparency at workplace and voluntary compliance culture for all employees.

In 2022, the Security team strengthened a far-reaching role in various aspects:

- **Product security:** Prevention of theft, loss inside the processing lines, ensuring the optimization of productivity, high performance and future development. Close surveillance of input and output goods, development and application of cross-check procedures between Security, Processing and Supply Chain Management department.

- **Supply chain security:** Ensure safe logistics and procurement activities, reduce the risks of loss. Give advice on and coordinate to handle complicated issues arising with business partners to prevent risks of financial and legal fraud and maintain our advantages against contractors and suppliers in the cooperation.

- **Internal security:** Ensure a spotless and strong human resources team, advise on the purging or not hiring of individuals with complicated backgrounds, contribute to the human resources development strategy. Investigate and handle fraudulent, negative acts and violations of 10 employees (of which 8 were fired) and reclaim VND 1.5 billion.

- **Community security:** Contribute to the resolution of existing issues and relationship conflicts between the company's business expansion and community interests by preventing, addressing and harmonizing them. Especially, sign and maintain a Coordination Regulation with the Public Security of Ha Thuong commune and Hung Son town, effectively assist in the resolution of emerging issues and ensure security for blasting activities.



Fire Fighting and Rescue

- Conduct more than 10 emergency response drills on fire prevention and fighting, chemical spill response, and rescue. Among these, the provincial-level drill on large NaCN leakage response was most notable.
- Advise and complete application for appraisal and acceptance certificate of fire prevention and fighting for two new important projects, namely OEP and SWTP.
- Support the locality in responding to fire fighting and rescue cases in Dai Tu district, especially serious road accidents that occur on National Highway No. 37.





7,677
thousand m³

Of wastewater are reused at
Nui Phao mine



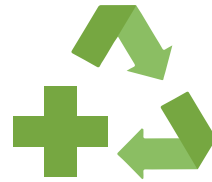
7,307
thousand m³

of wastewater is treated
before discharge



1.15 ha

of land for planting trees,
rehabilitating the environment



65%

of waste generated
is recycled



2

Certificates of ISO 50001
for MTC and Goslar



Maintain 4

Certificates of ISO 14001
for MTC, Goslar, Sarnia,
Ganzhou



ENVIRONMENTALLY SUSTAINABLE DEVELOPMENT – FUTURE ADAPTATION

Environmental protection is particularly important in MHT's strategic orientation for sustainable growth. In 2022, environmental protection activities was focused on maintaining and strengthening the administration of environment protection and development. With significant efforts in environment protection and sustainability achievements, Masan High-Tech Materials has been recognized by the Vietnam Chamber of Commerce and Industry (VCCI) as leading "Sustainable Business in Vietnam" for the 5th consecutive year.

WATER AND WASTEWATER MANAGEMENT

Natural water is a limited and vulnerable resource. Therefore, implementing smart water management will contribute to the company's protection and efficient use of resources. Following the goals of water circulation, reuse and quality wastewater treatment from previous years, MHT continued to implement effective water management solutions in 2022.

Water consumption

The water sources for production in recent years at MHT include surface water and groundwater (self-extracted or provided from suppliers), deionized water and recycled water. In 2022, the total water volume used by MHT was 11,797 thousand m³.

| YEAR | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---------------|---------------|---------------|---------------|---------------|
| Total water volume used (thousand m³) | 13,482 | 12,482 | 12,136 | 12,740 | 11,797 |
| NPMC and MTC | 11,520 | 10,683 | 10,231 | 10,986 | 10,024 |
| Surface water | 2,393 | 2,576 | 2,517 | 2,355 | 2,346 |
| Ground water for domestic | 37 | 36 | 31 | 8 | 0 |
| Ground water for production | 98 | 0 | 0 | 0 | 0 |
| Recycle water | 8,992 | 8,071 | 7,682 | 8,623 | 7,677 |
| • Water from OTC | 2,951 | 2,574 | 2,163 | 2,286 | 2,254 |
| • Water from STC | 5,603 | 4,613 | 4,415 | 5,474 | 4,987 |
| • Water from PTP | 414 | 275 | 443 | 137 | 48 |
| • Recycled water from DP2 | 24 | 0 | 0 | 0 | 0 |
| • Recycled from Cut-off trench | | 609 | 662 | 726 | 388 |
| Goslar, Sarnia and Ganzhou | 1,962 | 1,799 | 1,906 | 1,754 | 1,774 |
| Surface water | 1,820 | 1,648 | 1,742 | 1,599 | 1,598 |
| Water from suppliers | 134 | 142 | 157 | 148 | 167 |
| Deionized water | 8 | 8 | 7 | 7 | 8 |

More water was needed for the mineral extraction procedures at NPMC than for the operations in MTC, Goslar, Sarnia, and Ganzhou, accounting for 85% of the total water usage in the entire MHT. However, 76.6% of the water was reused.

Surface water

NPMC and MTC used water extracted from the Cong River for production purposes under the License granted by Thai Nguyen Provincial People's Committee, while the Goslar, Sarnia and Ganzhou plants used surface water source drawn from nearby rivers that were operated by licensed users. In 2022, MHT used 3,944 thousand m³ of surface water (of which: 2,346 thousand m³ for NPMC and MTC, 1,598 thousand m³ for plants at Goslar, Sarnia and Ganzhou), accounting for 33.4% of the total water use of all plants.

Other water sources

At our Goslar, Sarnia and Ganzhou plants in Germany, Canada, and China, beside using water extracted from local rivers, we also use water supplied by vendors in the form of steam and deionized water that used in specific tungsten production stages. In 2022, 175 thousand m³ of water were used there, accounting for 1.5% of the total water use of all plants.

Recycled water for production

Reusing wastewater in manufacturing has the potential to reduce industrial water supply and wastewater treatment costs and reduce pressure on water resources.

At NPMC processing plant, most of the wastewater from the TSF (OTC and STC ponds) is circulated to the processing plant for reuse. The remaining water from the OTC and STC ponds that currently cannot be reused is pumped for treatment at the wastewater treatment plant prior to being discharged through discharge point (DP2) into the Thuy Tinh stream. Water from our mining activities is also managed within this system.

In 2022, NPMC re-used 7,677 thousand m³ of wastewater for production, accounting for 76.6% of the total water use in NPMC and MTC.

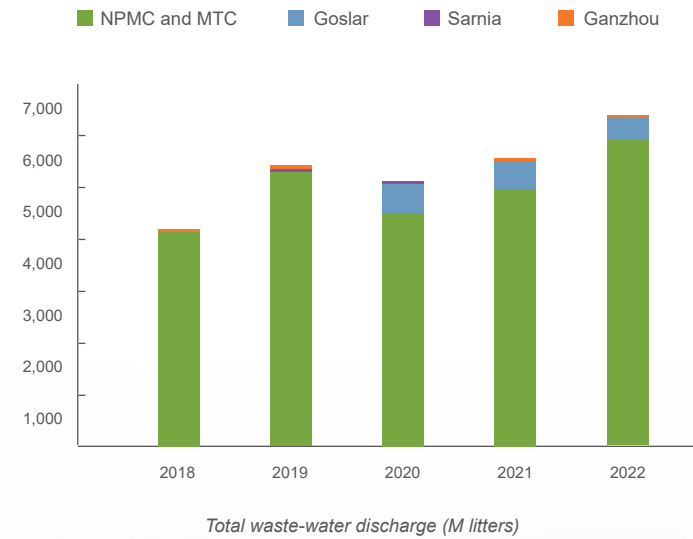
Like any industrial plant MHT operations have measurable impacts on the environment. We have chosen to reuse wastewater to demonstrate what can be done to minimize impact to the environment, and actively looked for ways to increase wastewater reuse.



Wastewater discharge quality and quantity

MHT plants are all licensed to discharge wastewater according to the laws of the host-country or have contractual agreements with an approved third party (Industrial Zone Management Board) to treat our wastewater before discharging into the environment.

In 2022, the total amount of wastewater discharge was 7,307 thousand m³. Of which, NPMC and MTC's operations accounted for 93% of the total wastewater volume. Wastewater was treated and monitored to meet the standards of the host country before being discharged into the environment.



In NPMC and MTC, our wastewater sources (production wastewater, domestic wastewater) and contaminated rainwater are collected into reservoirs, then pumped for treatment at the wastewater treatment plant with capacity 36,000 m³/day. At the discharge points, NPMC operates automatic monitoring stations to monitor the wastewater quality before being discharged into the environment. The wastewater after treatment always ensure under the allowable limit according to the discharge permit issued to NPMC by the Ministry of Natural Resources and Environment. In 2022, NPMC built and installed additional chemical treatment system No.2 with a capacity of 9,600 m³/day to strengthen and support the existing wastewater treatment plant.

The plant in Goslar has got a contract with Chemitas to treat and release wastewater. Chemitas is the holder of the permit for direct discharge of rainwater and wastewater via the central wastewater treatment plant. For indirect discharge into the sewerage system, there is a contract between HCS Tungsten GmbH, HCS Infrastructure GmbH and Chemitas, which performs the operator duties. An official exemption from the indirect discharge permit is currently being prepared. The amount of wastewater is not measured directly but calculated by the purchase of fresh water and chemicals.

WASTE MATERIAL MANAGEMENT

The types of waste materials generated from the mine are mainly in the form of topsoil, waste rock from mining activities and tailings from processing activities. These materials are classified and managed by NPMC according to the process to avoid the risks of pollution as well as ensure that the beauty is not affected.

| YEAR | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|------------------|------------------|------------------|------------------|------------------|
| Renewable materials (m³) | 1,177,317 | 1,319,299 | 987,051 | 960,883 | 501,079 |
| Waste rock for construction of TSF wall-dam | 924,832 | 1,135,775 | 482,233 | 699,031 | 72,157 |
| Soil for TSF dam construction | 198,305 | 111,552 | 112,675 | 129,694 | |
| Waste soil and rock for other civil projects | 54,180 | 71,972 | 392,143 | 132,158 | 428,922 |
| Non-renewable materials (m³) | 4,768,241 | 4,813,180 | 3,963,178 | 2,439,943 | 3,121,620 |
| Non-potentially acid generating waste rock dumped into Waste Dump | 3,896,736 | 3,821,551 | 3,312,552 | 1,718,013 | 1,165,685 |
| Potentially acid generating waste rock is submerged in STC | 871,505 | 991,629 | 650,626 | 721,930 | 1,955,935 |
| Tailings (ton) | 3,489,328 | 3,490,988 | 3,566,034 | 3,442,556 | 3,503,484 |
| OTC tailings | 2,035,201 | 2,166,363 | 2,154,965 | 2,104,799 | 2,439,290 |
| STC tailings | 1,454,127 | 1,324,625 | 1,411,069 | 1,337,757 | 1,064,194 |



Renewable materials

Some waste soil and rock is used as building materials for internal mine works (TSF wall-dam construction, road repairs, leveling, etc.), and the remaining material is disposed into designated waste dumps. In 2022, NPMC reused 501,079 m³ of waste soil and rock for construction of TSF wall-dam and other civil projects.



Non-Renewable materials

At the Nui Phao mine site, non-potentially acid generating waste rock which has not been reused is stockpiled in the dedicated Northern and Southern waste dumps of the open pit. Waste rock with potential for acid generation is submerged in sulfide tailing cell (STC) to prevent oxidation of the sulfide that generates acid.

In 2022, mining activities generated 3,121,620 m³ of waste soil and rock, of which 1,165,685 m³ of non-potentially acid generating waste rock was dumped into the waste dumps and 1,955,935 m³ of potentially acid generating waste rock dumped in STC for submerge. NPMC's processing plant produced 1,064,194 tons of sulfide tailings which were submerged in the STC, and 2,439,290 tons of oxide tailings stored in the OTC.

At Goslar, Sarnia and Ganzhou sites, which are well established manufacturing sites with less frequent site disturbance, the issue of renewable and nonrenewable materials is much more limited and is still managed by local regulations as and when ground activities occur.

Recovering waste soil – a stepping stone for the future

Early in 2021, NPMC submitted to the Department of Geology and Minerals for consideration and approval of waste soil recovery plan (accompanying minerals) in order to serve the needs of ground leveling for construction works as well as to make the most of and avoid wasting resources. This was done during the extraction of tungsten ore at Nui Phao mine.

On June 22, 2022, the Ministry of Natural Resources and Environment approved of the waste soil recovery plan in principle, allowing NPMC to recover and use waste soil during the extraction of tungsten ore at Nui Phao mine to make ground leveling materials for construction projects in Thai Nguyen province. In which, the total volume of waste soil recovered and used is 2.7 million m³, the implementation time is 2 years. However, due to the process of waiting for approval, to ensure the removal of soil and release the field to serve the mining plan, the main mineral is tungsten - polymetallic ore, the waste soil that NPMC applied for recovery has been dumped at the Northern Waste Dump according to the provisions of the approved environmental impact assessment report. However, this will be a favorable stepping stone for similar projects of Nui Phao mine in the future.

WASTE MANAGEMENT

Sustainable solid waste management will ensure efficient use of resources, significant reduction in the amount of solid waste generated and minimize the impact on the environment. At MHT, solid waste is collected, classified and recycled in accordance with the Law.

| YEAR | 2018 | 2019 | 2020 | 2021 | 2022 |
|------------------------------------|--------------|---------------|---------------|---------------|---------------|
| Total of waste volume (ton) | 4,904 | 36,051 | 14,870 | 16,964 | 24,667 |
| Recycling rate total | 51% | 94% | 81% | 82% | 65% |
| NPMC and MTC | 2,894 | 33,995 | 13,596 | 15,186 | 22,737 |
| Non-hazardous waste | 2,332 | 32,810 | 11,651 | 13,184 | 15,415 |
| Hazardous waste | 562 | 1,185 | 1,945 | 2,002 | 7,322 |
| Recycled waste | 983 | 32,085 | 11,149 | 12,660 | 15,022 |
| Recycling rate | 34% | 94% | 82% | 83% | 66% |
| Goslar, Sarnia, Ganzhou | 2,010 | 2,056 | 1,274 | 1,778 | 1,930 |
| Non-hazardous waste | 1,622 | 1,784 | 975 | 1,444 | 1,124 |
| Hazardous waste | 388 | 271 | 298 | 334 | 805 |
| Recycled waste | 1,521 | 1,703 | 893 | 1,334 | 1,042 |
| Recycling rate | 76% | 83% | 70% | 75% | 54% |

In Goslar and Sarnia, the by-products of the manufacturing process are often very rich in metals. So they are recycled by other companies, used as raw materials. Waste recycling rates at the Goslar and Sarnia plants are high, at 54% and 67% respectively. At the MTC plant, the rate of waste being recycled is also very high, reaching more than 71%, mainly coming from the use of leaching residues (PLR residues) that meet low grade lime standards to provide for the pH neutralization activities of Nui Phao.

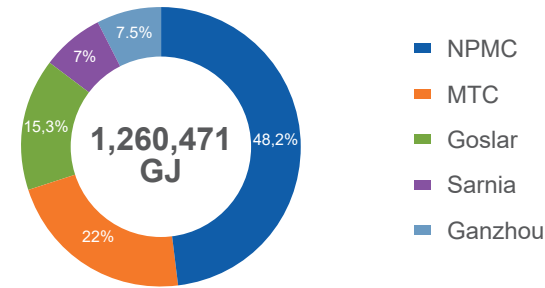
At Sarnia plant, we continuously monitor new recycling and waste reduction opportunities. In 2022, significant gains were made in reduction of packaging materials by implementing returnable containers with strategic customers and utilizing cargo dunnage diverted from waste streams.

ENERGY AND GREENHOUSE GAS EMISSION

Energy consumption

Using energy economically and efficiently is a practical solution to help protect the environment and reduce greenhouse gas emissions. This is not only vital in the production and operations of business, but also for the socio-economic development of the country.

The total energy consumed across MHT plants in 2022 is 1,260,471 GJ. In which, NPMC, MTC and Goslar are the most energy intensive plants with consumption rates of 48.2%, 22% and 15.3% respectively. In Sarnia and Ganzhou, energy consumption is quite low, accounting for only 7.0% to 7.5% of MHT's overall energy use.



| YEAR | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|------------------|------------------|------------------|------------------|------------------|
| Total of energy consumption (GJ) | 1,260,757 | 1,165,386 | 1,084,324 | 1,309,427 | 1,260,471 |
| NPMC and MTC | 883,019 | 801,773 | 753,918 | 907,147 | 885,209 |
| Power | 615,387 | 609,530 | 594,734 | 674,811 | 634,472 |
| DO | 33,054 | 42,685 | 45,054 | 53,379 | 65,507 |
| Gasoline | 2,144 | 2,186 | 1,549 | 1,700 | 2,017 |
| Coal | 232,435 | 147,373 | 112,581 | 177,256 | 183,213 |
| Goslar, Sarnia and Ganzhou | 377,738 | 363,613 | 330,406 | 402,280 | 375,262 |
| Power | 140,740 | 156,887 | 150,583 | 174,856 | 160,172 |
| Natural gas | 213,625 | 186,735 | 161,543 | 207,493 | 195,830 |
| DO | 22,420 | 19,020 | 17,282 | 18,783 | 1,087 |
| FO | 953 | 971 | 998 | 1,148 | 18,173 |

In 2022, MTC established an energy management system according to ISO 50001:2018 and obtained certification for it. The application of the ISO 50001:2018 will be a premise to control the use of energy in a strict, sustainable and systematic way in order to develop energy saving solutions.

The Goslar plant continues to maintain ISO 50001:2018 certification for energy management system. At Sarnia and Ganzhou plants, energy objectives are also established and continuous improvements that are made to demonstrate a commitment to improving energy efficiency.

At Sarnia plant, operating an environmental management system in accordance with ISO 14001:2015 includes not only compliance and specific environmental aspect objectives, but also implementation of improvements to reduce energy consumption to reduce carbon emissions and improve the dust capture of air borne particulates.

Greenhouse gas emission

The main greenhouse gases (GHG) are carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). The gases with low concentrations but with high potential for greenhouse gases are hydrofluorocarbons (HFCS), perfluorocarbons (PFCS), sulfur hexafluoride (SF₆) and nitrogen and trifluoride (NF₃). Our plants conducted such inventories of greenhouse gas emissions according to the guidelines of the Intergovernmental Panel on Climate Change (IPCC) and convert them into tons of CO₂ equivalent (CO₂eq).

Direct GHG emissions (scope 1)

Direct greenhouse gas emissions are generated from the use and consumption of gasoline, natural gas, diesel, fuel oil and coal for vehicles, equipment, boilers and backup generators. Especially, from 2022, NPMC and MTC have studied and calculated more greenhouse gas emissions from blasting activities and from refrigerants. In total, we directly emitted 38,561 tons of CO₂eq in 2022, of which NPMC and MTC emitted 26,466 tons of CO₂eq, HCS's Goslar, Sarnia and Ganzhou plants emitted 12,095 tons of CO₂eq.



Indirect GHG emissions (scope 2)

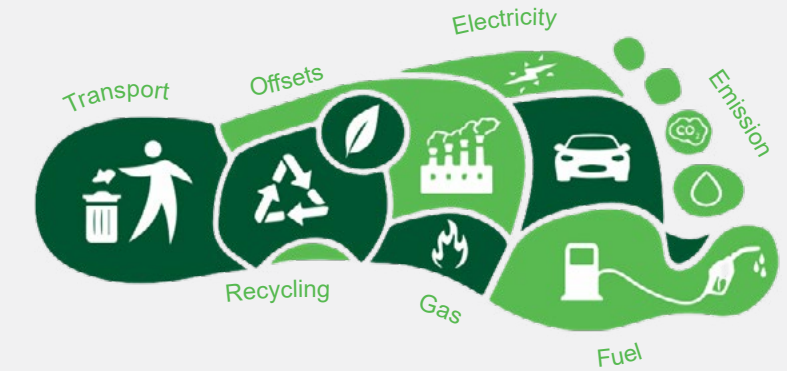
Indirect greenhouse gas emissions are generated from the use of power for all production and operational activities of factories. In 2022, we emitted 151,563 tons of CO₂.

| YEAR | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|----------------|----------------|----------------|----------------|----------------|
| Total of GHG emission volume (ton of CO₂eq) | 197,473 | 187,592 | 178,696 | 206,294 | 190,124 |
| Total of direct GHG | 41,341 | 31,142 | 25,990 | 36,282 | 38,561 |
| Total of indirect GHG | 156,132 | 156,450 | 152,705 | 170,012 | 151,563 |
| NPMC and MTC | 172,223 | 162,409 | 155,318 | 181,727 | 168,183 |
| Total of direct GHG | 27,641 | 19,203 | 15,589 | 23,184 | 26,466 |
| - From gasoline, diesel, fuel oil, coal | 27,641 | 19,203 | 15,589 | 23,184 | 24,751 |
| - From blast | | | | | 1,565 |
| - From refrigerants | | | | | 150 |
| Total of indirect GHG | 144,582 | 143,206 | 139,729 | 158,543 | 141,716 |
| Goslar, Sarnia and Ganzhou | 25,250 | 25,183 | 23,377 | 24,567 | 21,942 |
| Total of direct GHG | 13,699 | 11,939 | 10,402 | 13,098 | 12,095 |
| Total of indirect GHG | 11,550 | 13,244 | 12,976 | 11,469 | 9,847 |

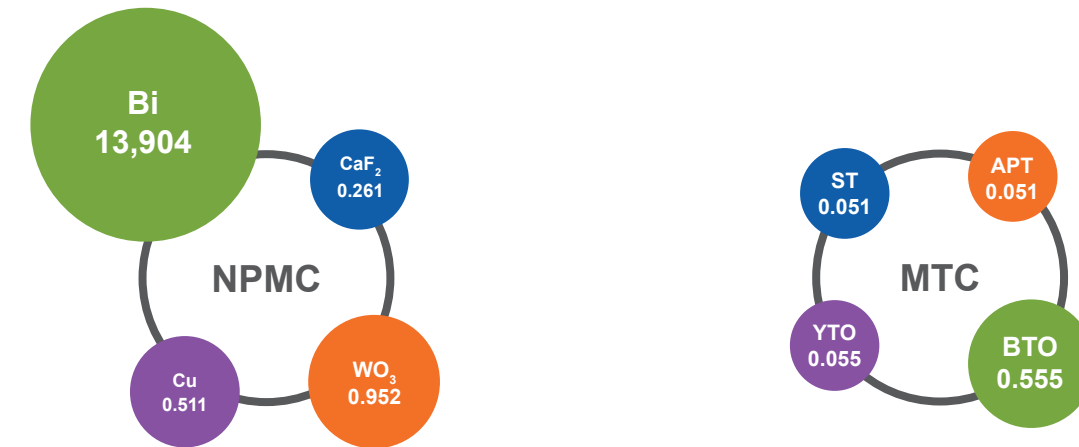
In 2022, a reverse osmosis plant was commissioned at the Goslar site in tungsten chemistry for the crystallization of ammonium metatungstate (AMT). It replaces an older, energy-intensive plant in which liquid was removed by heating the solution with steam. The energy saving (in terms of GJ) is approximately 80% - 95%. In addition, since the energy source changes from natural gas to "green" electricity, this process is now CO₂ neutral. The savings are around 1,000 tons of CO₂eq per year.

Carbon footprint

Carbon Footprint is the total amount of greenhouse gas emissions that come from the production, use and end of life of a product or service. At NPMC and MTC, we studied and initially calculated greenhouse gas emissions for each product line according to IPCC guidelines. This will be the premise for MHT to find solutions to control greenhouse gas emissions for each product when exporting to foreign countries.



The results of calculation of total greenhouse gas emissions for each product at NPMC and MTC are as follows:



Unit: tons of CO₂eq/tons of product

ENVIRONMENT REHABILITATION

In 2022, NPMC continued to conduct the rehabilitation plan in the areas where there is soil disturbance, and take care of trees planted from previous years in order to reduce erosion, improve soil and improve ecosystems.

During the year, we completed the environmental rehabilitation of approximately 1.15 hectares in waste dumps and other areas where the soil has been disturbed during the mining and production process. Many different types of plants and materials are used to increase efficiency in environmental rehabilitation.

In 2022, NPMC planted about 3,900 Acacia trees; 2,840 perennial woody plants; sowed 160 kg of grass seeds and used 4,128 kg of fertilizer for the new planting and care of planted trees in previous year. The total area that has been rehabilitated by the end of 2022 is 59.58ha.



Northern Waste Dump is planted with Acacia trees

CPEP – Climate Protection Project through the Energy crops planting

From 2016 to 2018, NPMC participated in the Climate Protection Project through Energy crops Planting (CPEP) through a cooperation agreement program with UFU (Institute for Independent for Environmental Affairs - Germany). The project has obtained positive results when finding a suitable type of Acacia to serve the process of environmental rehabilitation of Nui Phao mine. Continuing the obtained results, from 2020 to 2022, NPMC will continue to coordinate with UFU to implement the CPEP phase 2 project with the purposes of: (i) Research on the resilience and reclamation of the area's land planted energy crops in phase 1; (ii) Calculation of biomass of Acacia after harvesting in 2022.

In 2022, NPMC collaborated with UFU to take soil and Acacia tree samples to study the soil improvement and carbon sequestration capacity of Acacia trees. Phase 2 of the CPEP project at Nui Phao mine has been agreed by NPMC and UFU to extend research cooperation until the end of February 2025 to obtain more information and analysis data to serve the evaluation of the project's effectiveness.

On September 23, 2022, at the workshop "Environment rehabilitation after mineral exploitation through planting energy crops - Opportunities and challenges", environmental experts from Vietnam and Germany both appreciated the positive values the project brought about in the improvement and restoration of the mine environment and contributes to the reduction of greenhouse gas emissions – adaptation to global climate change. Strengthening international cooperation will help NPMC have more opportunities to find more solutions to environmental protection, sustainable development in production and business activities.



Plant energy trees

ENVIRONMENT COMPLIANCE AND TRANSPARENCY

Environment monitoring

In 2022, NPMC and MTC took 8,756 environmental samples for monitoring and wastewater quality control. These include 603 surface water samples, 600 ground water samples, 7,164 wastewater samples, 324 solid waste and sediment samples, 32 emission gas samples, 16 ambient air samples and 17 noise measurements times.

Automatic monitoring stations for wastewater, ambient air and vibrations are also operated to always ensure timely provision of data for environmental quality control and assessment.

In Goslar, the wastewater is monitored by online analytics in the area of the central wastewater treatment plant. In addition, the limit values are monitored by the responsible water supervisory authority. In 2020,

38 samples were taken by the authority, 25 in 2021, and 28 samples in 2022. In a few cases, limit values were exceeded. These were analyzed and, where necessary, measures were taken to remedy the situation. For monitoring the emissions, Chemitas operates a total of 16 measuring points to monitor the situation at the entire Goslar site (MPO) and to intervene if necessary if anomalies or exceedances should be detected, as the official measurements are not published promptly. Of these, 9 are located on the MPO site and 7 off-site in the immediate vicinity. The limit values (annual mean values) according to TA-Luft (4.5.1 TA-Luft 2021) apply to all assessment areas that are located outside the plant premises (MPO). Sampling and analysis are carried out on a monthly cycle (monthly averages).



Wastewater monitoring at DP2, NPMC

Reporting and information transparency

In 2022, NPMC and MTC submitted a total of 6 reports to regulators, in which: 4 annual environmental reports, 2 reports on annual water resources.

In addition, within NPMC and MTC, in order to provide timely information on the implementation plan of the recommendations of MONRE (according to the 2017 inspection conclusions), in 2022, we submitted 3 updated quarterly reports on the implementation progress to VEA, DONRE and Dai Tu District.

Through two periodic inspections by the Ministry of Natural Resources and Environment in 2022, the NPMC's efforts and efforts for environmental protection have been recognized. The lining TSF-SP pond has been carried out by NPMC since the end of October 2021 and completed in March 2022.

In Germany, HCS submitted a total of 12 reports to the various Federal and State Ministries covering Hazardous waste, emissions, inspections, and accidents. A further 7 reports are required on a 3-4-year cycle as per the applicable regulations again covering emissions, waste or inspections. In 2022, a report for one emission source was prepared.



Completed the TSF-SP pond lining

Promote environmental education and training

Within the framework of the entry training program for new employees of the Company and contractors, 305 new employees of the Company and 1,038 new employees of the contractors received Environment training as part of the entry training program at NPMC and MTC in 2022. Through training classes on Environmental Policy, waste classification and plastic waste reduction, people have gone from understanding to concern, from awareness to action to protect the environment.

Besides, the Company hosted events in response to the World Environment Day 2022, Clean-up the world campaign 2022 for the neighboring communes near the Nui Phao Project, including Ha Thuong, Tan Linh, Phuc Linh, and Hung Son.

Environmental Management System according to ISO 14001:2015 standard

Given society's growing concern over environmental protection, the establishment of a management system to minimize negative impacts from production activities is more and more focused on businesses. At MTC, the Environmental Management System (EMS) according to ISO 14001:2015 has been established and maintained voluntarily from 2017 till now.

The EMS of MTC (formerly Nui Phao Tungsten Refining Company Limited – H.C.Starck) has been certified by TÜV Nord Cert GmbH to conform to the requirements of the ISO 14001:2015 standard with effect from January 21st, 2017 to January 12th, 2020.

In 2019, the re-certification the conformity of EMS with the requirements of the ISO 14001:2015 standard carried out by BSI was successful. MTC received ISO 14001:2015 Certificate for the next 3-year period, valid from February 21st, 2020 to January 12th, 2023. In 2022, MTC continues to contract with the BSI to carry out a re-certification of conformity with the requirements of ISO 14001:2015 and has been certified by BSI for the next 3 years. Valid from February 21st, 2023 to January 12th, 2026

At Goslar, Sarnia and Ganzhou, the EMS according to ISO 14001:2015 standard continues to be maintained.

The Goslar site was validated in September 2022 in accordance with the Eco Management and Audit Scheme (EMAS), the world's strictest environmental standard.

At NPMC, we are also establishing and developing the EMS according to ISO 14001:2015 standard and is planning for certification audit in the near future.



Environmental licenses for Nam Song Cong and Hung Son 3 resettlement areas

Two resettlement zones, Nam Song Cong and Hung Son 3, Hung Son town, and Dai Tu district, were established to address the housing needs of the displaced households in the Nui Phao project area. Construction on these two resettlement zones started in 2006, and households moved in by 2008. For the resettlement region, NPMC has constructed infrastructure including housing lots, roads, a drainage system, and a domestic wastewater treatment facility. NPMC currently only operates a domestic wastewater treatment station and has transferred assets and technical infrastructure work of the resettlement area for homes. It has a residential wastewater treatment station with a designed capacity of 400 m³/day in the Nam Song Cong resettlement area and one with a designed capacity of 80 m³/day in the Hung Son 3 resettlement area.

In 2012, Thai Nguyen Provincial People's Committee issued wastewater discharge licenses for two resettlement areas to discharge wastewater reaching column B, QCVN 14:2008/BTNMT (National technical regulation on domestic wastewater) after treatment at the station to discharge waste into the Cong River. However, based on the planning for allocation and protection of surface water resources in Thai Nguyen province, the Cong River is a water source exploited to serve domestic purposes. Therefore, Thai Nguyen Provincial People's Committee has recommended to NPMC that wastewater treatment be done at domestic wastewater treatment stations of two resettlement areas to ensure the achievement of column A, QCVN 14:2008/BTNMT. Based on the recommendation of Thai Nguyen Provincial People's Committee, NPMC has renovated and upgraded two domestic wastewater treatment stations of the resettlement area from 2019. From 2020 to 2021, NPMC conducted commissioning operation of the two stations in accordance with the law. The treatment results show that the output wastewater quality is within the allowable limits of column A, QCVN 14:2008/BTNMT.

According to the provisions of the Law on Environmental Protection 2020, effective from 2022, these two resettlement areas need an Environmental License. Therefore, NPMC has prepared and completed the dossiers and procedures to apply for this License for the resettlement area. Based on the dossier submitted by NPMC along with the results of the actual inspection, Thai Nguyen Provincial People's Committee has appraised and approved of the Environmental Licenses for the two resettlement areas.

Investing in the resettlement area, building a domestic wastewater treatment station for residents, and completing relevant environmental procedures is also a way for NPMC to demonstrate its commitment to sharing benefits, sustainable development with the community.



Focus in 2023

- Complete all requirements in compliance with the EIA report approval and current regulations

- Approval for EIA report of New Mining License

- Establish the EIA report of Tungsten recycling project

- Development of an energy concept for the Goslar with the aim of achieving a regenerative energy supply independent of external suppliers

- Development of an energy concept taking into account renewable energies and self-sufficiency for Goslar.

- Addition of Scope 3 to the carbon footprint determination, verification of the calculation by independent third parties.

SUSTAINABILITY COMMUNITY

2022 HIGHLIGHTS



Economic Recovery Fund

- 133 households are beneficiaries from the Economic Recovery Fund with a total capital of VND 6.3 billion.
- 100% of households improved their economic conditions.
- 53 households eligible to access the loan capital with a total of VND 2,618 billion to implement the household economic development models.



Health, Water and Sanitation

- 40 Fingertip Pulse Oximeters worth VND 18 million were donated to the Health Center of Dai Tu district
- 1,000 Covid-19 test kits worth VND 82.5 million provided for five communes adjacent to Nui Phao Project
- Health examinations and medicine provision for 200 policy beneficiaries at two poor communes with the total medicine budget of VND 30 million
- Portable water supply to 91 households worth VND 349 million



Economic Development Model

- **Tea production linkage model:** Supported Khuon Ga tea cooperative Group, Hung Son town to visit and study tea production practices and seek production linkage in Tan Cuong commune with the purpose of establishing a tea cooperative.
- **Honey beekeeping linkage model:** Supported Tan Linh commune's Honeybee cooperative group in training on beekeeping technique, bought three four-frame honey extractors, visited the beekeeping and product packaging model
- **Product consumption support** for Nhat Thuc tea Cooperative and Tan Linh honey Cooperative Group



Humanitarian and Charity Activities

- 200 Tet gifts for poor households worth VND100 million
- 20 gift sets for policy beneficiary families in the program of introducing Vietnam products to mountainous area
- 40 scholarships to disadvantaged students totaling VND40 million
- VND15 million support for 350 students to take the national high school graduation examination in two days



ECONOMIC RECOVERY FUND

In 2022, MHT worked with the Dai Tu district Social Policy Bank, trust organizations of Ha Thuong, Hung Son town, Phuc Linh and Tan Linh communes to verify 53 households' eligibility for disbursements of loan capital to implement the household economic development models. Specifically, these 53 households were engaged in the following activities:



with a total loan amount of
VND2.6 billion

By the end of 2022, 133 households have benefited from the fund with a total capital of
VND6.3 billion

Vu Thi Sinh (Bui Van An) household, hamlet 12, Tan Linh commune

Mrs. Sinh's family is a near-poor household of five (with three workers). Ms. Sinh and her husband take care of their 93-year-old mother and one child who is a first-year student. In 2022, her family borrowed VND 30 million from the Company's Economic Recovery Fund to invest in another 15 honey beehives, for a total of more than 30 honey beehives. In 2022, the first-year honey production grew by 1.5 times, from 2.5 quintals to 6-7 quintals. With their hard work and perseverance, their life is gradually transforming and escaped poverty. For seven months, their beekeeping income jumped from VND 45 million up to VND 108 million.

“I'm so grateful to the Company for providing us a preferential loan when we were in difficulty. It helps us develop family economy and take care of our children. Due to my weakened health, I have gradually shifted from cultivating tea to honey beekeeping. Through Tan Linh beekeeping cooperative, my family received support from the Company in the form of a preferential loan, and got the chance to participate in technical training and visit beekeeping models, thanks to which we could enhance our beekeeping techniques, thus boosting productivity and improving product quality. Therefore, our family economy becomes better and more stable. I would like to thank Nui Phao Company very much.” Mrs. Sinh said.



ECONOMIC RECOVERY

Agricultural Extension

Linkage in tea production, processing and consumption

Over the recent years, the Company supported Khuon Ga 2 tea Cooperative Group, Hung Son town in the technical training and economical tea irrigation system to change to VietGAP tea production. In 2022, the Company continued to support 30 members of the cooperative group in study visit to the production-consumption linkage models under Tan Cuong Tea Cooperative model. The study visit serves as a basis for the cooperative group to establish a cooperative and build a local tea brand that will improve the product quality and value as well as consuming market accessibility.

Support Nhat Thuc Tea Cooperative in product consumption


Over the past years, the Company has supported Nhat Thuc Tea Cooperative in developing a raw material region based on organic tea and VietGAP tea standards as well as accessing the Economic Recovery Fund to invest in and expand its production and business. Up to now, the Cooperative has produced various products of the OCOP standards and created stable jobs for about 15 employees with disadvantaged conditions (ethnic minority and elderly people), with a stable income of VND 4.5 to 5 million per month. In 2022, the Cooperative continued to receive support from the Company in product consumption through registration as a service supplier to the Company.

Linkage in honey beekeeping

Tan Linh beekeeping Cooperative Group, with the Company's support, was established in 2020, where its members support each other in beekeeping techniques, cooperate, and share experience of processing, quality control, and product consumption. Previously, the Cooperative Group's product quality and consumption market were not stable. So, in 2022, the Company invited experts from Thai Nguyen Gardening Association to share experience in production, processing to ensure the quality and food hygiene; organized study tours for members to An Khanh Beekeeping Cooperative; supported three four-stainless frame honey extractors. Besides, the Company also supported in designing product labels and package and registered the Cooperative Group as a honey supplier for the Company.



Recruitment support
In 2022, the Community Relations team coordinated with Human Resources Department to hire 05 local people affected by Nui Phao project.



Local service supply business

Anh Duong Packaging Company, with the Company's support, was founded in 2013 with 17 employees with the aim of becoming a supplier of Jumbo bags to MHT. Anh Duong Packaging Company has extended the international market and equipped a production line from tape stretching to final packaging after ten years of development. Along with providing Jumbo bags to Nui Phao Corporation, the business has also gotten a significant number of orders from South Korea and Japan. 130 workers made up the company's whole workforce in 2022, and each earned an average of VND 6 million.

Khanh Hien Tailor was supported to establish in 2014, is a protective clothing supplier for Nui Phao Company. Up to now, Khanh Hien Tailor has also supplied protective clothes for SGS Contractor and made clothes for local people. In 2022, the company employed nine female workers out of working age with an average income of VND 5 million per month.

Nui Phao catering service was established in 2015 under the economic recovery program for Nui Phao Project's affected households. In 2022, these kiosks delivered meals that meet food safety and hygiene standards for more than 1,000 MHT employees. Nui Phao catering service employs 10 people, each earning an average monthly income of VND 5 million.



CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES

World Environment Day activities

On the occasion of the World Environment Day, June 5th, the Company organized four communication sessions to raise public awareness about waste classification at source for nearly 20 female members at four communes adjacent to the Company; supported garbage trolley and dustbins and planted trees in the cultural houses accounting for VND 39.7 million. On the Clean-up the World Campaign, the Company communicated to raise awareness about environmental protection for more than 800 students at two secondary schools in Ha Thuong and Tan Linh communes.

As part of its ongoing efforts to aid the community in the prevention and control of Covid-19, the company gave 1,000 Covid-19 test kits for the Company's neighboring communes as well as 40 fingertip pulse oximeters to the Dai Tu District Medical Center. The total support value is more than VND 100 million.

Mid-Autumn Festival for children

On the occasion of the Mid-Autumn Festival, the Company organized mid-autumn festival celebrating activities for children in the communes near the Nui Phao Project, with folk games and quizzes with gifts worth VND 30 million. This is one of our annual activities to show the Corporate social responsibility to the local community. Especially, this is an opportunity to strengthen the long-term relationship between the Company and the local authorities and people, as well as show the caring for the children in the project area.

Tribute to war veterans

On the occasion of Vietnam's War Invalids and Martyrs Day (27/7), Masan High-Tech Materials had a lot of practical and meaningful activities to show gratitude to families of war invalids, martyrs and persons with meritorious service to the revolution across Dai Tu district area such as offering incense in tribute to the heroes and martyrs at the July 27 National Historic Site; giving 50 gift sets to wounded and sick war veterans, persons with meritorious service to the revolution and orange agent victims in Ha Thuong, Tan Linh, Phuc Linh communes and Hung Son town worth VND 25 million. Also in this occasion, the Company assigned a team of doctors, medical staff and volunteers to join in a free-of-charge health examination and medication provision for 200 policy beneficiaries from twos disadvantaged towns of Tan Linh and Phu Thinh, with the medication value of VND 30 million.

Educational support

In 2022 the National high school graduation examination assistance program was successfully carried out. We supported 60 boxes of bottled water, VND 10 million for food and mobilized more than 10 employees from the Company to voluntarily cook and distribute free lunch packs and drinking water to 350 students within 2 days of the national high school graduation examination.

The Company also donated VND 30 million for investment in research equipment for the key laboratory of the Mining and Geology University, contributing to the enhancement of teaching and learning quality of the university.

Infrastructure development

In 2022, the Company contributed outdoor sport sets at the cultural houses and flower gardens in 3 resettlement areas and 3 hamlets near the Project; supported in installation of surveillance camera and lighting systems for 4 communes/towns; gave stone bench for schools on the occasion of the opening ceremony of the new school year; constructed irrigation channels, worth VND 200 million in total. These contributions not only help improve the community health, ensure social security and order, but also enable the locality to gradually complete the goals of building an advanced new rural area.

The company also provided clean water for 91 households, 349 people in hamlets 2 and 6, Ha Thuong commune, totaling VND 626 million.

Supporting local social-cultural activities

Responding to the peak Tet week for the poor in 2022 launched by Thai Nguyen province, Masan High-Tech Materials contributed VND 100 million, equivalent to 200 gift sets for the poor in the communes and towns in Dai Tu, Thai Nguyen (VND 500,000 each set).

The Company actively participated in social-cultural activities in the local area such as: Celebration of 100 years of establishment and development of Dai Tu district; the National Great Unity Day at residential areas; the establishment days of political, social organizations and summary of annual performance at communes and other religious and belief activities, etc. with a total value of VND 50 million.

ACHIEVEMENTS 2022



Continued to support Tea cooperative Groups and Tea Cooperatives to link in production and product consumption.



Supported the beekeeping cooperative Group in technical training, processing equipment, package design and product consumption.



Actively participated in social-cultural, humanity and charity activities in Dai Tu district and Thai Nguyen province.



Supported to complete social-economic infrastructure works in the locality.



Organized communication trainings to raise awareness about environmental protection for nearly 1,000 people, including students and women.



Donated equipment and supplies for prevention and treatment of patients with Covid-19.



COMMUNITY TRANSPARENCY

At Masan High-Tech Materials, the transparency mechanism has always been maintained, improved and developed in order to exchange two-way information between Company and the stakeholders, particularly the local communities. Therefore, the community-related activities are conducted in a transparent manner in the spirit of cooperation and result-oriented development in 2022 as follows.

812 Information items published with 133 contents

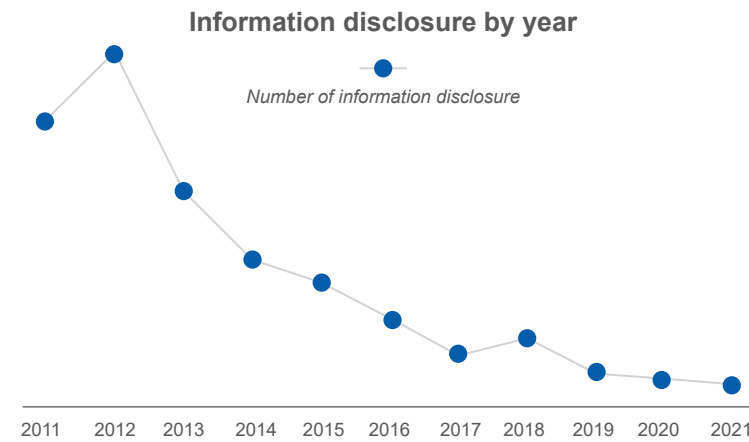
67 Meetings, field inspection and community consultations with 473 participants

31 Written complaints resolved



Diversified Information Disclosure Channels

At MHT, a variety of channels to disseminate information were deployed with the aim of giving people the information they need to participate in an informed manner. Stakeholders, particularly project-affected communities are provided and exchanged with two-way communication through channels such as Public Consultation and Disclosure Plan (PCDP), complaint and grievance mechanism, information corners in the community, meetings, dialogues, survey, mine site visits, information center, company's quarterly and annual publication. The channels also enabled us to gain valuable insights into what we do well and where we need to improve.



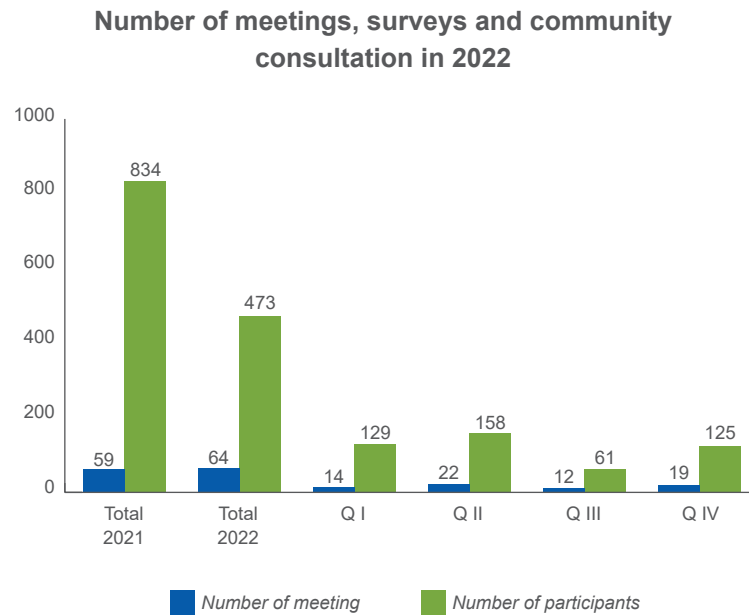
PCDP - an approachable communication channel for communities

In 2022, the Public Consultation and Disclosure Plan (PCDP) continued to prove itself an effective two-way communication between the Company and stakeholders, particularly local communities. The community relation team actively engaged with internal and external stakeholders to maximize information accessibility opportunities for local people and timely address their concerns.

Information was mainly exchanged and communicated to the community through written documents, mobile phone and Zalo app instead of directly coming to the Information Center.

In 2022, there were 812 information documents disclosed with 133 contents, 11 direct visits and hundreds of phone calls to the Company's Information Center.

During the year, the community relation team conducted 67 meetings, surveys and community consultation with 473 participants. This is the result of the community consultation and field investigation with the goal of determining the needs for infrastructure improvement, economic development, environmental sanitation, and health care for the surrounding communities. Such meetings, field investigation also help the Company further understand the needs and concerns from community to provide the warning measures to mitigate the environmental impacts and timely resolve their concerns



Complaint and Grievance Resolution

MHT Vietnam

In 2022, we received 31 written petitions all of which were forwarded, connected to relevant departments/team within the company as well as required involvement of local authorities to address the petitions. In order to reduce the complaint and grievance from community, the community relation team seek to proactively engage with relevant internal departments to regularly inspect the areas of the Project and surrounding communities to timely provide measures to minimize the impacts that may occur. Consultation is also strengthened with the involvement of community to address their concerns or queries in a timely manner.

Complaints and grievance 2020 - 2022



H.C. Starck

The Goslar site borders on an area with mixed development including residential areas and industrial plants. Therefore, the neighborhood is equally as important stakeholders of H.C. Starck Tungsten GmbH as its own employees or employees of other companies on the site of the Metallurgical Park Oker (MPO). In 2022 only 2 incidents were reported by residents from the neighborhood or by employees on the plant premises, which were attributable to the production of H.C. Starck Tungsten GmbH:

- Complaint about noise: a "turbine-like" noise was heard
- Visible leakage of nitrous gases

In both cases, the causes were identified and appropriate measures were taken. This was reported back to the respective complainant.

This continues the positive trend from previous years. After 7 complaints in 2020 and 4 in 2021, the number of the previous year was halved in 2022. This is due, among other things, to the consistent follow-up of complaints.

The other two plants of ours in Sarnia and Ganzhou are located in purely industrial areas. In both cases, there were no complaints from neighbors or other third parties.





LAUNCH OF WHISTLEBLOWING SYSTEM 'YOUR VOICE MATTERS'

Misconduct can have a detrimental impact on our workplace and reputation. Only by reporting misconduct can we prevent such behavior and ensure a FAIR, SAFE AND TRANSPARENT WORK ENVIRONMENT.

Derived from the EU directive requiring companies with more than 50 employees to provide a platform whereby anyone with concerns can raise the matter securely, anonymously and without fear of punishment, MHT has decided to expand our capabilities to all of our overseas sites even if our legal duties only apply to the European Union because we believe this to be a best practice in the business.

At the end of 2022, MHT partnered with Deloitte - a qualified and experienced provider who not only operates these services but also provides numerous global companies with similar systems. In developing 'Your Voice Matters'. This is an independent whistleblowing system managed by Deloitte on behalf of Masan High-Tech Materials for all of our subsidiaries with five languages, including Vietnamese, English, German, Chinese and Japanese.

This system is designed to receive disclosures relating to the matters below:

- Bullying
- Bribery/Corruption
- Conflict of interest; Discrimination
- Policy/procedure breach
- Health/Safety/Environment
- Fraud
- Sexual harassment and assault
- Misconduct
- Theft
- Other serious violations

The report will be made anonymously and delivered to a dedicated representative at Masan High-Tech Materials within one business day. Reports are 100% confidential, reporters are not required to reveal their personal information unless they want to.

'Your Voice Matters' is considered the most constructive foundation for MHT's problem solving, integrity and quality improvement, with an aim to creating a fair, safe and transparent workplace that values Respect – Innovation - Results.



YOUR VOICE MATTERS WHISTLEBLOWING SYSTEM

Scan QR code for information

HCS COMMUNITY DEVELOPMENT

In Goslar, Germany

H.C. Starck Tungsten GmbH, as an important and well-known company in the region, is aware of its social responsibility but also competes with other companies in the labour market for skilled workers.

Educational support

To get young people interested in chemistry at an early age, we use our own equipment to support chemistry lessons at schools during the so-called "discovery days", invite school classes and student groups to the plant and sponsor the Chemistry Olympics at a university. We actively participate in the so-called "Future Days", where school children can spend a day getting a taste of business areas. We support schools with donations in kind. For example, protective glasses for chemistry lessons. Regarding academia, HCS sponsors the H.C. Starck Tungsten Award for outstanding theses in the fields of solid-state chemistry and materials research. The dissertation award is granted biennially by the German Chemical Society's "Solid-State Chemistry & Materials Research" Division.

Tree care and watering

Having supported a local initiative that engages in local reforestation projects in 2021 already, a group of employees has continued its commitment: This time, the focus has been on tree care and watering to face the drought that had put stress on the young plants during the summer months.



Having had planted hundreds of trees the previous winter, employees took care of them, cutting back blackberry bushes



Supported by one of the site's fire trucks, the team watered the young plants

Donations

The company continued donating to various local organizations, such as sports clubs and the city's youth welfare, to support activities and projects that benefit the regions' youth and their education and to acknowledge their achievements and contributions to a more sustainable society.

Extending our engagement, the company decided to break with one of its traditions by not sending any Christmas gifts to business partners anymore. Instead, the funds were donated to charity to help children in need.

Celebrating the rich heritage of Goslar

On the occasion of the 1,100th anniversary of Goslar, H.C. Starck Tungsten and ChemiLytics were able to present themselves to residents and tourists. There were a lot of engaging discussions and intriguing stories, demonstrating how significant H.C. Starck was and continues to be for the city.



A group of employees at the economical exposition

Community transparency on Open Day at Goslar site

The close proximity of the Goslar site means that we bear a special responsibility for our neighbors, so we were pleased to invite all interested parties to an open day on our plant premises. In September more than 1,500 visitors came to see what goes on behind the scenes of H.C. Starck Tungsten and ChemiLytics. Through an exhibition, visitors were invited to find out more about products, company history and specific sustainability projects. There was further a possibility to take guided tours of the research and the production facilities. The presentation of the training program also aroused great interest among the young people. In the meantime, the youngest had fun at the kids' playground.



Visitors received first-hand information from employees



Of course, fun for the little ones has not been missed out on the open day



The training program met with great interest

Design competition for UN's Sustainable Development Goals

H.C. Starck Tungsten has installed 17 new EV charging points for employees. In order to bring more focus to sustainable efforts, we announced a competition in which young people could participate and create designs related to the Sustainable Development Goals of the United Nations. This competition was a great success, and we were able to unveil the charging points on the Open Day and honored the participants.



Installed EV charging points raise awareness for the Sustainable Development Goals

In Sarnia, Canada

Below are the several projects and activities H.C. Starck in Sarnia supported and/or sponsored in the city and the region in 2022.

Christmas parties

Two Christmas parties are hosted annually one specifically caters to employees with young families (children under 12) and the other is a formal event for adults only.

“Adopt-a-Family” Christmas Gifts - the Inn of the Good Shepherd

Adopt-a-Family is a project where local businesses, families, churches, service clubs and individuals are paired with a family that cannot afford to provide their children with Christmas gifts. The children provide a “wish list” for Santa and receive their gifts on Christmas morning.

In 2022, H.C. Starck in Sarnia donated money in order to buy Christmas gifts for under privileged children in the community, including five children. Through this act, we provide employees with an opportunity to be actively involved in supporting a local charity and underprivileged children.

Celebration of Lights

Set-up of annual light display in the central community park. The Celebration of Lights is a spectacular display in which the Sarnia- Lambton county



Christmas Party

is set aglow under a blanket of illuminated lights. This event is set up each year and attracts thousands of people from Sarnia and the surrounding areas. Ongoing sponsorship of the event and set up of our own display to enhance the company’s profile as an active and engaged participant in community events

Little League Sponsorships (Hockey and Baseball)

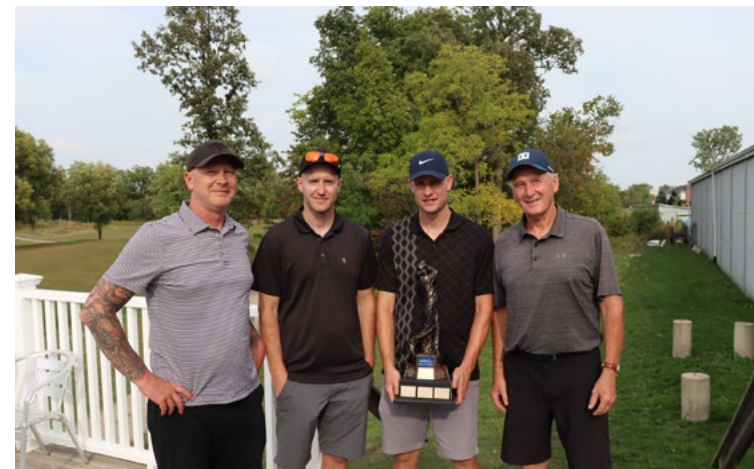
Employees are given the opportunity to apply to H.C. Starck for sponsorship to benefit their local team or club. The name of the company becomes more widely known in the community, both as a sponsor of local sporting activities and a potential employer. This also provides an opportunity to under privilege children to participate in competitive sports.

Golf

The annual Golf tournament is a highlight on the social calendar and is well attended by employees and retirees alike.

Sponsorship

Two sport activities were sponsored by H.C. Starck in Sarnia. On the one hand, an indigenous youth summer sports camp was held at the Aamjiwnaang First Nation. On the other hand, a provincial high school basketball tournament in Sarnia.



Winning Team Golf Day



FINANCE REPORT

Finance Overview

Statement of the Board of Management

Independent Auditor's Report

Consolidated Balance Sheet

Consolidated Statements of Income

Consolidated Statements of Cash Flows

Notes to The Consolidated Financial Statements

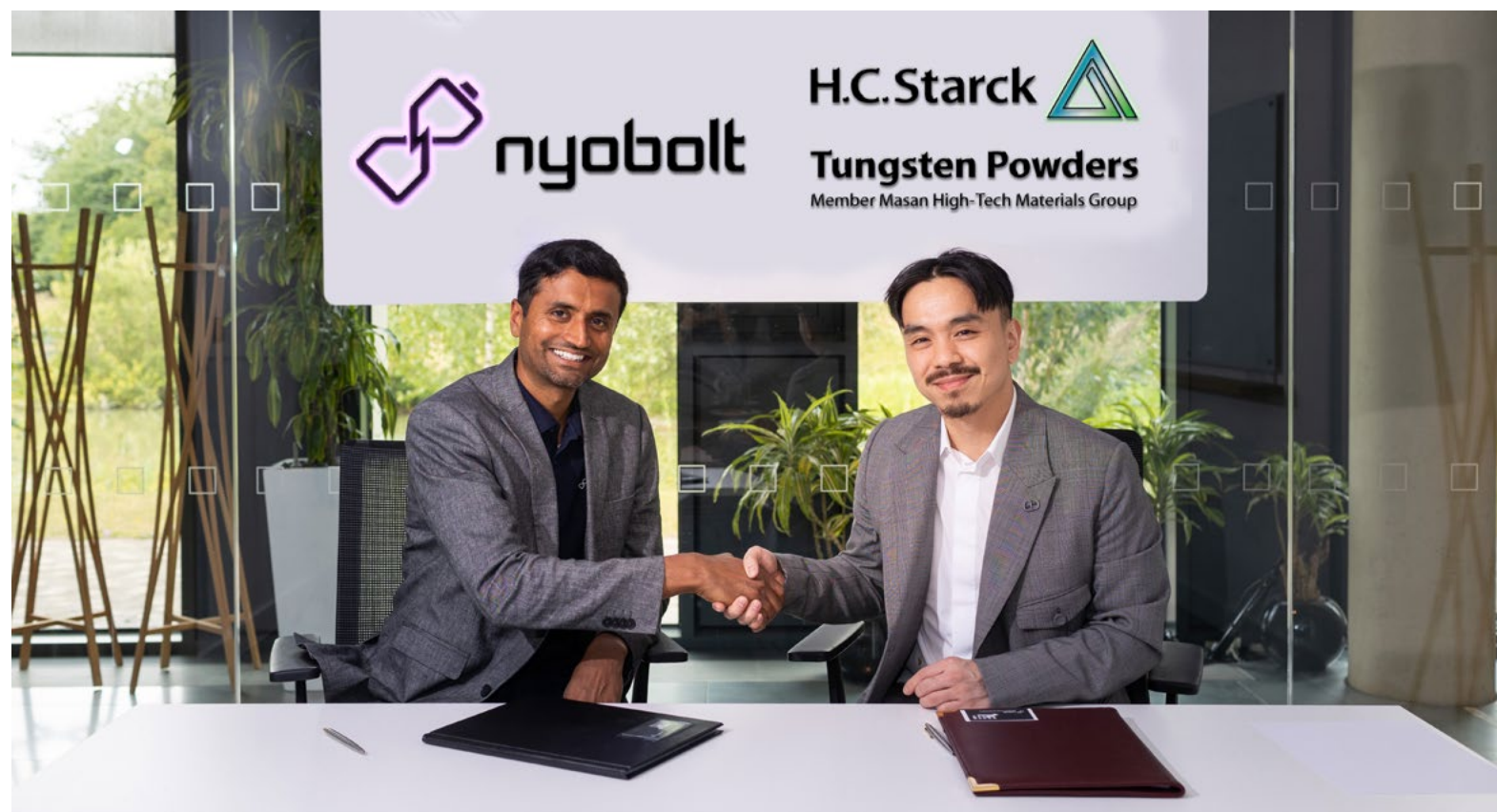


FINANCE OVERVIEW

On the back of ongoing continued strong demand and pricing for Tungsten products, Masan High-Tech Materials Corporation (“Company” or “MHT”) delivered the full year 2022 record revenue of VND15,550 billion, a significant improvement of VND1,985 billion over FY2021. The Company’s EBITDA was VND3,203 billion, an increase of 4% compared to 2021 and the second-highest EBITDA ever achieved. The attributed NPAT Post-MI was VND69 billion – a reduction of 65% over FY2021 (VND196 billion) primarily due to the impact of higher input raw material and processing costs.

On 15 July 2022 HCS executed definitive agreements to invest £45m (approx. €52m) into Nyobolt Limited (“Nyobolt”), a fast-charging Li-ion battery solutions company. This investment is expected to accelerate MHT’s vision of becoming a high-tech, value-added business by developing new tungsten applications critical for the technologies of the future.

MHT has continued to maintain the salaries, bonuses to the employees, fulfill its tax obligations and fees payment responsibilities to the Vietnam state and provincial budget which amounted to VND1,046 billion among incurred VND1,363 billion for FY2022.



Representatives of HCS and Nyobolt shake hands at a signing ceremony on July 15 in Germany

Net Revenue increased by

15%

EBITDA increased by

4%

HCS recorded a revenue increase of

12%

Contribution to state government budget increase of

34%
at **VND268 billion**

CORPORATE INFORMATION

Enterprise Registration

Certificate No. 0309966889
27 April 2010

The Company's Enterprise Registration Certificate has been amended several times, the most recent of which was dated 11 February 2022. The Certificate and its amendments were issued by the Department of Planning and Investment of Ho Chi Minh City. The first Business Registration Certificate No. 0309966889 was issued on 27 April 2010.

Investment Certificate No. 41122000131
2 August 2013

The Investment Certificate was issued by the People's Committee of Ho Chi Minh City to the Company to implement the investment of "Ma San Resources Corporation" which has a term of 10 years from the date of the Investment Certificate.

Board of Directors

| | |
|----------------------------|---------------------|
| Mr. Danny Le | Chairman |
| Mr. Nguyen Thieu Nam | First Vice Chairman |
| Mr. Craig Richard Bradshaw | Member |
| Mr. Akira Osada | Member |
| Ms. Nguyen Thu Hien | Independent member |

Board of Management

| | |
|----------------------------|---|
| Mr. Craig Richard Bradshaw | Chief Executive Officer |
| Mr. Hady Seyeda | Deputy Chief Executive Officer |
| Ms. Dinh Le Hang | Deputy Chief Executive Officer (from 20 February 2023) |
| Mr. Nguyen Huy Tuan | Acting Chief Financial Officer (from 1 July 2022) |
| Mr. Stuart James Wells | Chief Financial Officer (until 30 June 2022) |

Audit Committee

| | |
|----------------------|----------|
| Ms. Nguyen Thu Hien | Chairman |
| Mr. Nguyen Thieu Nam | Member |

Registered Office

Suite 802, 8th Floor, Central Plaza Building, No. 17 Le Duan,
Ben Nghe Ward, District 1, Ho Chi Minh City, Vietnam

Auditor

KPMG Limited
Vietnam

STATEMENT OF THE BOARD OF MANAGEMENT

The Board of Management of Masan High-Tech Materials Corporation ("the Company") presents this statement and the accompanying consolidated financial statements of the Company and its subsidiaries (collectively referred to as "the Group") as of and for the year ended 31 December 2022.

The Board of Management is responsible for the preparation and presentation of the consolidated financial statements in accordance with Vietnamese Accounting Standards, the Vietnamese Accounting System for enterprises and the relevant statutory requirements applicable to financial reporting. In the opinion of the Board of Management:

- the consolidated financial statements set out on pages 185 to 246 give a true and fair view of the consolidated financial position of the Group as at 31 December 2022, and of its consolidated results of operations and consolidated cash flows for the year then ended in accordance with Vietnamese Accounting Standards, the Vietnamese Accounting System for enterprises and the relevant statutory requirements applicable to financial reporting; and
- at the date of this statement, there are no reasons to believe that the Group will not be able to pay its debts as and when they fall due. The consolidated financial statements have included adequate disclosure of matters relevant to the management's assessment of the validity of the going concern assumption.

The Board of Management has, on the date of this statement, authorized these accompanying consolidated financial statements for issue.

On behalf of the Board of Management



Craig Richard Bradshaw
Chief Executive Officer

Ho Chi Minh City, 1 March 2023

INDEPENDENT AUDITOR'S REPORT

To the Shareholders Masan High-Tech Materials Corporation

We have audited the accompanying consolidated financial statements of Masan High-Tech Materials Corporation (“the Company”) and its subsidiaries (collectively referred to as “the Group”), which comprise the consolidated balance sheets as at 31 December 2022, the related consolidated statements of income and cash flows for the year then ended and the explanatory notes thereto which were authorised for issue by the Company’s Board of Management on 1 March 2023, as set out on pages 185 to page 246.

Management’s Responsibility

The Company’s Board of Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with Vietnamese Accounting Standards, the Vietnamese Accounting System for enterprises and the relevant statutory requirements applicable to financial reporting, and for such internal control as the Board of Management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor’s Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with Vietnamese Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor’s judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company’s preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the Company’s Board of Management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Auditor’s Opinion

In our opinion, the consolidated financial statements give a true and fair view, in all material respects, of the consolidated financial position of the Group as at 31 December 2022 and of its consolidated results of operations and its consolidated cash flows for the year then ended in accordance with Vietnamese Accounting Standards, the Vietnamese Accounting System for enterprises and the relevant statutory requirements applicable to financial reporting.

KPMG Limited

Vietnam
Audit Report No. 22-02-00150-23-1



Tran Dinh Vinh
Practicing Auditor Registration Certificate No. 0339-2023-007-1
Deputy General Director
Hanoi, 1 March 2023

Phan My Linh
Practicing Auditor Registration
Certificate No. 3064-2019-007-1

CONSOLIDATED BALANCE SHEET

Masan High-Tech Materials Corporation and its subsidiaries
Consolidated balance sheet as at 31 December 2022

Form B 01 – DN/HN
(Issued under Circular No. 202/2014/TT-BTC
dated 22 December 2014 of the Ministry of Finance)

| | Code | Note | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|--|------------|-------------|-----------------------|-----------------------|
| ASSETS | | | | |
| Current assets (100 = 110 + 120 + 130 + 140 + 150) | 100 | | 12,228,222,738 | 10,576,736,330 |
| Cash and cash equivalents | 110 | 5 | 1,502,879,248 | 1,043,789,572 |
| Cash | 111 | | 802,638,824 | 644,789,572 |
| Cash equivalents | 112 | | 700,240,424 | 399,000,000 |
| Short-term financial investments | 120 | 6(a) | 8,110,000 | 7,400,000 |
| Held-to-maturity investments | 123 | | 8,110,000 | 7,400,000 |
| Accounts receivable – short-term | 130 | | 2,940,659,090 | 2,652,953,397 |
| Accounts receivable from customers | 131 | 7 | 2,170,552,039 | 1,988,261,387 |
| Prepayments to suppliers | 132 | | 371,552,598 | 243,425,908 |
| Other receivables | 136 | 8 | 413,428,141 | 421,266,102 |
| Allowance for doubtful debts | 137 | | (14,873,688) | - |
| Inventories | 140 | 9 | 6,858,167,780 | 5,930,372,391 |
| Inventories | 141 | | 6,905,038,000 | 5,958,352,149 |
| Allowance for inventories | 149 | | (46,870,220) | (27,979,758) |
| Other current assets | 150 | | 918,406,620 | 942,220,970 |
| Short-term prepaid expenses | 151 | | 74,887,091 | 46,128,020 |
| Deductible value added tax | 152 | | 807,301,517 | 896,037,352 |
| Taxes and others receivable from State Treasury | 153 | | 36,218,012 | 55,598 |

The accompanying notes are an integral part of these consolidated financial statements

Masan High-Tech Materials Corporation and its subsidiaries
Consolidated balance sheet as at 31 December 2022

Form B 01 – DN/HN
(Issued under Circular No. 202/2014/TT-BTC
dated 22 December 2014 of the Ministry of Finance)

| | Code | Note | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|---|------------|-------------|-----------------------|-----------------------|
| Long term assets (200 = 210 + 220 + 230 + 240 + 250 + 260) | 200 | | 29,292,777,451 | 28,774,460,852 |
| Accounts receivable – long-term | 210 | | 1,403,254,299 | 1,344,574,789 |
| Other long-term receivables | 216 | 8 | 1,403,254,299 | 1,344,574,789 |
| Fixed assets | 220 | | 20,185,726,072 | 21,507,557,062 |
| Tangible fixed assets | 221 | 10 | 16,864,317,888 | 17,916,829,652 |
| • Cost | 222 | | 29,389,675,393 | 29,323,337,078 |
| • Accumulated depreciation | 223 | | (12,525,357,505) | (11,406,507,426) |
| Finance lease tangible fixed assets | 224 | | - | - |
| • Cost | 225 | | 67,300,000 | 67,300,000 |
| • Accumulated depreciation | 226 | | (67,300,000) | (67,300,000) |
| Intangible fixed assets | 227 | 11 | 3,321,408,184 | 3,590,727,410 |
| • Cost | 228 | | 4,419,260,782 | 4,500,413,119 |
| • Accumulated amortisation | 229 | | (1,097,852,598) | (909,685,709) |
| Investment property | 230 | 12 | 722,403,002 | 800,547,308 |
| • Cost | 231 | | 1,129,619,792 | 1,156,174,253 |
| • Accumulated amortisation | 232 | | (407,216,790) | (355,626,945) |
| Long-term work in progress | 240 | | 2,081,826,883 | 1,157,484,188 |
| Construction in progress | 242 | 13 | 2,081,826,883 | 1,157,484,188 |
| Long-term financial investments | 250 | 6(b) | 1,532,527,099 | 180,510,490 |
| Investments in associates, joint ventures | 252 | | 190,164,060 | 180,510,490 |
| Equity investment in other entity | 253 | | 1,342,363,039 | - |
| Other long-term assets | 260 | | 3,367,040,096 | 3,783,787,015 |
| Long-term prepaid expenses | 261 | 14 | 3,346,160,818 | 3,486,983,142 |
| Deferred tax assets | 262 | 20(a) | 20,879,278 | 296,803,873 |
| TOTAL ASSETS (270 = 100 + 200) | 270 | | 41,521,000,189 | 39,351,197,182 |

The accompanying notes are an integral part of these consolidated financial statements

Masan High-Tech Materials Corporation and its subsidiaries
Consolidated balance sheet as at 31 December 2022

Form B 01 – DN/HN
(Issued under Circular No. 202/2014/TT-BTC
dated 22 December 2014 of the Ministry of Finance)

| | Code | Note | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|--------------------------------------|------------|-------|-----------------------|-----------------------|
| RESOURCES | | | | |
| LIABILITIES (300 = 310 + 330) | 300 | | 26,273,561,415 | 25,010,017,858 |
| Current liabilities | 310 | | 17,154,059,090 | 7,877,179,852 |
| Accounts payable to suppliers | 311 | | 1,574,455,591 | 1,508,640,236 |
| Advances from customers | 312 | 15 | 489,804,070 | 34,709,351 |
| Taxes payable to State Treasury | 313 | 16 | 160,206,536 | 166,958,554 |
| Payables to employees | 314 | | 14,841,657 | 4,777,953 |
| Accrued expenses | 315 | 17 | 818,655,883 | 1,000,544,438 |
| Other short-term payables | 319 | 18 | 980,622,553 | 342,355,463 |
| Short-term borrowings and bonds | 320 | 19(a) | 13,105,475,407 | 4,800,093,173 |
| Provisions – short-term | 321 | | 9,997,393 | 19,100,684 |
| Long-term liabilities | 330 | | 9,119,502,325 | 17,132,838,006 |
| Long-term borrowings and bonds | 338 | 19(b) | 2,979,108,965 | 9,238,202,894 |
| Deferred tax liabilities | 341 | 20(a) | 1,517,611,217 | 1,543,909,966 |
| Provisions – long-term | 342 | 21 | 4,622,782,143 | 6,350,725,146 |

The accompanying notes are an integral part of these consolidated financial statements

Masan High-Tech Materials Corporation and its subsidiaries
Consolidated balance sheet as at 31 December 2022

Form B 01 – DN/HN
(Issued under Circular No. 202/2014/TT-BTC
dated 22 December 2014 of the Ministry of Finance)

| | Code | Note | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|--|------------|-----------|-----------------------|-----------------------|
| EQUITY (400 = 410) | 400 | | 15,247,438,774 | 14,341,179,324 |
| Equity | 410 | 22 | 15,247,438,774 | 14,341,179,324 |
| Share capital | 411 | 23 | 10,991,554,200 | 10,991,554,200 |
| • Ordinary shares with voting rights | 411a | | 10,991,554,200 | 10,991,554,200 |
| Share premium | 412 | 23 | 1,098,259,892 | 1,098,259,892 |
| Other capital | 414 | | (295,683,347) | (295,683,347) |
| Foreign exchange differences | 417 | | (419,419,764) | (365,829,110) |
| Other equity funds | 420 | | 675,544,001 | (170,252,387) |
| Retained profits after tax | 421 | | 3,031,229,349 | 2,962,204,732 |
| • Retained profits brought forward | 421a | | 2,962,204,732 | 2,766,593,412 |
| • Retained profit for the current year | 421b | | 69,024,617 | 195,611,320 |
| Non-controlling interest | 429 | | 165,954,443 | 120,925,344 |
| TOTAL RESOURCES (440 = 300 + 400) | 440 | | 41,521,000,189 | 39,351,197,182 |

1 March 2023

Prepared by:



Nguyen Thi Thanh Mai
Chief Accountant

Reviewed by:



Nguyen Huy Tuan
Acting Chief Financial Officer

Approved by:



Craig Richard Bradshaw
Chief Executive Officer

The accompanying notes are an integral part of these consolidated financial statements

CONSOLIDATED STATEMENTS OF INCOME

Masan High-Tech Materials Corporation and its subsidiaries
Consolidated statement of income for the year ended 31 December 2022

Form B 02 – DN/HN
(Issued under Circular No. 202/2014/TT-BTC
dated 22 December 2014 of the Ministry of Finance)

| | Code | Note | 2022 VND'000 | 2021 VND'000 |
|---|-----------|-----------|-----------------------|-----------------------|
| Revenue from sales of goods and provision of services | 01 | | 15,562,992,329 | 13,583,641,781 |
| Revenue deductions | 02 | | 13,444,675 | 19,351,935 |
| Net revenue (10 = 01 - 02) | 10 | 25 | 15,549,547,654 | 13,564,289,846 |
| Cost of sales | 11 | | 13,172,693,544 | 11,293,885,339 |
| Gross profit (20 = 10 - 11) | 20 | | 2,376,854,110 | 2,270,404,507 |
| Financial income | 21 | 26 | 470,233,836 | 344,622,946 |
| Financial expenses | 22 | 27 | 1,917,493,323 | 1,435,452,204 |
| • In which: Interest expense | 23 | | 1,194,553,796 | 1,145,321,327 |
| Share of profit in associates | 24 | | 13,938,538 | 3,064,567 |
| Selling expenses | 25 | 28 | 452,974,941 | 445,622,393 |
| General and administration expenses | 26 | 29 | 587,976,843 | 638,030,680 |
| Net operating (loss)/profit (30 = 20 + 21 - 22 + 24 - 25 - 26) | 30 | 25 | (97,418,623) | 98,986,743 |
| Other income | 31 | 30 | 171,642,933 | 142,172,892 |
| Other expenses | 32 | 31 | 96,870,711 | 84,643,721 |
| Results of other activities (40 = 31 - 32) | 40 | | 74,772,222 | 57,529,171 |

The accompanying notes are an integral part of these consolidated financial statements

Masan High-Tech Materials Corporation and its subsidiaries
Consolidated statement of income for the year ended 31 December 2022

Form B 02 – DN/HN
(Issued under Circular No. 202/2014/TT-BTC
dated 22 December 2014 of the Ministry of Finance)

| | Code | Note | 2022 VND'000 | 2021 VND'000 |
|--|-----------|------|--------------------|--------------------|
| Accounting (loss)/profit before tax (50 = 30 + 40) | 50 | | (22,646,401) | 156,515,914 |
| Income tax expense – current | 51 | 32 | 45,262,566 | 59,707,083 |
| Income tax benefit – deferred | 52 | 32 | (173,060,025) | (164,314,798) |
| Net profit after tax (60 = 50 - 51 - 52) | 60 | | 105,151,058 | 261,123,629 |
| Net profit attributable to: | | | | |
| Shareholders of the Company | 61 | | 69,024,617 | 195,611,320 |
| Non-controlling interest | 62 | | 36,126,441 | 65,512,309 |
| Earnings per share | | | VND | VND |
| Basic earnings per share | 70 | 33 | 63 | 178 |

1 March 2023

Prepared by:



Nguyen Thi Thanh Mai
Chief Accountant

Reviewed by:



Nguyen Huy Tuan
Acting Chief Financial Officer

Approved by:



Craig Richard Bradshaw
Chief Executive Officer

The accompanying notes are an integral part of these consolidated financial statements

CONSOLIDATED STATEMENTS OF CASH FLOWS

Masan High-Tech Materials Corporation and its subsidiaries
Consolidated statement of cash flows for the year ended 31 December 2022
(Indirect method)

Form B 03 – DN/HN
(Issued under Circular No. 202/2014/TT-BTC
dated 22 December 2014 of the Ministry of Finance)

| | Code | Note | 2022 VND'000 | 2021 VND'000 |
|--|-----------|------|----------------------|----------------------|
| CASH FLOWS FROM OPERATING ACTIVITIES | | | | |
| (Loss)/profit before tax | 01 | | (22,646,401) | 156,515,914 |
| Adjustments for | | | | |
| Depreciation and amortisation | 02 | | 1,501,892,563 | 1,588,610,779 |
| Allowances and provisions | 03 | | 108,590,016 | (16,222,267) |
| Exchange (gains)/losses arising from revaluation of monetary items denominated in foreign currencies | 04 | | (59,317,383) | 15,702,294 |
| Profits from investing activities | 05 | | (25,200,709) | (13,211,344) |
| Interest expense and borrowing fees | 06 | 27 | 1,194,553,796 | 1,145,321,327 |
| Operating profit before changes in working capital | 08 | | 2,697,871,882 | 2,876,716,703 |
| Change in receivables and other assets | 09 | | (338,066,179) | (716,340,962) |
| Change in inventories | 10 | | (946,685,853) | (989,210,501) |
| Change in payables and other liabilities | 11 | | 772,041,277 | (353,209,060) |
| Change in prepaid expenses | 12 | | 84,860,443 | 43,334,353 |
| | | | 2,270,021,570 | 861,290,533 |
| Interest paid | 14 | | (1,096,550,489) | (1,330,110,196) |
| Income tax paid | 15 | | (47,148,344) | (123,278,973) |
| Net cash flows from operating activities | 20 | | 1,126,322,737 | (592,098,636) |

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Masan High-Tech Materials Corporation and its subsidiaries
Consolidated statement of cash flows for the year ended 31 December 2022
(Indirect method - continued)

Form B 03 – DN/HN
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| | Code | Note | 2022 VND'000 | 2021 VND'000 |
|--|-----------|------|------------------------|--------------------|
| CASH FLOWS FROM INVESTING ACTIVITIES | | | | |
| Payments for additions to fixed assets and other long-term assets | 21 | | (1,330,036,496) | (921,559,976) |
| Proceeds from disposals of fixed assets and other long-term assets | 22 | | 3,194,364 | 21,625,809 |
| Payments for term deposit | 23 | | (8,110,000) | - |
| Term deposits received and receipts from collecting loans | 24 | | 7,400,000 | 1,143,479,452 |
| Business combination, net of cash acquired | 25 | | - | 26,476,816 |
| Payment for investment in other entities | 25 | | (1,342,363,039) | - |
| Receipt of interest | 27 | | 11.632.392 | 29,522,173 |
| Net cash flows from investing activities | 30 | | (2,658,282,779) | 299,544,274 |
| CASH FLOWS FROM FINANCING ACTIVITIES | | | | |
| Proceeds from shares issuance and related transaction cost | 31 | | - | (42,624,809) |
| Proceeds from borrowings and bonds | 33 | | 9,447,891,713 | 6,608,097,474 |
| Payments to settle loan principals and bond issuance related costs | 34 | | (7,450,091,614) | (5,988,605,407) |

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Masan High-Tech Materials Corporation and its subsidiaries
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| | Code | Note | 2022 VND'000 | 2021 VND'000 |
|---|-----------|----------|----------------------|----------------------|
| Net cash flows from financing activities | 40 | | 1,997,800,099 | 576,867,258 |
| Net cash flows during the year (50 = 20 + 30 + 40) | 50 | | 465,840,057 | 284,312,896 |
| Cash and cash equivalents at the beginning of the year | 60 | | 1,043,789,572 | 761,930,286 |
| Effect of exchange rate fluctuation on cash and cash equivalents | 61 | | (6,750,381) | (2,453,610) |
| Cash and cash equivalents at the end of the year (70 = 50 + 60 + 61) | 70 | 5 | 1,502,879,248 | 1,043,789,572 |

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

Masan High-Tech Materials Corporation and its subsidiaries
Notes to the consolidated financial statements for the year ended 31 December 2022

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These notes form an integral part of and should be read in conjunction with the accompanying consolidated financial statements.

1. Reporting entity

a Ownership structure

Masan High-Tech Materials Corporation (“the Company” or “MHT”) is incorporated as a joint stock company in Vietnam. The consolidated financial statements comprise the Company and its subsidiaries (collectively referred to as “the Group”) and the Group’s interest in associate.

b Principal activities

The principal activity of the Company is investment holding.
The principal activities of the subsidiaries and associate are described as follows:

Subsidiaries:

| Name | Address | Principal activity | Percentage of economic interests at 31/12/2022 và 1/1/2022 |
|---|--------------------------|--|--|
| Direct subsidiary | | | |
| Masan Thai Nguyen Resources Company Limited (“MRTN”) | (i) Ho Chi Minh City | Investment holding | 100% |
| Indirect subsidiaries | | | |
| Thai Nguyen Trading and Investment Company Ltd (“TNTI”) | (i) Ho Chi Minh City | Investment holding | 100% |
| Nui Phao Mining Company Limited (“NPM”) (*) | (i) Thai Nguyen Province | Exploring and processing mineral | 100% |
| Masan Tungsten Limited Liability Company (“MTC”) | (i) Thai Nguyen Province | Deep processing of nonferrous metals and precious metals (Tungsten) | 100% |
| H.C. Starck Holding (Germany) GmbH (“HCS”) (**) | (i) Goslar, Germany | Investment holding | 100% |
| ChemiLytics Beteiligungs GmbH | (ii) Goslar, Germany | Investment holding | 100% |
| H.C. Starck GmbH | (ii) Goslar, Germany | Investment holding | 100% |
| Chemische Fabriken Oker und Branschweig AG | (ii) Goslar, Germany | Producing chemicals utilized in the manufacturing of paper and additives for the absorptive materials industry | 100% |
| H.C. Starck Infrastructure GmbH & Co. KG | (ii) Munich, Germany | Deep processing of nonferrous metals and precious metals (Tungsten) | 100% |

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| Name | Address | Principal activity | Percentage of economic interests at 31/12/2022 và 1/1/2022 |
|---|-----------------------------|---|--|
| ChemiLytics GmbH & Co. KG | (ii) Goslar, Germany | Chemical analysis and physical measurement data | 100% |
| H.C. Starck Tungsten GmbH | (ii) Munich, Đức | Deep processing of nonferrous metals and precious metals (Tungsten) | 100% |
| H.C. Starck Nonferrous Metals Trading (Shanghai) Co. Ltd. | (ii) Shanghai, PRC | Trading and distribution | 100% |
| H.C. Starck Canada Inc. | (ii) Samia, Ontario, Canada | Deep processing of nonferrous metals and precious metals (Tungsten) | 100% |
| H.C. Starck Tungsten GK | (ii) Tokyo, Japan | Trading and distribution | 100% |
| H.C. Starck Tungsten LLC | (ii) Newton, USA | Trading and distribution | 100% |
| H.C. Starck Jiangwu Tungsten Specialities (Ganzhou) Co., Ltd. | (ii) Ganzhou, China | Deep processing of nonferrous metals and precious metals (Tungsten) | 60% |

Associates:

| Name | Address | Principal activity | Percentage of economic interests at 31/12/2022 và 1/1/2022 |
|---|---------------------|---|--|
| Indirect associates | | | |
| Jiangwu H.C. Starck Tungsten Products Co., Ltd. | (ii) Ganzhou, China | Deep processing of nonferrous metals and precious metals (Tungsten) | 30% |

(i) HCS is subsidiary of MTC. MTC is a subsidiary of NPM. TNTI and NPM are subsidiaries of MRTN. MRTN is a subsidiary of the Company.

(ii) These entities are direct and indirect subsidiaries and associate of HCS.

(*) NPM’s principal activities are to explore, exploit, mine and process tungsten, fluorite, bismuth, copper under the “Nui Phao Mining Project” in Ha Thuong Commune, Dai Tu District in Thai Nguyen Province for export and domestic sales. The “Nui Phao Mining Project” is under Investment Certificate No. 17121000026 which expires on 2 February 2034.

(**) HCS is a leading manufacturer of high-tech tungsten metal powders and carbides (midstream tungsten products). HCS has production hubs in Europe, North America, and China serving customers across the globe. HCS and its subsidiaries mainly specialize in the development, manufacture and sale of high-performance powders based on the technology of metal tungsten and its compounds, tailored to individual customer needs.

The percentage of economic interests represents the effective percentage of economic interests of the Company both directly and indirectly in the subsidiaries. The percentage of voting right equals the percentage of economic interests, unless otherwise indicated.

As at 31 December 2022, the Group had 2,269 employees (1/1/2022: 2,148 employees).

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2. Basis of preparation

a Statement of compliance

The consolidated financial statements have been prepared in accordance with Vietnamese Accounting Standards, the Vietnamese Accounting System for enterprises and the relevant statutory requirements applicable to financial reporting.

b Basis of measurement

The consolidated financial statements, except for the consolidated statement of cash flows, are prepared on the accrual basis using the historical cost concept. The consolidated statement of cash flows is prepared using the indirect method.

c Going concern assumption

The consolidated financial statements have been prepared on a going concern basis. At the balance sheet date, current liabilities exceeded current assets by VND4,925,836 million (1/1/2022: current liabilities did not exceed current assets). Furthermore, the Group has significant loans that will require refinancing within the next 12 months (Note 19(a)). The validity of the going concern assumption fundamentally depends on the ultimate parent company continuing to provide such financial assistance as is necessary to enable the Group to meet its liabilities as and when they fall due and to maintain the Group in existence as a going concern for the foreseeable future.

At the time of this report, there is no reason for the management to believe that the ultimate parent company will not continue its support.

d Annual accounting period

The annual accounting period of the Company and its subsidiaries are from 1 January to 31 December.

e Accounting and presentation currency

The Group's accounting currency is Vietnam Dong ("VND"), which is also the currency used for financial statement presentation purpose. All amounts have been rounded to the nearest thousand ("VND'000"), unless otherwise indicated.

3. Summary of significant accounting policies

The following significant accounting policies have been adopted by the Group in the preparation of these consolidated financial statements.

a Basis of consolidation

(i) Business combinations

Business combinations are accounted for using the purchase method as at the acquisition date, which is the date on which control is transferred to the Group. Control exists when the Group has the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities. In assessing control, the Group takes into consideration the potential voting rights that currently are exercisable.

Under the purchase method, the assets and liabilities of the acquired entity are consolidated using their fair values. Cost of a business combination (cost of the acquisition) is the aggregate amount of the fair values, at the date of exchange, of assets given, liabilities incurred or assumed, and equity instruments issued by the acquirer in the acquisition in exchange for control of the acquiree and any costs directly attributable to the business combination. Identifiable assets acquired, identifiable liabilities and contingent liabilities assumed in a business combination are recognised at fair value at the acquisition date.

Any goodwill that arises representing the excess of the cost of the acquisition over the Group's interest in the net fair value of the identifiable assets, liabilities and contingent liabilities of the acquiree is recognised in consolidated balance sheet, then amortised through to the consolidated statement of income. When the excess is negative (gain from bargain purchase), it is recognised in the consolidated statement of income for the current year after a reassessment has been performed to ensure that the measurement of identifiable assets acquired, liabilities and contingent liabilities assumed and the cost of the business combination appropriately reflects consideration of all available information as of the acquisition date.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs as the result of fair values of the acquiree's identifiable assets, liabilities or contingent liabilities or the cost of the combination being only provisionally determined, the Group shall account for such business combination at

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provisional amounts. During twelve months from the acquisition date (i.e. the measurement period), the Group shall retrospectively adjust the provisional amounts recognised at the acquisition date.

Transaction costs, other than those associated with the issue of debt or equity securities, that the Group incurred in connection with business combinations included any costs directly attributable to the combination, such as professional fees paid to accountants, legal advisers, valuers and other consultants to affect the combination. Transaction costs are capitalised into the cost of business combination. General administrative costs and other costs that cannot be directly attributed to the particular combination being accounted for are not included in the cost of the combination; they are recognised as an expense when incurred.

(ii) Subsidiaries

Subsidiaries are entities controlled by the Group. Control exists when the Group has the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities. In assessing control, potential voting rights that currently are exercisable are taken into account. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases.

(iii) Non-controlling interests

Non-controlling interests ("NCI") are measured by their proportionate economic interest in the acquiree's identifiable net assets at date of acquisition.

Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as transactions with owners. In accordance with Circular No. 202/2014/TT-BTC issued by the Ministry of Finance providing guidance on preparation and presentation of consolidated financial statements ("Circular 202"), the difference between the change in the Group's share of net assets of the subsidiary and any consideration paid or received is recorded directly in retained profits under equity.

(iv) Associates

Associates are those entities in which the Group has significant influence, but not control, over the financial and operating policies. Significant influence is presumed to exist when the Group holds between 20 and 50 percent of the voting power. Associates are accounted for using

the equity method. They are initially recognised at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Group's share of the profit and loss of an associate, after adjustments to align the accounting policies with those of the Group, from the date that significant influence commences until the date that significant influence ceases. The carrying amount of investments in associates is also adjusted for the alterations in the investor's proportionate interest in the associates arising from changes in the associate's equity that have not been included in the income statement (such as revaluation of fixed assets, or foreign exchange translation differences, etc.).

When the Group's share of losses exceeds its interest in an associate, the carrying amount of that interest (including any long-term investments) is reduced to nil and the recognition of further losses is discontinued except to the extent that the Group has an obligation or has made payments on behalf of the investee.

(v) Transactions eliminated on consolidation

Intra-group transactions, balances, and any unrealised income and expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements. However, foreign currency difference arising on intra-group monetary items, whether short-term or long-term are recorded in the consolidated statement of income. Unrealised gains and losses arising from transactions with associates are eliminated against the investment to the extent of the Group's interest in the investee.

(vi) Goodwill

Goodwill arises on the acquisition of subsidiary. Goodwill is measured at cost less accumulated amortisation. Cost of goodwill represents the excess of the cost of the acquisition over the Group's interest in the net fair value of the identifiable assets, liabilities and contingent liabilities of the acquiree in exchange for control of the acquire, plus any costs directly attributable to the acquisition.

When the excess is negative (gain from bargain purchase), it is recognised immediately in the consolidated statement of income.

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b Foreign currency

(i) Foreign currency transactions

Transactions in currencies other than VND during the year have been translated into VND at rates approximating actual rates of exchange ruling at the transaction dates.

Monetary assets and liabilities denominated in currencies other than VND are translated into VND at the account transfer buying rate for assets and account transfer selling rate for liabilities at the end of the annual accounting period quoted by the commercial bank where the Company or its subsidiaries most frequently conducts transactions.

All foreign exchange differences are recorded in the consolidated statement of income.

(ii) Foreign operations

For the purpose of presenting the consolidated financial statements, the assets and liabilities of foreign operations are translated to VND as follow:

- Assets and liabilities including fair value adjustments arising on acquisition, are translated to VND at the account transfer buying rate (for assets) and the account transfer selling rate (for liabilities) at the end of the accounting period quoted by the commercial bank where the Company most frequently conducts transactions;
- Revenues, income, expenses and cash flows of foreign operations are translated to VND at exchange rates at which approximate actual exchange rates ruling on the dates of transactions;
- Retained profits/Accumulated losses, funds and reserves are derived from the translated net profits/movements from which they were appropriated.

Foreign currency differences arising from the translation of foreign operations' financial statements to VND are recognised in the balance sheet under the caption "Foreign exchange differences" in equity. When the foreign currency differences relate to a foreign operation that is consolidated but not wholly owned, accumulated exchange differences arising from translation and attributable to non-controlling interests are allocated to, and recognised as part of, non-controlling interests in the consolidated balance sheet.

c Cash and cash equivalents

Cash comprises cash balances and call deposits. Cash equivalents are short-term highly liquid investments that are readily convertible to known amount of cash, are subject to an insignificant risk of changes in value and are held for the purpose of meeting short-term cash commitments rather than for investment or other purposes.

d Investments

(i) Trading securities

Trading securities are those held by the Group for trading purpose i.e. purchased for resale with the aim of making profits over a short period of time. Trading securities are initially recognized at cost which include purchase price plus any directly attributable transaction costs. Subsequent to initial recognition, they are measured at cost less allowance for diminution in value. An allowance is made for diminution in value of trading securities if there is evidence that market price of the securities item falls below its carrying amount. The allowance is reversed if the market price subsequently increases after the allowance was recognised. An allowance is reversed only to the extent that the securities' carrying amount does not exceed the carrying amount that has been determined if no allowance had been recognised.

(ii) Held-to-maturity investments

Held-to-maturity investments are those that the Group's management has the intention and ability to hold until maturity. Held-to-maturity investments include term deposits at bank, bonds and loan receivables held to maturity. These investments are stated at cost less allowance for doubtful debts..

(iii) Investments in equity instruments of other entities

Investments in equity instruments of other entities are initially recognized at cost which include purchase price plus any directly attributable transaction costs. Subsequent to initial recognition, these investments are stated at cost less allowance for diminution in value. An allowance is made for diminution in investment values if the investee has suffered a loss which may cause the Group to lose their invested capital, unless there is evidence that the value of the investment has not been diminished. The allowance is reversed if the investee subsequently made a profit that offsets the previous loss for which the allowance had been made. An allowance is reversed only to the extent

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that the investment's carrying amount does not exceed the carrying amount that would have been determined if no allowance had been recognised.

e Accounts receivable

Accounts receivable from customers and other receivables are stated at cost less allowance for doubtful debts.

Factoring

Depending on market conditions and liquidity requirements, the Group enters into factoring agreements to transfer trade receivables. For factoring transactions, the Group assesses whether trade receivables can be derecognised in their entirety or not, basing on the extent to which it retains the risks and rewards of ownership of the trade receivables.

If the Group:

- transfers substantially all the risks and rewards of ownership of the receivables, the Group derecognises the receivables and recognises separately as asset or liability any rights and obligations created or retained in the transfer;
- retains substantially all the risks and rewards of ownership of the receivables, the Group continues to recognise the receivables;
- neither transfers nor retains substantially all the risks and rewards of ownership of the receivables, the Group determines whether it has retained control. If the Group does not retain control, it derecognises the receivables and recognises separately as assets or liabilities any rights and obligations created or retained in the transfer. If the Group retains control, it continues to recognise the receivables to the extent of its continuing involvement in the receivables.

The extent of continuing involvement in the transferred assets is the extent to which it is exposed to changes in the value of the transferred assets, which is the lower of the carrying amount of assets and the maximum amount of the consideration that the Group could be required to pay ("the guarantee amount").

When the Group continues to recognise an asset to the extent of its continuing involvement, the Group also recognises an associated liability. The associated liability is initially measured at the guarantee

amount plus the fair value of the guarantee. Subsequently the initial fair value of the guarantee is recognised in the consolidated income statement on a time proportion basis.

f Inventories

Inventories are stated at the lower of cost and net realisable value. Cost is determined on a weighted average basis and includes all costs incurred in bringing the inventories to their present location and condition. Cost in the case of finished goods and work in progress includes raw materials, direct labour and attributable mining and manufacturing overheads. Net realisable value is the estimated selling price of inventory items, less the estimated costs of completion and estimated costs to sell.

The Group applies the perpetual method of accounting for inventories.

g Tangible fixed assets

(i) Cost

Upon completion of the mine construction phase, the assets are transferred into "building and structures", "machinery and equipment" or "other mining assets" in tangible fixed assets. Tangible fixed assets are stated at cost less accumulated depreciation. The initial cost of a tangible fixed asset comprises its purchase price or construction cost, including import duties, non-refundable purchase taxes and any directly attributable costs of bringing the asset to its working condition and location for its intended use, and the costs of dismantling and removing the asset and restoring the site on which it is located. Expenditure incurred after tangible fixed assets have been put into operation, such as repairs and maintenance and overhaul costs, is normally charged to the consolidated statement of income in the year in which the costs are incurred. In situations where it can be clearly demonstrated that the expenditure has resulted in an increase in the future economic benefits expected to be obtained from the use of tangible fixed assets beyond their originally assessed standard of performance, the expenditure is capitalised as an additional cost of tangible fixed assets.

If the self-constructed tangible assets have been completed and are put into used but their cost is not finalised, their historical cost will be recorded at a temporarily estimated value and they shall be adjusted

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with the difference after the finalised cost are approved.

Other mining assets comprise mine rehabilitation assets; and fair value of mineral reserves and mineral resources from business combination.

(ii) Depreciation

NPM: Machinery and equipment directly related to mineral processing activities and fair value of mineral reserves from business combination

Machinery and equipment (“M&E”) which are directly related to mineral processing activities and fair value of mineral reserves from business combination are depreciated on a unit-of-production method. Under this method, the depreciation bases are derived from proved and probable mineral reserves, which are estimates of the volume of ore (in tons) that can be economically and legally extracted from the Group’s mining properties, and a portion of mineral resources expected to be converted into reserves. Specifically, the depreciation bases for mining-related assets are calculated using:

- (a) mineral reserves and the amount of mineral resources expected to be converted into reserves under mining specialist’s technical assessments within Nui Phao project area; and
- (b) Further mineral resources that can be reprocessed from the NPM’s oxide tails cell (“OTC”).

Application of depreciation base to each mining asset class is as follows:

M&E relating to only mineral processing activities; (a)

M&E relating to mineral processing activities, and being used in OTC retreatment (a) and (b)

Fair value of mineral reserves from business combination (a) and (b)

MTC: Machinery and equipment directly related to production activities

Machinery and equipment which are directly related to the deep processing of tungsten products of MTC are depreciated over its estimated useful lives on a units of production basis. The estimated total pro-

duction quantity output which the tangible fixed assets are depreciated on a unit-of-production basis are as follows:

ST (Sodium Tungstate) plant 171,865 tonnes of tungsten

APT (Ammonium Paratungstate) plant 166,990 tonnes of tungsten

Others

Depreciation is computed on a straight-line basis over the estimated useful lives of tangible fixed assets. The estimated useful lives are as follows:

- buildings and structures 5 – 40 years
- machinery and equipment 3 – 22 years
- office equipment 3 – 10 years
- motor vehicles 3 – 25 years
- other mining assets 26 years

Construction asset which are completed and put into use before construction costs being finalised, are stated at provisional cost. On the date the construction costs are finalised and approved, provisional cost shall be adjusted to finalised cost and accumulated depreciation shall not be adjusted. The subsequent depreciation charge is determined as the approved value minus the accumulated depreciation made for the period up to the approval of finalisation of fixed asset divided by the remaining depreciation period of the fixed asset according to relevant regulations.

h Intangible fixed assets

(i) Land

Lands comprise those acquired in a legitimate transfer. Lands are stated at cost and are not amortised.

(ii) Software

Cost of software includes:

- Cost of acquisition of new software, which is not an integral part of the related hardware, is capitalised and treated as an intangible asset. Acquired software costs are amortised on a straight-line basis over three (3) to eight (8) years;

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- Cost incurred during software development phase when following conditions are met:
 - ▶ Respective costs are attributable directly to the software development stage;
 - ▶ There is well-founded expectation – verifiable by program designs, models, or the like that the Group has intention to complete the development project and use or sell it;
 - ▶ The Group will be able to implement and use the software after its development;
 - ▶ Adequate technical, financial and human resources should be available to complete the software development successfully;
 - ▶ The Group is able to measure expenditures attributable to the software development project reliably.

Developed software is amortised on a straight-line basis over period of up to four (4) years starting from the date on which the respective modules are completed.

(iii) Mining rights

The mining rights are calculated based on the remaining exploitable reserves multiplied with the price as announced by the provincial authorities in accordance with Decree 67/2019/ND-CP dated 31 July 2019 (“Decree 67”) which became effective from 15 September 2019, replacing Decree 203/2013/ND/CP dated 28 November 2013. Cost of mining rights was stated at an amount equal to the present value of mining rights fee and was capitalised and treated as an intangible asset. Amortisation of mining rights is computed on a straight-line basis over the economic life of the proved and probable mineral reserve and a portion of resources expected to be converted into reserves.

(iv) Development costs

Development costs include:

- Expenditure on development activities, whereby research findings are applied to a plan or design for the production of new or substantially improved products and process, is capitalised if the product or process is technically and commercially feasible and the Group has sufficient resources to complete development. The expenditure capitalised include the costs of materials, direct labour and an appropriate portion of overheads. Other development expenditure, including expenditure on internally generated goodwill and brands, is recognised in the consolidated statement of income as an expense as incurred;

- Development costs that are acquired by the Group through business combinations are capitalised and presented as an intangible fixed asset. The fair value of development costs are amortised on a straight-line basis over period from 10 to 16 years.

The fair value of development costs acquired through business combinations is determined using the incremental cash flow method, whereby the subject assets are valued after deducting a fair return on all other assets that are part of creating the related cash flows.

(v) Brand name

Cost of acquisition of brand name is recognised as an intangible asset.

The fair value of brand name acquired in a business combination is based on the discounted estimated royalty payments that have been avoided as a result of the brand name being owned. The fair value of brand name acquired in a business combination is recognised as an intangible asset and is amortized on a straight-line basis over periods ranging from 20 to 30 years.

(vi) Customer relationship

Customer relationships that are acquired by the Group through business combinations are capitalised and presented as an intangible fixed asset. The fair value of customer relationships is amortised on a straight-line basis over period of 36 years.

The fair value of customer relationships acquired through business combinations is determined using the multi-period excess earnings method, whereby the subject assets are valued after deducting a fair return on all other assets that are part of creating the related cash flows.

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(vii) Technologies

Technologies that are acquired by the Group through business combinations are recognised as intangible fixed assets and are initially measured at fair value. Technologies are amortised on a straight-line basis over their useful lives ranging from 16 to 31 years.

The fair value of technologies acquired through business combinations are determined using the multi-period excess earnings method whereby the subject assets are valued after deducting a fair return on all other assets that are part of creating the related cash flows and/or based on the discounted estimated royalty payments that have been avoided as a result of the technologies being owned.

i Investment property

Investment property held to earn rental

Cost

Investment property held to earn rental is stated at cost less accumulated depreciation. The initial cost of an investment property held to earn rental comprises its purchase price, cost of land use rights and any directly attributable expenditures of bringing the property to the condition necessary for it to be capable of operating in the manner intended by the Board of Management. Expenditure incurred after the investment property held to earn rental has been put into operation, such as repairs and maintenance, is charged to the consolidated statement of income in the year in which the expenditure is incurred. In situations where it can be clearly demonstrated that the expenditure has resulted in future economic benefits in excess of the originally assessed standard of performance of the existing investment property held to earn rental, the expenditure is capitalised as an additional cost of the investment property.

Depreciation

Depreciation is computed on a straight-line basis over the estimated useful lives of investment property. The estimated useful lives are as follows:

| | |
|-----------|---------------|
| Buildings | 40 – 60 years |
|-----------|---------------|

Lands are recognized by historical cost and are not amortised.

j Construction in progress

Construction in progress mainly represents mineral assets under development and cost of construction and machinery which have not been fully completed, installed and commissioned. It also comprises land compensation, mineral reserves, mineral resources and related development expenditure. These assets qualify for capitalisation when the mineral reserves to which they relate is proven to be commercially and technically viable. They are capitalised net of proceeds from the sale of commissioning products during the development phase. On completion of construction defined as the time when the assets are brought into the condition of its intended use, all assets are reclassified to tangible fixed assets as either “buildings and structures”, “machinery and equipment” or “other mining assets”; or long-term prepaid expenses as “other mining costs”.

No depreciation is provided for construction in progress during the period of development, construction, installation and commissioning stages.

k Long-term prepaid expenses

(i) Prepaid land costs

Prepaid land costs comprise prepaid land lease rentals, including those for which the Group obtained land use rights certificate but are not qualified as intangible fixed assets under prevailing laws and regulations and other costs incurred in conjunction with securing the use of leased land. These costs are recognised in the consolidated statement of income on a straight-line basis over the term of the leases from 17 to 24 years.

(ii) Land compensation costs

Land compensation costs comprise prepaid land lease rentals, compensation, resettlement and other costs incurred in conjunction with securing the use of leased land for its mining activities. These costs are recognised in the consolidated statement of income on a straight-line basis over the term of the related leases.

(iii) Other mining costs

Other mining costs comprise:

- Exploration, evaluation and development expenditure (including development stripping); and

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- Production stripping (as described below in ‘Deferred stripping costs’).

Deferred stripping costs

In open pit mining operations, it is necessary to remove overburden and other waste materials to access ore body. Stripping costs incurred in the development phase of a mine (development stripping costs) are recorded as part of the cost of construction of the mine. All development stripping expenditure incurred during construction phase are transferred to other mining costs.

The costs of removal of the waste material during a mine’s production phase (production stripping costs) are deferred where they give rise to future benefits:

- It is probable that the future economic benefits will flow to the Group;
- The component of the ore body for which access has been improved can be identified; and
- The costs incurred can be measured reliably.

Production stripping costs are allocated between inventory and long-term prepaid expenses in accordance with the life of mine strip ratio of the identified components of the ore bodies.

The life of mine strip ratio represents the estimated total volume of waste, to the estimated total quantity of economically recoverable ore, over the life of the mine of the identified components of the ore bodies. These costs are recognised as long-term prepaid expenses where the current period actual stripping ratio is higher than the average life of mine strip ratio.

The development and production stripping costs are amortised systematically based on the mineral reserves and mineral resources expected to be converted to mineral reserves of the relevant components as disclosed in Note 3(g)(ii)a.

(iv) Incremental costs of obtaining a contract

The incremental costs of obtaining a contract are those costs that the Group incurs to obtain a contract with a customer that the Group would not have incurred if the contract had not been obtained. The Group shall capitalize incremental costs of obtaining a contract if such costs meet the following criteria:

- Only the incremental costs incurred as a result of obtaining a contract should be capitalized;
- The cost must be recoverable.

The recognised asset shall be amortised on a systematic basis matched with the transfer of the goods or services to the customer to which the asset relates.

(v) Other prepaid expenses

Other prepaid expenses include service fees which are initially stated at cost and amortised on a straight-line basis over the term of the contracts for services fees.

l Accounts payable and other payables

Accounts payable to suppliers and other payables are stated at their cost.

m Provisions

A provision is recognised if, as a result of a past event, the Group has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability.

(i) Mining rights

In accordance with the Law on Minerals 2010, a subsidiary of the Company has an obligation to pay the government fees for mining rights grant. Mining rights is calculated based on the remaining exploitable reserves and the price to calculate the charge for granting mining rights which is defined as the prices to calculate the resource royalty in accordance with the law on resource royalty (Decree 67), at the time of determining the charge for granting mining rights.

The prices to calculate the resource royalty are the prices applicable for the subsidiary’s products which are determined by the provincial People’s Committee. The conversion method is based on various parameters of the conversion coefficient under guidelines of Decree 67.

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(ii) Mine rehabilitation

The mining, extraction and processing activities of the Group normally give rise to obligations for site closure or rehabilitation. Closure and rehabilitation works can include facility decommissioning and dismantling; site and land rehabilitation. The extent of work required and the associated costs are dependent on the requirements of Ministry of Natural Resources and Environment (“MONRE”) and the Group’s environmental policies stipulated in the Environment Impact Report.

Provisions for the cost of each closure and rehabilitation program are recognised at the time that environmental disturbance occurs. When the extent of disturbance increases over the life of an operation, the provision is increased accordingly. Costs included in the provision encompass all closure and rehabilitation activities expected to occur progressively over the life of the operation proportional to the degree of influence on the environment existing at the end of the annual accounting period.

Where rehabilitation is conducted systematically over the life of the operation, rather than at the time of closure, provision is made for the estimated outstanding continuous rehabilitation work at each reporting dates and the cost is charged to the consolidated statement of income. Routine operating costs that may impact the ultimate closure and rehabilitation activities, such as waste material handling conducted as an integral part of a mining or production process, are not included in the provision. Costs arising from unforeseen circumstances, such as the contamination caused by unplanned discharges, are recognised as an expense and liability when the event gives rise to an obligation which is probable and capable of reliable estimation.

The timing of the actual closure and rehabilitation expenditure is dependent on the life of the mine. Closure and rehabilitation provisions are measured at the expected value of future cash flows, discounted to their present value and determined according to the probability of alternative estimates of cash flows occurring for each operation. Significant judgments and estimates are involved in forming expectations of future activities and the amount and timing of the associated cash flows. Those expectations are formed based on existing environmental and regulatory requirements which give rise to a constructive obligation.

When provisions for closure and rehabilitation are initially recognised, the corresponding cost is capitalised as an asset if the related obligations for closure and rehabilitation are unavoidable to the construction

of the asset. The capitalised cost of closure and rehabilitation activities is recognised in other mining assets and depreciated accordingly. The value of the provision is progressively increased over time as the effect of the discounting unwinds, creating an expense recognised in financial expenses.

Closure and rehabilitation provisions will also be adjusted for changes in estimates. These adjustments will be accounted for as a change in the corresponding capitalised cost, except where a reduction in the provision is greater than the under-depreciated capitalised cost of the related assets, in which the capitalised cost is reduced to nil and the remaining adjustment is recognised in the consolidated statement of income. Changes to the capitalised cost result in an adjustment to future depreciation. Adjustments to the estimated amount and timing of future closure and rehabilitation cash flows are a normal occurrence in light of the significant judgements and estimates involved.

(iii) Pension liabilities

Pensions are retirement benefits and are classified as either defined contribution plans or defined benefit plans.

Under a defined contribution plan, the Group pays fixed contributions into a separate fund. The amount of an employee’s future retirement benefit is only based on the contributions paid and the income earned from the investment. The Group has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. The Group’s contributions are to be recognised as expenses in the periods in which they were to be contributed.

Under a defined benefit plan, employees will receive a defined amount of pension benefit on retirement, usually dependent on one or more factors such as age, years of service and compensation. The provision to be recognised for a defined benefit plan is calculated as the present value of the defined benefit obligations at the end of the accounting period. The defined benefit obligation is calculated annually by independent actuaries. The present value of the defined benefit obligation is determined by discounting estimated future cashflow using interest rates of high-quality AA-corporation bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximation to the terms of the related pension liability. The Group

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determines the net interest expense on the net defined benefit liability (asset) for the year by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the then-net defined benefit liability, taking into account any changes in the net defined benefit liability during the period as a result of contributions. Net interest expense and other expenses related to defined benefit plans are recognised in consolidated statement of income. The remeasurement of defined benefit obligation involves estimation of future cashflow, employee turnover, mortality and future increase in salaries.

Gain or loss arising from remeasurements of the net defined benefit obligation, which comprise actuarial gains and losses and the relevant deferred tax are recognised in equity under the caption “Other equity funds” in accordance with a ruling from the Ministry of Finance (“MOF”).

n Bonds issued

At initial recognition, straight bonds are measured at cost which comprises proceeds from issuance net of issuance costs. Any discount, premium or issuance costs are amortised on a straight-line basis over the term of the bond.

o Equity

(i) Ordinary shares

Ordinary share capital is classified as equity. The excess of proceeds contributed over the par value of shares issued is recorded as share premium. Incremental costs directly attributable to the issue of ordinary shares are recognised as a deduction from share premium.

(ii) Other capital

Equity movements resulting from acquisition or disposal to non-controlling interests and transactions involving equity instruments were recorded in “Other capital” prior to the prospective application of Circular 202 from 1 January 2015 (Note 3(a)(iii)).

p Taxation

Income tax on the profit or loss for the year comprises current and de-

ferred tax. Income tax is recognised in the statement of income except to the extent that it relates to items recognised directly to equity, in which case it is recognised in equity.

Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted at the end of the annual accounting period, and any adjustment to tax payable in respect of previous years.

Deferred tax is provided using the balance sheet method, providing for temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. The amount of deferred tax provided is based on the expected manner of realisation or settlement of the carrying amounts of assets and liabilities using the tax rates enacted or substantively enacted at end of the annual accounting period. Deferred tax is recognised in the consolidated statement of income except to the extent relating to item recognised directly in equity.

A deferred tax asset is recognised only to the extent that it is probable that future taxable profits will be available against which the temporary difference can be utilised. Deferred tax assets are reduced to the extent that it is no longer probable that the related tax benefit will be realised.

q Revenue

(i) Goods sold

Revenue from the sale of goods is recognised in the consolidated statement of income when significant risks and rewards of ownership have been transferred to the buyer. No revenue is recognised if there are significant uncertainties regarding recovery of the consideration due or the possible return of goods. Revenue on sales of goods is recognised at the net amount after deducting sales discounts.

For sales of minerals, the sales price is usually determined on a provisional basis at the date of revenue recognition and adjustments to the sales price subsequently occurs based on movements in quoted market or contractual prices up to the date of final pricing. The period between provisional invoicing and final pricing is typically between 30 and 60 days, but in some cases can be as long as 90 to 180 days. Revenue on provisionally priced sales is recognised based on the esti-

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mated fair value of the total consideration receivable.

In cases where the terms of the executed contractual sales agreement allow for an adjustment to the sales price based on a survey of the goods by the customer, assay results issued by a third party are preferable, unless customer's survey is within executed contractual tolerance, then sales recognition is based on the most recently determined product specifications agreed by parties.

(ii) Revenue from tolling services

Tolling services are offered to the Group's worldwide customers of the metal powder business, in which customers deliver used material or metal scraps to the Group for recycling into finished products i.e. metal powder, in exchange for a tolling fee. Revenue from tolling services is recognised in the consolidated statement of income when the goods have been processed and accepted by the buyer. Revenue from tolling services is measured based on the consideration to which the Group expects to be entitled to in the contract, which is tolling fee. No revenue is recognised if there are significant uncertainties regarding recovery of the consideration due.

r Financial income and financial expenses

(i) Financial income

Financial income comprises interest income from deposits and loans and foreign exchange gains. Interest income is recognised as it accrues in the consolidated statement of income.

(ii) Financial expenses

Financial expenses comprise interest expenses on borrowings, bonds, facility fees, financing costs, transaction costs and foreign exchange losses.

s Leases

(i) Leased assets

Leases in terms of which the Group, as lessee, assumes substantially all the risks and rewards of ownership are classified as finance leases. Tangible fixed assets acquired by way of finance leases are stated at an amount equal to the lower of fair value and the present value of the

minimum lease payments at inception of the lease, less accumulated depreciation.

Depreciation on finance leased assets is computed on a straight-line basis over the shorter of the lease term and the estimated useful lives of the leased assets unless it is reasonably certain that the Group will obtain ownership by the end of the lease term. The estimated useful lives of finance leased assets are consistent with the useful lives of tangible fixed assets as described in Note 3(g)(ii).

Assets held under other leases are classified as operating leases and are not recognised in the Group's balance sheet.

(ii) Lease payments

Payments made under operating leases are recognised in the statement of income on a straight-line basis over the term of the lease. Lease incentives received are recognised in the statement of income as an integral part of the total lease expense over the term of the leases.

Lease payments made under finance leases are apportioned between the finance expense and the reduction of the outstanding liability. The finance expense is allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability.

t Borrowing costs

Borrowings costs comprise interest expenses on borrowings, facility fees, financing costs and transaction costs. Borrowing costs are recognised as an expense in the year in which they are incurred, except where the borrowing costs relate to borrowings in respect of the construction of qualifying assets, in which case the borrowing costs incurred during the year of construction are capitalised as part of the cost of the fixed assets concerned.

u Earnings per share

The Group presents basic and diluted, if any, earnings per share ("EPS") for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to the ordinary shareholders of the Group by

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the weighted average number of ordinary shares outstanding during the year. To determine the profit or loss attributable to ordinary equity holders, profit or loss for the year is allocated to the ordinary shares and participating equity instruments. This allocation is made in accordance with the rights of the other class of shares to participate in distributions if the entire profit or loss were distributed.

Diluted EPS is determined by adjusting the profit or loss attributable to the ordinary shareholders and the weighted average number of ordinary shares outstanding for the effect of all dilutive potential ordinary shares.

v Segment reporting

A segment is a distinguishable component of the Group that is engaged either in providing related products or services (business segment), or in providing products or services within a particular economic environment (geographical segment), which is subject to risks and rewards that are different from those of other segments. The Group's primary and secondary format for segment reporting is based on business segments and geographical segments respectively.

w Related parties

Parties are considered to be related to the Group if one party has the ability, directly or indirectly, to control the other party or to exercise significant influence over the other party in making financial and operating decisions. Parties are also considered to be related if they are subject to common control or common significant influence. Related parties may be individuals or corporate entities and include close family members of any individual considered to be a related party. Related parties that are individuals refer to key management personnel who have authority and responsibility for planning, directing and controlling the activities of the Company, including directors and officers of the Company. Related companies refer to the ultimate parent company and its subsidiaries and associates.

x Comparative information

Comparative information in these consolidated financial statements is presented as corresponding figures. Under this method, comparative information for the prior year is included as an integral part of the current period financial statements and are intended to be read only in relation to the amounts and other disclosures relating to the current year. Accordingly, the comparative information included in these consolidated financial statements is not intended to present the Group's consolidated financial position, results of operation or cash flows for the prior year.

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4. Segment reporting

a Business segments

The Group comprises the following business segments:

| | Copper | Fluorspar | Tungsten | Others | Total |
|------------------------------------|------------|---------------|----------------|-------------|-----------------|
| | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 |
| From 1/1/2022 to 31/12/2022 | | | | | |
| Segment revenue | 48,416,484 | 1,758,590,684 | 13,465,667,192 | 276,873,294 | 15,549,547,654 |
| Segment gross profit | 25,930,926 | 1,139,099,632 | 1,145,139,540 | 66,684,012 | 2,376,854,110 |
| Unallocated expenses | | | | | (1,040,951,784) |
| Financial income | | | | | 470,233,836 |
| Financial expenses | | | | | (1,917,493,323) |
| Share of profit in associates | | | | | 13,938,538 |
| Results from operating activities | | | | | (97,418,623) |
| Other income | | | | | 171,642,933 |
| Other expenses | | | | | (96,870,711) |
| Income tax benefit | | | | | 127,797,459 |
| Net profit after tax | | | | | 105,151,058 |
| From 1/1/2021 to 31/12/2021 | | | | | |
| Segment revenue | 56,404,090 | 1,347,940,363 | 11,912,310,136 | 247,635,257 | 13,564,289,846 |
| Segment gross profit | 24,352,149 | 884,982,004 | 1,285,882,254 | 75,188,100 | 2,270,404,507 |
| Unallocated expenses | | | | | (1,083,653,073) |
| Financial income | | | | | 344,622,946 |
| Financial expenses | | | | | (1,435,452,204) |
| Share of profit in associates | | | | | 3,064,567 |
| Results from operating activities | | | | | 98,986,743 |
| Other income | | | | | 142,172,892 |
| Other expenses | | | | | (84,643,721) |
| Income tax benefit | | | | | 104,607,715 |
| Net profit after tax | | | | | 261,123,629 |

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| | Copper | Fluorspar | Tungsten | Others | Total |
|---|-------------|-------------|---------------|---------------|----------------|
| | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 |
| As at 31 December 2022 | | | | | |
| Segment assets | 129,621,803 | 672,067,232 | 7,338,027,143 | 1,546,123,623 | 9,685,839,801 |
| Unallocated assets | | | | | 31,835,160,388 |
| Total assets | | | | | 41,521,000,189 |
| Total liabilities | | | | | 26,273,561,415 |
| As at 1 January 2022 | | | | | |
| Segment assets | 141,513,923 | 717,362,819 | 7,947,576,784 | 1,694,692,887 | 10,501,146,413 |
| Unallocated assets | | | | | 28,850,050,769 |
| Total assets | | | | | 39,351,197,182 |
| Total liabilities | | | | | 25,010,017,858 |
| From 1/1/2022 to 31/12/2022 | | | | | |
| Capital expenditure | 150,046,047 | - | 651,625,175 | - | 801,671,222 |
| Unallocated capital expenditure | | | | | 528,365,274 |
| Depreciation and amortisation | 11,892,120 | 45,295,587 | 551,863,213 | 130,225,998 | 739,276,918 |
| Unallocated depreciation and amortisation | | | | | 762,615,645 |
| Unallocated amortization of prepayment | | | | | 377,236,703 |
| From 1/1/2021 to 31/12/2021 | | | | | |
| Capital expenditure | - | - | 112,758,089 | 164,118,584 | 276,876,673 |
| Unallocated capital expenditure | | | | | 644,683,303 |
| Depreciation and amortisation | 11,728,610 | 44,344,098 | 679,307,009 | 69,379,559 | 804,759,276 |
| Unallocated depreciation and amortisation | | | | | 783,851,503 |
| Unallocated amortization of prepayment | | | | | 308,082,904 |

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b Geographical segments

The Group comprises the following geographical segments:

| | Vietnam VND'000 | Belgium VND'000 | Germany VND'000 | Japan VND'000 | USA VND'000 | China VND'000 | Luxembourg VND'000 | Others VND'000 | Total VND'000 |
|------------------------------------|--------------------|--------------------|--------------------|------------------|----------------|------------------|-----------------------|-------------------|------------------|
| From 1/1/2022 to 31/12/2022 | | | | | | | | | |
| External revenue | 62,729,553 | 161,866,133 | 2,536,010,744 | 1,365,710,654 | 3,394,402,865 | 2,792,535,048 | 1,709,453,626 | 3,526,839,031 | 15,549,547,654 |
| Segment assets | 30,980,230,857 | - | 4,512,600,316 | 284,784,080 | 1,579,649,622 | 1,636,333,070 | 480,097,514 | 2,047,304,730 | 41,521,000,189 |
| Capital expenditure | 1,211,261,643 | - | 76,692,387 | - | - | 18,310,495 | - | 23,771,971 | 1,330,036,496 |
| From 1/1/2021 to 31/12/2021 | | | | | | | | | |
| External revenue | 103,896,711 | 77,128,101 | 2,254,194,005 | 890,305,497 | 2,739,884,245 | 3,172,104,872 | 1,223,018,101 | 3,103,758,314 | 13,564,289,846 |
| Segment assets | 30,201,668,145 | 221,363,342 | 3,795,213,885 | 298,007,504 | 1,080,375,416 | 1,829,894,491 | 68,450,429 | 1,856,223,970 | 39,351,197,182 |
| Capital expenditure | 846,238,772 | - | 69,172,058 | - | - | 5,101,715 | - | 1,047,431 | 921,559,976 |

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5. Cash and cash equivalents

| | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|------------------|-----------------------|----------------------|
| Cash on hand | 36,096 | 227,268 |
| Cash in banks | 802,602,728 | 644,562,304 |
| Cash equivalents | 700,240,424 | 399,000,000 |
| | 1,502,879,248 | 1,043,789,572 |

At 31 December 2022 a part of cash and cash equivalents with the amount of VND52,507 million (1/1/2022: VND81,527 million) was pledged with banks as security for short-term loans granted to subsidiaries (Note 19(a)).

6. Investments

a Held-to-maturity investments

| | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|---------------------|-----------------------|---------------------|
| Short-term deposits | 8,110,000 | 7,400,000 |

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b Long-term financial investments

| | Quantity | % of equity owned | Carrying value VND'000 | Allowance for diminution in value VND | Fair value VND |
|---|----------|-------------------|---------------------------|--|-------------------|
| 31/12/2022 | | | | | |
| Equity investments in Associates | | | | | |
| Jiangwu H.C. Starck Tungsten Products Co. Ltd. (China) | | 30% | 190,164,060 | - | N/A |
| Equity investments in Others | | | | | |
| Nyobolt Limited (*) (Cambridge, UK) | 755,161 | 21.5% | 1,342,363,039 | - | (**) |
| | | | 1,532,527,099 | - | |
| 1/1/2022 | | | | | |
| Equity investments in Associates | | | | | |
| Jiangwu H.C. Starck Tungsten Products Co. Ltd. (China) | | 30% | 180,510,490 | - | N/A |
| Equity investments in Others | | | | | |
| Nyobolt Limited (*) (Cambridge, UK) | | | - | - | |
| | | | 180,510,490 | - | |

(*) Equity investments in other entities as at 31 December 2022 represent investment in 755,161 shares of Nyobolt Limited ("Nyobolt"). As at 31 December 2022 the investment represents 21.5% of equity owned or 15% equity interest on a fully diluted basis. The management assessed that the Group does not have significant influences over Nyobolt and thus account for this investment as investments in equity instruments of other entities.

(**) The Group has not determined the fair values of the equity investments for disclosure in the consolidated financial statements because information about their market prices are not available and there is currently no guidance on determination of fair value using valuation techniques under Vietnamese Accounting Standards or the Vietnamese Accounting System for enterprises. The fair values of the equity investments may differ from their carrying amounts.

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7. Accounts receivable from customers - short-term

Accounts receivable from customers detailed by significant customers

| | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|----------------------|-----------------------|----------------------|
| Third parties | | |
| Tungsten customers | 1,390,396,738 | 1,481,640,329 |
| Fluorspar customers | 611,534,261 | 217,890,096 |
| Bismuth customers | 110,699,668 | 173,757,817 |
| Copper customers | 55,412,375 | 112,652,650 |
| Other customers | 2,508,997 | 2,320,495 |
| | 2,170,552,039 | 1,988,261,387 |

At 31 December 2022 and 1 January 2022, a part of short-term receivables was pledged with banks as security for short-term loans granted to subsidiaries (Note 19(a)).

8. Other short-term and long-term receivables

| | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|---|-----------------------|---------------------|
| Other short-term receivables | | |
| Receivable for mining rights fee (a) | 244,772,921 | 241,979,433 |
| Receivable for insurance claim (b) | 14,873,688 | 74,794,500 |
| Environmental protection fee prepayment | 114,239,595 | 43,000,000 |
| Export tax prepayment | - | 19,568,139 |
| Export tax receivable | 1,431,323 | 17,175,216 |
| Interest income | 394,574 | 902,662 |
| Others | 37,716,040 | 23,846,152 |
| | 413,428,141 | 421,266,102 |

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| | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|--|-----------------------|-----------------------|
| Other long-term receivables | | |
| Land compensation receivable from Thai Nguyen People's Committee (c) | 1,230,754,171 | 1,230,754,171 |
| Deposit paid to Environment Protection Fund (d) | 78,049,195 | 69,638,018 |
| Net defined benefit assets | 85,153,285 | 43,599,772 |
| Others | 9,297,648 | 582,828 |
| | 1,403,254,299 | 1,344,574,789t |

(a) Receivable for mining rights fee ("MRF") represents additional mining rights fee of Nui Phao Mining Company Ltd ("NPM") – a subsidiary for the year 2018 and 2019 and relevant administrative charges that NPM paid to the authorities based on temporary calculation by the General Department of Geology and Minerals ("GDGM") under the Official Letter No.3724/DCKS-KTDCKS dated 28 December 2018 ("Official Letter 3724").

NPM does not agree with the amount and basis of Official Letter 3724 as the management is of the opinion that it is unreasonable and does not comply with current regulations, because the price used to calculate the charge for granting mining rights (or mining right fee) ("G-price") in this official letter is based on the resource royalty taxable prices applicable to mineral resource products. In accordance with regulations of the Government's Decree No. 12/2015/ND-CP dated 12 February 2015 and guidance of the Ministry of Finance's Circular No. 152/2015/TT-BTC dated 2 October 2015 on Royalties, if resources that have to be processed before being sold, resource royalty taxable price equals (=) selling price of the industrial products minus (-) processing cost but not lower than the taxable price imposed by the People's Committee of the province. NPM's products are industrial products, for which the taxable price for resource royalty is determined on the basis of the higher of selling price minus (-) processing cost and the taxable price imposed by the Provincial People's Committee ("PPC"). GDGM did not use the royalty taxable price applicable

to industrial products, instead they used the taxable price applicable to mineral resource products - tungsten ore (0.1% < WO3 < 0.3%).

NPM has made payment for MRF in accordance with Decision 500/QD-BTNMT ("Decision 500") issued by the Ministry of Natural Resources and Environment ("MONRE") on 4 March 2015, which used estimated resource royalty taxable price applicable to industrial products.

NPM has also sent letters to different levels of authorities to highlight the issues and seek for proper resolutions of NPM's MRF. In 2021, as instructed by the Prime Minister under letter 978/VPCP-KTTH dated 8 February 2021 and letter 5987/VPCP-KTTH dated 28 August 2021, the case is under review by MOF, MONRE, Thai Nguyen PPC and Thai Nguyen Department of Finance, subject to report to the Prime Minister and National Assembly Committee on Economy.

On 23 August 2021, MONRE has issued Decision 1640/QD/BTNMT ("Decision 1640") to determine the MRF of Nui Phao Mine, replacing the temporary MRF calculation in Decision 500 and Official Letter 3724 despite that the royalty taxable price applicable to NPM's industrial products has not yet been determined. In issuing this Decision 1640, MONRE continued using the taxable price applied to tungsten ore (0.1% < WO3 < 0.3%) instead of royalty taxable price applicable to industrial products. This issue was highlighted by NPM before. According to Decree 67, Article 15 Point 3, in case MRF is paid on a temporary basis, if the prices for calculating resource royalties announced

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by provincial People's Committees are valid and compliant with regulations on prices of minerals for determining mining right fee, those prices shall be officially applied and replace the prices used in the previous temporary payments. The management assessed that because the royalty taxable prices applicable to the NPM's industrial products have not yet been determined by MONRE and Thai Nguyen PPC, the G-price that serves as the basis for computation of MRF under Decision 1640 is not in accordance with the prevailing laws and regulations.

As such, after the issuance of Decision 1640, NPM submitted several petition letters to the Prime Minister and MONRE to request for delaying the implementation of Decision 1640 and determining the MRF price. As disclosed in Note 35, by the issuance date of these consolidated financial statements, Thai Nguyen PPC and Thai Nguyen DOF, relevant functional agencies are still working together to determine the royalty taxable price applicable to NPM's industrial products.

Management believes that it had adequately provided for its liabilities for MRF and that above amount paid is entitled to be refunded of off-set against future MRF liabilities, based on its interpretation of relevant legislation, including regulations on the charge for granting mining rights and regulations on natural resources tax, i.e., using the price as determined in Decision 500. Accordingly, the Group accounted for the additional MRF payment in 2019 as receivables and has not recognised the additional MRF specified in Decision 1640 as liabilities. Management expects that it will be able to claim back this receivable when the royalty taxable price applicable to NPM's industrial products is officially determined.

(b) This amount represents claim due from insurers for loss of profit arising from business interruption of NPM from July to October 2021. The amount of claim was finalized by the lead insurers and was partially received in 2022.

(c) These represented receivables from State Treasury for the land compensation cost of the Nui Phao Mining Project which was paid to the affected residents at Ha Thuong Commune, Dai Tu District, Thai Nguyen Province. The amount can be netted off against annual land rental fee of future years.

(d) NPM has obligation to deposit to Environment Protection Fund for mine closure and environment rehabilitation. In accordance with Decision 1536/QD-BTMMT issued by MONRE on 20 June 2019, the mine rehabilitation plan requires deposit amount to be increased to VND123,460 million. On this date, the remaining deposit of VND87,692 million are approved for annual instalment over 10 years from 2019. The future deposit instalment will be based on the annual CPI fluctuation in accordance with Circular 38/2015/TT-BTNMT dated 30 June 2015.

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9. Inventories

| | 31/12/2022 | | 1/1/2022 | |
|-------------------------|----------------------|----------------------|----------------------|----------------------|
| | Cost VND'000 | Allowance VND'000 | Cost VND'000 | Allowance VND'000 |
| Goods in transit | 151,170,551 | - | 372,098,029 | - |
| Raw materials | 717,276,611 | (5,182,267) | 754,788,015 | (1,628,513) |
| Tools and supplies | 854,292,798 | (9,008,193) | 730,776,119 | (7,482,718) |
| Work in progress | 941,592,425 | (10,362,219) | 945,904,485 | (1,793,382) |
| Finished goods | 4,077,328,752 | (22,317,541) | 3,000,567,190 | (17,075,145) |
| Merchandise inventories | 21,880,799 | - | 389,748 | - |
| Goods on consignment | 141,496,064 | - | 153,828,563 | - |
| | 6,905,038,000 | (46,870,220) | 5,958,352,149 | (27,979,758) |

Included in inventories at 31 December 2022 was VND96,285 millions of raw materials, VND135,138 millions of tools, VND626,698 millions of work in progress and VND1,101,051 millions of finished goods (1/1/2022: VND1,629 millions of raw materials, VND101,919 millions of tools, VND307,957 millions of work in progress and VND1,243,221 millions of finished goods) carried at net realisable value.

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10. Tangible fixed assets

| | Buildings and structures VND'000 | Machinery and equipment VND'000 | Office equipment VND'000 | Motor vehicles VND'000 | Other mining assets VND'000 | Total VND'000 |
|---|--|---------------------------------------|--------------------------------|------------------------------|-----------------------------------|------------------|
| Cost | | | | | | |
| Opening balance | 6,743,406,255 | 17,419,670,614 | 42,933,174 | 21,400,899 | 5,095,926,136 | 29,323,337,078 |
| Additions | 391,256 | 38,983,984 | - | - | - | 39,375,240 |
| Transfer from construction in progress (Note 13) | 167,508,265 | 72,485,557 | - | - | - | 239,993,822 |
| Disposals | (395,994) | (31,284,905) | - | - | - | (31,680,899) |
| Currency translation differences | (38,758,045) | (138,376,754) | - | - | - | (177,134,799) |
| Other movement | 2,363,112 | (6,578,161) | - | - | - | (4,215,049) |
| Closing balance | 6,874,514,849 | 17,354,900,335 | 42,933,174 | 21,400,899 | 5,095,926,136 | 29,389,675,393 |
| Accumulated depreciation | | | | | | |
| Opening balance | 1,996,121,341 | 7,862,707,742 | 40,969,267 | 15,405,212 | 1,491,303,864 | 11,406,507,426 |
| Charge for the period | 312,730,930 | 772,459,169 | 708,691 | 1,971,835 | 153,422,332 | 1,241,292,957 |
| Disposals | (154,973) | (28,521,198) | - | - | - | (28,676,171) |
| Currency translation differences | (11,221,934) | (82,544,773) | - | - | - | (93,766,707) |
| Closing balance | 2,297,475,364 | 8,524,100,940 | 41,677,958 | 17,377,047 | 1,644,726,196 | 12,525,357,505 |
| Net book value | | | | | | |
| Opening balance | 4,747,284,914 | 9,556,962,872 | 1,963,907 | 5,995,687 | 3,604,622,272 | 17,916,829,652 |
| Closing balance | 4,577,039,485 | 8,830,799,395 | 1,255,216 | 4,023,852 | 3,451,199,940 | 16,864,317,888 |

Included in the cost of tangible fixed assets of the Group were assets costing VND116,895 million which were fully depreciated as at 31 December 2022 (1/1/2022: VND98,143 million), but which are still in active use.

At 31 December 2022, tangible fixed assets with carrying value of VND10,423 billion and VND696 billion were pledged with banks as security for long-term bonds and short-term loans, respectively, issued by a subsidiary and the Company (1/1/2022: VND10,323 billion and Nil) (Note 19(b) and Note 19(a)).

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11. Intangible fixed assets

| | Land | Software | Mining rights | Development cost (*) | Brand name | Customer Relationship | Technologies | Other intangible assets | Total |
|--|------------|-------------|---------------|----------------------|---------------|-----------------------|---------------|-------------------------|---------------|
| | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 |
| Cost | | | | | | | | | |
| Opening balance | 31,680,480 | 401,281,221 | 792,655,211 | 622,125,055 | 1,016,396,767 | 208,741,491 | 1,402,017,279 | 25,515,615 | 4,500,413,119 |
| Transfer from construction in progress (Note 13) | - | 94,079 | - | - | - | - | - | - | 94,079 |
| Write-off | (51,770) | - | - | - | - | - | - | - | (51,770) |
| Currency translation differences | (732,570) | (6,597,846) | - | (13,972,653) | (22,827,821) | (4,688,241) | (31,488,687) | (886,828) | (81,194,646) |
| Closing balance | 30,896,140 | 394,777,454 | 792,655,211 | 608,152,402 | 993,568,946 | 204,053,250 | 1,370,528,592 | 24,628,787 | 4,419,260,782 |
| Accumulated amortisation | | | | | | | | | |
| Opening balance | - | 376,062,493 | 235,734,415 | 121,396,847 | 54,090,753 | 9,305,674 | 108,179,644 | 4,915,883 | 909,685,709 |
| Charge for the year | - | 11,977,537 | 47,063,729 | 34,659,720 | 33,235,082 | 5,717,703 | 66,469,020 | 1,675,775 | 200,798,566 |
| Currency translation differences | - | (6,324,148) | - | (2,624,591) | (1,117,116) | (192,187) | (2,234,192) | (139,443) | (12,631,677) |
| Closing balance | - | 381,715,882 | 282,798,144 | 153,431,976 | 86,208,719 | 14,831,190 | 172,414,472 | 6,452,215 | 1,097,852,598 |
| Net book value | | | | | | | | | |
| Opening balance | 31,680,480 | 25,218,728 | 556,920,796 | 500,728,208 | 962,306,014 | 199,435,817 | 1,293,837,635 | 20,599,732 | 3,590,727,410 |
| Closing balance | 30,896,140 | 13,061,572 | 509,857,067 | 454,720,426 | 907,360,227 | 189,222,060 | 1,198,114,120 | 18,176,572 | 3,321,408,184 |

Included in the cost of intangible fixed assets were assets costing VND123,105 million which were fully amortised as at 31 December 2022 (1/1/2022: VND18,005 million), but which are still in use.

At 31 December 2022, intangible fixed assets with carrying value of VND542 billion and VND25 billion were pledged with banks as security for long-term bonds and short-term loans, respectively, issued by a subsidiary and the Company (1/1/2022: VND571 billion and Nil) (Note 19(b) and Note 19(a)).

(*) Development cost includes completed projects related to troubleshooting used in the production process of the subsidiaries.

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12. Investment properties

| | Buildings and structures VND'000 | Land VND'000 | Total VND'000 |
|---------------------------------|----------------------------------|--------------|---------------|
| Cost | | | |
| Opening balance | 1,122,125,344 | 34,048,909 | 1,156,174,253 |
| Currency translation difference | (25,789,739) | (764,722) | (26,554,461) |
| Closing balance | 1,096,335,605 | 33,284,187 | 1,129,619,792 |
| Accumulated depreciation | | | |
| Opening balance | 355,626,945 | - | 355,626,945 |
| Charge for the period | 59,801,040 | - | 59,801,040 |
| Currency translation difference | (8,211,195) | - | (8,211,195) |
| Closing balance | 407,216,790 | - | 407,216,790 |
| Net book value | | | |
| Opening balance | 766,498,399 | 34,048,909 | 800,547,308 |
| Closing balance | 689,118,815 | 33,284,187 | 722,403,002 |

Cost of investment property is determined at fair value of assets at HCS's acquisition date.

At 31 December 2022, investment properties with carrying value of VND649 billion were pledged with banks as security for short-term borrowing of a subsidiary (1/1/2022: Nil) (Note 19(a)).

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13. Construction in progress

| | 2022 VND'000 | 2021 VND'000 |
|--|----------------------|----------------------|
| Opening balance | 1,157,484,188 | 1,467,480,229 |
| Additions during the year | 1,187,411,479 | 771,654,960 |
| Transfer to tangible fixed assets (Note 10) | (239,993,822) | (392,432,997) |
| Transfer to intangible fixed assets (Note 11) | (94,079) | (3,717,151) |
| Transfer to long-term prepaid expenses (Note 14) | (3,359,516) | (560,333,761) |
| Reclassification to other long-term receivables | - | (120,700,853) |
| Other movements | (17,676,315) | - |
| Currency translation differences | (1,945,052) | (4,466,239) |
| Closing balance | 2,081,826,883 | 1,157,484,188 |

During the year, borrowing costs capitalised into construction in progress amounted to VND67 billion (2021: VND29 billion).

As at the reporting date, construction in progress of NPM with carrying amount of VND1,874 billion, which mainly represented land compensation, mine, plant development and construction cost and other capitalized costs pertaining to tailing dams, have been pledged with banks as security for long-term bonds issued by the Group (Note 19(b)).

Major constructions in progress were as follows:

| | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|--|-----------------------|----------------------|
| Land compensation | 388,080,883 | 337,970,014 |
| Site clearance, relocation infrastructure and others | 205,963,050 | 194,478,207 |
| Plant, machinery and equipment | 1,152,691,994 | 477,823,887 |
| Tailing dams | 168,661,925 | - |
| Other assets | 166,429,031 | 147,212,080 |
| | 2,081,826,883 | 1,157,484,188 |

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14. Long-term prepaid expenses

| | Prepaid land cost and land compensation costs VND'000 | Other mining costs VND'000 | Incremental costs of obtaining contract (*) VND'000 | Others VND'000 | Total VND'000 |
|---|--|-------------------------------|---|-------------------|------------------|
| Opening balance | 1,379,226,939 | 1,761,847,439 | 157,032,274 | 188,876,490 | 3,486,983,142 |
| Additions | - | 180,106,351 | - | 52,948,512 | 233,054,863 |
| Transfer from construction in progress (Note 13) | - | - | - | 3,359,516 | 3,359,516 |
| Amortisation for the year | (81,324,893) | (171,736,690) | (26,178,476) | (97,996,644) | (377,236,703) |
| Closing balance | 1,297,902,046 | 1,770,217,100 | 130,853,798 | 147,187,874 | 3,346,160,818 |

(*) In September 2020, a subsidiary incurred costs to terminate its long-term offtake agreement with an existing customer in order to obtain a more favourable contract with another. This cost is incremental costs of obtaining contract, thus is capitalised and amortised on a systematic basis consistent with the transfer of the goods under the new contract.

15. Advance from customers - short-term

| | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|----------------------|-----------------------|---------------------|
| Third parties | | |
| Fluorspar customers | 476,200,000 | - |
| Bismuth customers | 251,506 | 10,884,532 |
| Others | 13,352,564 | 23,824,819 |
| | 489,804,070 | 34,709,351 |

Advance for sales of Fluorspar and Bismuth shall be discharged through monthly instalments through subsequent deliveries. Advance for sales of Fluorspar bears prepayment fee based on agreed term and is guaranteed by an intermediate parent company and ultimate parent company.

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16. Taxes payable to State Treasury

| | 1/1/2022 | Incurred | Paid/Offset | Currency transla- tion differences | 31/12/2022 |
|--|-------------|---------------|-----------------|---------------------------------------|-------------|
| | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 |
| Tax payables to Vietnamese State Treasury | | | | | |
| Value added tax | - | 474,598,937 | (474,598,937) | - | - |
| Import-export tax | - | 221,906,308 | (221,906,308) | - | - |
| Corporate income tax | 1,098,337 | 21,875,844 | (1,220,340) | - | 21,753,841 |
| Environment protection tax | - | 20,868,536 | (20,868,536) | - | - |
| Personal income tax | 9,166,108 | 136,288,922 | (136,431,063) | - | 9,023,967 |
| Natural resource tax | - | 459,285,699 | (459,285,699) | - | - |
| Other taxes | 4,747,871 | 27,968,089 | (31,937,046) | - | 778,914 |
| | 15,012,316 | 1,362,792,335 | (1,346,247,929) | - | 31,556,722 |
| Tax payables to foreign tax authorities | | | | | |
| Corporate income tax | 82,426,819 | 23,386,722 | (45,928,004) | (2,014,291) | 57,871,246 |
| Other taxes | 69,519,419 | 314,018,907 | (311,455,063) | (1,304,695) | 70,778,568 |
| | 151,946,238 | 337,405,629 | (357,383,067) | (3,318,986) | 128,649,814 |
| | 166,958,554 | 1,700,197,964 | (1,703,630,996) | (3,318,986) | 160,206,536 |

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17. Accrued expenses

| | 31/12/2022 | 1/1/2022 |
|-----------------------------------|--------------------|----------------------|
| | VND'000 | VND'000 |
| Operating costs | 250,115,192 | 344,017,462 |
| Accrual for land leases costs | 104,361,498 | 93,960,478 |
| Accrued interest payable | 254,515,802 | 214,245,456 |
| Accrual for other financing costs | 1,550,261 | 1,791,962 |
| Consultant fee | 15,851,304 | 474,240 |
| Natural resource taxes and fees | 138,872,954 | 159,686,751 |
| Bonus | 46,335,612 | 180,705,685 |
| Accrual for construction work | 3,597,485 | 3,364,036 |
| Others | 3,455,775 | 2,298,368 |
| | 818,655,883 | 1,000,544,438 |

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18. Other short-term payables

Other payables included the following amounts:

| | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|---|-----------------------|---------------------|
| Amounts due to Masan Group Corporation (“MSN”) – the ultimate parent company | | |
| Financial expenses (a) | - | 9,781,016 |
| Amounts due to Masan Horizon Corporation (“MH”) (formerly known as Masan Horizon Company Limited) – the immediate parent company | | |
| Non-trade (b) | 2,511,785 | 2,511,785 |
| Other payables to other parties | | |
| Usance LC payable at sight (UPAS LC) (c) | 935,610,039 | 316,570,655 |
| Other payables – short-term | 42,500,729 | 13,492,007 |
| | 980,622,553 | 342,355,463 |

(a) Under agreement the ultimate parent company, these amounts were unsecured, interest-free.

(b) Amounts due to related parties were unsecured, interest-free and repayable based on agreement between the parties.

(c) Amounts due to local banks that issued UPAS LC to subsidiaries of Group. The outstanding balances bear fixed rates over the deferred payment period from 4 to 9 months and are secured by shares of the Company held by a related party.

Movement of these UPAS LC during the period are as follow:

| | 2022 VND'000 | 2021 VND'000 |
|-----------------|--------------------|--------------------|
| Opening balance | 316,570,655 | - |
| Addition | 1,464,668,400 | 801,207,252 |
| Payment | (845,629,016) | (484,636,597) |
| Closing balance | 935,610,039 | 316,570,655 |

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19. Borrowings and bonds

a Short-term borrowings and bonds

| | 1/1/2022 | Movement during the year | | | | 31/12/2022 |
|---|---|--------------------------|------------------------|--|---|--|
| | Carrying amount and amount within repayment capacity VND'000 | Additions VND'000 | Payments VND'000 | Unrealised foreign exchange differences VND'000 | Converted foreign exchange differences VND'000 | Carrying amount and amount within repayment capacity (Note 2(c)) VND'000 |
| Short-term borrowings | 3,801,630,387 | 8,447,891,713 | (6,441,091,614) | (23,921,172) | 33,732,137 | 5,818,241,451 |
| Current portion of long-term bonds (Note 19(b)) | 998,462,786 | 7,288,771,170 | (1,000,000,000) | - | - | 7,287,233,956 |
| | 4,800,093,173 | 15,736,662,883 | (7,441,091,614) | (23,921,172) | 33,732,137 | 13,105,475,407 |

Terms and conditions of short-term borrowings at respective reporting dates were as follows:

| | Currency | 31/12/2022 | | 1/1/2022 | |
|----------------------------|----------|-------------------|-------------|-------------------|-------------|
| | | Annual interest % | VND'000 | Annual interest % | VND'000 |
| Secured bank loan (*) (**) | USD | 3.92 - 10.43 | 563,751,156 | 3.34 - 4.46 | 349,968,164 |
| Secured bank loan (*) (**) | VND | 4.10 + margin | 333,714,270 | 4.10 + margin | 908,780,000 |
| Secured bank loan (*) (**) | USD | 3.92 - 10.24 | 185,404,032 | 3.92 | 99,247,616 |
| Secured bank loan (*) | VND | 6.20 - 8.50 | 957,259,857 | 6.20 - 7.30 | 966,211,032 |
| Secured bank loan (*) | USD | 5.10 - 5.90 | 25,727,972 | - | - |
| Secured bank loan (*) | USD | 4.00 - 9.50 | 394,465,896 | 4.00 - 5.30 | 462,795,428 |
| Secured bank loan (*) | VND | 8.40 - 9.30 | 305,413,750 | 7.70 - 8.70 | 974,000 |
| Secured bank loan (*) | VND | 9.30 | 151,947,330 | - | - |
| Secured bank loan (*) | USD | 6.50 - 9.50 | 11,756,448 | - | - |
| Unsecured bank loan | VND | 4.30 - 9.20 | 50,911,992 | 4.70 - 5.40 | 35,000,000 |
| Unsecured bank loan | USD | 3.05 - 7.42 | 301,798,142 | 3.05 - 3.50 | 291,496,322 |
| Secured bank loan (*) | USD | 3.00 - 7.80 | 533,739,324 | 3.00 - 3.70 | 55,056,000 |

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| | Currency | 31/12/2022 | | 1/1/2022 | |
|-----------------------------------|----------|-------------------|---------------|-------------------|---------------|
| | | Annual interest % | VND'000 | Annual interest % | VND'000 |
| Secured bank loan | VND | - | - | 7.20 | 107,331,633 |
| Secured bank loan (*) | USD | 4.60 - 7.70 | 206,931,566 | 4.60 - 5.10 | 334,198,913 |
| Secured bank loan | VND | - | - | 7.20 - 7.25 | 8,895,279 |
| Secured bank loan (*) | USD | 5.00 - 7.80 | 7,547,532 | - | - |
| Secured bank loan (*) | USD | 5.20 - 6.45 | 58,834,403 | - | - |
| Secured bank loan (*) | USD | 4.5 - 6.95 | 117,278,387 | - | - |
| Secured bank loan (*) | EUR | 3.23 | 779,220,000 | - | - |
| Unsecured bank loan | CNY | 4.35 | 35,299,394 | - | - |
| Unsecured loan from related party | VND | 5.00 - 7.00 | 197,240,000 | 7.00 | 181,676,000 |
| Unsecured loan from related party | VND | 6.50 - 7.30 | 600,000,000 | - | - |
| | | | 5,818,241,451 | | 3,801,630,387 |

(*) As 31 December 2022, these short-term loans are secured by the following collaterals:

- part of short-term account receivables of a subsidiary (Note 7); and/or
- a number of shares issued by the Company held by a related company; and/or
- investment properties with a carrying amount of VND649 billion (Note 12); and/or
- part of short-term account receivables and part of bank accounts at a subsidiary, opened at the bank (Note 5 and Note 7); and/or
- part of fixed assets at subsidiaries (Note 10, Note 11 and Note 13).

(**) These are loans from local bank which is an associate company of the ultimate parent company.

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| | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|---|-----------------------|----------------------|
| Long-term bonds issued | 10,266,342,921 | 10,236,665,680 |
| Repayable within twelve months (Note 19(a)) | (7,287,233,956) | (998,462,786) |
| Repayable after twelve months | 2,979,108,965 | 9,238,202,894 |

Terms and conditions of outstanding long-term bonds denominated in VND were as follows:

| | | | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|-------------------------|------|------|-----------------------|-----------------------|
| Secured bond issued (*) | (i) | 2023 | 499,509,872 | 498,669,652 |
| Secured bond issued (*) | (i) | 2024 | 498,874,684 | 498,030,696 |
| Secured bond issued (*) | (i) | 2022 | - | 299,718,671 |
| Secured bond issued (*) | (i) | 2022 | - | 199,765,559 |
| Secured bond issued (*) | (i) | 2022 | - | 99,795,510 |
| Secured bond issued (*) | (i) | 2022 | - | 189,611,468 |
| Secured bond issued (*) | (i) | 2022 | - | 209,571,578 |
| Secured bond issued (*) | (i) | 2023 | 998,000,000 | 992,000,000 |
| Secured bond issued (*) | (i) | 2023 | 1,596,800,000 | 1,587,200,000 |
| Secured bond issued (*) | (i) | 2023 | 697,900,000 | 693,700,000 |
| Secured bond issued (*) | (i) | 2023 | 998,666,667 | 996,000,000 |
| Secured bond issued (*) | (i) | 2023 | 998,357,417 | 995,541,561 |
| Secured bond issued (*) | (ii) | 2023 | 1,498,000,000 | 1,495,600,000 |
| Secured bond issued (*) | (ii) | 2024 | 498,933,333 | 498,133,333 |
| Secured bond issued (*) | (ii) | 2024 | 989,579,782 | 983,327,652 |
| Secured bond issued | (i) | 2027 | 497,833,333 | - |
| Secured bond issued (*) | (i) | 2027 | 286,481,333 | - |
| Secured bond issued (*) | (i) | 2027 | 207,406,500 | - |
| | | | 10,266,342,921 | 10,236,665,680 |

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- (i) (These are non-convertible bonds issued by NPM – a subsidiary, which have interest rate to be adjusted every six months and calculated as the average twelve-month saving deposit rate of related reference banks plus 3.1% to 4.6% per annum.
- (ii) These are non-convertible bonds issued by the Company, which have interest rate to be adjusted every six months and calculated as the average twelve-month saving deposit rate of related reference banks plus 3.25% to 3.625% per annum.

As at 31 December 2022, these VND denominated non-convertible bonds are secured by the following collaterals:

- a part of certain long-term assets of a subsidiary (Notes 10, Note 11 and Note 13); and/or
- a number of shares issued by the Company owed by a related company; and/or
- guaranteed by the ultimate parent company.

These secured bonds were reported net of bond arrangement fees.

(*) The representatives of the bondholders of these bonds are Techcom Securities JSC – the ultimate parent company's associate.

20. Recognised deferred tax assets and liabilities

a Recognised deferred tax assets and liabilities

| | Tax rate | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|--|------------|-----------------------|---------------------|
| Deferred tax assets | | | |
| Remeasurement of provision for pension liabilities | 30% | 225,806,679 | 653,730,131 |
| Tax losses carry-forwards | 7.5% - 30% | 278,547,539 | 187,233,236 |
| Unrealized gain on intra-group transactions | 5% - 30% | 2,861,558 | 2,537,590 |
| Pre-existing relationship - Benefit from contract with NPM | 30% | 12,027,409 | 16,036,546 |
| Accruals, provisions and others (*) | 30% | 38,057,534 | 27,968,264 |
| Net-off | | (536,421,441) | (590,701,894) |
| Total deferred tax assets | | 20,879,278 | 296,803,873 |

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| | Tax rate | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|--|------------|-----------------------|----------------------|
| Deferred tax liabilities: | | | |
| Mineral reserves and mineral resources | 15% | 507,508,721 | 529,951,719 |
| Long-term assets | 7.5% - 20% | 82,201,035 | 45,870,277 |
| Unrealized loss on intra-group transactions | 10% - 30% | 35,604,296 | 27,647,631 |
| Newly identified intangible assets from business combination | 25% - 30% | 818,635,499 | 878,862,616 |
| Newly identified tangible assets from business combination (*) | 15% - 30% | 583,281,891 | 635,445,223 |
| Investment in associates | 25% | 49,629,963 | 45,127,623 |
| Others (*) | 10% - 30% | 176,599 | (3,962,842) |
| Net-off | | (559,426,787) | (615,032,281) |
| Total deferred tax liabilities | | 1,517,611,217 | 1,543,909,966 |

(*) Deferred tax assets and liabilities includes items mainly arose from HCS and its subsidiaries. These items were presented on a net basis because the subsidiaries have a legally enforceable right to set off current tax assets against current tax liabilities and the deferred tax assets and the deferred tax liabilities relate to income taxes levied by the same taxation authorities on the same taxable entities.

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b Movement in temporary differences during the year

| | 1/1/2022 | Recognised in consolidat- ed statement of income | Recognised in equity | 31/12/2022 |
|---|-----------------|---|-------------------------|-----------------|
| | VND'000 | VND'000 | VND'000 | VND'000 |
| Mineral reserves and mineral resources | (529,951,719) | 22,442,998 | - | (507,508,721) |
| Long-term assets | (45,870,277) | (36,330,758) | - | (82,201,035) |
| Unrealized (loss)/profit on intra-group transactions | (25,110,041) | (8,133,641) | 500,944 | (32,742,738) |
| Pre-existing relationship asset | 16,036,546 | (4,009,137) | - | 12,027,409 |
| Remeasurement of provision for pension liabilities (**) | 653,730,131 | 32,989,777 | (460,913,229) | 225,806,679 |
| Tax losses carry-forwards | 187,233,236 | 95,094,262 | (3,779,959) | 278,547,539 |
| Identified intangible assets from business combination | (878,862,616) | 40,248,626 | 19,978,491 | (818,635,499) |
| Identified tangible assets from business combination | (635,445,223) | 37,416,126 | 14,747,206 | (583,281,891) |
| Investment in associates | (45,127,623) | (3,484,635) | (1,017,705) | (49,629,963) |
| Accrual, provisions and others | 56,261,493 | (3,173,593) | 7,798,381 | 60,886,281 |
| | (1,247,106,093) | 173,060,025 | (422,685,871) | (1,496,731,939) |

(**) Deferred tax recognised in equity also included the relevant deferred tax of the remeasurement of the net defined benefit obligation - provision for pensions. As explained in Note 3(m)(iii), these amounts are recognised in equity under the caption "Other equity funds" in accordance with a ruling from the Ministry of Finance.

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21. Provisions – long-term

Movements of long-term provisions during the year were as follows:

| | Mine rehabilitation VND'000 | Mining rights VND'000 | Pensions and others VND'000 | Total VND'000 |
|---|-----------------------------------|--------------------------|-----------------------------------|------------------|
| Opening balance | 108,699,881 | 533,118,494 | 5,708,906,771 | 6,350,725,146 |
| Provision made during the year | 5,130,634 | 10,349,352 | 68,449,171 | 83,929,157 |
| Remeasurement of provision for pensions (*) | - | - | (1,241,558,061) | (1,241,558,061) |
| Provision used during the year | - | (173,145,651) | (215,735,697) | (388,881,348) |
| Currency translation differences | - | - | (181,432,751) | (181,432,751) |
| Closing balance | 113,830,515 | 370,322,195 | 4,138,629,433 | 4,622,782,143 |

(*) As explained in Note 3(m)(iii), the remeasurement of the net defined benefit obligation - provision for pensions and the relevant deferred tax are recognised in equity under the caption "Other equity funds" in accordance with a ruling from the Ministry of Finance.

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22. Changes in equity

| | Share capital | Share premium | Other capital | Foreign exchange differences | Other equity funds | Undistributed profits after tax | Equity attributable to equity holders of the Company | Non-controlling interest | Total |
|---|----------------|---------------|---------------|------------------------------|--------------------|---------------------------------|--|--------------------------|----------------|
| | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 | VND'000 |
| Balance at 1 January 2021 | 10,991,554,200 | 1,098,259,892 | (295,683,347) | (189,058,584) | (358,967,342) | 2,766,593,412 | 14,012,698,231 | 66,842,804 | 14,079,541,035 |
| Net profit for the year | - | - | - | - | - | 195,611,320 | 195,611,320 | 65,512,309 | 261,123,629 |
| Remeasurement of provision for pensions | - | - | - | - | 188,714,955 | - | 188,714,955 | - | 188,714,955 |
| Foreign exchange differences | - | - | - | (176,770,526) | - | - | (176,770,526) | (11,429,769) | (188,200,295) |
| Balance at 1 January 2022 | 10,991,554,200 | 1,098,259,892 | (295,683,347) | (365,829,110) | (170,252,387) | 2,962,204,732 | 14,220,253,980 | 120,925,344 | 14,341,179,324 |
| Net profit for the year | - | - | - | - | - | 69,024,617 | 69,024,617 | 36,126,441 | 105,151,058 |
| Remeasurement of provision for pensions | - | - | - | - | 845,796,388 | - | 845,796,388 | - | 845,796,388 |
| Foreign exchange differences | - | - | - | (53,590,654) | - | - | (53,590,654) | 8,902,658 | (44,687,996) |
| Balance at 31 December 2022 | 10,991,554,200 | 1,098,259,892 | (295,683,347) | (419,419,764) | 675,544,001 | 3,031,229,349 | 15,081,484,331 | 165,954,443 | 15,247,438,774 |

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23. Share capital

The Company's authorised and issued share capital comprised:

| | 31/12/2022 & 1/1/2022 | |
|---------------------------------|-----------------------|----------------|
| | Number of shares | VND'000 |
| Authorised share capital | 1,099,155,420 | 10,991,554,200 |
| Issued share capital | | |
| Ordinary shares | 1,099,155,420 | 10,991,554,200 |
| Shares in circulation | | |
| Ordinary shares | 1,099,155,420 | 10,991,554,200 |
| Share premium | - | 1,098,259,892 |

All ordinary shares have a par value of VND10,000. Each share is entitled to one vote at meetings of the Company. Shareholders are entitled to receive dividends as declared from time to time. All ordinary shares are ranked equally with regard to the Company's residual assets. In respect of shares bought back by the Company, all rights are suspended until those shares are reissued.

Share premium represents the excess of the proceeds on issuance of shares over the par value.

Included in the shares in circulation are 109,915,542 of ordinary shares issued to Mitsubishi Material Corporation (the Investor) on 26 October 2020 for the consideration of VND2,094,330,737,268. In relation to this issuance, the Company also granted a put option to the Investor. Parties to the supplemental and amending agreement dated 24 May 2022 agreed that in the put option event that (i) the Company and the Investor (or their affiliate) fail to establish a joint operation of midstream tungsten business within 30 months after closing date of the above share issuance (i.e. May 2023) or (ii) if there is a change in control in the Company or (iii) such other period agreed in writing between the parties, the Investor will have an irrevocable right to request the Company or its nominee to purchase all shares issued above at the amount equal to consideration of VND2,094,330,737,268 less the aggregate of any proceeds received by the Investor from disposing the Company's shares, dividends and distributions paid by the Company subject to customary adjustments from dilutive events. The deadline to take actions necessary to effect the completion of the put option is 18 months from the date that the Company receives put option exercise notice from the Investor. The exercise of the put option will be subject to approval of Board of Directors, shareholders and Vietnamese regulators.

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24. Off balance sheet items

a Lease

The future minimum lease payments under non-cancellable operating leases were:

| | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|--------------------------|-----------------------|---------------------|
| Within one year | 17,090,495 | 12,080,324 |
| Within two to five years | 11,877,804 | 14,967,391 |
| | 28,968,299 | 27,047,715 |

b Foreign currencies

| | 31/12/2022 | | 1/1/2022 | |
|-----|----------------------|-----------------------|----------------------|-----------------------|
| | Original currency | VND'000 equivalent | Original currency | VND'000 equivalent |
| USD | 35,832,904.37 | 838,848,291 | 14,045,416.12 | 318,128,675 |
| EUR | 9,992,102.47 | 248,763,383 | 8,071,721.05 | 205,570,592 |
| JPY | 463,833,343.00 | 81,653,222 | 341,132,473.00 | 66,309,330 |
| CNY | 13,688,956.86 | 41,614,429 | 8,405,767.48 | 28,495,552 |
| CAD | 1,058,111.48 | 18,116,985 | 451,969.71 | 7,970,486 |

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c Bad debts written off

| | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|-----------------------|-----------------------|---------------------|
| Bad debts written off | 30,294,111 | 30,294,111 |

d Capital expenditure commitments

As at 31 December 2022 the Group had the following outstanding capital commitments approved but not provided for in the balance sheet:

| | 31/12/2022 VND'000 | 1/1/2022 VND'000 |
|-----------------------------|-----------------------|----------------------|
| Approved but not contracted | 3,287,792,135 | 3,099,626,529 |
| Approved and contracted | 413,393,152 | 82,949,023 |
| | 3,701,185,287 | 3,182,575,552 |

25. Revenue from sales of goods and provision of services

Total revenue represents the gross value of goods sold and services rendered exclusive of value added tax and export tax.

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26. Financial income

| | 2022 VND'000 | 2021 VND'000 |
|--|--------------------|--------------------|
| Foreign exchange gains | 458,371,098 | 333,321,053 |
| Interest income from deposit and loans | 11,124,304 | 11,226,946 |
| Other financial income | 738,434 | 74,947 |
| | 470,233,836 | 344,622,946 |

27. Financial expenses

| | 2022 VND'000 | 2021 VND'000 |
|-------------------------|----------------------|----------------------|
| Interest expense | 1,119,988,084 | 1,076,266,273 |
| Borrowing fees | 74,565,712 | 69,055,054 |
| Foreign exchange losses | 560,326,339 | 172,839,989 |
| Others | 162,613,188 | 117,290,888 |
| | 1,917,493,323 | 1,435,452,204 |

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28. Selling expenses

| | 2022 VND'000 | 2021 VND'000 |
|-----------------------|--------------------|--------------------|
| Freight charges | 270,781,317 | 230,927,869 |
| Outside services | 73,086,068 | 81,969,934 |
| Depreciation expenses | 7,596,042 | 7,503,098 |
| Salary expenses | 56,762,081 | 76,581,084 |
| Others | 44,749,433 | 48,640,408 |
| | 452,974,941 | 445,622,393 |

29. General and administration expenses

| | 2022 VND'000 | 2021 VND'000 |
|-----------------------|--------------------|--------------------|
| Salary expenses | 342,206,820 | 330,781,719 |
| Outside services | 85,684,145 | 53,801,049 |
| Depreciation expenses | 59,939,337 | 75,048,753 |
| Office supplies | 1,270,669 | 55,680,642 |
| Others | 98,875,872 | 122,718,517 |
| | 587,976,843 | 638,030,680 |

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30. Other income

| | 2022 VND'000 | 2021 VND'000 |
|---|--------------------|--------------------|
| Insurance claims | 42,221,376 | 87,316,300 |
| Gain on scrap sales | 12,430,944 | 10,795,294 |
| Gain on disposal of fixed assets | 137,866 | 121,641 |
| Income from asset rental | 57,919,402 | - |
| Reversal of VAT input written-off in previous years | 25,158,904 | - |
| Other | 33,774,441 | 43,939,657 |
| | 171,642,933 | 142,172,892 |

31. Other expenses

| | 2022 VND'000 | 2021 VND'000 |
|------------------------------------|-------------------|-------------------|
| Expenses from asset rental | 57,590,091 | - |
| Loss from disposal of fixed assets | 3,096,997 | 1,201,810 |
| Insurance claims expenses | - | 9,852,770 |
| Others | 36,183,623 | 73,589,141 |
| | 96,870,711 | 84,643,721 |

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32. Income tax

a Recognised in the consolidated statement of income

| | 2022 VND'000 | 2021 VND'000 |
|---|----------------------|----------------------|
| Current tax expense | | |
| Current year | 47,666,207 | 59,865,637 |
| Over provision for prior years | (2,403,641) | (158,554) |
| | 45,262,566 | 59,707,083 |
| Deferred tax benefit | | |
| Origination and reversal of temporary differences | (9,336,031) | (200,060,611) |
| Benefit of tax losses recognised | (97,182,841) | - |
| (Reversal)/write down of deferred tax assets | (66,541,153) | 35,745,813 |
| | (173,060,025) | (164,314,798) |
| | (127,797,459) | (104,607,715) |

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b Reconciliation of effective tax rate

| | 2022 VND'000 | 2021 VND'000 |
|---|----------------------|----------------------|
| Accounting (loss)/profit before tax | (22,646,401) | 156,515,914 |
| Tax at the Company tax rate | (4,529,280) | 31,303,183 |
| Non-deductible expenses | 1,074,771 | 4,984,153 |
| Tax incentives | (20,022,083) | (27,844,449) |
| Effect of different tax rates in subsidiaries | (62,717,172) | (215,184,381) |
| Effect of different tax rate in other income and recognized deferred tax | (19,607,289) | - |
| Tax losses utilised | (13,005,112) | (24,856,632) |
| Over provision for prior years | (2,403,641) | (158,554) |
| (Reversal)/write down of deferred tax assets | (66,541,153) | 35,745,813 |
| Change in unrecognised deferred tax assets arise from temporary differences | 59,953,500 | 91,403,152 |
| | (127,797,459) | (104,607,715) |

c Applicable tax rates

The Company has an obligation to pay the government corporate income tax at the rate of 20% of taxable profits. The Company's subsidiaries have obligation to pay the government income tax in accordance with the prevailing regulations. The Company's subsidiaries enjoy various tax incentives which provide subsidiaries with further tax exemption and reductions as follow:

- MTC – a subsidiary enjoys income tax incentives applicable for high-tech investment project under Vietnamese current tax regulations.
- NPM – a subsidiary enjoys income tax incentives applicable for mining and processing activities for mineral products other than gold in areas with extremely difficult socio-economic conditions under Vietnamese current tax regulations.

All of the above tax exemption and reduction are not applicable to other income which is taxed at the standard income tax rate applicable to enterprises before any incentives of 20%.

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HCS and its subsidiaries are based mainly in Germany, Canada, China.

- Companies based in Germany with legal form of corporation are subject to corporation tax of 15% and are then subject to a surcharge of 5.5% (solidarity surcharge). This results in a total tax rate of 15.825%. These companies are also subject to the Trade tax which is a combination of a uniform tax rate of 3.5% (base rate) multiple with municipal tax rate depending on where the companies' permanent establishment located. The corporate income tax rate are the sum of total rate and the trade tax, which is approximately 30% on average;
- H.C. Starck Jiangwu Tungsten Specialities (Ganzhou), Co., Ltd is subject to corporate income tax of 15% applicable to foreign investment production enterprise and established in Ganzhou, Jiangxi Province of People's Republic of China;
- H.C. Starck Canada Inc. is subject to corporate income tax rate applicable to Canadian enterprise of approximately 25%.

d Tax contingencies

The taxation laws and their application in some countries where the Company and its subsidiaries operate were subject to interpretation and may change over time. The final tax position may be subject to review and investigation by a number of authorities, who are enabled by law to impose severe fines, penalties and interest charges. These facts may create tax risks for the Company and its subsidiaries. Management believes that it had adequately provided for tax liabilities based on its interpretation of tax and legislation, including on transfer pricing requirements and computation of corporate income tax and deferred tax liabilities. However, the relevant authorities may have different interpretations.

33. Basic earnings per share

The calculation of basic earnings per share for the year ended 31 December 2022 was based on the profit attributable to ordinary shareholders of VND69,025 million (2021: VND195,611 million) and a weighted average number of ordinary shares outstanding of 1,099,155,420 shares (2021: 1,099,155,420 shares), calculated as follows:

a Net profit attributable to shareholders

| | 2022 VND'000 | 2021 VND'000 |
|--|-------------------|--------------------|
| Net profit for the period | 105,151,058 | 261,123,629 |
| Non-controlling interest | 36,126,441 | 65,512,309 |
| Net profit attributable to ordinary shareholders | 69,024,617 | 195,611,320 |

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b Weighted average number of shares

| | 2022 | 2021 |
|---|---------------|---------------|
| Weighted average number of ordinary shares for the year ended 31 December | 1,099,155,420 | 1,099,155,420 |

c Diluted earnings per share

The Company has no dilutive potential ordinary shares.

34. Significant transactions with related parties

In addition to related party balances and transactions disclosed in other notes to these consolidated financial statements, the Group had the following significant balances and transactions with related parties during the year.

a Related party balances

As at and for the year ended 31 December 2022, the Group has current and term deposit accounts at Vietnam Technological and Commercial Joint Stock Bank ("TCB") at normal commercial terms.

As at 31 December 2022, the ultimate parent company, its subsidiaries, its associates held VND70,000 million (1/1/2022: Nil), VND807,193 million (1/1/2022: Nil) and VND443,951 million (1/1/2022: VND464,322 million) respectively, of the issued bonds of the Group.

Masan High-Tech Materials Corporation and its subsidiaries
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dated 22 December 2014 of the Ministry of Finance)

b Related party transactions

| Related Party | Nature of transactions | 2022 VND'000 | 2021 VND'000 |
|---|---------------------------------------|-----------------|-----------------|
| Ultimate parent company | | | |
| Masan Group Corporation ("MSN") | Borrowings received | 797,240,000 | 241,676,000 |
| | Borrowings repaid | 181,676,000 | 60,000,000 |
| | Interest expense | 26,195,625 | 9,850,057 |
| | Loan collected | - | 1,143,479,452 |
| | Interest income from loan granted | - | 4,342,451 |
| Ultimate parent company's associate | | | |
| TCB and its subsidiaries | Interest expense and borrowing fees | 127,007,920 | 107,712,636 |
| | Borrowings received | 1,688,168,551 | 1,621,482,534 |
| | Borrowings repaid | 1,961,417,271 | 1,393,426,927 |
| | Bond proceeds received (i) | 290,000,000 | 1,000,000,000 |
| | Bond repurchased | 45,176,200 | 109,198,100 |
| | Purchase of trading securities | - | 212,874,260 |
| | Sales of trading securities | - | 213,756,230 |
| Ultimate parent company's subsidiary | | | |
| Masan Consumer Corporation | Purchase of goods | 1,351,022 | 1,157,083 |
| | Purchase of services | 122,030 | 786,573 |
| WinCommerce JSC | Bond interest | 24,127,446 | - |
| Masan Meatlife Corporation | Bond interest | 5,748,164 | - |
| Key management personnel | | | |
| | Salary, bonus and other benefits (ii) | 23,084,039 | 39,110,438 |

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- (i) The bonds are listed and sold to a broader group of investors pursuant to arrangement agreements.
- (ii) No board fees were paid to Board of Directors members for the year ended 31 December 2022 and 31 December 2021.

Included in the remuneration to key management personnel, the actual board fees, salary and bonus for each member of the Company's Board of Directors and the Company's Chief Executive Officer during the year were as follows:

| Name | Position | 2022 VND'000 | 2021 VND'000 |
|--------------------------------|-----------------------------|-----------------|-----------------|
| Board of Directors | | | |
| Mr. Danny Le | Chairman | - | - |
| Mr. Nguyen Thieu Nam | First Vice Chairman | - | - |
| Mr. Craig Richard Bradshaw | Member | - | - |
| Mr. Akira Osada | Member | - | - |
| Ms. Nguyen Thu Hien | Independent member | - | - |
| Chief Executive Officer | | | |
| Mr. Craig Richard Bradshaw | Chief Executive Officer (*) | 23,795,957 | 39,110,438 |

(*) Salary and bonus for the Chief Executive Officer of the Company for the year ended 31 December 2022 and 31 December 2021 are paid out by a subsidiary of the Company.

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35. Contingent liabilities

As disclosed in Note 8(a), on 23 August 2021, MONRE has issued Decision 1640/QD/BTNMT ("Decision 1640") to determine the MRF of Nui Phao Mine, replacing the temporary MRF calculation in Decision 500 and Official Letter 3724 despite that the royalty taxable price applicable to NPM's industrial products has not yet been determined. In issuing this Decision 1640, MONRE continued using the royalty taxable price applicable to mineral resource - tungsten ore (0.1% < WO3 < 0.3%) instead of the royalty taxable price applicable to industrial products, the issue of which had been highlighted by NPM before. The official price used to calculate MRF - G-price according to Decision 1640 is VND1,831,085 per ton whereas the temporary G-price according to Decision 500 is VND775,026 per ton. Accordingly, the additional MRF due to different G-price during the period from 2015 to 2021 is VND394.5 billion.

After the issuance of Decision 1640, NPM submitted several petition letters to the Prime Minister, MONRE to request for delaying the implementation of Decision 1640 and re-determining the MRF price which is applicable to NPM's industrial products.

On 6 October 2021, NPM received Notification on payment of MRF issued by the Thai Nguyen Tax Department ("TNTD") to inform the MRF following Decision 1640. On 8 December 2021, TNTD issued Official Letter No 4883/CTTNG-QLN requesting NPM to make payment of MRF of VND125.8 billion equivalent to the shortage of MRF payment for the period from 2018 to 2021, together with interest on late payment of VND4.1 billion.

Management believes that it had adequately provided for its liabilities for MRF based on its interpretation of relevant legislation relating to mining rights and natural resources tax. The Group's management has, therefore, also sent letters to different level of authorities to highlight the issues and seek for proper resolutions of NPM's MRF.

In 2021, as instructed by the Prime Minister under letter 978/VP-CP-KTTH dated 8 February 2021 and letter 5987/VPCP-KTTH dated 28 August 2021, the case is under review by MOF, MONRE, Thai Nguyen PPC and Thai Nguyen Department of Finance ("TN DOF"), subject to report to the Prime Minister and National Assembly Com-

mittee on Economy. In 2022, relevant central and provincial authorities, through a meeting chaired by GDGM, have agreed that there is inadequacy in the royalty taxable price which is served as basis to calculate mining rights fee for Nui Phao project. On that basis, Thai Nguyen PPC has worked with MOF and MONRE to source technical advisor, and also instructed the TN DOF province to coordinate with relevant local departments to complete the procedure for selecting an appropriate technical advisor to develop a mechanism to determine the royalty taxable price for industrial products of NPM. By the issuance of this consolidated financial statements, Thai Nguyen PPC, TN DOF and relevant functional agencies are still working together to determine the royalty taxable price applicable to NPM's industrial products.

The management assessed that because the royalty taxable price applicable to NPM's industrial products has not yet been determined by MONRE and Thai Nguyen PPC, the G price which serves as the basis for computation of MRF under Decision 1640 is not in accordance with the prevailing laws and regulations. It, therefore, believes that once the royalty taxable price applicable to NPM's industrial products are available, the official MRF for Nui Phao mine from 2015 onwards will be determined, replacing amount as stated in Decision 1640.

The ultimate outcome of this matter is presently not determined and may be subject to the determination of the royalty taxable price applicable to NPM's industrial products and whether MONRE agrees to recalculate the MRF in Decision 1640 using that price when it is determined. Accordingly, the Group has not recognised the additional MRF as stated in Decision 1640 as liabilities in the consolidated financial statements.

Masan High-Tech Materials Corporation and its subsidiaries
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36. Comparative information

Comparative information as at 1 January 2022 was derived from the balances and amounts reported in the Group’s consolidated financial statements for the year ended 31 December 2021.

1 March 2023

Prepared by:



Nguyen Thi Thanh Mai
 Chief Accountant

Reviewed by:



Nguyen Huy Tuan
 Acting Chief Financial Officer

Approved by:



Craig Richard Bradshaw
 Chief Executive Officer



GENERAL INFORMATION

- Vision & Mission
- Company Profile
- Company History
- Flagship Assets
- Our Products
- Shareholders Information



VISION AND MISSION



VISION

To be the leading integrated supplier of high-tech advanced materials critical to global innovation.



MISSION

We aim to be the partner of choice to high-tech industries where our products are a key component in evolving and shaping the future of our world. Through the application of our materials, we will create unparalleled solutions to drive innovation and productivity which will deliver superior outcomes for all our partners and stakeholders.



OUR VALUES

Respect

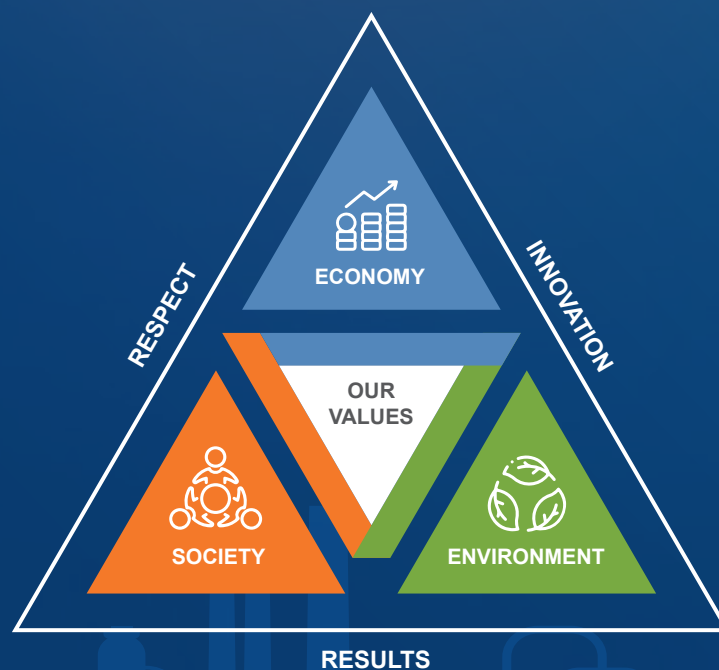
We believe caring for people, environment and community results in mutually beneficial relationships.

Innovation

We strive for excellence in everything we do.

Results

We are passionate about exceeding expectations.



COMPANY PROFILE

Name of the company

Masan High-Tech Materials Corporation (MHT)

English name

Masan High-Tech Materials Corporation

Abbreviated name

Masan High-Tech Materials

Address

Suite 802, 8th Floor, Central Plaza, 17 Le Duan, Ben Nghe Ward, District 1, Ho Chi Minh City, Vietnam

Telephone

+84 28 6256 3862

Fax

+84 28 3827 4115

Website

www.masanhightechmaterials.com

Enterprise registration certificate

No. 0309966889 issued by the Department of Planning and Investment of Ho Chi Minh City on April 27, 2010, amended for the 19th time on February 11, 2022

Charter capital

VND 10,991,554,200,000

Stock code on HNX-Unlisted Public Company market (UPCOM): [MSR](#)

STRATEGIC PILLARS FOR GROWTH



SUSTAINABILITY



INNOVATION



CUSTOMER SOLUTIONS FOCUS

COMPANY HISTORY

The Company was established on April 27, 2010 focused on mining and resources extraction activities as part of the Masan Group

Significant events in the Company's business are set out below:

- Acceleration of project development for the Nui Phao Project
- In December, the National Mineral Reserves Assessment Council acknowledge the results of the Nui Phao Project's resources and reserve grade conversion
- In August, the Company received Investment Certificate No. 41122000131 from the People's Committee of Ho Chi Minh City.

- Record production achieved for all four commodities. NHTCM applied for and obtained the Certificate of High Tech issued by Ministry of Science and Technology on April 24.
- Achieved design capacity and successfully commissioned the NHTCM Tungsten Chemical factory. Initiatives in committing for further developing in processing and increasing performance efficiency
- In September, the Company successfully completed its listing on Hanoi's UPCOM exchange
- In September, the Company hosted the 28th International Tungsten Association (ITIA) annual meeting, attended by over 120 global delegates

2011

2012

2013

2014

2015

2016

- In February, MOIT's official approval of the Nui Phao Project's basic

- The Nui Phao Project started commercial production of Tungsten Concentrate and Copper Concentrate on March 1, Fluorspar Acid Grade on June 1, and Bismuth Concentrate on September 1.
- Established Nui Phao – H.C.Starck Tungsten Manufacturing LLC ("NHTCM"), a joint venture with HC Stark GmbH of Germany to construct and operate an advanced Tungsten Chemical factory in Vietnam.

- Successfully held the first AGM after listing on April 22; ranked as premium on the UPCOM Board of the Hanoi Stock Exchange
- Commercial production of Bismuth Cement started from July 1
- Continued innovation and investment in new processes and technology, cost saving, change in business process, developed cooperation with NHTCM and significantly advanced the production volume and revenue of the value-added tungsten chemical products
- In December, Masan Group, through its wholly owned subsidiaries, successfully completed the tender offer for shares of the Company, thereby providing an exit to Mount Kellett and increasing its ownership in the Company to 93.78%, paving the way for the next round of strategic capital and growth

- Upgrades undertaken on the tungsten circuit have resulted in tungsten recovery increase to 67% with room for further improvement through optimization measures
- A significant price increase across all commodities of the Company coupled with an increased operational efficiency allowed the Company to achieve record results in all aspects of production, revenue and net profit
- The Company's global brand recognition, underpinned by high quality and reliable products resulted in oversubscribed order book with new customers
- Commenced procuring third party tungsten raw materials for processing in the NHTCM factory

2017 >

2018 >

- Acquired H.C. Starck GmbH's 49% stake in NHTCM for total cash consideration of USD29.1 million. Subsequent to acquisition, the name of NHTCM has been changed to Masan Tungsten Limited Liability Company ("MTC")
- Increased the third-party raw material procurement by 300% in order to maximize utilization at the MTC as well as to satisfy the growing demand for tungsten chemical products
- Company achieved record annual results in all aspects of production, revenue and net profit

2019 >

- Entered into an agreement to purchase the tungsten business of H.C. Starck Group GmbH – a leading manufacturer of high-tech tungsten metal powder and carbides in the world
- In December 2019, MTC obtained the Decision of Thai Nguyen People's Committee on amendment of the Investment Certificate which registered capacity of ST, APT and BTO/YTO are 1,067 tonnes; 8,278 tonnes; 5,000 tonnes per year respectively depending on the production plan and grade
- In December 2019, the Ministry of Science and Technology issued High-Tech Enterprise Certificate to MTC

2020 >

- In June, MSR through its wholly owned subsidiary MTC completed the acquisition of H.C. Starck GmbH's global Tungsten business
- In June, the Company's name was approved to be changed to Masan High-Tech Materials Corporation (MHT) at the Company's Annual General Meeting of Shareholders. This change of company name was officially effective from 6 August 2020 after the Department of Planning and Investment of Ho Chi Minh City issued the Enterprise Registration Certificate amended for the 17th time
- In December 2020, the Company completed a private placement of shares to Mitsubishi Materials Corporation ("MMC"), making MMC the second largest shareholder owning 10% of the Company's total fully diluted shares

2021 >

- Approved the maximum ratio of 49% of foreign ownership of the Company at 2021 Annual General Meeting of Shareholders of the Company
- The integration of H.C. Starck's Tungsten business into MHT has vindicated its effectiveness, the Company achieved net revenue of VND 13.564 billion in 2021

2022 >

- Organized the International Fluorine Forum in collaboration with IMFORMED (Industrial Minerals Forum & Research Ltd). This is the first time the Forum has been held in Vietnam
- In July, H.C. Starck Tungsten Powders ("HCS"), announced the signing of definitive agreements to invest £45m (approx. €52m) into Nyobolt Limited ("Nyobolt"), a fast-charging Li-ion battery solutions company that leverages HCS's advanced tungsten materials in its anode, for a 15% equity interest on a fully diluted basis. The investment is expected to accelerate HCS's vision of becoming a high-tech, value-added business by developing new tungsten applications critical for the technologies of the future

FLAGSHIP ASSETS

Nui Phao Mining Company Ltd (NPMC)

The Nui Phao mine, which is operated by Nui Phao Mining Company Ltd. (“NPMC”), a wholly owned subsidiary of Masan High-Tech Materials, is situated within three communes (Hung Son, Ha Thuong, and Tan Linh) of Dai Tu district in Thai Nguyen province. The site is approximately 80 km from Hanoi and is accessible via highway. Road and rail links connect the mine to the nearest ports of Hai Phong and Quang Ninh province, from which the products can be shipped to international customers.



The major project components are:

- Open pit poly-metallic mine,
- Waste rock disposal facilities,
- Modern mine plant and facilities, including crushing, grinding, thickening, flotation, leaching and gravity recovery facilities,
- A suite of commercial product streams including Tungsten, Copper, Bismuth and Fluorspar concentrates which are either processed into value added products onsite (Tungsten and Bismuth) or sold as high- end commodities,
- A Tailings Storage Facility (TSF) with water and tailings management ponds,
- Buffer zones, relocation sites, haul roads, and mine services.

Products from Nui Phao are shipped to worldwide markets (including well established customer networks) from Quang Ninh Port (in Ha Long City, 197 km to the southeast of the Project site). The port is also used to receive equipment and materials required to run the mine.

NPMC operates at the cutting edge of production of its product suite. Investment in research and development continues to deliver processing, equipment, and chemical improvements. Processing operations are supported by advanced mining and processing management software to maximize recovery and minimize costs and resource loss.



Masan Tungsten Limited Liability Company (MTC)



Masan Tungsten Limited Liability Company was established in 2014 as a Joint Venture with H.C. Starck GmbH, a leading worldwide manufacturer of technological metals and one of the biggest companies in the global Tungsten industry. The objective of the company is to enable advanced processing of Vietnam’s strategic tungsten resources into higher value tungsten chemicals, thus enabling further value extraction from the Vietnamese strategic resources.

In August 2018, NPMC acquired the 49% capital contribution by H.C. Starck GmbH in the Joint Venture.

The Joint Venture then changed its name to Masan Tungsten Limited Liability Company. In September 2019, MSR announced the acquisition of H.C. Starck’s global Tungsten Division (“HCS”). In 2021 the MTC plant underwent an optimisation program which has seen a significant capacity expansion to include processing of a wide range of lower grade feed materials. The treatment of low to marginal tungsten grades greatly improves the ability to utilize more of the Nui Phao tungsten ore resource.

MTC produces high purity, world-competitive tungsten products while operating in Vietnam using local and international technical knowledge. This places it among the few tungsten suppliers outside of China who are directly connected to a resource base. The four main products of the MTC facility used in production of Tungsten and Tungsten Carbides are:

- **APT** (Ammonium Paratungstate);
- **BTO** (Blue Tungsten Oxide);
- **YTO** (Yellow Tungsten Oxide) and
- **ST** (Sodium Tungstate).

The MTC factory has the advantages of:

- Secured long term supply source (NPMC) with modern production facilities able to produce high quality products tailored to specific requirements of individual customers,

- Positive market reputation by affiliation with a technology and skills provider – H.C. Starck which has 100 years of experience and is a leading premium supplier of Tungsten products,
- Processing technology transfer from H.C. Starck Germany,
- Enhanced processing capacity in line with tungsten market and customer demands,
- Low conversion costs and preferential tax policies,
- Low grade tungsten sources treated into high end specific products,
- Opportunities for further development of in-country tungsten recycling process.

These factors have accelerated the acceptance of a Vietnamese business to the world’s Tungsten producer map as well as contributed to improved sales performance.





H.C. Starck Tungsten Powders (HCS)

H.C. Starck Tungsten Powders (HCS) is a company of the Masan High-Tech Materials Group and is one of the world's leading manufacturers of high-performance powders of tungsten and its compounds. H.C. Starck Tungsten Powders offers the entire range of products along the tungsten powder value chain, processing both primary and secondary raw materials and turning them into high-quality tungsten chemicals, metal powders and carbides, tailored to individual customer needs.

The company combines a century of experience in tungsten processing with high innovative power and technological expertise. Highly qualified teams in research development and in application technology are dedicated to the solutions of tomorrow.

Sustainability is a significant part of the company strategy. A large proportion of raw materials are obtained through recycling. Security of supply is an important issue in today's world. H.C. Starck Tungsten Powders has access to primary and secondary raw materials and is therefore independent of sources in China, for example.

H.C. Starck Tungsten Powders employs around 550 people at three production sites in Germany, Canada and China plus sales offices in the U.S. and Japan. The company is headquartered at its largest production site in Goslar, Germany.



ChemiLytics

ChemiLytics

ChemiLytics is a company of the Masan High-Tech Materials Group and is one of the largest state of the art industrial scale laboratories in Germany for inorganic elemental analysis and powder characterisation. With 70 highly qualified personnel working in teams operating 7 days a week, ChemiLytics offers analytical services in all market segments from the sunset industries of traditional manufacturing through to sunrise industries such as Additive Manufacturing, Aerospace Applications or E-Mobility. Typical samples analyzed include Tungsten ores, Tantalum and Niobium ores, all refractory powders and scrap, Si₃N₄, battery precursors etc.

ChemiLytics collaborates with customers allowing customization in service provision from traditional samples submissions through to developing individually customized solutions that can allow for the provision of on-line operational control sample analysis through to having the capability to develop specific analytical and technology applications for customers based on ChemiLytics unique service portfolio such as in the recycling industry.



OUR PRODUCTS

The Nui Phao mine is a unique polymetallic deposit with a co-occurrence of Tungsten, Fluorspar, Copper and Bismuth mineralization. These metals are considered strategic to industry and find myriad uses across a broad portfolio of high-tech applications.



Tungsten (W)

Tungsten is a unique element having the highest melting point of all metals (3422°C), a density (19.3 g/cm³) almost twice that of lead, and a hardness close to that of diamond when in tungsten carbide form.

The name Tungsten is attributed to Axel Frederik Cronstedt who upon discovering a tungsten containing ore combined the Swedish words tung (heavy) and sten (stone) noting its density, but credit for separation of the metal goes to Karl Wilhelm Scheele, an impoverished pharmacist with a modest pension from the Stockholm Academy of Science, who in the mid 1700's discovered more new chemical compounds than perhaps any scientist before or since.

The intrinsic properties of tungsten means that it makes a critical contribution across all major heavy industries, such as manufacturing, energy generation and transmission, construction and infrastructure, mining, and many light industrial and high-tech industries as well such as automotive, aerospace, electronics, catalysis, medical and pharmaceutical. Tungsten first found a growth market as an alloying addition in tool steels and steel alloys where its ability to contribute high hardness and high temperature resistance were greatly valued; an application that it still finds use in today. The subsequent discovery and development of Cemented Carbide (a composite of Tungsten and Carbon) in the 1920's completely revolutionized the metal cutting and metal forming industries and tungsten carbide quickly found myriad uses across industry as its properties enabled rapid increases in process efficiency and part life. Cemented Carbides account for over 60% of tungsten use globally today, and engineers continue to find new applications for tungsten on a regular basis; in the last decade alone tungsten has found new commercial use in high purity semiconductor gasses for the

production of integrated circuits, and as a high performance anode material or dopant in specific Li-Ion battery chemistries.

Marketable Tungsten materials come in a variety of forms such as tungsten chemicals, tungsten metal, and tungsten carbide with each form having different characteristics and applications.



Tungsten chemicals: Include ammonium paratungstate, ammonium metatungstate, tungstic acid, tungsten oxide, and sodium tungstate with various properties which would be made to fit for consumers' required specifications.

Ammonium paratungstate is a white, crystalline powder with very high chemical purity. It is needed primarily as a universal intermediate product in the production of tungsten oxides, tungstic acid, ammonium metatungstate, and organometallic components. The compound is also used directly in catalysis and fine chemistry.

Ammonium Metatungstate, Tungstic acid, and Sodium Tungstate are all tungsten salts that are soluble in water, alcohol, and ammonia, they have excellent chemical purity, high reactivity, and a uniform morphology. The unique properties of these salts allow for special applications in homogeneous and heterogeneous catalysis, fine chemistry, and surface coating technology, as well as in the production of organometallic tungsten compounds.

Tungsten Metal: Tungsten Metal is used directly as an alloying addition in steel making or for superalloy melts, and otherwise finds use in mill products; solid sintered or deep processed forms such as rods, wires, sheets, etc. The unique metallurgi-

cal and physical properties of Tungsten Metal find application in lighting, defense, aerospace, radiation shielding, electrical contacts amongst many others.

Tungsten Carbide: Tungsten carbide (WC) is a compound of tungsten and carbon. The outstanding characteristic of this material is its hardness, which approaches that of diamond. Tungsten carbide is used primarily in the production of industrial tools and wearing parts that are subject to significant stress. Tungsten carbide usage in carbide tools allows for much high-

er cutting speeds and rate of material removal which in turn improves the efficiency and economy of the manufacturing process. Tungsten carbide usage in wear parts such as pump seals, bearing faces, knives, punches, nozzles etc. dramatically improves the useful life of the part and is ubiquitous across the energy and materials processing industries.

FLUORSPAR (CAF₂)

Fluorspar also known as Fluorite is an industrial mineral from which the element Fluorine is liberated, with two major downstream uses; the production of Hydrofluoric Acid (HF) which is used as a building block for Fluorine Chemicals, and the production of Aluminium Fluoride (AlF₃) which is an important additive for the production of Aluminium by electrolysis. Hydrofluoric acid is used as a precursor to a wide range of products including fluorocarbons, fluoropolymers, and fluorine process gasses; perhaps the most commonly known application is as PTFE a non-stick fluoropolymer coating used in household cookware and patented by DuPont in the 1930's as 'Teflon'. Fluorocarbons are used globally as the most common refrigerant found in household white-goods and air-conditioning systems, and fluorine based process gasses are used extensively in the semiconductor and uranium processing industries. An emerging application for Fluorine with significant growth potential is as an electrolyte additive and polymer separator material in Lithium-Ion rechargeable batteries.

BISMUTH (Bi)

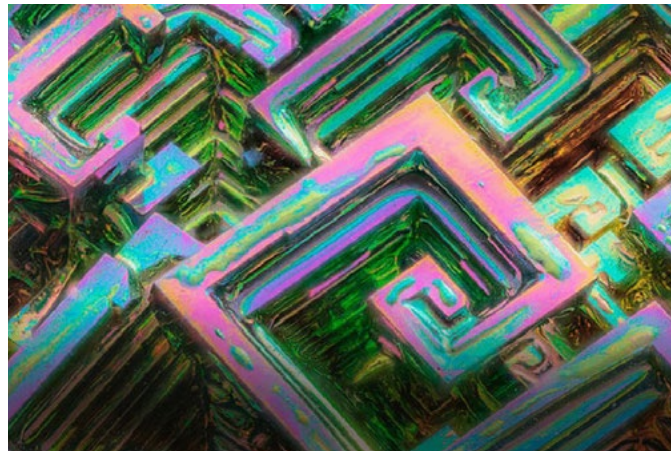
Bismuth is a minor metal with consumer and industrial applications.

For the consumer, bismuth-based chemicals are used in the health and pharmaceutical sector as a radiation protection material and as the active ingredient in medicines for treatment of nausea, indigestion and ulcer diseases. Due to its non-toxicity, it has also found use in cosmetics. Industrially, Bismuth is used as a non-toxic pigment in the production of certain paints and in the manufacture of electrical components. Bismuth is also used as a catalyst for vehicular emissions control, as well as in the production low melting point alloys for the reliable work holding of irregular shaped parts for machining and as a plain bearing alloying addition.

COPPER (Cu)

Copper is a soft, malleable and ductile metal and finds wide use industrially due to its exceptional thermal and electrical conductivity. Copper is also relatively inert and corrosion-resistant and has been shown to have antimicrobial properties.

The largest application for copper is in the manufacture of electrical cables and wiring. The construction industry is also a major consumer of copper through electrical systems as well as copper piping in plumbing. Its corrosion resistance as well as its aesthetic appeal have made it popular in roofing, and it is commonly found in the construction of domes, spires and doors. Copper has nutrient qualities and is used as a fungicide in the protection of crops and plants as well as enriching the soil. When copper is mixed with zinc it produces brass, which is also used in a variety of industrial applications.

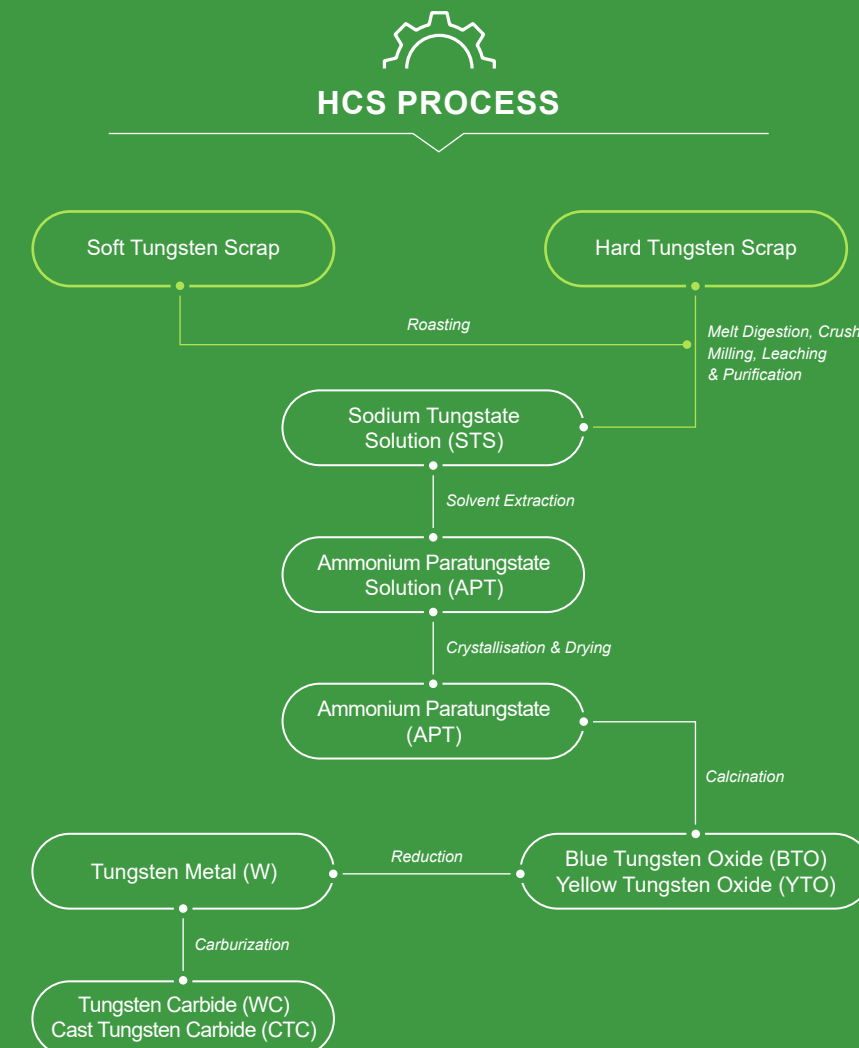
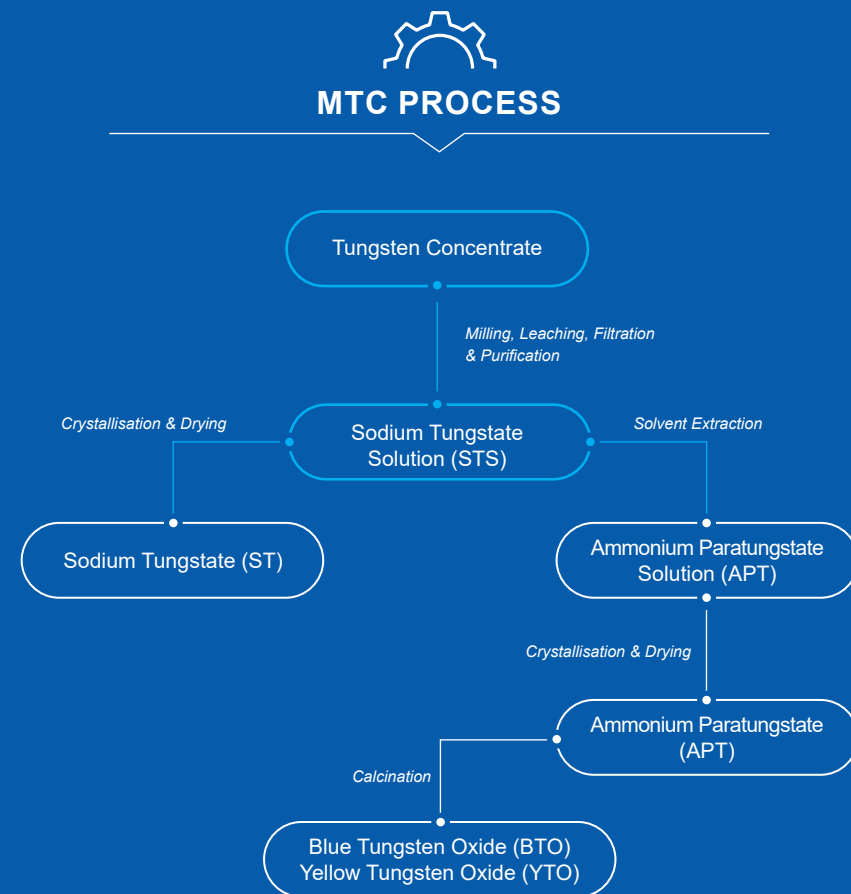


| PROPERTY | INDUSTRY/TYPE OF APPLICATION |
|--------------------------------------|--|
| Aesthetics | Architecture, sculpture, jewelry, clocks, cutlery. |
| Bactericide | Door hardware, marine internal combustion engines, crop treatments. |
| Biofouling resistance | General, hydraulic and marine engineering, metalworking, aerospace, power generation, shipbuilding, off-shore oil and gas platforms. |
| Corrosion resistance | Plumbing tubes and fittings, roofing, general and marine engineering, shipbuilding; chemical engineering, industrial processes including pickling, etching and distilling; domestic plumbing, architecture, desalination, textiles, papermaking. |
| Ease of fabrication | All of the above plus printing. |
| Electrical conductivity | Electrical power generation, transmission and distribution, communications, resistance welding, electronics. |
| Environmental friendliness | Essential for health of humans, animals, and crops. |
| Fungicide | Agriculture, preservation of food and wood. |
| Low temperature properties | Cryogenics, liquid gas handling, superconductors |
| Mechanical strength/ductility | General engineering, marine engineering, defense, aerospace. |
| Non-magnetic | Instrumentation, geological survey equipment, minesweepers, offshore drilling. |
| Non-sparking | Mining and other safety tools, oxygen distribution |
| Elasticity | Electrical springs and contacts, safety pins, instrument bellows, electronic packaging. |
| Thermal conductivity | Heat exchangers and air-conditioning/refrigeration equipment, automotive radiators, internal combustion engines, mining. |

TUNGSTEN PRODUCTION

Masan High-Tech Materials' MTC plant is designed to process the total amount of NPMC tungsten concentrate, along with externally sourced tungsten containing raw materials, into high grade ammonium paratungstate (APT) via chemical digestion followed by physical and chemical purification and, finally, crystallization. APT is packaged for external sale or otherwise undergoes calcination to produce blue tungsten oxide (BTO) and yellow tungsten oxide (YTO) for sale to external customers or for further downstream processing within the MHT Group.

H.C.Starck Tungsten's Goslar plant is designed to process intermediate tungsten chemicals produced at MTC as well as being a globally significant recycling operation for most types of tungsten containing scrap and secondary material. Scrap is processed into high grade ammonium paratungstate (APT) via chemical digestion followed by physical and chemical purification and, finally, crystallization. APT and tungsten oxides produced at HCS are further processed into tungsten metal powder, tungsten carbide powder, and cast tungsten carbide powder for sale into relevant industrial segments.



Roasting / Grinding / Leaching

Milled ore concentrates and roasted soft scrap are leached at high pressure to form a sodium tungstate solution.

Salt Melting / Dissolution

Hard scrap is dissolved in a salt melt under supply of air. Molten sodium tungstate is casted into crucibles and cooled down before being crushed and dissolved in water under formation of a sodium tungstate solution.

Purification

A continuous technical process to remove the remaining impurities.

Solvent Extraction

Using organic compounds and sedimentation vessels, sodium tungstate solution is transformed into ammonium tungstate solution in a continuous, closed loop process.

Crystallization

Ammonia and water are evaporated from the ammonium tungstate solution. Crystalline ammonium paratungstate (APT) is formed from the solution.

Calcination

Tungsten oxides are produced by calcination of APT.

Reduction

Reduction of tungsten oxides to tungsten metal is carried out in pusher and rotary furnaces. Hydrogen acts as a reducing agent.

Carburization

Tungsten metal powder is converted into tungsten carbide powder through a reaction with pure carbon powder in a high temperature furnace.

TUNGSTEN AS A CRITICAL MATERIAL

Tungsten is classified as a critical mineral by both those in industry and in government because it is a relatively rare metal with unique properties that are highly valued in many high-tech, and defense applications. The demand for tungsten has increased significantly in recent years due to the growing demand for high-tech products and the expansion of the aerospace and defense industries. However, tungsten is a scarce resource with a limited geographic dispersion of

crustal abundance; more than 56% of global reserves are located in China, and currently more than 82% of tungsten production occurs in China, which has led to concerns about supply chain security and the potential for price volatility. There is a need for greater investment in sustainable tungsten mining and recycling, as well as diversification of supply sources to ensure the long-term availability and affordability of this important metal.

Common tungsten uses include, for example:



Mechanical engineering and toolmaking

Today's industrial tools and wear parts have to withstand extreme loads while offering durability and long tool life. Exceptionally hard and resistant tungsten carbide is the material of choice for the production of cutting edge cemented carbides used in tools.



Oil and gas industry

Tungsten finds myriad applications in the extreme environments encountered in O&G. It is used in high-performance drill heads, valves, wear parts, and functional coatings, and in shaped charges that perforate the rock around the well to allow oil and gas to flow out.



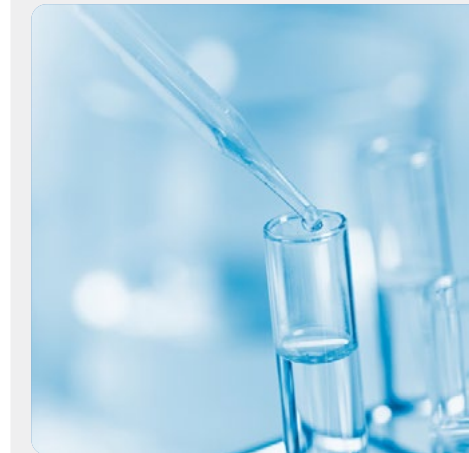
Medical technology

Precision components made of tungsten metal are used in modern X-ray diagnostics and therapy. For example, to shield and focus hard X-rays or gamma radiation.



Aerospace

In aviation, tungsten or tungsten alloys are used because of their high density and strength in balance weights, vibration protection parts for landing flaps or for balancing rotor blades.



Chemical industry

In the chemical industry, tungsten is used for many applications, especially in the field of catalysts, such as oxidation catalysts.



Electrical industry

A high thermal load capacity of tungsten-copper materials in combination with very good thermal and electrical conductivities predestine these materials for applications in electrical high-performance switching contacts, as heat sinks in the electrical industry or for use as erosion electrodes.

HIGH TECH MATERIALS FOR A CLEANER ENVIRONMENT

Given the versatility and criticality of Masan High Tech Materials product portfolio it should be expected that our metals will play their part in meeting today's and tomorrow's challenges, such as the need for a more efficient use of resources and the reduction of emissions.

Whilst there is certainly great opportunity for tungsten, fluorspar, copper and bismuth in future applications, the materials have been contributing to a cleaner environment for many years already.

TUNGSTEN

Energy Efficiency

Tungsten is used in energy-efficient lighting such as LED bulbs, which require much less energy for the same emission of light, and have longer lifespans than traditional incandescent bulbs.

Renewable Energy

Tungsten is used in the production of renewable technologies such as wind turbines, and solar panels, which help to reduce the reliance on fossil fuels and decrease carbon emissions.

Lightweighting

Tungsten Carbide tools enable extreme material removal rates and the ability to machine abrasive or challenging materials such as polymer composites and titanium alloys; therefore tungsten is directly linked to the lightweighting of components and structures. New WC tool technologies such as submicron powder grades, and advanced coatings enable high feed machining which see increasing use across automotive and aerospace to reduce weight and increase the fuel efficiency of vehicles.

Recycling

Tungsten has a significant End-of-Life recycling input rate sharing the 5th position in the EOL ranking of all raw materials. This high recycling rate is due to its high economic importance and also due to the fact that most of its end use applications are for industrial use rather than retail trade.

Lead substitution

Lead has been identified as an environmentally hazardous and toxic metal that ranks second on the US Government's Top 100 Hazardous substances priority list. Tungsten has a similar density to lead and is completely non-toxic making it a safer and greener alternative particularly in applications where there is a risk of lead exposure such as in ammunition, fishing weights, ballast weights, and radiation shielding.

Catalysis

Tungsten is a critical addition in Hydrotreating catalysts used in the oil refining and processing industries. These catalysts help to increase the yield of gasoline and other light hydrocarbons in crude oil processing on the one hand. On the other, they make the products, such as transportation fuels, more environmentally friendly by reducing the contents of aromatic hydrocarbons, sulphur and nitrogen compounds. With fuel specifications becoming more stringent around the world to protect the environment, their use has gained in importance and is expected to do so in coming years.

Tungsten is also prevalent in DeNOx catalysts that remove nitrogen oxides from stack gases of combustion power plants, chemical plants, cement plants or diesel engines by selective catalytic reduction with ammonia or urea.

FLUORSPAR

Renewable Energy

Fluorine is used in the production of solar panels as an etching gas during manufacturing of the silicon wafers and also as an anti-reflective surface coating to help increase the photovoltaic efficiency.

Energy Transition

Fluorine chemistries are beginning to gain traction as electrolytes for Lithium-Ion batteries and Fuel cells where Fluorine's high ionic conductivity results in a faster charge and discharge cycle, and its thermal and electrochemical stability results in a stable and longer life product. The current forecast is for explosive growth in the usage of Fluorine.

COPPER

Copper is considered vital for the transition to a cleaner and more sustainable energy system. Due to its high electrical conductivity it is an essential material for the production and distribution of electricity and is present directly in renewable forms of power generation such as wind, hydro, nuclear as the windings on electric motors, generators and transformers. Copper is also critical and relatively un-substitutable as a medium for electrical transmission; the expansion of electrical grid infrastructure is likely to be the bottleneck for the roll out of new energy vehicles, and energy storage solutions.



Solar panels



Lithium-Ion battery

SHAREHOLDERS INFORMATION

Shareholder structure

The shareholder structure of the Company as of December 31, 2022 is as follows.

| No. | Shareholder structure | December 31, 2022 | | | |
|--------------|------------------------------|------------------------|-----------------------|----------------------------|-------------------------|
| | | Number of shareholders | Number of shares held | Value (by par value) (VND) | Shareholding percentage |
| 1 | Domestic shareholders | 4,131 | 987,853,145 | 9,878,531,450,000 | 89.87% |
| | Institutional shareholders | 8 | 949,660,874 | 9,496,608,740,000 | 86.4% |
| | Individuals | 4,123 | 38,192,271 | 381,922,710,000 | 3.47% |
| 2 | Foreign shareholders | 69 | 111,302,275 | 1,113,022,750,000 | 10.13% |
| | Institutional shareholders | 2 | 109,917,642 | 1,099,176,420,000 | 10.00% |
| | Individuals | 67 | 1,384,633 | 13,846,330,000 | 0.13% |
| Total | | 4,200 | 1,099,155,420 | 10,991,554,200,000 | 100% |

List of shareholders holding at least 5% of the charter capital of the Company

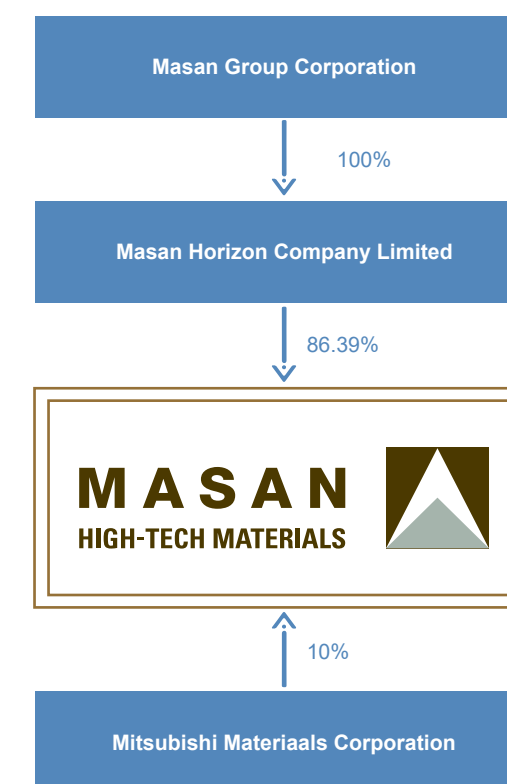
The list of shareholders holding at least 5% of the charter capital of the Company as of December 31, 2022 is as follows.

| No. | Shareholder structure | Number of Shares held | Value (by par value) (VND) | Shareholding percentage |
|-----|----------------------------------|-----------------------|----------------------------|-------------------------|
| 1 | Domestic shareholders | | | |
| | Masan Horizon Company Limited | 949,597,153 | 94,959,715,300,000 | 86.39% |
| 2 | Foreign Shareholders | | | |
| | Mitsubishi Materials Corporation | 109,915,542 | 1,099,155,420,000 | 10.00% |

Sources: List of shareholders of the Company provided by VSD.

Major Shareholders - Investors

Ownership structure of Masan High-Tech Materials as of December 31, 2022:



Institutional Shareholders

Domestic Shareholder

MASAN GROUP CORPORATION

(the controlling shareholder through its wholly owned subsidiary, via Masan Horizon)

Masan Group Corporation (“Masan” or the “Company”) believes in doing well by doing good. The Company’s mission is to provide better products and services to the 90 million people of Vietnam, so that they can pay less for their daily basic needs. Masan aims to achieve this by driving productivity with technological innovations, trusted brands, and focusing on fewer but bigger opportunities that impact the most lives.

Masan Group’s subsidiaries and affiliates are industry leaders in branded food and beverages, branded meat, value-added chemical processing, and financial services, altogether representing segments of Vietnam’s economy that are experiencing the most transformational growth.

Those include **Masan Consumer Holdings** - one of Vietnam’s largest local diversified FMCG companies, manufacturing and distributing a range of food and beverage products, including soya sauce, fish sauce, seasoning, chili sauce, instant noodles, instant coffee, instant cereals, bottled beverages, processed meat, and beer. Recently, Masan Consumer is also present in the home and personal care space;

WinCommerce (formerly Vincommerce) – the largest modern retail platform in Vietnam. WinCommerce, via WinEco (formerly VinEco), owns 14 high-tech farms WinEco which provide products of international quality standards;

The CrownX (consumer retail platform that currently consolidates Masan’s interests in Masan Consumer Holding and Wincommerce);



Masan MEATLife - one of the largest fully integrated (“Feed-Farm-Food” business model) branded meat platform, focused on driving productivity in Vietnam’s animal protein industry and ultimately directly serving consumers with traceable, quality and affordable meat products;

Techcombank - one of the largest joint stock commercial banks in Vietnam in terms of total operating income, assets, loans, deposits, customers and distribution network. It has built industry-leading franchises in retail deposits, SME and retail lending through its consumer-centric ecosystem approach;

and **Masan High-Tech Materials** - one of Vietnam’s largest integrated industrial minerals and chemical producers.

Foreign Shareholder



MITSUBISHI MATERIALS CORPORATION

Mitsubishi Materials Corporation (MMC) holds 109,915,542 ordinary shares (equivalent to 10.00% of the total shares in circulation). Mitsubishi Materials Corporation is an “integrated materials manufacturer” meeting customers’ needs by providing such basic materials as copper and cement, mechanical parts, electronic materials and components used in automobiles, home appliances as well as the tools used to make them. Besides, MMC is also involved in recycling and energy business. Founded in 1871, it is one of the core companies of Mitsubishi Group in Japan. The company is listed on the Tokyo Stock Exchange and the Osaka Exchange, and is a constituent of the Nikkei 225 stock market index.

GROUP STRUCTURE

- MHT Structure
- Organisation Chart
- Management Structure



MHT STRUCTURE

• Holding Company

Masan High-Tech Materials Corporation (MHT)

• Name of the Company

Masan High-Tech Materials Corporation

• Address

Suite 802, 8th Floor, Central Plaza, 17 Le Duan, Ben Nghe Ward, District 1, Ho Chi Minh City, Vietnam

• Telephone

+84 28 6256 3862

• Fax

+84 28 3827 4115

• Website

<https://masanhightechmaterials.com/>

• Enterprise Registration Certificate

No. 0309966889 issued by the Department of Planning and Investment of Ho Chi Minh City on April 27, 2010, as amended for the 19th time on February 11, 2022

• Charter Capital

VND 10,991,554,200,000

• Contributed capital in Company

VND 10,991,554,200,000

• Major business sectors

Market research and public surveys (details: market research); and Management consultancy (details: investment and management consulting services, excluding financial services).

The corporate structure of MHT is set out in the diagram below:



CONSOLIDATED SUBSIDIARIES

MASAN THAI NGUYEN RESOURCES COMPANY LIMITED (MRTN)

| | |
|---|--|
| Name of the Company: | Masan Thai Nguyen Resources Company Limited |
| Address: | Suite 802, 8th Floor, Central Plaza, 17 Le Duan, Ben Nghe Ward, District 1, Ho Chi Minh City, Vietnam |
| Telephone: | +84 28 6256 3862 |
| Fax: | +84 28 3827 4115 |
| Enterprise Registration Certificate: | 0309960069 issued by the Department of Planning and Investment of Ho Chi Minh City on May 7, 2010, and amended for the 8th time on December 14, 2020 |
| Charter Capital | VND 12,156,476,389,000 |
| Contributed capital in Company | VND 12,156,476,389,000 |
| Capital contribution ratio of the Company: | 100% of charter capital |

THAI NGUYEN TRADING AND INVESTMENT COMPANY LIMITED (TNTI)

| | |
|---|--|
| Name of the Company: | Thai Nguyen Trading and Investment Company Limited |
| Address: | Suite 802, 8th Floor, Central Plaza, 17 Le Duan, Ben Nghe Ward, District 1, Ho Chi Minh City, Vietnam |
| Telephone: | +84 28 6256 3862 |
| Fax: | +84 28 3827 4115 |
| Enterprise Registration Certificate: | No. 0309960069 issued by the Department of Planning and Investment of Ho Chi Minh City on May 7, 2010, and amended for the 8th time on December 14, 2020 |
| Charter Capital | VND 2,158,702,686,000 |
| Contributed capital in Company | VND 2,158,702,686,000 |
| Capital contribution ratio of the Company: | 100% of charter capital |

Major business sectors

- Management consultancy (details: investment and management consulting services, excluding financial and accounting consulting services);
- Advertising;
- Market research and public surveys (details: market research);
- Extraction of precious and rare minerals (not operating at the head office);
- Extraction of non-ferrous metals (not operating at the head office);
- Trade promotion; and
- Financial support services, not classified (details: investment consulting services, excluding legal, financial and accounting consulting services).

NUI PHAO MINING COMPANY LTD (NPMC)

| | |
|---|---|
| Name of the Company: | Nui Phao Mining Company Ltd |
| Address: | Suoi Cat Hamlet, Ha Thuong Commune, Dai Tu District, Thai Nguyen Province, Vietnam |
| Telephone: | +84 24 37182490 |
| Fax: | +84 24 37182491 |
| Enterprise Registration Certificate: | No. 4600864513 issued by the Department of Planning and Investment of Thai Nguyen province on July 5, 2010, the 14th amendment dated June 03, 2022. |
| Charter Capital | VND 10,792,915,155,000 |
| Contributed capital in Company | VND 10,792,915,155,000 |
| Capital contribution ratio of the Company: | 100% of charter capital |

Major business sectors

- Extraction of precious metal ores (exploitation, processing of Tungsten, Fluorspar, Bismuth, Copper and Gold);
- Extraction of other, non-ferrous containing ore;
- Architecture and related technical consulting (geological and water resource exploration (mineral exploration));
- Assistance service activities for mining of other, not mentioned above, ores;
- Production of precious metal ores;
- Sale of the metals and metal ores (excluding sale and purchase of gold bars);
- Management consultancy;
- Other special office assistance; and
- Import and export of the products traded by the Company.

MASAN TUNGSTEN LIMITED LIABILITY COMPANY (MTC)

| | |
|---|--|
| Name of the Company: | Masan Tungsten Limited Liability Company |
| Address: | Suoi Cat Hamlet, Ha Thuong Commune, Dai Tu District, Thai Nguyen Province, Vietnam |
| Telephone: | +84 24 73075588 |
| Fax: | +84 24 37182491 |
| Enterprise Registration Certificate: | No. 4601163743 issued by the Department of Planning and Investment of Thai Nguyen province on January 15, 2014, the 12th amendment dated July 19, 2022 |
| Charter Capital | VND 3,238,491,280,000 |
| Contributed capital in Company | VND 3,238,491,280,000 |
| Capital contribution ratio of the Company: | 100% of charter capital |

Major business sectors

Manufacture of non-ferrous metals and rare metals (processing tungsten for export or domestic trade).

H.C. STARCK HOLDING (GERMANY) GmbH

| | |
|---|--|
| Registered Number: | HRB 200744 |
| Registered Office: | Im Schleeke 78-91, 38642 Goslar, Germany |
| Date and place of incorporation: | Date and place of incorporation: April 23, 2007, Goslar, Germany |
| Charter capital: | EUR 25,000 |
| Ownership: | Masan Tungsten Limited Liability Company |
| Ownership: | Craig Richard Bradshaw, Stephan Broske, Dr. Hady Seyeda (Managing Director) |
| Accounting reference date: | December 31 |
| Tel: | +49 5321 751-0 |
| Business sectors | Holding company, no operating business |

H.C. Starck GmbH

| | |
|---|--|
| Registered Number: | HRB 200743 |
| Registered Office: | Im Schleeke 78-91, 38642 Goslar, Germany |
| Date and place of incorporation: | April 20, 2007, Goslar, Germany |
| Charter capital: | EUR 10,000,000 |
| Ownership: | H.C. Starck Holding (Germany) GmbH |
| Ownership: | Craig Richard Bradshaw, Stephan Broske, Dr. Hady Seyeda (Managing Director) |
| Accounting reference date: | 31 December |
| Tel: | +49 5321 751-0 |
| Business sectors | Holding company, no operating business. |

H.C. Starck TUNGSTEN GmbH

| | |
|---|--|
| Registered Number: | HRB 210391 |
| Registered Office: | Im Schleeke 78-91, 38642 Goslar, Germany |
| Date and place of incorporation: | November 26, 2015, Munich, Germany |
| Charter capital: | EUR 26,000,000 |
| Ownership: | H.C. Starck GmbH |
| Ownership: | Dominic Heaton, Stephan Broske, Dr. Hady Seyeda (Managing Director) |
| Accounting reference date: | December 31 |
| Tel: | +49 5321 751-0 |
| Business sectors | |

- Production of tungsten chemicals, tungsten metal, tungsten car- bide and powders.
- Research and development of technologies for raw materials processing (including recycling)

H.C. STARCK INFRASTRUCTURE GmbH & Co. KG GmbH

| | |
|---|--|
| Registered Number: | HRA 104613 |
| Registered Office: | Nymphenburger Str, 84, 80335 Munich, Germany |
| Date and place of incorporation: | November 26, 2015, Munich, Germany |
| Charter capital: | EUR 26,000,000 |
| Ownership: | H.C. Starck Tungsten GmbH Limited |
| Ownership: | H.C. Starck Tungsten GmbH Limited Partner: H.C. Starck GmbH |
| Accounting reference date: | December 31 |
| Business sectors | Landowner in Goslar, lessor of certain buildings on site, owner of the H.C. Starck brand, licensor |

JIANGWU H.C. STARCK TUNGSTEN PRODUCTS co, LTD

| | |
|---|---|
| Registered Number: | 360700520012039 |
| Registered Office: | Shuixi Nonferrous and Metallurgical Industrial Base, Zhanggong District, Ganzhou, Jiangxi Province, PRC |
| Date and place of incorporation: | November 27, 2012, Ganzhou, PRC |
| Charter capital: | RMB 95,355,000 |
| Ownership: | H.C. Starck Tungsten GmbH (30%) Jiangxi Tungsten Industry Co., Ltd. (70%) |
| Directors: | Dr. Hady Seyeda, Yi Zhang (Board of Directors) |
| Accounting reference date: | December 31 |
| Tel: | +86 18870105188 |

Business sectors

- Production of ammonium paratungstate and tungsten oxide products
- Sale of ammonium paratungstate and tungsten oxide products
- Architecture and related technical consulting
- Production and trade of chemical products (excluding dangerous goods)

H.C. STARCK JIANGWU TUNGSTEN SPECIALITIES (GANZHOU) CO., LTD.

| | |
|---|--|
| Registered Number: | 070020036480 |
| Registered Office: | Shuixi Nonferrous and Metallurgical Industrial Base, Zhanggong District, Ganzhou City, Jiangxi Province, PRC |
| Date and place of incorporation: | July 31, 2012, Ganzhou, PRC |
| Charter capital: | RMB 149,625,000 |
| Ownership: | H.C. Starck Tungsten GmbH (60%) Jiangxi Tungsten Industry Co., Ltd. (40%) |
| Directors: | Dr. Hady Seyeda, Yi Zhang, Nanqiu Wen (Board of Directors) |
| Accounting reference date: | December 31 |
| Tel: | +86 797 5162518 |

Business sectors

- Production of tungsten metal powder and tungsten carbide powder
- Sale of tungsten metal powder and tungsten carbide powder
- Research and development of tungsten metal powder and tungsten carbide powder
- Import and export of products traded by company, and
- Other value-added services for customers

H.C. STARCK NONFERROUS METALS TRADING (SHANGHAI) CO. LTD

| | |
|---|--|
| Registered Number: | 12000002201811140012 |
| Registered Office: | Room 204, Tower T1A, Hongqiao Lihpao Plaza / No. 189 Shen Wu Road / Min Hang District / Shanghai, 201100/ P.R. China |
| Date and place of incorporation: | November 14, 2018, Shanghai, PRC |
| Charter capital: | RMB 4,000,000 |
| Ownership: | H.C. Starck Tungsten GmbH |
| Directors: | Stephan Broske (Legal Representative) |
| Accounting reference date: | December 31 |
| Tel: | +86 21 6025 1106 |

Business sectors

- Sales, customer service, application supporting, marketing consulting, financial and management consulting
- Other special office assistance, not mentioned above

H.C. STARCK CANADA INC.

| | |
|---|---|
| Registered Number: | 435820-1 |
| Registered Office: | 933 Vidal Street South, P.O. Box 3098, Sarnia, Ontario, N7T 8H8, Canada |
| Date and place of incorporation: | May 18, 2006, Sarnia, Canada |
| Ownership: | H.C. Starck Tungsten GmbH |
| Directors: | Stephan Broske, Ryan Bende |
| Accounting reference date: | December 31 |
| Tel: | +1 519-346-4300 |

Business sectors

- Manufacturing Chemicals
- Producing Tungsten Metal Powders, Tungsten Carbide Powders and Cast Tungsten Carbide Powder

H.C. STARCK TUNGSTEN GK

| | |
|---|--|
| Registered Number: | 0100-03-027237 |
| Registered Office: | 2-20, Kaigan 1-chome, Minato-ku, Tokyo 105-0022, Japan |
| Date and place of incorporation: | March 26, 2018, Tokyo, Japan |
| Charter capital: | JPY 650,000 |
| Ownership: | H.C. Starck Tungsten GmbH |
| Directors: | Stephan Broske, Tadashi Iba (Operating Officers) |
| Accounting reference date: | December 31 |
| Tel: | +81-3-6721-8050 |

Business sectors

- Import, export, and sales of rare metals and chemical compounds such as tungsten, and cobalt, etc.; and
- Any other business incidental to or relating to the foregoing such as scrap recovery of cemented carbides, heavy metals, etc.

H.C. STARCK TUNGSTEN LLC

| | |
|---|--|
| Registered Number: | 7615788 |
| Registered Office: | 275 Grove St. Suite 2-400, Newton, MA 02466, USA |
| Date and place of incorporation: | September 19, 2019, Newton, USA |
| Ownership: | H.C. Starck Tungsten GmbH |
| Directors: | Hendrik Becker (President) |
| Accounting reference date: | December 31 |
| Tel: | +1-339-293-0990 |

Business sectors

- Sale of metals and metal ores
- Import and export of the products by the Company

CHEMISCHE FABRIKEN OKER UND BRAUNSCHWEIG AKTIENGESELLSCHAFT

| | |
|---|--|
| Registered Number: | 110008 |
| Registered Office: | Im Schleeke 78 - 91, 38642 Goslar, Germany |
| Date and place of incorporation: | February 14, 2006, Goslar, Germany |
| Charter capital: | EUR 205,000 |
| Ownership: | H.C. Starck GmbH |
| Directors: | Juliane Saupe (Management board), Dr. Hady Seyeda (Chairman of Supervisory Board), Stephan Broske (Member of Supervisory Board) |
| Accounting reference date: | December 31 |
| Tel: | +49 5321 751-0 |
| Business sectors | Landowner in Goslar, lessor of certain buildings on site |

CHEMILYTICS BETEILIGUNGS GmbH

| | |
|---|--|
| Registered Number: | HRB 207566 |
| Registered Office: | Im Schleeke 78 - 91, 38642 Goslar, Germany |
| Date and place of incorporation: | December 27, 2018, Goslar, Germany |
| Charter capital: | EUR 25,000 |
| Ownership: | H.C. Starck Holding (Germany) GmbH |
| Directors: | Dr. Sascha Janosch (Managing Director) |
| Accounting reference date: | December 31 |
| Tel: | +49 5321 751 51515 |
| Business sectors | Holding company, no operating business |

CHEMILYTICS GmbH & Co. KG

| | |
|---|--|
| Registered Number: | HRA 202206 |
| Registered Office: | Im Schleeke 78 – 91, 38642 Goslar, Germany |
| Date and place of incorporation: | October 10, 2018, Goslar, Germany |
| Charter capital: | EUR 10,000 |
| Ownership: | General partner: H.C. Starck GmbH (98%), Limited partner: ChemiLytics Beteiligungs GmbH (2%) |
| Directors: | General partner: H.C. Starck GmbH |
| Accounting reference date: | December 31 |
| Tel: | +49 5321 751 51515 |
| Business sectors: | Laboratory for a full range of inorganic elemental analytics and powder characterization serving all relevant industries e.g. metal, chemistry, ceramic and battery. |



MANAGEMENT STRUCTURE

MHT General Meeting of Shareholders

The General Meeting of Shareholders is the supreme authoritative body of the Company. The Annual General Meeting (AGM) of Shareholders shall be organized once a year. The annual General Meeting of Shareholders shall be convened within 4 months from the end of the financial year, or as may be extended, but not beyond 6 months from the end of the fiscal year, to the extent permitted by the business registration authority and at the request of the Board of Directors.

MHT Board of Directors

The Board of Directors (BOD) is responsible for the overall management and direction of the Company. The Board of Directors typically meets when required, but at least every quarter, to review and monitor the Company's financial position and operations.

The current Board of Directors comprises five (5) members. The term of the Board of Directors is five years. The term of each member of the Board of Directors shall not exceed five years, with a possibility of re-election at the end of the term. The Board of Directors may elect, dismiss or remove the Chairman of the Board of Directors.

List of members of the Board of Directors

The current members of the current Board of Directors are as follows:

| NAME | POSITION IN THE COMPANY | EXECUTIVE/ NON-EXECUTIVE MEMBER | DATE OF APPOINTMENT |
|----------------------------|---|------------------------------------|------------------------|
| Mr. Danny Le | Chairman of the Board of Director | Non-executive member | 19/04/2019 |
| Mr. Nguyen Thieu Nam | First Vice Chairman of the Board of Directors | Non-executive member | 18/02/2013 |
| Mr. Craig Richard Bradshaw | Member of the Board of Director | Executive member | 19/04/2019 |
| Mr. Akira Osada | Member of the Board of Directors | Non-executive member | 12/04/2021 |
| Ms. Nguyen Thu Hien | Member of the Board of Directors | Independent member | 12/04/2021 |

MHT Management Team



MR. CRAIG RICHARD BRADSHAW
Chief Executive Officer

Mr. Craig Richard Bradshaw has over 25 years' experience in the mining business, spanning mining and processing operations, logistics, and sales and marketing in Australia, Thailand and Lao PDR. Mr. Bradshaw was previously

Senior Commercial Manager for Lang Xang Minerals Ltd Sepon Mine. He has also previously served as the Country General Manager for Thailand for Toll, Australia's largest fully integrated logistics service provider. Prior to this, Mr. Bradshaw worked in management roles for Mount Isa Mines Limited ("MIM") and Xstrata.



DR. HADY SEYEDA
Deputy Chief Executive Officer

Dr. Hady Seyeda has more than 20 years' experience in refractory metal industry and technology, specialized in Tungsten, Tantalite and Niobium.

Mr. Hady owns 3 patents and is co-author of 12 publications. He has Doctor's degree in Inorganic chemistry and worked for H.C. Starck since 1998 at key positions such as: Deputy Chairman of Corporate Strategy, Deputy Director of Plant Operation and Management in Goslar, MD China.



MR. NGUYEN HUY TUAN
Acting Chief Financial Officer

Mr. Nguyen Huy Tuan is a Bachelor of International Business Economics - Foreign Trade University and a member of the Association of Chartered Certified Accountants (ACCA). He has more than 10 years of experience in the

field of finance, accounting and auditing. Prior to joining the Company, Mr. Tuan had more than 5 years working at PwC Vietnam Co., Ltd.



MS. NGUYEN THI THANH MAI
Chief Accountant

Mrs. Nguyen Thi Thanh Mai is a Bachelor of Accounting at National Economics University and holds an Auditor Certificate issued by the Ministry of Finance. She has more than 10 years of experience in auditing at Arthur Andersen Vietnam Limited Company and KPMG Limited. Prior to joining MHT, she

was the Chief Accountant in charge of accounting, finance and tax at Ban Phuc Nickel Mines Limited Liability Company for 12 years.

NPMC Management Structure

The rights and obligations of the Members' Council, the Chairman and the General Director are regulated by the charter of Nui Phao Mining. According to the charter of NPMC, the Members' Council is the highest decision-making body of NPMC. The Members' Council is responsible for the management of the businesses and for the appointment of principal senior management of MTC. The Chairman of the Members' Council is elected by the Members' Council. The term of office of the Chairman is five years and can be re-elected without any limit.



MR. NGUYEN THIEU NAM
Member



MR. NGUYEN VAN THANG
Member



MR. DANNY LE
Member



MR. CRAIG RICHARD BRADSHAW
Member

List of the members of the Members' Council of NPMC

| NAME | POSITION IN THE COMPANY | DATE OF APPOINTMENT |
|----------------------------|---------------------------------------|---------------------|
| Mr. Nguyen Thieu Nam | Chairman of the Members' Council | 19/04/2019 |
| Mr. Nguyen Van Thang | Vice Chairman of the Members' Council | 09/11/2010 |
| Mr. Danny Le | Member of the Members' Council | 19/04/2019 |
| Mr. Craig Richard Bradshaw | Member of the Members' Council | 19/04/2019 |

NPMC Management Team



MR. CRAIG RICHARD BRADSHAW
Chief Executive Officer

Mr. Craig Richard Bradshaw has over 25 years' experience in the mining business, spanning mining and processing operations, logistics, and sales and marketing in Australia, Thailand and Lao PDR. Mr. Bradshaw was previously Senior Commercial Manager for Lang Xang Minerals Ltd Sepon Mine. He has also previously served as the Country General Manager for Thailand for Toll, Australia's largest fully integrated logistics service provider. Prior to this, Mr. Bradshaw worked in management roles for Mount Isa Mines Limited ("MIM") and Xstrata.



MR. NGUYEN HUY TUAN
Acting Chief Financial Officer

Mr. Nguyen Huy Tuan is a Bachelor of International Business Economics - Foreign Trade University and a member of the Association of Chartered Certified Accountants (ACCA). He has more than 10 years of experience in the field of finance, accounting and auditing. Prior to joining the Company, Mr. Tuan had more than 5 years working at PwC Vietnam Co., Ltd.



MR. PHAN CHIEN THANG
Director of Media, Community and External Relations

Mr. Phan Chien Thang holds the position of Director of Media, Community and External Relations at Masan High-Tech Materials, cum. PR Deputy Director of Masan Group. Mr. Thang has 22 years of experience in the field of journalism, communication and corporate affairs. Prior to joining Masan High-Tech Materials, Mr. Thang worked as Deputy Editor-in-Chief of the Saigon Times (under the People's Committee of Ho Chi Minh City). He formerly held a number of senior roles at Lao Dong Newspaper. He has attended numerous international training courses in communication and public relations in Germany, Israel, and Sweden. Mr. Thang has a broad network of press agencies, government agencies ranging from local to central, and extensive experience in working closely with the community. Mr. Thang also holds the position of Vice Chairman of Vietnam Association of Geological and Mineral Enterprises (VAGME). Mr. Thang graduated with a Bachelor of Laws - Hanoi Law University and a BA in English - Hanoi University of Foreign Languages (now Hanoi University).


MR. ASHLEY MC ALEESE
General Manager of Thai Nguyen Operations

Mr. Ashley Mc Aleese is a qualified Minerals Processing Engineer with more than 18 years of operational experience across a range of commodities that include Copper, Gold, Silver, Zinc and Lead on both operating and greenfield projects working in Australia, Indonesia, Papua New Guinea and now Vietnam. Prior to joining NPMC, he was the Operations Manager for PT Batutua Tembaga Raya which owns the Wetar Copper Project on Wetar island, Indonesia and prior to that was Operations Manager for PT Natarang Mining in Indonesia. He is a member of Australasian Institute of Mining & Metallurgy.


MR. JEREMY HIBBERD
Chief Information Officer

Mr. Jeremy Hibberd is a Senior Information Technology Leader with wide-ranging experience leading strategic and transformational IT programs and having strong technical and people leadership skills developed over 25 years' managing IT services across a number of sectors globally. Prior to joining MHT, he was the Senior IT Operations Manager for Queensland Rail, and has extensive experience in the Mining sector as the Global IT Operations Manager for Zinifex, OZ Minerals and MMG.


MR. BRENDEN LEE WEEKS
Head of Operational Technology and Innovation

Mr. Brenden Lee Weeks, a qualified Chemical Engineer, has more than 21 years of extensive experience in the design, commissioning and operation of processing facilities in the natural resources industry throughout the world including Australia, Laos, Spain, New Caledonia and Vietnam. He has the ability to lead multidisciplinary teams to develop innovative solutions and optimize metal and complex minerals processing facilities working across Tungsten, Fluorite, Bismuth, Copper, Nickel and Gold. Prior to joining NPMC, he was the Process Manager for MMG Limited at their Sepon Copper and Gold Smelter in Laos.


MR. WILLIAM JOHN PARRY-JONES
Head of Sales and Marketing

Mr. William John Parry-Jones has more 10 years of experience in the minerals and metals industry with a particular focus on the sales and marketing of tungsten products. Prior to joining NPMC, he worked as a commodities trader for Amalgamated Metal Corporation, where he developed extensive knowledge of international commerce and strong global connections in the upstream technology metals industry. He holds a Bachelor's degree in the field of Materials Engineering, and a Master of Science in the field of Aerospace Composites from Imperial College London, UK.


MR. BRIAN POOK
Director of MHT Projects

Mr. Brian is a qualified Mechanical Engineer with over 20 years' of leadership experience in the capital portfolio and project management disciplines. He comes to us with a wealth of professional experience in international project portfolio management including successful brownfield and greenfield project delivery in underground & open cut mining, smelting, chemicals, mineral processing and manufacturing operations across Australia, Asia, South America and Europe. He has worked for global organizations in senior management roles including MMG, Orica and Iluka Resources.


DR. MARC ROOS
Director of Global Human Resources

Dr. Marc graduated with a PhD in Science from Swiss Federal University of Technology (ETH) Zurich, Switzerland before embarking on a 20-year career in Human Resources Management. He comes to us with a wealth of global experience having worked for companies such as Shell, Glencore, and Weir Engineering in a range of locations including Cameroon, France, Russia, Netherlands, Mauritania and Qatar.

MTC Management Structure

According to the Charter of MTC, the organizational structure of MTC consists of the Members' Council and the General Director. The Members' Council is the supreme decision-making body of MTC and consists of a maximum of four (4) representatives appointed by NPMC and TNTI, of which up to three (3) representatives are to be appointed by NPMC and one (1) representative is to be appointed by TNTI.

The Members' Council is responsible for the management of the businesses and the appointment of the principal senior management of MTC. The Members' Council has one Chairman who is nominated by NPMC and elected by the Members' Council. The term of office of the Chairman is five years and can be re-elected without any limit.



MR. NGUYEN VAN THANG
Chairman



MR. NGUYEN THIEU NAM
Member



MR. CRAIG RICHARD BRADSHAW
Member

MTC Management Team



MR. CRAIG RICHARD BRADSHAW
General Director

Mr. Craig Richard Bradshaw has over 25 years' experience in the mining business, spanning mining and processing operations, logistics, and sales and marketing in Australia, Thailand and Lao PDR. Mr. Bradshaw was previously Senior Commercial Manager for Lang Xang Minerals Ltd Sepon Mine. He has also previously served as the Country General Manager for Thailand for Toll, Australia's largest fully integrated logistics service provider. Prior to this, Mr. Bradshaw worked in management roles for Mount Isa Mines Limited ("MIM") and Xstrata.



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MR. STUART ARNOLD
MTC Operations Manager

Stuart has over 22 years' experience in Mineral Processing and Metallurgy. Before working as an Operation Manager of MTC plant, he had been in the role of Superintendent - Metallurgy at Nui Phao Mining Company Limited.



Audit Committee

| Members of the Audit Committee | Position | Day becoming/no longer member of the Audit Committee | Number of attendances | Percentage | Reasons for absence |
|--------------------------------|------------|--|-----------------------|------------|---------------------|
| Ms. Nguyen Thu Hien | Chairwoman | 12/04/2021 | 2/2 | 100% | - |
| Mr. Nguyen Thieu Nam | Member | 12/04/2021 | 2/2 | 100% | - |

Sustainability Committee

| Members of Sustainability Committee | Position | Day becoming/no longer member of the Sustainability Committee | Number of attendances | Percentage | Reasons for absence |
|-------------------------------------|----------|---|-----------------------|------------|---------------------|
| Mr. Ashley James McAleese | Chairman | 11/01/2021 | 4/4 | 100% | - |
| Mr. Nguyen Van Thang | Member | 23/06/2017 | 4/4 | 100% | - |
| Mr. Craig Richard Bradshaw | Member | 23/06/2017 | 4/4 | 100% | - |
| Mr. Tran Phuong Bac | Member | 23/06/2017 | 4/4 | 100% | - |

Risk & Audit Committee

| Members of Risk & Audit Committee | Position | Day becoming/no longer member of the Risk & Audit committee | Number of attendances | Percentage | Reasons for absence |
|-----------------------------------|----------|---|-----------------------|------------|---------------------|
| Mr. Craig Richard Bradshaw | Chairman | 21/09/2017 | 1/1 | 100% | - |
| Mr. Tran Phuong Bac | Member | 21/09/2017 | 1/1 | 100% | - |
| Mr. Pham Nguyen Hai | Member | 21/09/2017 | 1/1 | 100% | - |

HCS Management Team

**DR. HADY SEYEDA***H.C. Starck Tungsten Powders CEO*

Dr. Hady Seyeda has more than 20 years' experience in refractory metal industry and technology, specialized in Tungsten, Tantalite and Niobium. Mr. Hady owns 3 patents and is co-author of 12 publications. He has Doctor's degree in Inorganic chemistry and worked for HCS since 1998 at key positions such as: Deputy Chairman of Corporate Strategy, Deputy Director of Plant Operation and Management in Goslar, MD China. In 2016, he was appointed to the position of Deputy General Manager, responsible for monitoring production, research and development, managing supply chain and health, safety and emergency response of the Company with branches worldwide. Since 2018 until now, he has held a position of General Manager of H.C. Starck.

**MR. STEPHAN BROSKE***H.C. Starck Tungsten Powders CFO*

Mr. Stephan Broske has over 25 years' financial experience in a wide range of sectors such as banking, logistics and chemicals. With 14 years working at H.C. Starck, he started working as the Head of Financial department then became the Chief Financial Officer of the Company until now. Prior to that, he worked as a Financial Risk Manager for Cognis Special Chemicals, Henkel sculpture and fabrication company, and the Deutsche Post DHL Group. He started his career at HypoVereinsbank / UniCredit as a Sales Manager for foreign exchange & currency market. Mr. Broske holds a Certified Financial Investment Analyst® (CFA) recognized globally.

**MS. JULIANE SAUPE***Site Manager - H.C. Starck Tungsten Goslar, Germany*

Ms. Juliane Saupe has 15 years' experience in the chemical industry, process development and optimization, Lean management, sustainability and health management. After graduating from the Technical University of Berlin as chemical engineer, she started working as a R&D project manager at H.C. Starck in 2007. Later, she switched to plant management and has now been the site manager of our location in Goslar since 2019.

**MR. RYAN BENDER***Plant Manager/ General Manager - H.C. Starck in Sarnia, Canada*

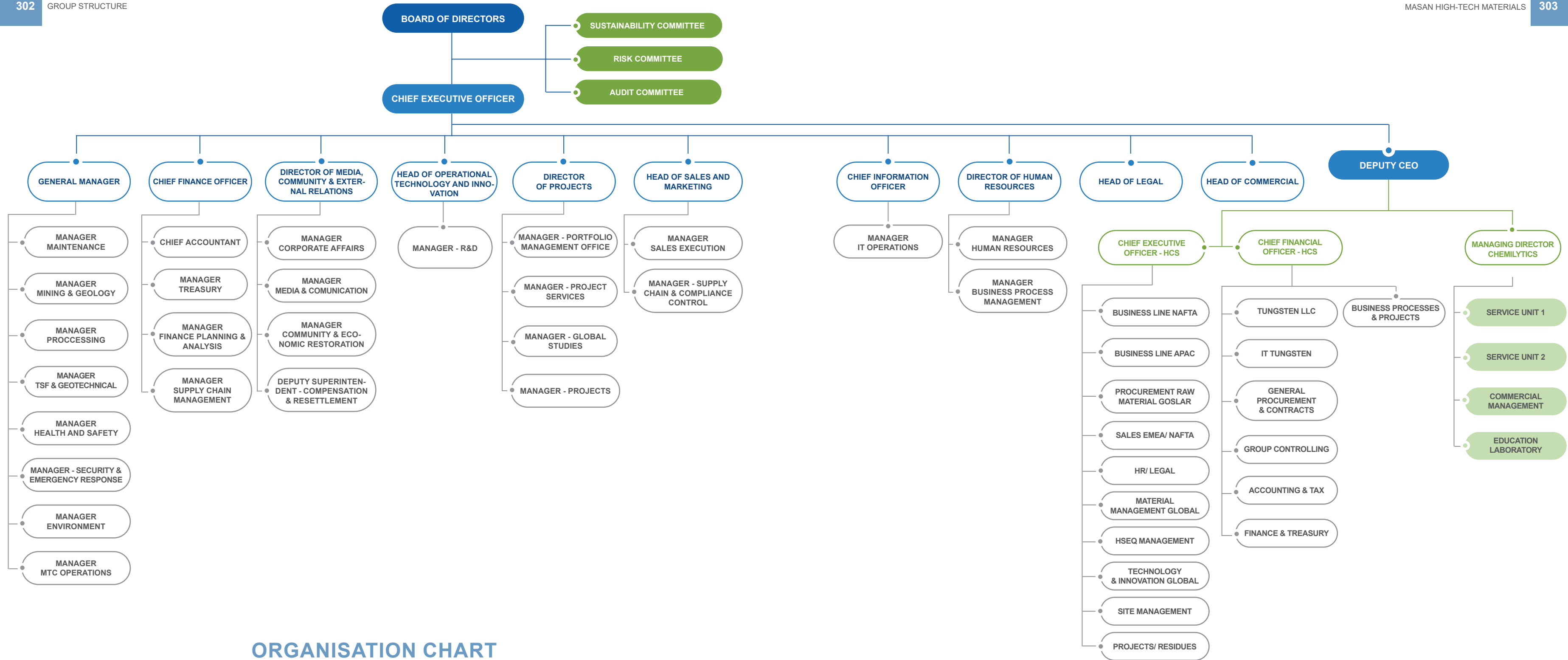
Mr. Ryan Bender has more than 20 years' management experience in manufacturing industry. He has been with H.C. Starck Canada for 10 years, holding several progressive positions before taking over management of the Sarnia Site in January 2019. When not making Tungsten, Ryan works part time as a firefighter and is a certified Emergency Medical Responder.

**MR. PETER ZHANG***General Manager - H.C. Starck APAC*

Mr. Peter Zhang has more than 25 years' experience of powder business in Asia. As senior management group member for Höganäs Asia Pacific, he led China to become the most successful subsidiary for Höganäs Group. Previously, he worked as President for Wagner Industry Solutions China. Mr. Zhang is skilled at creating and sharing value on the whole value chain as well as building strong local team to drive sustainable growth and profitability for foreign companies in China and the Asia region.

**DR. JULIA MEESE-MARKTSCHEFFEL***Director Technology & Innovation Global*

Dr. Julia Meese-Marktscheffel has over 25 years of experience in global innovation and technology management in the chemical industry. As graduated chemist and certified business chemist her main innovation focus areas are on R&D strategy and development of superior product portfolios. Her international record refers to the set-up of diverse joint ventures including commissioning and ramp-up of new powder productions at sites in Canada and Japan in the battery material business and for strategic Tungsten powders/chemicals in China and Vietnam. She started her professional career within the rare earth element chemistry followed by more than 10 years in the cathode materials development of secondary batteries zooming in on Nickel/Cobalt based Lithium ion/ polymer batteries for electromobility. Scientific emphasis meanwhile is across the value chains of the refractory metals, in particular Tungsten. She is a member of the Scholarship Foundation of the German Nation as well as of the Alexander-von-Humboldt Foundation of Germany.



ORGANISATION CHART

DEVELOPMENT STRATEGIES

Sustainability at MHT

Development Objectives

Social Development Objectives

Growth through Sustainability



Sustainability at MHT

MHT is dedicated to building a sustainable business that not only ensures the longevity of our company but also adds value to our shareholders. Our sustainability strategy is rooted in addressing global issues, such as pandemic management, climate change, human rights, social change, and responsible sourcing.

We believe in keeping our sustainability commitments public and welcome an open dialogue on the topic. Our approach, values, success metrics, and decision-making process are communicated to our employees and shareholders, promoting a common understanding of our sustainability efforts.

At MHT, sustainability is about reducing negative impacts on the environment, society, economy, and culture while supporting and sustaining the industries and communities we operate in. Our policies are set at a global level, with a focus on local implementation. By identifying and managing risks, we aim to create a sustainable future for all stakeholders.

Our Development Objective

MHT has set a bold objective to position Vietnam as a leader in Tungsten recycling technology. The company is actively researching and planning to construct its first Tungsten recycling plant in the country, in line with the global trend towards a circular economy and sustainable development. The project aims to reduce reliance on primary raw materials from mining activities and establish Vietnam as a regional technology hub for recycling tungsten and precious metals.

By 2027, MHT's vision is to become not only the world's leading supplier of high-tech materials, but also an innovation leader in the field of global consumer technology products. The company plans to introduce the high-efficiency rechargeable Li-ion battery to the market, positioning itself as a first-to-market player. This ambitious objective reflects MHT's commitment to innovation, sustainability and long-term growth.

Social Development Objective

At Masan High-Tech Materials (MHT), our social development objective is to not only support the local community, but also strive for sustainable growth through responsible business practices. As part of our commitment to promoting the circular economy, we aim to recycle a similar amount of tungsten as our annual production, reducing the reliance on primary raw materials from mining activities. In addition, our focus on producing technology consumer products not only benefits the consumer, but also the environment. Our products continue to maintain market leadership across important indicators such as customer feedback, customer ratings, and pricing advantage against similar products. This demonstrates our continued value proposition to customers and our commitment to sustainable business practices.



“Growth through Sustainability” Strategy

Since its start of operations, MHT has regarded “Sustainability” as the fundamental component of its corporate DNA, rather than a trendy buzzword. “Sustainability” continued to be central to the Company’s growth strategy after successful acquisition and integration of H.C. Starck, and the company has been working on multiple growth avenues which would be contributing to creating a sustainable ecosystem for all its global stakeholders.

Sustainable solutions using advanced materials

MHT teams have been successfully working and launching innovative solutions for different consumer segments under its strategy of moving further downstream and getting closer to consumers by developing new and innovative applications.

The recent launch of advanced tungsten powders under its patented trademark “starck2charge” battery materials range and investment into Nyobolt Limited, a pioneer in the development and commercialization of tungsten-based fast-charging battery solutions, in FY2022, was the validation of MHT’s commitment to developing the sustainable and cost-effective solutions for the world’s energy needs today.

Through its investment and strategic partnership with Nyobolt Limited, MHT will not only be able to provide a comprehensive, cost-effective and innovative battery solutions but shall strengthen MHT’s involvement in the B2C business segments through greater access to and development of consumer-based battery and product solutions in the future.

Additive manufacturing, also known as 3D printing, is another sunrise segment that MHT is serving through its innovative tungsten products and complementary services under the trademark “starck2print”. The Company is intensively working to move further downstream using its specialized tungsten products differentiated for their flowability and optimized particle size distribution underpinning a new growth market.

Circular economy-based growth models

In contrast to the “take-make-waste” linear and conventional business models, MHT has been consciously adopting a systemic circular economy-based approach to develop an inclusive growth platform for all its stakeholders, including its employees, shareholders, society and the environment.



In 2022, MHT successfully worked on the pre-feasibility study of setting up a tungsten scrap recycling plant in Vietnam to supplement the tungsten concentrates supply in a cost-effective manner to its fully owned subsidiary, Masan Tungsten Company Ltd, and realize the economy of scale. This was accomplished by leveraging the in-house scrap recycling expertise and intellectual property gained through decades of scrap processing experience at its subsidiary H.C. Starck Tungsten Powders located at Goslar, Germany.

Tungsten scraps required for this future plant in Vietnam would be procured domestically as well as imported when regulatory licenses and permits are obtained. On the back of sustainable manufacturing growth and commensurate tungsten demand in Vietnam, the proportion of domestic scrap procurement is expected to increase over time.

Besides developing tungsten-containing innovative materials and battery solutions, in FY2022, MHT team also commenced construction on its pilot black mass recycling facility at Goslar, Germany. The results from the pilot plant once constructed and operational will be used to finalize the technical design and bankable feasibility study for moving forward with commercialization of the project. From a design perspective the facility in commercial operation is expected to be scalable to enable multiple facilities to be completed and enable localized recycling of black mass in respective legal jurisdictions directly meeting expectations of geo-political regionalization of recycling in future.

Operational strategies for sustainable competitive advantages

In addition to riding the growth waves, MHT has been continuously applying the concepts of sustainability for its operations in Vietnam, Germany, Canada and China. In FY2022, we delivered on various operational initiatives to achieve cost efficiencies including but not limited to raw materials, mining, processing, maintenance costs and general corporate overheads.

In order to achieve the mutually beneficial outcome in terms of security of supply and cost to the business, MHT monitors and optimizes the consumption of major consumables and ancillary services required for its operation while currently developing strategic partnerships with suppliers, contractors and other service providers. We are also working to develop in-house solutions for selected critical services required for our operations in Vietnam and Germany, either through organic or inorganic routes.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This communication contains information that may constitute “forward-looking statements”. Generally, the words “believe”, “expect”, “intend”, “aim”, “estimate”, “anticipate”, “project”, “will” and similar expressions identify forward-looking statements, which generally are not historical in nature. However, the absence of these words or similar expressions does not mean that a statement is not forward-looking. All statements that address operating performance, events or developments that we expect or anticipate will occur in the future – including statements relating to volume growth, share of sales and earnings per share growth, and statements expressing general views about future operating results – are forward-looking statements.

Management believes that these forward-looking statements are reasonable as and when made. However, caution should be taken not to place undue reliance on any such forward-looking statements because such statements speak only as of the date when made. Masan High-Tech Materials Corporation undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. In addition, forward-looking statements are subject to certain risks and uncertainties that could cause audited results to differ materially from our company’s historical experience and our present expectations or projections. These risks include commodity pricing risks and the prices

we obtain for our Tungsten, Copper, Fluorspar and Bismuth are determined by, or linked to, prices in world markets, which have historically been subject to substantial volatility. Fluctuations in commodity prices can occur due to price shifts reflecting underlying global economic and geopolitical factors, industry demand, increased supply due to the development of new productive resources, technological change, product substitution and national tariffs. Volatility in global economic growth has the potential to adversely impact future demand and prices for commodities. This has the potential to negatively impact future earnings and cash flows. These risks and uncertainties include, but are not limited to, those described elsewhere in this report and those described from time to time in our future reports filed with the Hanoi Stock Exchange.

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CONFIRMATION BY THE COMPANY’S LEGAL REPRESENTATIVE



Craig Richard Bradshaw
Chief Executive Officer

ABBREVIATIONS/ DEFINITIONS

| | |
|-----------|--|
| ACCA | Association of Chartered Certified Accountants |
| AFFF | Aqueous Film Forming Foam |
| AGM | Annual General Meeting |
| ANCO | Argo Nutrition International Joint Stock Company |
| APEC | Asia-Pacific Economic Cooperation |
| APT | Ammonium Paratungstate |
| APT Plant | Tungsten Chemicals Processing Plant of Masan Tungsten LLC |
| BGC | German BG Case |
| BImSchG | Bundesimmissionsschutzgesetz (Federal Emission Control Act) |
| BOD | The Board of Directors of the Company |
| BOJ | Bank of Japan |
| BTO | Blue Tungsten oxide |
| C&R | Compensation and Resettlement |
| CEO | Chief Executive Officer |
| CFO | Chief Financial Officer |
| CHES | Community, Health, Environment, Safety and Sustainability committee |
| Company | Masan High-Tech Materials/Masan High-Tech Materials Corporation and its subsidiaries |
| CSI | Corporate Sustainability Index |
| CSR | Corporate social responsibility |
| DAW | Days Away From Work |
| DAWC | Days Away From Work Cases |
| DAWC 3 | Number of Days Away from Work Cases of third party Contractors |
| DAWCR | Days Away From Work Cases Rate |
| DP2 | Discharge Point 2 |
| DP3 | Discharge Point 3 |
| EBITDA | Earnings before Interest, Taxes, Depreciation and Amortization |
| EC | Electro-chromic |
| EIA | Environmental Impact Assessment |
| ENV | Environment |
| EMAS | Eco Management and Audit Scheme |
| E-PRTR | European Pollutant Release and Transfer Register |
| ERD | Economic Restoration Development |
| FA | Fatal Accidents |
| FY | Financial Year |

| | |
|------------------------|---|
| GDP | Gross Domestic Product |
| H.C. Starck or HCS | H.C. Starck Tungsten Powders |
| HC | Headcount |
| HNX | The Hanoi Stock Exchange |
| HR | Human Resources |
| HRD | Human Resources Department |
| HSD | Hill Side Dyke |
| HSS | Health, Safety and Security Department |
| IC | Integrated Circuit |
| IED | Industrial Emissions Directive |
| IT | Information technology |
| ITIA | The International Tungsten Industry Association |
| ITLC | International Trade law & Customs |
| ITRB | Independent Tailings Review Board |
| Law on Enterprises | Law on Enterprises No. 68/2014/QH13 dated November 26, 2014 of the National Assembly of the Socialist Republic of Vietnam |
| LCD | Liquid Crystal Display |
| LTI | Lost-Time-Injury |
| LTIFR | Lost Time Injury Frequency Rate |
| M&A | Mergers and Acquisitions |
| M&G | Mining & Geology |
| MAINT | Maintenance |
| MAQ | German Accident Rate |
| Masan Group | MSN and its subsidiaries |
| Masan Horizon or MH | Masan Horizon Company Limited |
| Masan Resources or MSR | Masan Resources Corporation |
| MCH | Masan Consumer Corporation |
| MHT | Masan High-Tech Materials Corporation |
| MNSMML | Masan Nutri-Science CorporationMasan MEATLife Corporation |
| MONRE | Ministry of Natural Resources and Environment |
| MRTN | Masan Thai Nguyen Resources Company Limited |
| MSN | Masan Group Corporation |

| | |
|-------------------|---|
| MTC | Masan Tungsten Limited Liability Company |
| mtu | 1mtu = 10kg |
| NHTCM | Nui Phao - H.C. Starck Tungsten Chemicals Manufacturing |
| NPAT | Net Profit After Tax |
| NPMC | Nui Phao Mining Company Ltd |
| PCDP | Public consultation and information disclosure program |
| PROC | Processing |
| R&D | Research & Development |
| RMI | Responsible Minerals Initiative |
| RMIP | Raw Material & Inventory Planning |
| S&M | Sales and Marketing |
| SCM | Supply chain management |
| THW | Total Hours Worked |
| TNTI | Thai Nguyen Trading and Investment Company Limited |
| TRC | Total Recordable Cases |
| TRCR | Total Recordable Cases Rate |
| TRIFR | Total Recordable Injuries Frequency Rate |
| TSF | Tailings Storage Facility |
| USD or US\$ or \$ | The official currency of United States of America |
| USQ | German Severity Rate |
| VAS | Vietnamese Accounting Standards |
| VAT | Value-added tax |
| VBCSD | Vietnam Business Council for Sustainable Development |
| VND | The official currency of Vietnam |
| VNR | Vietnam Report Corporation |

MASAN
HIGH-TECH MATERIALS



**GROWTH THROUGH
SUSTAINABILITY**



MASAN HIGH-TECH MATERIALS

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