

NEW DIRECTION FOR GLOBAL MINING

*How Swedish companies can grow in Europe, the Middle East,
and Africa in a changing global mining ecosystem*

Introduction

MARKET SHIFTS AND PANDEMIC COLLIDE DRIVING GLOBAL MINING INDUSTRY CHANGE

Shifting dynamics across the global mining industry have been in motion for some time; with developing nations playing a bigger role in supply chains, developed countries are reviewing practices, and sustainability is becoming a critical driving force.

The brakes have been put on the global economy by trade wars, regional conflicts, dampened inflation, negative interest rates, and most recently, the Covid-19 pandemic crisis. While these negative impacts are hampering certain aspects of growth, there are drivers running in parallel which are creating substantial opportunities for Swedish mining technology and expertise to support growth in some of the world's emerging mining markets across Europe, the Middle East, and Africa (EMEA).

SLOW AND STEADY FOR THE FUTURE RACE

With the mining investment spree from the early 2000s over, future growth and the economic impact of the current global economic crisis on the mining industry will most likely vary from commodity to commodity. This will ultimately be defined by wider global trends around sustainability, consumer and business trends, and protectionist policies.

DIVERSIFICATION AND LOCALISATION KEY TO LONG-TERM SUCCESS

While the pandemic has largely put the global economy on hold, Swedish companies who want to leverage both short- and long-term opportunities within mining need to expand their reach to emerging markets as well as considering what changes will need to be implemented in existing markets.

Markets across EMEA continue to offer substantial opportunities for Swedish technology and solutions providers, but a strategic approach factoring in local concerns and approaches is critical to meet the demands of a changing industry.



Mining:

FIVE TRENDS DRIVING INDUSTRY CHANGE

The international mining industry is on a transformational path, influenced by drivers from industry itself and external factors. These five key trends are creating both challenges and opportunities for Swedish companies in the mining ecosystem as they navigate an evolving landscape.

Forces driving the agenda of international mining cannot be ignored by Swedish technology and solutions providers. New approaches are being implemented across the mining industry to address geo-political challenges, shifting demand for minerals, and rise of digitalisation. Swedish technology and solution providers must embrace and adapt to the trends that are impacting the global mining industry if they are going to be competitive and grow in new and existing markets.

Trend I:

UNCLEAR ECONOMIC OUTLOOK IMPACTING DEMAND

While the mining industry was already preparing for an economic downturn, the pandemic has accelerated and deepened the global economic crisis. Manufacturing has dramatically slowed or halted in some areas, while at the same time, this uncertainty is impacting on consumer confidence and purchasing patterns. This is against an existing backdrop of global trade wars, regional conflicts, and unpredictable commodity prices. Across all regions, GDP forecasts for 2020 are predicting drops, with the biggest impact overall in parts of Western Europe, Canada, and the United States. Africa and Asia Pacific are predicted to be in a better position, but negative GDP or very low GDP growth is set for this year.

ACTION: ZOOM OUT FOR A BIRD'S EYE VIEW

This turbulent economic outlook is pushing the need for Swedish companies to re-evaluate existing KPIs and gain local insights on macroeconomic trends. These insights should be focused on what future trends and standards are arising from new regions. While looking to emerging markets will be a critical factor for future success, traditional markets may also need a strategic re-think.

The rapid changes to the economy and demand for minerals is driving a need for accurate and timely data and analysis. This data will be pivotal for Swedish companies to plan and strategically direct their investment and expertise in the coming months and years to successfully navigate the chaos caused by Covid-19.

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Swedish companies should re-evaluate existing KPIs and gain local insights on macroeconomic trends to weather the turbulence

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Trend 2:

GEOPOLITICS AND PROTECTIONISM ON THE RISE

As developing markets and countries continue to grow, the power struggle for market control is set to escalate. Since the 2000s, emerging markets have experienced an unprecedented economic boom, propelling rapid urbanisation and in turn urban lifestyles and associated consumption. This trajectory has seen the demand for metals and minerals skyrocket to facilitate both construction and infrastructure projects, and consumer spending on previously unattainable items, such as electronic and automotive products.

Mining investments in developing markets have grown to supply the market demand. Over the past two decades, many developing countries have built large, full-scale mining operations from scratch. This has also diverted investments into regions that had previously been minor players and away from traditionally dominate regions.

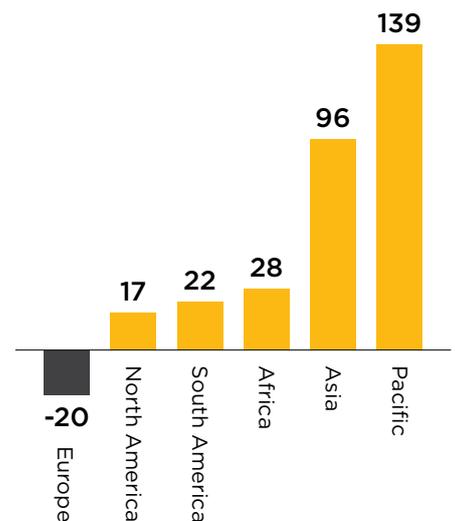
The investments made during the 20-year boom period have largely been focused in countries categorised as politically unstable. As these countries have inevitably grown economically stronger and more integrated into Western supply chains, they have also become relevant and integral suppliers of metals and minerals to established markets like the US and EU. The result of this trend is a push-back from traditional markets who want to reduce their dependency and seek alternative sources for critical raw materials (CRMs). In 2017, the EU Commission identified 43 individual CRMs required to meet long-term production demand, of which 30 are dependent on imports from China. Similarly, the current US administration ordered an investigation of CRMs where 31 of 35 CRMs were identified as import-dependent.

With more players in the market, competition has also increased, particularly for commodities like gold. Countries, including those in the developing category, are now trying to remain competitive and protect their resources. This is resulting in tighter controls on licensing, increased legislative requirements, and quotas for locally made technologies to be used at sites.

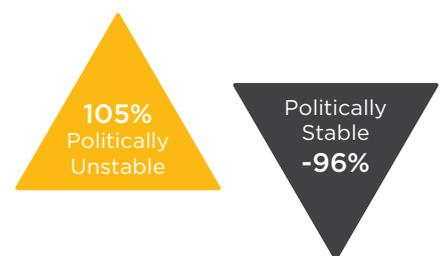
ACTION: BE GLOBAL, ACT LOCAL

Entering markets beyond European borders can often come with potential barriers to entry that many Swedish companies have not previously encountered. Navigating new legislature is one part of the process but meeting the challenges of increased nationalism and protectionism means local partnerships are even more critical than ever before. As 'locally made' becomes part of business requirements, strong collaborations with local partners may be the only route into a new market or to remain competitive. This requires a presence on the ground and knowledge of local business practices as well as understanding how supply chains operate.

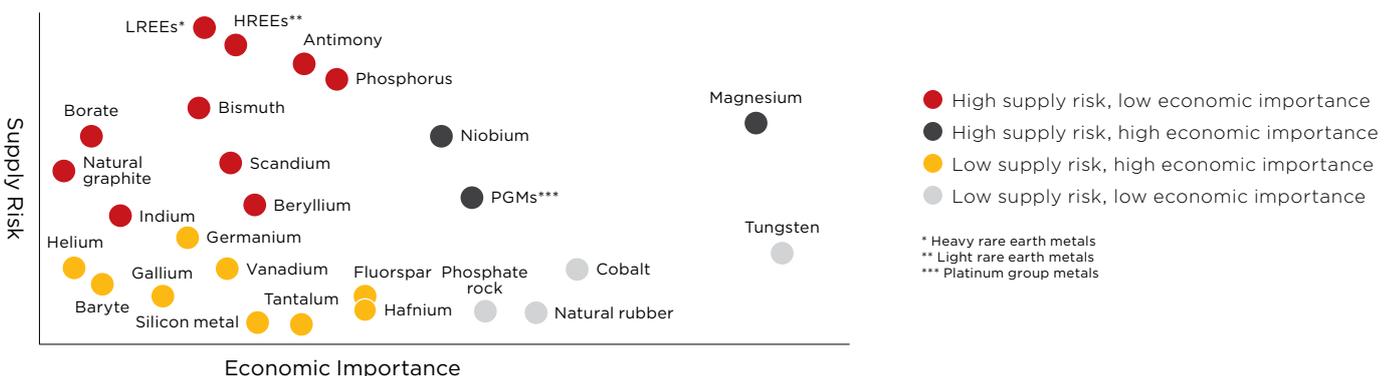
PRODUCTION VOLUME CHANGE IN %
2000 VS. 2018 PER REGION



PRODUCTION VOLUME CHANGE
2000 VS 2018 IN POLITICALLY
UNSTABLE & STABLE COUNTRIES



ECONOMIC IMPORTANCE & SUPPLY RISK OF CRMs
BY EUROPEAN COMMISSION





Trend 3:

LOW-CARBON TRANSITION DRIVING NEW MINERAL DEMAND

Global warming is an imminent challenge which has propelled rapid change towards low-carbon energy sources. The Paris Agreement is one major measure aimed at tackling the problem which has forced a ripple effect with a wider shift towards sustainable, low-carbon technologies to meet both legislative requirements and consumer demands. Different minerals are now becoming critical for the production of electric batteries, wind turbines, solar panels, and materials for sustainable smart cities.

To achieve the goals of the Paris Agreement, supply must meet the demand for the necessary metals and minerals needed to produce low-carbon solutions. Currently, the low-carbon transition is seeing greater demand for aluminium, lithium, cobalt, copper, iron, chromium, and nickel. These materials are all critical in the production of batteries, wind turbines, and solar panels, but as these technologies currently represent a small percentage of energy production, exponential growth can be expected.

Investment in alternative energy sources is a trend in many countries, Sweden included. In some markets, this is also related to resource nationalism, or energy independence. The Covid-19 pandemic has highlighted the challenges and concerns of import-reliant energy sources and futureproofing for any further crisis is on the top of many governments' agendas.

ACTION: SCOUT FOR NEW INVESTMENTS GLOBALLY

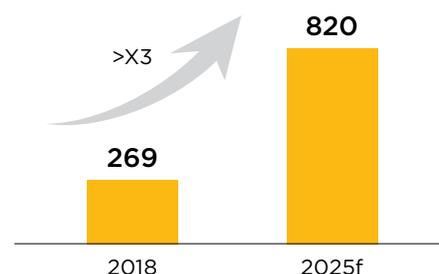
Swedish mining equipment and service providers need to be more proactive and target international producers of metals and minerals that service the sustainable energy industry. As low-carbon technologies become more prevalent, an increase in demand will drive new mining investments. For Swedish companies looking to grow globally, international partnerships should be identified and pursued based on the metal and mineral requirements of future low-carbon technologies. These partnerships could also form the basis of Swedish-based production of low-carbon energy sources which is being spearheaded by Northvolt, who are leading the sustainability charge on electric battery production.



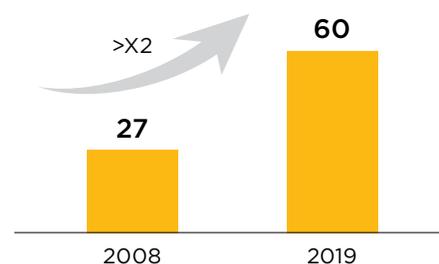
Strong collaborations with local partners may be the only route into a new market or to remain competitive



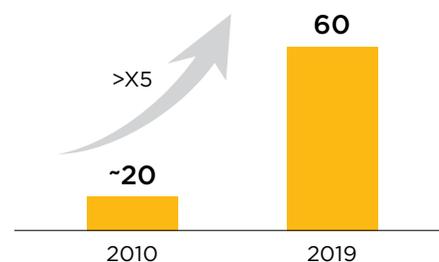
DEMAND IN THOUSAND METRICS LITHIUM CARBONATE EQUIVALENT



GLOBAL ANNUAL WIND POWER INSTALLED (GW)



GLOBAL ANNUAL SOLAR POWER INSTALLED (GW)





Trend 4:

CLEAN AND SAFE MINING SETTING NEW STANDARDS

Mining underpins our entire existence, from manufacturing to construction, household appliances, transport, and the digital technologies that make modern society run. Creating sustainable value chains begins with mining, but the industry's historical practices are not sustainable and change to remedy this has been in progress for many years. While the environmental practices and impact of each and every mining operation is critical, clean and safe mining covers a range of areas that go beyond just the environmental. In most markets, there is growing sentiment for sustainability that covers health and safety, responsible production, social performance, and environmental performance. Justifiably, public frustration towards irresponsible mining practices exists, but pressure on mining operators to meet standards is also coming from international investors and businesses who are demanding sustainable value chains to meet lending criteria and to deliver low-carbon solutions. The automotive industry is one example with Tesla leading the way with using cobalt-free batteries.

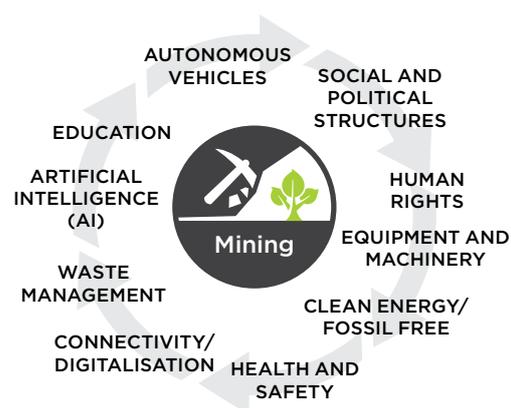
The pressure on the many decision-makers within the mining ecosystem is vast and includes inwards and outwards pressure from: the mining company, investors, government, local municipality and industry organisations. Mining companies and miners need solutions that can enable them to create partnerships and networks of partners that can promote clean solutions, not just a one-off piece of equipment.

Challenges within mining still exist globally and poor practice is still in present. Discrepancies between mining and miners' conditions between developed and developing markets have been starkly shown in the last decade. The Soma accident in Turkey in 2017 and the Brumadinho dam collapse in Brazil in 2019 claimed the lives of hundreds of people and caused environmental damage. Both cases prompted international standards to be reviewed and legislation enacted to regulate management accordingly. While the loss of life cannot be undone, the learnings from these incidents are pushing the global mining industry to accelerate change.

ACTION: **BUILD YOUR SUSTAINABILITY NETWORKS**

Early engagement with investors, local municipalities as well as mining companies themselves should form the basis of any market entry strategy. A focus on products alone will not secure partnerships, discussions with key stakeholders should focus on the sustainability requirements and how in particular Swedish solutions can help to meet the criteria that will secure specific tenders and deals. Local municipalities may have other challenges and explaining how your solutions can contribute to the mining project is imperative. In some cases, local communities may be against the mining project, so providing solutions that can meet these challenges are generally welcome. Be ahead of the process, starting early is critical and including external partners should be part of a business development strategy. Solely focusing on the transactional sale does not align with long-term planning and the issue of sustainability.

SUSTAINABLE VALUE CHAIN



Trend 5:

DIGITAL TRANSFORMATION ACCELERATING

While digitalisation tools and technologies are rapidly being developed and have the potential to make mining more efficient and sustainable, the implementation of these are far from universal. A combination of factors that are unique to each market and mining project need to be considered for successful uptake of technology to occur. In some markets where low-cost labour makes up the workforce, large investments in machinery that is more efficient and may seem on paper to be obvious, cost is often a barrier. This cost barrier can often stall investment or stop it completely. In these cases, there are opportunities to create operational efficiency gains with smaller changes, through up-skilling or selling products which developed countries may see as 'standard equipment'.

On the other side, in developed countries the mining workforce may be aging. The introduction of new technology like augmented or virtual reality to interact with machines may be overwhelming to an aged workforce, and the cost to train and up-skill may not be viable over the long-term. Additionally, the mining industry has relied on tradition and expertise, so the uptake of new technology may not be embraced by the workforce.

ACTION: UNDERSTAND THE CHALLENGES

In both scenarios, change management is vital if new technologies are going to be successfully implemented. Companies providing high-tech solutions need to not only understand what solutions will actually work in a particular mine, but also work with the mining project leaders to support the implementation process.



APPROACHES FOR SUSTAINABLE BUSINESS GROWTH



CULTURAL AWARENESS

Informal business practices
Accepted social norms
Local process



SUSTAINABILITY

Environmental strategy
Sustainable economic growth
Social and community



LEGAL COMPLIANCE

Local, regional or national laws
Trade agreements or tariffs
Tax regulations

The global demand and drive towards sustainable business growth is becoming a critical factor for success. Sweden and Swedish companies have and continue to hold a strong reputation in this area, and it should be a key aspect of any global growth plans. While every market has unique characteristics that influence business operations, growth opportunities and long-term viability, there should be a standard approach to building strategies for sustainable growth that are market and region specific.

Before you enter any market within Europe, the Middle East or Africa, it is advisable to have a strategy in place to manage both macro and micro market related issues. This strategy should address all or a combination of, sustainability, legal and customs practices. In countries across the three regions, there is a shift towards adopting and enforcing sustainable business practices across the environment, economic and social spheres and these changes need to be considered in a strategic approach.

To reduce the risks of business malpractice and ensure you continue to meet international and Swedish standards and maintain economic

stability, it is important to have a country-specific sustainability strategy. A tailored sustainability strategy must address economic, human rights and labour condition issues and how your company aims to work with local suppliers to address these. It should also outline how you plan to meet and exceed environmental sustainability in accordance with applicable global and regional legislation.

Across countries in Europe, the Middle East, and Africa there is a broad spectrum of unique and different legislative systems which define and impact how international companies can operate. Different signed trade agreements and tariffs also exist that may affect different parts of the mining industry in the region. A complete analysis of your legal responsibilities and the implications of these should be conducted before entering the market. Conducting business in each of these regions, and down to a country level, is heavily influenced by cultural practices.

Building relationships with potential key stakeholders and getting an understanding of cultural nuances is as important as knowing the formal business structures.

KEY RECOMMENDATIONS

ZOOM OUT FOR A BIRD'S EYE VIEW

A turbulent economic outlook has created the need to re-evaluate KPT's, have local insights on macroeconomic trends, and monitor new markets as trends and standards may arise from new regions in the future. Looking beyond your traditional markets will be key for success.

BE GLOBAL, ACT LOCAL

Resource nationalism is a real challenge for international sales. Swedish businesses need to understand legal barriers for market entry and set up stronger local partnerships to maintain their competitiveness, since "locally made" will be increasingly favoured.

SCOUT FOR NEW INVESTMENTS GLOBALLY

Swedish mining equipment and service providers need to be more proactive in targeting international producers of metals and minerals serving the sustainable energy industries. Low-carbon technologies will increase demand and drive new mining investments.

BUILD YOUR SUSTAINABILITY NETWORKS

Swedish equipment and services providers have a great opportunity to impact the sustainability adaptation and choice of technology of mine operators by engaging with the full spectrum of stakeholders. Having a full understanding of decision-making processes and the ability to influence for clean solutions from multiple angles will be a key enabler.

UNDERSTAND THE CHALLENGES

Swedish suppliers are great at delivering high quality products. However, decisions will not always be made solely on technical specifications. Tradition and experience will have a great impact on decisions. Fully understanding decision criteria and adapting solutions accordingly is crucial.



EMEA'S EMERGING MINING HOT SPOTS

Europe, the Middle East and Africa provide vast opportunities for Swedish companies who have the mining technologies, solutions and products to meet the growing demand for new and diversified minerals and metals and corresponding investment.

Emerging markets provide both challenges and opportunities, but Swedish companies have a strong advantage to help deliver sustainable efficiencies through technology and practices.

Investment in all regions in EMEA has been substantial since 2015 and Business Sweden is strategically positioned in each of these markets to provide high-level executive reach.

Business Sweden has a vast local network and presence in the key mining markets, guiding clients to local partnerships and being a long-term partner to support tenders, long sales cycles and delivery of local contracts.

The key role played by Business Sweden in local markets goes beyond analysis to essential support services that enable Swedish and international companies to engage with local stakeholders and secure partnerships. In addition, our governmental engagement role connects businesses across the mining ecosystem to key officials at both local and national levels.

RUSSIA AND CENTRAL ASIA

The region is rich in minerals and metals and Russia alone possesses one of the largest reserves of natural resources with substantial deposits of gold, platinum, coal, iron, manganese, and nickel. Both Kazakhstan and Uzbekistan have vast reserves of copper, gold and uranium.

Russia, and countries of Central Asia are heavily reliant on the export revenues from these resources, so governments actively invest money in new mining projects in order to exploit the full potential of their lands.

MARKET OPPORTUNITIES

- As Soviet-era inherited machinery continues to break down and costs increasingly more to use, industry giants are actively implementing innovative technologies and machinery to increase the efficiency of exploration and production of minerals. Older systems are also being replaced to allow for more automation of processes.
- A highly skilled workforce is required by mining companies to operate new technological solutions. Currently, there is a definite gap between the needs of real business and the level of education of the old-time workers, as well as the fresh graduates from local institutions.
- A major goal for the countries in the region is to secure better infrastructure which is being planned and constructed. This will facilitate new routes to allow access to more export markets.





CEE

The CEE region, excluding Poland, sits on the Tethyan Belt, which stretches from the Balkans, over Turkey and into Western Asia. Most of the exploration and discoveries made in the CEE region are within gold, copper, zinc, and nickel. Over the past 20 years, substantial growth has occurred in the region with large-scale producers having a presence mining the rich natural resources. Turkey is one key country in the region.

MARKET OPPORTUNITIES

- Further exploration is expected in the region with several deep underground operations about to commence. While most mines are open-pit, future investments will demand deep-mining technologies.
- Solutions to facilitate greater efficiency will be in demand due to lower grade minerals, inefficient use of capacity, and safety issues. CEE countries are reliant on low-cost labour however it is understood that competitiveness will be achieved through slow, high-end investments.
- International partnerships are one of the main entry channels for global mining companies. CEE mine operators often conduct their operations through international JVs which are already active in other geographies. This provides opportunities to enter the market through indirect channels.



THE MIDDLE EAST

Despite being a region with a long history and considerable minerals and metals, much of the mining infrastructure remains underdeveloped due to geopolitical insecurity and tight government control over the sector.

Egypt, Iran, Iraq, Oman, and the Kingdom of Saudi Arabia are the key mining markets in the Middle East with gold, iron, phosphate, and copper as the most important minerals and metals.

MARKET OPPORTUNITIES

- More exploration in the Middle East is expected as countries attempt to diversify away from oil dependence and make mining a vital sector of the economies for countries like Oman and Saudi Arabia.
- Further exploration in the region is expected in areas where several untapped resources exist, primarily gold, which will see a rise in demand for relevant Swedish mining solutions.
- The current mining infrastructure is either lacking or not fit for purpose and new technologies and infrastructure investments are needed in the Middle East to increase productivity and modernise the industry.





SOUTHERN AFRICA

The development of many Southern African countries is inextricably linked to the mining sector. More than half of the world's vanadium, platinum, and diamond deposits originate in the region, along with 36 percent of gold and 20 percent of cobalt. Southern Africa currently hosts nearly 700 mining projects.

International investors in Southern Africa cover mainly platinum group metals, nickel, gold, and cobalt. West Africa is attracting large investments in gold exploration.

MARKET OPPORTUNITIES

- IT infrastructure, power, and mining technologies are some of the key concerns of those currently operating in the area. The infrastructure issues are more challenging as you move further north in Southern Africa.
- In less developed countries in Southern Africa, the lack of infrastructure and service companies means Swedish companies can seek out opportunities to support business activities such as logistics, infrastructure, maintenance, and refurbishment.
- A gap in the market exists for companies with a focus on underground drilling. Currently there is a focus on surface drilling which means there is a lack of adequate, large, mechanised, machinery to manage underground drilling.



WESTERN AFRICA

The presence of small-scale mining is still very evident in the region but today most mining operations in Western Africa are large scale. For example, the world's first fully mechanised mine, Syama underground gold mine, can be found in Mali.

Western Africa has rich mineral reserves and the mining sector is mainly dominated by gold, diamond, ore, and bauxite excavation. The region is one of the fastest growing for gold production, accounting for over half of Africa's gold production. It is also home to the world's largest high-grade bauxite reserves. The region also has a diverse resource potential with the presence of iron, lithium, copper, and manganese.

MARKET OPPORTUNITIES

- Governments in the region are introducing mining code reforms in a bid to ensure transparency and encourage continued foreign investment. Mining is a priority sector for governments in the region as the growth is high and represents a significant portion of the nations' economies.
- Companies in the region prefer high quality products, recognising that they will have increased longevity and efficiency.
- There is growing interest in adopting new machinery technologies to drive efficiency and create safer working environments. Automation implementation is on the rise.



ABOUT BUSINESS SWEDEN

The shifting dynamics within the global mining ecosystem are far reaching and are proving to be a game changer in both developed and emerging markets. Business Sweden's mining and materials experts can deliver practical and strategic guidance on market entry, project collaboration, stakeholder engagement, and global growth. For more information about mining in Europe, the Middle East, and Africa, [click here](#).

Business Sweden's purpose is to help Swedish companies grow global sales and international companies invest and expand in Sweden, with extensive experience in connecting the global mining ecosystem with Swedish companies and solutions for a sustainable future. Swedish companies can trust us to shorten time to market, find new revenue streams and minimise risks. We offer strategic advice and hands-on support in more than 40 markets with over 500 management consultants. Business Sweden has a substantial network of local offices in Europe, the Middle East, and Africa. Business Sweden is owned by the Swedish Government and the industrial sector, a partnership that provides access to contacts and networks at all levels.

By combining our on-the-ground knowledge with industry expertise, we provide professional and tailored support for Swedish companies. Our long-standing, local presence in mining's key markets has equipped us with extensive knowledge of the global mining sector and the leading players, enabling us to give effective support to Swedish companies so they can engage with the right actors within the mining sector, from private sector companies to public sector entities.

Business Sweden has worked with a range of mining, transport, technology, health and safety, and solutions companies within the mining ecosystem connecting them to major players in markets across the globe.

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