



Mining

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Date 19 November, 2020

We would not get anywhere without mining

Mining and mining technology continue to play an important role in Germany. The sector generates tax revenue and guarantees jobs, as even in the future, there will be no product that does not require raw materials to be extracted and mined – both in Germany and around the world. In this regard, companies are increasingly relying on climate-friendly and energy-efficient machines and plants.

Raw materials are the indispensable foundation for everything and will remain so in future. Machine manufacturers from Germany stand out in raw material processing with their expertise, passion for research and their innovative strength. The industry, institutes and universities are working together to make mining technology sustainable, energy-efficient and safer, for example through alternative drives and reduced energy consumption in the mines. Digitized work processes and machines which operate and interact autonomously are the future.

For these reasons, the sector is gearing up for an innovation campaign for the bauma 2022 trade fair. An entire day of the trade fair will focus on the topic of mining technology under the motto “Mining – sustainable, efficient, reliable”. Ranging from in-house production to alternative drives, sensor technology, OPC UA, smart components, predictive maintenance, companion specifications and the digital twin, the manufacturers will show that the communication between the individual systems and components is key.

Economic situation 2020

Production and turnover developed very well in 2018 and 2019 for the mining companies from Germany. Against expectations, new business, and therefore incoming orders, went down drastically at the end of 2019. Still, these economic concerns were overshadowed by trade conflicts, the crisis in the Middle East

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and Brexit at the end of the year. While the sector expected subdued growth with at best stagnating turnover, the coronavirus pandemic put additional pressure on the mining industry.

Over the course of the year 2020, the companies succeeded in closing the interrupted supply chains and adapting their production to the Covid-19 situation. Communication with customers abroad was largely shifted to web-based applications.

At the end of the summer, the situation in the sector was highly mixed, from nearly unchanged turnover plans and expectations, to declines in turnover of 30 per cent or more. Overall, the sector expects a 10 to 15 per cent decline in turnover for 2020, with turnover therefore stabilising between EUR 4 and 4.5 billion.

The EU countries, the USA, Russia and China remain among the largest export markets. Surprisingly, Australia took second place in the individual markets, placing in front of both China and Russia.

Europe

With an export share of 96 per cent, the manufacturers strongly depend on foreign business. Mining production has remained stable for the last 20 years in the EU. Along with the production of energy resources, primarily coal, the EU continues to produce several base metals, such as copper, lead, iron ore and precious metal (gold, silver and metals in the platinum group). While the EU is almost self-sufficient in regard to construction minerals and several industrial minerals, it remains highly dependent on the import of other raw materials such as iron and ferrous alloys, non-ferrous metals and precious metals. The EU has mines for several critical raw materials, including graphite, rare earth elements, tungsten, phosphate and vanadium. The majority of these mines are located in Finland, Sweden and Spain.

The EU is the most important sales region for German mining machinery manufacturers, despite strong competition in Sweden, Finland and Poland. About a third of the exports go to the 27 EU member countries and Great Britain. In the first eight months of this year, machines with a value of nearly EUR 275 million were delivered there. This is 26 per cent less than in the previous year, when business with the European neighbours totalled EUR 542.5 million, a figure last reached in 2009/2010.

A considerable number of exports are heading and tunnel boring machines as well as crushing and separation technology: Heading and tunnel boring machines worth EUR 65.8 million make up a nearly a quarter of all exports, with around 20 per cent being crushing and grinding technology. Sorting and sifting technology makes up a share of about 15 per cent.

This success appears to be mainly due to infrastructural projects in Europe, for example in 2019 in the United Kingdom and France. This year, Poland, as the largest customer in Europe, bought heading, extracting and tunnel boring machines worth EUR 31 million, and the situation is similar in France.

As long as the investments in infrastructure with all types of tunnels continue, the large impact of this sales region should remain unchanged. Over the

summer, the EU Commission announced its intention to secure Europe's supply of critical raw materials, by reinforcing the raw material procurement of the EU. How this will impact the sale of German mining technology remains to be seen.

USA

The mining sector in the USA is facing radical change. For a long time, it provided ideal sales opportunities for German suppliers. However, the approach to energy policy is changing noticeably – despite the current President. This is a trend that will likely accelerate after the election. Between 2009 and 2019, coal production declined by about 40 per cent. Deliveries to classic mining have significantly declined. German exports worth EUR 143.5 million this year, with a decline of only 5 per cent compared to the previous year, can be explained by increased deliveries for the infrastructure of machines with large volumes. With Joe Biden, the USA will commit to becoming climate neutral and large parts of the announced funds of about USD 2 trillion will be assigned to making the energy sector CO₂-neutral and the development of clean energy technology. This development creates opportunities for German suppliers of mining technology, providing that they can enter into new sales areas or expand on existing ones, such as the raw material sector.

Australia

The mining industry is one of the most important economic sectors in Australia. Including the supplier industry, mining contributes approximately 15 per cent to the gross domestic product and generates 60 per cent of all Australian exports. The Australian government therefore defined the mining industry as an “essential industry” right from the start of the pandemic. This decision made it easier for the mine operators to continue to FIFO traffic (fly-in-fly-out) for employees in mines in remote areas.

To date, the Australian mining industry has survived the crisis caused by the coronavirus pandemic relatively unscathed. The increase in the price of gold even increased the revenue of gold producers. Only the coal industry suffered heavier losses, due to the worldwide reduction of energy needs and the political tension between Australia and China.

After a very successful year for the German suppliers in 2019, in the first eight months of this year, exports totalling around EUR 97 million meant deliveries to Australia went down by 19 per cent. However, the value of EUR 68.8 million is considerably more than the EUR 39.5 million achieved in 2018. Australian customers are currently refraining from establishing new supplier relationships, but the sector is confident that increased investments in machines and plants can be expected from 2021.

Russia

Russian coal consumption stagnated from 2016 to 2019 and even declined slightly. The Siberian Coal Energy Company, one of the largest coal mining companies in Russia with a production of 106 million metric tonnes last year, estimates that the demand for energy coal will decline by 14 per cent to 72

million metric tonnes this year on the domestic market, but will increase to between 82 and 83 million metric tonnes per year in 2021/2022. The competition between coal and gas production on the Russian market will grow as the population's connection to the gas supply networks will be faster and better after structural adjustments. Russia is becoming one of the leading exporters of thermal coal in the world, exporting about half the coal to the Asia-Pacific region. Ongoing modernisations of the far eastern rail network of the Trans-Siberian Railway (eastern polygon) will increase the transport capacity to 195 million metric tonnes by 2025. However, China is currently limiting the import of coal to strengthen its domestic market.

The company has also stated that the European market is losing its importance due to the climate targets, which is largely compensated by Asia.

This is further added to by the strain on German mechanical engineering companies caused by the pandemic and the sanctions against Russia. Since May 2020, there have been no regular flights between the two countries and political relations are tense. Their mutual trust has taken a hit due to sanctions because of Ukraine, the Navalny case and Nord Stream 2. Further sanctions could stop deliveries to Russia at any time, even those of spare parts. This poses a risk for Russian companies, as does the drop in value of the Russian rouble when compared to the Euro.

China

China's economy is recovering better than expected. In the second quarter this year, the country achieved a GDP growth of 3.2 per cent, with 4.9 per cent growth in the third quarter. The International Monetary Fund assumes that the Chinese economy will grow by 1.9 per cent in 2020, meaning China could be the only country worldwide to record economic growth this year.

In the first eight months, the sector generated a turnover of about EUR 309 billion (RMB 2407.25 billion). That corresponds to a minus of 10.9 per cent when compared to the previous year. Its profit amounted to about EUR 30 billion (RMB 233.60 billion), which is a minus of 38.1 per cent when compared to the previous year. Coal mining took the lead in the Chinese mining industry. German manufacturers were unable to benefit from this, as the coronavirus pandemic resulted in a complete breakdown of contact. Inquiries increased again once the economy started to recover. But over the course of the year, exports until August only amounted to EUR 67.7 million, which signifies a decline of 45 per cent.

"Larger, greener and more intelligent" are the future key words of the Chinese mining industry. The country is promoting mergers between large coal mines to counteract the sprawl of resources and implement unmanned operation and remote monitoring. This provides opportunities for highly specialised manufacturers despite growing risks.

For German mechanical engineering as a whole, an as yet unpublished study by the Bertelsmann Stiftung predicts that the export of German machinery to China will remain unaffected into the mid-2020s. If China were to reach its objectives of Made in China 2025, the German sector could only benefit if

Chinese growth in the mechanical engineering sector is over 3.5 per cent. Otherwise, the study predicts significant slumps. It concludes by detailing that only a European, or even better a transatlantic cooperation, is capable of facing Chinese aspirations for supremacy.

Outlook 2021

It is impossible to predict the developments in 2021 due to many uncertain factors. The negative development of incoming orders until now indicates a very subdued development for 2021.

Nonetheless, the sector remains optimistic, seeing as mining technology ensures that raw materials can be extracted and processed, even the high-tech raw materials of the future. Civil society depends upon it. As long as the energy transition is not entirely completed, fossil raw materials ensure that the population's energy supply is guaranteed. The sector therefore provides stability while also protecting the future – we would not get anywhere without mining!

Corporate social responsibility (CSR), environmental, social and corporate governance (ESG) and licence to operate (LTO) are societal demands placed on companies that are becoming increasingly important in this context. How do the companies serve the general public? What is their *purpose*? The raw materials industry is becoming more and more dependent on society's approval of the working and general conditions in the extraction and end user countries. Today, globally active mining companies already require mandatory declarations by their suppliers.

Cutting-edge German mining technology meets these requirements. The machines operate in a more environmentally friendly, sustainable and efficient manner. As such, they ensure the personal safety of every single employee on site and improve the environmental impact.

Coal in Asia, digitalisation worldwide

Business with coal is currently shifting to Asia. Russia, India and China are all increasing their capacities. Exports to these countries secure jobs and tax revenue in Germany. The number of employees in the sector remains nearly unchanged at 12,000 employees, despite the fact that Germany has stopped coal mining.

Only progressing digitalisation can meet the demands for raw materials from the 9 billion people predicted to live in 2050. The mining industry is investing in these processes, as the quality of their data and analyses is crucial. The evaluation of the collected data generates an added value and opens up new business models.

This is aided by the medium-sized structure of the sector. It is capable of cooperating and has “swarm intelligence”, countering the complete solutions of corporations with modular, individual offers. Technology “*Engineered by Germans*” is ideally also available for upstream and downstream processes.

However, financing issues always occur with large-scale projects. Germany is missing the opportunity of being a global player in this sector. The government is risk-averse, cautious and inexperienced when it comes to raw material projects. Opportunities, such as winning customers in African countries and offering them long-term partnerships at eye-level, are not being considered. Germany is leaving the door open to China, which has already been on the offensive in Africa for 15 years.

The new five-year plan of the Chinese government includes taking a more offensive stance and strengthening its single market with a “dual circulation” strategy. Technological leadership and more independence from the rest of the world are their declared objectives. Over the course of the pandemic, it has become apparent how much the country’s economy still depends on export and on foreign technology. China intends for international trade and a properly functioning single market to ensure stability and continues to see itself on the way to becoming a global power by 2050.

How Germany and European companies position themselves in this situation remains up to each of them in a free economic system. Fully international supply chains can have systemically relevant disadvantages, as the pandemic has shown, with companies bringing their supply chain back to Europe. This is where the advantages of medium-sized and owner-managed companies take effect, with short decision-making processes and long-term perspectives. These structures are generally superior to governmental ideas of an economy that can be planned.

If you have any questions, Klaus Stöckmann, VDMA Mining, Telephone 069 6603-1270, klaus.stoeckmann@vdma.org, will be happy to assist.

Attachments:

- Economic report mining 2020
- Bibliography
- Speech text Dr Michael Schulte Strathaus
- VDMA Mining data sheet
- Press information

VDMA represents around 3300 German and European companies in the mechanical and plant engineering industry. This innovative industry is export-oriented and predominantly made up of SMEs, employing around four million people in Europe, including more than a million in Germany alone.