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# Norge Mining and ABB to design a next-generation mine to help meet Europe's energy transition ambitions

- The two companies will explore complete electrification of the Norwegian mine which is set to start operations in 2028
- ABB to conduct engineering study and design electrification, automation and digital blueprint
- Norge Mining has discovered 70 billion tons of a mineralized igneous phosphate rock, enough to satisfy global demand for fertilizer, EV batteries and renewable power storage demand for decades to come

ABB is collaborating with Norge Mining to conduct a FEED (Front-End Engineering and Design) study for a future Norwegian upstream mine production which has the potential to supply minerals used in electric vehicles and solar panels needed for the green energy revolution, and fertilizer demand, for at least 50 years. The deposit contains large resources of phosphate, titanium, vanadium and subsequently phosphorus – four key EU-designated critical raw minerals that are essential for the green energy transition and global food security.

Phosphate is processed and used to produce lithium-ion phosphate (LFP) batteries as well as fertilizer for the agriculture industry and is in high demand, with a recent US Geological Survey indicating phosphate reserves prior at 71 billion tons globally<sup>1</sup>. Norge Mining recently announced that it has discovered up to 70 billion tons of a mineralized igneous phosphate rock at the new mine site in southern Norway, known as the Bjerkreim-Sokndal Layered Intrusion site.

ABB and Norge Mining will explore the entire electrification of the future mining and downstream operations including control system options to provide a complete overview of the mine and seamlessly integrate advanced operations. The ABB study will address electrification, automation and digitalization to ensure maximum sustainability, cost-efficiency and productivity at the mine from the outset and for the long term. ABB's recommendations will also focus on low energy consumption within mine

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<sup>1</sup> <https://pubs.usgs.gov/periodicals/mcs2022/mcs2022-phosphate.pdf>

operations as well as optimizing CAPEX and lowering OPEX with solutions for lower maintenance and higher efficiency.

“Norge Mining's transformative partnership with ABB marks a new era for more sustainable, resource-efficient mining,” said Michael Wurmser, Founder at Norge Mining. “Together, we’re aiming to power progress through next-generation mining. With Norge Mining’s portfolio of significant, critical and strategic raw minerals, it will make significant global impacts on enabling food production and supplying the European battery manufacturing industry.”

“ABB is excited to begin this important project with Norge Mining, one that is anticipated to have a positive impact on European supply chains for the energy transition,” said Alex Kaufmann, Business Line Manager Mining for Process Industries Switzerland at ABB. “Through our early involvement, as well as our expertise in design and solutions for mining, we will support Norge Mining to optimize costs both during the construction phase as well as during the operation of the mine. Furthermore, our eMine™ approach for electrification and automation, which makes mines all-electric and includes integrated solutions that help eliminate CO<sub>2</sub> emissions, will help to increase the mine’s efficiency and ensure energy efficient and seamlessly integrated systems across the entire plant.”

ABB Business Line Mining draws on over 130 years of experience in the mining industry and is a pioneer in the integration of electrification, automation and digitalization in mining.

### **About Norge Mining**

Norge Mining is a trailblazing Anglo-Norwegian mining company, which aims to elevate Europe's CRM security and help power the green energy transition. With its recent discovery of 70 billion tonnes of igneous ore, containing four critical raw minerals of unparalleled quality, the company heralds the prospect of European self-reliance in vital resource production. Committed to environmental excellence and fostering strong community bonds, Norge Mining spearheads sustainable mining practices, propelling Europe's position as a powerhouse of innovation in the mining industry.

**ABB's Process Automation** business automates, electrifies and digitalizes industrial operations that address a wide range of essential needs – from supplying energy, water and materials, to producing goods and transporting them to market. With its ~20,000 employees, leading technology and service expertise, ABB Process Automation helps customers in process, hybrid and maritime industries improve performance and safety of operations, enabling a more sustainable and resource-efficient future. [go.abb.com/processautomation](https://go.abb.com/processautomation)

**ABB** is a technology leader in electrification and automation, enabling a more sustainable and resource-efficient future. The company’s solutions connect engineering know-how and software to optimize how things are manufactured, moved, powered and operated. Building on more than 130 years of excellence, ABB’s ~105,000 employees are committed to driving innovations that accelerate industrial transformation.

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