



ArcelorMittal

# Press release

## **ArcelorMittal establishes R&D unit of excellence for climate-neutral steel production in Germany**

- **Cross-location department supports production plants on the way to green steel with XCarb®.**
- **Highly specialised team builds up new knowledge around the use of hydrogen and further decarbonisation technologies to decarbonise steel production**

**Hamburg, 8 December 2022** - ArcelorMittal has established the first German research and development (R&D) unit as a competence centre for the production of climate-neutral steel. The department, which is headquartered in Hamburg, will accompany and support the technology shift towards climate-neutral steel production. The newly created team will work closely with ArcelorMittal's global research and development department and the four German sites in Bremen, Duisburg, Eisenhüttenstadt and Hamburg.

As part of its decarbonisation initiative XCarb®, the group aims to produce steel in a climate-neutral way worldwide by 2050. By 2030, emissions in Europe are to be reduced by 35 per cent. Research into the use of hydrogen and other decarbonisation technologies is high on the agenda of the new Hamburg competence centre. In the medium and long term, coal- and ore-based steel production in the blast furnace will be replaced by hydrogen-based sponge iron production using direct reduction and crude steel production in the electric arc furnace with green electricity. In Hamburg, the Group is already using this process with natural gas, which is to be replaced by hydrogen in the future. The first low-emission steel is expected to be produced at the sites in Hamburg, Duisburg, Bremen and Eisenhüttenstadt as early as 2025. Larger joint projects to build a hydrogen infrastructure are already being planned. The complete conversion to the use of green hydrogen requires public financial support and the development of green lead markets. The decarbonisation of ArcelorMittal's German plants will lead to savings of around twelve million tonnes of CO<sub>2</sub> per year.

**Reiner Blaschek, Germany CEO of ArcelorMittal, emphasises:** "With the new R&D unit of excellence, we are taking another step on the way to the decarbonisation of our steel production. In close exchange with the global research centres and the Group's sites in Germany, the new department is working vigorously on the diverse issues, which are significantly more complex than simply replacing natural gas with hydrogen. These are enormous challenges - economically, infrastructurally and technologically. But we are

equipped and moving forward with the R&D unit to achieve our ambitious transformation goals."

The R&D unit coordinates basic and applied research for ArcelorMittal in Germany. The R&D team will also work on further use of by-products and scrap-technologies as well as how steel production facilities need to be adapted to use more renewable energy. At the same time the R&D team will extend cooperation with universities and technological networks in Germany. The head of the new centre is Frank Schaub, a chemical engineer with a doctorate from Bremen, who is currently putting together a highly specialised team of younger and experienced colleagues from various technical fields.

"Within a few years, we are moving away from methods that have been established for decades. Now we will build up new knowledge about hydrogen and other decarbonisation technologies in a short time," Schaub summarises the mission of the competence centre.

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## ----- Further information -----

### **About the XCarb® initiative**

Decarbonisation is the most important aspect of ArcelorMittal's long-term strategy. The Group is aligning with the goals of the Paris Agreement and the European Green Deal by committing to reduce European CO2 emissions by 35 per cent by 2030 and to achieve net-zero by 2050.

**XCarb®** brings together all of ArcelorMittal's reduced, low and zero carbon products and steelmaking activities, as well as wider initiatives and green innovation projects, into a single effort focused on making demonstrable progress towards producing carbon neutral steel.

**The XCarb® Innovation Fund** invests in companies developing breakthrough technologies to accelerate the steel industry's transition to carbon neutral steelmaking.

**The XCarb® green steel certificates** are for flat steel products produced in blast furnaces from iron ore. We have several decarbonisation initiatives underway that will result in significant CO2 savings. We can add up these savings and then pass them on to our customers in the form of a certificate verified by an independent auditor.

**XCarb® recycled and renewably** produced applies to products made in an electric arc furnace using scrap steel and 100% renewable energy, giving our finished steel products an extremely low carbon footprint. Made with XCarb® recycled and renewable, our steel products now also come with a 'certificate of origin' certifying the renewable energy sources for the electricity. Our low CO2 emissions are externally certified, and the first Environmental Product Declarations (EPDs) are already available.

### **About ArcelorMittal**

#### **Germany**

*With a production volume of around 8 million tonnes of crude steel, ArcelorMittal is one of the largest steel manufacturers in Germany. The automotive, construction and packaging industries are among its customers, as is the household goods sector. The company operates four large production sites in Germany. These include two integrated flat steel mills in Bremen and Eisenhüttenstadt and two long steel mills in Hamburg and Duisburg. In addition, the Group operates ArcelorMittal Construction in Sandersdorf/ Brehna, a production site with sales for sandwich panels as well as profiling facilities for cassette, trapezoidal, support, design and corrugated profiles. In addition, the group has a strong distribution network in Germany with four steel service centres and ten steel trading locations. ArcelorMittal employs around 9,000 people in Germany.*

Further information is available at <https://germany.arcelormittal.com>

#### **Worldwide**

*ArcelorMittal is the world's leading steel and mining company with a presence in 60 countries and primary steel production plants in 18 countries. In 2021, ArcelorMittal had revenues of US\$76.6 billion and crude steel production of 69.1 million tonnes, while iron ore production reached 50.9 million tonnes. Our goal is to contribute to a better world with smarter steels. Steels produced with innovative processes that use less energy, emit significantly less CO2 and reduce costs. Steels that are cleaner, stronger and reusable. Steels for electric*

*vehicles and renewable energy infrastructure that will help societies transform in this century. With steel at our core, our inventive people and an entrepreneurial culture at our heart, we will help the world make this transformation happen. We are convinced that this will make us the steel company of the future. ArcelorMittal is listed on the New York Stock Exchange (MT), Amsterdam Stock Exchange (MT), Paris Stock Exchange (MT), Luxembourg Stock Exchange (MT) and the Spanish Stock Exchanges of Barcelona, Bilbao, Madrid and Valencia (MTS).*

*For more information on ArcelorMittal, please visit: <http://corporate.arcelormittal.com>*