

EFFICIENCY

Settling the dust

ArcelorMittal, Dunkirk, France

How EcoStruxure™ Plant is enhancing steel quality and working conditions at the largest steelworks in Western Europe.

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Bringing innovation to steel manufacturing

ArcelorMittal is the world leader in steel manufacturing, and its Dunkirk plant is the largest steel factory in Western Europe. Every year, the Dunkirk steelworks delivers 7 million tons of steel for diverse industries, from automotive manufacturing to construction.

With people's safety depending on reliable steel, consistent product quality is paramount at any steel plant. Ensuring the continuity of the manufacturing process is another key issue as any interruption or equipment failure can be a costly event.

Tackling equipment failures or performing routine maintenance usually means shutting down an entire section of a plant. Resuming normal production and bringing furnaces back to smelting temperatures can take up to two days. That's why most steelworks run 24/7, 365 days a year.

Yet performing regular maintenance in such a harsh environment is necessary to ensure safe working conditions and manufacturing continuity. ArcelorMittal needed to address this challenge and gain better control over its dust emissions to achieve greater operational flexibility for a recent equipment modernization project.

Keeping dust at bay for better quality, reliability and safety

A partner of ArcelorMittal for over 20 years, Schneider Electric had the expertise and solutions to improve the dusting process for better steel quality, process reliability and working conditions.

The Modicon M580 offers CCoF feature (Change Configuration on the Fly). Maintenance and engineering teams can modify the automation control system without stopping the process. Thanks to the M580 there is no longer a need to lose production and revenue when routine control systems maintenance work is required.

By implementing an IoT-enabled EcoStruxure™ Plant architecture, the Dunkirk steelworks has gained advanced connectivity that allows for precise dust level monitoring and a better control of the entire process.

Crucial to the overall improvement is the second phase dusting process, which is responsible for reducing the amount of dust in the atmosphere on-site, as well as emissions to the Dunkirk region. This process is now supervised by the Modicon M580 ePAC, a smart, future-ready controller, part of the edge control layer of EcoStruxure Plant.

The Modicon M580 has become "the brain" of the second phase dusting process, accountable for collecting and processing data from sensors. Thanks to real-time updates on dust levels, the maintenance crew gets an overview of the entire site's condition and can easily decide when and where they should intervene.

Goal

Ensure high steel quality and enhance working conditions through advanced dust level monitoring and control, while securing the continuity of the steelmaking process

Story

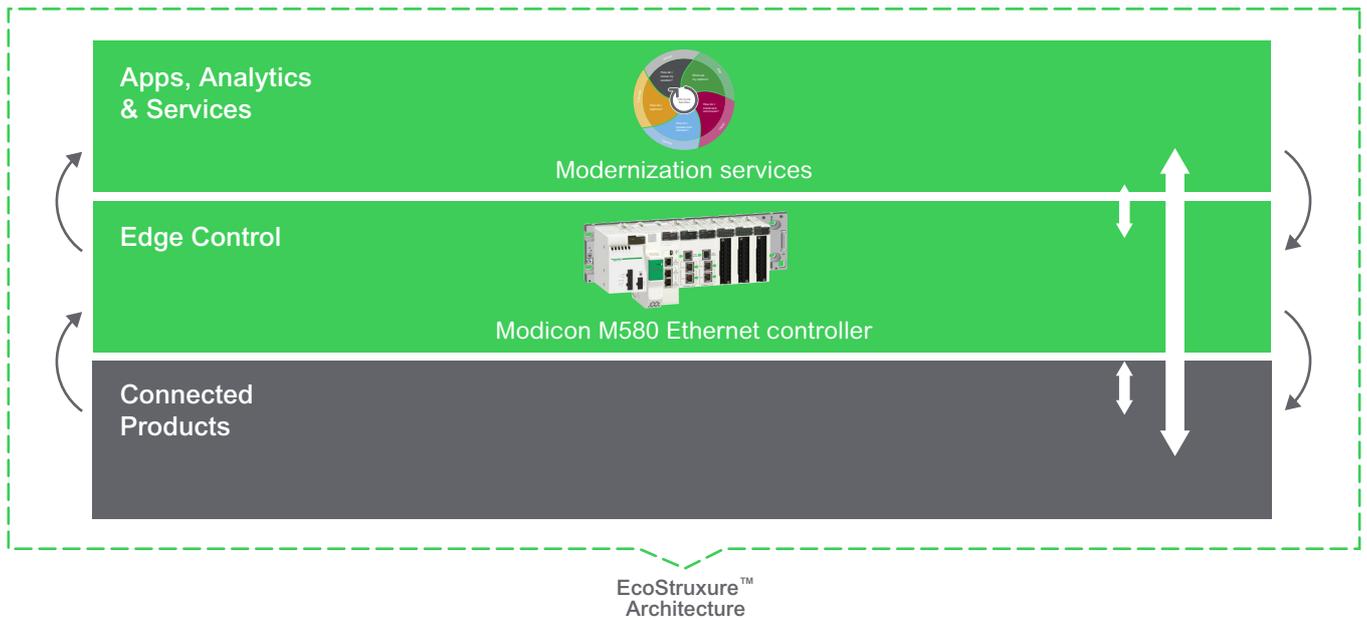
ArcelorMittal Dunkirk is the largest steelworks in Western Europe, manufacturing 7 million tons of steel every year for diverse applications, from automotive manufacturing to construction

Solution

EcoStruxure™ Plant, including the Modicon M580 Ethernet programmable controller, and modernization services

Results

Higher steel quality and reliability, increased employee safety, 24/7 steelworks operation



The future-ready evolution of steelworks

By implementing an EcoStruxure Plant architecture, including the Ethernet-connected Modicon M580 controller, ArcelorMittal's Dunkirk plant has achieved greater flexibility in its operations. Its staff can now perform maintenance and make changes to the process without having to slow down or halt production.

Dust levels are supervised in real time, so steel quality is constant and the working conditions on-site have improved. Thanks to Schneider Electric's IoT-enabled solutions, the Dunkirk steelworks has secured the continuity of manufacturing and increased its overall productivity to deliver strong, reliable steel 24/7, both today and tomorrow.

"I think our future projects will also rely on the Modicon M580."

— Philippe Loridan,
Maintenance Engineer, ArcelorMittal Dunkirk

"The Modicon M580 gives us the possibility to make changes to the process without having to slow production and thus lose flows and turnover."

— Philippe Loridan,
Maintenance Engineer, ArcelorMittal Dunkirk

EcoStruxure™

Innovation At Every Level

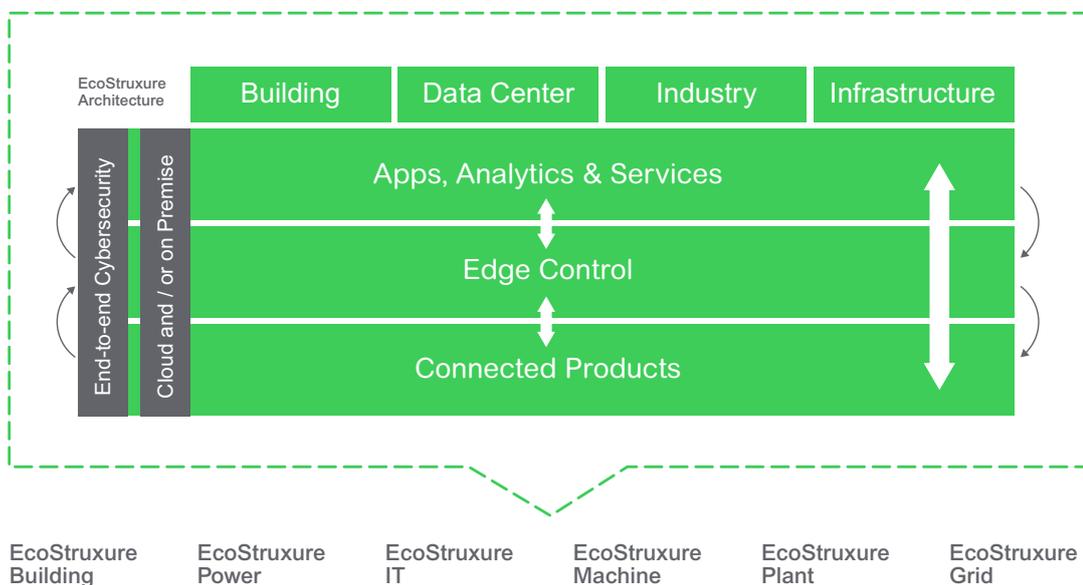
IoT-enabled solutions that drive operational and energy efficiency

EcoStruxure is Schneider Electric’s open, interoperable, IoT-enabled system architecture and platform.

EcoStruxure delivers enhanced value around safety, reliability, efficiency, sustainability, and connectivity for our customers.

EcoStruxure leverages advancements in IoT, mobility, sensing, cloud, analytics, and cybersecurity to deliver Innovation at Every Level including Connected Products, Edge Control, and Apps, Analytics & Services. EcoStruxure has been deployed in 450,000+ installations, with the support of 9,000 system integrators, connecting over 1 billion devices.

One EcoStruxure architecture, serving four End Markets with six Domains of Expertise



Connected Products

The Internet of Things starts with the best things. Our IoT-enabled best-in-class connected products include breakers, drives, UPSs, relays, sensors, and more. Devices with embedded intelligence drive better decision-making throughout operations.

Edge Control

Mission-critical scenarios can be unpredictable, so control of devices at the edge of the IoT network is a must. This essential capability provides real-time solutions that enable local control at the edge, protecting safety and uptime.

Apps, Analytics & Services

Interoperability is imperative to supporting the diverse hardware and systems in building, data center, industry, and grid environments. EcoStruxure enables a breadth of agnostic Applications, Analytics, & Services for seamless enterprise integration.

Find out more about EcoStruxure

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Learn More



Discover EcoStruxure



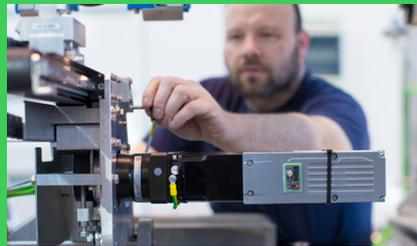
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Business excellence with smart machine solutions



Contact us to start your journey



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Entrade – Turning waste into sustainable energy

Schneider Electric

Boston ONE Campus
800 Federal Street
Andover, MA 01810 USA
Phone: + 1 978 794 0800

www.schneider-electric.com

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