EcoStruxure™
Innovation At Every Level

SUSTAINABILITY

Forging a greener future

ArcelorMittal – Belval, Luxembourg

How EcoStruxure™ for Metals enables sustainable electrical network modernization

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Life Is On | Schneider Electric

Holding a sustainability commitment strong as steel, ArcelorMittal is the largest steel producer in the world. At its Train 2 facility in Belval, Luxembourg the company manufactures sheet piles, a component used for construction of tunnels and seaports, and in preventing rising water in cities like Venice.

The Belval site has been in service manufacturing steel for over 100-years. It recently started facing issues related to an aging electrical installation. ArcelorMittal was therefore looking for solutions to reduce downtime risks, improve safety, and enable energy monitoring.

It also searched for a company capable of modernizing its MV power network in line with the steel manufacturer's sustainability commitments. The project included retrofitting unused but outdated MV switchgear and disposal of old parts in compliance with environmental regulations.

Goal

Create a new MV electrical power line at the Belval facility. Refurbish MV switchgear, add sensors for connected capabilities, and dispose of oil transformers in an ecological way.

Story

ArcelorMittal wanted to modernize its aging electrical installation in a sustainable way to increase safety and maintain high production levels.

Solution

EcoStruxure for Metals with MV circuit breakers, power distribution equipment (Connected Products), Easergy relays (Edge Control), consulting services with Modernization Performance Safety Audit, modernization services (Apps, Analytics & Services)

Results

- **15–20%** est. cost savings on the new installation
- **5–10%** est. downtime reduction
- **170** eq. metric tons of CO_2 saved
- **26** metric tons of materials saved

Shared values and experience

Having already worked with Schneider Electric on multiple projects, ArcelorMittal knew it had a trusted partner. The companies also found common ground in their dedication to sustainability and circular economy.

The project started with a Modernization Performance Safety (MPS) audit performed by Schneider Electric on the equipment at the Belval facility. This included an assessment of the current MV network, an evaluation of switchgear and a budget estimation.

The audit determined which parts had to be replaced and how to upgrade switchgear to the latest technologies.

Schneider Electric retrofitted 13 devices for the new MV network, adding temperature and hygrometry sensors for condition monitoring.

Five oil transformers were also selected for modernization. ArcelorMittal wanted to replace them with dry-type transformers which have a lower environmental impact. The Schneider Electric team helped dispose of the oil and other parts in compliance with environmental regulations.

"If I had to sum up this project with Schneider Electric in three words, it would be: proximity, flexibility, and support," said Sébastien Michon, Industrial Project Engineer, ArcelorMittal Belval.

170

eq. metric tons of CO_2 saved

Benefits for business and the environment

By adopting a circular economy approach for the modernization project, ArcelorMittal managed to save between 15 and 20 percent on the total cost while also meeting sustainability goals. The modernization of switchgear and transformers helped avoid the emission of 170 equivalent metric tons of CO_2 and prevented reprocessing of 26 metric tons of materials.

With equipment condition now monitored by sensors, the Belval facility staff can track the energy use and identify potential faults before they cause downtime. The digital upgrade helped increase installation reliability, energy efficiency, and personnel safety. The new capabilities also enable longer equipment life through predictive maintenance and help improve business continuity by reducing the risk of unexpected production halts.

ArcelorMittal Belval is already planning its next projects with Schneider Electric. "The partnership between ArcelorMittal and Schneider Electric will continue with setting up a maintenance plan for high-voltage switchgear and also retrofitting low-voltage switchboards," revealed Sébastien Michon.

EcoStruxure™ Architecture

EcoStruxure™
Innovation At Every Level

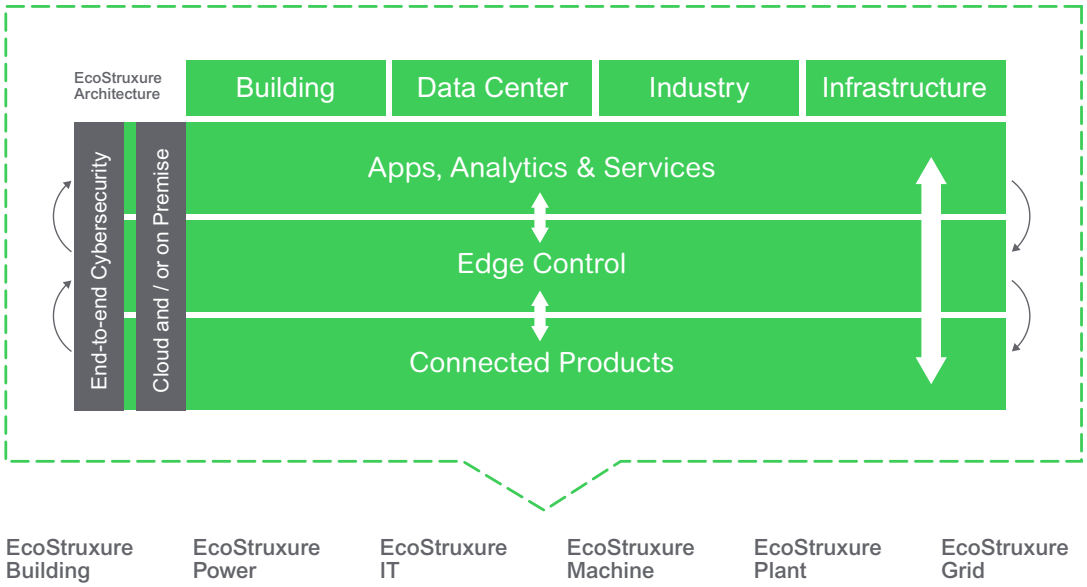
IoT-enabled solutions that drive operational and energy efficiency

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 480,000+ sites, with the support of 20,000+ system integrators and developers, connecting over 1.6 million assets under management through 40+ digital services.

One EcoStruxure architecture, serving 4 End Markets with 6 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.

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