EcoStruxure™
Innovation At Every Level

RELIABILITY

The perks of power visibility

Nestlé Nescafé — Toluca, Mexico

The world's largest soluble coffee factory improves
reliability with EcoStruxure™ solutions.

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EcoStruxure Power offers Connected Products, Edge Control, and Apps, Analytics, and Services from Schneider Electric's IoT-enabled EcoStruxure architecture. Together, these innovations help factories improve reliability, enhance efficiency, and reduce maintenance.

The coffee all of Mexico drinks

Nestlé, the largest food and beverage company in the world, pioneered the concept of soluble coffee — tiny, dark crystals that instantly transform a cup of hot water into a convenient, affordable, day-starting staple for people around the globe.

Sixty percent of Nestlé's soluble coffee production comes from a single factory. At the Nestlé Nescafé® plant in Toluca, Mexico, one million jars of coffee roll off the production lines every day. One of the most popular products made here is Nescafé Clásico™ — "the coffee that all of Mexico drinks," says Luis Gilberto López Páez, Electrical Specialist at the plant. "The factory works 365 days a year," he continues. "Therefore, an unplanned stoppage impacts the reliability of the processes," which can affect what makes it to grocery shelves. With a plant as large as Nestlé Nescafé, ensuring reliability of all the electrical systems is a particularly involved task.

In 2013, Nestlé invested approximately $125 million to expand this plant, increasing production by 40% and making it the largest soluble coffee facility in the world. At this scale, even modest gains to energy efficiency and service improvements translate to sizable cost savings. Improving the reliability of the facility's electrical equipment would deliver the productivity, efficiency, and maintenance benefits Nestlé sought.

In 2017, engineers from Nestlé Nescafé and Schneider Electric began a pilot project to evaluate the plant's digital transformation using EcoStruxure. This decision to enlist Schneider's expertise was a natural one, as EcoStruxure solutions are already in place at the food and beverage conglomerate's production facilities in France and Switzerland.

Goal

Eliminate unplanned stoppages and gain a clearer view of operational efficiency.

Story

When eight unplanned stoppages in one year caused production to falter, the world's largest food and beverage company turned to Schneider Electric.

Solutions

Nestlé Nescafé modernized its production equipment by connecting products like LV Prisma panels, Trihal transformers, QDLogic switchboards, PowerLogic™ sensors, and more to EcoStruxure Asset Advisor, which allows power systems to be visible and remotely managed 24/7 from any device.

Results

- Improved service continuity and asset health
- Reliable, 24/7 remote monitoring of all five electrical substations
- Three unplanned stoppages avoided since EcoStruxure's implementation

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From pilot to plant

During this pilot phase, EcoStruxure Asset Advisor was implemented in certain sections of the factory to demonstrate the difference between connected and non-connected assets. Three transformers were fitted with PowerLogic Tag Series TH110 wireless temperature sensors, allowing them to communicate with the Asset Advisor service.

What took the project from a trial to full implementation was a single disruption in April 2020: a short circuit inside an unmonitored section of the main substation resulted in a 14-hour shutdown, costing Nestlé approximately $588,000. Because this section wasn't connected, engineers

weren't alerted that equipment was at risk. This was the catalyst in Nestlé's decision to utilize Asset Advisor throughout its Nescafé plant.

Implementing Asset Advisor gave Nestlé real-time visibility into its electrical equipment, allowing engineers to remotely monitor assets. Prior to Asset Advisor, maintenance was reactive — Nestlé hired specialized service providers as needed. Today, through EcoStruxure, Nestlé has moved to predictive maintenance; connected services anticipate potential failure, which allows teams to resolve issues proactively to avoid downtime.

Service continuity is central to Nestlé's production goal, but other variables influence the factory's profitability, like maintenance and the total cost of ownership. To reduce maintenance costs, engineers need to identify the stressed areas in the electrical infrastructure to concentrate service efforts, thereby minimizing the amount of time technicians spend performing preventive maintenance across all assets. "EcoStruxure Asset Advisor allows us to identify hot spots and attack them before they become a problem," says Páez.

> "Coffee is a fundamental part of Mexican culture. We make a lot of it, and the work of Mexican producers is reflected in every cup every morning."
>
> *— Luis Gilberto López Páez, Electrical Specialist, Nestlé Nescafé*

Nestlé Nescafé at a glance:

- Largest producer of soluble coffee in the world
- Produces 1 million jars of coffee every day
- Unplanned shutdowns can cost $52,000 an hour

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By relying on data analytics to dictate service intervals, the electrical teams at Nestlé Nescafé spend less time reacting to issues and the plant's equipment spends more time performing optimally — helping Nestlé achieve its annual target of generating $238 million in factory production. Páez elaborates, "In addition to avoiding unscheduled stoppages, EcoStruxure Asset Advisor allows us to go from annual to biannual maintenance, which is reflected in the productivity of the plant."
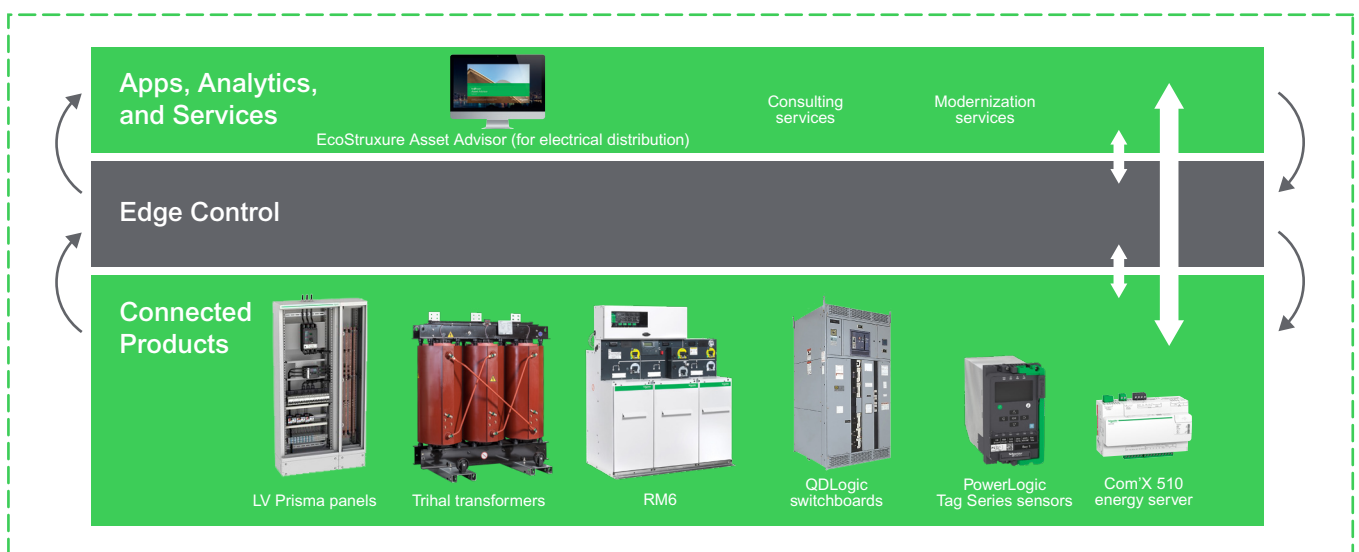
In the first three years of EcoStruxure's implementation, Schneider's Connected Services Hub sent a dozen alerts to Nestlé about potential or imminent equipment issues. Because of these alerts, engineers were able to react and avoid three unplanned stoppages — disruptions that could cost $52,000 per hour.

"EcoStruxure Asset Advisor allows me to visualize my electrical equipment from the comfort of my home. I can open it from my computer, I can open it from my cell phone. It's a very practical tool." Páez concludes, "Nestlé and Schneider Electric have been partners for many years. Schneider knows my needs, and I believe their products have a great place in our industry."

1 million
jars of soluble coffee are produced at Nestlé Nescafé every day.

EcoStruxure™ **Power**
Innovation At Every Level

Apps, Analytics, and Services		
EcoStruxure Asset Advisor (for electrical distribution)	Consulting services	Modernization services

Edge Control

Connected Products					
LV Prisma panels	Trihal transformers	RM6	QDLogic switchboards	PowerLogic Tag Series sensors	Com'X 510 energy server

EcoStruxure Architecture

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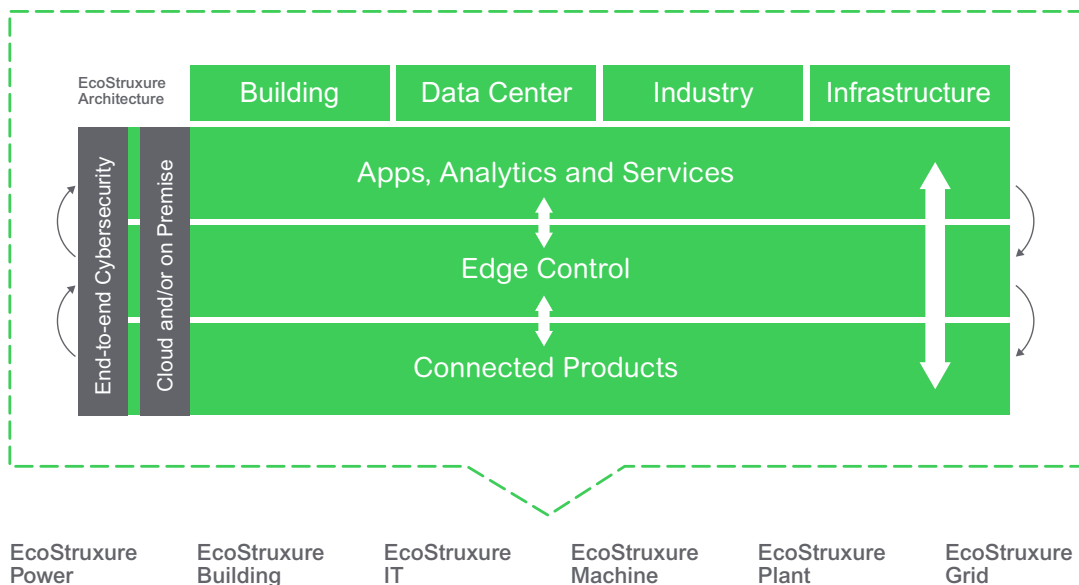
EcoStruxure™
Innovation At Every Level

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, and 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

EcoStruxure Architecture	Building	Data Center	Industry	Infrastructure
End-to-end Cybersecurity / Cloud and/or on Premise	Apps, Analytics and Services			
	Edge Control			
	Connected Products			

EcoStruxure **Power**
EcoStruxure **Building**
EcoStruxure **IT**
EcoStruxure **Machine**
EcoStruxure **Plant**
EcoStruxure **Grid**

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, and 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, and Services for seamless enterprise integration.

Find out more about EcoStruxure

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Learn more

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