

EFFICIENCY

Energy efficiency allows industrial businesses to dramatically reduce costs and turn energy into a business asset.

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Life Is On

Schneider
Electric

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- Do you need to get energy information from smart devices with integrated power metering capabilities?
- Do you need process information from automation platforms such as historian, MES and programmable controller to easily contextualize production with energy usage to improve operational efficiency?
- Do you need ready to use dashboards and reports within an intuitive, standardized user interface?
- Do you need to lower your carbon footprint while increasing operational efficiency?



Plant energy performance solution

Solution architecture

Energy monitoring solution that delivers segment specific KPIs to make energy management an integrated part of your operations.



Why it matters?

- A detailed breakdown of the energy consumption per process and down to the individual asset level (blower, pump, etc.).
- Contextualization of data and calculation of meaningful KPIs for industry specific applications
- Simplify reporting and compliance

Cemex Plant energy performance

Customer challenge


Corporate policy to improve energy efficiency meant Cemex needed a way to control energy consumption and cost allocation with continuous network quality improvement.

The solution

Power monitoring system and additional metering devices with a Power Advisor 9.0 Prime Services plan allowed for automatic data exchange with Cemex HQ in Mexico.

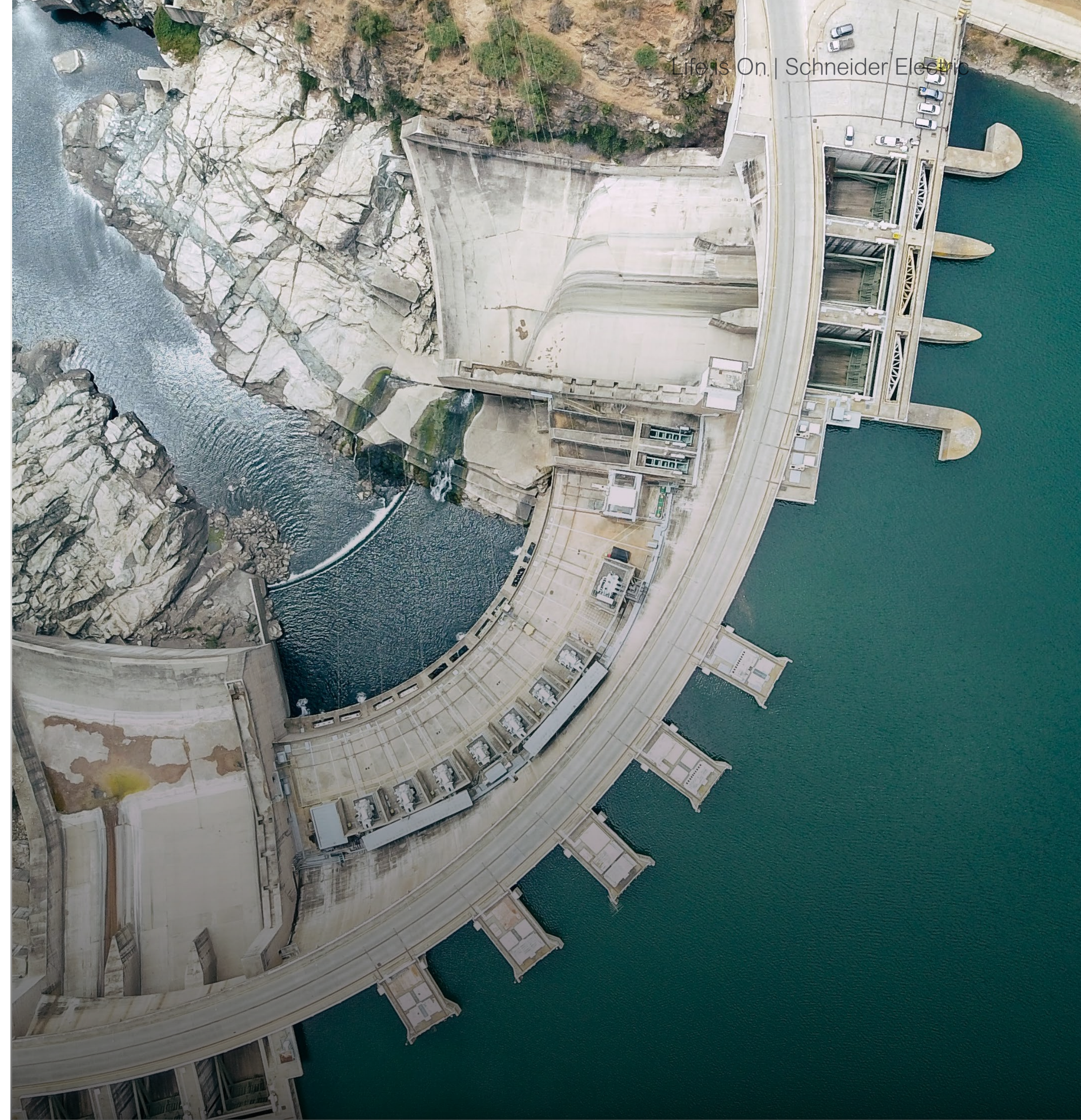
Results

- Visibility of energy consumption and cost allocation
- Analytics on data quality
- Improved system performance and failure prevention
- Increased energy efficiency
- Easier maintenance



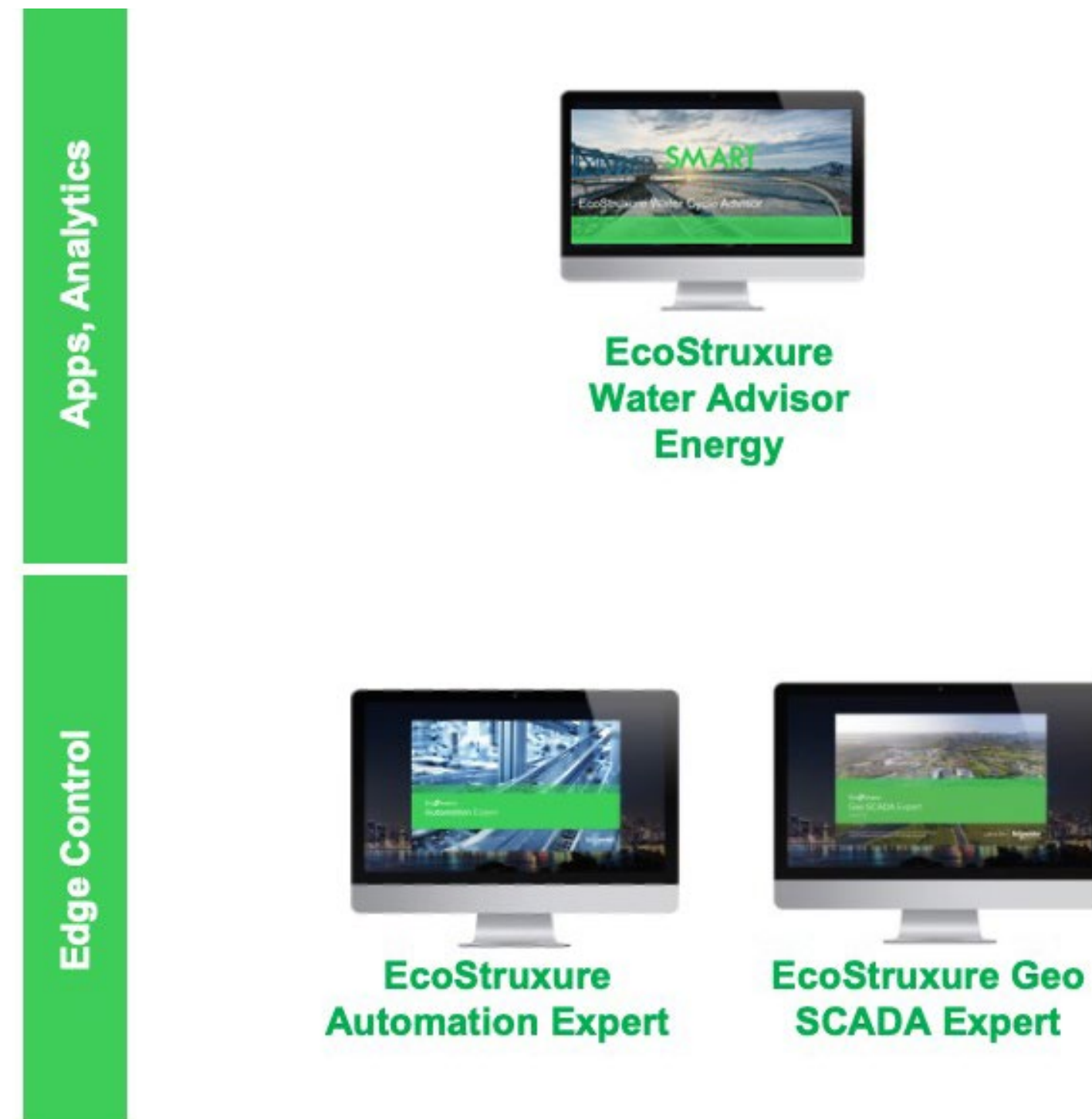
Energy management for leading manufacturer of building materials and concrete cover solutions.

- Do you need a holistic view of the system, which takes upstream/ downstream conditions into account for each pumping station and includes water-supply sources, production costs, pump efficiency, and external conditions including energy cost?
- Do you need to deliver insights covering the entire water distribution network and all pumping station details?
- Do you need to determine optimized control strategies, including the approval of safe operations by a real-time hydraulic model?



Water network energy performance

Solution architecture



Integrated solution to optimize energy-costs and operational efficiency for extensive water distribution systems with predictive analytics and advanced control of the entire system.

Why it matters?

- Reduce energy costs: minimize consumption, maximize efficiency, and maximize use of lowest cost water sources
- Reduce environmental footprint: Lower carbon footprint associated with procured energy, maintain water quality and comply with regulations
- Optimize operational efficiency by reducing maintenance efforts, increasing life-cycle of equipment and automating operations
- The integrated solution enables the automatic control of pumps, valves, setpoints, etc., performing optimized control strategies in real-time

Do you need real time insights to help you improve operational performance and sustainability?

Do you need the right business analytics and intelligence to drive improvements in:

- Safety?
- OEE and line/machine performance?
- Production flow and throughput?
- Quality?
- Costs and profitability?
- Asset uptime with root cause analysis of downtime events?

Do you want a solution that is scalable and can easily be deployed plant or enterprise wide?



Control tower

Solution architecture



This flexible, scalable IOT platform supports manufacturing or process business intelligence by aggregating all operational and business process data flow.

Why it matters?

- Leverage business analytics as a new source of increased competitive advantage
- Clear insights from industrial big data to decide which improvements to prioritize first to make the greatest difference
- Faster deployment, lower software costs, enterprise wide scalability

Schneider Electric worldwide factories

Standardized control tower for manufacturing for Schneider Electric plants

As a manufacturing solutions provider, Schneider Electric uses, tests, and implements the same solutions we recommend to customers. To improve our competitiveness at all our plants around the world and meet escalating demand, we strive to increase production capacity.

To do so, it's critical that we increase plant uptime, optimize plant efficiency, and empower our workforce of over 128,000.

We have a wide range of different manufacturing processes where complexity must be translated to simplicity. Processes need to be simple enough for anyone to manage.

The solution must support processes with different levels of automation from all-manual assembly lines to a fully automated process.

A manufacturing control tower has been developed as the scalable IOT-based manufacturing efficiency system for Schneider Electric plants.

This has led to multi-site operating insights, issue and root cause analysis based on multiple inputs and KPIs, and a better understanding of process situations for better decision making and customer satisfaction.

[Learn more](#)

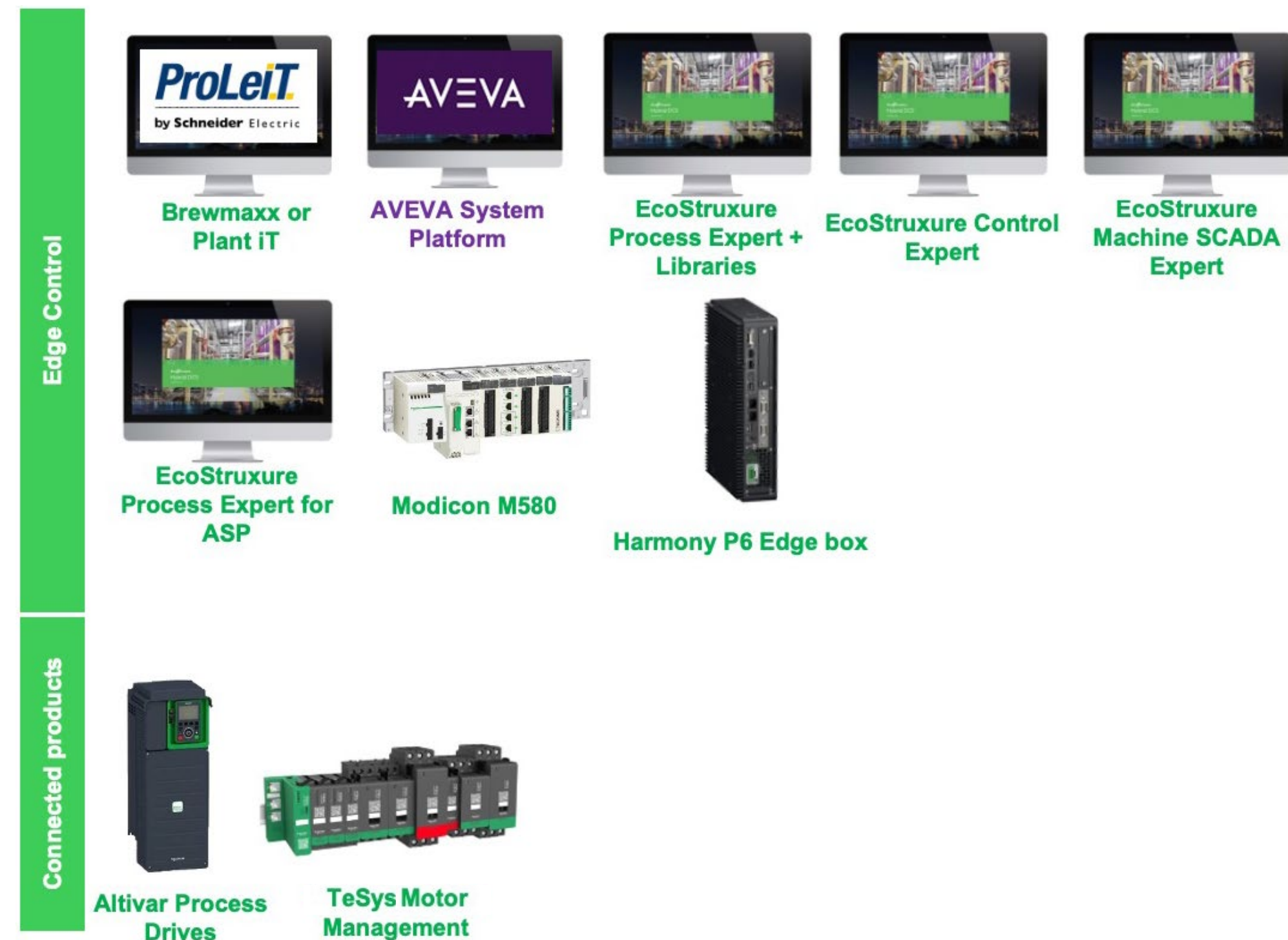
- EcoStruxure solutions for manufacturing deployed in 200 of our sites
- Reduced energy costs 10-30%
- Reduced maintenance costs by 30-50%

- Do you need a liquid food library with industry specific functions and features?
- Do you need integrated energy management functionality, supported by natively integrated connected products which provide energy consumption at the device level?
- Do you need reusable automation objects that embed edge control, visualization, alarming, documentation and asset management?
- Do you need built in runtime navigation services to identify faster root cause of plant issues?



Integrated automation system for CPG

Solution architecture



This state-of-the-art process automation system for CPG plants is based on transparent Ethernet architectures and an industry-specific library for faster design/commissioning, increase operational efficiency, and reduced OPEX.

Why it matters?

- Reduce energy consumption by combining energy and process data to yield new insights
- Optimize maintenance efforts with integrated features to support operators and maintenance staff
- Increase operational efficiency with intuitive user-interface, to support next generation workers
- Preserve the investments of your legacy automation infrastructure and minimize risk



French meat processor Increased meat traceability

Customer challenge

- Two areas separated by a protection wall; the clean and cold areas for meat handling and the palletizing area
- Meat handling receives the meat and orders of the day. It is the production area that decides what to produce. The palletizing area must follow decisions made by meat handling.
- Creation of a communication link between the two areas so that the palletization zone knows what will happen on its conveyor
- Ability to stop the conveyor if a product does not match order or if a fault occurs
- Supply a complete guide to production to help with recipe development (meat type, meat preparation)

The solution

- Harmony IPC for HMI
- EcoStruxure Machine SCADA Expert software: for line management (Lite SCADA)

Results

- Enhanced connectivity brings efficiency to operations
- Production of the different supplied products aligned with real demand avoiding waste
- Production flow can be actively reconfigured depending on stock availability and orders
- Solution ensures plant to comply with Food quality requirements (HACCP)
- Better production management allows a high variety of products to be made with minimum errors.

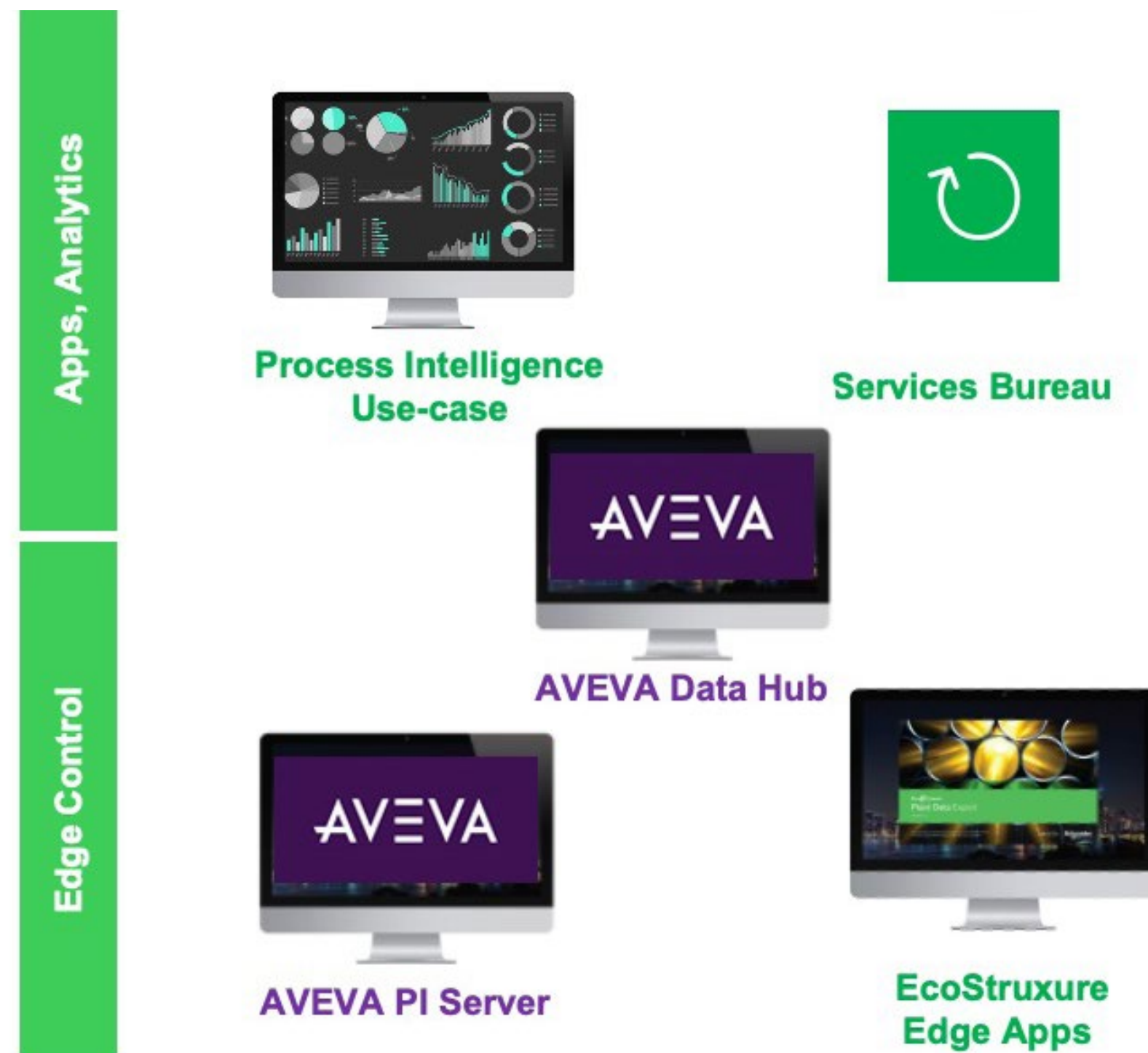
[Learn more](#)

- Do you need to correlate energy consumption with production activities?
- Do you need real time insights to help you to improve operational performance and sustainability?
- Do you want a solution which is scalable and can easily be deployed plant or enterprise wide?
- Do you need virtual sensor technology to increase accuracy of key variables?



Process intelligence

Solution architecture



An IIoT Application running on top of AVEVA platforms, helping industrial enterprises optimize operational KPIs (OEE, energy consumption, throughput, mass balance, recovery) to enhance operational performance with actionable insights and the ability to visualize and the identify root cause of anomalies.

Why it matters?

- Optimize energy consumption per ton of final product
- Increase throughput from existing assets
- Accurate information to enhance operation efficiency
- Remote access to expert support

The solution offers operational intelligence and process “self-learning” to boost efficiency and create cleaner raw material operations along the value chain.

Learn more about how this energy efficiency solution works for mining and cement industries:

[Read Article](#)

[Watch Video](#)

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