

PEOPLE

Workforce Empowerment allows workers to use technology to access the insights they need to make decisions that help the plant run more safely and profitably.

se.com/industrial-automation-solutions

Life Is On

Schneider
Electric

Table of contents

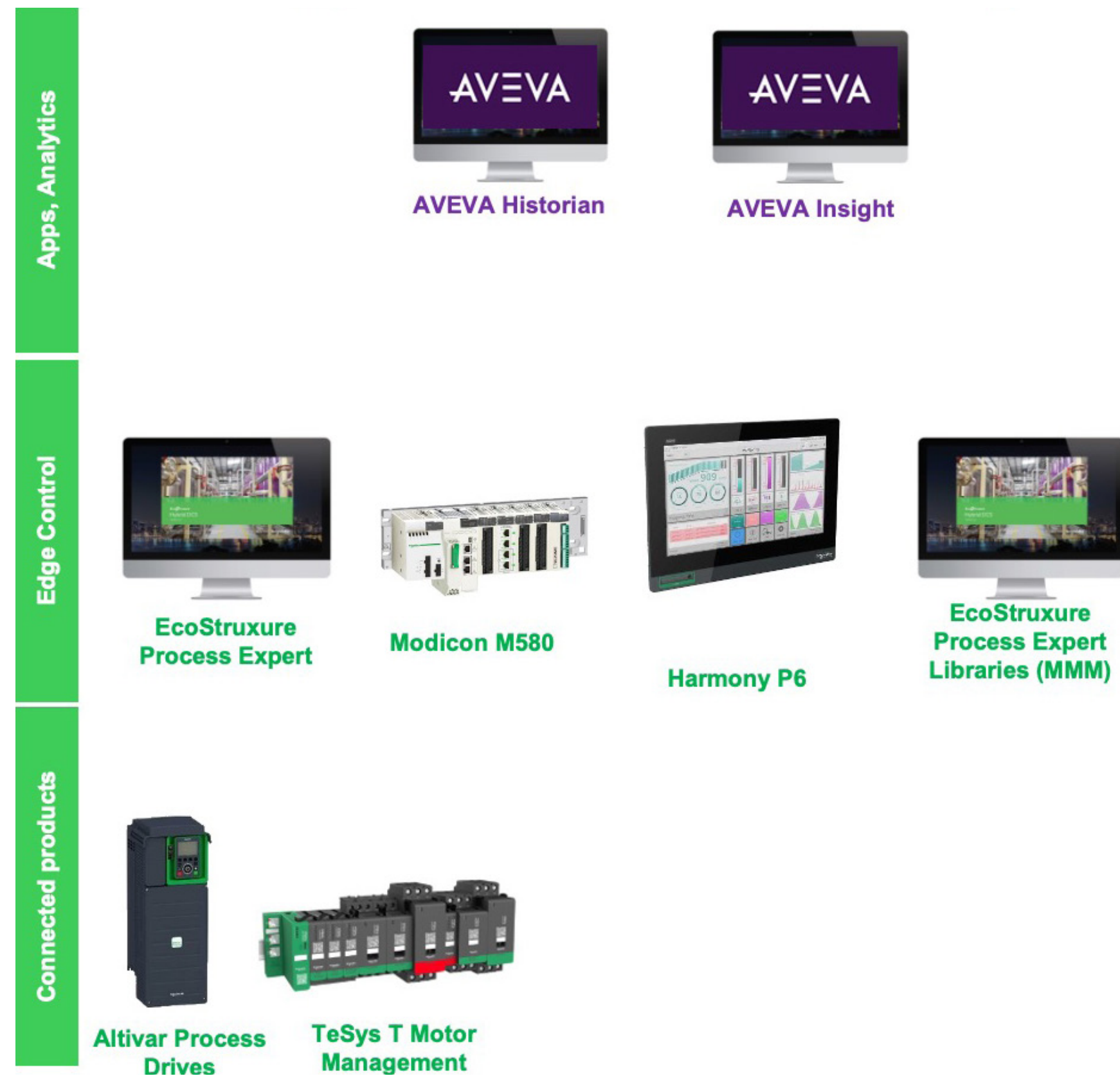


- Do you need built-in powerful runtime services which help you quickly identify the root cause of plant issues?
- Do you need embedded operational documentation, troubleshooting and maintenance procedures etc., to support operators and maintenance personnel?
- Do you need to remotely connect to your operations with mobile devices (e.g. tablets)?
- Do you need to integrate with connected products so you can understand energy consumption at the device level?
- Do you need reusable automation objects which embed edge control, visualization, alarming, documentation and asset management?



Integrated automation system for MMM

Solution architecture



A state-of-the-art Process Automation System for MMM plants based on Ethernet and on segment libraries that allows faster design / commissioning and increase operational efficiency.

Why it matters?

- Increase operational efficiency with fast diagnostics
- Optimize maintenance efforts with integrated features & remote monitoring to support operators and maintenance staff
- Reduce engineering cost and commissioning time with segment libraries
- Combine energy and process data for new insights

Cement Manufacturer, India

1.5 MTPA Grinding Unit

Customer challenge

Customer needed an integrated solution for electrical, automation and instrumentation. One single digital platform for power and process with a dedicated cement library and an optimization system for efficient grinding.

The solution

Complete design, engineering, supply and services including:

- Process Expert with M580 Controller with 4000 I/O
- AVEVA APC for Mill Optimization System
- IEO61850 MV panels
- Ethernet iPMCC's
- Power and Distribution Transformers

Results

- Increased process uptimes and reliability.
- Plant running at 100% capacity
- Seamless integration of electrical and automation systems (including third-party devices and subsystems)
- Productivity increased up to 3%
- Fuel consumption reduced by 2.5%
- Power consumption reduced by 3%

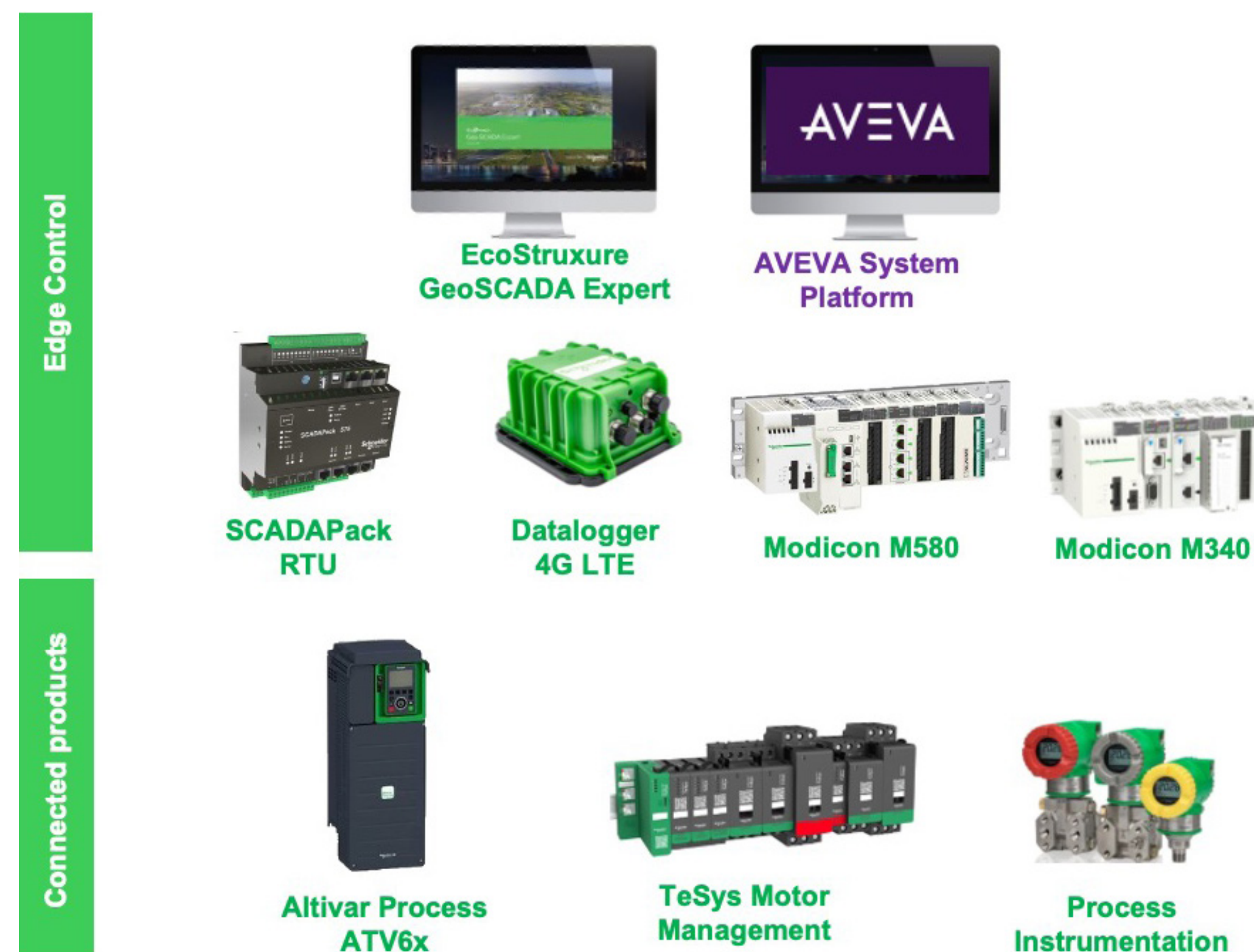
Leading cement manufacturer,
producing grey and white cement
for India's building industry for over
40 years

- Do you need simplified management of assets & mobile operators?
- Do you need to manage unreliable data-carrier and provide complete historical records of data to obtain useful information?
- Do you need Integrated monitoring and diagnostics of the entire telemetry system including field devices?
- Do you need a solution to work in harsh environments and hard to reach locations?
- Do you need natively integrated cyber-security features supporting a defence in depth approach?



Integrated SCADA and telemetry system

Solution architecture



A unified integrated telemetry system for water and wastewater networks and management of water resources. Engineer, operate, and maintain your entire remote water infrastructure in the most secure, efficient and sustainable way.

Why it matters?

- Reduced site visits and service calls
- A single version of the truth at your fingertips to support fast accurate decision making
- Connect with smart water apps to reduce non-revenue-water and manage leaks.
- Reduce commissioning costs and minimize system maintenance efforts during the entire life-cycle
- Optimize operation and maintenance efforts
- Operate reliably under extreme conditions

Yarra Valley Water

Power SCADA alarm capability and mobile data access

Yarra Valley Water identified the need to develop a more open and maintainable system with wide industry acceptance for increased future-proofing and to remove the dependence on a single vendor for support. Bringing the support in-house was a key objective. The new system also had to provide a high level of security, with a secure architecture and current generation security concepts.

Yarra Valley Water, the largest of Melbourne's three water corporations, installed a new SCADA system that allows them to better monitor distributed assets, perform predictive and reactive maintenance, and respond to incidents, such as environmental spills, more rapidly.

The results: Life is On with... 80% reduction in external support costs; number of faults reduced by 66%

Results

- 66% reduction in faults reported
- 80% reduction in external supported cost
- Simplified troubleshooting and allowed for condition-based preventative maintenance
- Created the ability to generate work orders automatically
- Real-time information collection on performance and optimization
- Streamlined process of dispatching work crews and increasing efficiency

[Learn more](#)

Provider of water and sewerage services to 1.7 million people and 50,000 businesses over 4,000 km²

"We used to average 150 SCADA incidents per month. Within 4 months this had reduced to less than 50."

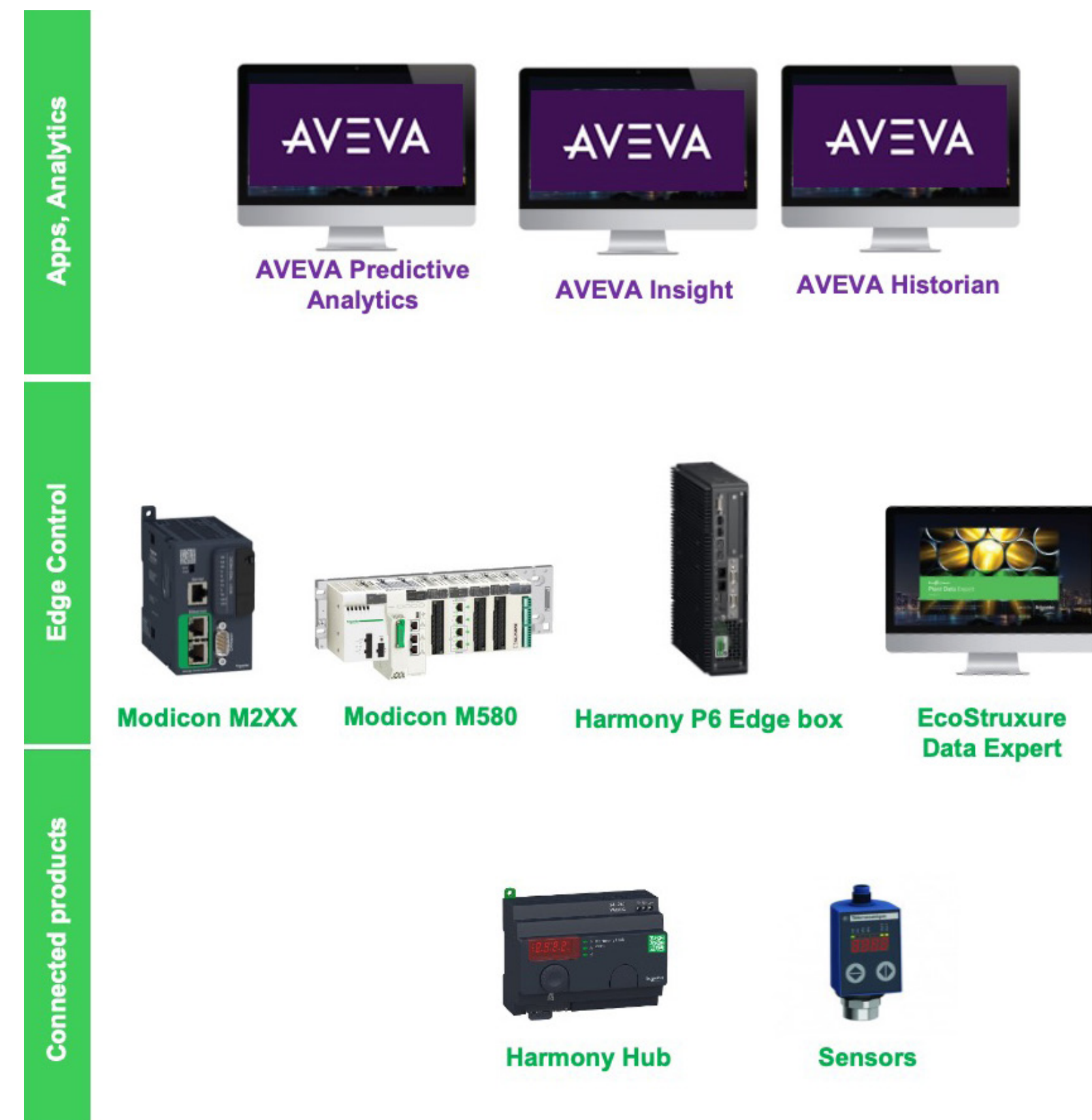
Roger Brown,
Yarra Valley Water

- Do you need to keep your assets operating at peak performance?
- Do you want to develop normal operational profiles for assets based on their individual operating histories?
- Do you want to compare known operational profile with real-time operating data to detect early warning signs of pending equipment failure?
- Do you need real-time updates of how well a plant or system is functioning?
- Do you need advanced analysis capabilities including problem identification and root cause analysis?



Critical Equipment Predictive Maintenance

Solution architecture



Predictive maintenance solution based on analytics and machine learning: real-time sensor data are collected and compared to a normal signal model to determine when subtle deviations from expected equipment behavior occur then alert staff.

Why it matters?

- Avoid unplanned downtime and loss of production capacity
- Early detection of equipment issues to avoid disaster and the resulting costs
- Schedule maintenance intervention at the right time
- Reduce impact on operational plans and optimize maintenance efforts
- Synchronize maintenance activities to limit impact on operations.
- Improved visibility of equipment health
- Elevate asset knowledge base

EDF Group

Critical equipment predictive maintenance

Customer challenge

As the national electricity producer and distributor in France, EDF's challenge was avoiding turbine catastrophic failure. They needed to improve power generation reliability.

The solution

AVEVA Predictive Analytics to analyze equipment health and performance so EDF's modern power plants can archive thousands of signals that are used by a range of tools.

Results

- Savings from downtime avoidance due to early warning = 1.5 million Euro
- Mobile Operator Rounds fully deployed at 12 facilities

[Learn more](#)

Serving 39.1 million customers globally with a generating capacity of 653.9 TWh.

- Do you need to manage and remotely diagnose or maintain assets?
- Do you want to securely connect to advanced asset performance solutions?
- Do you need to reduce downtime and travel costs?



Secure remote maintenance operations

Solution architecture



Reduce downtime and travel costs with Secure Connect Solution which utilizes Schneider Electric software for the HMI, PLC, or Drive, giving you a cybersecure programming tool to diagnose and troubleshoot equipment as if you are on site.

Why it matters?

- Component of secure IT infrastructure that provide confidence in opening asset connectivity
- Complete Cybersecure automation system that is easy to configure based on IIoT Box & M580
- Easy step to start digitization journey even for existing installations.
 - Enable new engineering and maintenance models
- Enable maintenance teams to make the right decision remotely.
- Access to remote expertise without requesting IT dept. assistance
- Travel cost reduction & rapid remote intervention

Pet food production machinery OEM

Secure remote maintenance operations

Customer challenge

The customer needed access to all the insights required for machine supervision. This required advanced local HMI capabilities with high-quality graphics, traceability combined with direct remote access to the machine, including its controller for remote diagnostics and troubleshooting.

The solution

We employed EcoStruxure Secure Connect for secure remote access and EcoStruxure Machine SCADA Expert for complete local supervision, including high-quality graphs and traceability features.

Results

- Remote access to the M340 at the customer facility
- Ability to perform configuration, commissioning, calibration, online diagnostics analysis etc., remotely from the OEMs PC
- Reduced downtime and associated costs
- High-quality graphs and insights available to support process optimization and traceability requirements for the CPG segment

[Learn more](#)

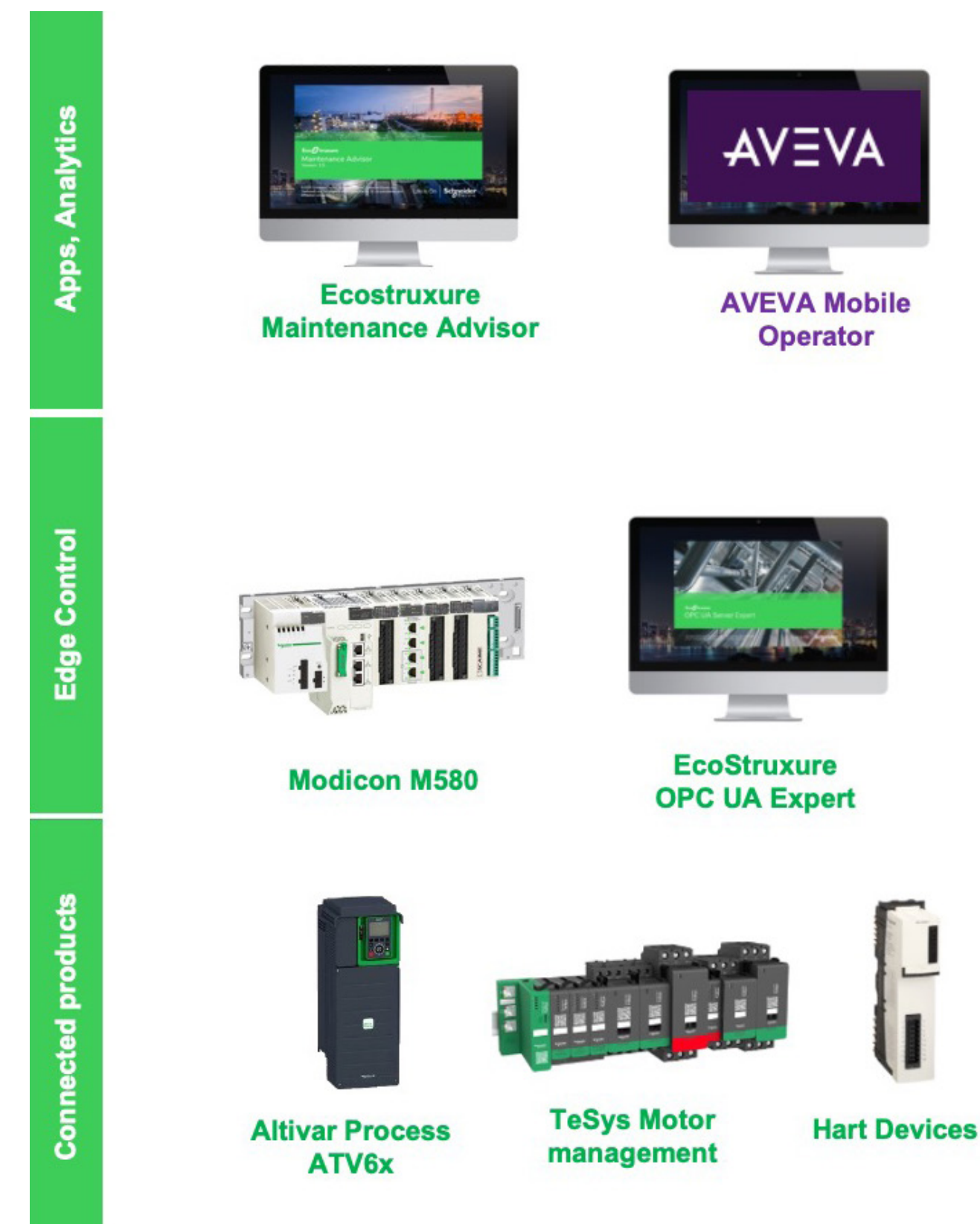
A complete solution consisting of training, support, hardware, and software was delivered to a happy customer.

- Do you need real-time automated condition monitoring which provides early warning and insight into emerging abnormal conditions helping to avoid unscheduled slowdowns and shutdowns?
- Do you need supplier agnostic, secure, transparent access to all your production assets?
- Do you want to enable predictive maintenance extends the lifetime of your assets.
- Do you need to streamline maintenance processes and eliminate paperwork by integrating maintenance and work order/workflow systems?



Condition-based maintenance and decision support

Solution architecture



Digital platform for predictive maintenance and decision support enabling profitable operations.

Why it matters?

- Improved plant availability / uptime – through accurate, early insight into emerging abnormal asset conditions
- Lower Total Cost of Ownership (TCO) with effective use of Operation and Maintenance (O&M) resources and funding
- Reduce OPEX (Operational Expense) by reducing maintenance costs thanks to predictive maintenance
- Improved workforce productivity through mobility and insight driven decision support tools.

Reliance

Condition-based maintenance and decision support

Customer challenge

Reliance wanted to improve reliability and availability at a very large facility with over 22,000 Fieldbus Foundation tags across 3,500 segments and 16,000 Hart devices.

The solution

Instrument Asset Management System to support numerous field devices. The system made it possible to remotely perform configuration, commissioning, calibration, online diagnostic analysis, and repair/replace functions for field instruments.

Results

- Early warning/impending failure alerts to drive intervention before downtime occurred
- More efficient use of maintenance resources
- Reduced unplanned downtime

[Learn more](#)

The largest oil refinery and petrochemical complex in the world.

Life Is On



To learn more about how workforce empowerment allows workers to use technology in accessing the insights they need to make decisions that help the plant run more safely and profitably visit

se.com/industrial-automation-solutions



Schneider Electric

35 rue Joseph Monier
92500 Rueil-Malmaison, France
Tel : +33 (0)1 41 29 70 00