

A man wearing a white lab coat and a white hairnet is looking at a tablet in a hydroponic farm. The farm has multiple levels of plants growing in trays, with overhead lighting. The man is in the center of the frame, looking down at the tablet. The background shows rows of plants and the structure of the farm.

Resilient Supply Chain

EcoStruxure™ enables trust in the Food & Beverage,
Household and Personal Care industries

Life Is On

Schneider
Electric

We help on every step of the value chain

Efficient facilities

Safer, more available,
and greener resources

Agile manufacturing

Boost manufacturing
flexibility & efficiency

Resilient supply chain

Manage complexity and
improve visibility

... enabled by transversal digital transformation capabilities

Food Safety & Traceability

Ensure compliance and increase trust across the whole value chain

Energy & Sustainability

Reduce environmental footprint and meet sustainability goals

Asset Performance

Maximize return on asset investment

Workforce Empowerment

Take teams efficiency to the next level

Digital Engineering

Cut time, cost and risks of capital project engineering

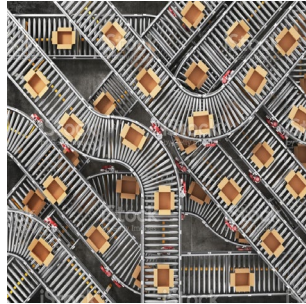
Manage complexity and improve visibility across your Supply Chain



Agriculture efficiency & sustainability

Help farmers and agri-business improve productivity, better manage the use of resources and achieve regulation compliance and traceability.

Greater yield
leveraging digital solutions



Warehouse management

Ensure process, control and optimization of warehouse operations to improve efficiency and address ecommerce imperatives.

Increased **productivity** while ensuring safety



Supply chain optimization

Increase your visibility, improve agility and performance to build a resilient supply chain, end-to-end.

Build a **resilient** Supply Chain



Product Information Management

Ensure the right information related to the product is available for a seamless omnichannel retail experience

Up to **17%** increase in data accuracy



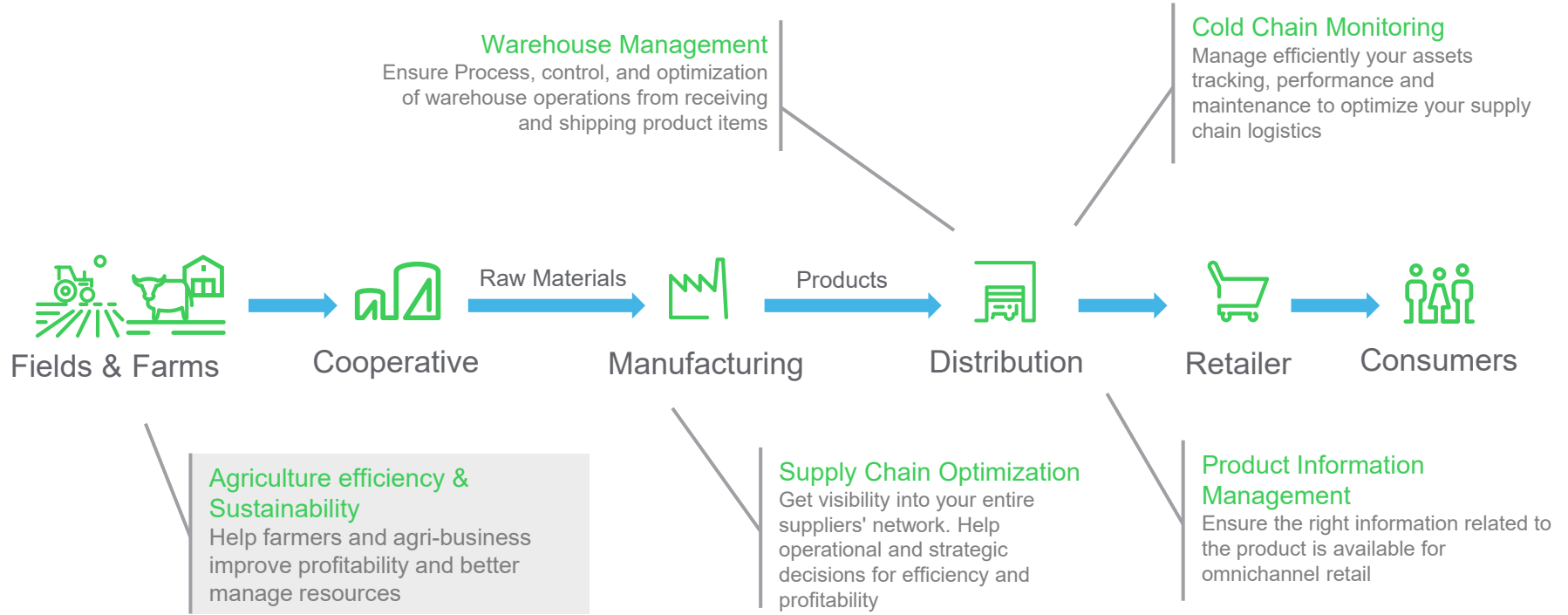
Cold chain monitoring

Manage efficiently your assets tracking, performance and maintenance to optimize your supply chain logistics

Ensure efficient & **secure operations**

Resilient Supply Chain

Manage complexity and improve visibility across your supply chain



Agriculture Efficiency & Sustainability

Help farmers and agri-business improve productivity and better manage the use of resources

- **Increase productivity**

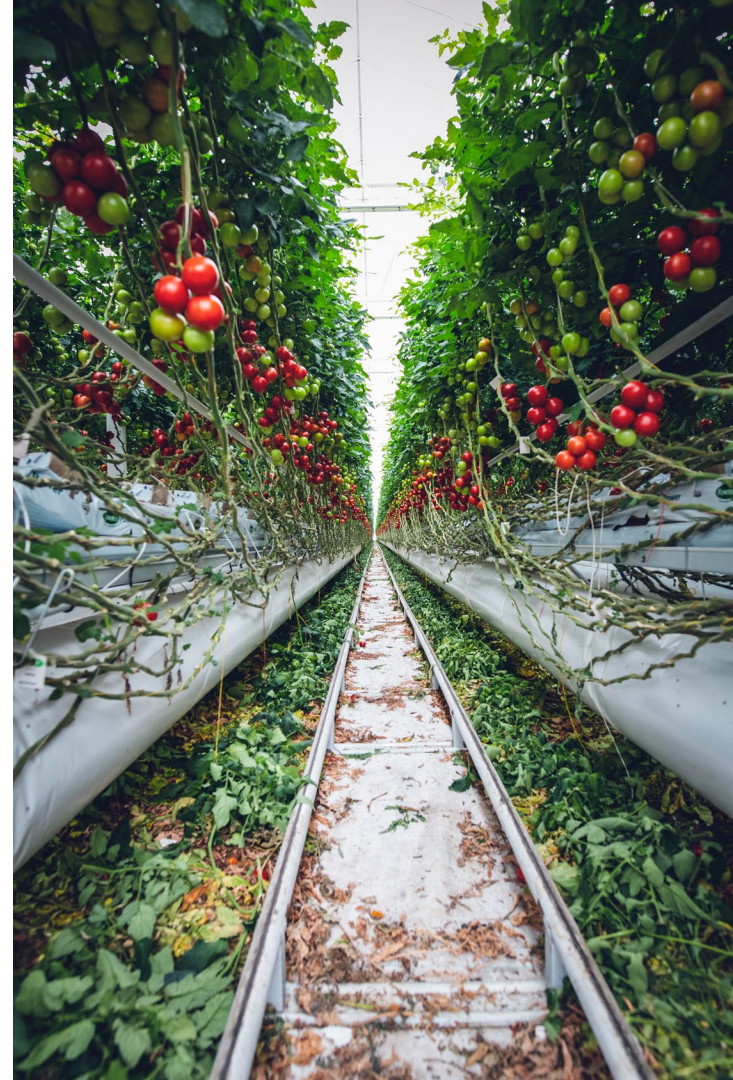
Increase operational efficiency and enhance product quality and storage through automation technologies

- **Achieve sustainable energy management**

Gain visibility on energy usage for proactive and efficient management of the energy cost and usage.

- **Optimize irrigation and water management**

Improve water management through efficient irrigation and optimized water pumping using fully automatic systems integrating IoT for remote control monitoring



Agriculture Efficiency & Sustainability

Help farmers and agri-business **improve productivity**, better **manage the use of resources** and **achieve** regulation compliance and **traceability**.



- The pandemic exposed the fragility of a global agrifood system and accelerated the **drive for a zero emissions future**.
- The food system remains one of the **primary driver of climate change**.
- Regulation such as the [European Green Deal](#) and the [Farm to Fork Strategy](#) set out a vision to change the way we value food sustainability by reducing food loss and waste while not increasing emissions associated with production.
- **Regenerative farming/agriculture** is one approach having the potential to reduce climate change instead of contributing to it.

Source: [EITfood, 2020](#);

Agriculture Efficiency & Sustainability

Watch the video

Main Challenges

Increase Productivity

- Connected sensors/IoT
- Automatization of operations
- Software solutions
- Collaborative platforms

Enhance Water and Energy management

- Irrigation solutions
- Water consumption monitoring & management
- Energy consumption management monitoring

Manage Regulation & Traceability

- Robust documentation for regulation compliance and trading with partners
- Real-time critical data sharing with the ecosystem
- End-to-End Traceability

Use Cases

Precision Farming / Precision Crop Management



Vertical Farming and Smart Greenhouses



Livestock Management



Fish Farming Aquaculture



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Automation technologies & Software Solutions

For increased productivity, yield and improved quality

The solution



Business value

- **Optimized production conditions** through data analysis
- **Increased operational efficiency** and reduced costs through automation
- **Remote capabilities:** monitoring and alert notifications
- **Greater reliability** and uptime to increase production
- **Increased productivity** and yield
- **Enhanced product quality**
- **Improved animal welfare**

Watch the video

Improved packhouse production with EcoStruxure Plant

Agriculture company, South Africa



Customer Challenge

- Closed proprietary system expensive to maintain and modernize (Packhouse automation system)
- Requires open future ready system.
- Limited energy supply, needs full optimization of available power

The Solution

- EcoStruxure plant incl.:
- Modicon M340 PLCs
- Altivar drives
- HMI
- Circuit Breakers
- Contactors

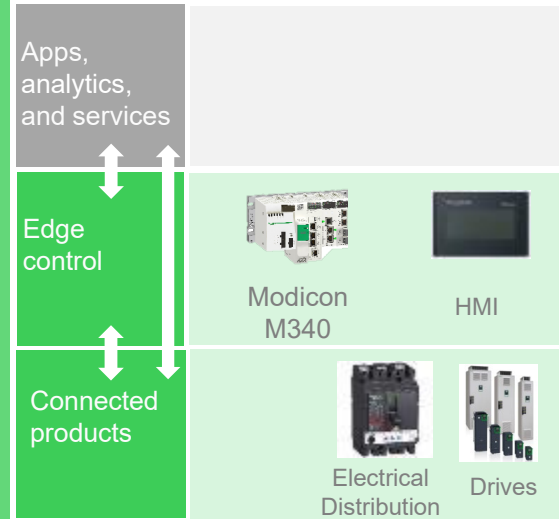
Customer Benefits

- Improved reliability and uptime to increase production
- Solution enabling energy management
- Future improvement: machine learning – cloud based

The Results: Life is On with... Expanded packhouse production output

South African farmer

EcoStruxure for Food & Beverage
Innovation At Every Level



Increasing productivity in poultry production while ensuring animal welfare

Global Poultry producer



Customer Challenge

- Identify and monitor individual birds for desirable growth traits and feed consumption, assuring welfare while reducing feed costs

Solutions

- Telemecanique Sensors solutions incl.: customized RFID Readers and firmware integrated into customer's feed stations with RFID tags placed on each bird to identify, record weight and amount of food consumed
- Modicon PLCs, Control & Signaling components

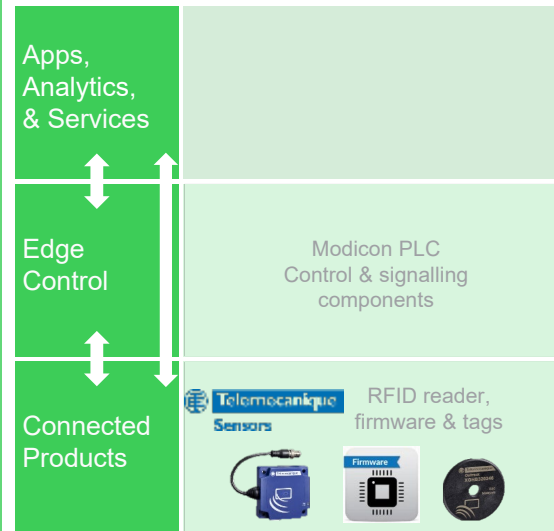
Customer Benefits

- Simple robust solution in a complex, crowded environment
- Developed over 3 years with strong collaboration with customer's R&D team.
- Rigorous testing and pilot deployment in US and Europe

The results: **Life Is On** with... Increased productivity while ensuring animal welfare

Global network of 7 major facilities, with 450 Feed Conversion Systems per facility, each using 8 RFID readers

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Innovation At Every Level





Australian Vanilla Plantations

Boosting crop yield through automation

Customer Challenges

Create and tightly control an artificial environment to maintain optimum growing conditions: light, temperature, humidity, watering

The Solution

Schneider Electric's reputation for high quality and reliability are the main reasons why Australian Vanilla Plantations chose to install an EcoStruxure Plant solution with the Modicon M172 PLC and Altivar Process variable speed drives. These products deliver the automation and efficiency essential for maintaining the ideal growing conditions for the vanilla orchid's beans.

Customer Benefits

- Increased efficiency and reduced operational costs due to the automation of processes such as ventilation, water misting, temperature control
- Remote access capabilities which allow the team to receive alerts and monitor conditions when offsite
- Improved reliability in a harsh environment
- Optimized growing conditions through data analysis to constantly adjust and improve growing capabilities

Life Is On with... 20x greater yield than a traditional plantation, leveraging automation technologies

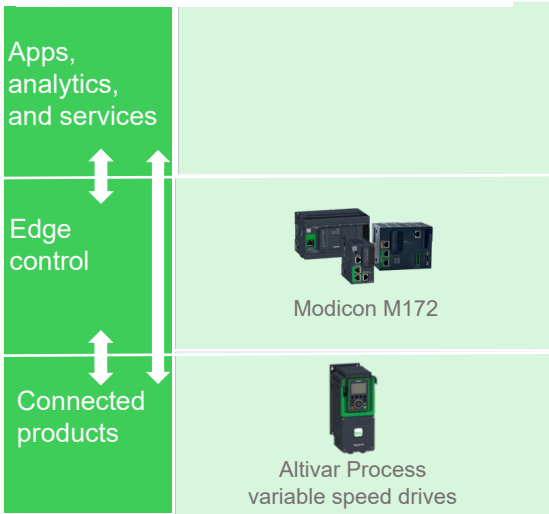
"We could not have come as far as we have without the support and progressive nature of Schneider Electric."

David Soo
CEO of Australian, Vanilla Plantations

[Link to Paper](#)

Innovative vanilla producer uses **advanced** research and automation to cultivate the highly **prized** beans

EcoStruxure[™] for Food & Beverage
Innovation At Every Level



EcoStruxure solution for sustainable and efficient fish-farming.

Norway



Customer Challenge

- Operate a big land-based RAS (Recirculating Aquatic System) modular fish-farming plant efficiently and sustainably, in natural surroundings close to a recreation area, with extra strict environmental requirements regarding noise and emissions.
- Need to ensure constant water conditions – level and quality – in a prefabricated module installed in remote locations

Solutions

- EcoStruxure™ Plant with connected products and AVEVA Software solutions, to remotely manage the whole plant
- EcoStruxure™ Secure Connect Advisor for cybersecurity
- EcoStruxure™ Power connected ACB and CCB
- Pump application Drives (ATV Process)
- Telemecanique sensors: XMLP pressure transmitters, XCS safety switches, XX ultrasonic and XS inductive sensors

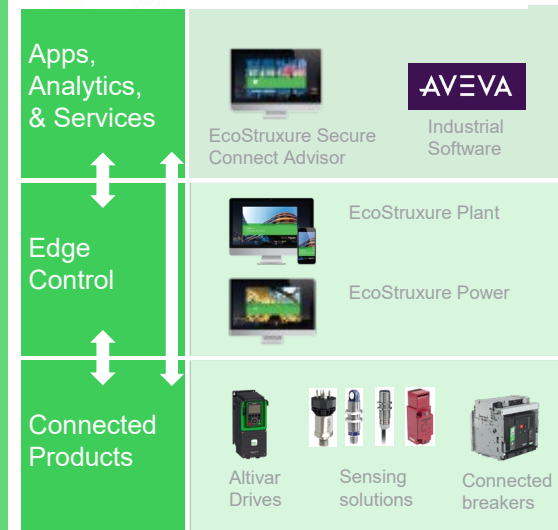
Customer Benefits

- Complete hardware and software solution for automation and electro from one supplier
- A cyber-secure plant for best possible fish-health + top productivity
- Predictive maintenance to avoid down-time and lower OpEx
- Energy and resources savings: low energy consumption and environmental blueprint
- Intelligent remote control, resulting in meaningful analytics and more informed decision-making for operations.

The Results: Life Is On with... Increased productivity and improved quality

A fully automatized fish-farming plant with **6000 m²** surface / 20-30 employees.

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Energy Management & Sustainability Solutions

Digital solutions and associated services for reliable and green energy systems

The solution



Business value

- **Integrated** platform for energy and building management
- **Increased visibility** on energy usage
- **Improved energy efficiency**
- Support to achieve **Zero emission** of green house gases
- **Proactive management** of the **Energy cost and usage**
- **Microgrid-as-a-service** business model helps save capital while also immediately benefiting from more efficient, sustainable and economic energy consumption.
- **Smart, reliable, flexible and green** energy systems enabling farmers to cultivate crops in off grid areas

Watch the video



Agro-Invest, Russia

The fastest growing modern greenhouse complex to grow fresh vegetables.

Customer Challenge

- Improve operational efficiency and reduce energy-related costs
- Ensure electrical network reliability and reduce downtime
- Optimize equipment utilization and reduce the cost of operations

Solution

- EcoStruxure Power Monitoring Expert
- Integration of existing power meters, relay protection and MES
- Service expertise to develop Energy Efficiency improvement

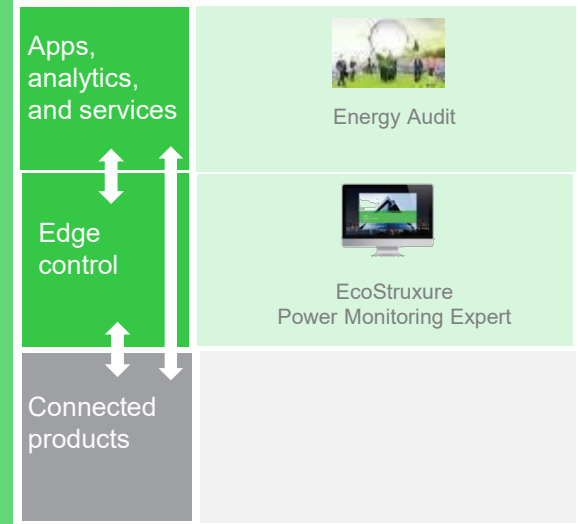
Customer Benefits

- Simple and fast project delivery due to easy integration of existing devices and systems
- Visible impact of temperature, occupancy, or production values on energy usage
- Reliable, flexible and customized tool that help achieving energy saving targets
- Energy efficiency increase and emissions reductions
- Full utilization of the Energy assets

The Results: **Life is On with...** Proactive management of the Energy cost and usage

80 hectares of modern greenhouses. Over 25 varieties of vegetables every year and annual capacity of 35,000 tons.

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Innovation At Every Level



Predicting failures of electrical equipment in harsh environment



Customer Challenge

- Harsh environmental conditions for electrical equipment (heat & humidity) leading to big challenge to maintain the equipment into proper working conditions
- Solution to detect equipment failure in an automated way and to facilitate the diagnostic in order to minimize operations shut down.

The Solution

- Set of wireless sensors for temperature and humidity installed in different critical points.
- EcoStruxure Asset Advisor solution

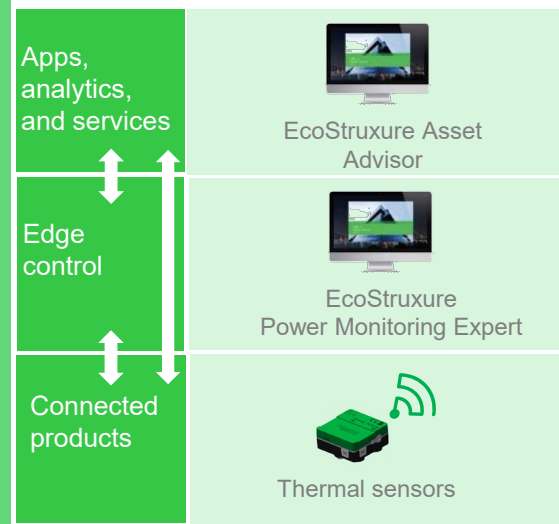
Customer Benefits

- Monitoring of the equipment's life cycle
- Fast clearing of the failure when it happens
- Support to the maintenance team to identify and detect failures
- Efficient and reliable operations as critical environmental data are available

The Results: Life is On with... Reduced time of intervention and costs linked to operations shut down

Largest Food manufacturer in the Middle-East. Dairy leader in Middle East.

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Innovation At Every Level



Smart Greenhouse

Centralized system for energy management



Customer Challenge

- Provide an energy management solution
- Centralized system focused on improved production efficiency, reliability and simplified maintenance
- Ensure full compatibility between systems and locations

The Solution

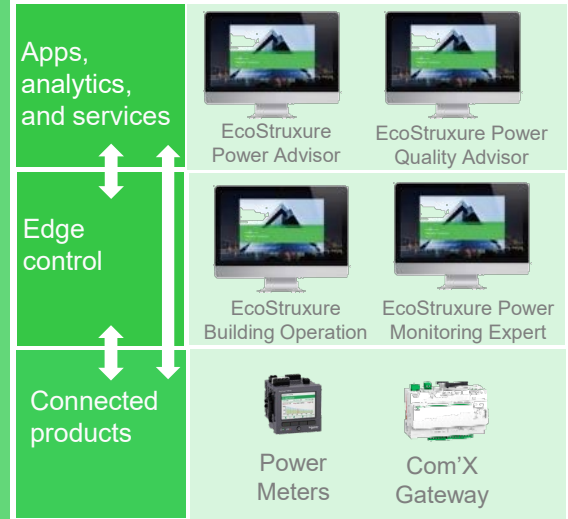
- EcoStruxure Building Operation
- EcoStruxure Power Monitoring Expert
- EcoStruxure Power Advisor
- EcoStruxure Power Quality Advisor
- Power Meters

Customer Benefits

- Delivery of an integrated platform for energy and building management
- Standard solution easy to deploy to other sites worldwide and new facilities

The Results: Life is On with... Partnership agreement signed. Schneider Electric listed as preferred vendor for long term relationship.

Leading diversified cannabis-based products company.



Microgrid Powers Indoor Farm to Deliver Reliable and Sustainable Food

USA



Customer Challenge

- Design, build and finance a microgrid for robotic indoor farming pioneer Fifth Season.
- Scale Microgrid Solutions, own, and operate the system with SE solutions to deliver sustainable and dynamic energy management for Fifth Season's newest, highly autonomous vertical farm in Pittsburgh, PA (60,000-square-foot facility)

The Solution

- Scale Microgrid Solutions including rooftop solar array, natural gas generator and a lithium-ion battery energy storage system leveraging EcoStruxure Microgrid Advisor software platform to collect, forecast and optimize operations

Customer Benefits

- Microgrid-as-a-service business model helps save capital that can be used toward additional operational investments, while also immediately benefiting from more efficient, sustainable and economic energy consumption.

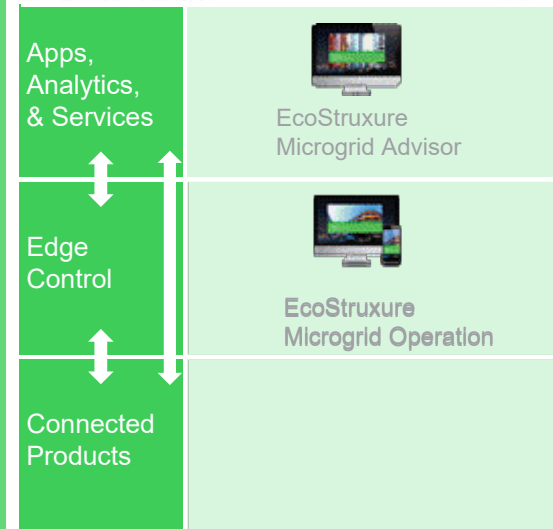
The Results: Life is On with... Reach full production potential with a smart, reliable and green energy system.

"Our vertical farm in Pittsburgh is reconnecting consumers to locally grown fresh food. This is a first step in solving some of the largest problems facing society caused by the broken food system, however, this industry must achieve long term economic and environmental sustainability. This microgrid enables our journey to create a sustainable system that delivers healthier, fresher greens to local communities through both economic and environmental efficiencies."

*Grant Vandebussche,
Chief Category Officer at Fifth Season.*

Fifth Season's precision agriculture platform to help the company reach its goal of efficiently producing 500,000 lbs. of local produce during the new facility's first year of full operation.

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Innovation At Every Level



[Link to Web](#)

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Irrigation & Water management Solutions

Digital solutions and IoT integration for efficient irrigation and water management

The solution



Business value

Pumping of water for irrigation supply in off grid areas: **fully automatic** system to provide water at **affordable cost**

Remote control, monitoring and **digitization** of the maintenance of irrigation systems

Optimization of water pumping and field irrigation

Precise, reliable data provided about the installation in **real time** for greater machine availability and process reliability

Increased response time to quality issues

- Secure production continuity, **more efficient and effective water usage** and management
- Single integrated view of critical irrigation assets
- Typically **20% increase in productivity**

[Learn more](#)

Irrigation Systems, France

Perfect fit for farmers' needs



Customer Challenge

- Optimization of the complex irrigation system
- Control of the energy performance and real time maintenance management of the system in place

The Solution

- Altivar Process Speed Drive
- Real-Time, easy to understand and relevant data displayed: flow, cumulated water consumption and duration of irrigation

Customer Benefits

- Optimization of water pumping and field irrigation
- Remote control and monitoring of the irrigation system
- Digitization of the maintenance

The Results: Life is On with... Typically 35% energy consumption reduction and 20% increase in productivity

The first drive speaking the farmer's language. Key element of the connected agriculture

EcoStruxure for Food & Beverage
Innovation At Every Level

Apps, analytics, and services

Edge control

Connected products



Altivar Process

IoT contributes to the digitization of irrigation systems

Agriculture solutions dealer, Lesieur SA, France



Customer Challenge

- Digital solution for water pumping stations and irrigation systems
- Solution enabling to connect unreachable assets in the field

The Solution

- Cloud connected sensor XIoT from telemecanique sensor

Customer Benefits

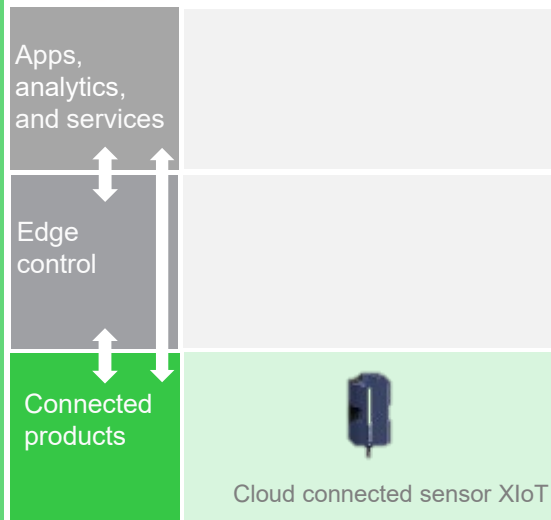
- Ease of use
- Precise, reliable data provided about the installation in real time such as status of the solution so farmer can immediately place the irrigation solution to other field location
- Solution enables increased productivity and time saving
- Quick and easy to install
- Real Time Data & alarms sent to the cloud, all accessible on mobile devices
- Data can be configured to suit users requirements

The Results: Life is On with... Greater machine availability and process reliability

[Link to video](#)

Lesieur SA is a dealer of agriculture material and machine including water pumping stations and irrigation systems for farmers

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WaterForce, New-Zealand

Cloud industrial IoT solution for critical irrigation system monitoring and control



Customer Challenge

- Critical assets are remote and isolated
- Increasing regulatory requirements
- Obtaining visibility into system status and performance

The Solution

- AVEVA InSight
- EcoStruxure Geo SCADA Expert (Clear SCADA)
- SCADAPack 500E rPAC
- Altivar Process 600, Trio Q Radio

Customer Benefits

- Single integrated view of critical irrigation assets
- More efficient and effective water use
- Significant time savings

The Results: Life is On with... 50% reduction in energy costs in the first season using SCADAFarm

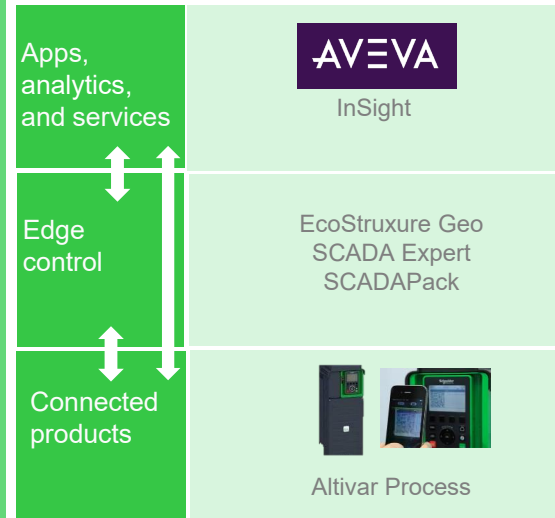
“By leveraging our relationship with Schneider Electric, we can focus on our core business – effective water management – knowing that the information management, analytics and automation side is covered”.

Ron McFetridge
Director, WaterForce

[Link to Video](#)
[Link to Paper](#)

Industry leading provider of smart, sustainable irrigation and water management solutions

EcoStruxure for Food & Beverage
Innovation At Every Level



EcoStruxure™ Process Expert – Grain Silo Manager

Integrated automation solution for Grain silos

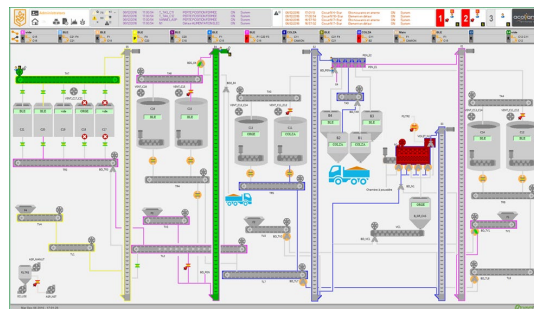
The solution

- Field proven standard hardware and software solution
- Faceplates for any equipment (Operator modes, failures, parameters, maintenance information)
- Energies measurement and preventive maintenance (running hours, number of equipment's operations)
- Route selection based on equipment's availability
- Routes management for grains handling
- Management of products' constraints (prevention of products' mixes, forbidden routes...)
- Parametization depending on products & routes (timers, conveyors speeds, energies, densities...)
- Operators profiles & privileges, Remote Access

Learn more

Business value

- Scalable solution to the size of the grain elevator
- Easy to integrate: 50% reduction in development time
- Energy Management: real-time reporting of energy usage
- Open standard system for end-users and integrators
- Ergonomic and customizable supervision
- Easy to maintain and easy to use
- Advanced functionalities: control of fans, humidity, temperature
- Easy to deploy across different sites



Grain Cooperative, France

Grain Elevator's automation



Customer Challenge

- Modernization of Grain Elevator's automation

The Solution

- EcoStruxure Process Expert with Grain Silo Library

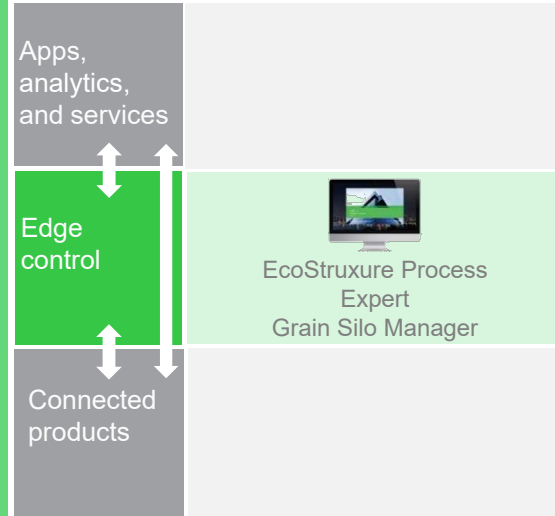
Customer Benefits

- Easy to integrate
- Customizable solution
- Open system
- Support Energy Management approach
- Ease of use: simple visualization, dedicated library with grain elevator objects and standard icons

The Results: Life is On with...50% reduction in development time

90 plants. 3,500 members
2 sites using Grain Elevator
Management solution

EcoStruxure for Food & Beverage
Innovation At Every Level



Family Owned business chooses redundant Grain silo automation

Grain Elevator's automation



Customer Challenge

- Modernization of Grain Elevator's automation

The Solution

- EcoStruxure Process Expert with Grain Silo Library
- Redundant installation
- Modicon M340

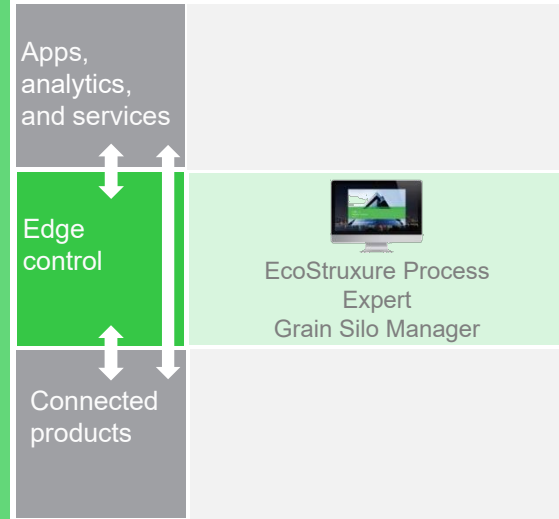
Customer Benefits

- Very high level of automatic generation of the control application thanks to the Grain Silo library
- Grain Silo supervision application very well accepted by the users
- Very rich and comprehensive library for grain handling
- Full integration of the grain silo library into the EcoStruxure Process Expert application for grain routes management and products' quality

The Results: Life is On with...Modernization of silo with improved product quality

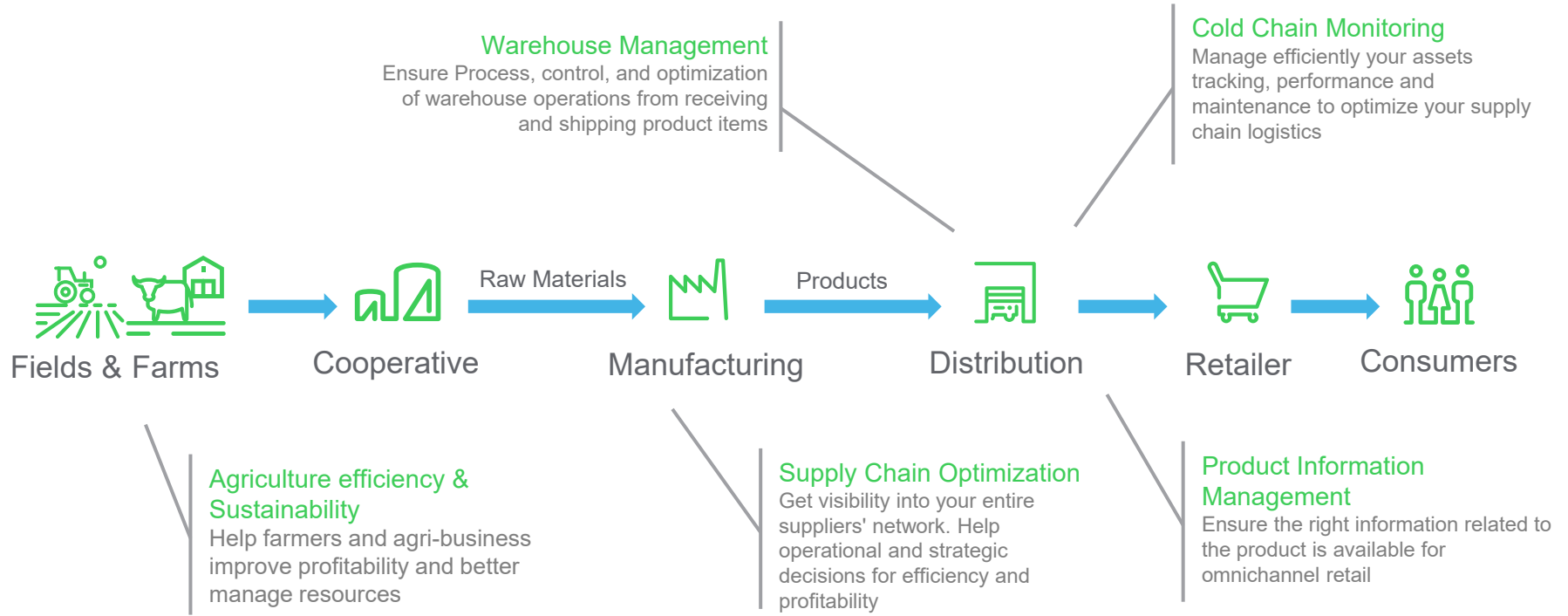
Family owned business with 30 locations across France, 5,000 customers and 200,000 tons of grains collected per year

EcoStruxure for Food & Beverage
Innovation At Every Level



Resilient Supply Chain

Manage complexity and improve visibility across your supply chain



EcoStruxure for Food & Beverage / CPG

Agile manufacturing Boost manufacturing flexibility and efficiency

- Manufacturing Operation Management
- Industrial Information Management
- Process Control System
- HMI and data Integration
- Process Automation
- Packaging Automation

Efficient facilities Safer, more available, and greener resources

- Smart Building Management
- Power Safety & Availability
- Power Quality & efficiency
- Renewable Energy & Microgrids
- IT Infrastructure Management

Resilient supply chain Manage complexity and reduce logistics costs

- Agriculture Efficiency & Sustainability
- Suppliers Management
- Supply Chain Optimization
- Cold Chain Monitoring
- Product Information Management

Food Safety & Traceability Ensure compliance and trust across the product life cycle

- Food Defense
- Cybersecurity Services
- Digital Calibration
- Raw material traceability
- Production traceability
- Product Identification & Tracking

Energy & Sustainability Reduce footprint and meet sustainability goals

- Sustainability Consulting
- Energy Demand Services
- Strategic Energy Sourcing
- Enterprise data management
- Energy as a Service

Asset Performance Maximize return on capital expenditure

- Assessment and Consulting
- Enterprise Asset Management
- Condition Monitoring
- Predictive Analytics
- Line & Process Optimization
- Modernization services

Workforce Empowerment Improve staff knowledge, productivity and collaboration

- Operator Training Simulator
- Augmented & Virtual Reality
- Workflow Management
- Staff Schedule Management
- Operator Knowledge Sharing

Digital Engineering Cut time, cost and risks of capital project engineering

- Electrical CAD
- Building Information Modelling
- Integrated Engineering-Design
- Digital Asset Visualization



Let's talk about
EcoEtruxure™
for Food & Beverage

Life Is On

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Life Is On

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