

Smart and IoT innovations for Water Supply

Preparing for the future with EcoStruxure for Water



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Transformational Challenges

- Ageing infrastructure
- Increased regulation
- Business factors (CAPEX ↓ / OPEX ↑)
- Conservation and efficiency
- Energy costs
- Ageing or unskilled workforce
- Environmental impact
- Climate change, adverse weather
- New water sources, recycle and reuse
- Infrastructure and cyber security

Key perceptions, facts and trends in the industry...

Water is cheap and underpriced

Good is good enough

The market has never been industrialized and will evolve slowly

Lack of fundamental investment in infrastructure

The public is getting more and more concerned about their water supply

Treating and distributing water is highly energy intensive

There is an enormous amount of non-revenue water

Utilities are under pressure to do more with less resources

Efficiency is the key

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Technology changes fueling innovation

Market Environment

Water source stress

Aging infrastructure

Tightened Regulations

Quality, Safety Compliance

Generation Shift

Service Imperatives

Safe, reliable, sustainable water supply

Capital expenditure constraints

Operational efficiency

Workforce evolution & capability

Performance Management

Asset reliability and availability

Technology Trends



CLOUD



MOBILITY



BIG DATA & ANALYTICS



(I)IoT & CONNECTIVITY



AR & VR

Digitization in water

The world of water management is becoming increasingly digitized:

- **Data**
 - Monitor performance
 - Optimize operations and maintenance
- **Smart Technology**
 - More accurate and useful data
 - Better informed decisions about aging water infrastructure
 - Manage assets more efficiently, cost-effectively and with less risk
- **Augmented Reality**
 - In operation and maintenance

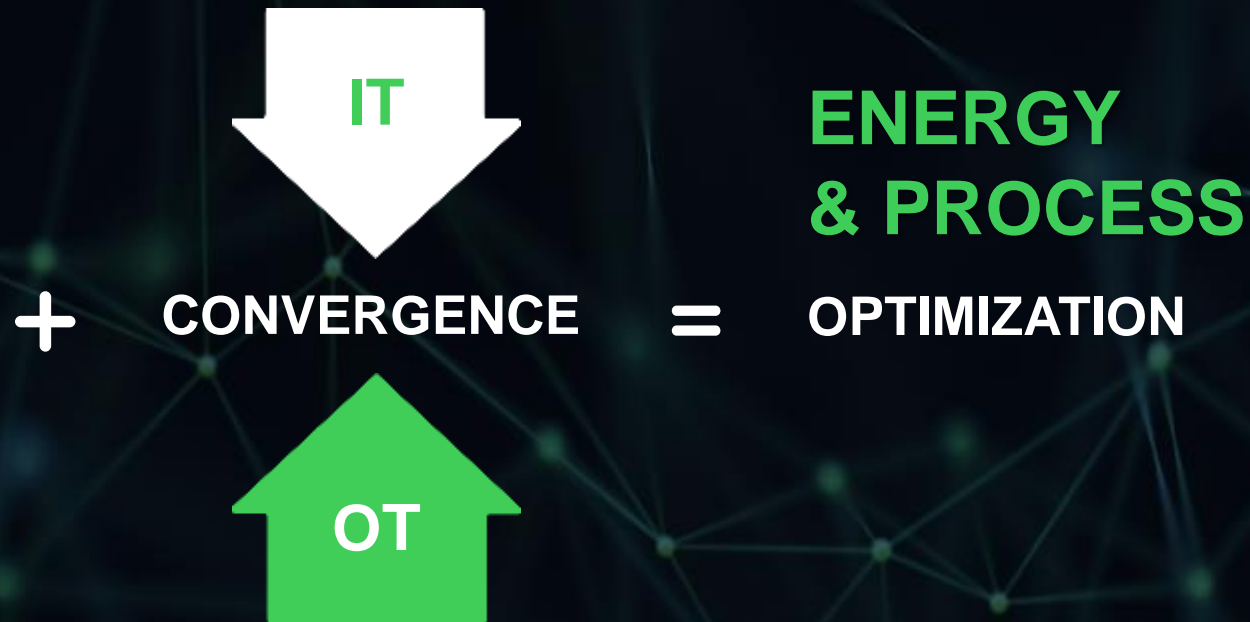
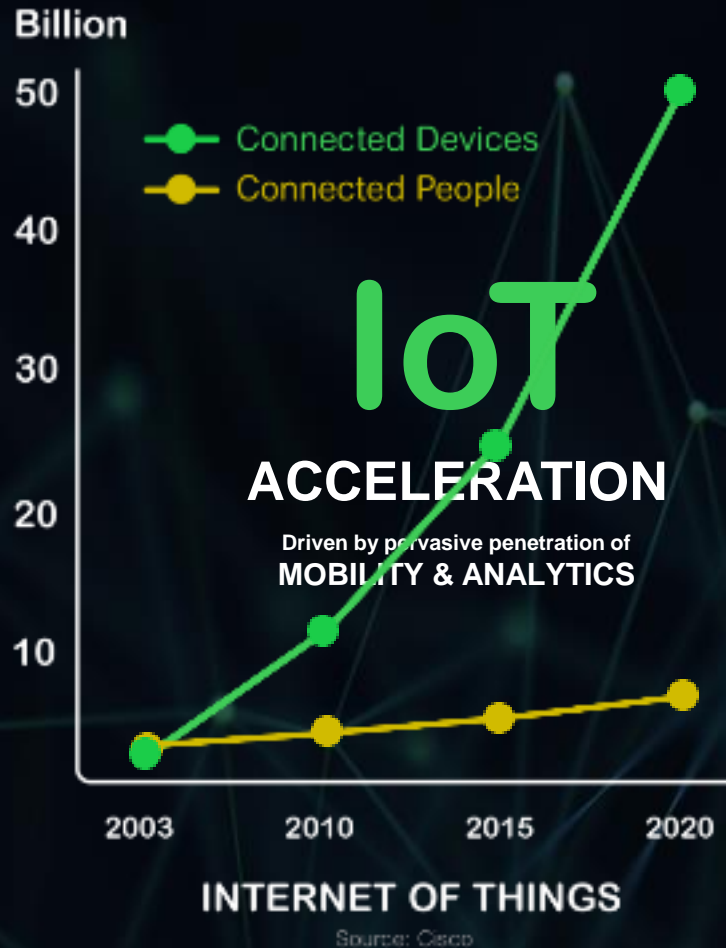


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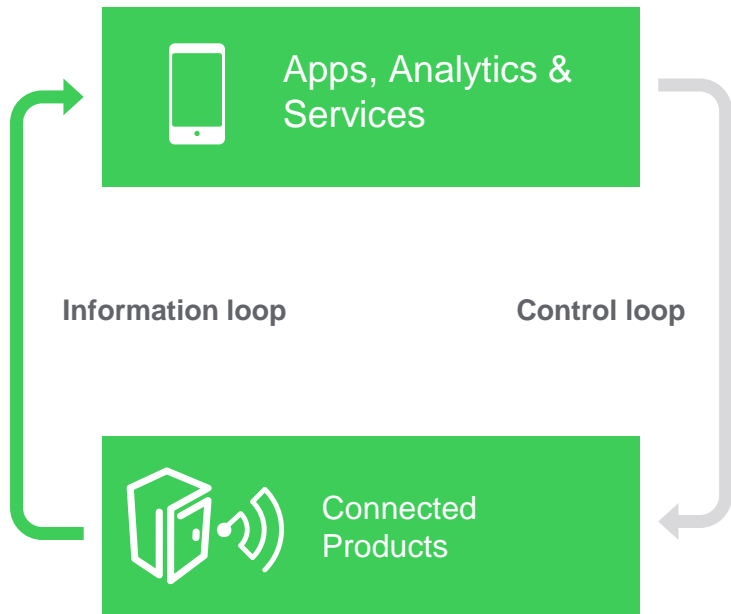
Digitization disrupts Efficiency to a new level



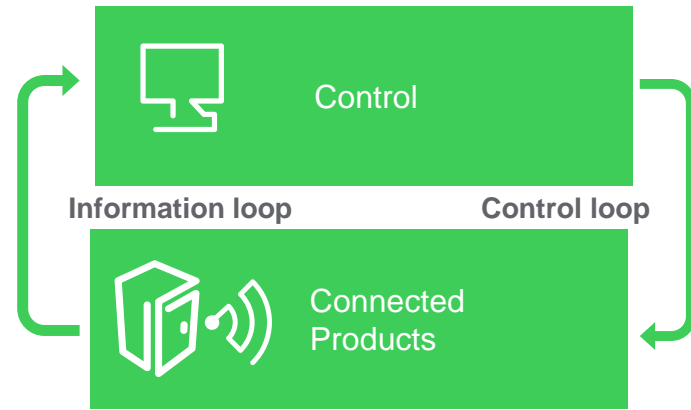
Delivering an end-to-end IoT vision

Transforming insights into business value for our customers

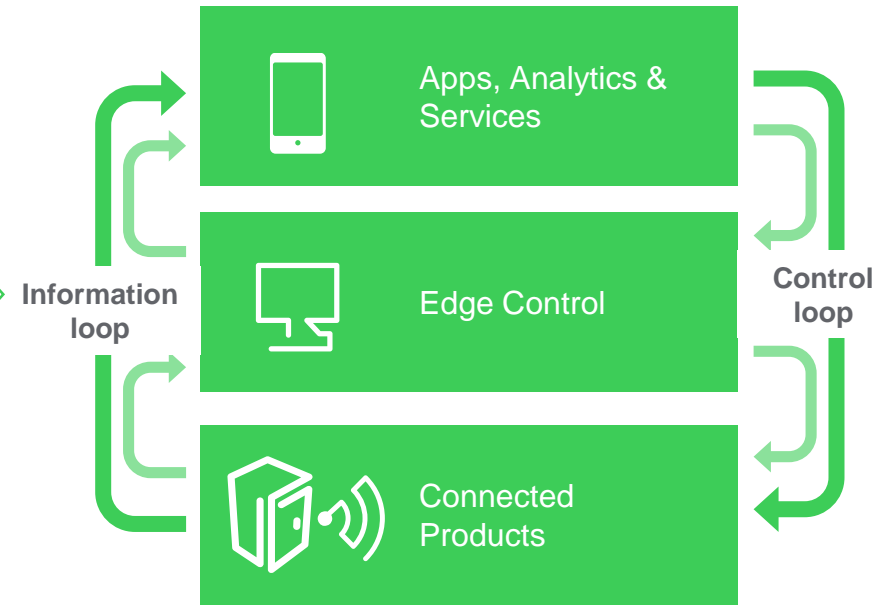
Not an IT approach...



And not just an OT approach



But a real IoT vision delivering business value *today*



Cloud and/or on premise

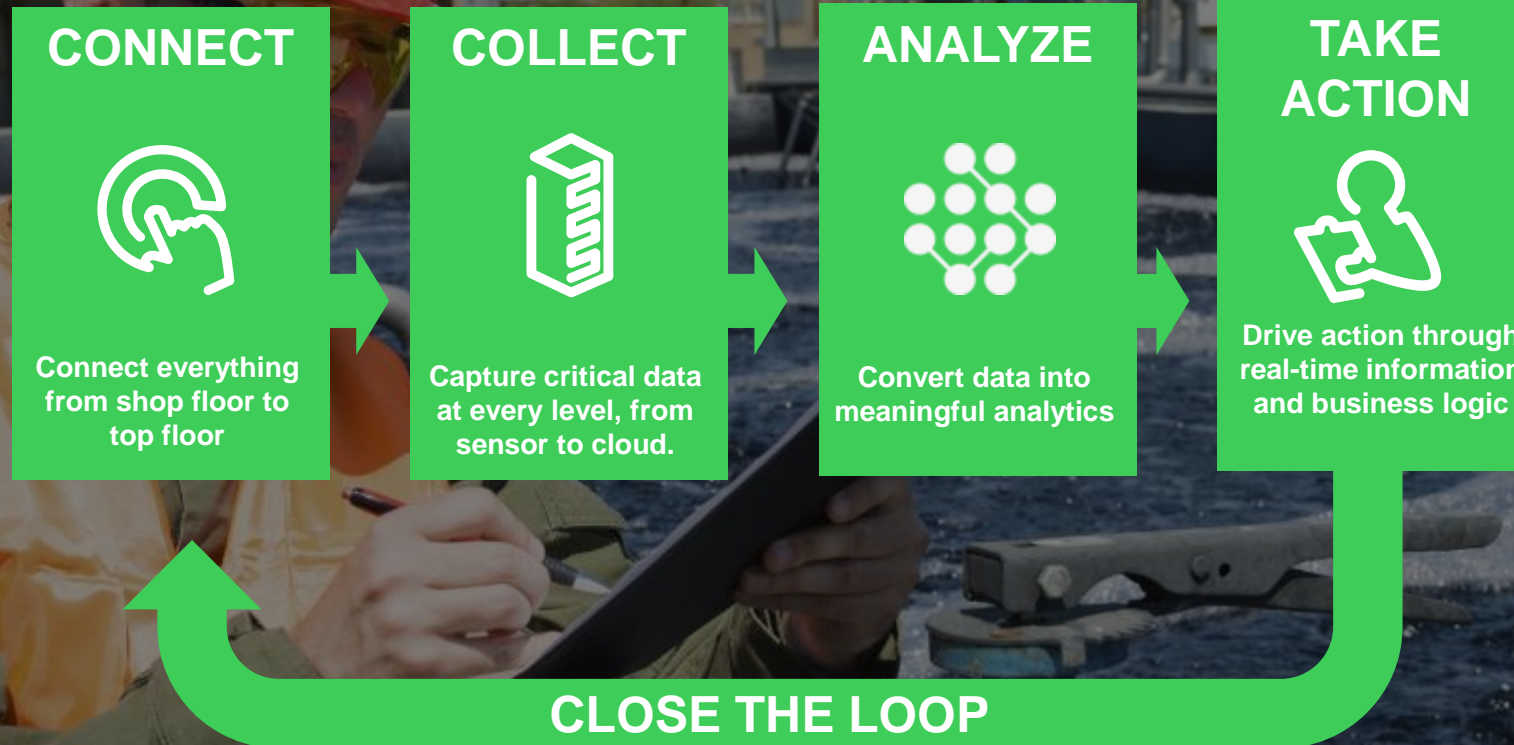
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The EcoStruxure Platform maximizes the value of data

Translating data into actionable intelligence and better business decisions

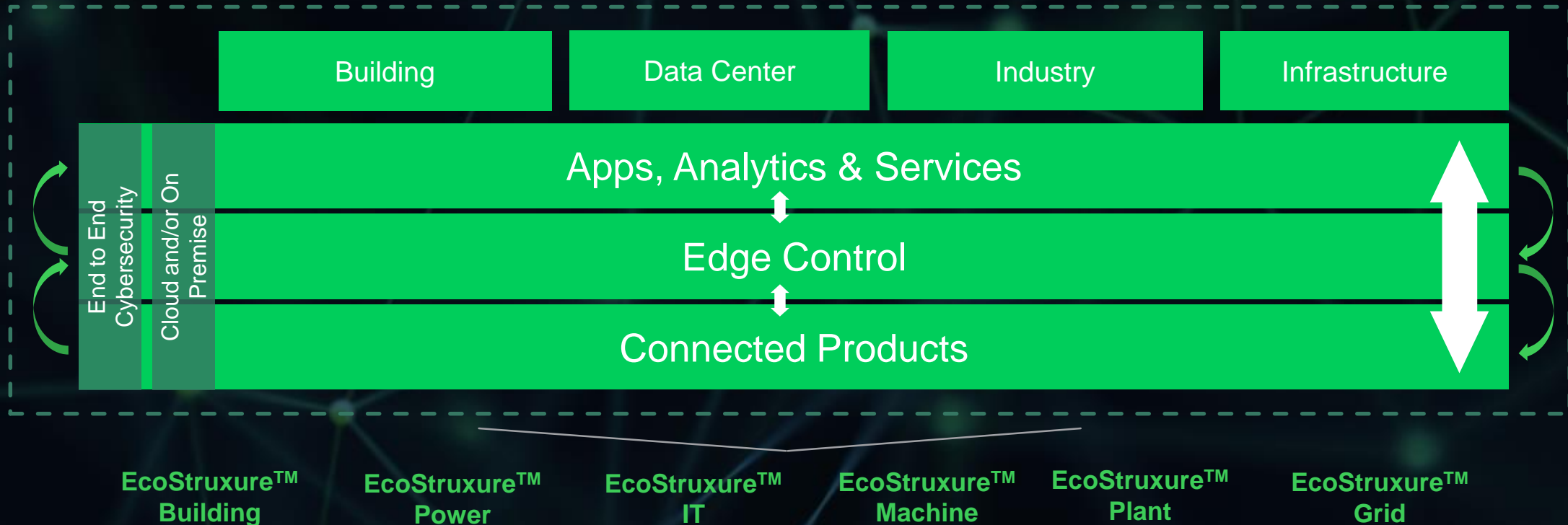


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EcoStruxure: 3 Innovation Layers, 4 End Markets, 6 Architectures



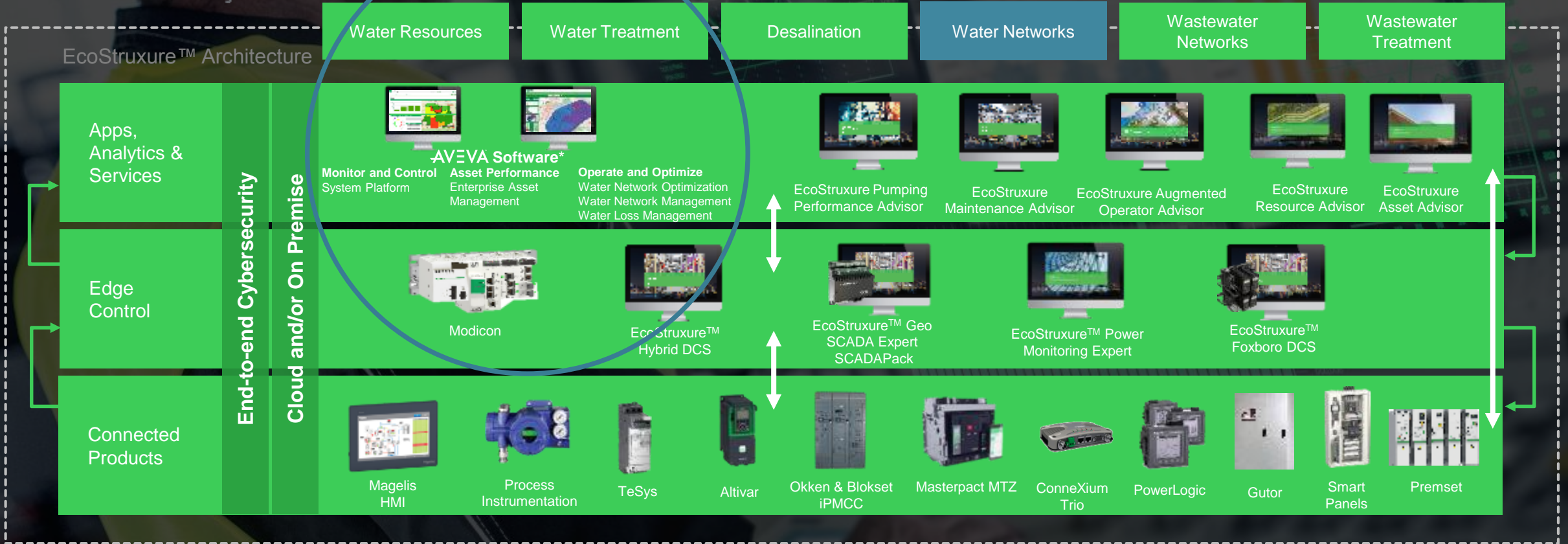
An open, interoperable IoT-enabled architecture for actionable insights



Offering Leading Operational and Digital Technology in Water Cycle and Energy Management



for Water & Wastewater



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Smart Water Initiative, Thailand

Customer Challenges

- Managing different water sources
- Continuity & quality of service
- Operational costs
- Water reserves under droughts
- Adequate, stable and sustainable uninterrupted supply
- Ageing pipe assets
- Coordination and work flow between departments

Measurable Outcomes

Up to
30%

Increase in overall operational efficiency

10%

Reduction of water losses

15%

Reduction of energy cost (pumping)

Improved demand-supply balance
Effective business decision making
and process improvements

Apps, analytics & services



Edge control



Connected products



Naya Raipur, India

First integrated smart city in India

India's **1st** greenfield smart city supported by connected products of more than **100,000** IO points, edge control, applications, advance analytics, and services

Customer Challenge

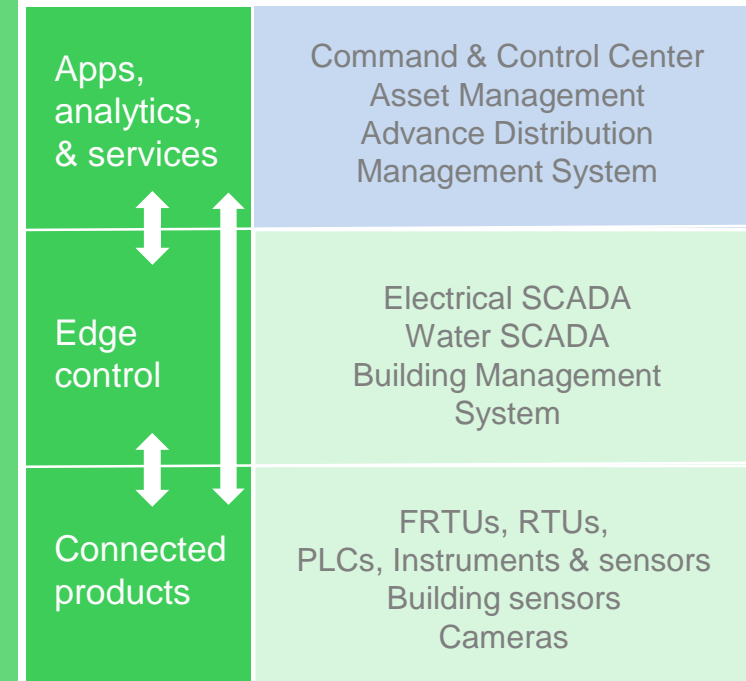
- Adoption of innovative technologies to improve the city operations
- Provide real-time data on operations and maintenance of city infrastructure and services

The Solution

- Integrated Command & Control Center (Wonderware System Platform)
- End to end SMART grid solution (FRTUs, RTUs, SCADA, DMS & OMS)
- End to end Water Management system (Field Instruments, sensors, PLCs, Water SCADA, WNO and WMS)
- Integrated Building Management System with associated H/W

The Results: Life is On with...

More than **100,000** connected products



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