

AVEVA PI WORLD

Enabling the edge convergence of IoT and OT in a managed landscape

Presented By:

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The AVEVA logo is displayed in white, bold, sans-serif capital letters. It is positioned in the bottom right corner of the slide, partially overlapping a decorative graphic of glowing, concentric, multi-colored arcs (blue, orange, and purple) that emanate from the right edge.

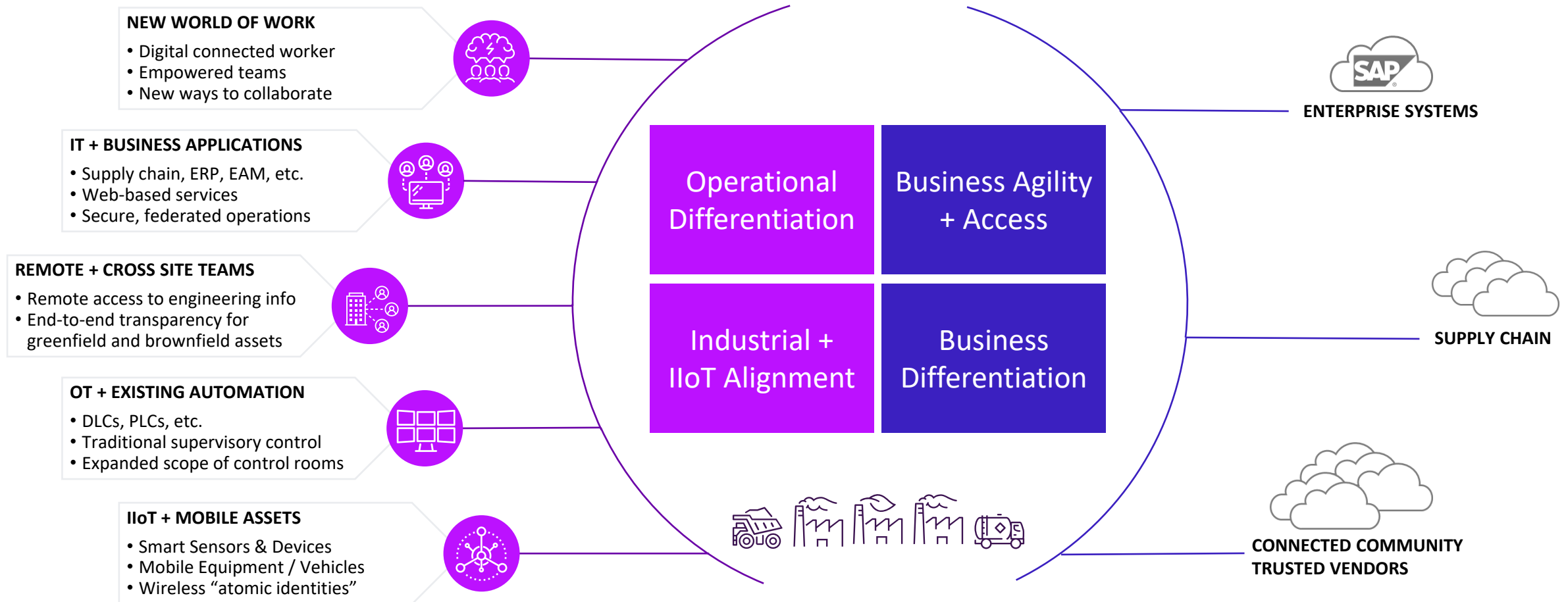
Agenda

The reality of convergence

Edge modules and management

A customer's journey

The reality of convergence. One Connected Landscape.



AVEVA's role: to accelerate your results with our experience

50+ YEARS OF INDUSTRIAL APPLICATIONS DEVELOPMENT



- Libraries of industrial Function as ready as a services
- Purpose-built Industrial enrichment
- Industrial artificial intelligence libraries
- Acceleration thru Configuration vs Programing

INDUSTRIAL HYBRID SYSTEM KNOWLEDGE

- AVEVA Connect account Enables
 - Customer managed estate
 - Multiple capabilities harnessed with Trust
 - Federation to customer SSO
 - Managed as a Service

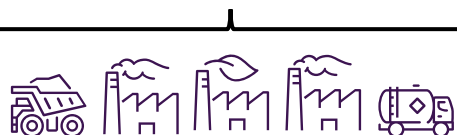
UNDERSTANDING INDUSTRIAL Data

- How to integrate IIoT and field
- How to capture engineering diagrams/ documents
- How to ensure data integrity
- How to manage and align, how to normalize
- Unification of your plant/ field data thru Proven Industrial Integration Services

Operational
Differentiation

Customer owned +
managed "industrial
estate" that enables
multiple solutions

Industrial +
IIoT Alignment



ENABLING

Business Agility
+ Access

Business
Differentiation

C-care

Flexibility to start small and scale
Moved from manual processes
to **fully digital**
Data within hours

"It was so simple, I was surprised! We have a very mobile workforce and with the **data in the cloud** that data is **available no matter** where the person is that needs to see it. In order to scale this to the rest of our site the technology barrier is very low."

ASTRON
ENERGY

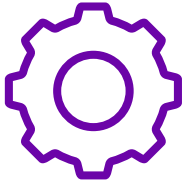
Cloud deployment in **only 3 months** with no business disruption
\$10-15k per day improvement in lost opportunity costs

"We not only transformed our crude management processes without disruption to the business, **we are now 50% faster.**"

Focus of this presentation

AVEVA

IoT/OT convergence



Challenge

- Deploying and managing your IoT data at scale and integrating it with your operational data.
- Data collection and data quality is key to making foundational decisions, which requires
 - Connectivity to existing OT and legacy systems
 - Scalable software deployment and management
 - Monitoring and maintaining connection health
 - Secure communications to 100s or 1000s of devices



Solution

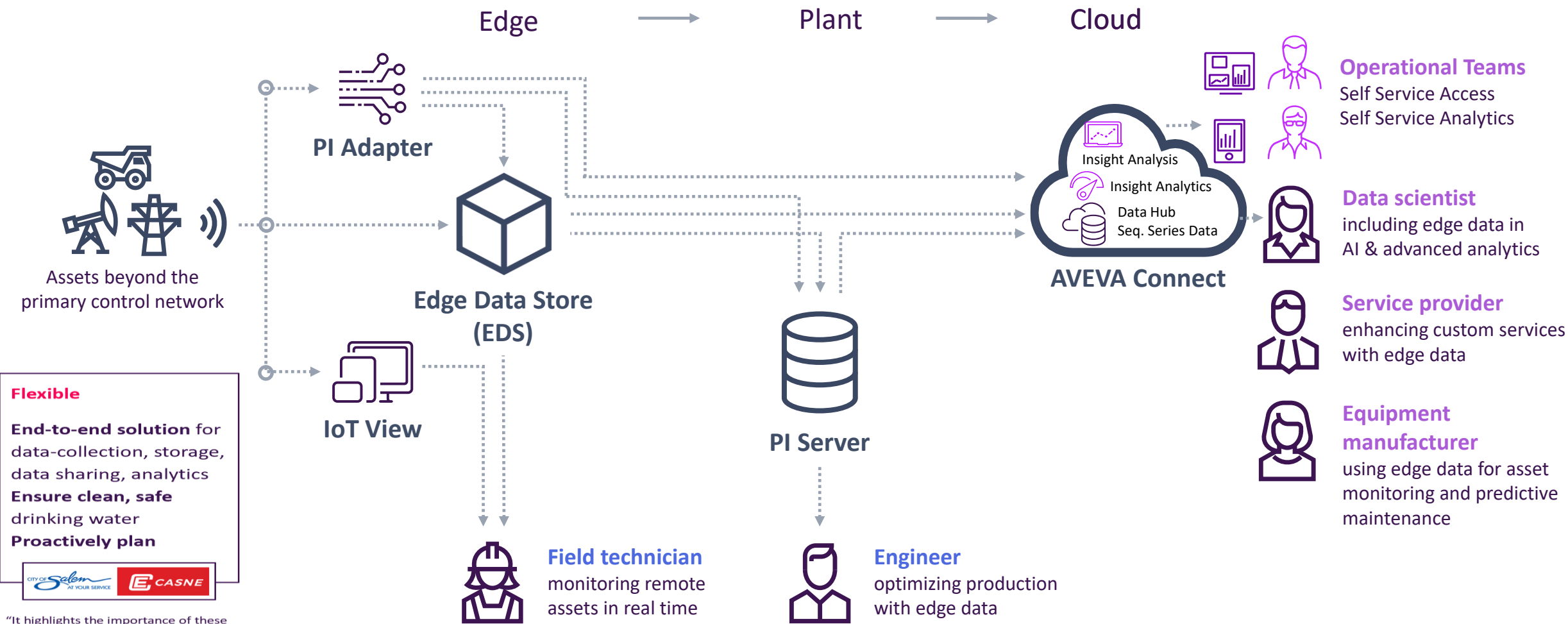
- Shift from traditional manually installed software to “managed” edge modules.
- Centralize software management in the cloud to increase scale and visibility of device, module, and data health
- Deploy software capable of connecting to remote assets communicating with existing OT systems such as PI Servers, Wonderware Historians, InTouch, Citect, System Platform.
- AVEVA’s Managed Software approach includes a library of proven edge modules that form the foundation for a secure, centralized, cloud based, device deployment, software installation, monitoring, and management solution.



Benefits

- Increased reliability of your overall Industrial Information System.
- Lowered cost in sustaining and evolving this Industrial Information System.
- Increased control over IoT deployments, reduced software management effort, reduced security risks, increased data coverage.

IoT data expands OT use cases



Flexible

End-to-end solution for data-collection, storage, data sharing, analytics

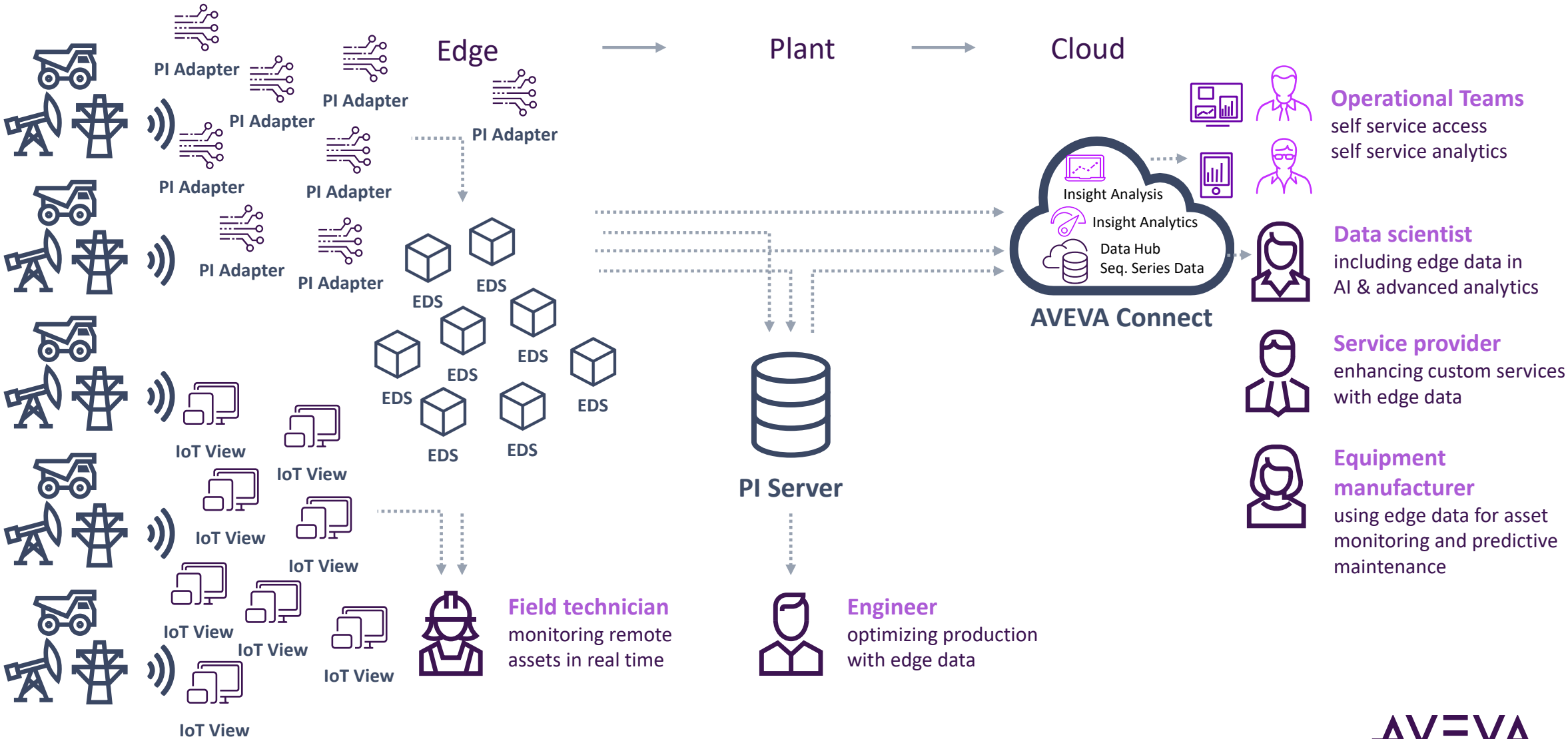
Ensure clean, safe drinking water

Proactively plan

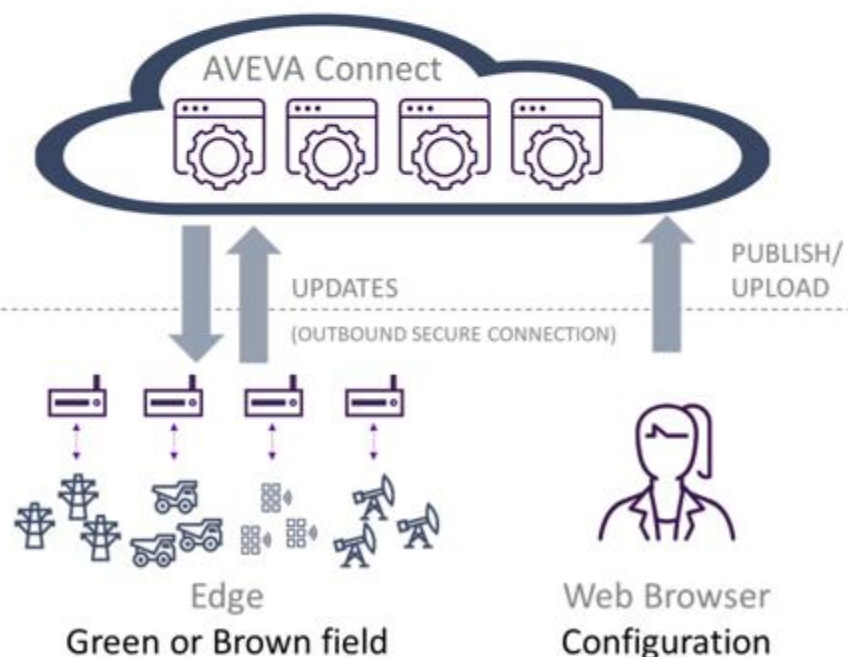
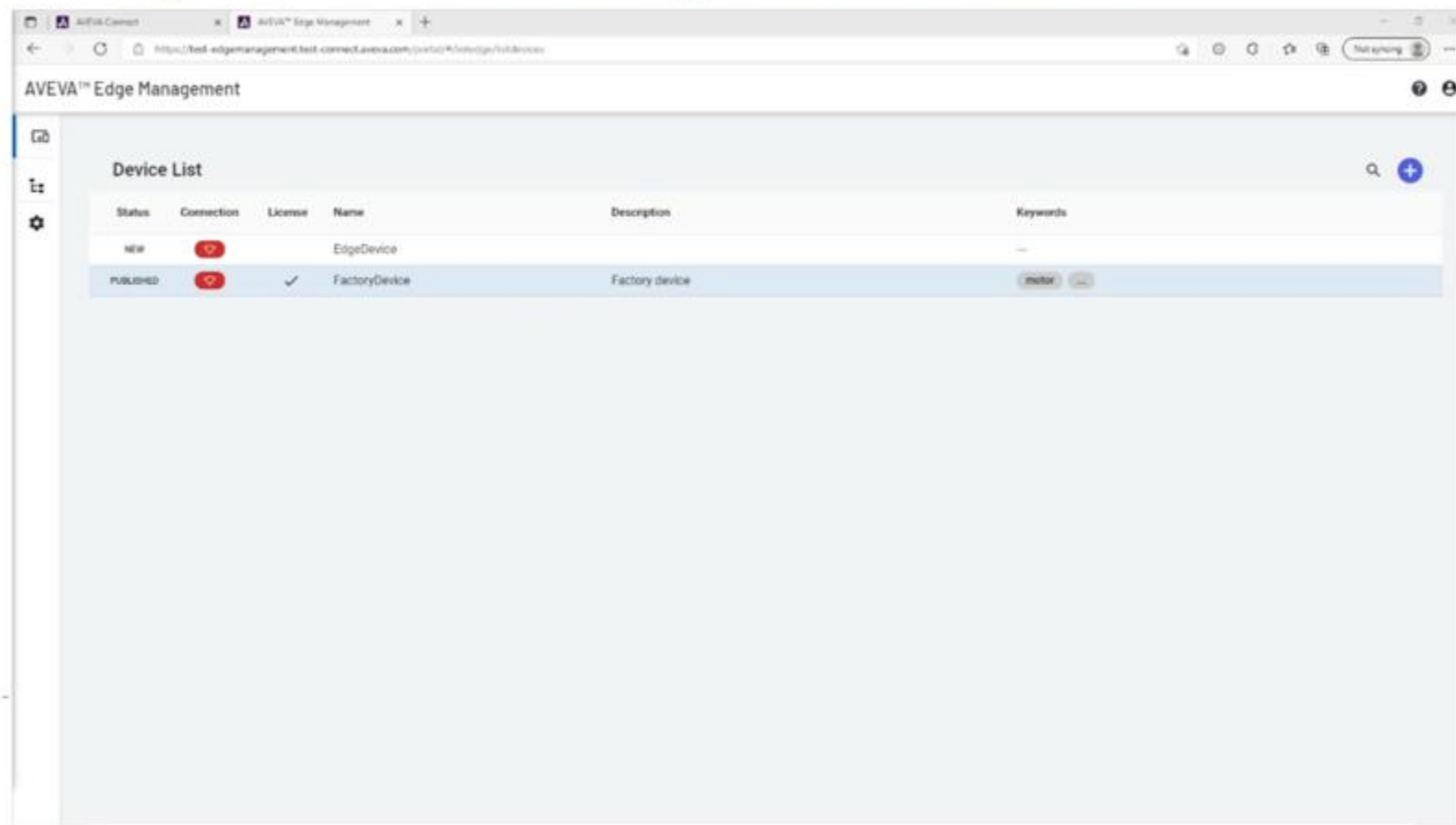


"It highlights the importance of these type of systems, and the importance of IOT is that humans can't be everywhere all at once looking at things, and so you really need sensors, you need networks, storage and visualization."

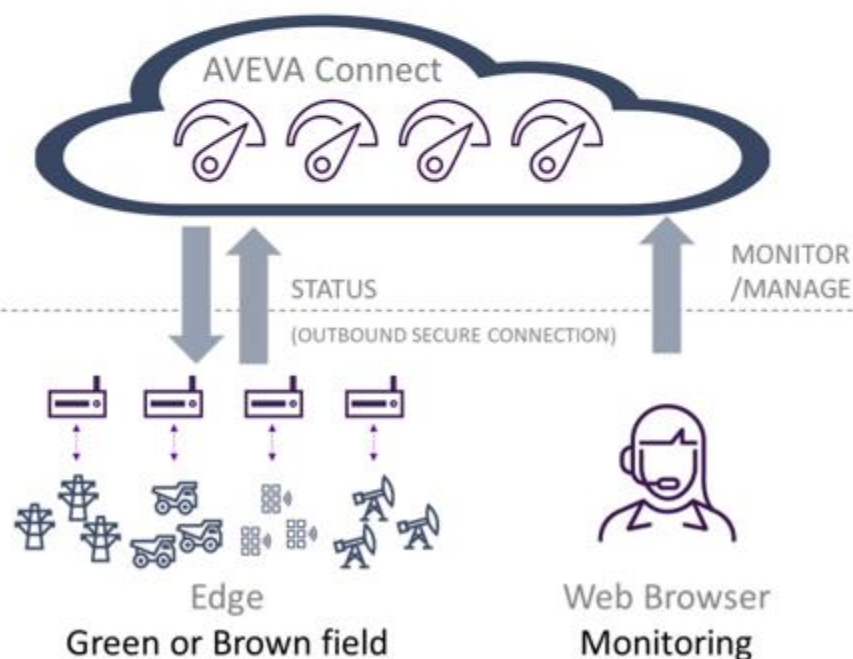
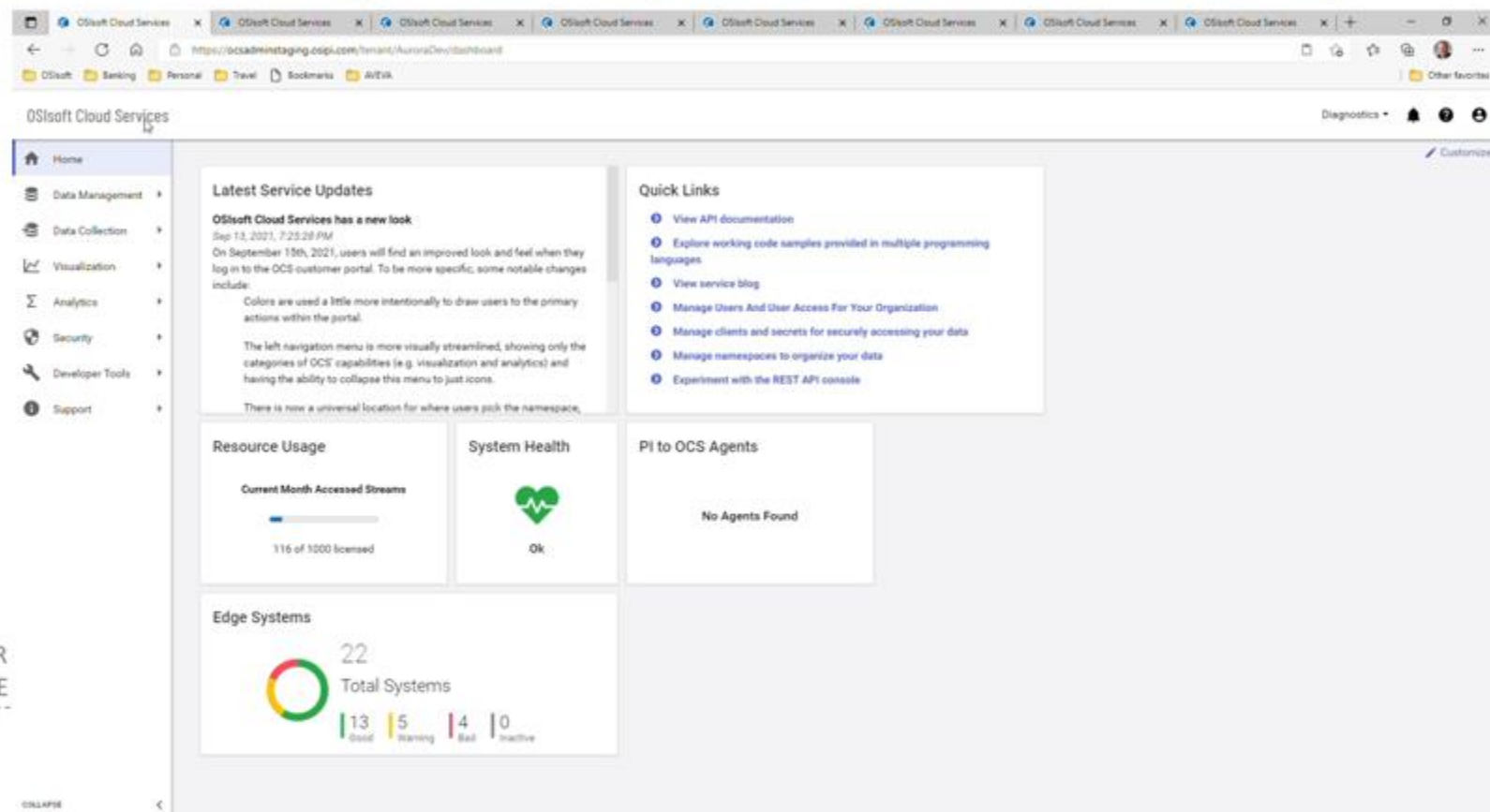
IoT data at scale



Edge Management: lowering risk and management effort



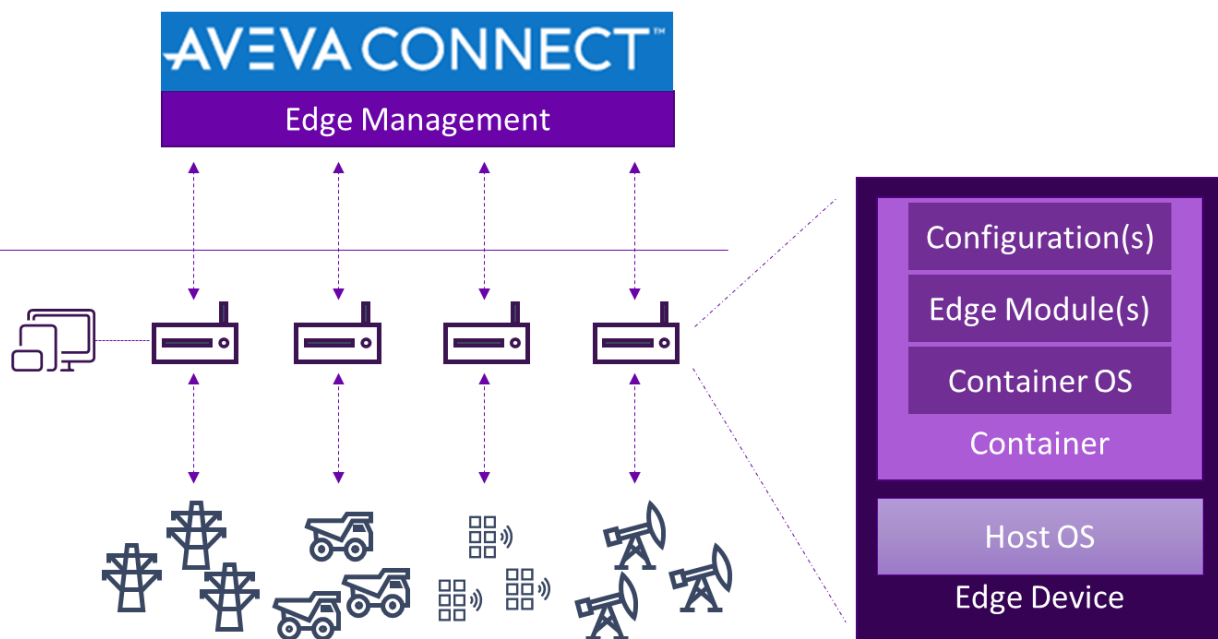
Software Management: increasing visibility and maintainability



Introduction to edge modules

Edge module strategy:

- Develop IoT capabilities for remote deployment at scale
- Centralize device, software, and configuration management
- Improve visibility to device, software and connection health
- Extend cloud and on premises OT capabilities to the edge to support edge to cloud and hybrid cloud architectures



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EDS

Local data collection and persistent storage
Robust and self-healing
Runs on lightweight, low powered Linux Devices
Connects to PI Servers, AVEVA Data Hub
Ideal platform for edge analytics, store & forward



PI Adapter

Scalable, real-time data connectivity to industrial data sources
Runs on lightweight, low powered Linux Devices
Connects to EDS, PI Servers, AVEVA Data Hub



IoT View

AVEVA Edge HMI as edge module
Rich HMI functionality, device drivers
Run on lightweight, low powered Linux devices
Ideal for local equipment supervisory control



EAM
Integrator

Works with AVEVA Insight Condition Management
Interfaces with on premises Enterprise Asset Management (EAM) systems
Allows detected work order conditions and information to send to EAM

Future:

There are many edge modules in development across the portfolio providing complimentary edge capability to other AVEVA cloud services such as:

- Edge MES
- Work flow
- Distributed engineering project
- And more...

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A Journey to Integration and Optimization

Extend to Mobile Fleet

- Edge Data Stores to each truck
- Capture refrigeration, needed for regulation HACCP

Add Other Plants "Unify"

- Evolve over 3 plants
- One Unified Information

Remote Development

- Remote System Integrator
- Configure HMIs. Modules
- Pair and make ready for provisioning

Upgrade Data to Information

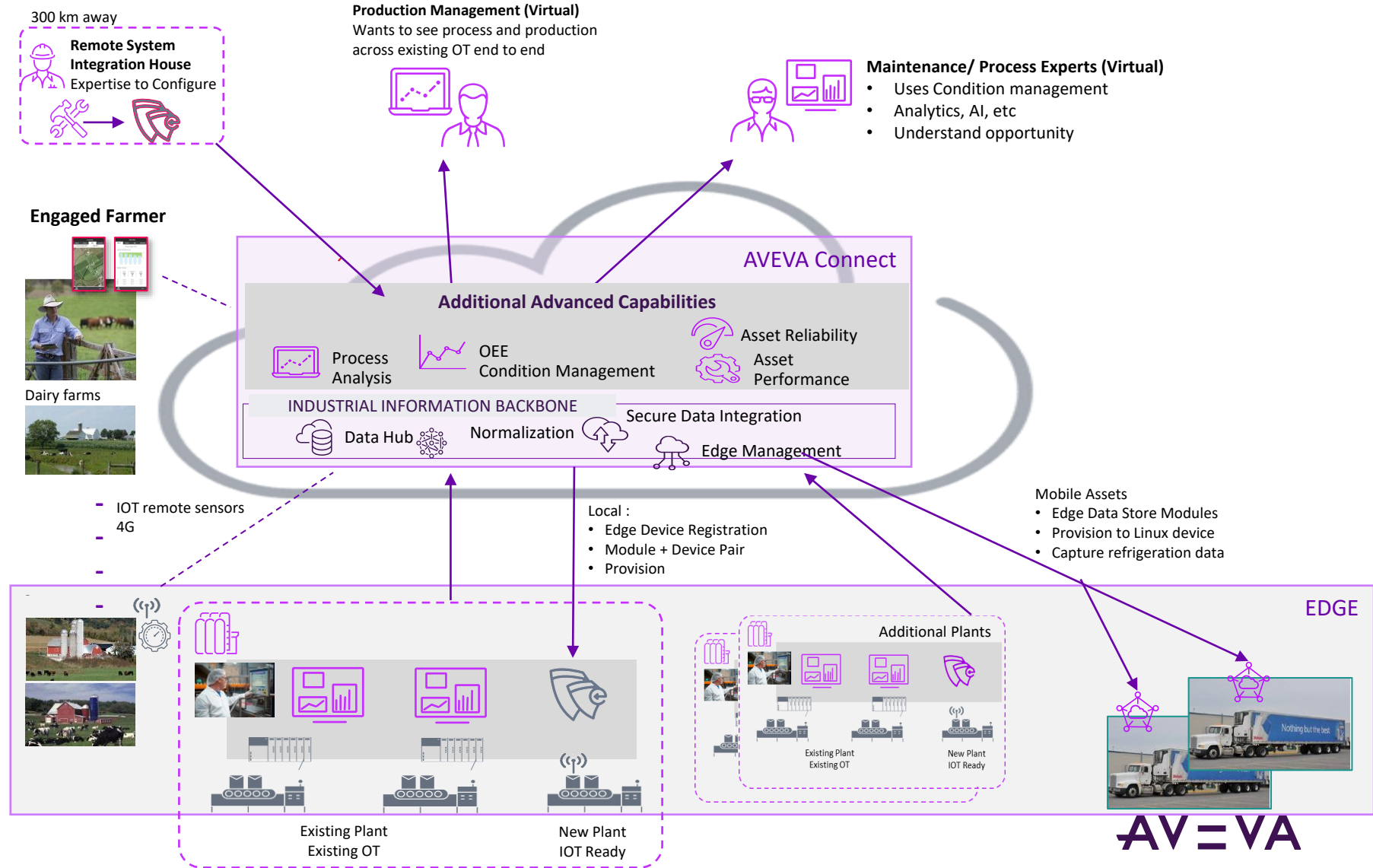
- Detect Utilization of assets (OEE)
- Asset Reliability
- Production Quality/ Specs
- Empower remote experts

Capture/ Digitalize Remote Farms

- Capture data from remote farms in realtime
- Awareness of milk quality, quantity, readiness
- Automated Capture Edge Data Store
- Manual via Mobile apps data entry

Remote Access to Plant Information

- Existing Plant HMIs, Systems
- Secure out of Box Adaptors
- Industrial Storage



Learn more about AVEVA's cloud and edge strategies

AVEVA's cloud vision and strategy

- Cloud track, Tuesday, October 19

Discover how AVEVA's industrial SaaS solutions accelerate transformational outcomes

- Cloud track, Tuesday, October 19

Pervasive Data Collection

- PI System & OCS track, Tuesday, October 19

OCS: OSIsoft Cloud Services

- PI System & OCS track, Tuesday, October 19

Remote operations monitoring in OCS

- PI System tech track, Thursday, October 21



Communicate with Product Managers

<https://feedback.osisoft.com>

Share your ideas, vote on others



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A full-page background image featuring a worker in profile, wearing a yellow hard hat and clear safety glasses. The worker is looking towards the left, where a complex industrial structure, possibly an offshore oil rig or refinery, is illuminated at night. The scene is bathed in a deep purple and blue light, with some orange highlights from the worker's gear and the industrial lights. The overall mood is professional and technological.

Digital Transformation


Challenging the way we **THINK**
Challenging the way we **WORK**


Thank you

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