

AVEVA PI WORLD

Deep dive into industrial cloud and SaaS

AVEVA Connect

Tim Sowell

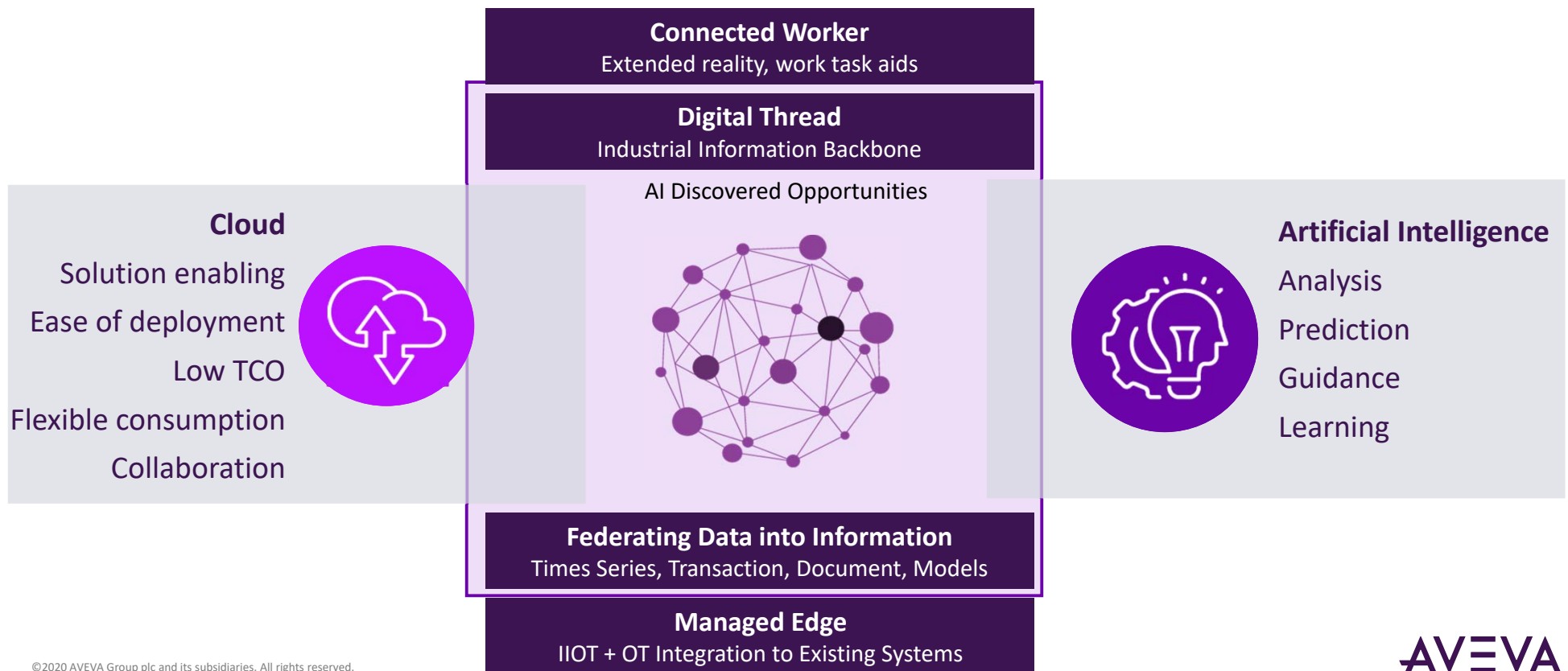
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The AVEVA logo is displayed in white, bold, sans-serif capital letters. The background of the slide features a dark blue gradient with abstract, glowing patterns of blue and orange dots and lines, suggesting a digital or industrial theme.

“This past year turned the long and arduous process of digital transformation from a five- or 10-year goal for most companies into an ‘evolve or die’ imperative overnight.”

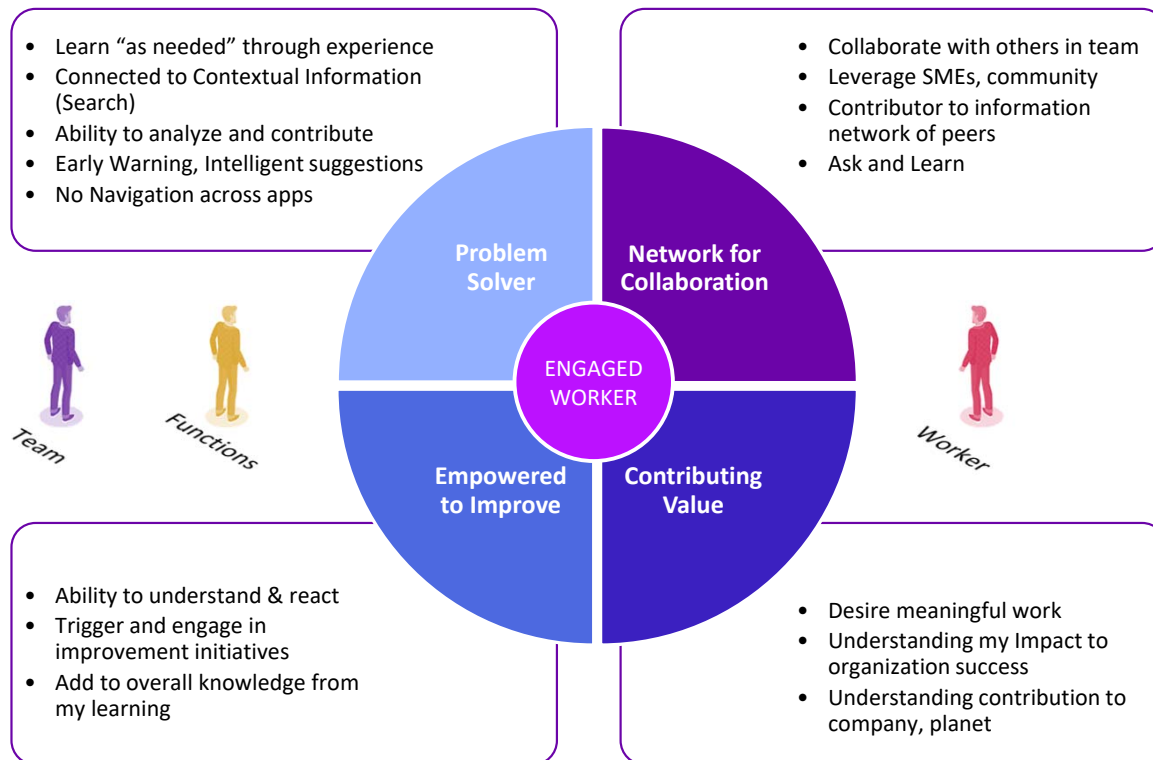
FORBES, 2021

Cloud and AI are central to an Industrial Information Backbone that is the cornerstone of AVEVA's portfolio strategy

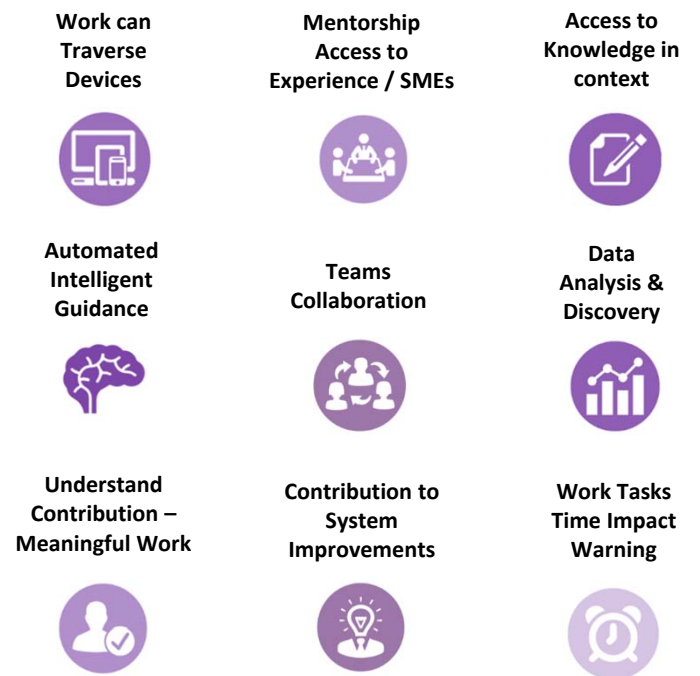


From the connected worker to the engaged worker

ENGAGING THE WORKFORCE



NEW WORKER CAPABILITIES



What the future workforce wants/needs for problem-solving



Addressing different dimensions of the same challenge

“Systems of record” perspective

Enterprise Twin

Source Make Deliver

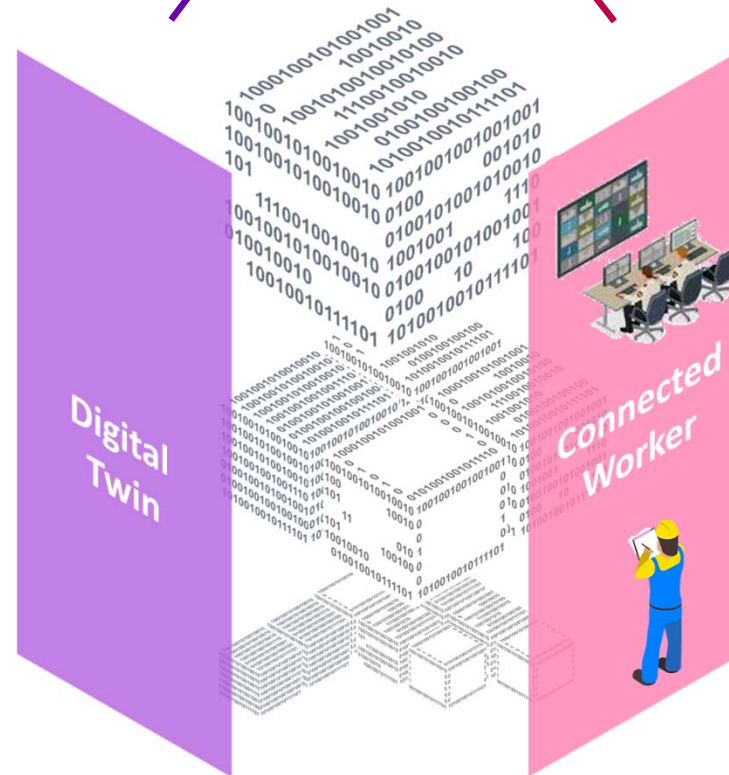
Process Twins

Plant 1 Plant 2 Plant 3

Line 1 Line 2 Line 3

Asset Twins

Filler Labeler Palletizer



“Systems of engagement” perspective

Enabling problem-solving

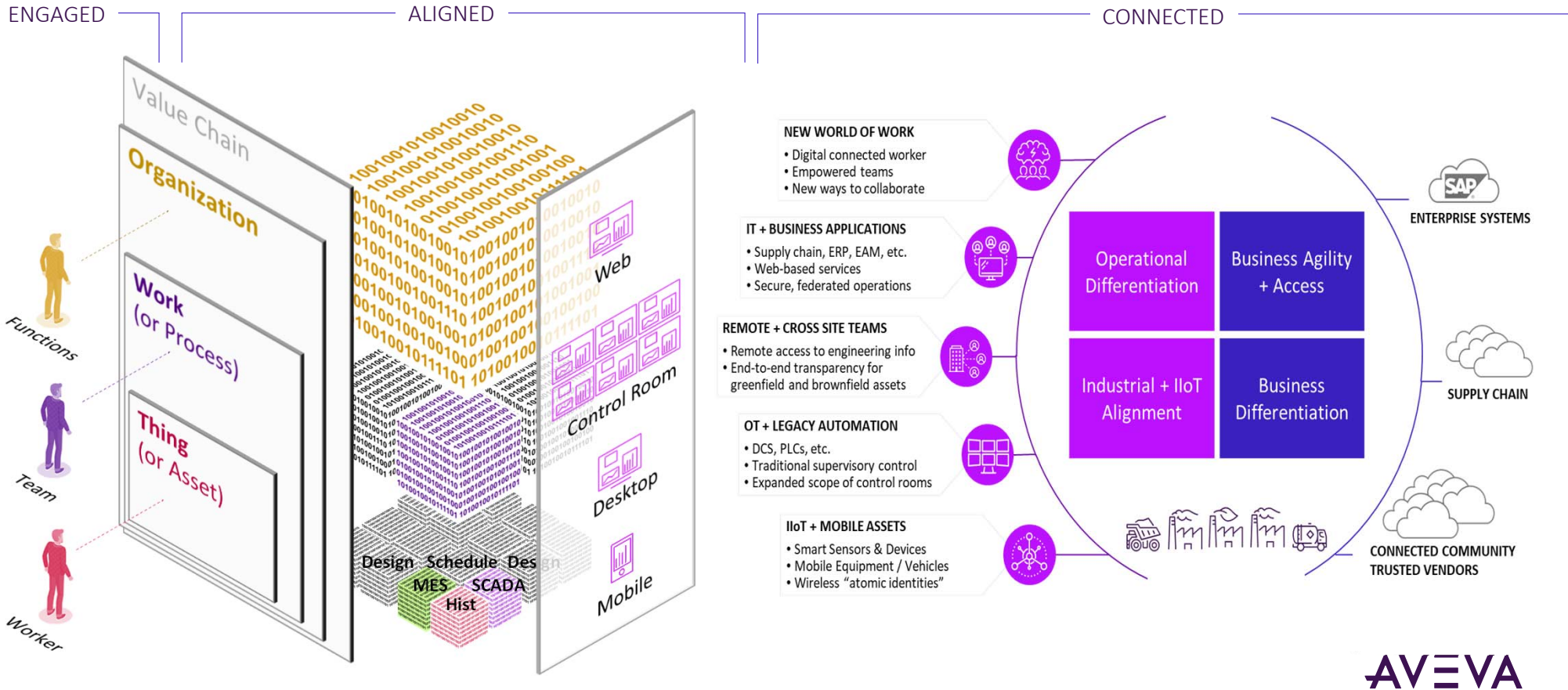
Am I empowered to act?
- for what outcome?

Is the context meaningful?
- to create value?

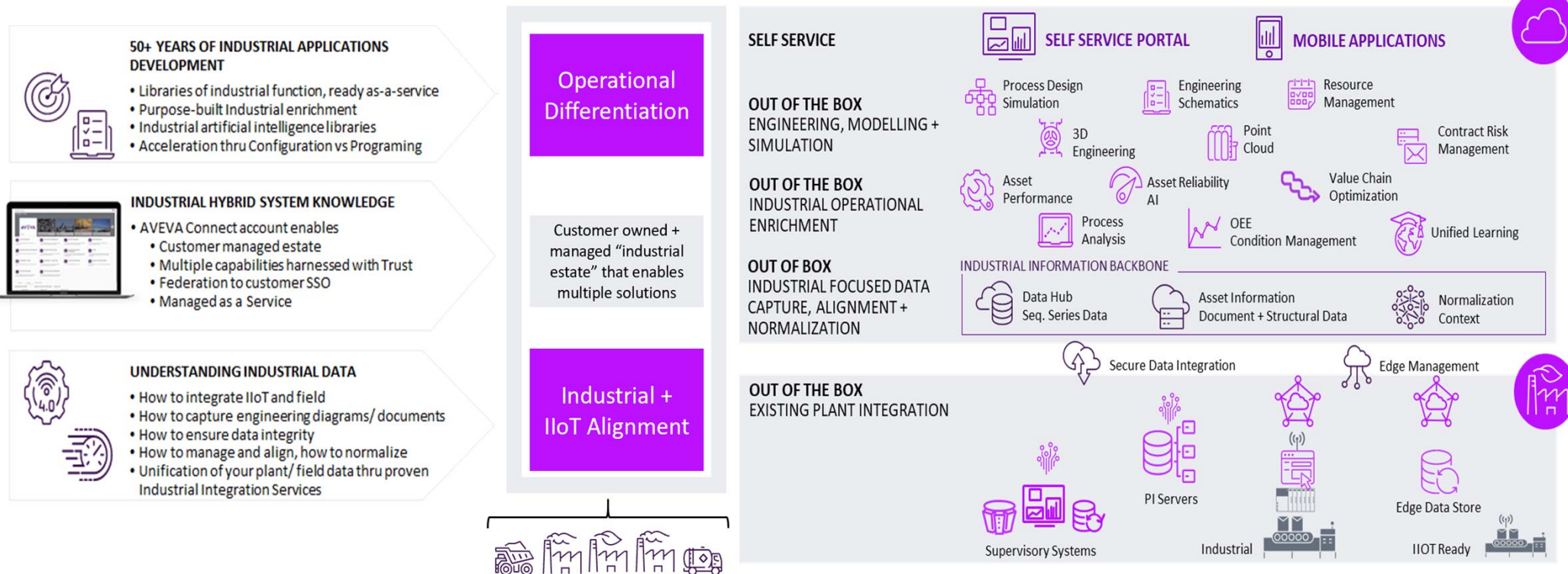
Is it available to me?
- at the right time?

Is the data in a digital format?
- and trustworthy?

The reality of convergence. One connected landscape.



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

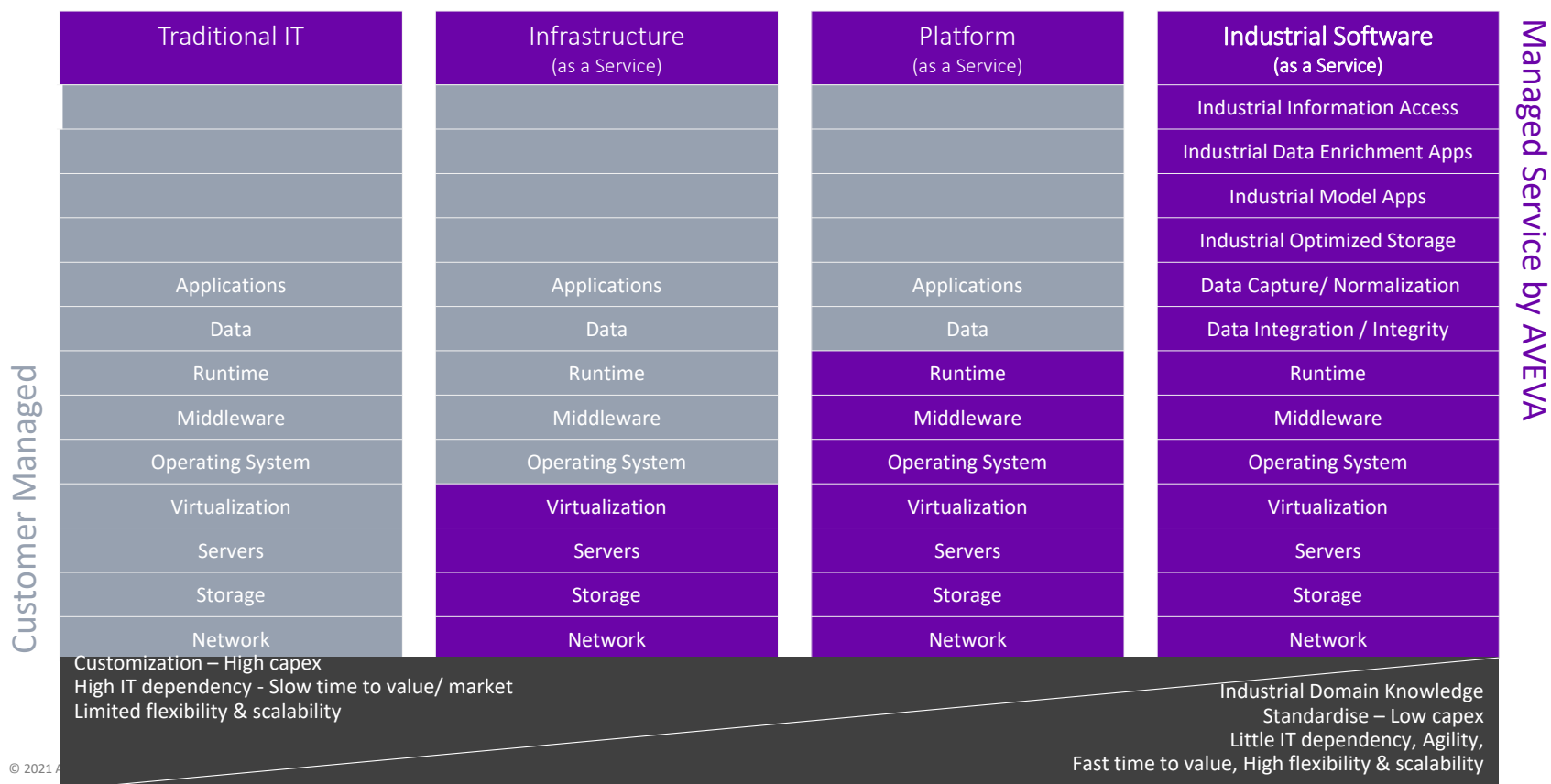


Delivered as a Service

Customer Managed

Lowering risk and accelerating speed to success

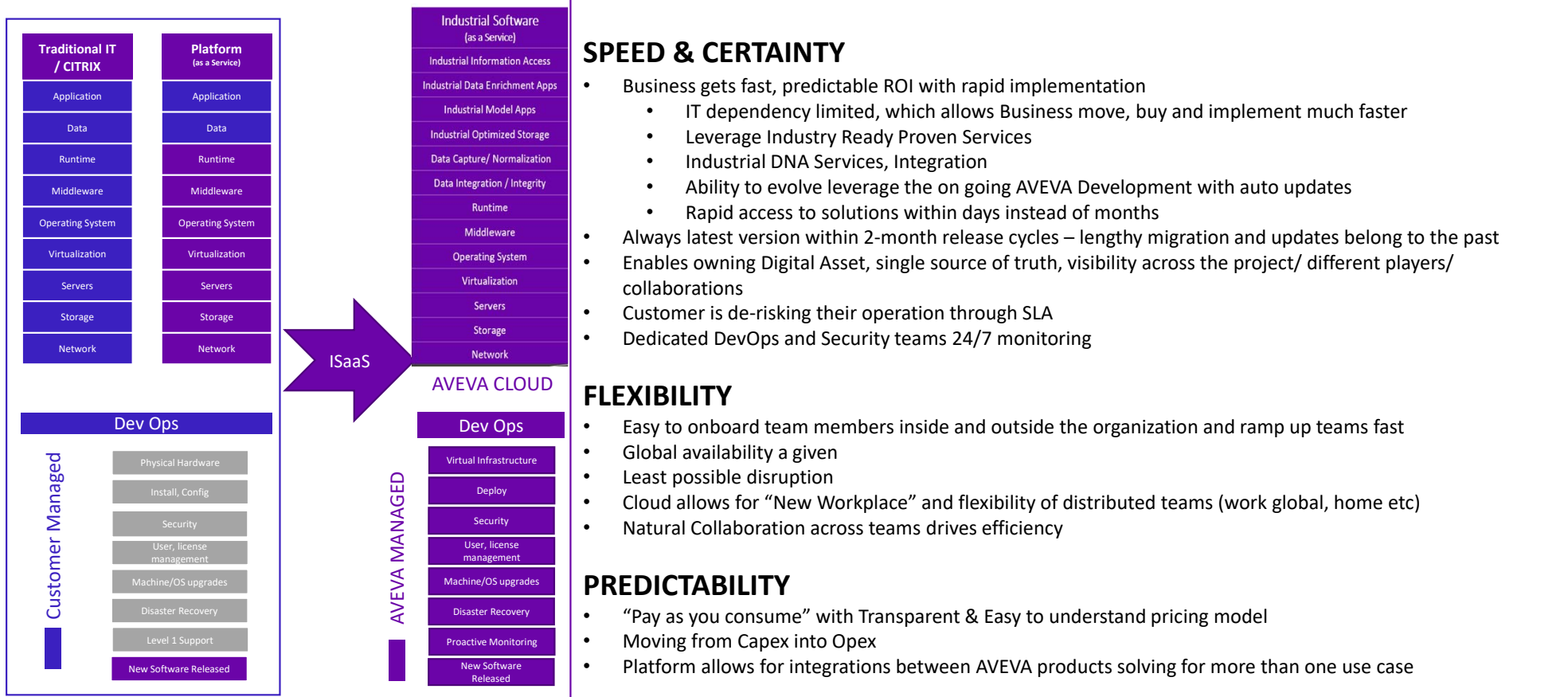
Agility, speed, scale and simplicity. Plus, you de-risk your business with SLAs.



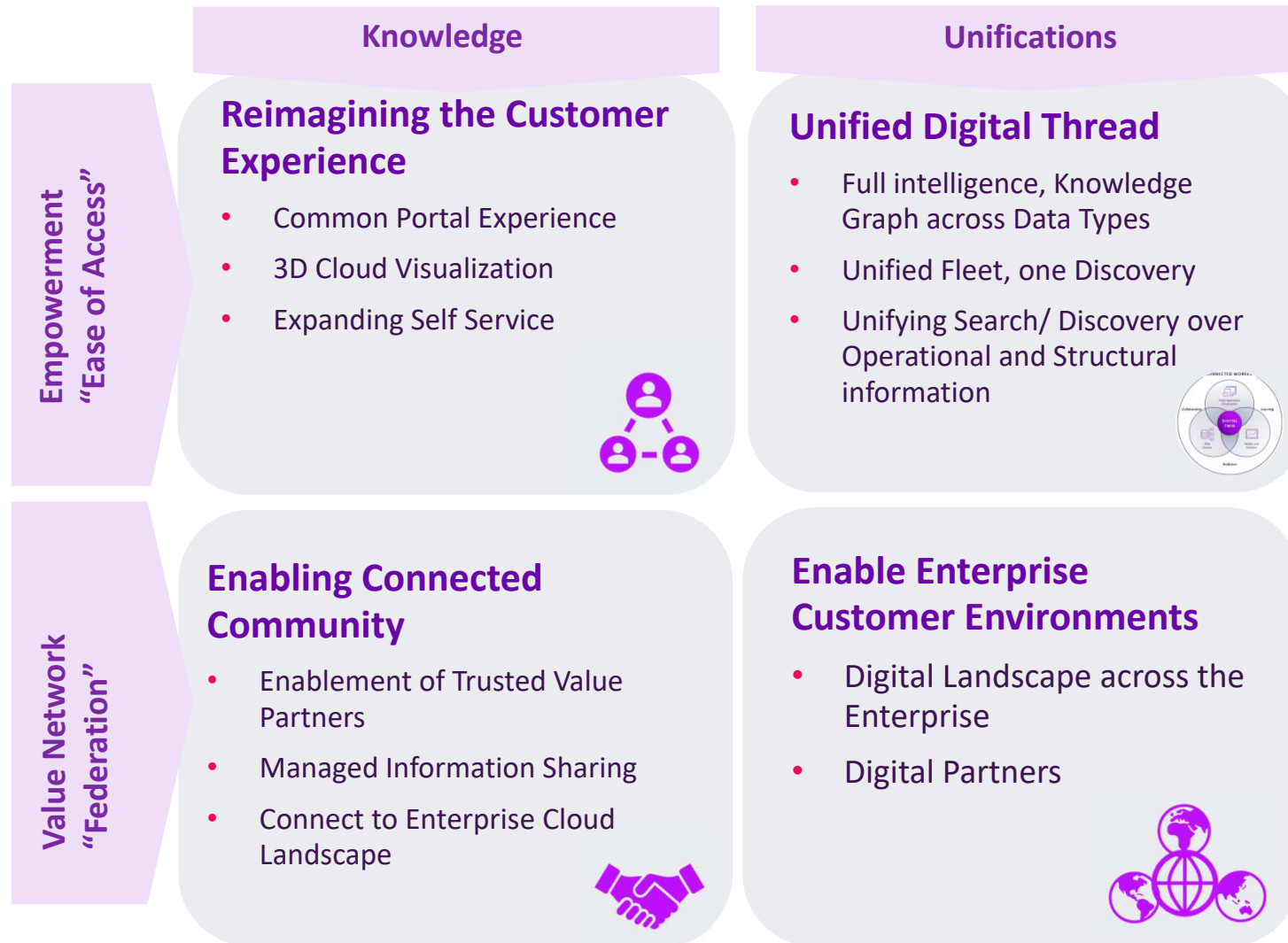
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Value – Industrial Software-as-a-Service vs. PAAS + Services

It is about “Speed” giving you back “Time” and “Lowering Risk” to outcome

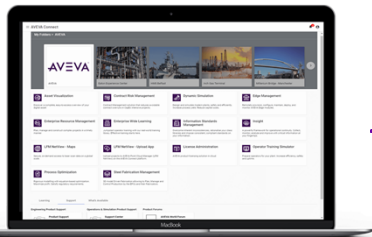


Looking Forward to “Integrated Cloud Solutions”

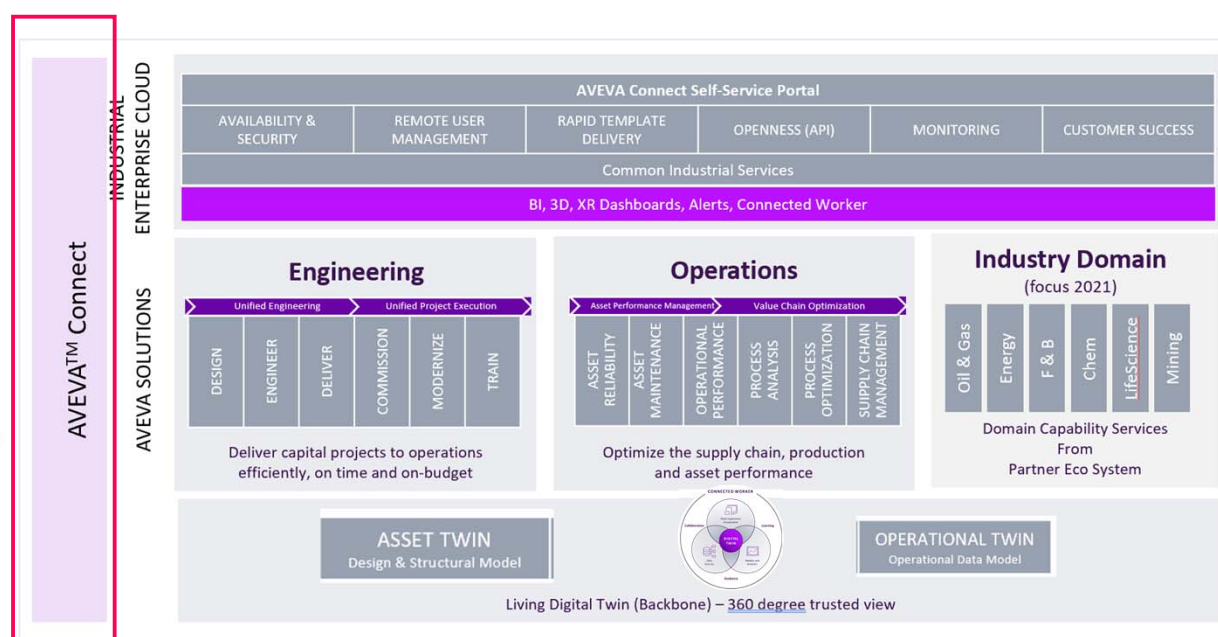


AVEVA'S Cloud Strategy

Provide a Rich Industrial Cloud enabling the opportunity for Industrial Digital Transformation



- Connecting Plants
- Connecting Applications
- Connecting Workforce
- Connecting the Enterprise to Operations



Extending , Enriching Existing Systems



Connected Community
(Enable a collaborative Supplier / Expert Community)
(Focus 2021)



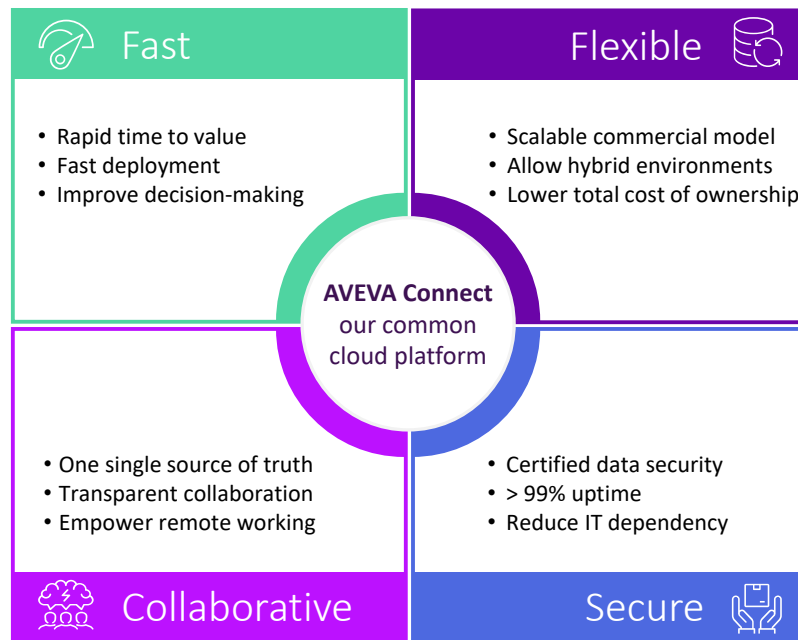
Digital acceleration with AVEVA software in the Cloud

Drive business sustainability. Transform faster, reduce costs and easily scale.

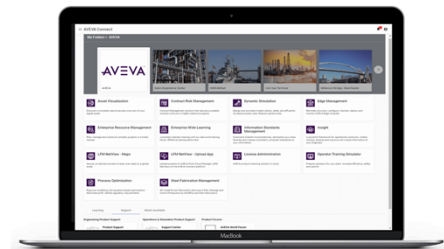
Working with
5,000+
Cloud customers globally

Per week
110,000+
unique user sessions

Seeing at least
20%
efficiency gain by moving to Cloud



The broadest and deepest industrial software with seamless collaboration in a single out-of-the-box cloud hub



Our proven technology and expertise helping you **reduce the time to value** and **improve your business agility**

AVEVA

AVEVA Connect: can be more secure than on-premise

Security is “Baked in” by AVEVA from the beginning

Cloud Offer Security Requirements

- Threat Model review of Cloud Architecture
- Penetration testing based on threat model
- Checkmarx scan
- No 7.0+ SDL (security development lifecycle) items currently in backlog
- Answering IT Cloud Security Questions in RFPs

Security Development Lifecycle (SDL)

- All product teams have completed specific training to avoid vulnerabilities

Third Party Certification

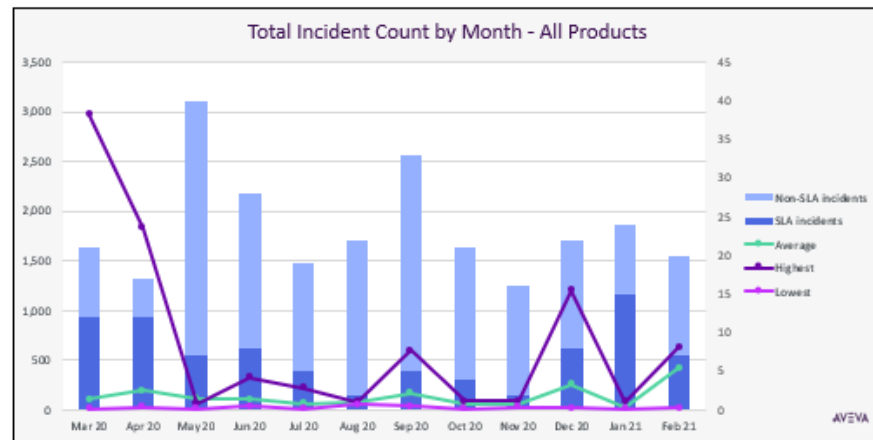
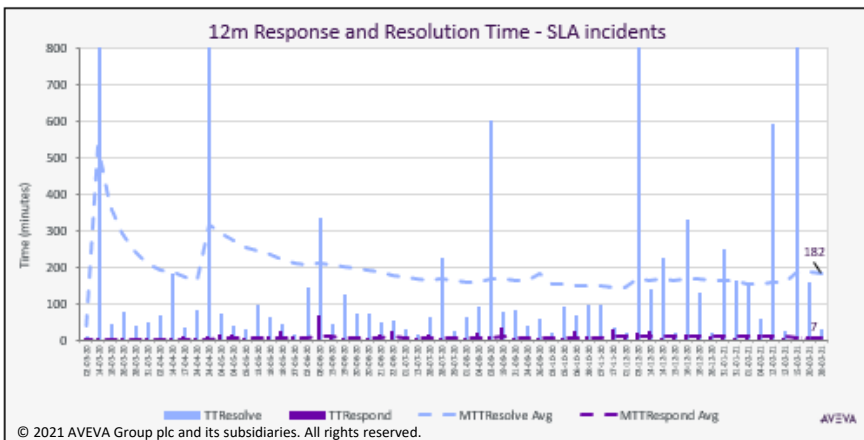
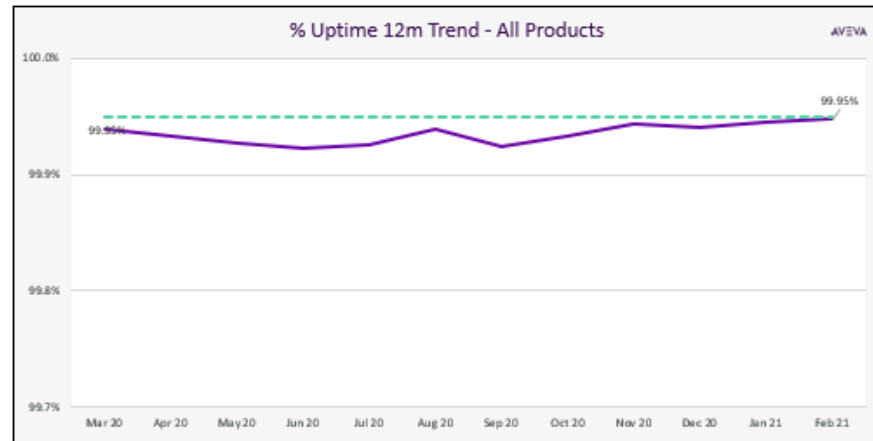
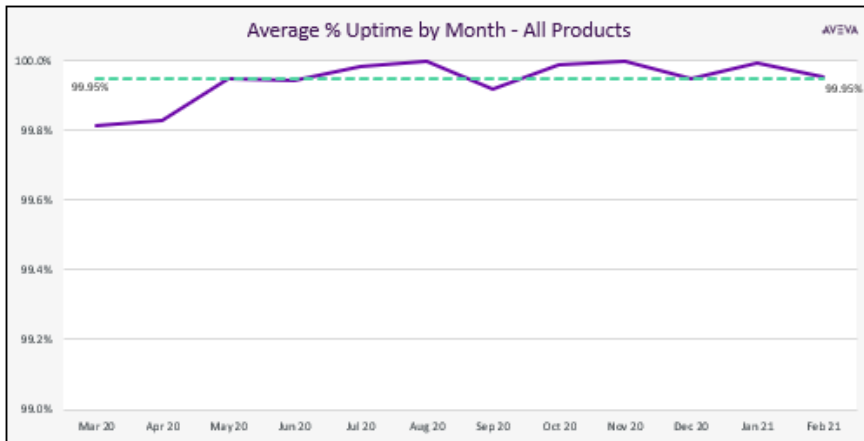
- CSA Secure
- SOC-2 (System & Organization Controls)
- ISO 27001 Aligned (Information Security Management)

Security Confidence- Customer Engagement

- Joined Cloud Security Alliance
- Became recognized with International standard
- Pro actively have a Re Answered set of Security questions from Industry



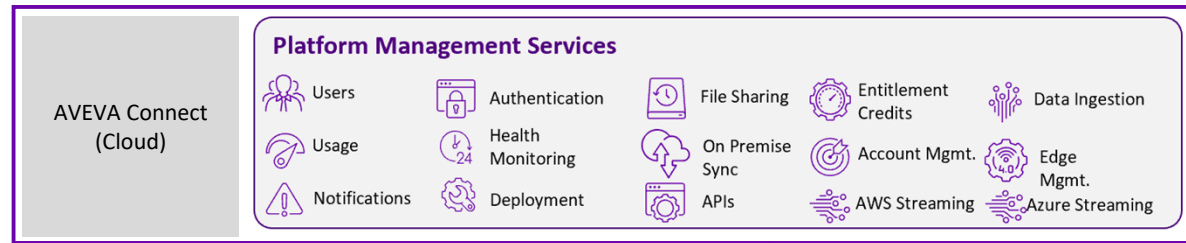
Industrial Software as a Service > Availability is given



Customer managed AVEVA Connect account

Account Provides

- Trust between Services
- User Management across Services
- User Management across Structure
- Account API Access Management
- Central Credit Management



Account Capabilities

- SSO- Idp fed
- User Management
- Edge Deployment Mgmt
- Usage Reporting
- Entitlement Mgmt
- License Access
- Trust Mgmt
- API Access Mgmt
- Account Structure

Customer Managed AVEVA Connect Account

- CALM2**
Client Activated License Management - Manage and order licenses for use on premises
- License Administration**
AVEVA product licensing solution in cloud
- AVEVA Edge Management**
Register and pair device twins with physical edge devices. Remotely provision, configure, maintain, deploy and monitor AVEVA edge modules.

Plant 1

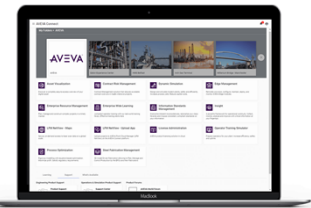
- Insight**
Industrial operational insights available anywhere, anytime on any device. Unlock your critical data from your operational network and put it actionable.
- AVEVA Work Tasks**
Advanced work tasks management for the digital transformation of standard operating procedures and orchestration of work.

Plant 2

- AVEVA Point Cloud Manager**
Secure and on-demand global access to 3D data capture for asset visualisation, inspection and project execution.
- Insight**
Industrial operational insights available anywhere, anytime on any device. Unlock your critical data from your operational network and put it actionable.

Functional Capability Services Examples

- Point Cloud
- Insight
- Cond Mgmt/ Prescriptive Knowledge
- Guided Analytics
- Adv Analytics
- Utilization/OEE
- Work Task
- Data Hub (OCS)
- Asset Information
- Unified Engineering

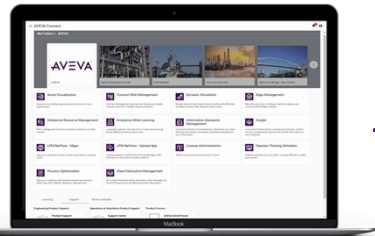


Single Customer Environment

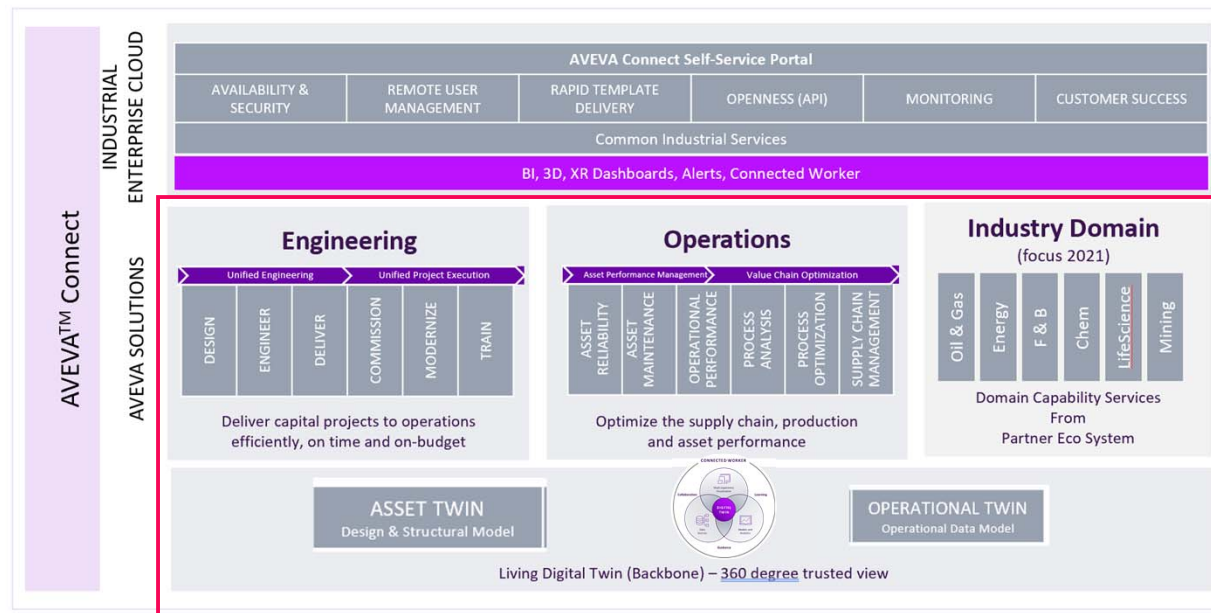
- AVEVA Connect Account
- One Place to Manage
- Enable Multi Solutions

AVEVA'S Cloud Strategy

- Provide a Rich Industrial Cloud enabling the Opportunity for Industrial Digital Transformation



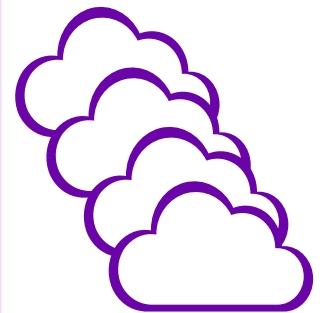
- Connecting Plants
- Connecting Applications
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Extending , Enriching Existing Systems



Connected Community
(Enable a collaborative Supplier / Expert Community)
(Focus 2021)



AVEVA

AVEVA Connect: Cloud Engineering Efficiency Capabilities



ENGINEERING
EFFICIENCY

“ Re-Use of data from Pre-FEED to Operations is key for a Digital Twin. ”

1 Year
Targeted reduction in overall project schedule

50%
Reduction in engineering man hours for an equipment

AVEVA Insight + AVEVA Data Hub

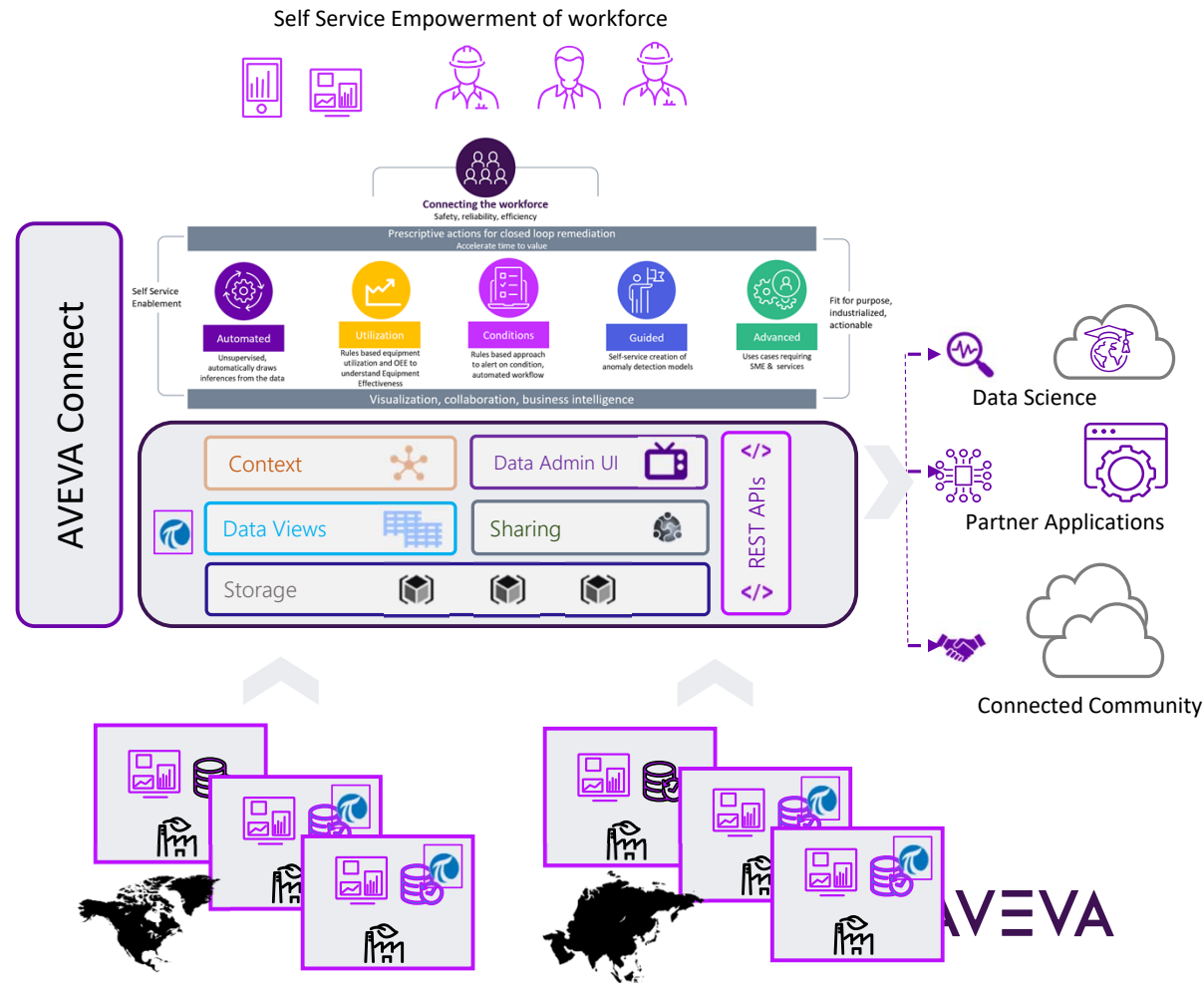
Remote Operations Monitoring, Extending the Transparency in the enterprise

Customer value

- Customers wanting transparency across their multi-plants spread out across the world
- Fast Access – Information Self Service Dashboard and analysis, with analytics, and SI to extend value proposition
- Single view across the fleet to operational information from different systems
- Customers who want unified plant information to be shared with their partners and own IT owned Azure / ML
- Especially multi nationals that require segmentation of data for regional data residency, performance

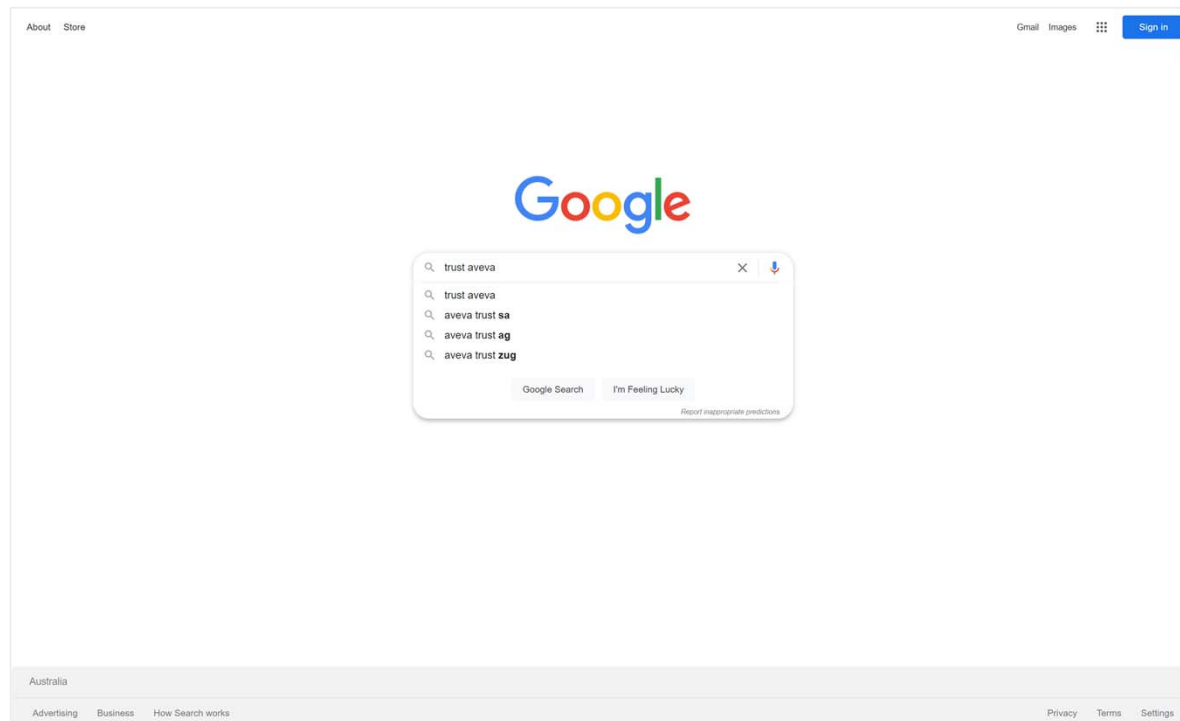
Approach

- Unified Industrial Information across multiple locations
 - Multi PI Servers are connected thru a PI Adaptor
 - AVEVA Historian and AVEVA InTouch, System
 - Edge Managed Adaptors , Data Store Modules, and IOT View Modules
 - Managed Interfaces to non AVEVA OT systems, and IIOT systems
- Single Customer Managed Account across the information solution
- Usage Monitoring Entitlement enables flexibility
- Ability to segment data across the regions / sites / plants
- Insight's applications are applied against one Data Hub with unified information
- Data Hub can connect to other clouds share as managed information

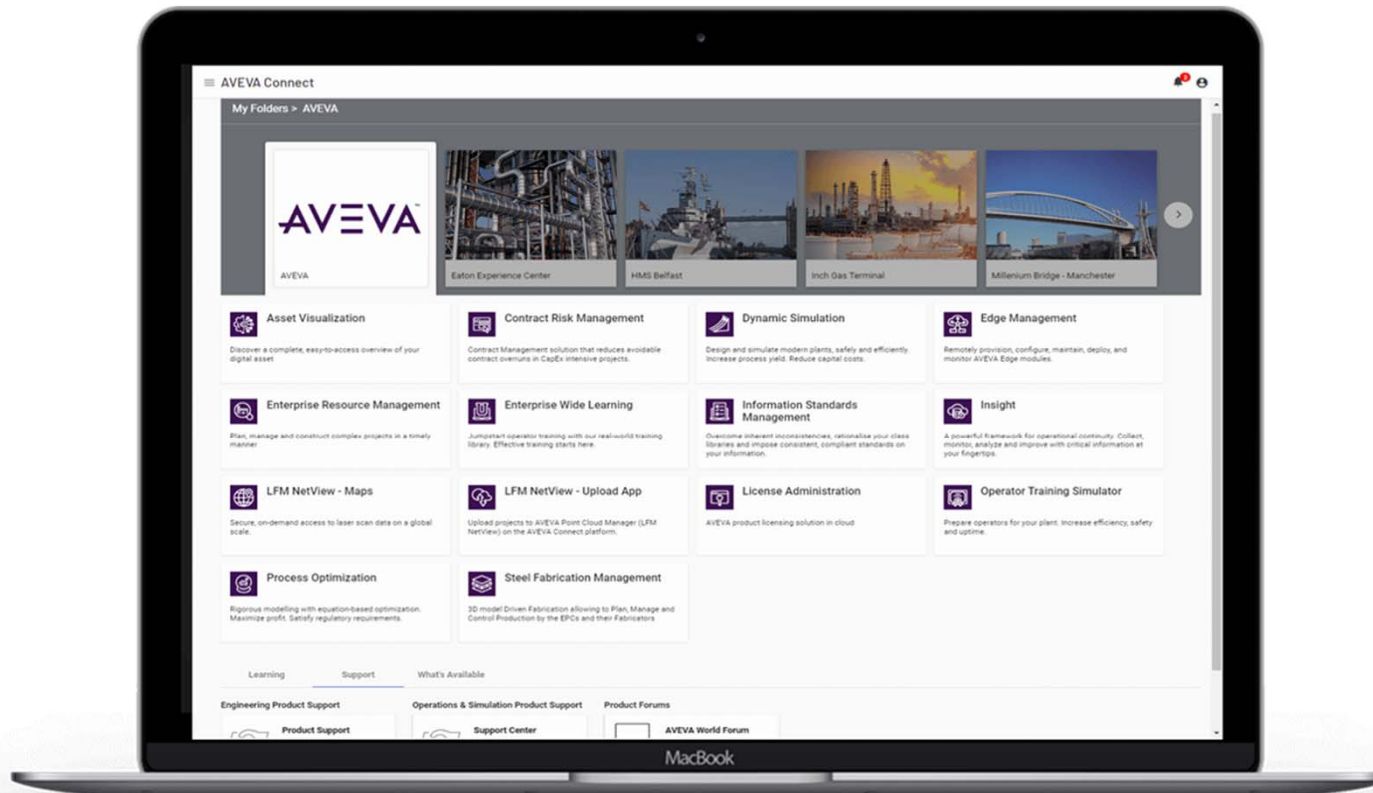


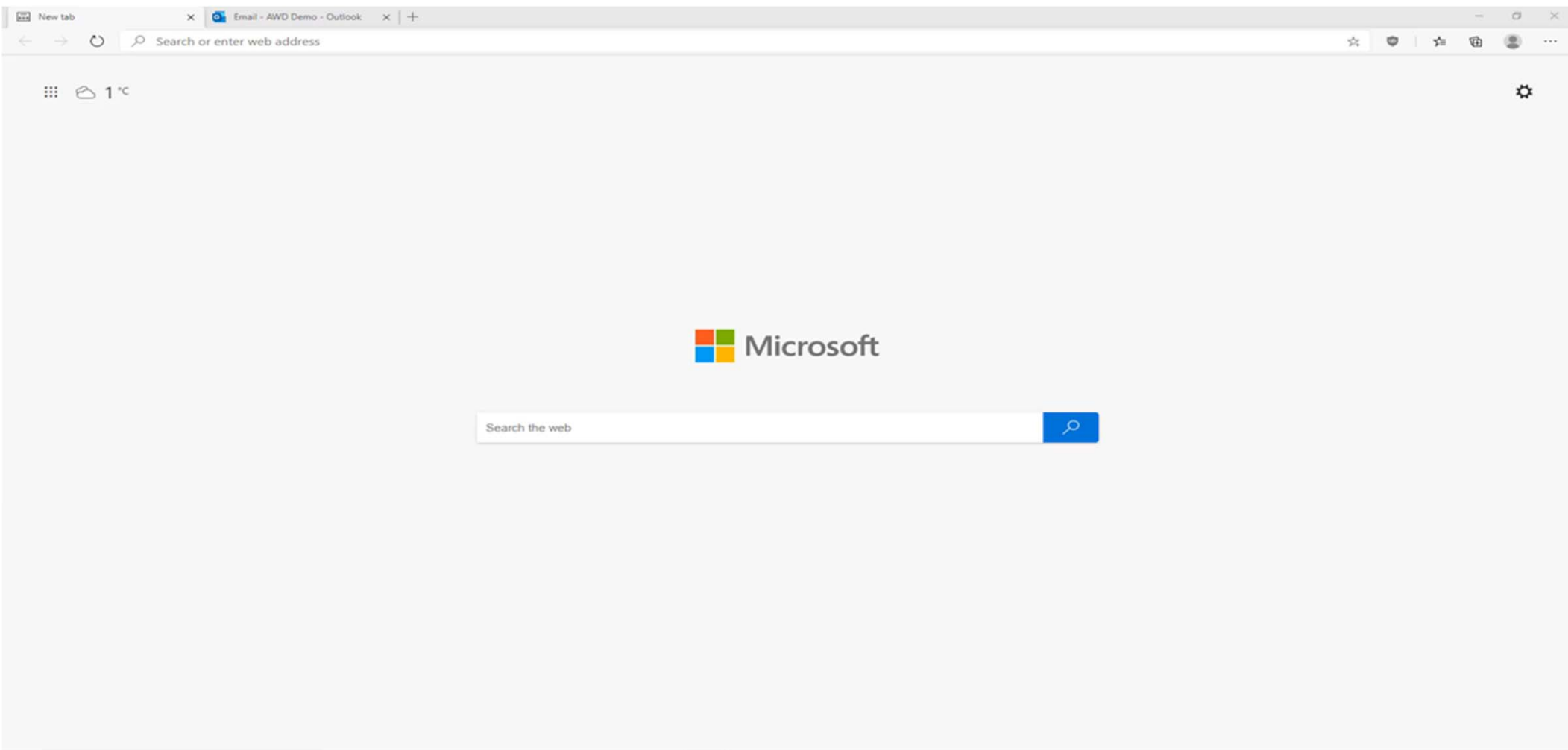
AVEVA Trust Centre

Security, Status & Service Descriptions – all in one place



Let's take a look...





The Opportunity!

What happens when a company is digitally transformed?

Value chains become **digital nervous systems** that can quickly adapt to market conditions



Products become **Solution information streams** enabling transparency and traceability across the design-to-dispose lifecycle



Customers become **information appliances** that are self-aware and increasingly autonomous



Workers become **problem solvers** who bring judgement, imagination and improvisation for innovation and agility



Work processes become **information loops** enabling closed-loop feedback, precision control and continuous improvement

Providing the Opportunity to Transform!

Enable Business Transformation

- Customer Centric
- Value Creation
- Outward Thinking
- Enable Agility

Value Chain Optimization

- ▲ Demand Driven
- ▲ Customer Centric
- ▲ Optimization

Empowerment

- ▲ Alignment Process
- ▲ Knowledge in System
- ▲ Augment Awareness

Value Chain Visibility

- ▲ Transparency in Context
- ▲ Trusted Information
- ▲ Aligned Context

Team

- ▲ Collaboration
- ▲ Team Effectiveness
- ▲ Empowerment

Value Chain

Workforce

Flexible

Flexibility to facilitate deployment at scale
User-friendly interface
eases workforce change
Futureproof cloud-based solution

NITA CIMSoft
NITA CIMSoft Corporation

"AVEVA was quickly able to understand our business needs for the present and future."

Fast

50% less time to train end users
Increased margins 1 to 3 cents per barrel
Ability to **evaluate complex scenarios**

idemitsu

Enable New World of Work (Do)

- Zero Waste in Time (Decision to Action)
- Zero Waste Effort, Actions
- Zero Waste in Productivity
- Limiting Risk (Safety, Production, Delivery) understand the Future

Flexible

End-to-end solution for data-collection, storage, data sharing, analytics
Ensure clean, safe drinking water
Proactively plan

Sabon
FOR YOUR SERVICE
CASNE

Secure

Closed-loop remote monitoring and optimization
Transparency of reporting on contractual obligations

BALLARD

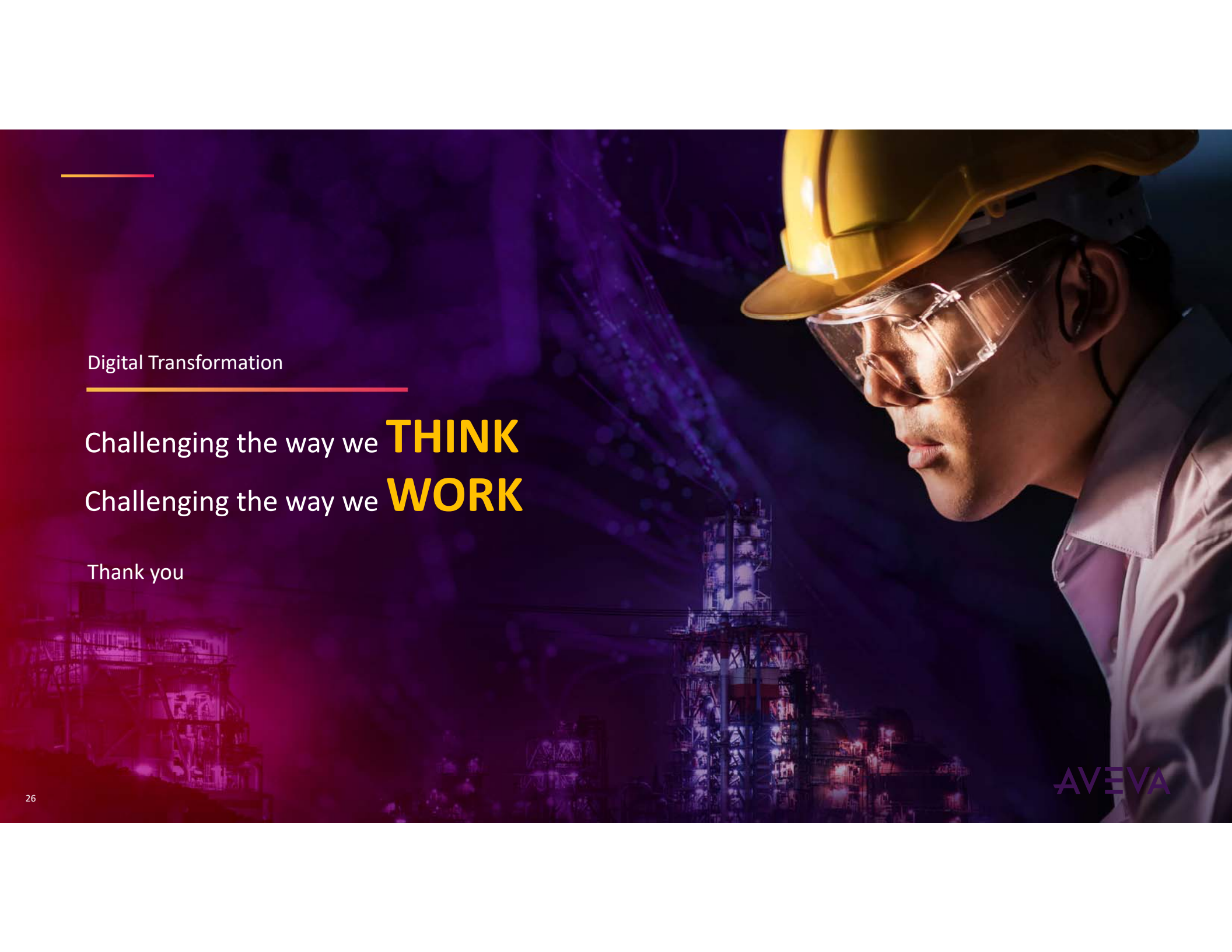
"AVEVA Insight has enabled Ballard to rapidly and securely implement a cloud-based approach to monitoring our fuel cell products in operation globally."

AVEVA



Questions?

AVEVA

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 a large refinery tower, is illuminated against a dark night sky. The scene is bathed in a purple and blue light, creating a high-tech, industrial atmosphere. The worker is wearing a light-colored shirt. The overall composition suggests a focus on industrial operations and digital transformation in the energy sector.

Digital Transformation

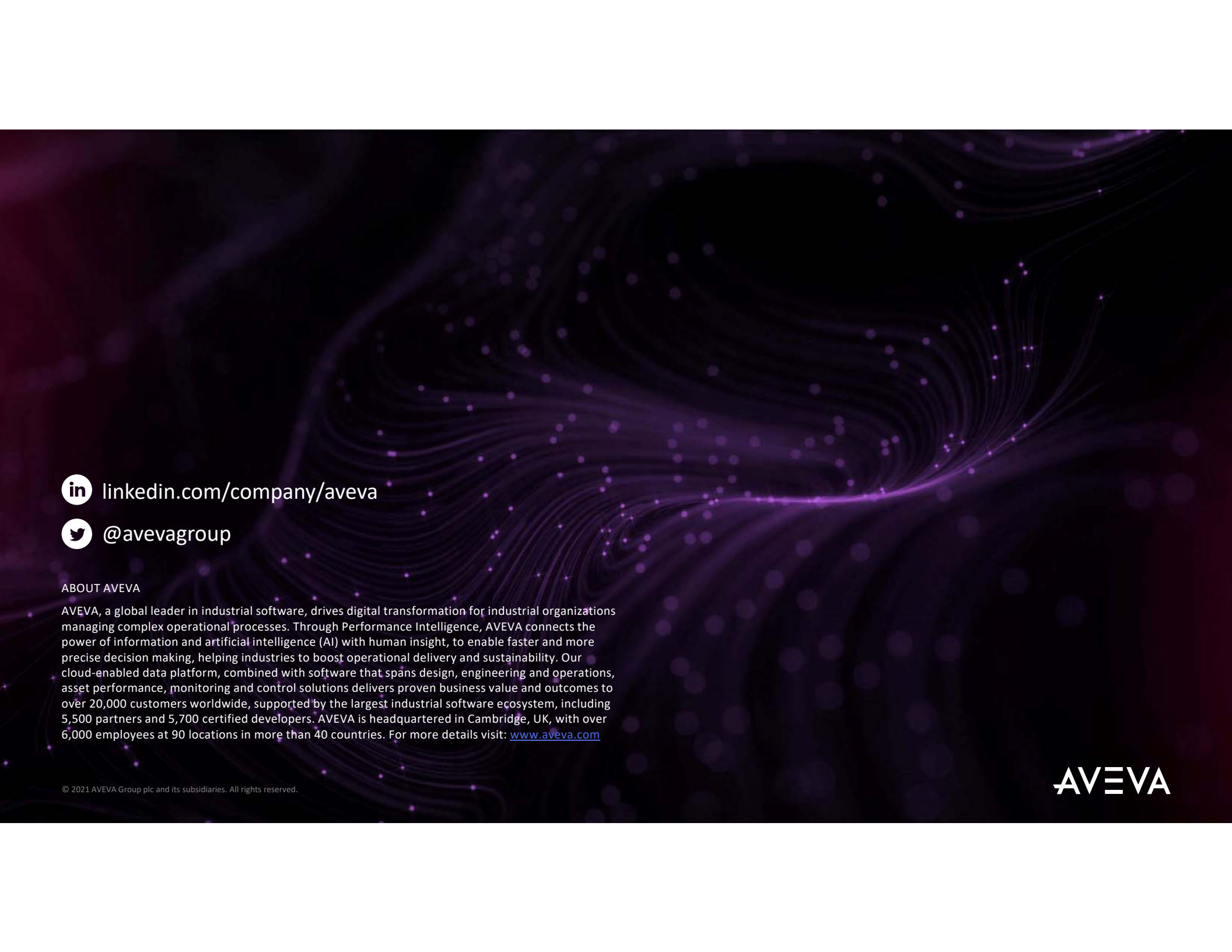
Challenging the way we **THINK**
Challenging the way we **WORK**

Thank you

AVEVA

This presentation may include predictions, estimates, intentions, beliefs and other statements that are or may be construed as being forward-looking. While these forward-looking statements represent our current judgment on what the future holds, they are subject to risks and uncertainties that could result in actual outcomes differing materially from those projected in these statements. No statement contained herein constitutes a commitment by AVEVA to perform any particular action or to deliver any particular product or product features. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect our opinions only as of the date of this presentation.

The Company shall not be obliged to disclose any revision to these forward-looking statements to reflect events or circumstances occurring after the date on which they are made or to reflect the occurrence of future events.



 [linkedin.com/company/aveva](https://www.linkedin.com/company/aveva)

 [@avevagroup](https://twitter.com/avevagroup)

ABOUT AVEVA

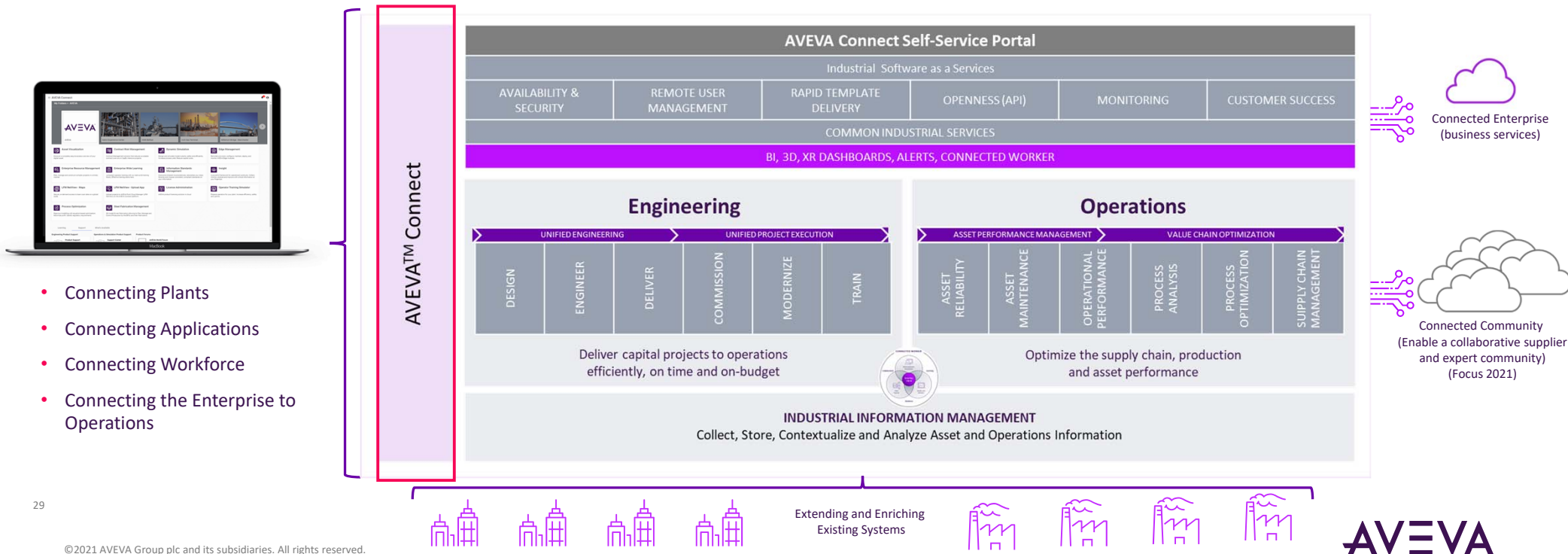
AVEVA, a global leader in industrial software, drives digital transformation for industrial organizations managing complex operational processes. Through Performance Intelligence, AVEVA connects the power of information and artificial intelligence (AI) with human insight, to enable faster and more precise decision making, helping industries to boost operational delivery and sustainability. Our cloud-enabled data platform, combined with software that spans design, engineering and operations, asset performance, monitoring and control solutions delivers proven business value and outcomes to over 20,000 customers worldwide, supported by the largest industrial software ecosystem, including 5,500 partners and 5,700 certified developers. AVEVA is headquartered in Cambridge, UK, with over 6,000 employees at 90 locations in more than 40 countries. For more details visit: www.aveva.com

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AVEVA

AVEVA's cloud and SaaS strategy

Provide a rich industrial cloud enabling the opportunity for digital transformation with **industrial information sharing**

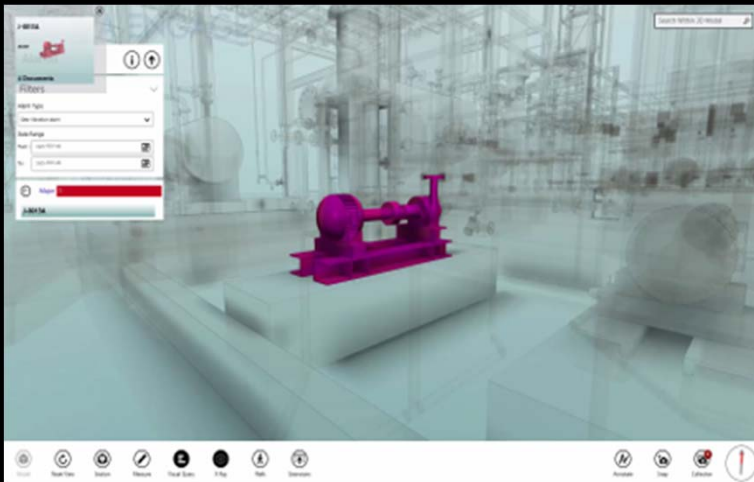


- Connecting Plants
- Connecting Applications
- Connecting Workforce
- Connecting the Enterprise to Operations

AVEVA Connect: Cloud Engineering Efficiency Capabilities

Established Value

- 1000s engineering users
- 20+ functional services – growing
- Monthly updates new capabilities



Asset Information
Management



Standards
Management



Information
Standards

Information Management



Dynamic
Simulation



Operator
Training

Handover
Commission
Operator Training



Contract Risk
Management



Resource
Management

Execution
Resource Management
Contracts
Construction



Engineering
Schematics



Point
Cloud



3D Engineering

Engineer
3D Design
Schematics



Simulation



Process Design

Design
FEED Design
Simulation

Multi-team Collaboration

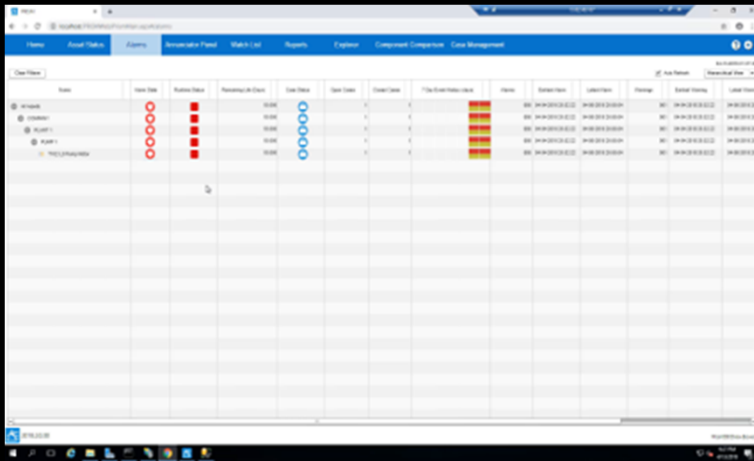
ENGINEERING
EFFICIENCY



AVEVA Connect: Cloud Engineering Efficiency Capabilities

Established Value

- 1000s engineering users
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Task Name	Start Date	End Date	Duration (Days)	Progress (%)	Resource
Task 1	2023-01-01	2023-01-15	14	100	Resource A
Task 2	2023-01-15	2023-02-01	16	50	Resource B
Task 3	2023-02-01	2023-02-15	14	0	Resource C
Task 4	2023-02-15	2023-03-01	15	0	Resource D
Task 5	2023-03-01	2023-03-15	14	0	Resource E



Asset Information Management



Standards Management



Information Standards

Information Management



Dynamic Simulation



Operator Training

Handover
Commission
Operator Training



Contract Risk Management



Resource Management

Execution
Resource Management
Contracts
Construction



Engineering Schematics



Point Cloud



3D Engineering

Engineer
3D Design
Schematics



Simulation

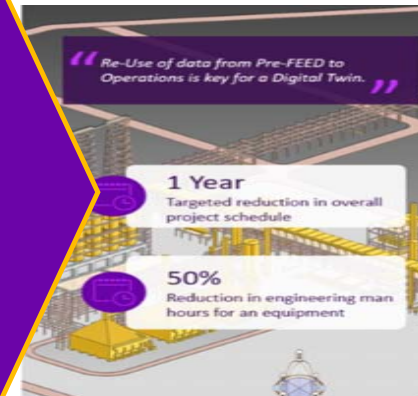


Process Design

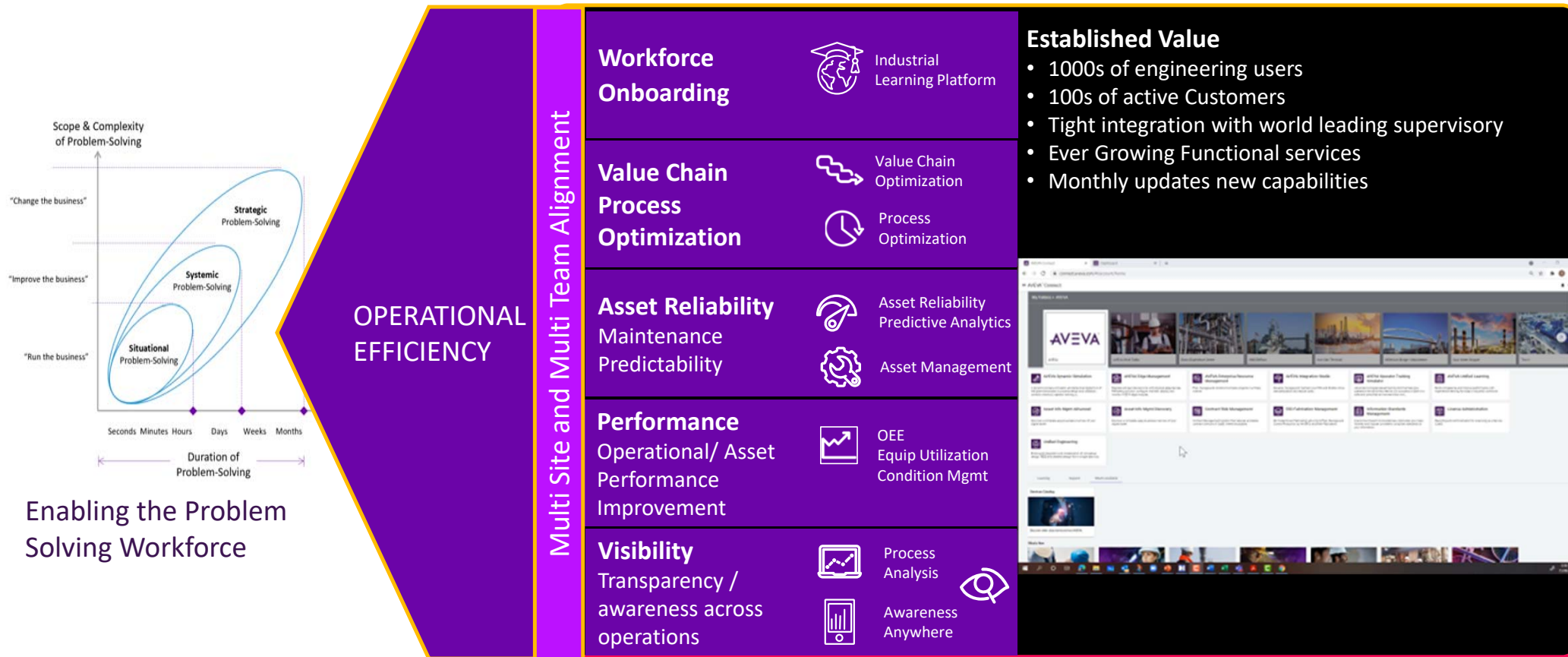
Design
FEED Design
Simulation

Multi-team Collaboration

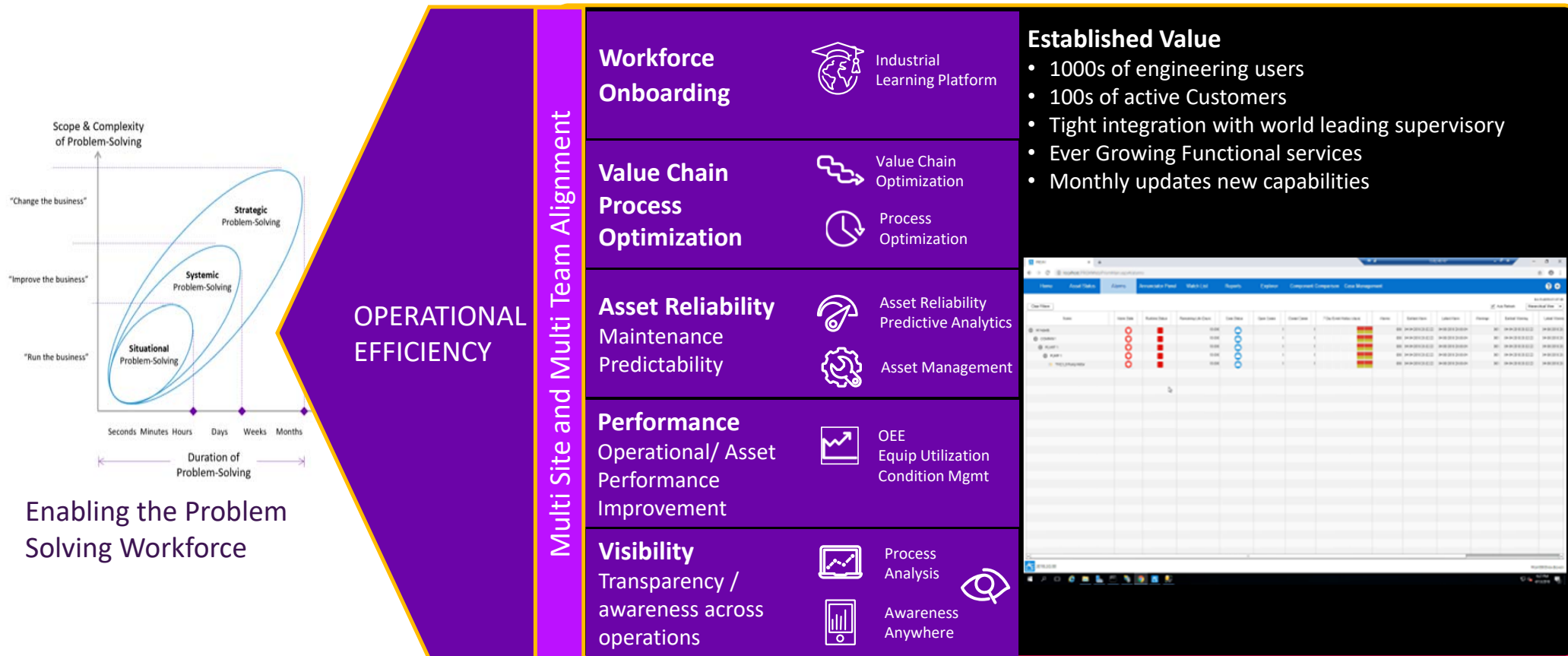
ENGINEERING
EFFICIENCY



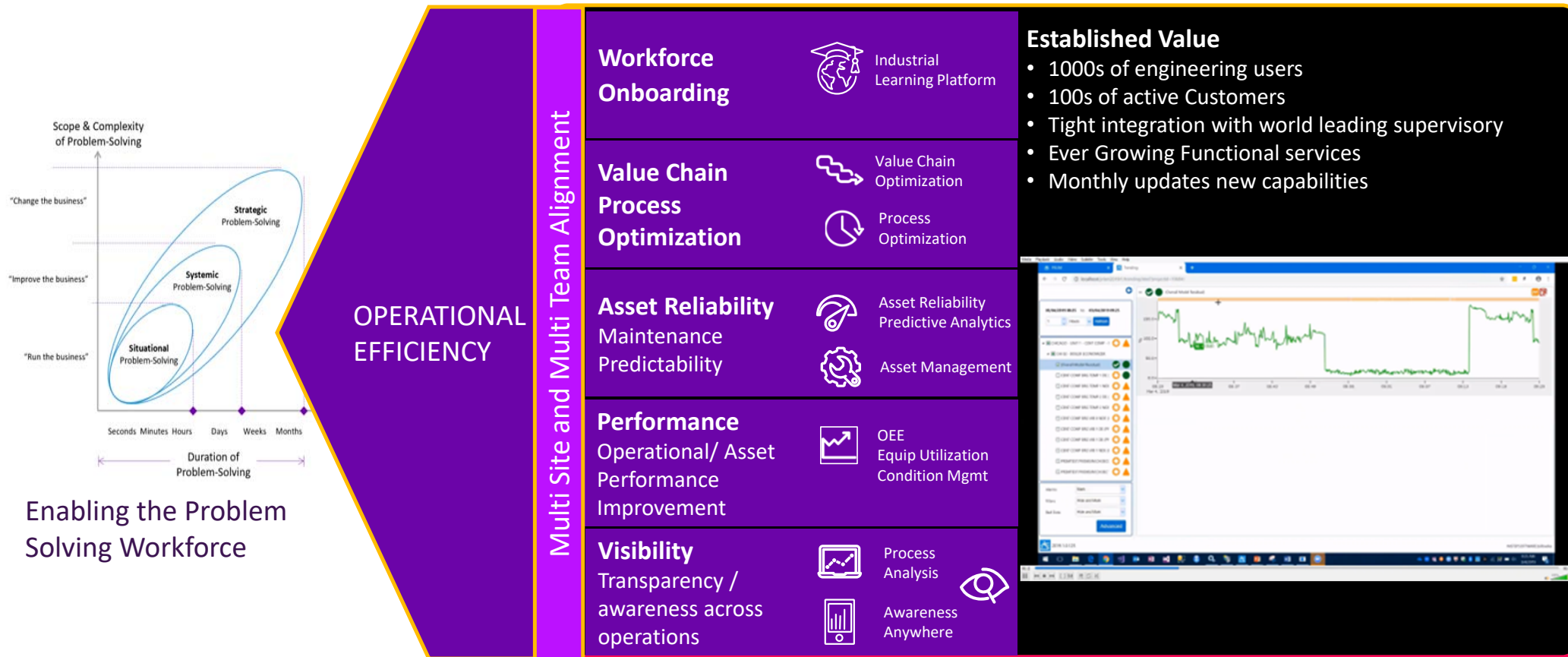
AVEVA Connect: Cloud Operational Efficiency Capabilities



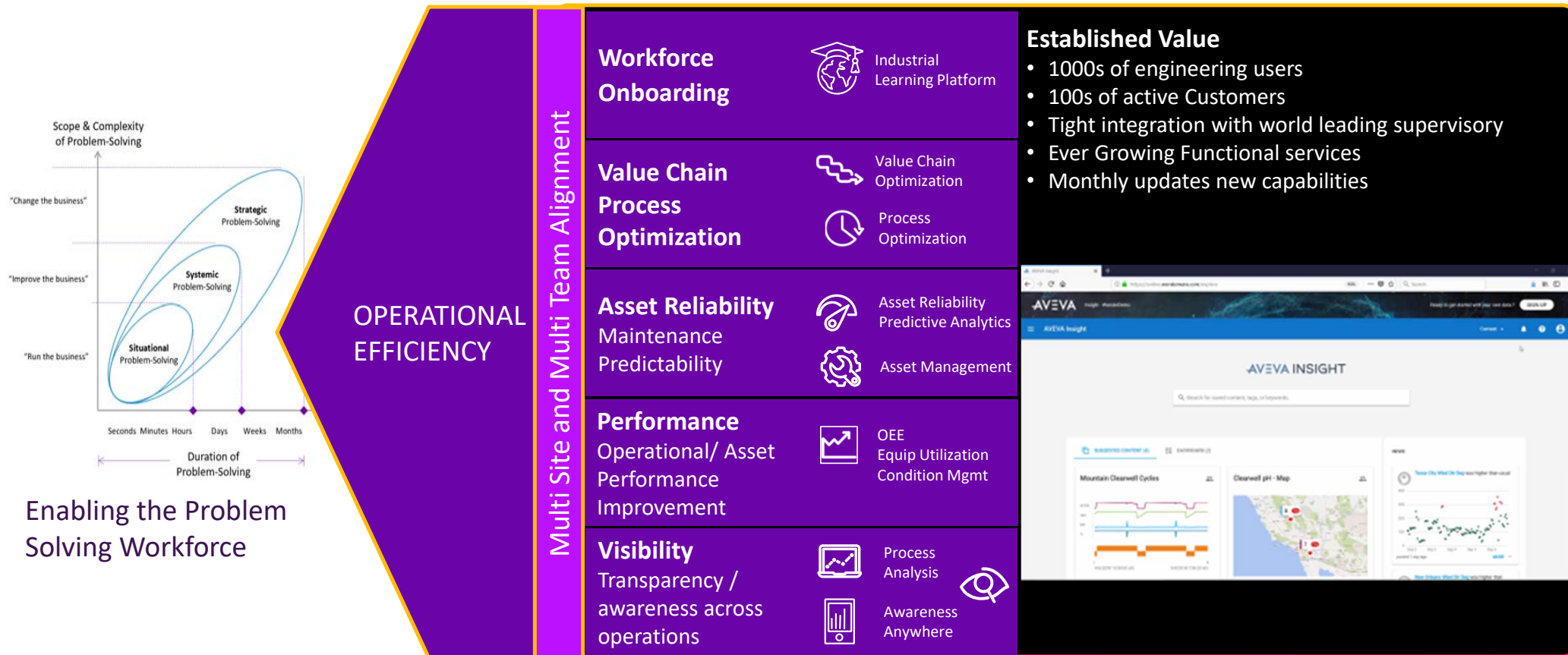
AVEVA Connect: Cloud Operational Efficiency Capabilities



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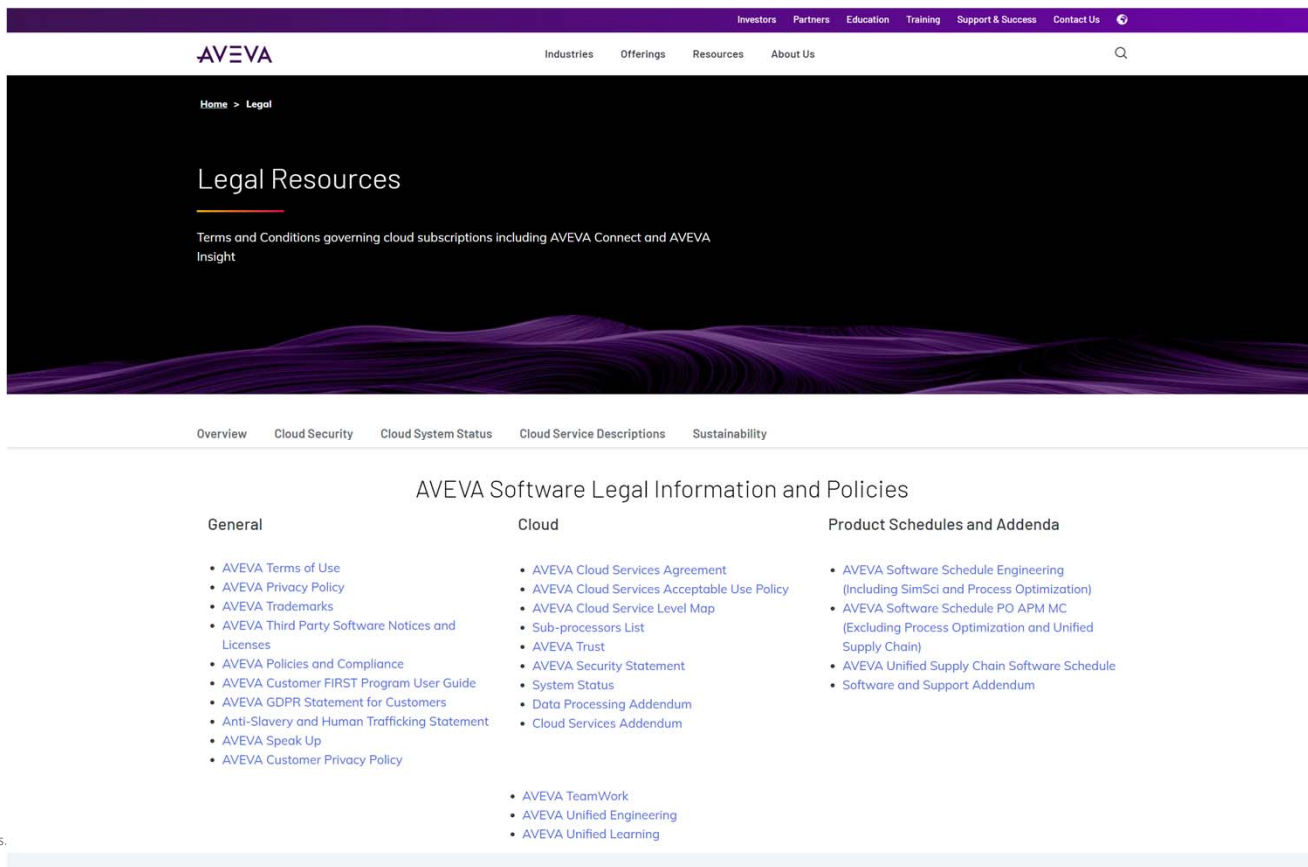


AVEVA Connect: Cloud Operational Efficiency Capabilities



Ensuring your digital security

<https://trust.aveva.com>



The screenshot shows the AVEVA Legal Resources page. The header is purple with the AVEVA logo and navigation links: Investors, Partners, Education, Training, Support & Success, and Contact Us. Below the header, the breadcrumb trail reads "Home > Legal". The main heading is "Legal Resources", followed by a sub-heading: "Terms and Conditions governing cloud subscriptions including AVEVA Connect and AVEVA Insight". A decorative wavy purple line is at the bottom of the header section. Below this, a horizontal menu contains: Overview, Cloud Security, Cloud System Status, Cloud Service Descriptions, and Sustainability. The main content area is titled "AVEVA Software Legal Information and Policies" and is divided into three columns: General, Cloud, and Product Schedules and Addenda. Each column contains a list of links to various legal documents and policies.

General

- [AVEVA Terms of Use](#)
- [AVEVA Privacy Policy](#)
- [AVEVA Trademarks](#)
- [AVEVA Third Party Software Notices and Licenses](#)
- [AVEVA Policies and Compliance](#)
- [AVEVA Customer FIRST Program User Guide](#)
- [AVEVA GDPR Statement for Customers](#)
- [Anti-Slavery and Human Trafficking Statement](#)
- [AVEVA Speak Up](#)
- [AVEVA Customer Privacy Policy](#)

Cloud

- [AVEVA Cloud Services Agreement](#)
- [AVEVA Cloud Services Acceptable Use Policy](#)
- [AVEVA Cloud Service Level Map](#)
- [Sub-processors List](#)
- [AVEVA Trust](#)
- [AVEVA Security Statement](#)
- [System Status](#)
- [Data Processing Addendum](#)
- [Cloud Services Addendum](#)

Product Schedules and Addenda

- [AVEVA Software Schedule Engineering \(Including SimSci and Process Optimization\)](#)
- [AVEVA Software Schedule PO APM MC \(Excluding Process Optimization and Unified Supply Chain\)](#)
- [AVEVA Unified Supply Chain Software Schedule](#)
- [Software and Support Addendum](#)

Additional Links:

- [AVEVA TeamWork](#)
- [AVEVA Unified Engineering](#)
- [AVEVA Unified Learning](#)

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Requester: Alex Giusti

Personalized

Is the experience right for me?

Interactive

Can I easily find what I need?

Visual

Is the context intuitive?

Guided

Does it prescribe what to do next?

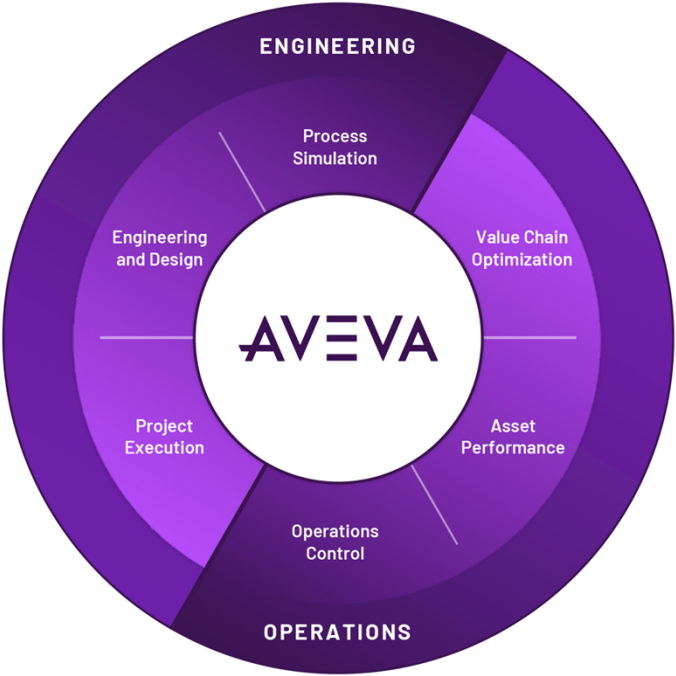
Actionable

Is it timely & trustworthy?

The Connected Worker: Empower Your Workforce to Become Agents of Change and Drive Sustainable Growth
Peter Richmond, Portfolio Director, Connected Worker, AVEVA



AVEVA's comprehensive software portfolio



AVEVA Flex

subscription program

Unlock flexible access to any mix of AVEVA software both on-premise and cloud.

AVEVA Connect

our common cloud platform

Transform faster, reduce IT costs, scale with flexibility and securely consume our portfolio.

Conceptual Design

Front End Engineering Design

Detailed Design

Procurement and Construction

Operator Training

Project Handover

Operations Control

Operations Visualization

Operations Information

Operations Execution

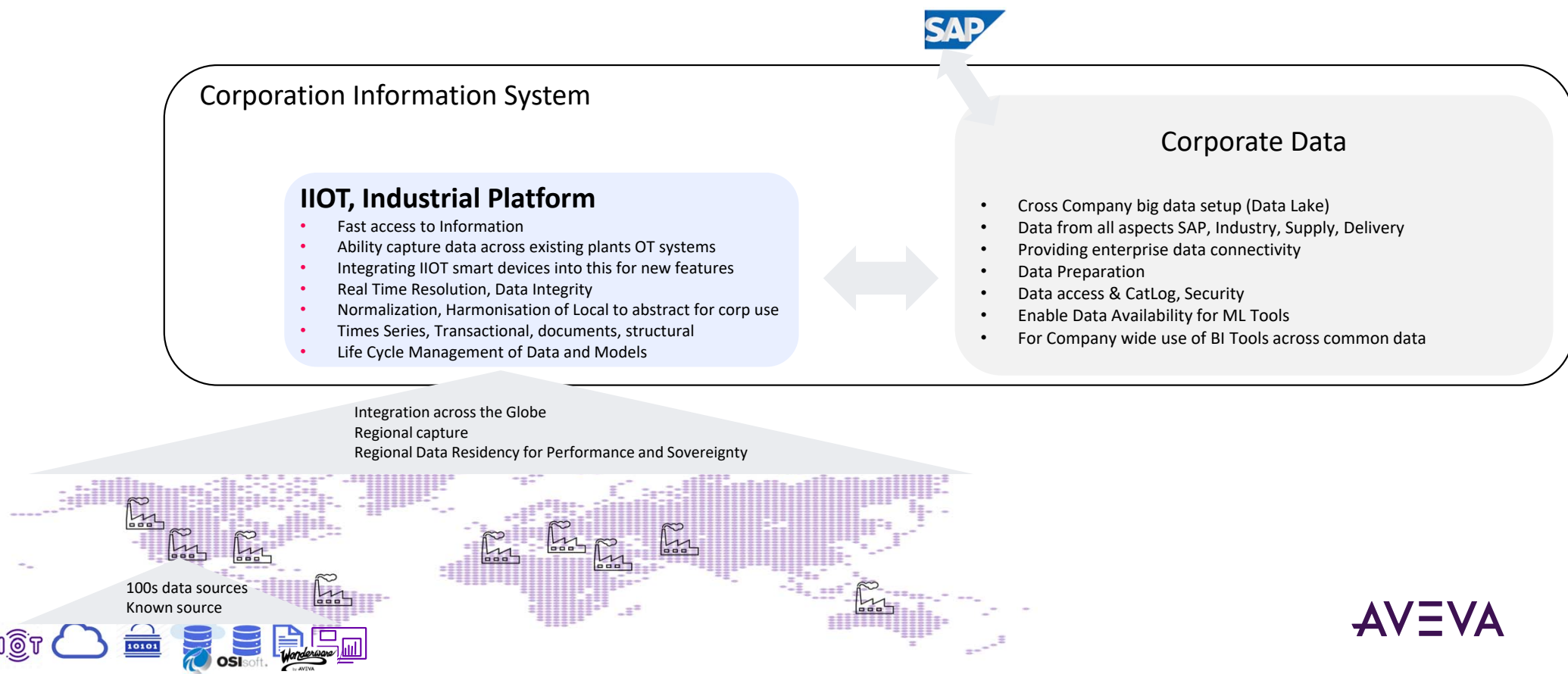
Supply Chain

Production Optimization

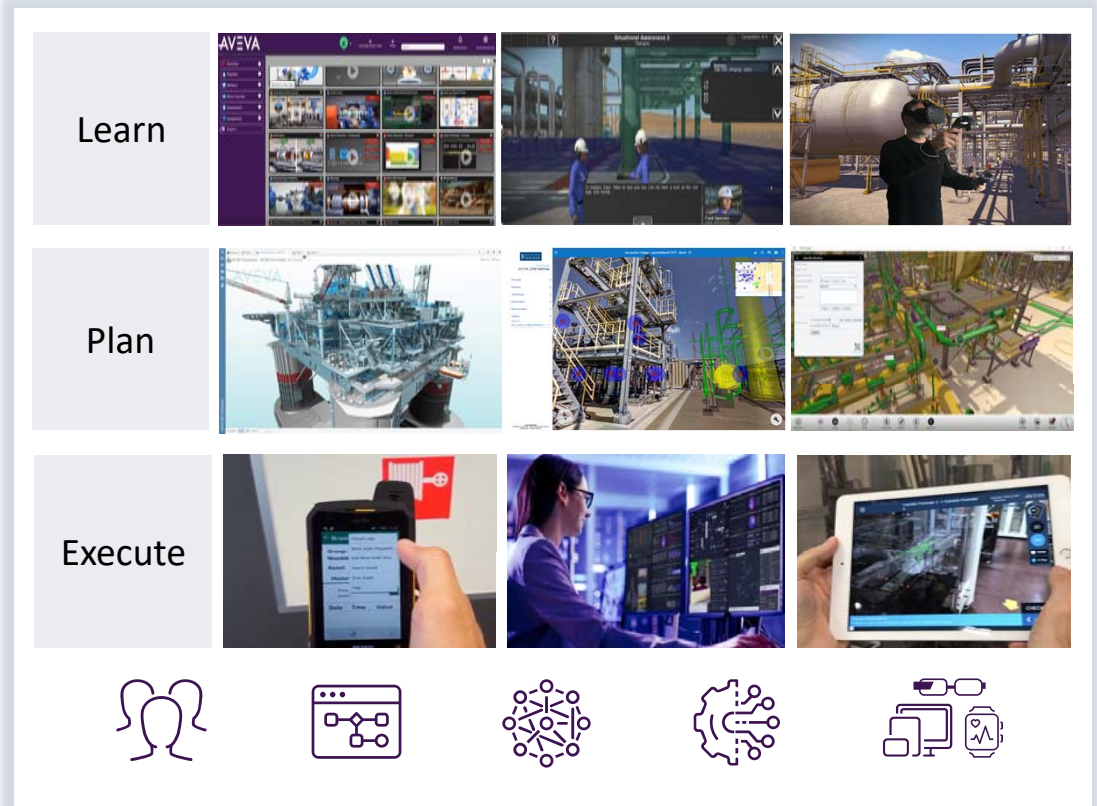
Asset Strategy

Asset Performance

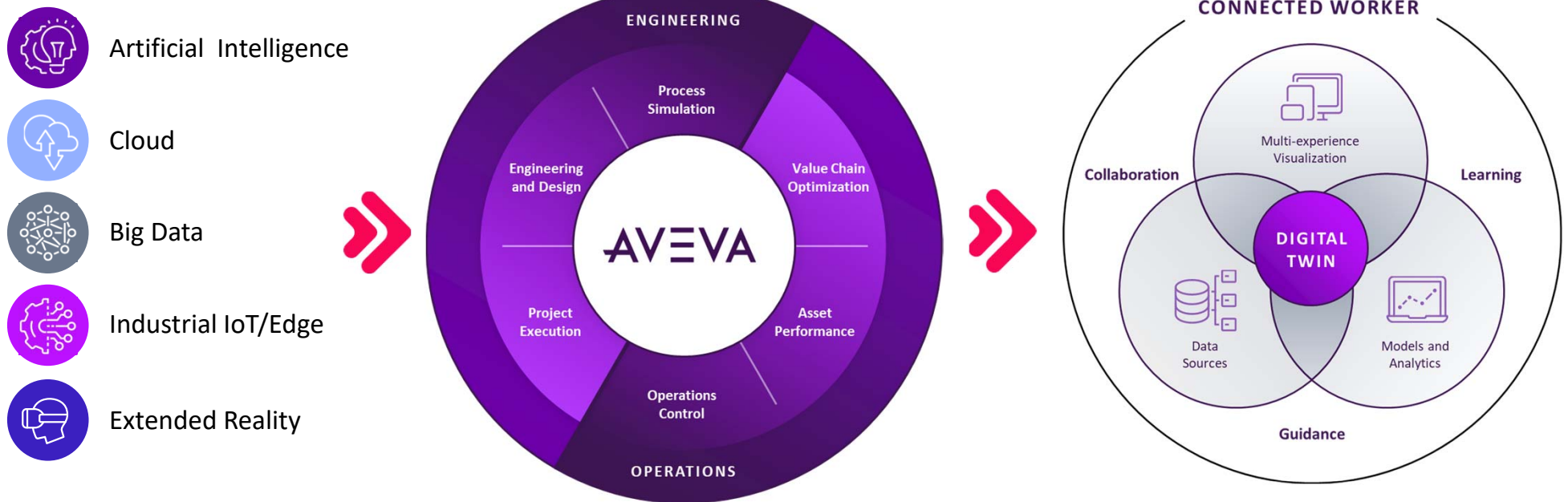
Common Pattern for Reality of Information for Digital Transformation



Empowering the Connected Worker



A common digital thread from engineering to operations



Proven Business Outcomes

Collaborative

Reduced unplanned downtime
Improved **equipment effectiveness**
Improved **productivity**

Leggett & Platt

“The speed at which we can implement has drastically been minimized, going from weeks to only hours. This capability allows us the flexibility to provide more actionable information about our process and assets to decision-makers in our business.”

Fast

Reduced time to decision from **2 days** → **2 hours**
Improved calculation speed from **7 hours** → **3 minutes**



“If you could do in minutes what previously took a day, what would you do? AVEVA’s technology in the cloud is creating time, and BP’s responsibility is what to do with the time saved. This is revolutionary to our business.”

Flexible

Flexibility to start small and upscale
Moved from manual processes to **fully digital**
“We were seeing data within hours”

c · care

“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.”

Secure

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.”

AVEVA

Proven Business Outcomes

Collaborative

Reduction in time spent driving to remote assets
Increased visibility of system performance
50% reduction in energy costs



"With information at my fingertips, my farm is more productive, water and energy costs are lower and crop yields higher. I'd struggle now to live without it."

Fast

Train up to **2,000** operators per year
Faster commissioning of simulator models
IT Maintenance **savings**
No hardware footprint



"I strongly believe using OTS is really improving our operational excellence. It's increasing the competency of the people and reducing the risk of having accidents. And it seems that AVEVA is the only one who has the answer for this requirement."

Flexible

Streamline materials management
Process **improvements**
Increased efficiency,
ease-of-use



"The advances in technology and digital disruption have provided us with an opportunity to rethink our approach to materials management. We needed to deliver an efficient, cloud-based solution customized for the nuances of our market"

Secure

Closed-loop remote monitoring and optimization
Transparency of reporting on contractual obligations



"AVEVA Insight has enabled Ballard to rapidly and securely implement a cloud-based approach to monitoring our fuel cell products in operation globally."

AVEVA

Proven Business Outcomes

Collaborative

Digital escalation for faster decision making
44% less downtime
40% increase in on-time delivery
21% energy savings



“The result now is quicker insight to enable faster decision making. We can stop the line through digital escalation if there is a quality issue.”

Fast

Common digital thread across the business
Contextualize data to **drive asset reliability, enhance efficiency and reduce downtime**



“The Digital Twin is not just a data representation of an asset, it provides insight and knowledge that helps companies better understand the behavior of the process.”

Flexible

Flexibility to facilitate deployment at scale
User-friendly interface **eases workforce change**
Futureproof cloud-based solution



“AVEVA was quickly able to understand our business needs for the present and future.”

Secure

Increased efficiency and collaboration
Improved visibility of engineering data
20% improvement in IT agility



“By using data more proactively, we are able to boost operational performance and achieve our strategic objectives.”

AVEVA

Proven Business Outcomes

Collaborative

Enable team to predict equipment health, and drive optimizations
Plant reliability raised from 98% to 100%
9X ROI in 6-months



"AVEVA was the only company able to provide an end-to-end solution spanning engineering, operations, and maintenance."

Fast

50% less time to train end users
Increased margins 1 to 3 cents per barrel
Ability to **evaluate complex scenarios**



"AVEVA provides more than just software. Its unique approach enables better business processes through a unified easy-to-use decision-making tool that brings better visibility across the overall supply chain, which leads to greater productivity."

Flexible

Decision **time is cut**
Drive operational efficiency
Improve collaboration
Help achieve carbon neutrality targets



"Production can be optimized automatically, and model building, decision-support and production planning all takes in one digital platform shared between over 80 sites, increasing efficiency."

Secure

Safe and efficient management of plants
Minimal impact on operational activity
Effective, continuous learning program



"By using a cloud-based solution, we can provide training at their site so they're getting more time at the control board and less time behind the windshield."

AVEVA

Proven Business Outcomes (OSIsoft Cloud Services)

Collaborative

Gained visibility into manufacturing lines
Self-service visualization to identify issues
Enabled **shared data access** for stakeholders



“We at Kilbourn had the capability of getting quickly up to speed with cloud technology and we were able to gain increased visibility of our data.”

Fast

Up and running in hours, not weeks or months
Eliminated unplanned downtime
Improved maintenance spend for clients



“Data share was possible to do in one day with our customer. We can do the commissioning, tuning and management of devices remotely.”

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.**”

Secure

Trusted, verifiable data to ensure safe air quality
Remote monitoring, analysis and data sharing service
New services for clients



“We realized that OSIsoft Cloud Services had the ability to store an infinite amount of data, which could be transmitted to their location and back to the customer to show empirical proof that their indoor air quality was where it needed to be.”

AVEVA