

AVEVA PI WORLD

Increase asset reliability and safety with world class asset performance

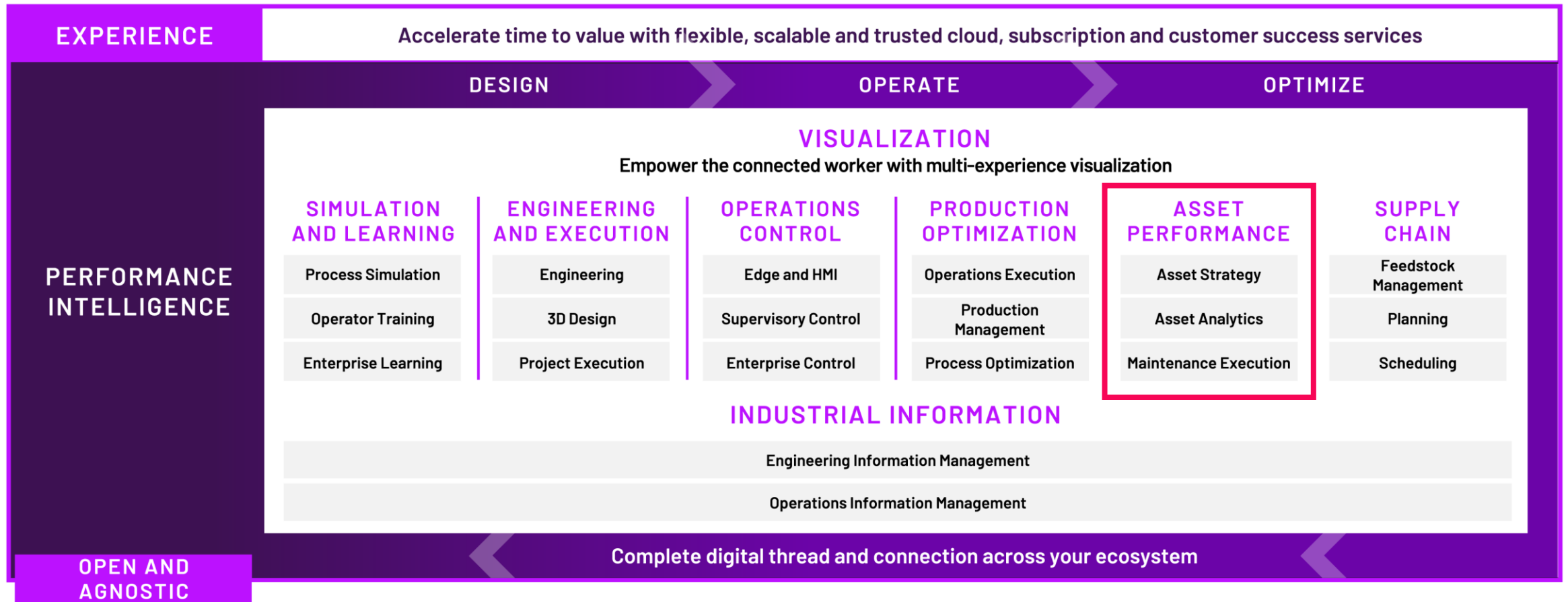
Transform OPEX savings into business acceleration

Presented By: Kim Custeau

AVEVA

Unlocking Performance Intelligence

Reduce risk and maximize value across the asset lifecycle with asset performance solution



Industry Challenges

\$200 billion lost in annual revenue across the Energy industry due to operational inefficiency

Asset reliability & performance optimization

82% of asset failures are random



The ability to predict future asset issues or failures is crucial in ensuring reliability and optimal performance.

Unscheduled Downtime Avoidance

\$260k – average cost of industrial asset downtime



Organizations must go beyond calendar and usage-based maintenance to reduce or eliminate downtime

Maintenance Optimization & Cost Reduction

70%+ operators are unaware of when to replace, upgrade or maintain assets



Over and under maintenance of assets greatly affects profitability. It also has a negative impact on sustainability

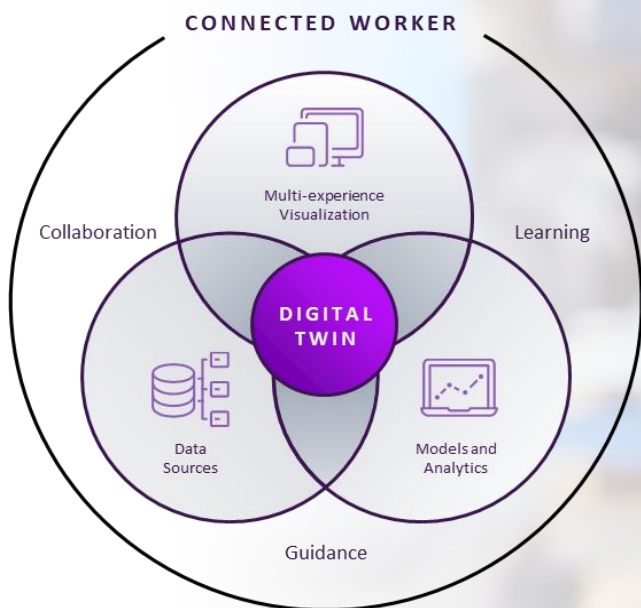
Safety Risk Management

Failure to address **major accident hazards** leads to litigation, loss of profits and reputational damage



Organizations need robust processes for the planning, risk assessment, authorization and safe execution of frontline work

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Connected Worker

Human first approach to digital transformation to **empower** the worker to become an **agent of change**

Give me **access to information, knowledge, and insights** and **I will thrive**

Connect people, processes and assets for proven outcomes

10%-20% overall OPEX reduction; **25%** reduction in downtime; **30%** maintenance cost savings

Connect the power of information and artificial intelligence with human insight to optimize asset performance

Asset reliability & performance optimization

\$400k - \$112m in avoided asset failure costs

Predictive asset monitoring
Case collaboration & management
Fault diagnostics
Prescriptive analytics

+

Reduce unscheduled downtime

\$1m - \$65m+ in avoided asset failure costs

\$260k - \$34.5m saved through a single catch

+

Maintenance and operations cost reduction

\$17.5m saved on reactive maintenance repairs and unplanned downtime
Reduced insurance premiums.

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Saudi Aramco



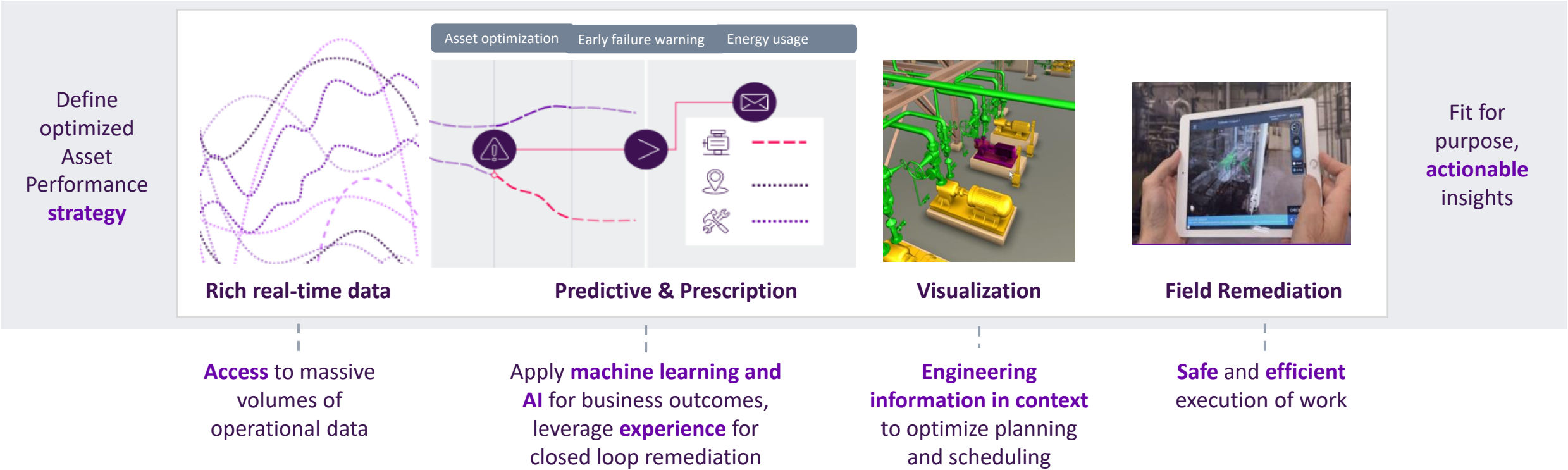
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Connect the power of information with artificial intelligence and human insight to optimize asset performance

Asset Strategy

Asset Analytics

Maintenance Execution





SCG Chemicals Thailand partners
with AVEVA to improve visibility,
collaboration and asset
performance

Asset Performance infused with AI
Connected Worker

40% cost savings in maintenance

100% operational efficiency target achieved

US\$9 million in efficiency savings



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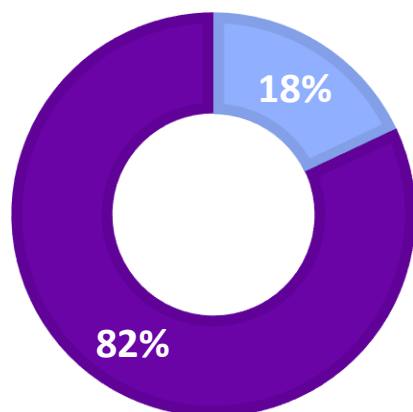
Asset Strategy

Balance risk, cost and performance to drive an optimized asset performance strategy

Connect Asset Strategy to Corporate Objectives

Failure Patterns

■ Age-related failure ■ Random failure

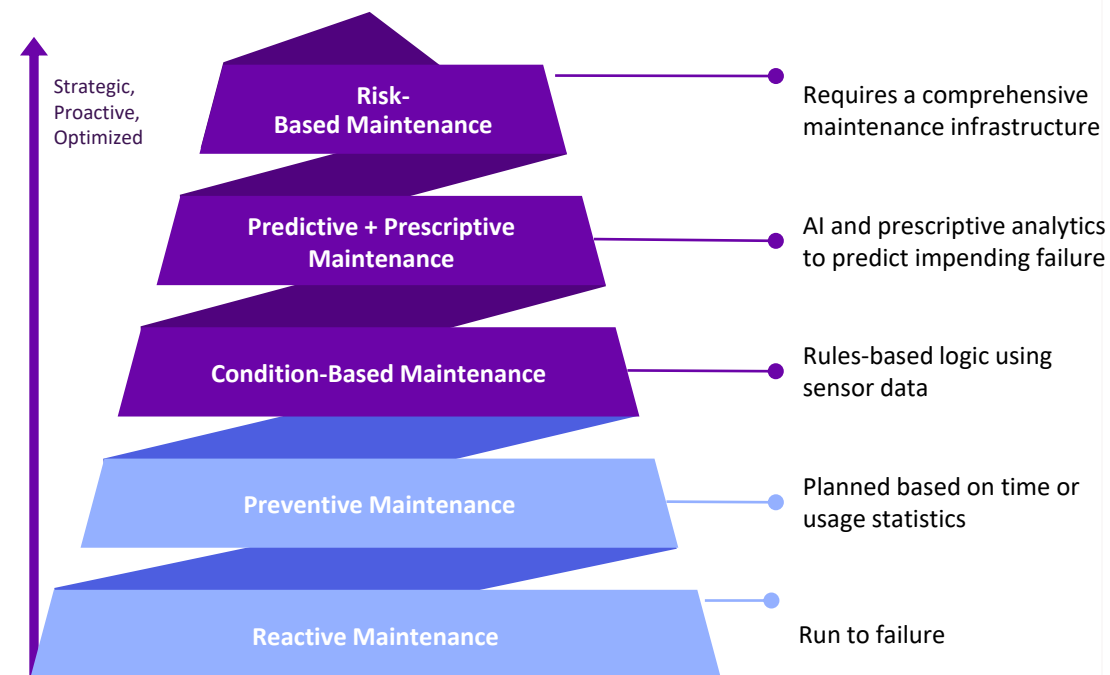


Reactive and Preventive Programs

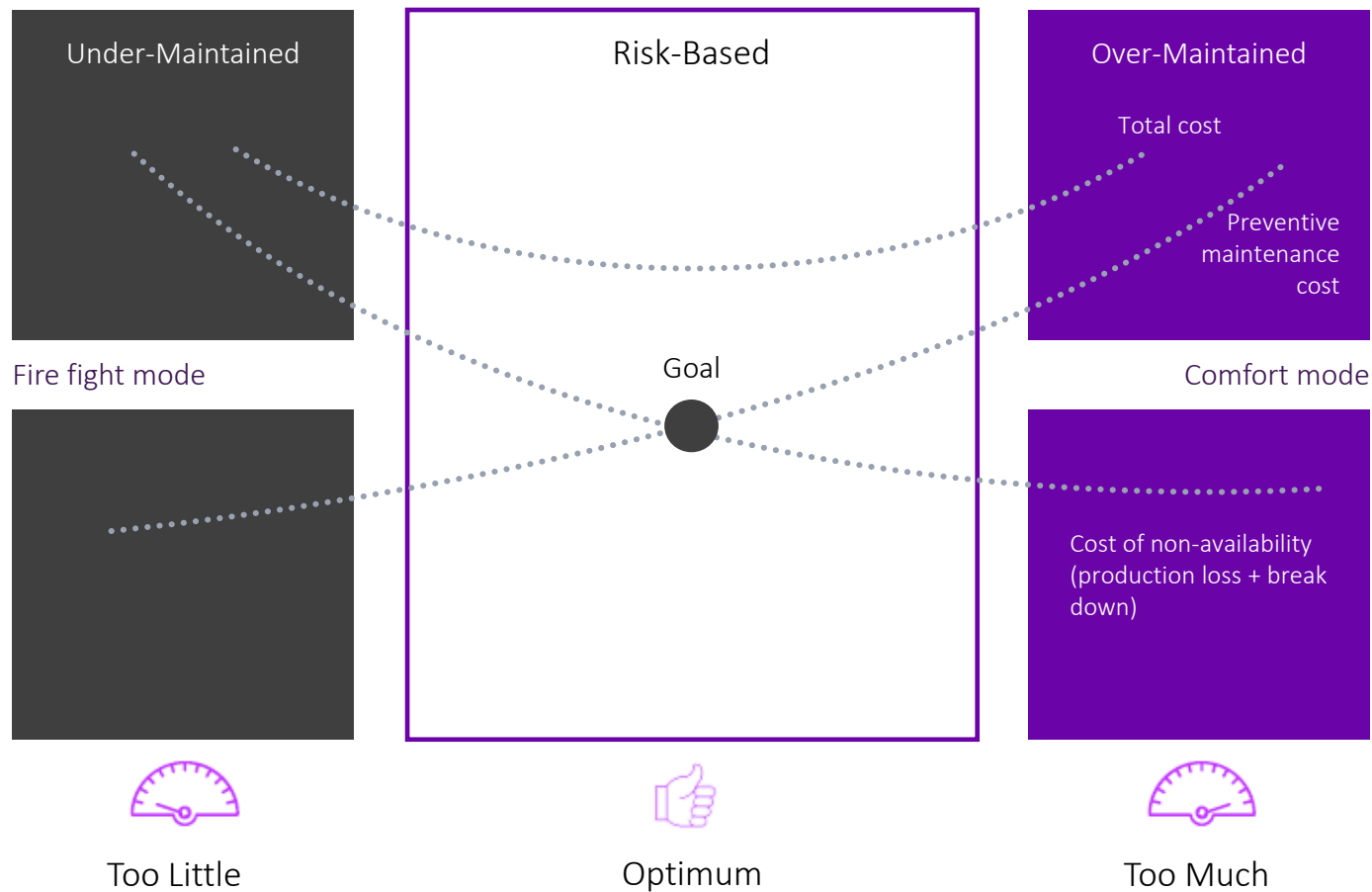
Predictive Technology for Early Warnings

ARC STUDIES SHOW ONLY 18% OF ASSET FAILURE IS AGE-RELATED. BASED ON THESE DATA, PREVENTIVE MAINTENANCE PROVIDES A BENEFIT FOR JUST 18 PERCENT OF ASSETS AND MONITORING FOR PREDICTIVE MAINTENANCE IS A RECOMMENDED OPTION FOR THE REST. WWW.ARCWEB.COM/LISTS/POSTS/POST.ASPX?ID=260

It's a Journey



Is your asset strategy optimized?



Reduce Downtime



Prevent Asset Failures



Reduce Maintenance Costs



Improve Safety



Extend Equipment Life



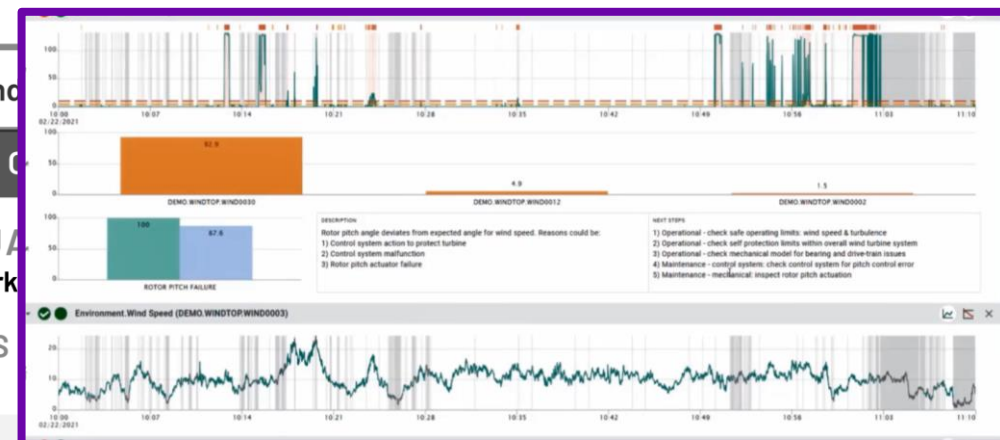
Optimize Asset Strategy



Asset Analytics

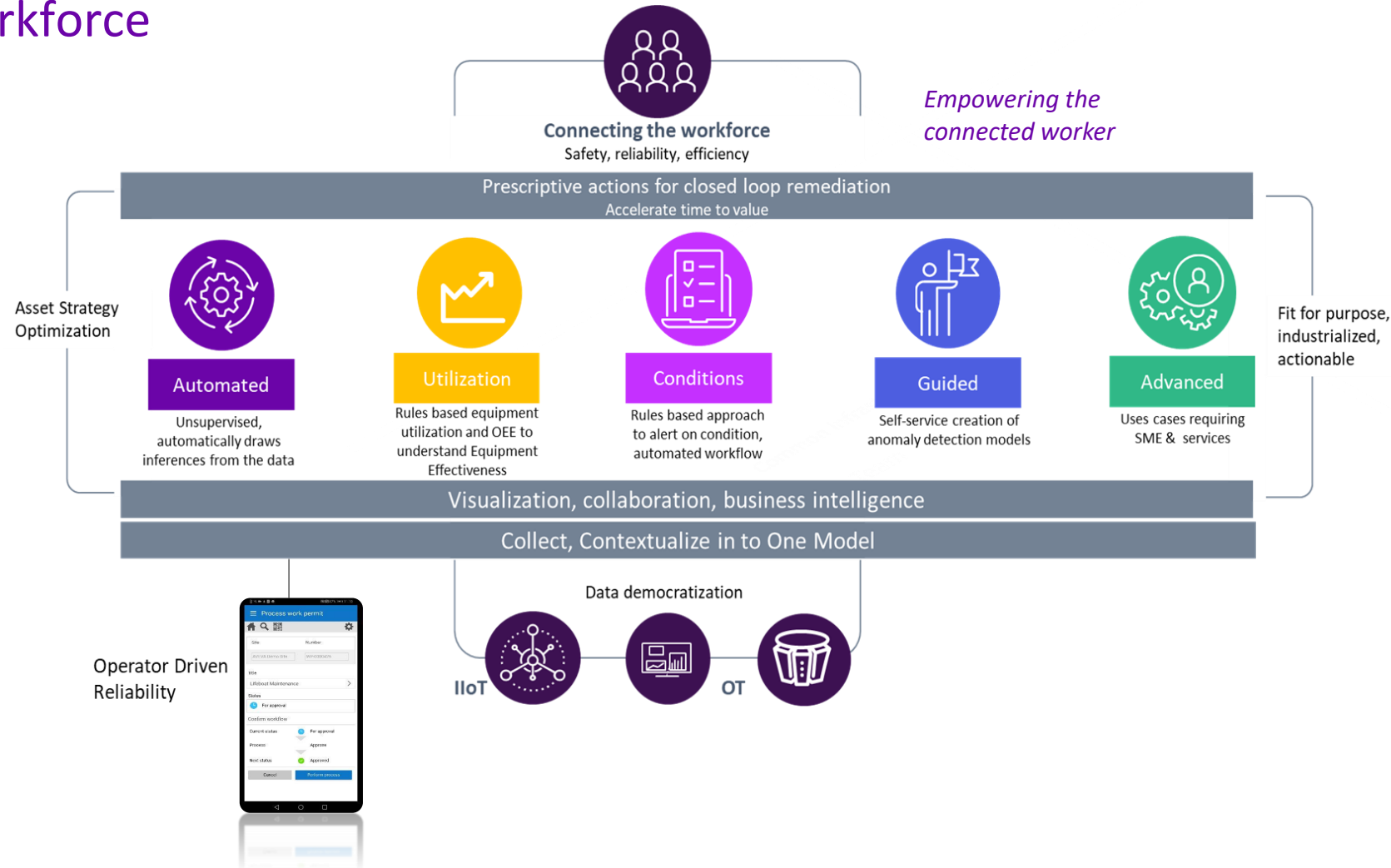
Detecting equipment failure to improve reliability and safety

Accelerating digital transformation of the industrial world with complementary product offerings



Empowering the connected worker

Increase longevity and performance of assets while ensuring safe, reliable environment for the workforce



Saudi Aramco (4IR) Digital Transformation Program

Integrated monitoring center supporting remote operations and decision making

Adding AVEVA Predictive Analytics for 10,000 assets

Installation completed remotely
securely & to time, during lockdown





Maintenance Execution

Improved efficiency and workforce safety



Connected Worker

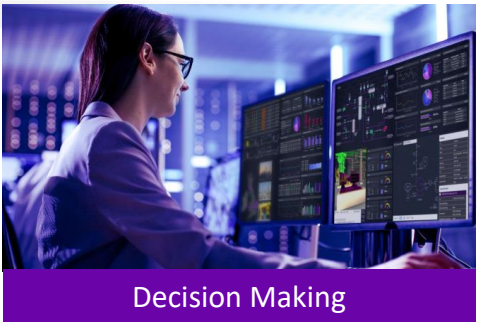
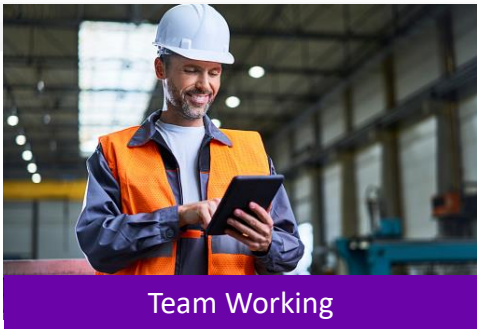
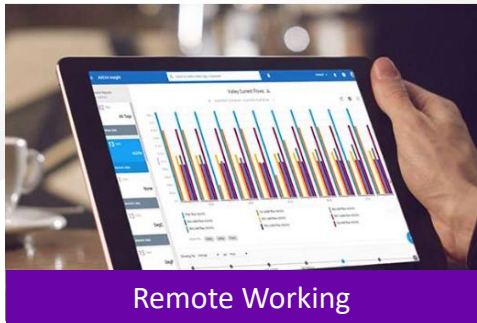
Access to information, self-service, that can enable faster more accurate decision making in the field

Workplace evolution

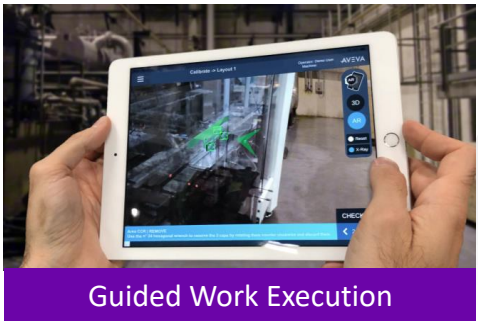


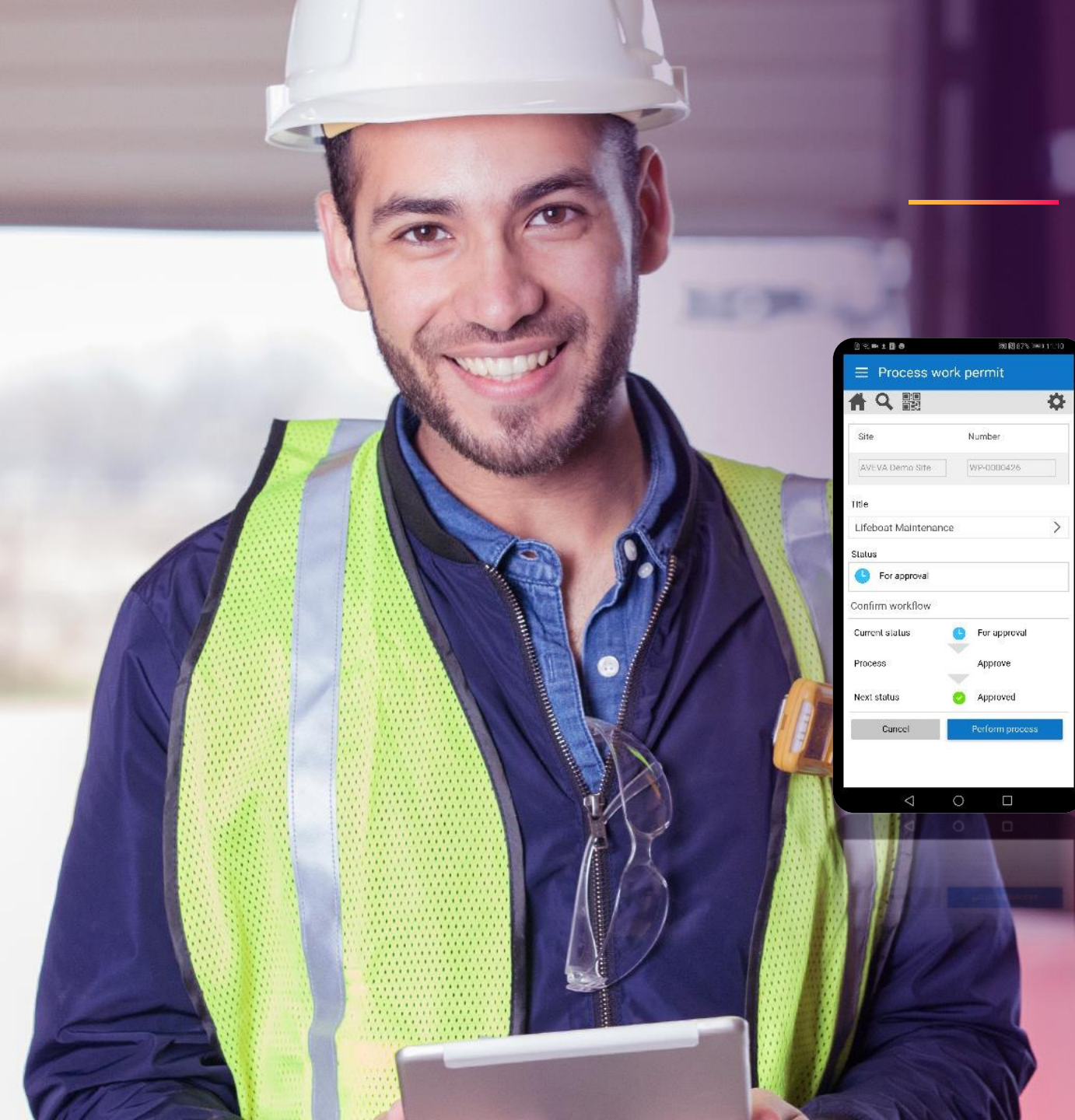
Workforce evolution

Empowering the workforce



Connected Worker





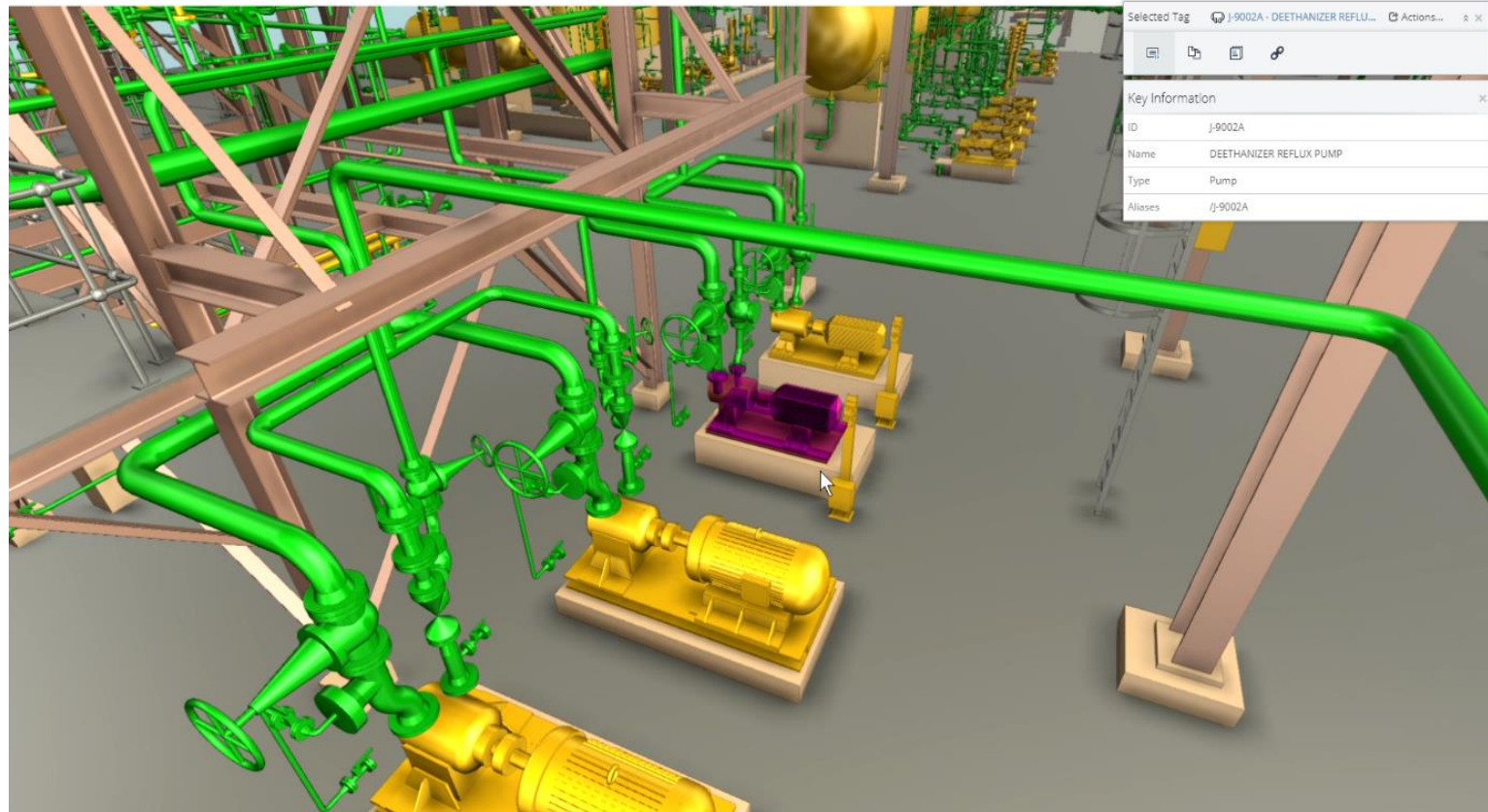
Safe and efficient execution of the right work

Access to trusted information across engineering, operations and maintenance

Respond to early identification of equipment issues while executing work tasks safely and consistently

Prescriptive guidance to support autonomous operations with augmented reality

Digital Twin

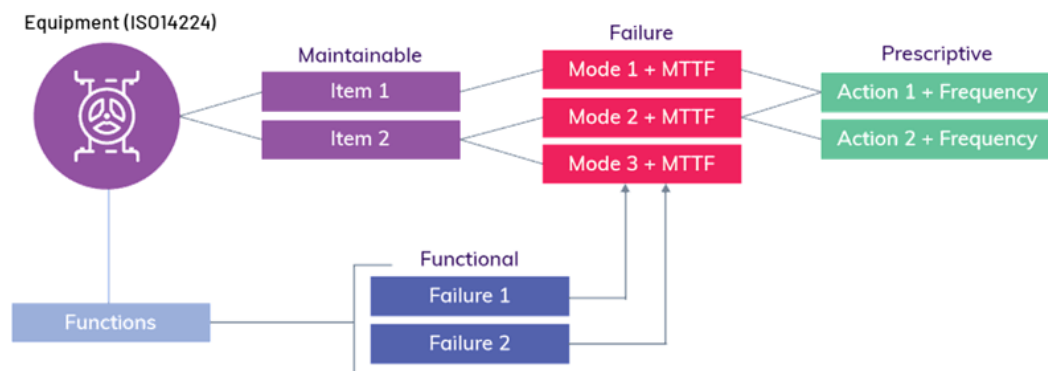


Manage risk, diagnose reliability and performance problems and optimize work planning and execution with visual APM

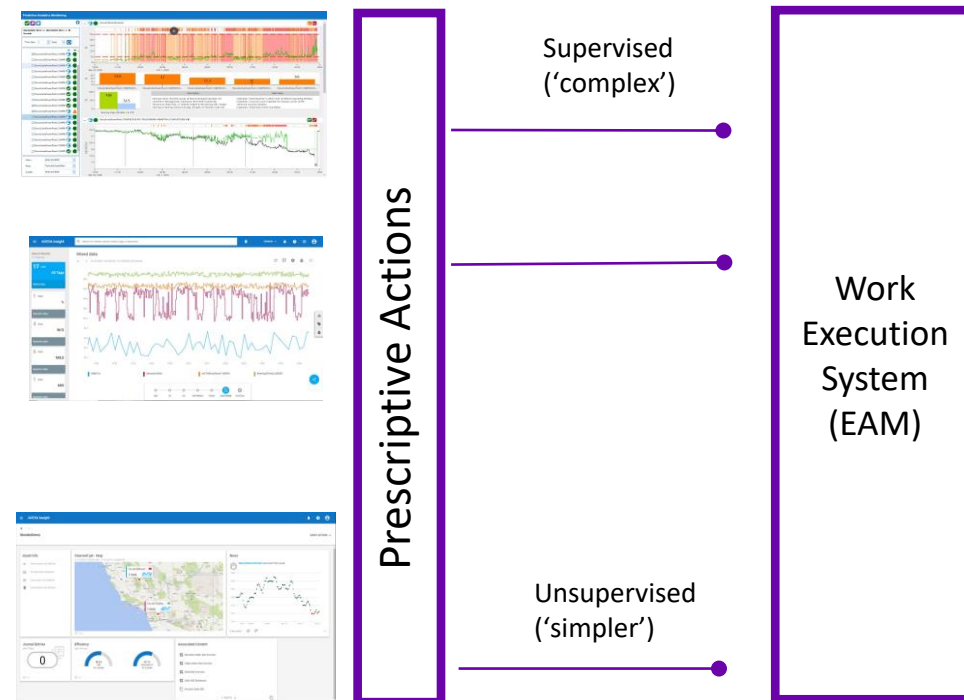
- Problem diagnosis
- Remote work planning
- Risk assessment
- Safe job analysis
- Isolation plan assessment

RCM-based equipment failure data and preventive maintenance content

Closed loop remediation, improves efficiency and safety of the workforce



- 1,000 components
- 1,500 failure causes with failure conditions
- 2,000 preventative tasks
- 5,000 prescriptive tasks
- 20 years of experience



Digital transformation with predictive analytics and augmented reality

BASF – Chemicals



Unplanned **downtime reduction** and
improved overall performance



Deployed at scale across
400+ plants, 1000+ users



Improved Reliability
Throughout the organization



BASF deployed a large Industry 4.0 initiative to cover their entire value chain with multiple work streams including predictive maintenance and augmented reality as well as a new mobility platform for consistent execution.



Industrial software
and intelligence that
inspire you to shape a
sustainable future

Thank you

