



AVEVA WORLD

ACCELERATE INDUSTRIAL INTELLIGENCE

AVEVAWORLD

Partner Session:

*Unlock the Future of Asset-Intensive Industries
with Digital Twin Solutions*

Jayasimha Chalasani,
VP, Engineering Services,
Tech Mahindra

Digital Twins: Why and Why Now



Concurrency of Forces has a Compounding Effect

Capital intensive projects,
tasked with continuous
upgrade

Aging Assets



Reliability & predictability
are continuously
challenged

Rising Disruptions



Sustainability as
Usual



Net-zero targets to
optimize consumption

Trapped Value



Data Data everywhere..not
a byte to think?

Drive is Felt Across the Value Chain



Motivating Adoption of Digital Twins



Owner-Operators

- ☐ Ensure return on capital
- ☐ Meet production targets



EPC Contractors

- ☐ Control costs
- ☐ Improve quality of information



Commissioning Teams

- ☐ Improve accuracy
- ☐ Shift-left validation

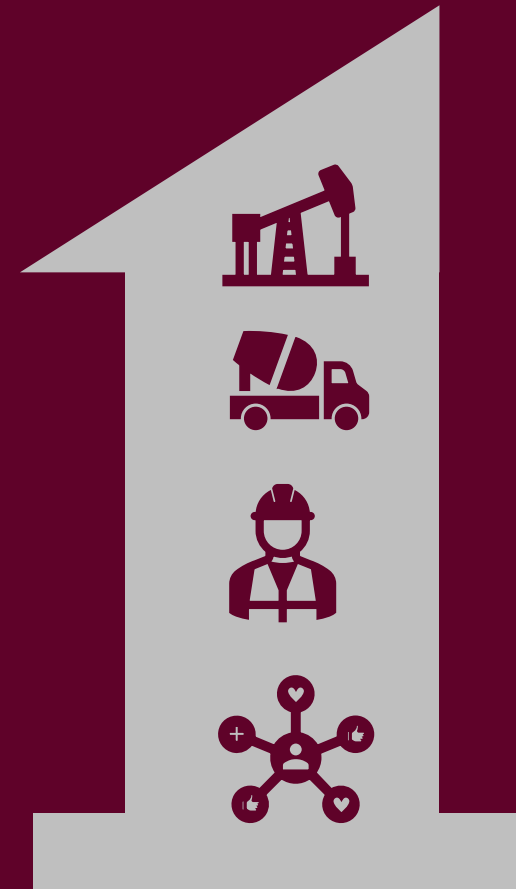


Tech Providers

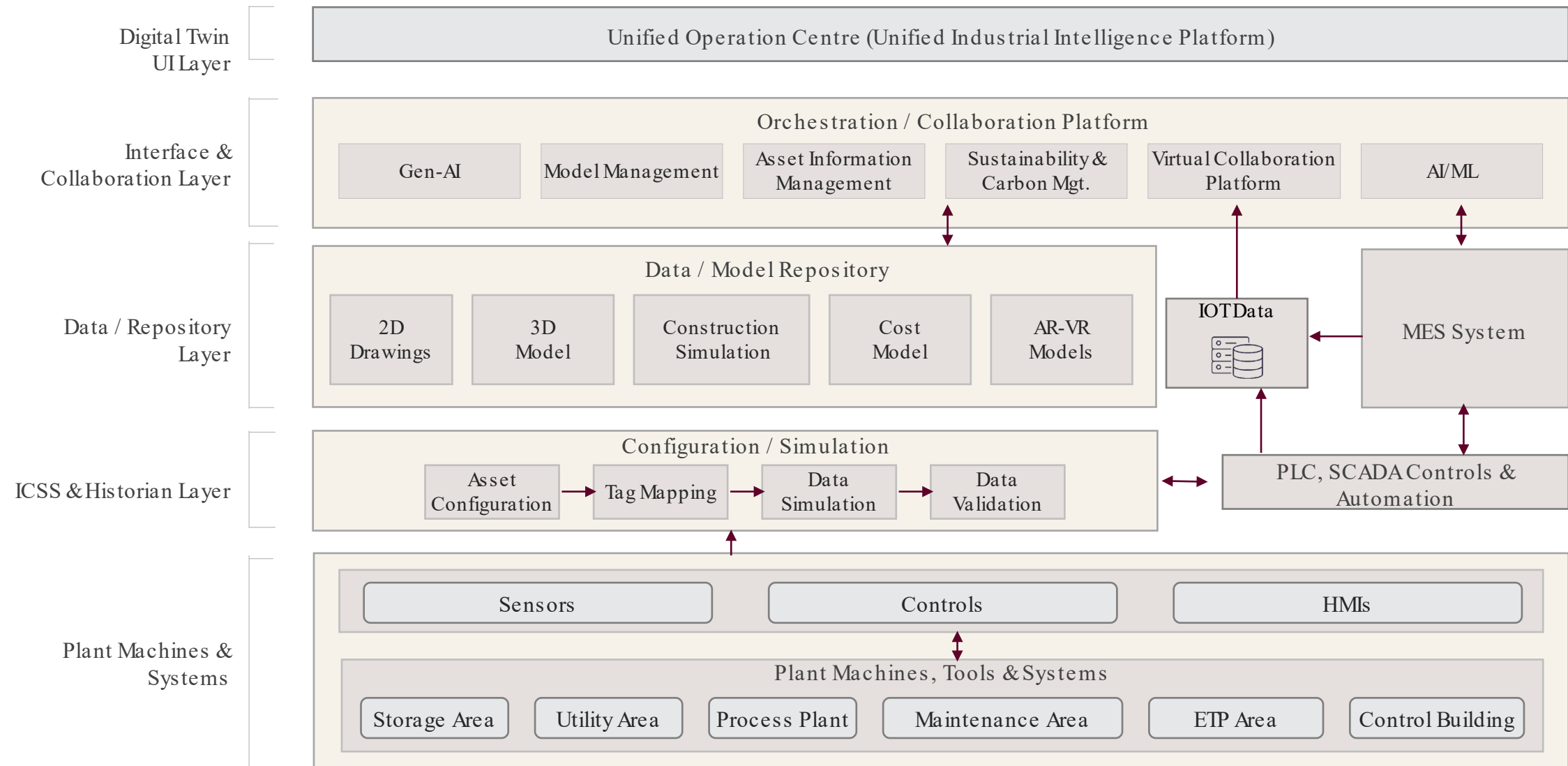
- ☐ Modernize Legacy
- ☐ Orchestrate for AI

What is the gap between intent and action?

Synchronization of capabilities that make the value chain move as



Reference Architecture



Delivering Seamlessness

Across the Lifecycle With Connected Digital Twins

Engineering Twin

Design



- ✓ Design Validation
- ✓ Virtual Design Review

Construction Twin

Build



- ✓ Construction Planning
- ✓ Virtual Commissioning
- ✓ 3D Dimensional Control for Quality

Ops & Maintenance Twin

Operate



- ✓ Predictive Analysis
- ✓ Performance Optimization
- ✓ Operator Training & Simulation
- ✓ Sustainability (Energy Management, HSE, etc)

Real World Success Stories



Global EPC Contractor in West Asia



- Digital Twins across the lifecycle enabled unified asset view and predictive analytics
- Integration across 10+ systems for data flow and cybersecurity
- Reduce decision time and minimize downtime AR/VR training improved safety awareness and cuts onboarding time by **30%**
- Maintenance budget optimization by **~5-10%** and Carbon footprint reduction by **~10-15%**

Leading Pharma Company in Europe



- Design & development of Digital Twin Solution for Liposome Process to improve quality, throughput
- ML models on on-prem Edge Server to detect, forecast & predict process quality trends & drifts
- Reduction in Batch Rejections **> 50%**
- **85-90%** yield Improvement via early detection of process deviations and avoiding batch rejections



| What determines the success of Digital Twin programs?

*Practical insights from the
ground*

Success Factors to Realize Value



- 1 Right Business case**
Clear 'Why' and measurable 'What'
- 2 Robust Data Foundation**
>40% of cost, ensure data quality for reliable prediction
- 3 Start Simple and Small**
Avoid complexity with too many layers of capabilities & models
- 4 Phased & Continuous Approach**
Demonstrate value with high value asset/process with better data, prove and then expand
- 5 Bridge IT-OT Carefully**
Appropriate controls to ensure data flow while maintaining safety and security
- 6 Manage the Human Side**
Build trust in process, data & models with training & change management

Thank you

