



Mining, Metals & Materials: Shaping Your Journey to Operational Intelligence

Presented by **Lance Fountaine**

Company Visions

The OSIsoft Vision

We believe People with Data can Transform their world

Typical Mining, Metals and Materials Vision

Commodity Production: Low Cost Producer

Sustainability: Eliminate / Minimize Risk

Value-Add Production: Products that Differentiate

An Operational Intelligence Strategy: The Marriage of our Visions

What Challenges / Opportunities Exist within Mining, Metals and Materials?

Challenge – Market Conditions

- Commodity Market Prices
- New or Improved Operations / Known Technology Competition
- New, Competitive Manufacturing Technologies

Challenge – Cost Headwinds

- Energy Costs
- Raw Materials Costs
- Labor Costs
- Logistics / Transportation Costs
- Aging Assets / Sustaining Capital Requirements

Other Challenges

- Geology – Decreasing Yields on Known Mine Reserves
- Environmental Regulations / Reporting Requirements
- Slow Global Economic Recovery

Opportunities

- Commodity Market Growth in Developing Countries
- Market Pull for New Materials / Alloys (Strength, Weight)
- Sustainable Materials

What If Your Company had the Ability to Leverage Its Current Data Assets to...

Improve Enterprise Visibility and Management (Operating System)

- Establish and Automatically Report Standard KPIs to Measure Performance
- Support Operations through Global and Regional CoEs (Centers of Excellence) or Remote Operation Centers
- Drive Real-time Action in Support of Operational Excellence
- Rapidly Identify and Leverage Best Practices
- Increase Employee Engagement with Continuous Improvement Innovation

Improve Awareness and Forecasted Impact of Uncontrollable Factors

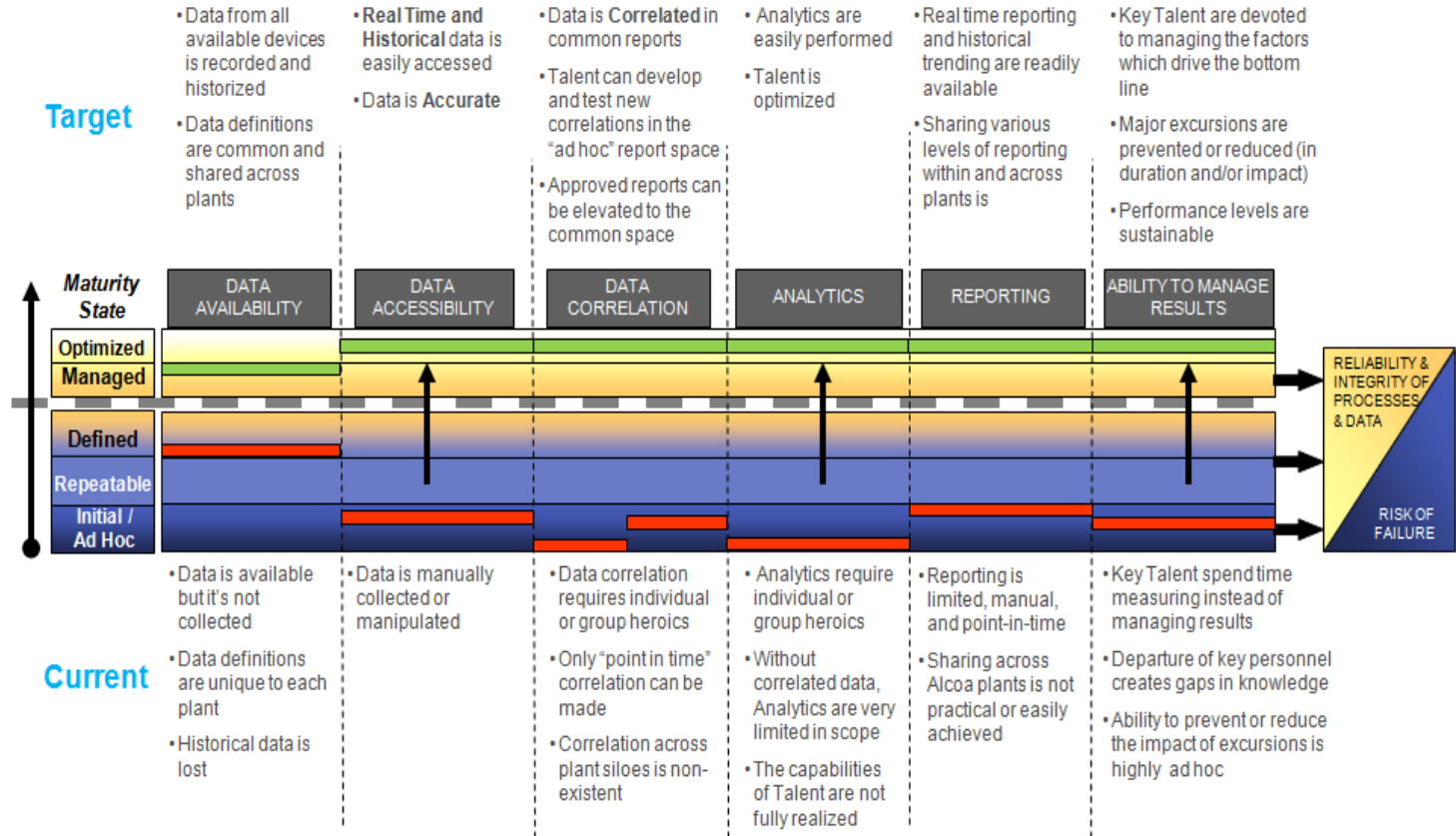
- Rising Energy Rates
- Rising Raw Material Costs, Reduced Raw Material Quality
- Rising Water Rates
- Rising Labor Rates
- Cost of Environmental Regulation / Mandates

More Directly Impact Controllable Costs / Performance

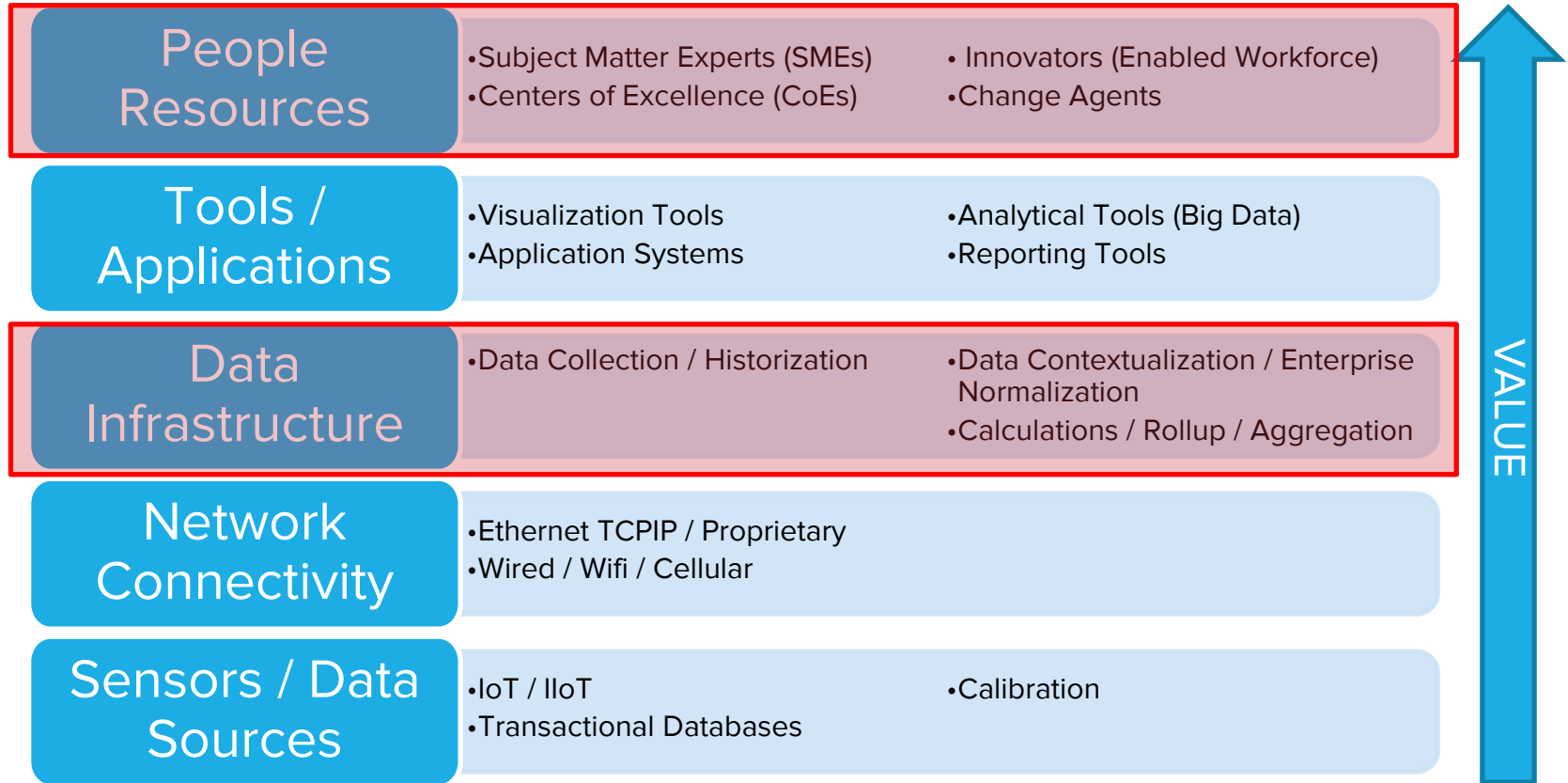
- Continuously Improve **Process Productivity / OEE**
- Better Control **Product Quality** / Improve **Genealogy Tracking**
- Extend **Life of Critical Assets** / **Reduce Maintenance Costs**
- Reduce **Energy / Raw Material / Natural Resource Consumption**
- Continuously Improved **Environmental Performance** to Meet **Regulatory Compliance and Reporting** Requirements

Why the Need to Re-Evaluate Your Information Platform?

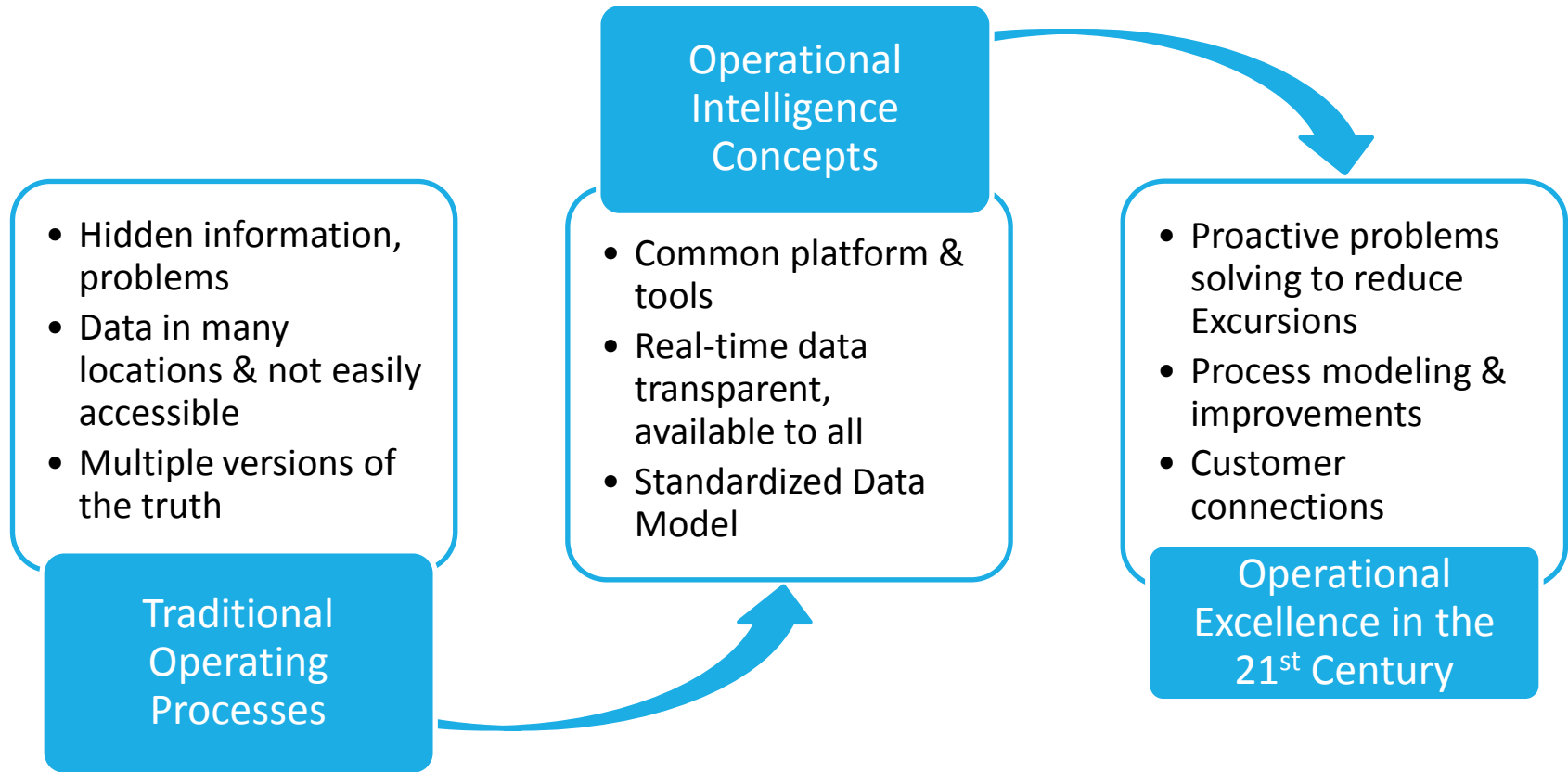
The Data Capability and Maturity Model



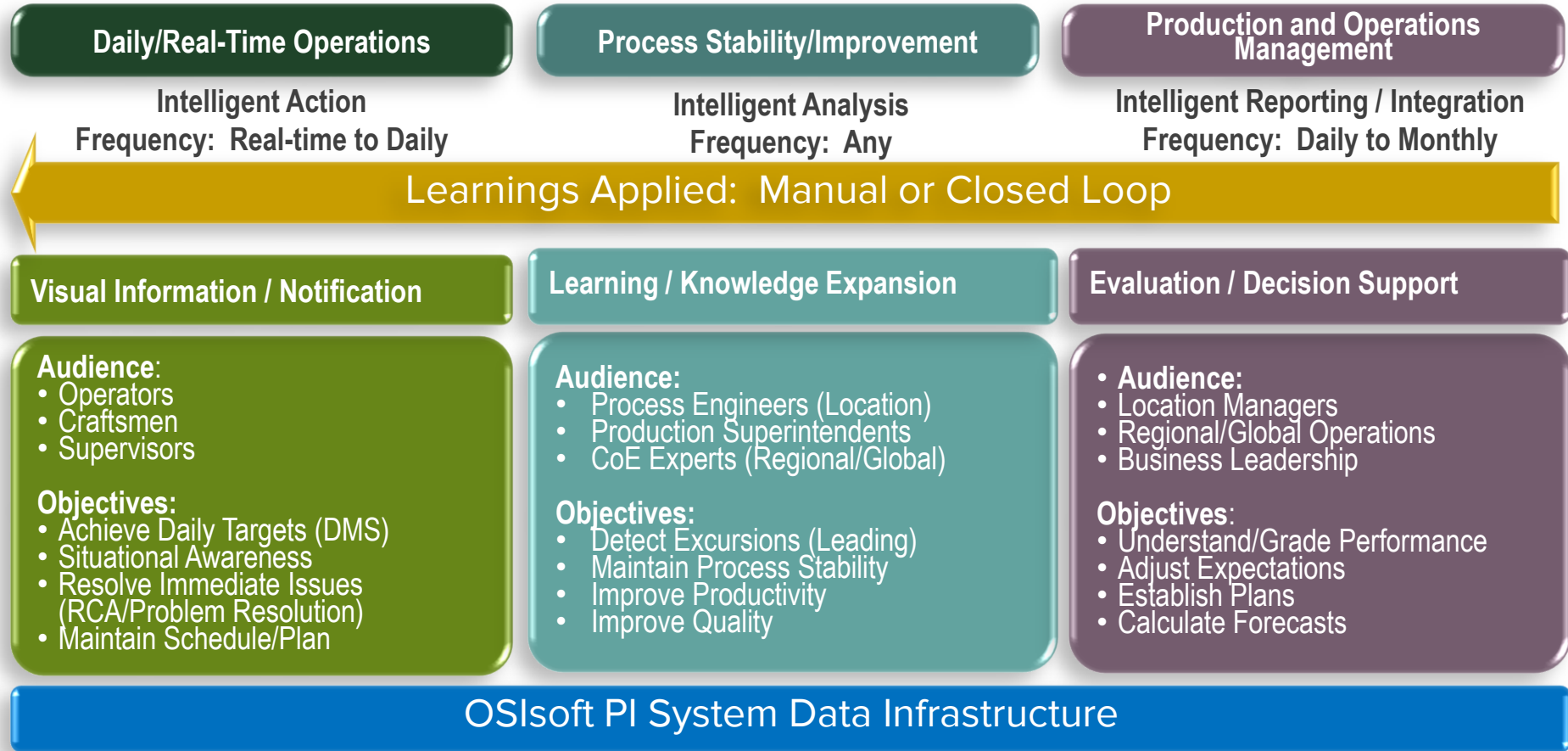
Data to Value: Recognizing the Critical Contributors



Information and the Operational Intelligence Concept



How Does Operational Intelligence Drive Results?



21st Century Operational Excellence: Leveraging Information as a Key Enabler

Common Operations Programs

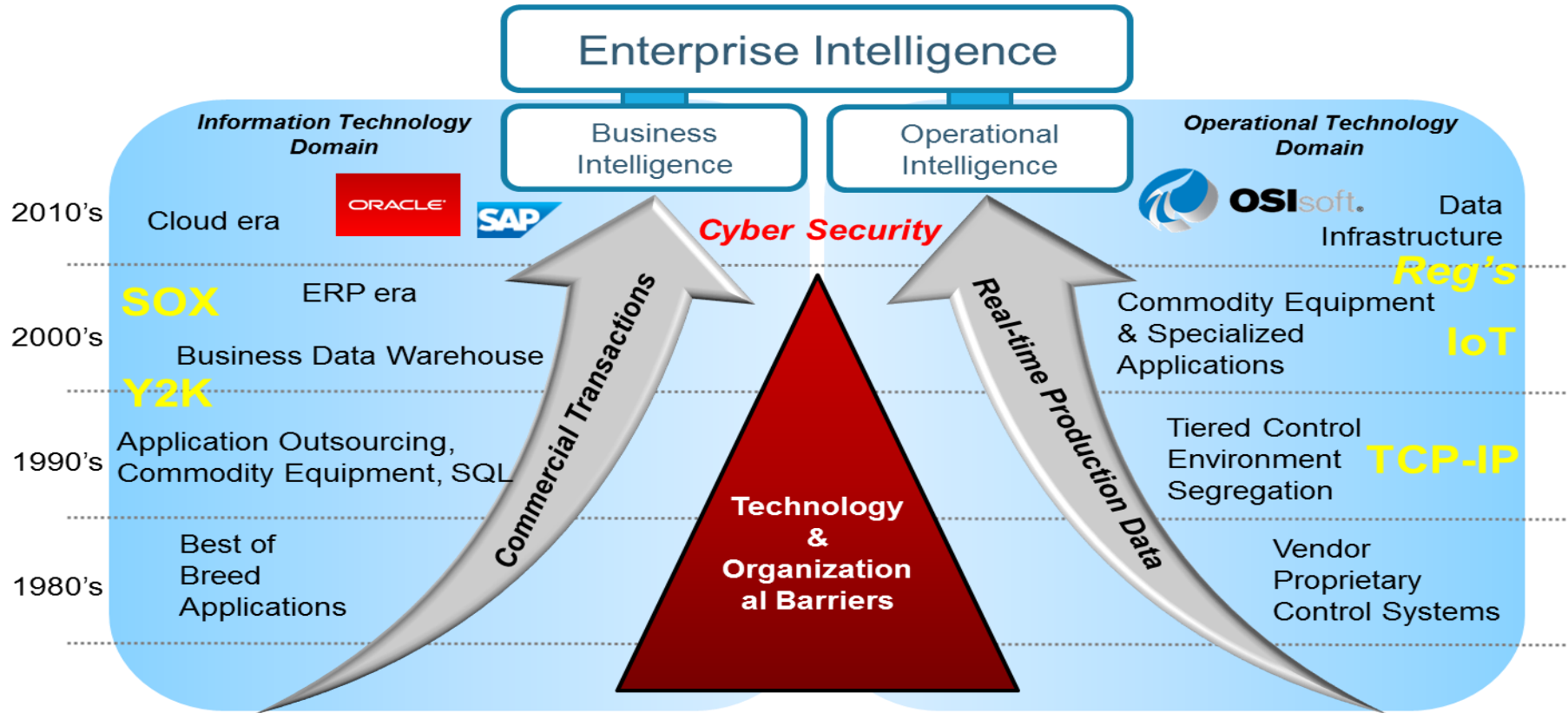
- SPC (Statistical Process Control)
- Lean Manufacturing / Six Sigma
- TPS (Toyota Production System)
- Continuous Improvement / Deming Cycle

Improving Plant / Enterprise Performance Management

- Established / Managed KPIs
- Visibility into Uncontrollable Impacts (e.g., Energy Rate, Raw Material Rate, Metal Prices, etc.)
- Engaged Workforce driving Collective Innovation
- Enabling Platform for Process CoEs (Centers of Excellence)
- Leverage / Adoption of Best Practice

Meeting the Technical Requirements: Recognizing IT / OT Convergence

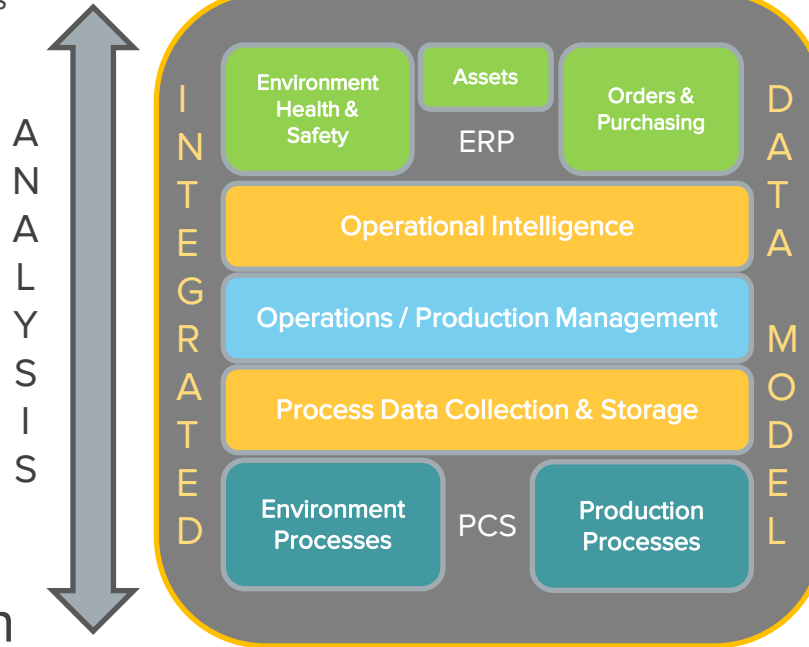
Recognizing IT/OT Convergence



Defining a Standard Technical Architecture

Transactions

Business



Action

Operations

Definition:

The integration of data with process expertise to enable proactive and intelligent manufacturing decisions in dynamic environments

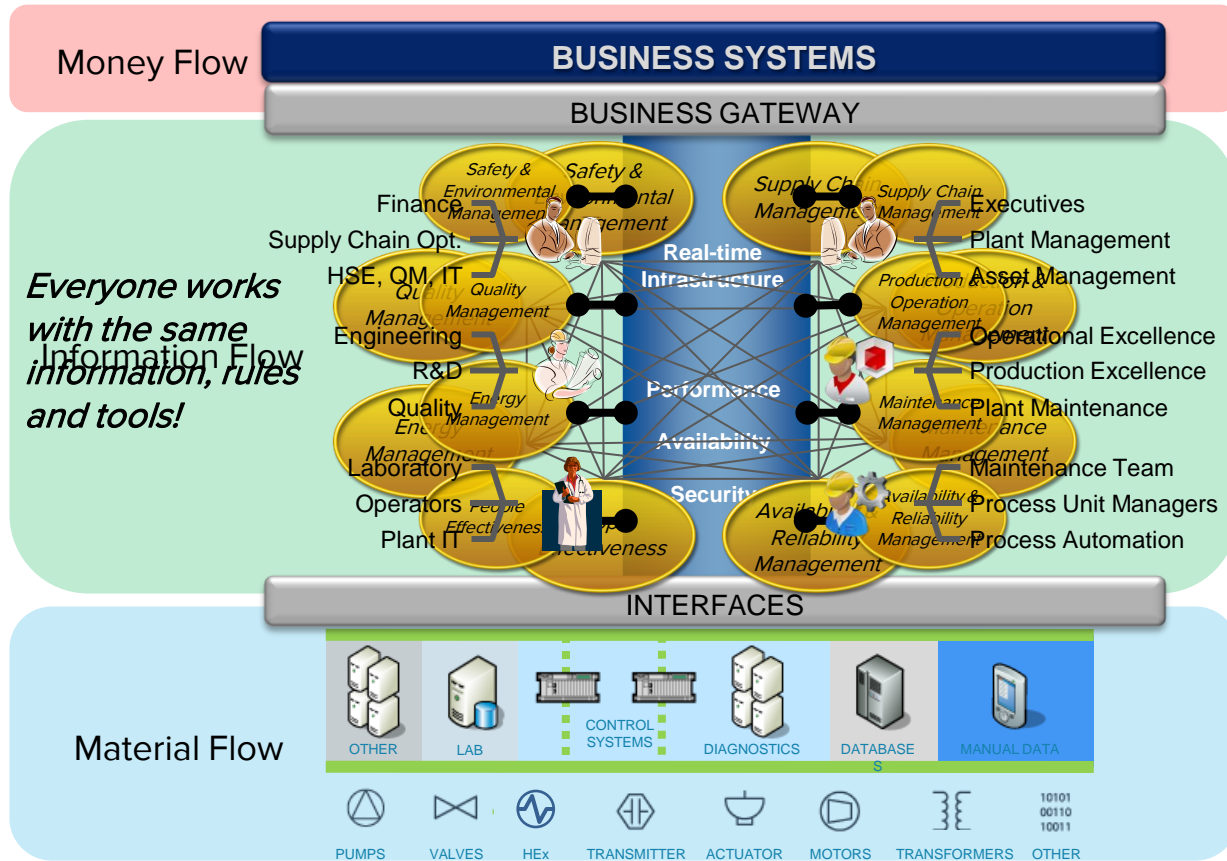
Key Components:

1. REAL-TIME and HISTORICAL process data capabilities
2. Network / Data integration from shop floor to the enterprise
3. Comprehensive analysis toolset(s)

The Architecture Ties Together Information from All Sources within a Plant and Across the Enterprise

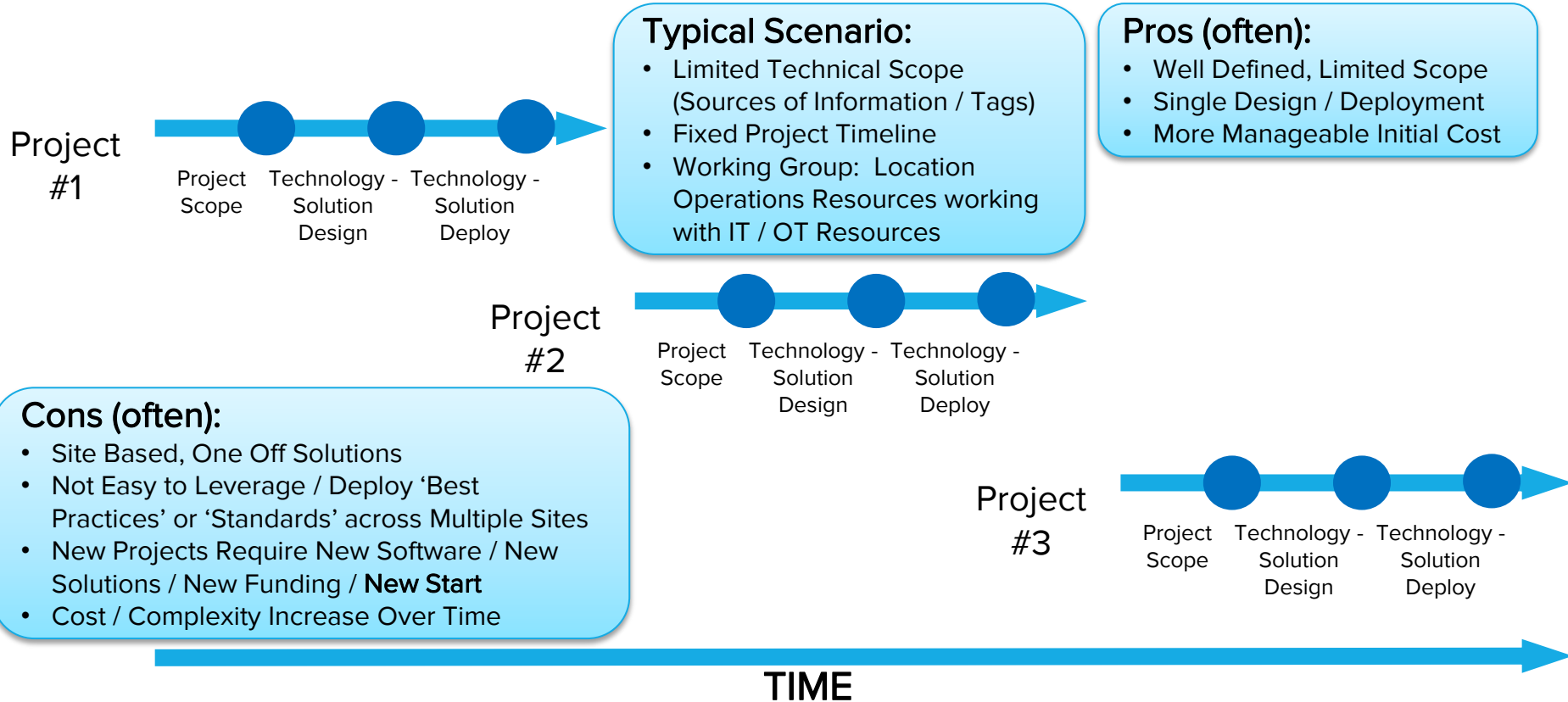


Streamline and Simplify Information in Operations

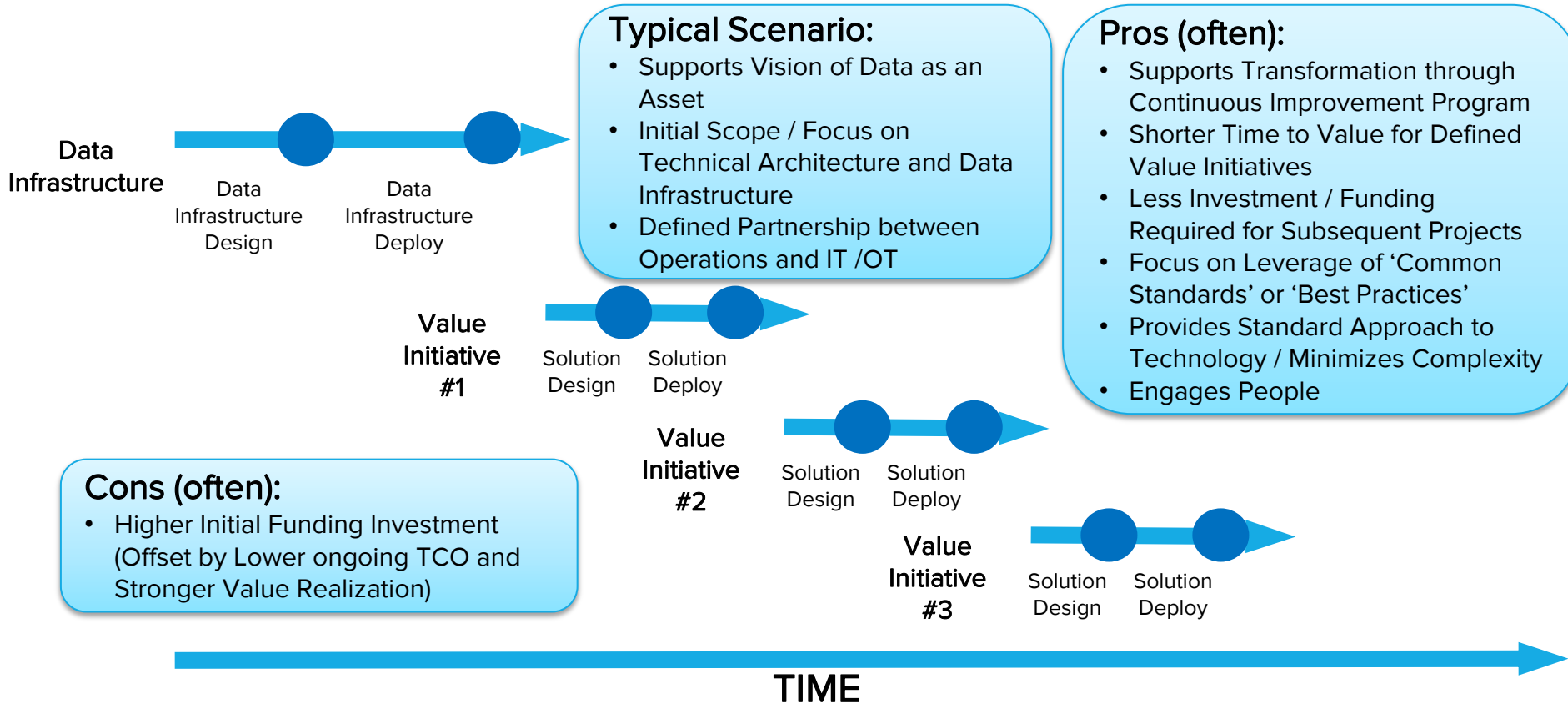


Adopting a Project or Program Approach

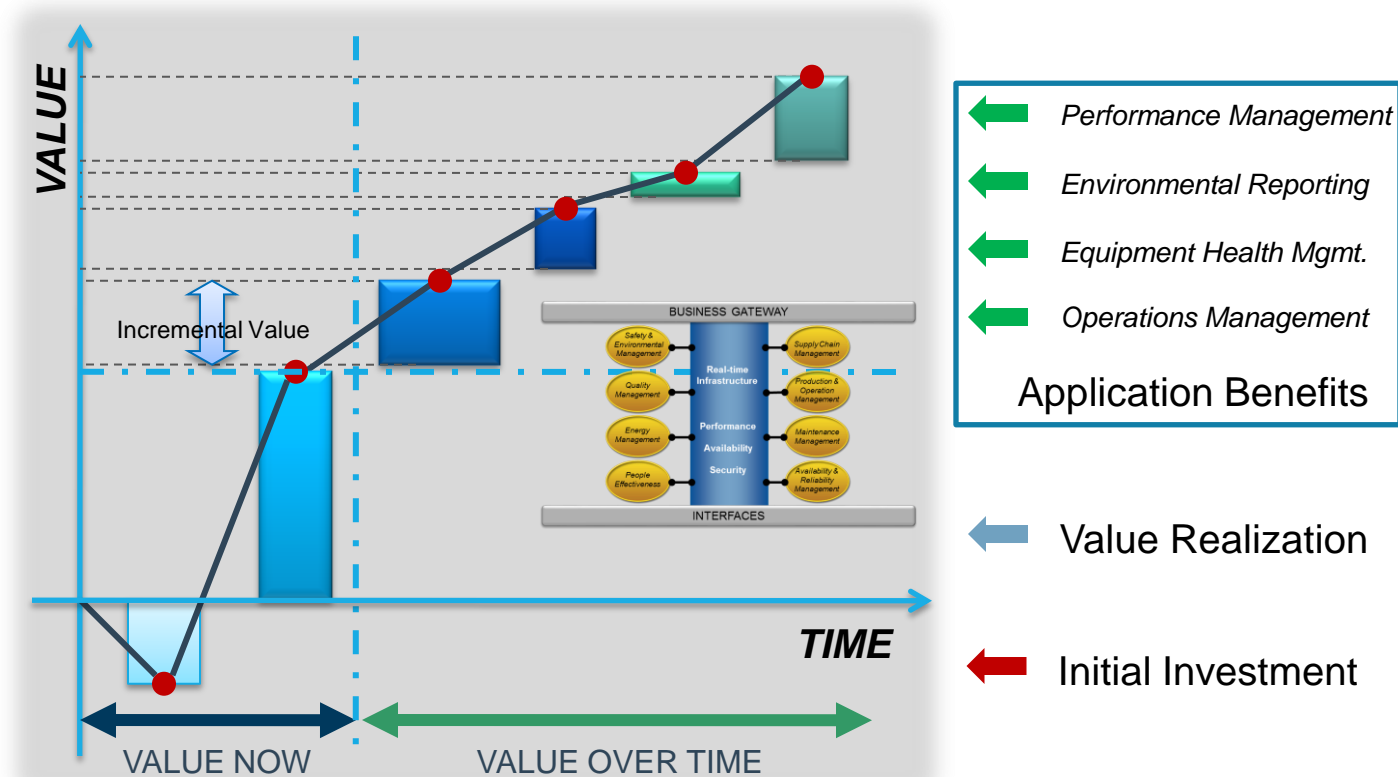
Project Based Approach



Program Based Approach



Value Creation – The Project vs. Program Approach



Conclusion



Key Considerations for Today's Session

- What is your vision for the use of information within your company / division?
- What role does OSIsoft PI System play as an enabling technology?
- How can OSIsoft help you establish and execute your strategy for success?

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Questions

Please wait for the **microphone**
before asking your questions

State your
name & company





THANK
YOU

