Unlocking Business Potential: Transforming Technology, Governance, and Data in the Digital Era

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GLOBAL PRODUCT DATA INTEROPERABILITY SUMMIT 2023

BOEING · ELYSIUM · NORTHROP GRUMMAN · Parker · PDES, Inc.® Connecting the Digital Enterprise

Abstract

Title:
<u>"Unlocking Business Potential: Transforming Technology, Governance, and Data in the Digital Era"</u>

Abstract:

Focusing on three key aspects, **Technology**, **Governance**, and **Data**. Paul & Max will discuss optimizing Technology systems and applications for seamless data flow, Governance, and the transformation of business models and corporate organizations to support and scale agile digital thread platforms and the development of a structured framework for authoring and communicating model-based data across the ecosystem.

About Moog Inc.

Space and Defense Group
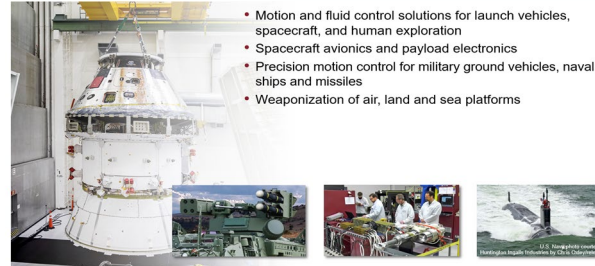
- Motion and fluid control solutions for launch vehicles, spacecraft, and human exploration
- Spacecraft avionics and payload electronics
- Precision motion control for military ground vehicles, naval ships and missiles
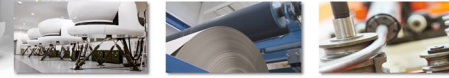- Weaponization of air, land and sea platforms

Industrial Group

Products, solutions and services to solve precision control challenges in applications such as:
- Industrial automation machinery
- Energy, oil and gas
- Test and simulation
- Mobile
- Medical
- Marine
- Technology focused sports
- Autonomous robotics

Aircraft Group

- Integrated flight control systems
- Critical control applications and products
- Platform integration
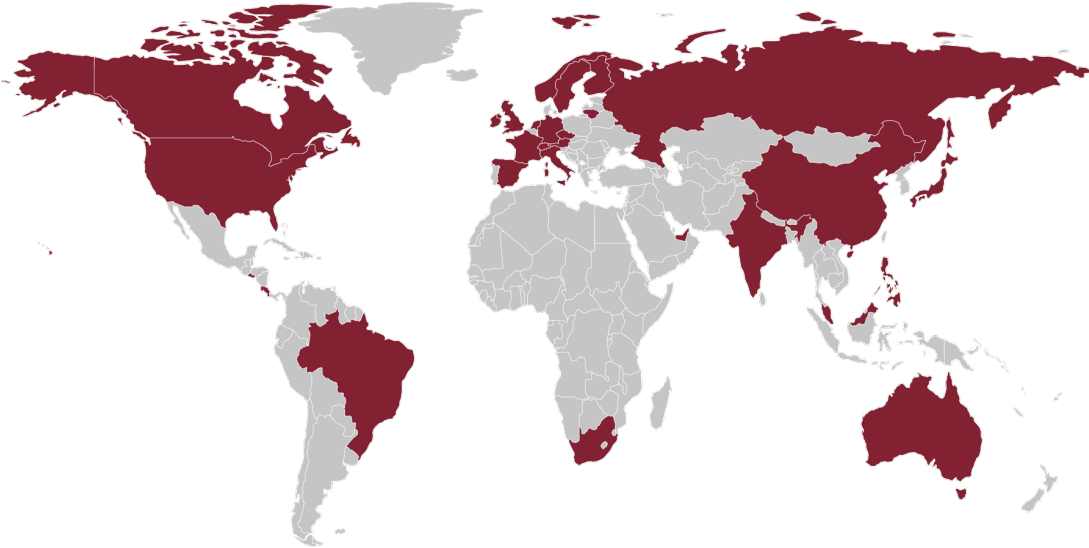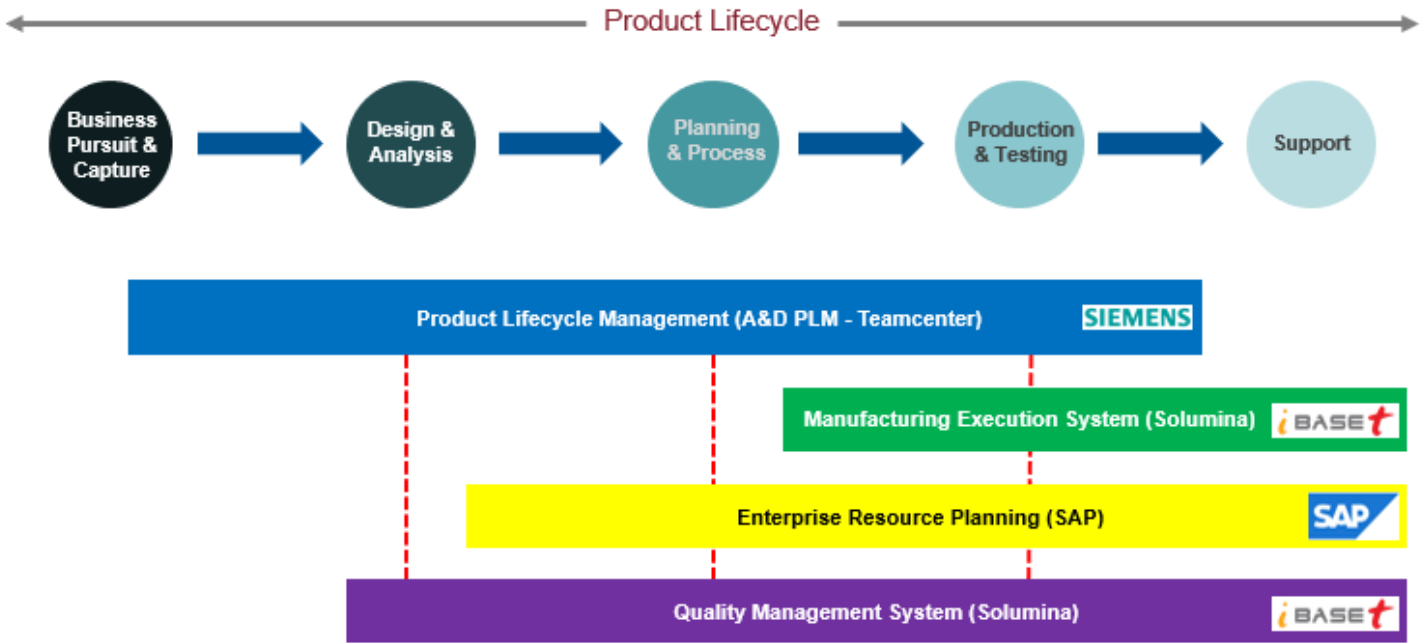- Manufacturing
- Aftermarket services
- Avionics

Moog Locations History:
- Grew by acquisition
- Sites operate as individual businesses
- Many discrete systems, and industries
- Many products, requirements, and markets
  - Space
  - Commercial & Military Aerospace
  - Medical Devices
  - Industrial Products

Moog's Digital Foundation

A Platform for Growth
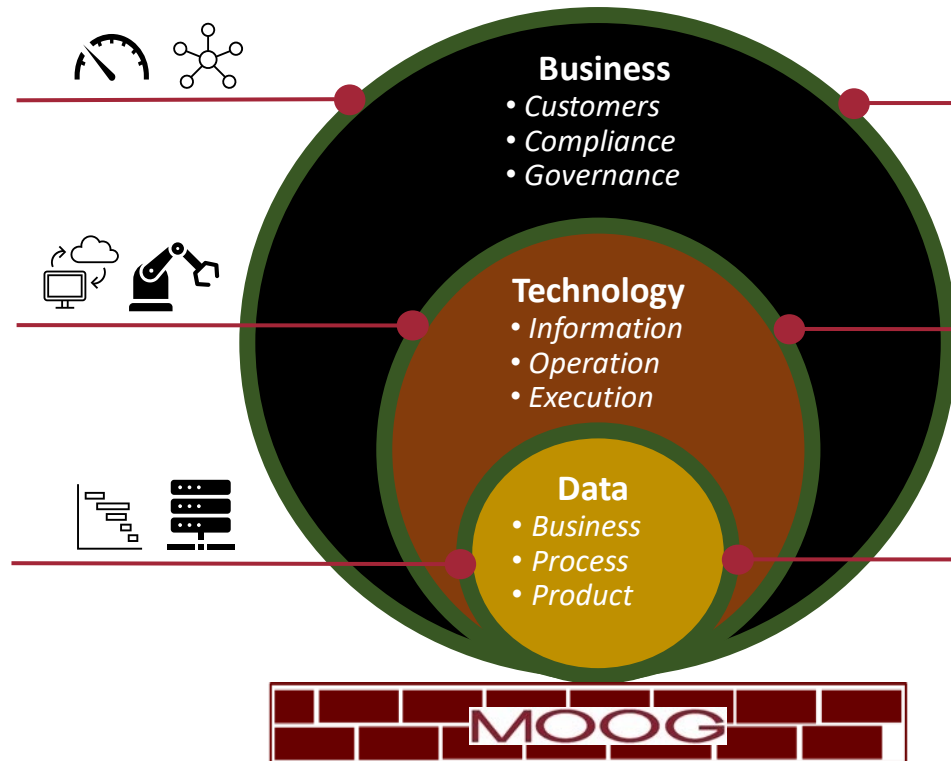
Moog's Digital Transformation

Description

- Why and how we do what we do
- How we make our decision
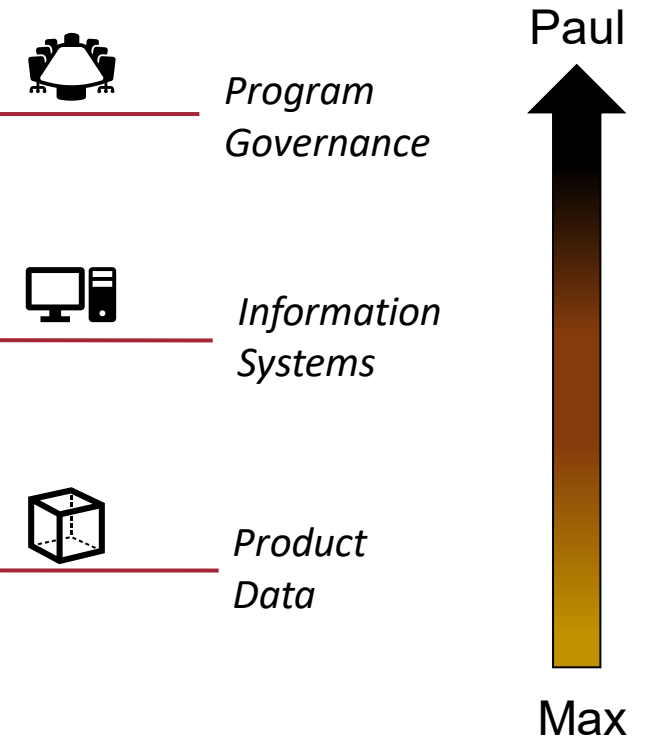
- Infrastructure and applications
- Physical assets and technology

- To run our business
- To deliver our products & services

Key Elements

Business
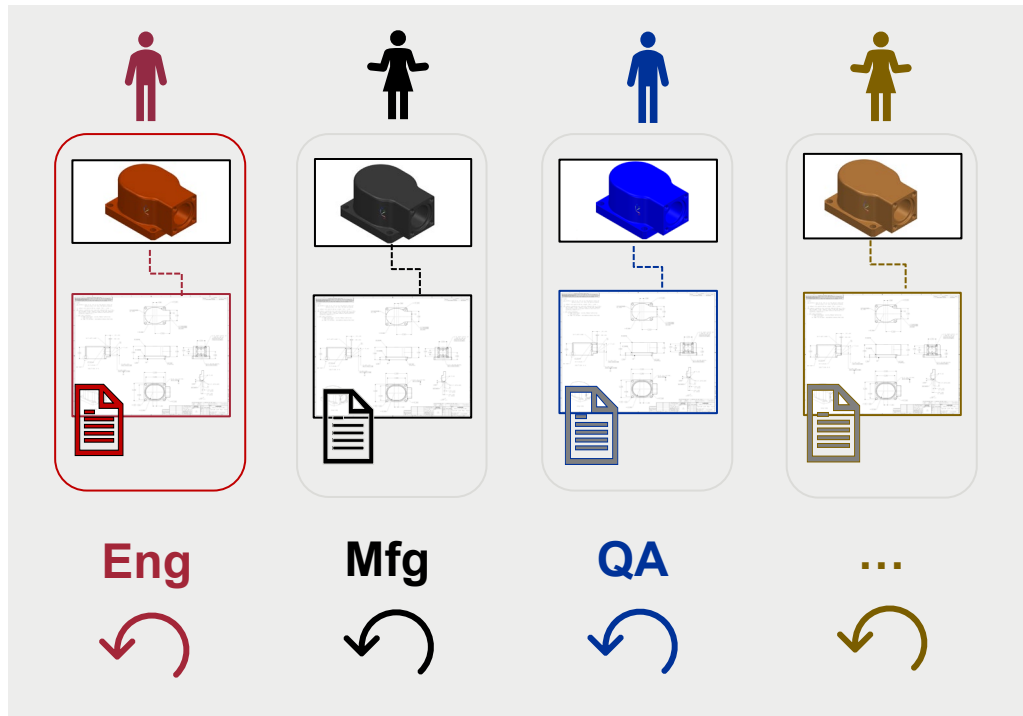- Customers
- Compliance
- Governance

Technology
- Information
- Operation
- Execution

Data
- Business
- Process
- Product

MOOG

Today's Focus

Paul

Program Governance

Information Systems

Product Data

Max

Product Data
Enable real time collaboration with "rich 3D context"

From

To

Eng   **Mfg**   **QA**   **...**

The same data is re-authored multiple times
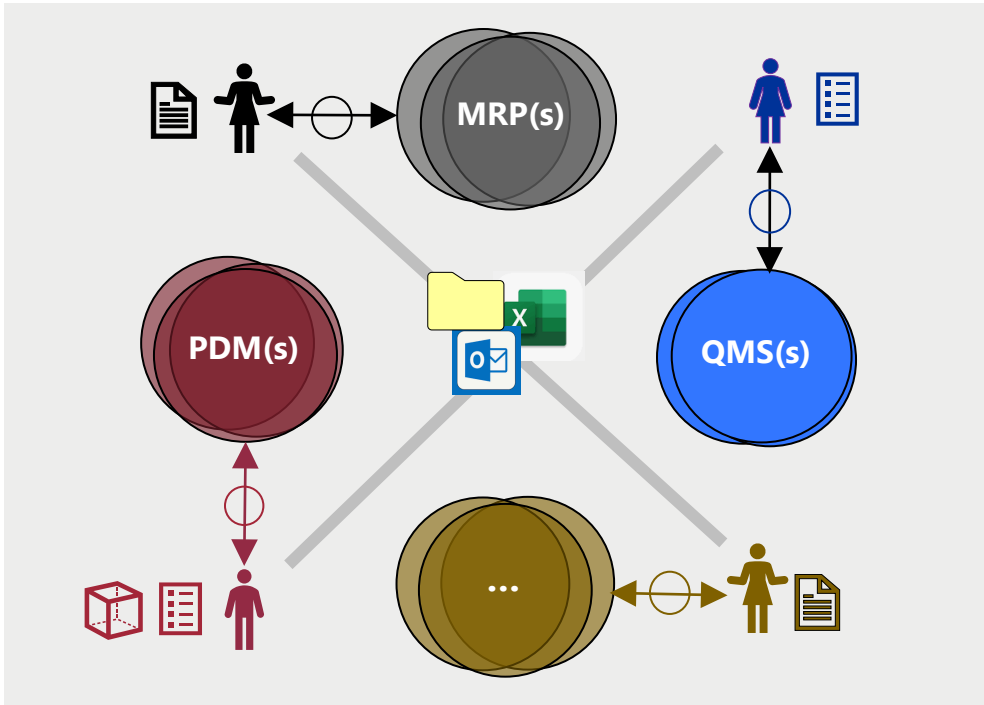
Information Systems
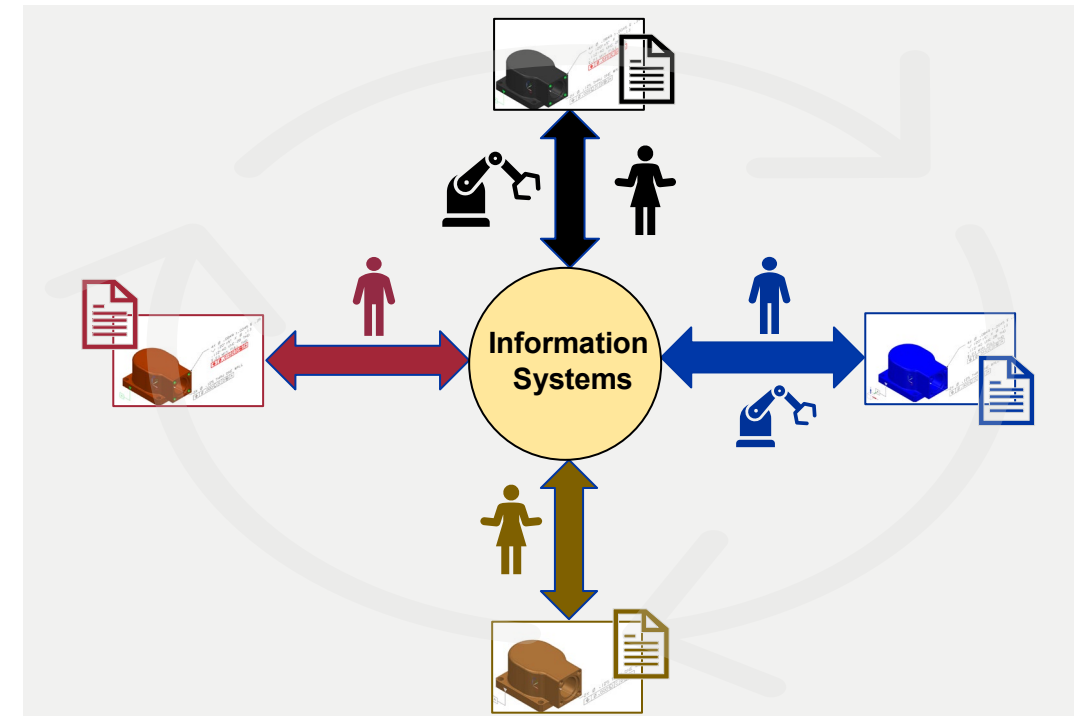
The data is authored once and re-used

Embrace Model Based Definition

Information Systems
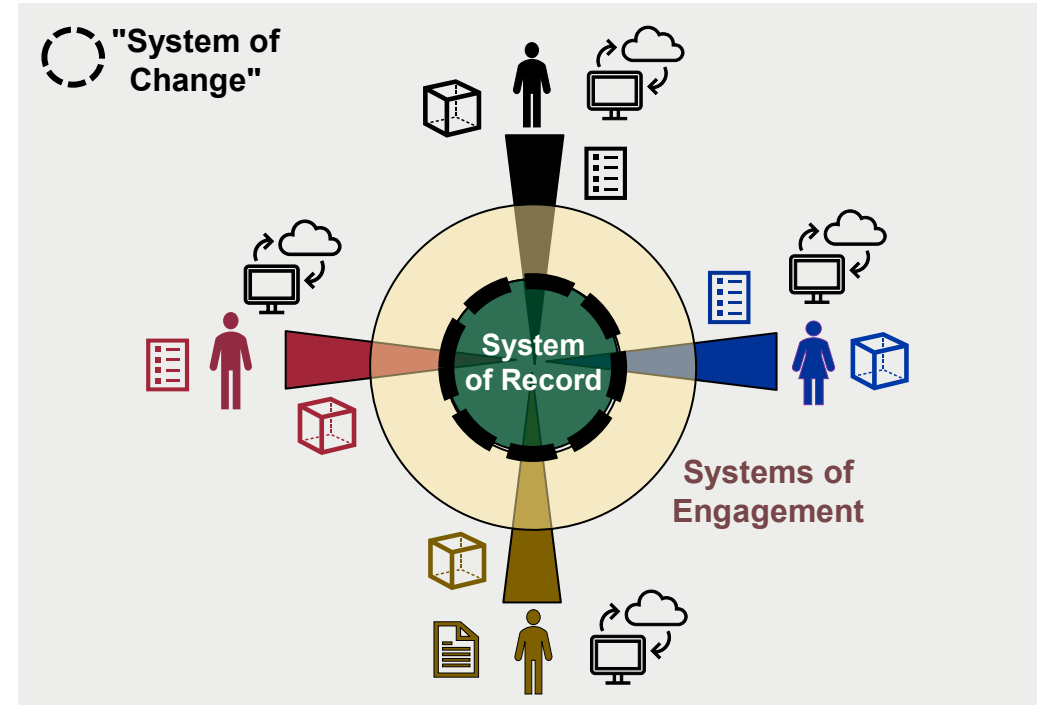## Make it easy for people to access the data they need to do their work

From

To

"System of Change"

System of Record

Systems of Engagement

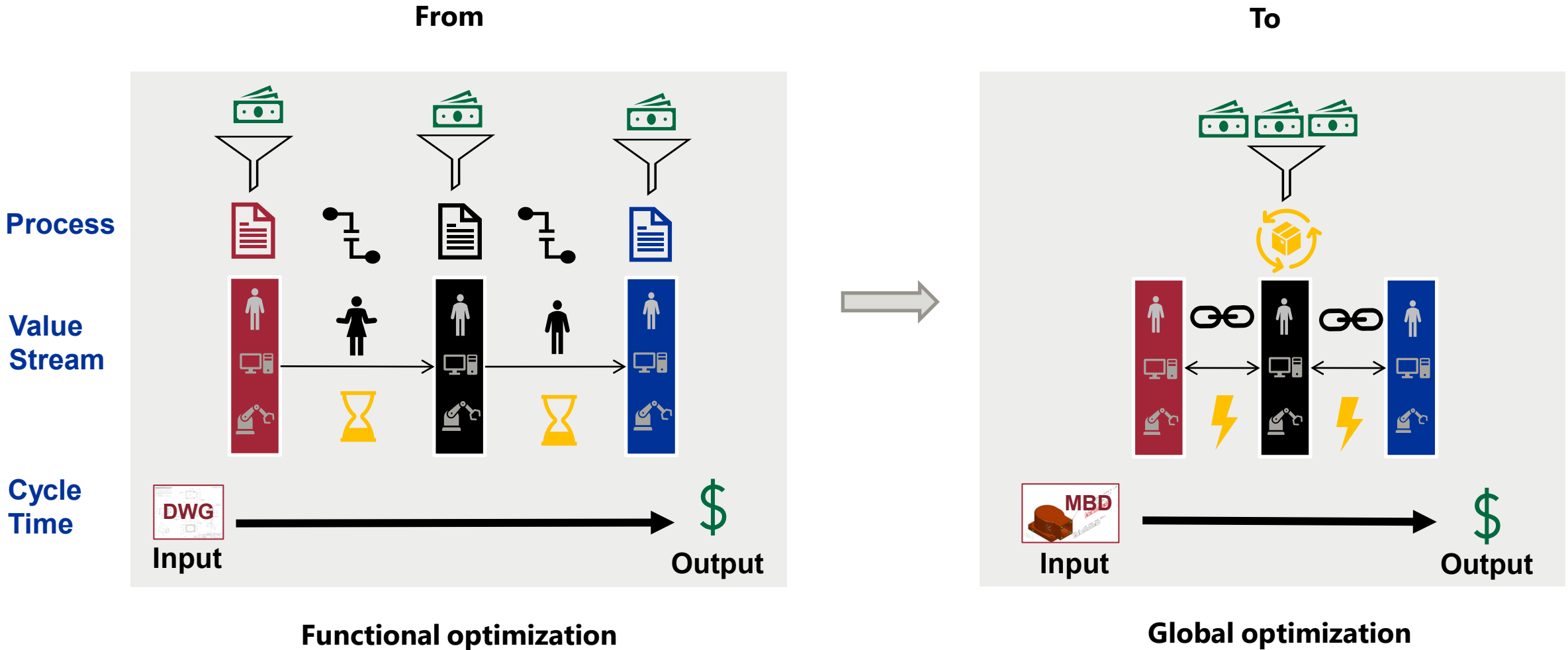**People do the integration and validation**

Systems to the integration and validation

Make CM a core IT strategic initiative

Delivery Systems
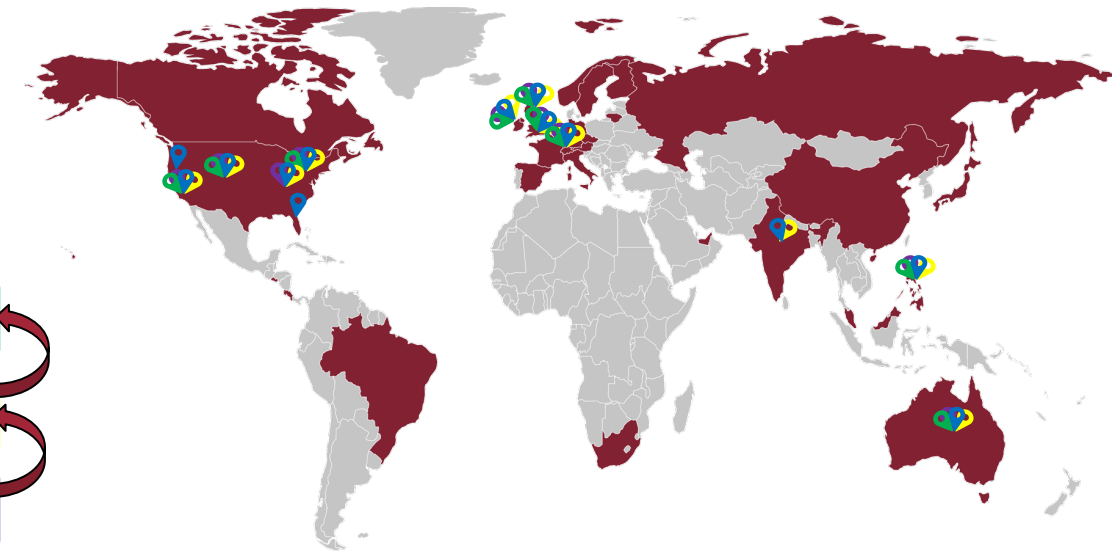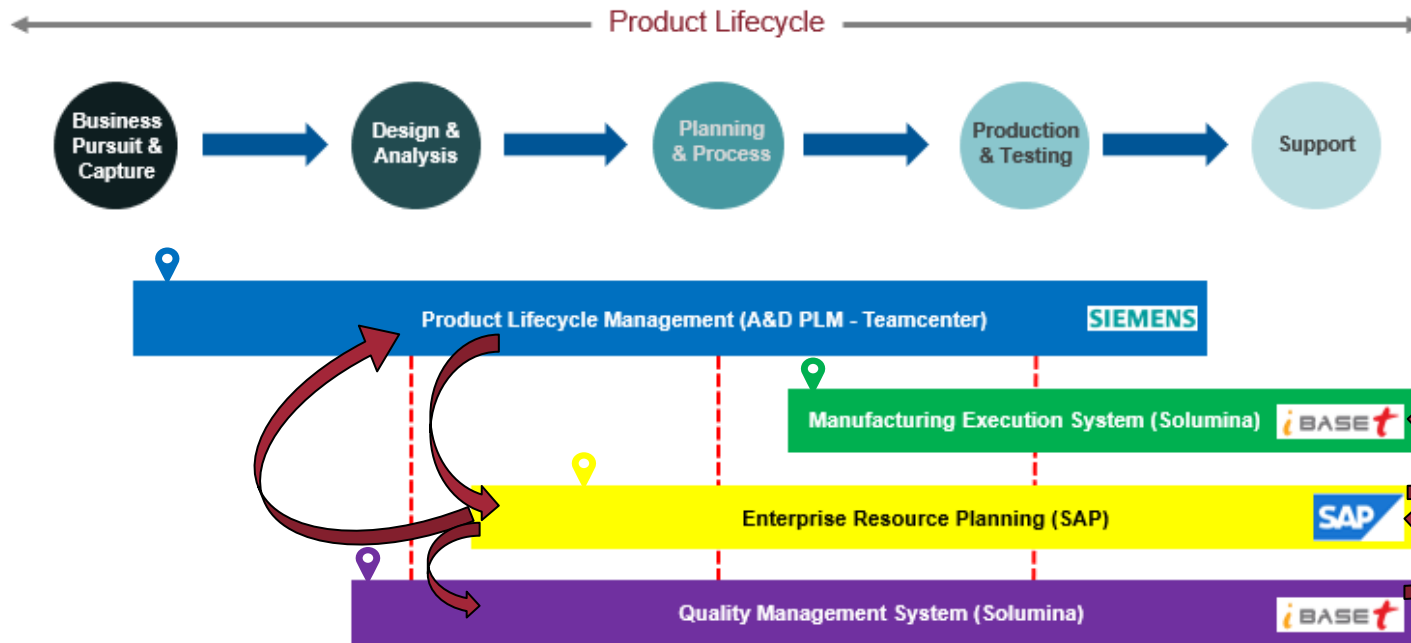## Move towards a more wholistic approach to process development

From

To

Process

Value Stream

Cycle Time

Input — Output

Input — Output

Functional optimization

Global optimization

Focus on "hand-offs" to reap maximum benefits

Platform Challenges

Product Lifecycle

Business Pursuit & Capture → Design & Analysis → Planning & Process → Production & Testing → Support

Product Lifecycle Management (A&D PLM – Teamcenter) — SIEMENS

Manufacturing Execution System (Solumina) — iBASEt

Enterprise Resource Planning (SAP) — SAP

Quality Management System (Solumina) — iBASEt

- How prioritize across programs?

- How maximize enterprise value delivery?

Programs can no longer operate in silos

Challenges with the traditional paradigm

Traditional Silo Approach to Budgeting | **Allocated Spend to Programs / Portfolios**

$ $ $ $

PLM

MES

ERP

QMS

ROI Reported Up

ROI Reported Up

ROI Reported Up

ROI Reported Up

Silos prioritize program success over platform success
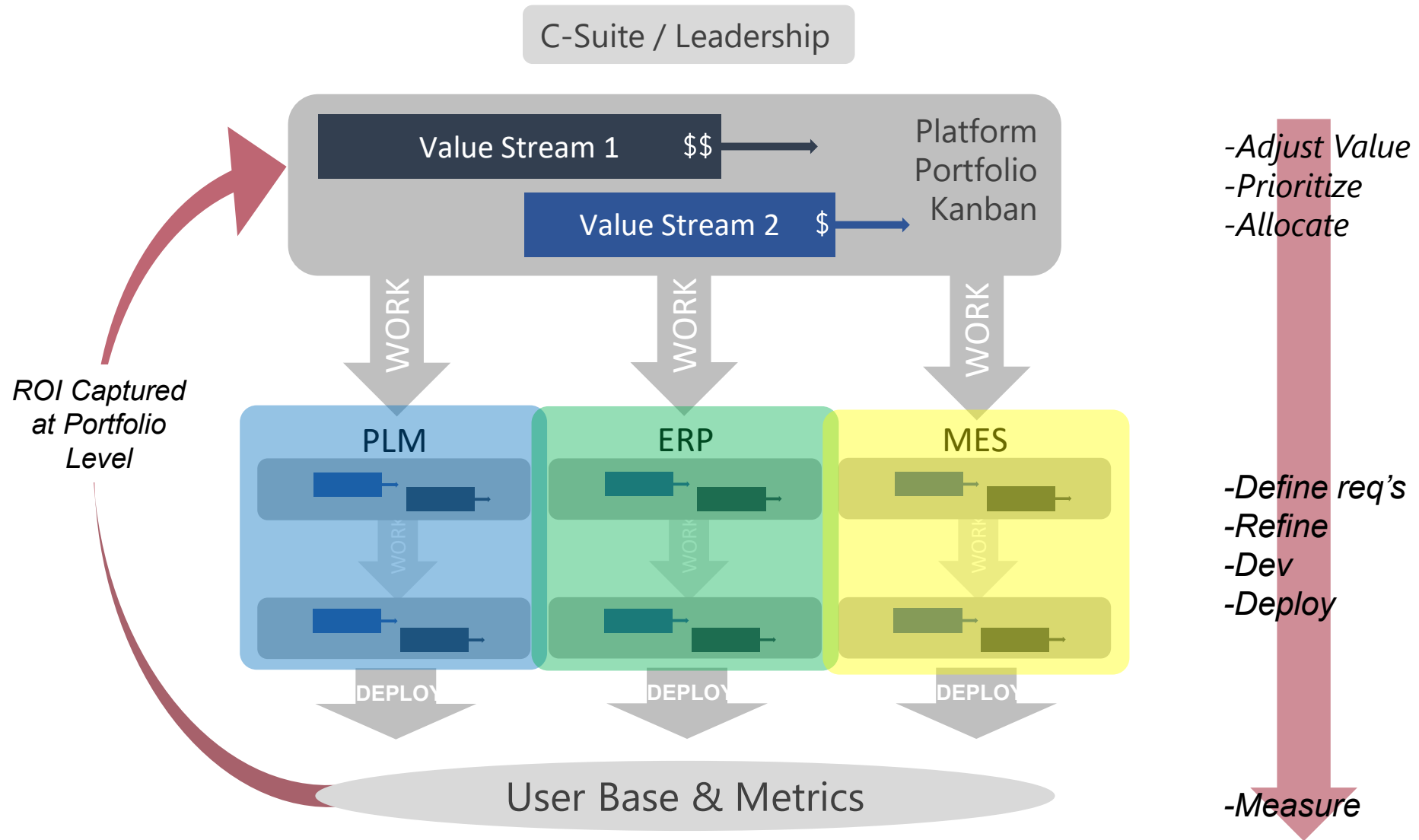
Measure ROI at the Platform Level

Thread A: Net Improvement of 15%

-5%

Thread A →

Product Lifecycle Management (A&D PLM - Teamcenter)   SIEMENS

-20%

Manu...ring Execution System (Solumina)   i BASEt

+10%

Enterprise Resource Planning (SAP)   SAP

Quality Management System (Solumina)   i BASEt

Product Lifecycle
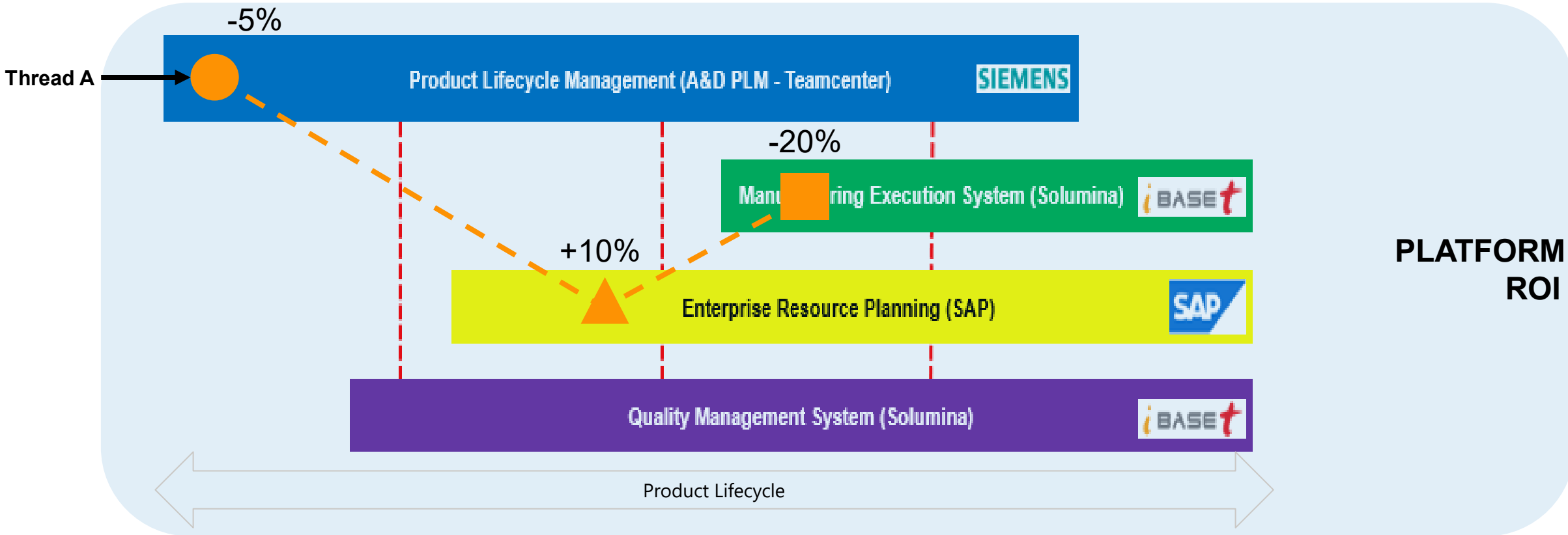
PLATFORM ROI

Baseline and track your threads end-to-end

Value Stream Focus

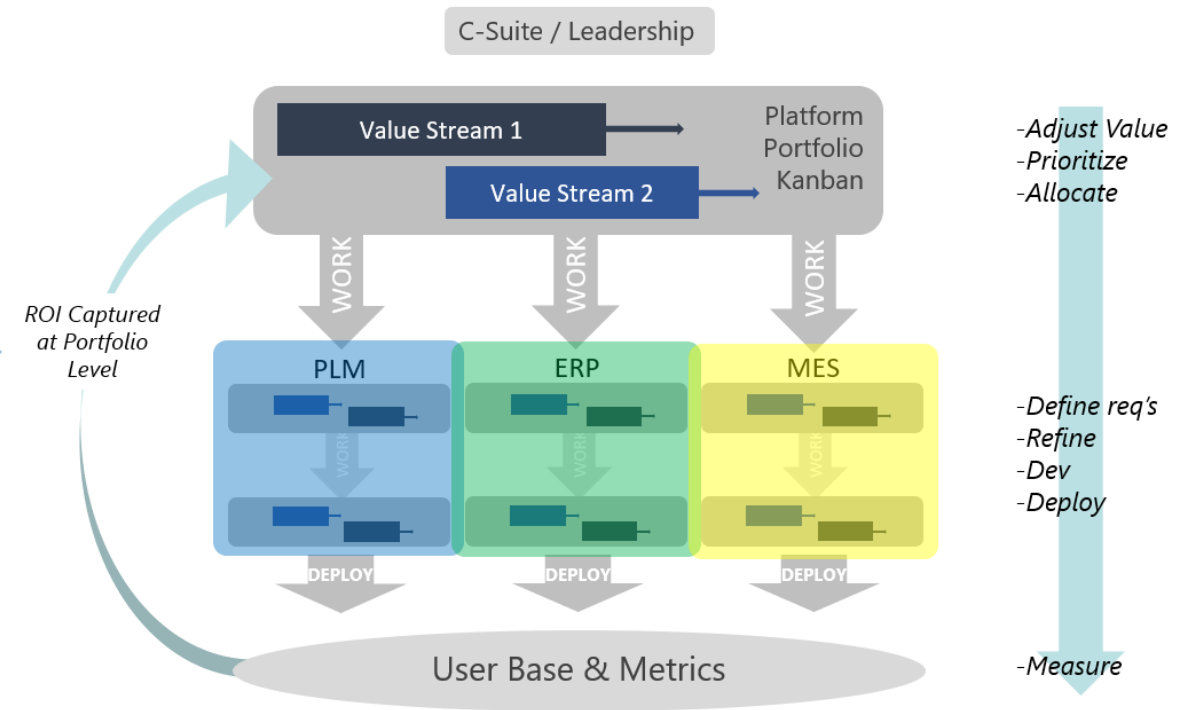**Connected data | Connected processes | Connected ROI**

A New Way Of Working

Platform Risk
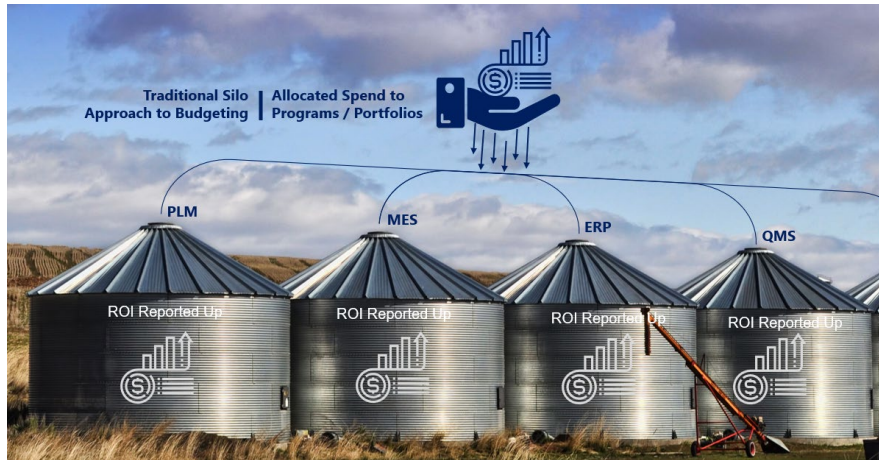
Platform Agility

Transition

Prioritize value over programs

Let's Connect!

LinkedIn

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Model Based
Engineering Manager

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INTEROPERABILITY
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