AN ARCFIELD COMPANY

DIGITAL ENGINEERING - FACTORY OF THE FUTURE

FoF - Overview & Summary

Stuart Masterson & Jake Engle
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Arcfield STC Introduction

Providing MBSE and Digital Engineering Services and Solutions to Government and Industry

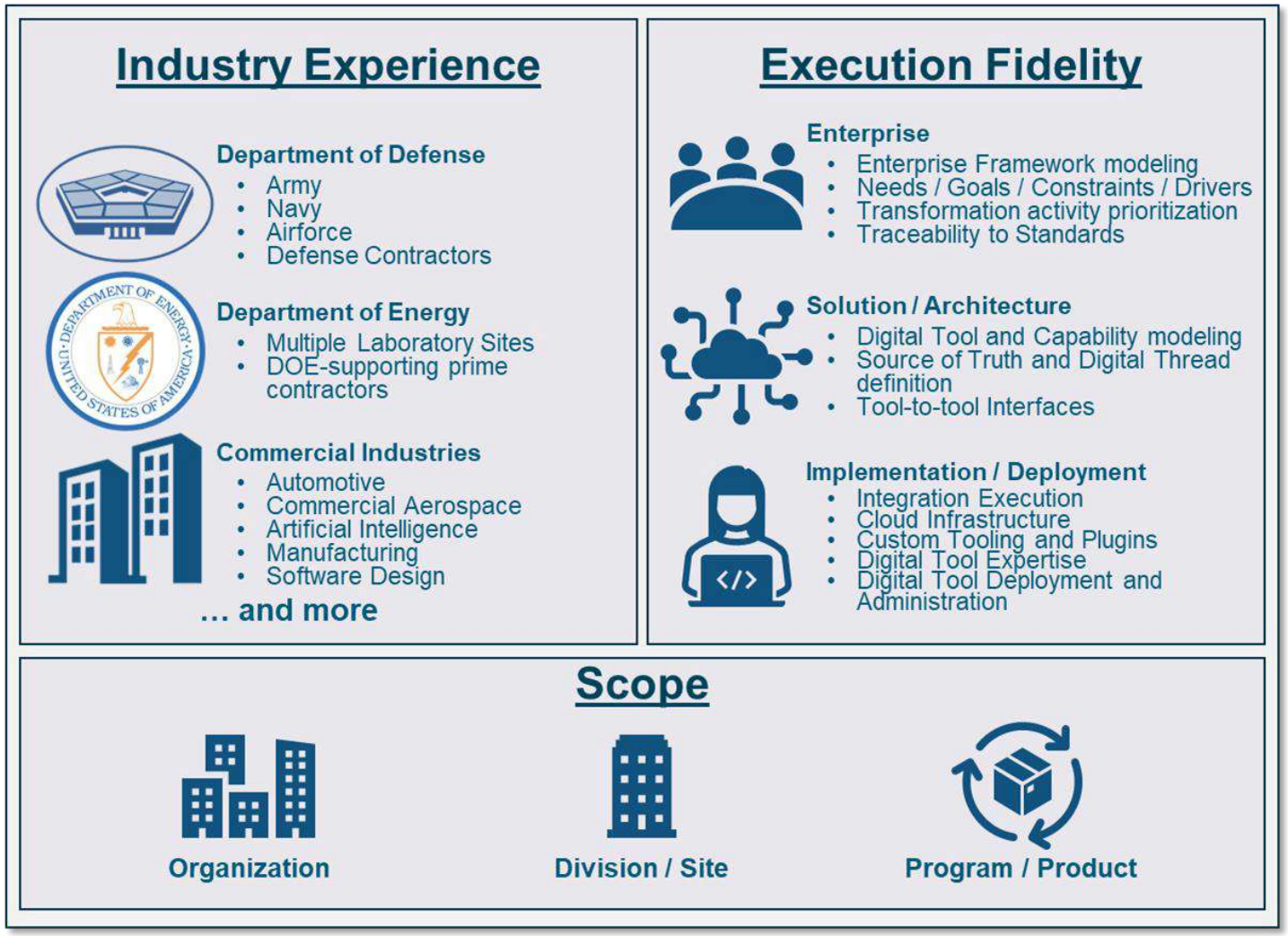
ARCFIELD™

STC AN ARCFIELD COMPANY by the numbers…

100%	200+	135+	75+	200+
security-cleared workforce	expert MBSE engineers	next-gen platforms supported	remote locations	customers supported

Acquired by Arcfield in 2023

STC Digital Transformation Consulting - Background



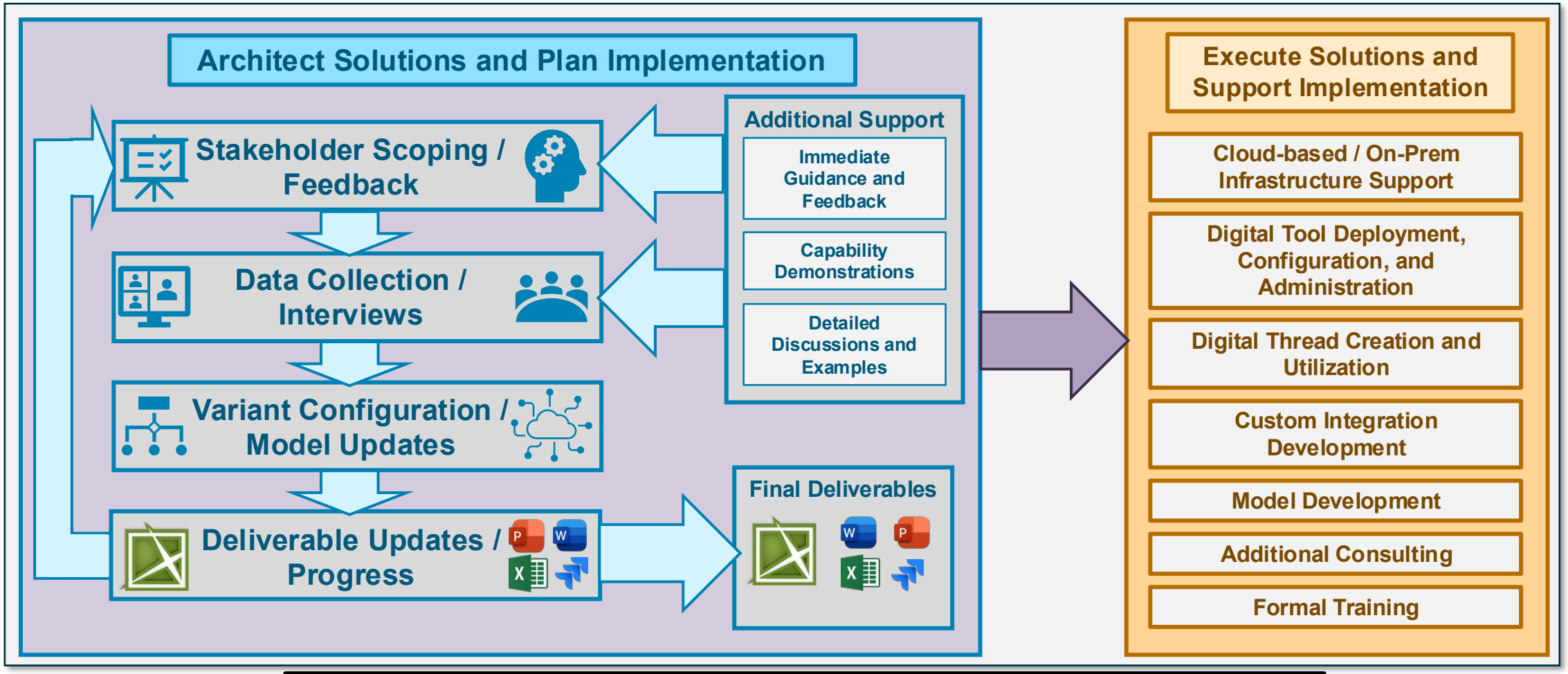
- STC provides digital transformation consulting services across a wide variety of industries
- STC can assist organizations regardless of their current needs, spanning from up-front architectural roadmaps down to implementation of actual solutions on real systems
- Assessments and recommendations can be tailored to specific organizational layers, to provide digestible feedback in languages expected by various stakeholders

STC develops **tailored solutions** for customers based on their **existing tools and processes.**

There is no one-size-fits all solution for digital engineering: STC provides expertise in both **commercial digital integration tools** and **proven integration patterns** to increase digital maturity while **minimizing disruption of existing processes**

Ideal Customer Engagement Process

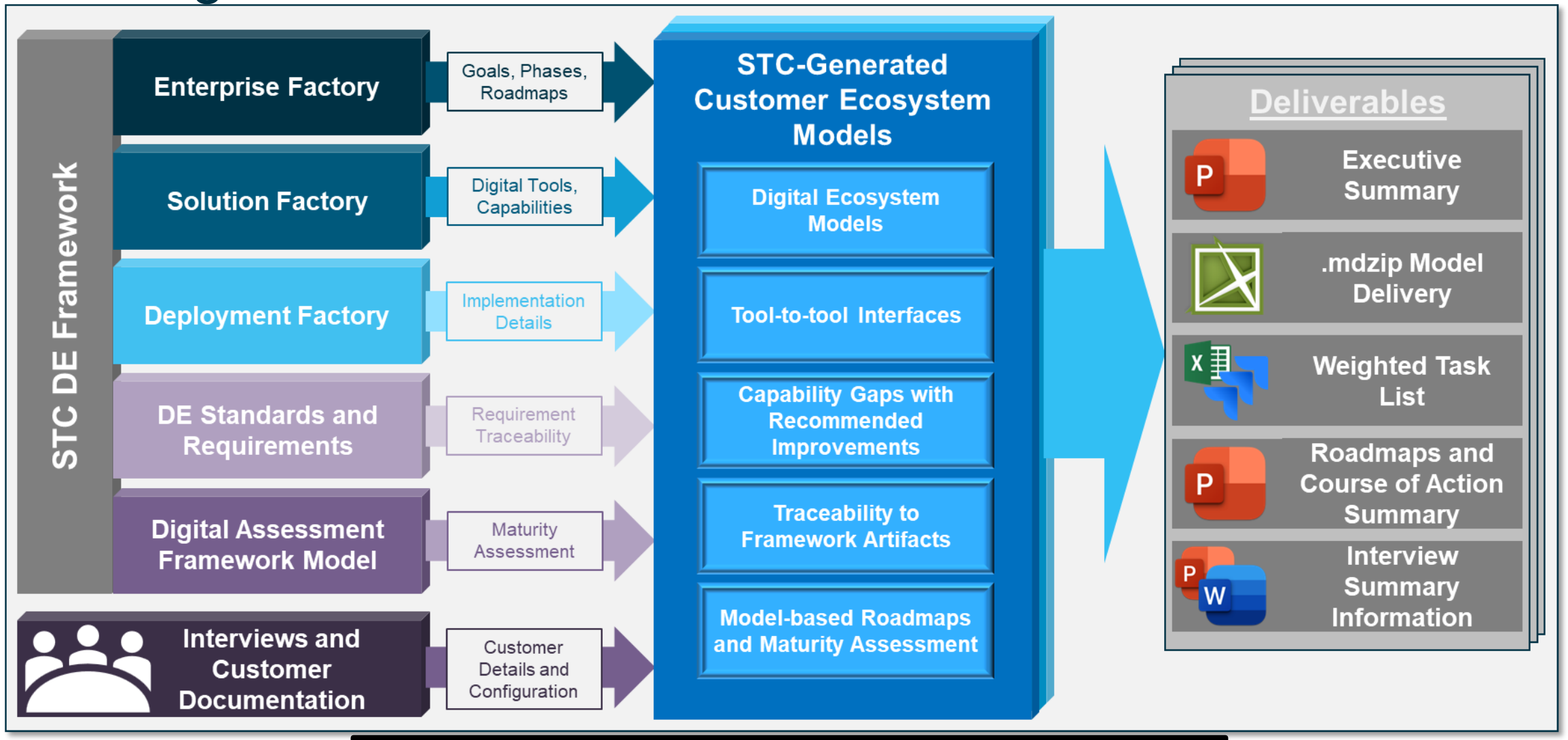
Iterative Update Process



The ideal customer engagement is iterative and collaborative with frequent updates on STC's progress.

Customer feedback should be driving priority areas with STC adjusting deliverables as information is shared.

STC Digital Transformation Framework

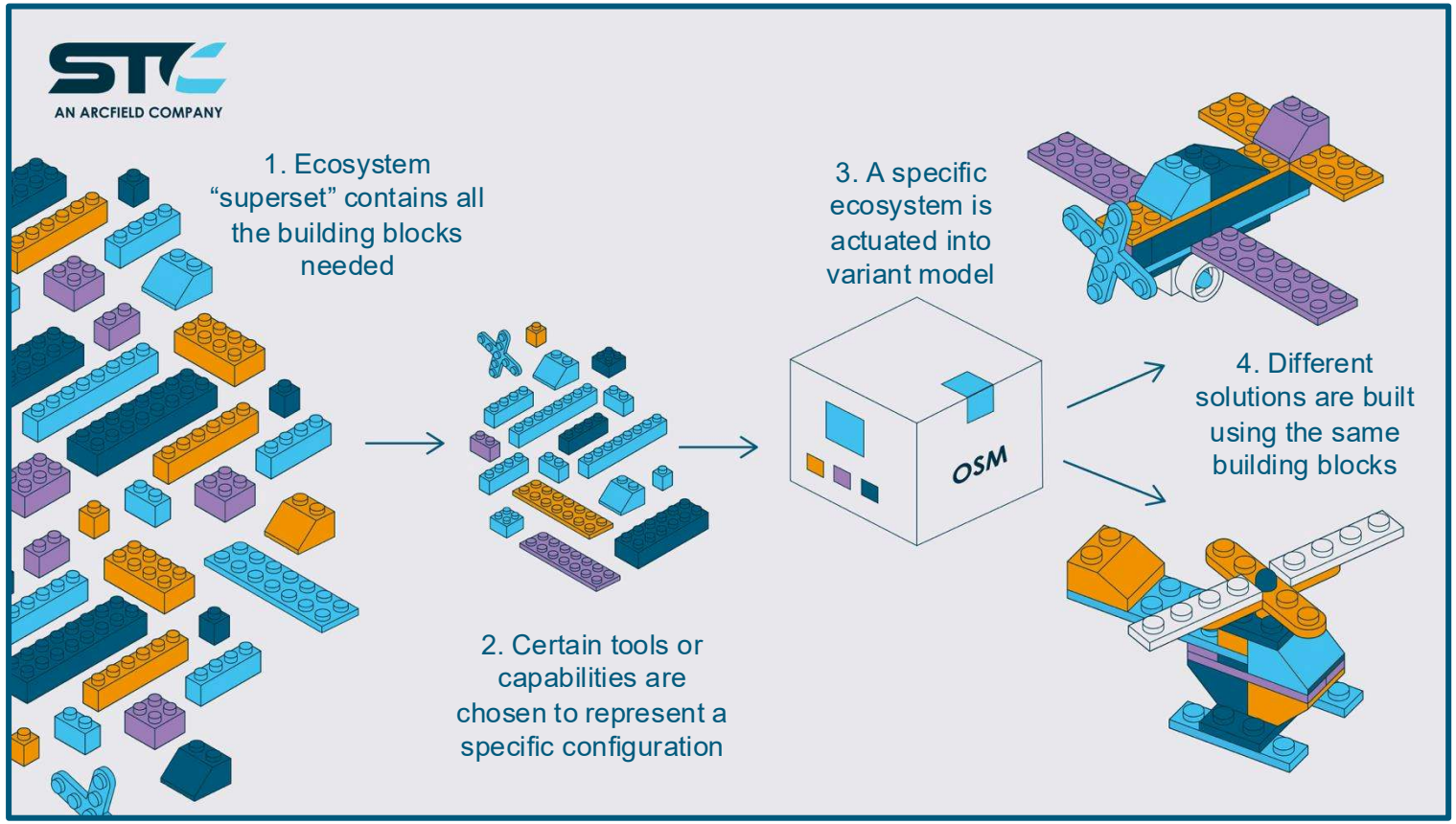


The STC DE Framework allows for a streamlined ingestion of customer data and an agile delivery of in-progress deliverables

Why MBPLE for FoF?

It simply makes sense…

- Managing Complexity Across Customer Ecosystem Configurations
- Supporting Variability across a multitude of customers in various industries (DoD, Medical, DoE, etc.)
- Rapidly produce customer specific instantiations, all while maintaining the integrity of the FoF Framework and data traceability
- Leveraging reuse of ecosystem architectures, processes, digital tools, and workflows to reduce engineering effort and risk
- Enable scalable growth for our DE FoF Ecosystem

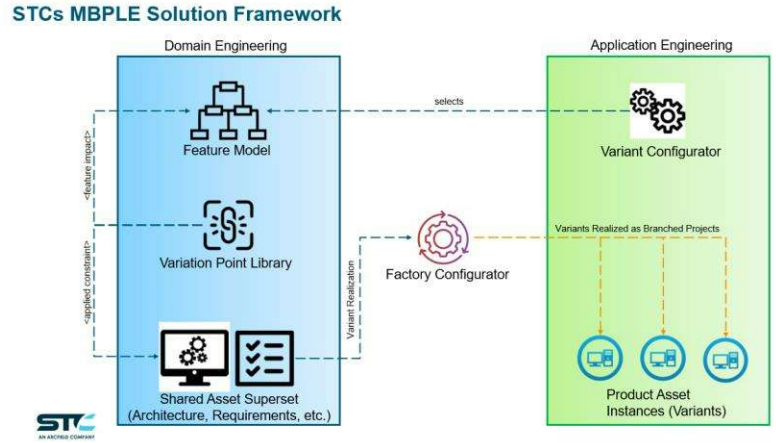


MBPLE Method for Implementation

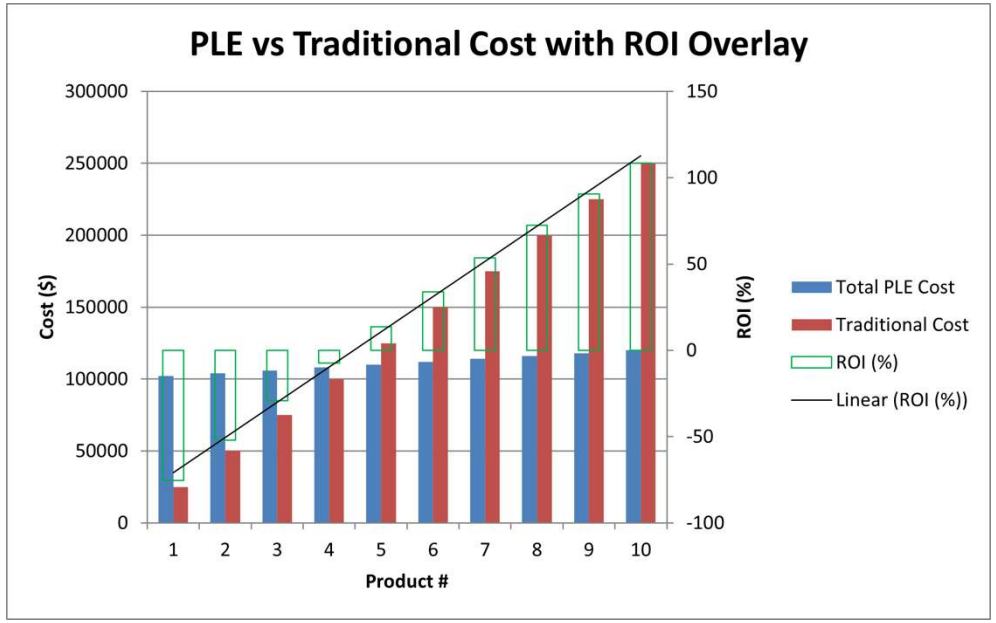
1. Define **150% Shared Asset Superset Model**(s)
    a. Identify points of Variation throughout your product line architecture (“Family of Systems” Architecture)
2. Define **Feature Model**
    a. The Feature Model should account for all selections of variations across the Family of Systems architecture
3. Bridge the 150% Shared Asset Superset Model(s) with your Feature Model via **Variation Points**
    a. Catalog those Variation Points to ensure all appropriate relationships are implemented
    b. Ensure correct Variation Point Type is implemented
4. Define **Variant Configurations**
    a. Includes leveraging common configurations and generating unique configurations
5. Instantiate your **Variant Models**
    a. Also referred to as the “Factory Configurator” process where the PLE plugin realizes the variation points being implemented for a specific variant and actuates the model accordingly

MBPLE Implementation & Strategic Advantages

- **STC Implementation**
  - Experienced in deployment of MBPLE Solution Environment
  - Enables leveraging commonality and managing variability efficiently within a Family of Systems Architecture
  - Support automated Variant Realizations
  - Support engineering impact analysis through feature-driven architecture management
  - Demonstrated improved engineering efficiency and lifecycle agility



- **MBPLE Strategic Advantages**
  - Eliminates redundant modeling by managing variants within a single, feature-driven architecture
  - Accelerates time-to-delivery on engineering deliverables
  - Improves decision agility with faster analysis of feature impacts and trade-offs
  - Maximizes reuse and investment value of digital engineering assets
  - Enhance competitiveness by enabling quicker adaptation to new missions, technologies and customer needs



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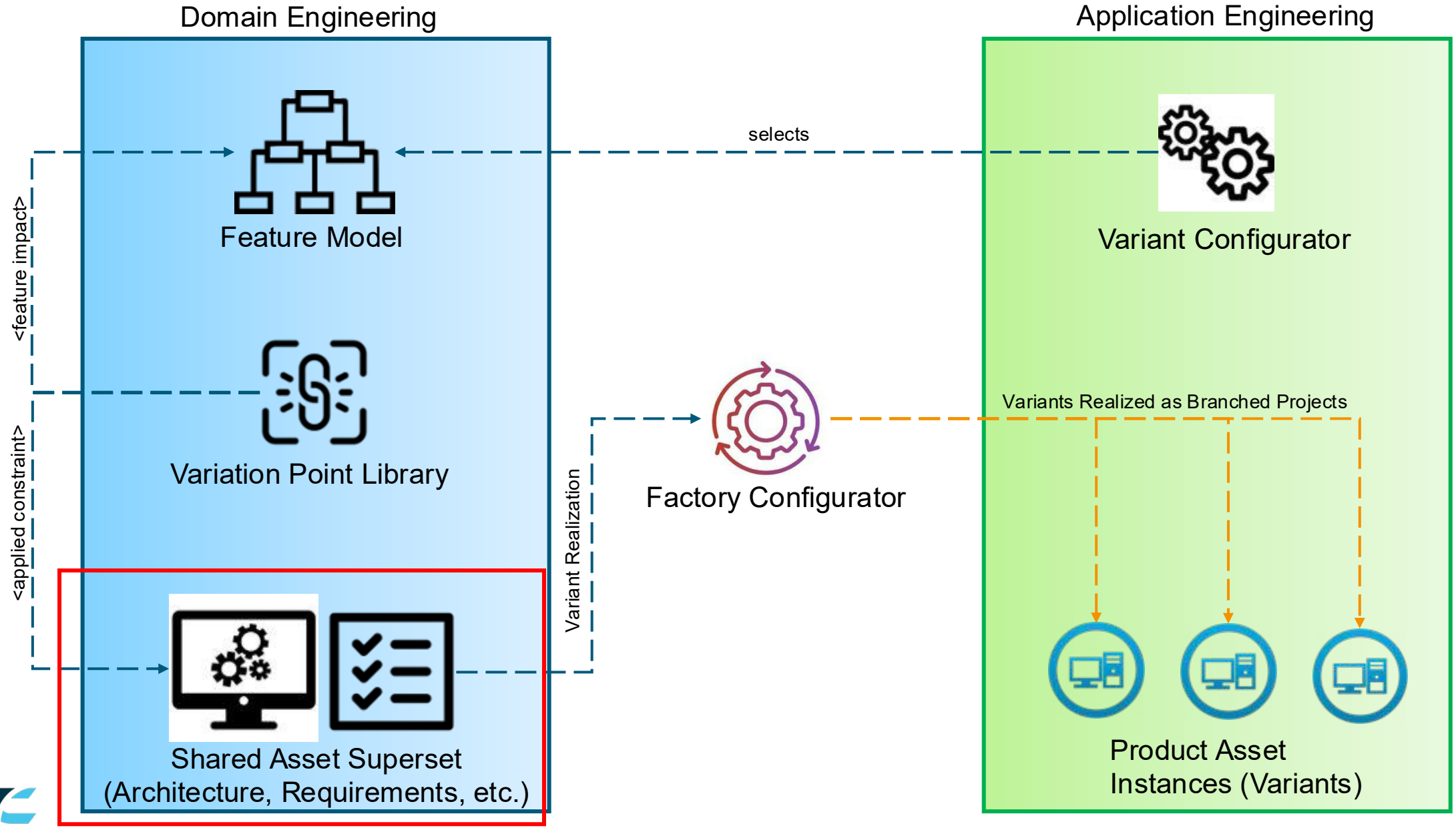
STC's MBPLE Framework



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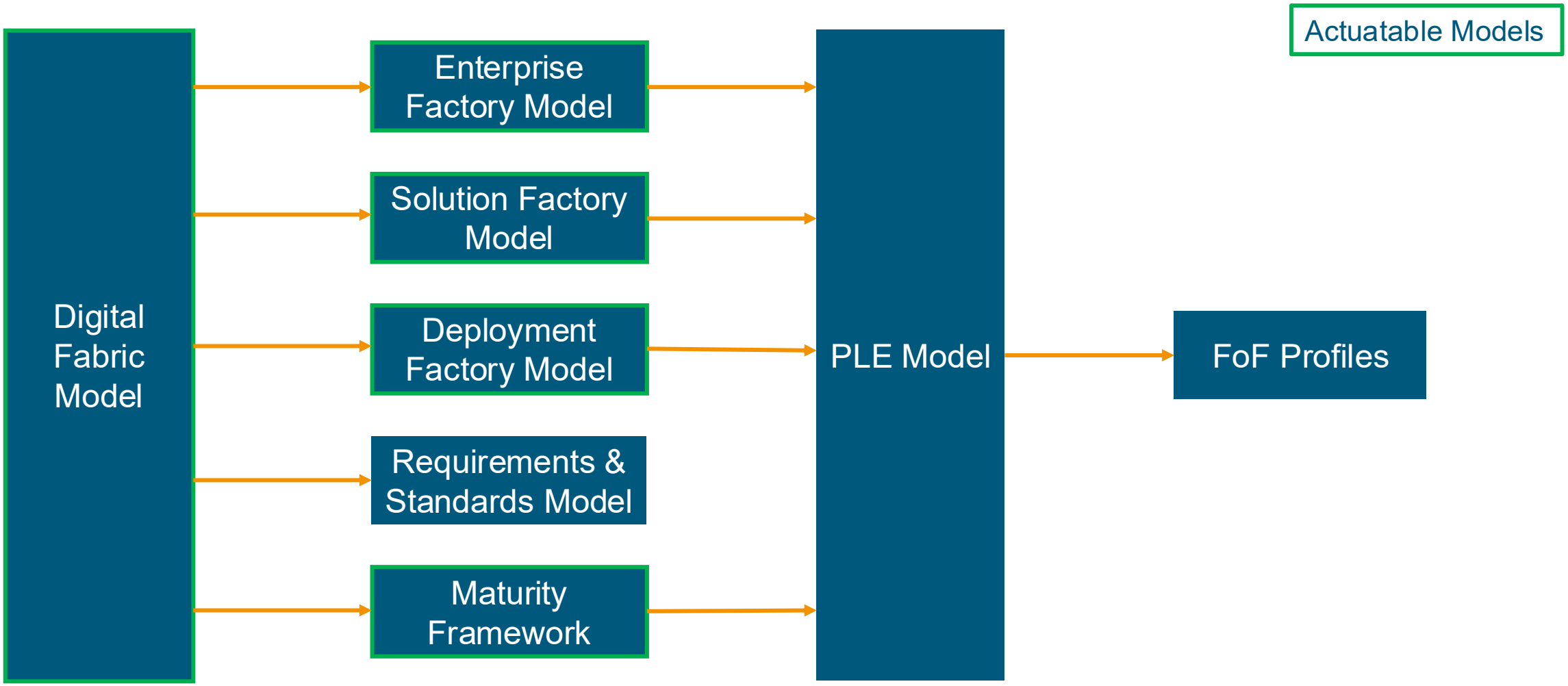
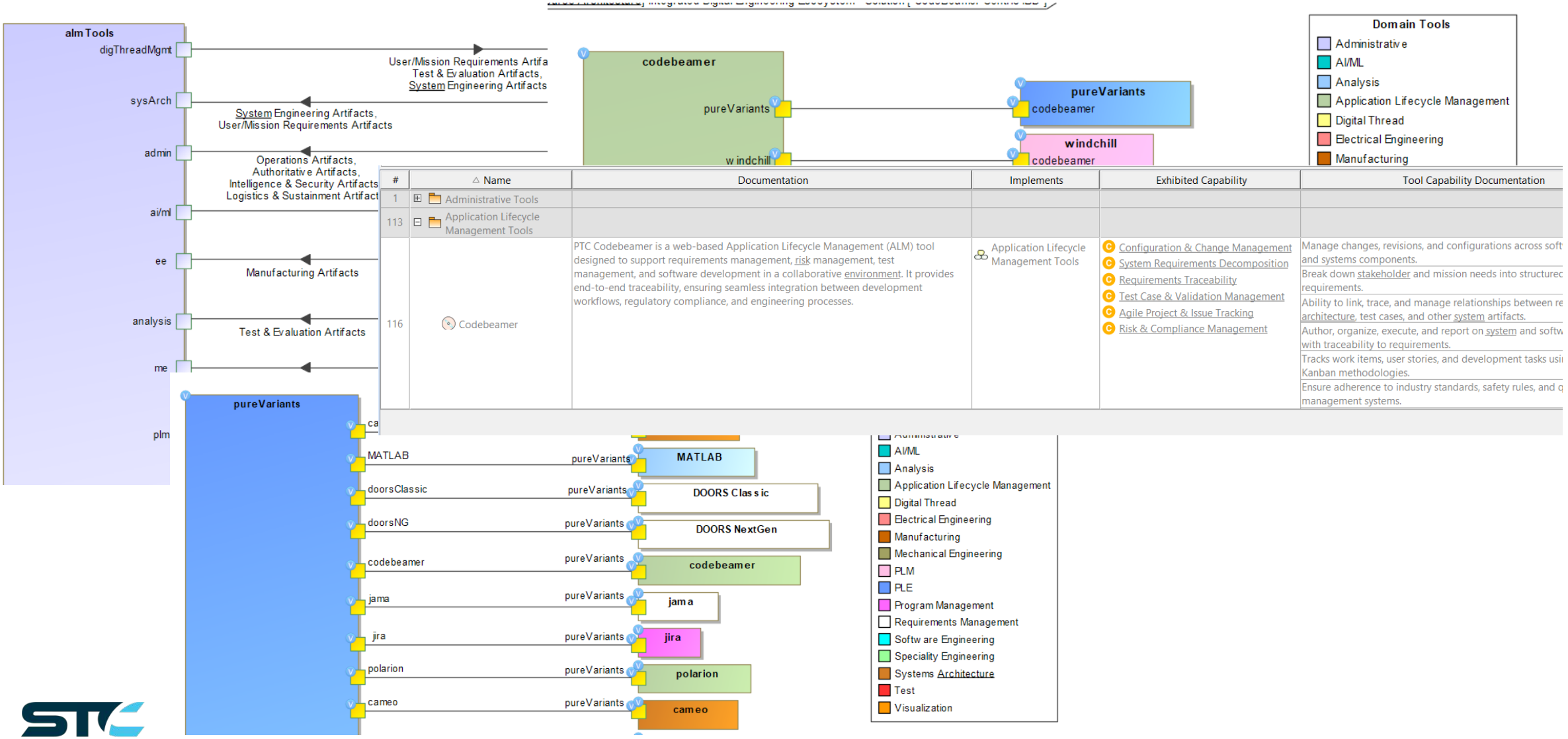
Factory of the Future – Solution Architecture



What do our superset views look like?

Solution Factory



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Maturity Framework

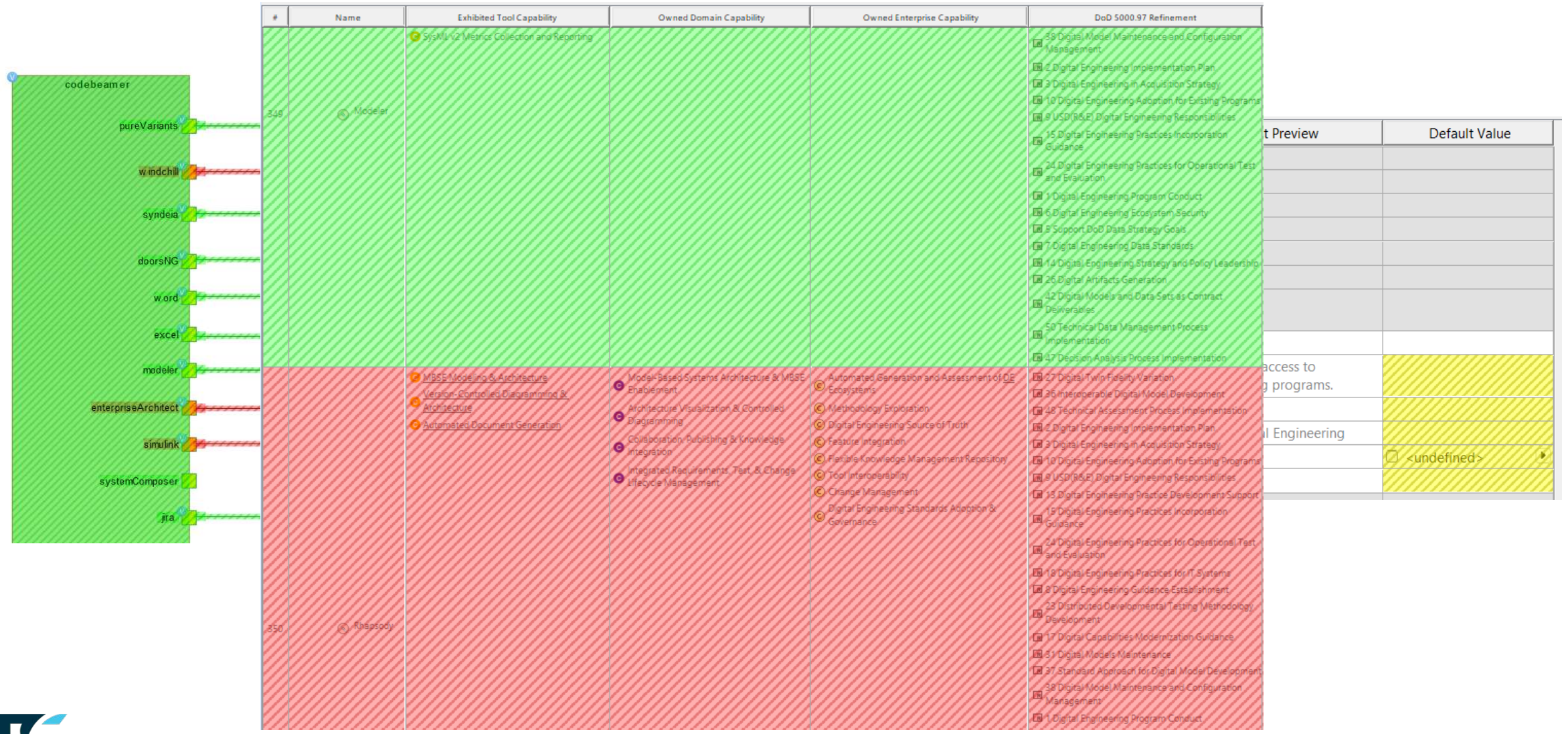
#	Name	Documentation	Assessment Preview	Default Value
1	Organizational Readiness			
2	Change Management Adoption			
4	Cross Disciplinary Collaboration			
6	Governance and Policy Alignment			
8	Maturity Monitoring and Feedback Loops			
10	OR-1 Workforce Enablement			
11	Accessibility of Training & DE Resources	Ensures that personnel have access to relevant training, documentation, and support resources for DE processes.		
12	Assessor			
13	Measurement Approach			
14	Measurement Value			
15	Measurement Value Justification			
16	MVP Item			<undefined>
17	Weight - Summed to <10			
18	Knowledge Management & Digital Engineering Repositories	Determines the extent to which DE best practices, lessons learned, and key resources are documented and shared.		
19	Assessor			
20	Measurement Approach			
21	Measurement Value			
22	Measurement Value Justification			
23	MVP Item			<undefined>
24	Weight - Summed to <10			
25	Workforce Training & DE Competency Management	Evaluates how well personnel are trained in digital engineering policies and compliance requirements.		
32	OR-2 Change Management Adoption			
89	OR-3 Cross Disciplinary Collaboration			
146	OR-4 Governance and Policy Alignment			

Digital Fabric Model

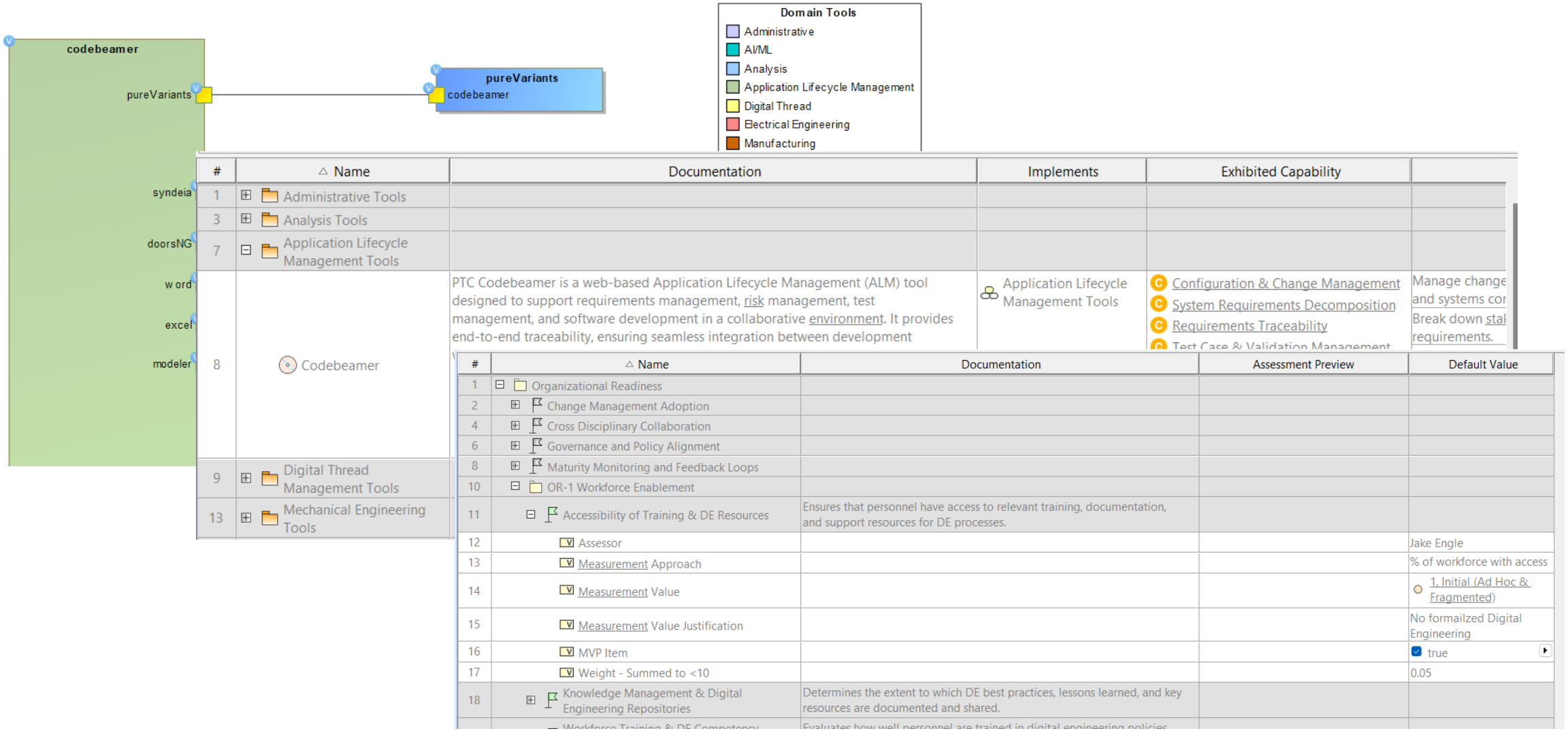
#	Name	Exhibited Tool Capability	Owned Domain Capability	Owned Enterprise Capability	DoD 5000.97 Refinement
10	Analysis Tools				
62	Application Lifecycle Management Tools				
63	Codebeamer	Configuration & Change Management System Requirements Decomposition Requirements Traceability Test Case & Validation Management Agile Project & Issue Tracking Risk & Compliance Management	Platform Tooling & Packaging Support Lifecycle Governance & Configuration Management Integrated Requirements, Test, & Change Lifecycle Management Requirements Engineering & Traceability Requirements Development, Traceability & Verification Software & System-Level Test Management Project Scheduling, Tracking & Resource Planning Security, Risk & Compliance Assurance	Deployment Management Maturity-Based Framework Change Management Digital Engineering Source of Truth Digital Engineering Standards Adoption & Governance Regulatory Compliance & Certification Traceability Tool Interoperability Requirements Validation Quality Assurance Organizational Strategic Aligment Roadmap Risk Management	12 Risk Management Framework Guidance Provision 1 Digital Engineering Program Conduct 49 Configuration Management Process Implementation 38 Digital Model Maintenance and Configuration Management 32 Red Team Testing Requirement 8 Digital Engineering Guidance Establishment 13 Digital Engineering Practice Development Support 23 Distributed Developmental Testing Methodology Development 17 Digital Capabilities Modernization Guidance 18 Digital Engineering Practices for IT Systems 27 Digital Twin Fidelity Variation 31 Digital Models Maintenance 36 Interoperable Digital Model Development 37 Standard Approach for Digital Model Development 34 Digital Model Evaluation 39 Digital Model Verification, Validation, and Accreditation 19 DoD Intellectual Property Policy Development 26 Digital Artifacts Generation 42 Digital Models and Data Sets as Contract Deliverables 21 Adaptive Acquisition Framework Pathways Leadership 33 Infrastructure Selection and Maintenance 6 Digital Engineering Ecosystem Security 4 Operational Security Compliance 45 Digital Engineering Implementation for Major Capability Acquisition 43 Digital Engineering Procedures in Software Acquisition 46 Digital Engineering Reporting in Defense Business Systems Acquisition 44 Digital Engineering Assessment for Urgent Capability Acquisition 40 Digital Engineering in Acquisition of Services

How we leverage MBPLE to Assess Architectural Impacts across FoF

Previews



Instantiated Variant Model Views



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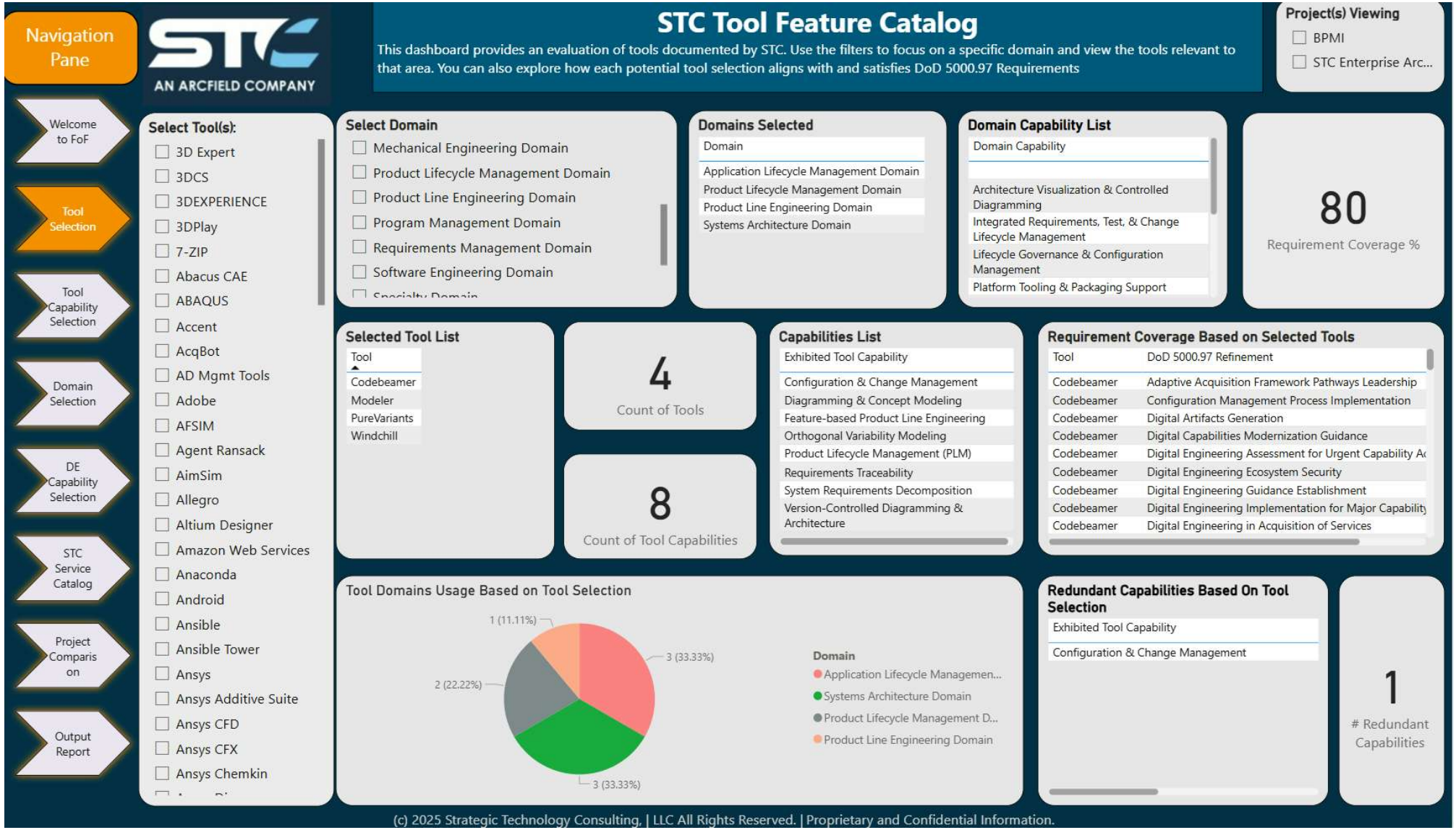
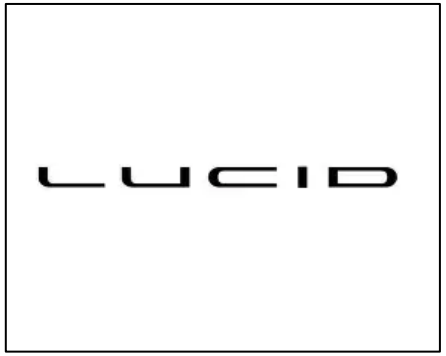
Visualization Dashboards for FoF

Tool Configurator



Customer Success Stories



THANK YOU

Jake P. Engle

Senior Chief Engineer, MBPLE | MBSE

Jake.Engle@arcfield.com

Stuart Masterson

Staff Chief Engineer, DE Integration & Infrastructure

Stuart.Masterson@arcfield.com