

Opus Suite
Conference

FUSARO

14 May 2025

Opus Suite, S-series and the cornerstones for successful LCM

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by Systecon
opus
suite

 **Systecon**



Today's story

1

Pre-conditions for successful LCM and Model Based Product Support

2

Getting started with Modeling and Analysis

3

Reaping the benefits of having a model

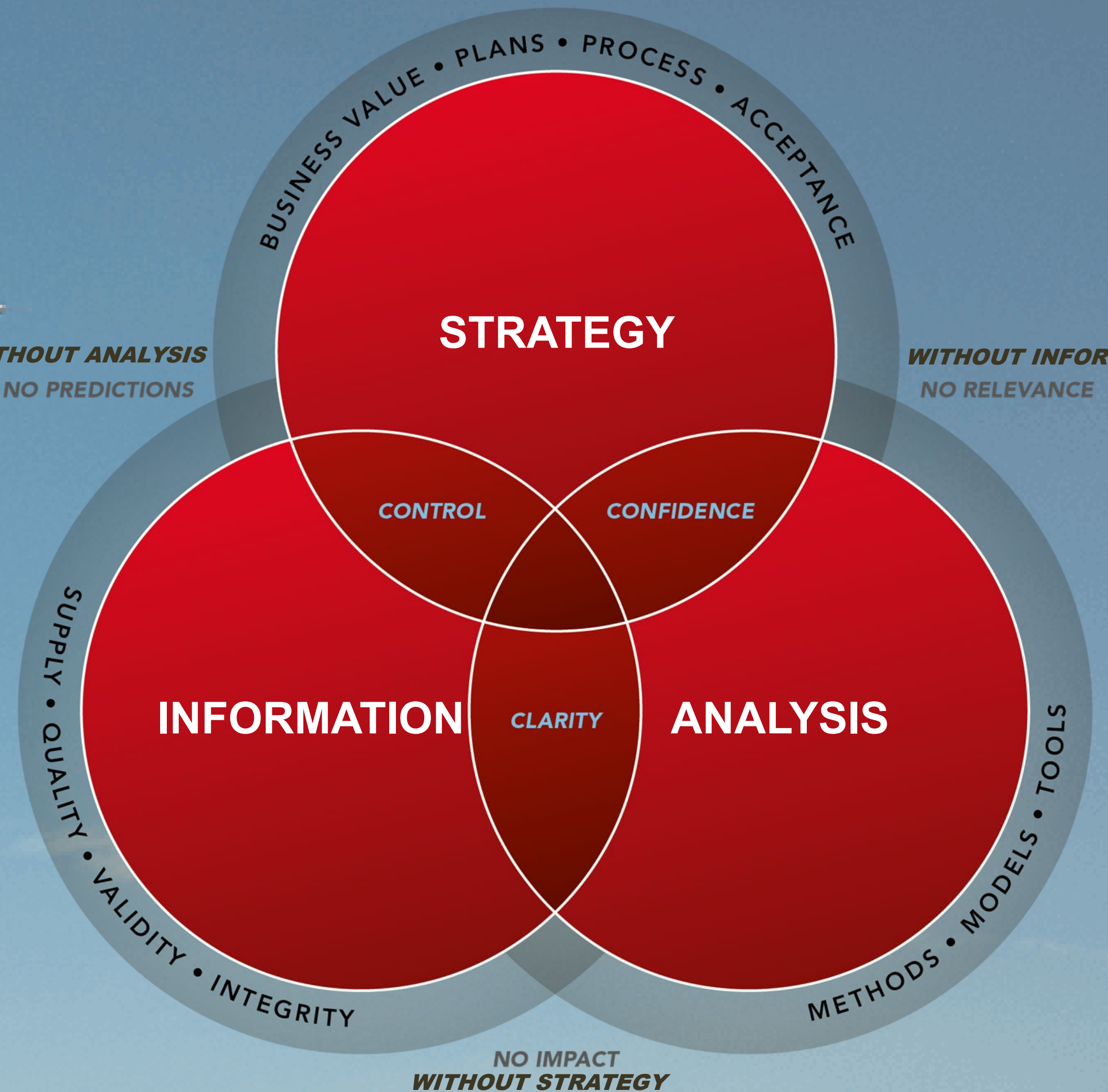


**What does it take to execute
successful Life Cycle Management?**



WITHOUT ANALYSIS
NO PREDICTIONS

WITHOUT INFORMATION
NO RELEVANCE



Successful LCM
requires...

One system – two players

COLLABORATION



Industry

Operator

Collaboration requires

Common process



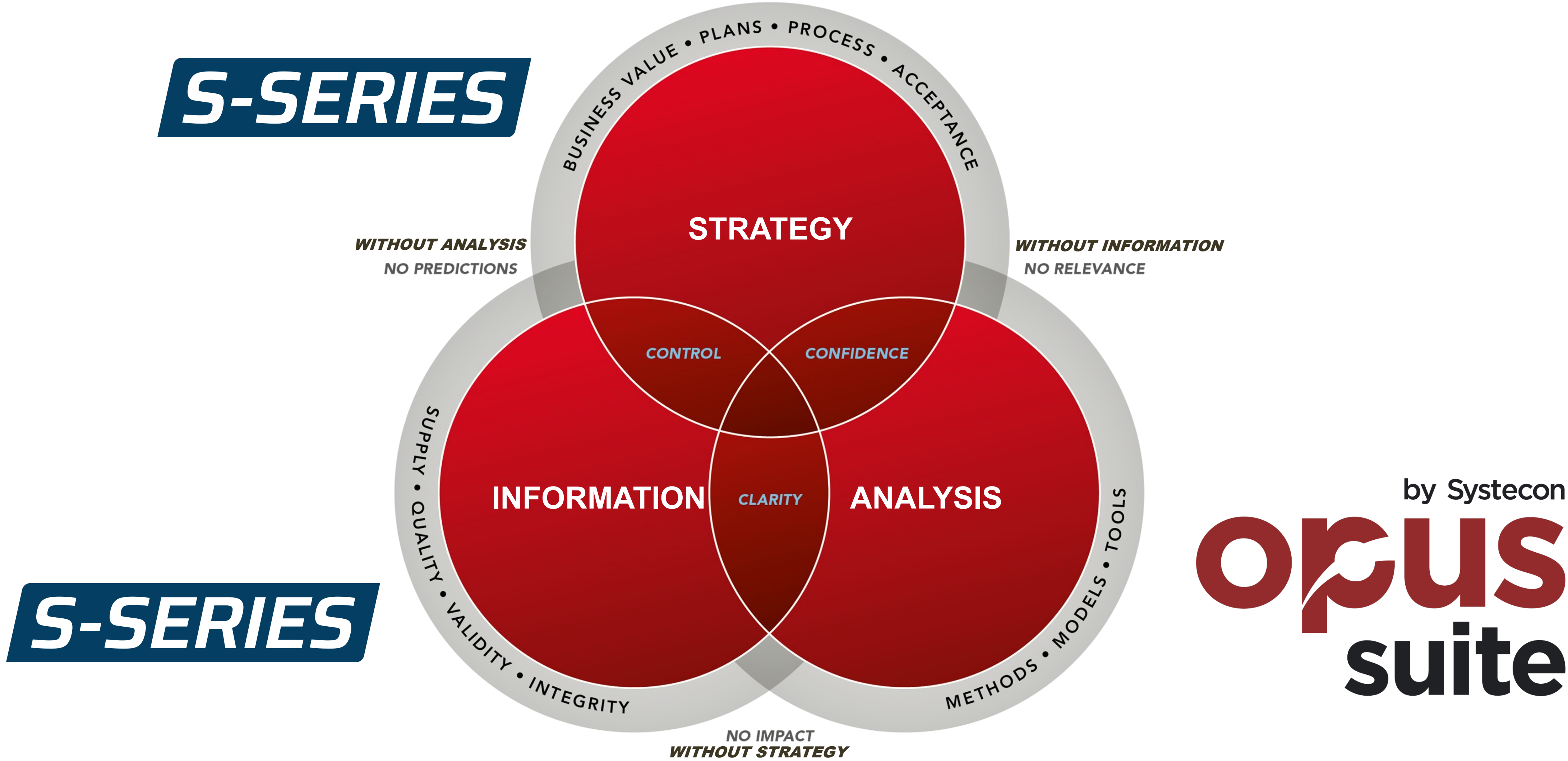
Common language & interpretation



Common models & understanding



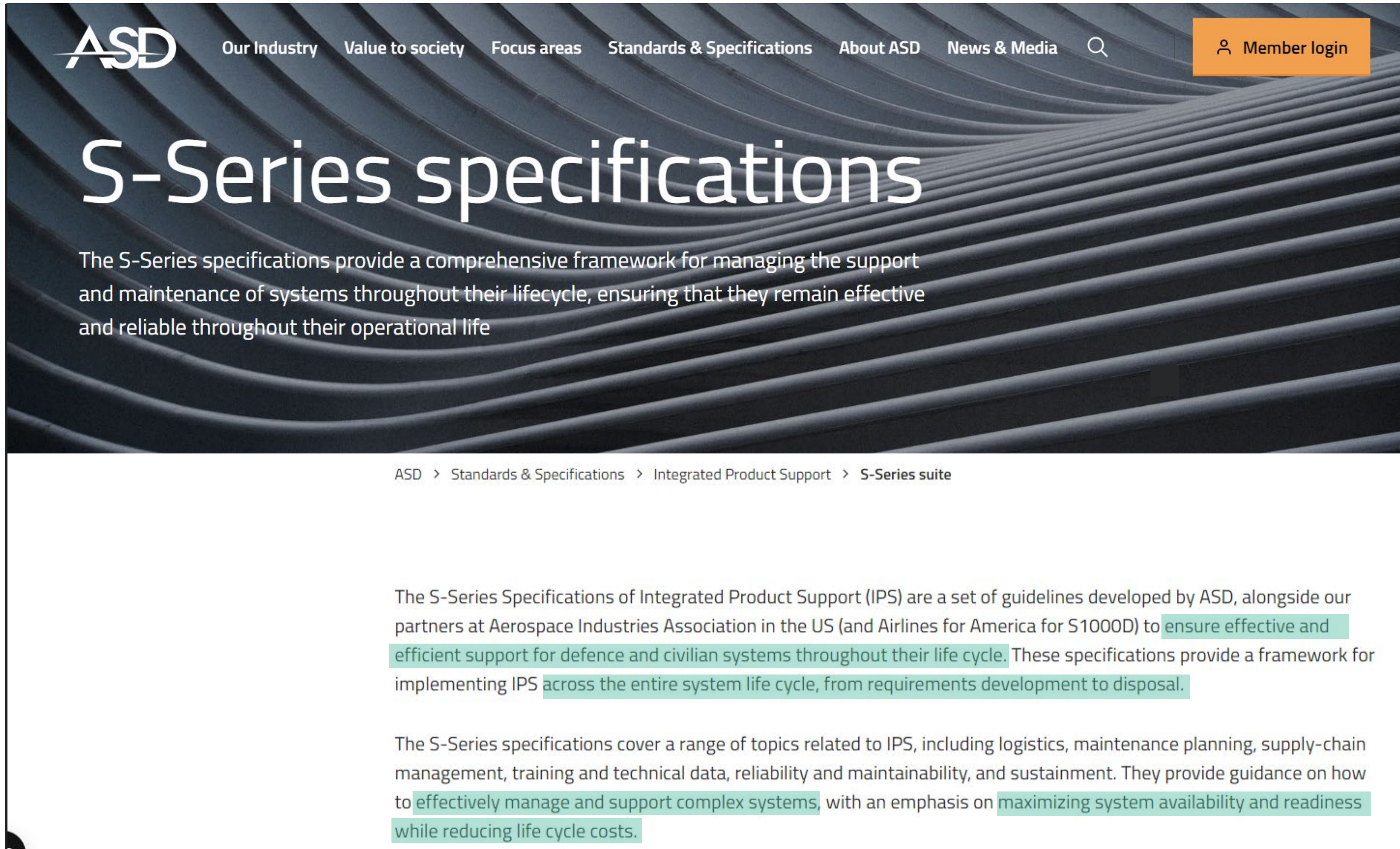
Available Assets



How do S-Series and Opus Suite relate to each other?



Scope and Objectives

A screenshot of the ASD website's 'S-Series specifications' page. The header features the ASD logo and navigation links: 'Our Industry', 'Value to society', 'Focus areas', 'Standards & Specifications', 'About ASD', and 'News & Media'. A search icon and a 'Member login' button are also present. The main heading is 'S-Series specifications'. Below it, a paragraph states: 'The S-Series specifications provide a comprehensive framework for managing the support and maintenance of systems throughout their lifecycle, ensuring that they remain effective and reliable throughout their operational life'. A breadcrumb trail reads: 'ASD > Standards & Specifications > Integrated Product Support > S-Series suite'. The content area contains two paragraphs. The first paragraph describes the S-Series Specifications of Integrated Product Support (IPS) as guidelines developed by ASD and the Aerospace Industries Association in the US (and Airlines for America for S1000D) to ensure effective and efficient support for defence and civilian systems throughout their life cycle. The second paragraph states that the S-Series specifications cover a range of topics related to IPS, including logistics, maintenance planning, supply-chain management, training and technical data, reliability and maintainability, and sustainment. They provide guidance on how to effectively manage and support complex systems, with an emphasis on maximizing system availability and readiness while reducing life cycle costs.

ASD

Our Industry Value to society Focus areas Standards & Specifications About ASD News & Media

Member login

S-Series specifications

The S-Series specifications provide a comprehensive framework for managing the support and maintenance of systems throughout their lifecycle, ensuring that they remain effective and reliable throughout their operational life

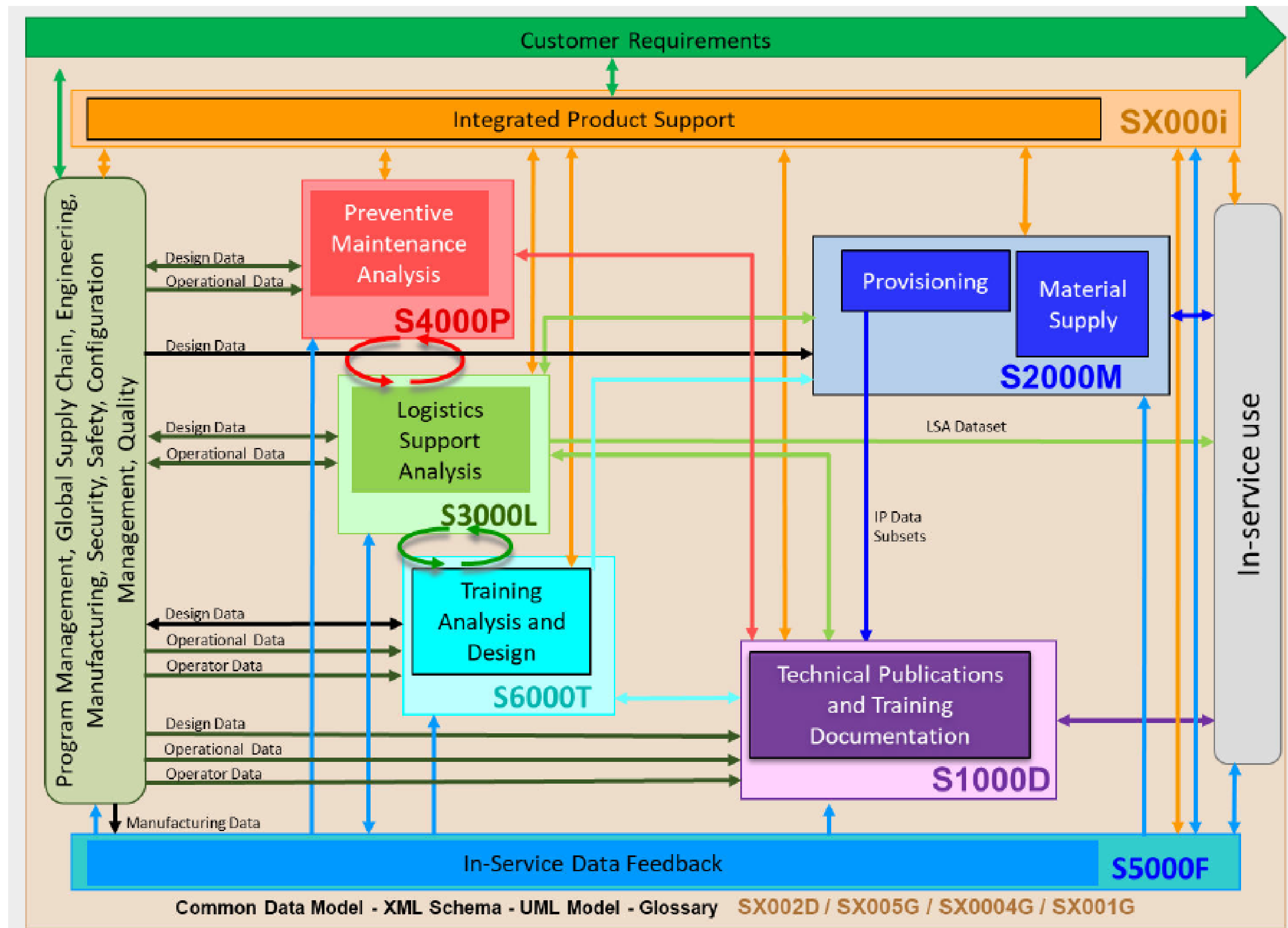
ASD > Standards & Specifications > Integrated Product Support > S-Series suite

The S-Series Specifications of Integrated Product Support (IPS) are a set of guidelines developed by ASD, alongside our partners at Aerospace Industries Association in the US (and Airlines for America for S1000D) to ensure effective and efficient support for defence and civilian systems throughout their life cycle. These specifications provide a framework for implementing IPS across the entire system life cycle, from requirements development to disposal.

The S-Series specifications cover a range of topics related to IPS, including logistics, maintenance planning, supply-chain management, training and technical data, reliability and maintainability, and sustainment. They provide guidance on how to effectively manage and support complex systems, with an emphasis on maximizing system availability and readiness while reducing life cycle costs.

Source: <https://www.asd-europe.org/standards-specifications/integrated-product-support/s-series-suite/>

S-Series Specifications of IPS



- **Framework, Guidelines, Processes & Metrics:**
 - 7 Specifications
 - 12 IPS Elements
 - 48 Major Activities with related deliverables
- **Common data model**
- **Data exchange format**

S-SERIES

SX000i

S1000D

S2000M

S3000L

S4000P

S5000F

S6000T

Some comments on S-series

(citations from SX000i)

Aims to provide and enable best practices for IPS

“...it is based on best practices used throughout world-wide Product support processes, handbooks and standards and makes maximum use of lessons learned from current systems.”

Enable Collaboration, Commonality and Exchange of Information

“...enable collaboration between customers and industry...”

“...all stakeholders will be able to apply common Product support processes...”

“...simplification of electronic information exchange...”

Made to be customized – with certain mandatory areas

“...the IPS activities [of the S-series] need to be customized. Specific Products or Services will not need to use all IPS activities. Therefore, implementation of the S-Series IPS specifications involves the selection or tailoring of a suitable set of IPS activities”

“There is no standard structure, but there are areas that customer or contractor must use”

Does not specify analysis tools

“It does not specify the use of specific tools, but establishes the essential information required to initiate, maintain and schedule the IPS activities, that apply through the entire Product life cycle, as well as the necessary deliverables”

Scope and Objectives



The screenshot shows the ASD website's "S-Series specifications" page. The header includes the ASD logo and navigation links: "Our Industry", "Value to society", "Focus areas", "Standards & Specifications", "About ASD", and "News & Media". A search icon and a "Member login" button are also present. The main heading is "S-Series specifications". Below it, a paragraph states: "The S-Series specifications provide a comprehensive framework for managing the support and maintenance of systems throughout their lifecycle, ensuring that they remain effective and reliable throughout their operational life". A breadcrumb trail reads: "ASD > Standards & Specifications > Integrated Product Support > S-Series suite". The main content area contains two paragraphs. The first paragraph describes the S-Series Specifications of Integrated Product Support (IPS) as guidelines developed by ASD and partners at the Aerospace Industries Association in the US (and Airlines for America for S1000D) to ensure effective and efficient support for defence and civilian systems throughout their life cycle. The second paragraph states that the S-Series specifications cover a range of topics related to IPS, including logistics, maintenance planning, supply-chain management, training and technical data, reliability and maintainability, and sustainment. They provide guidance on how to effectively manage and support complex systems, with an emphasis on maximizing system availability and readiness while reducing life cycle costs.

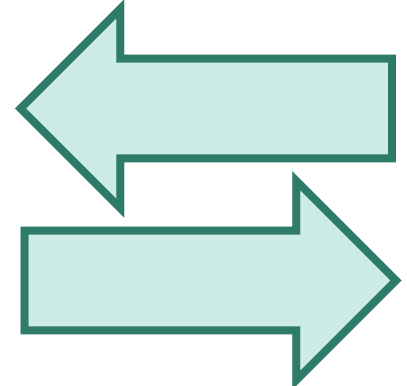
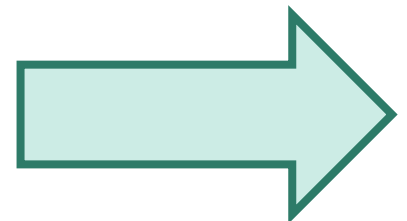
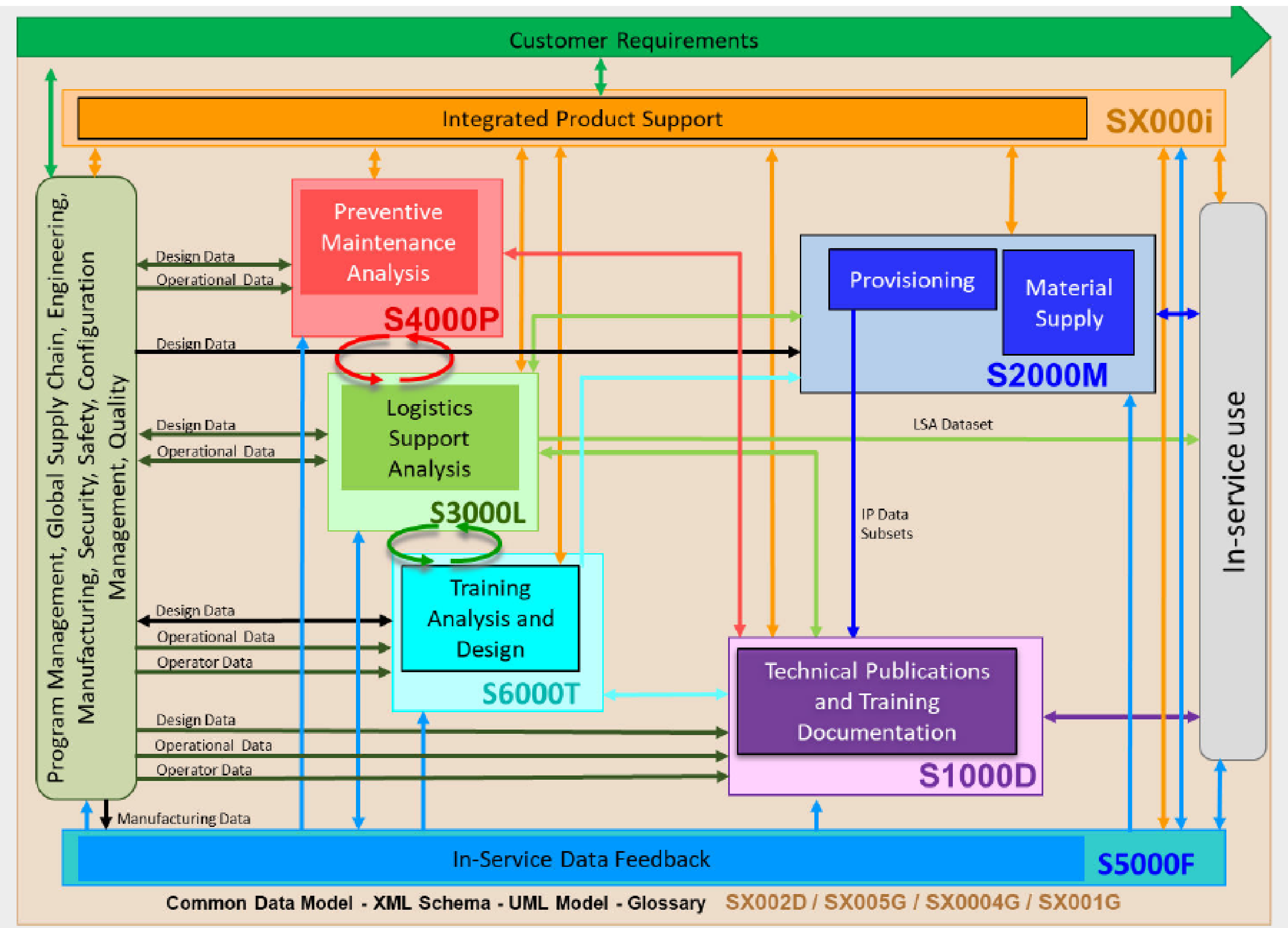


Opus Suite enables analysis-driven decision-making in all phases of a system's life cycle. It is used in defense programs across the globe, by defense forces and suppliers to ensure fleet readiness, mission effectiveness, and cost-effectiveness through the lifecycle. It supports strategic and tactical decision-making to maximize readiness, agility, and robustness of defense systems while lowering through-life costs.

Source: <https://www.asd-europe.org/standards-specifications/integrated-product-support/s-series-suite/>

S-Series Specifications of IPS

+ Analysis Capability



Modelling and Analysis

**Simulate / Predict /
Evaluate / Optimize**

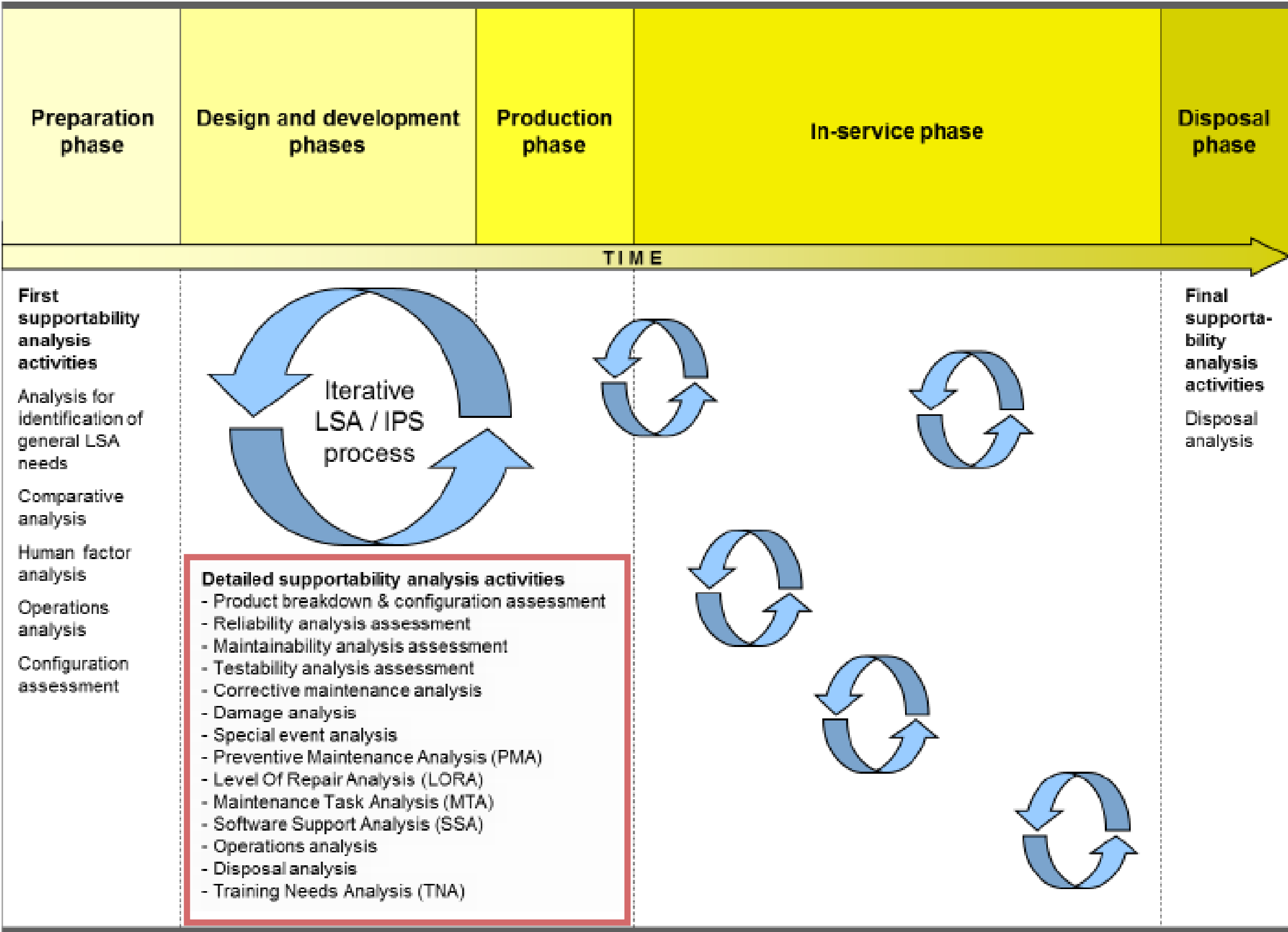
**Understand / Optimize
Impact on Performance
and Cost**

**Well Informed /
Good Decisions**

OBJECTIVES
Capability, Readiness
Cost Effectiveness

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Ongoing analysis activities



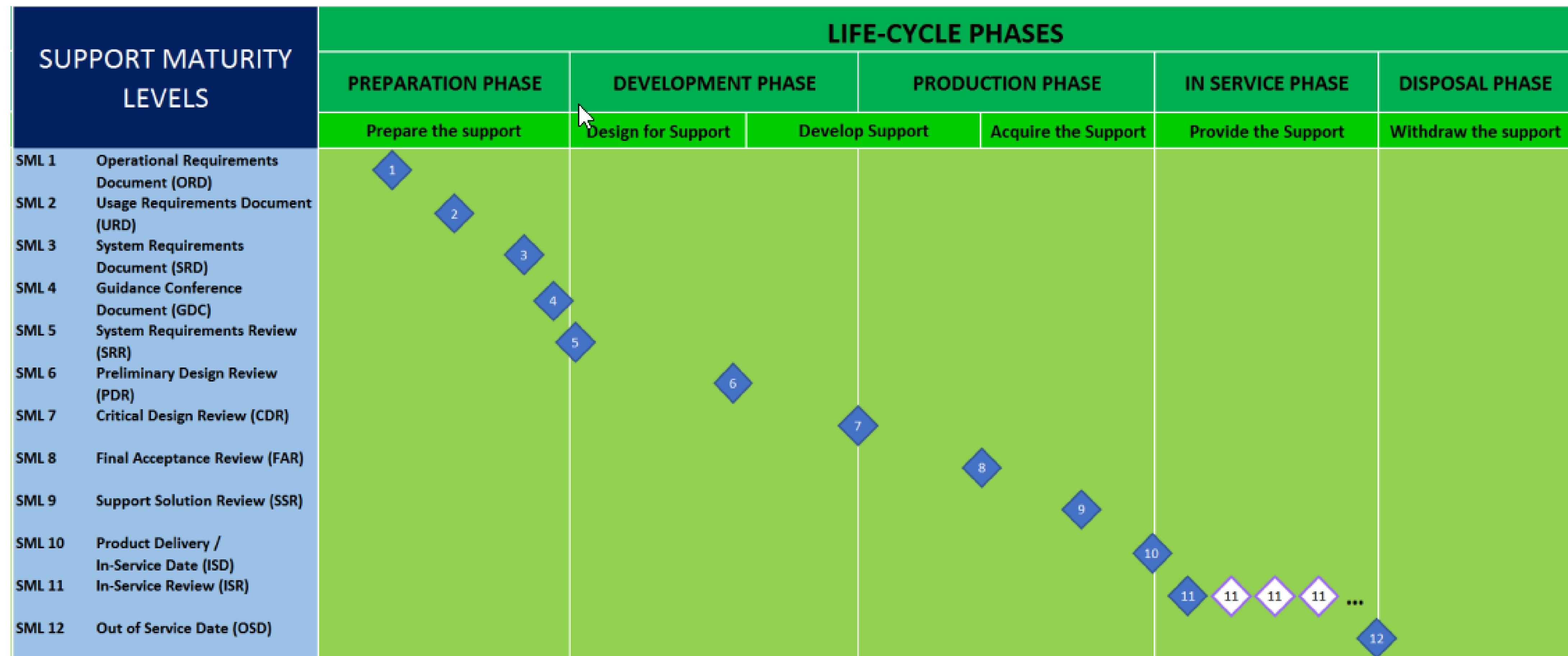
- Detailed supportability analysis activities**
- Product breakdown & configuration assessment
 - Reliability analysis assessment
 - Maintainability analysis assessment
 - Testability analysis assessment
 - Corrective maintenance analysis
 - Damage analysis
 - Special event analysis
 - Preventive Maintenance Analysis (PMA)
 - Level Of Repair Analysis (LORA)
 - Maintenance Task Analysis (MTA)
 - Software Support Analysis (SSA)
 - Operations analysis
 - Disposal analysis
 - Training Needs Analysis (TNA)

Fig 9 Position of LSA activities in the overall project schedule

Milestones and review



(Diagram from SX000i)



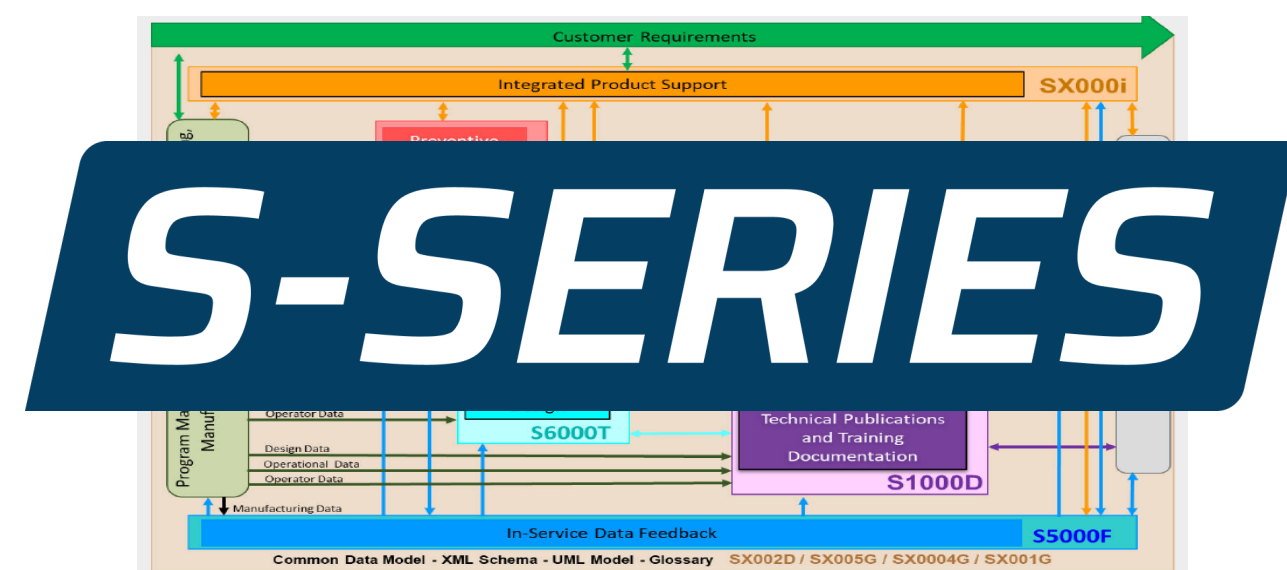
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Fig 1 Overview of IPS maturity levels, milestones and life cycle phases

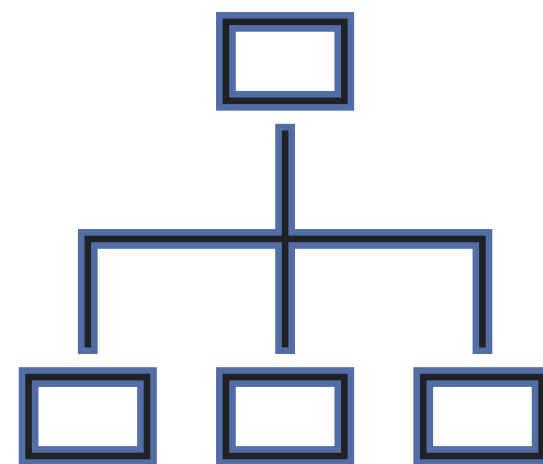
Making collaboration easier



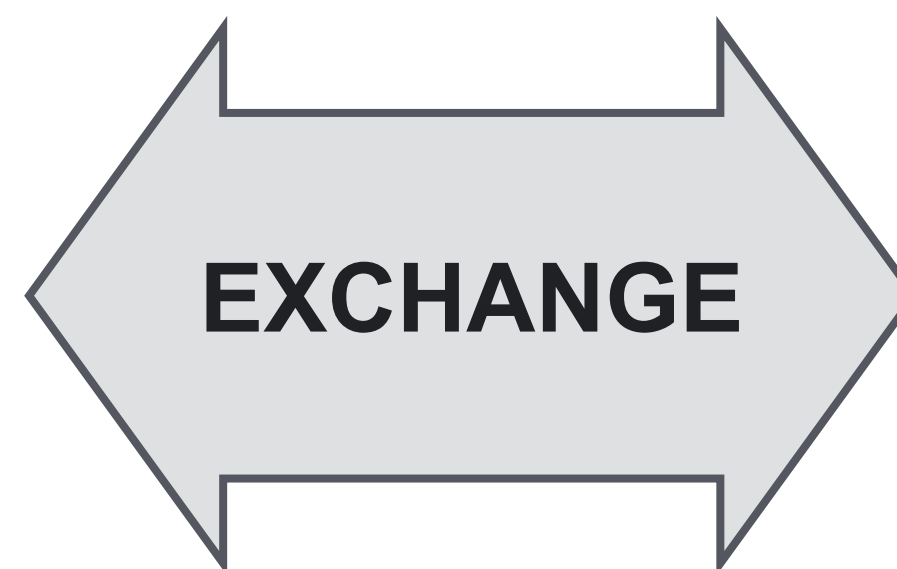
Efficient exchange



Framework, procedures and guidelines
Data model and data exchange format

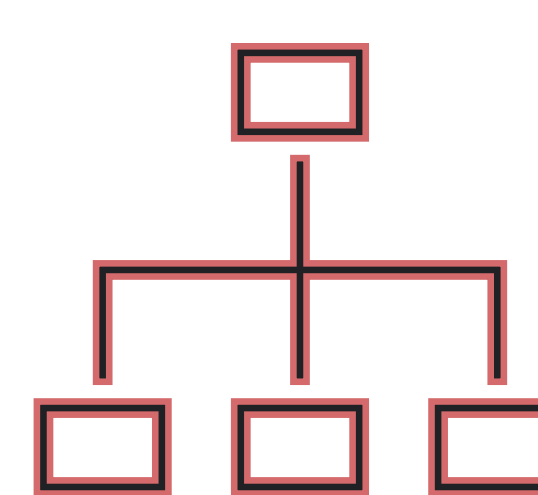


Information & Data model



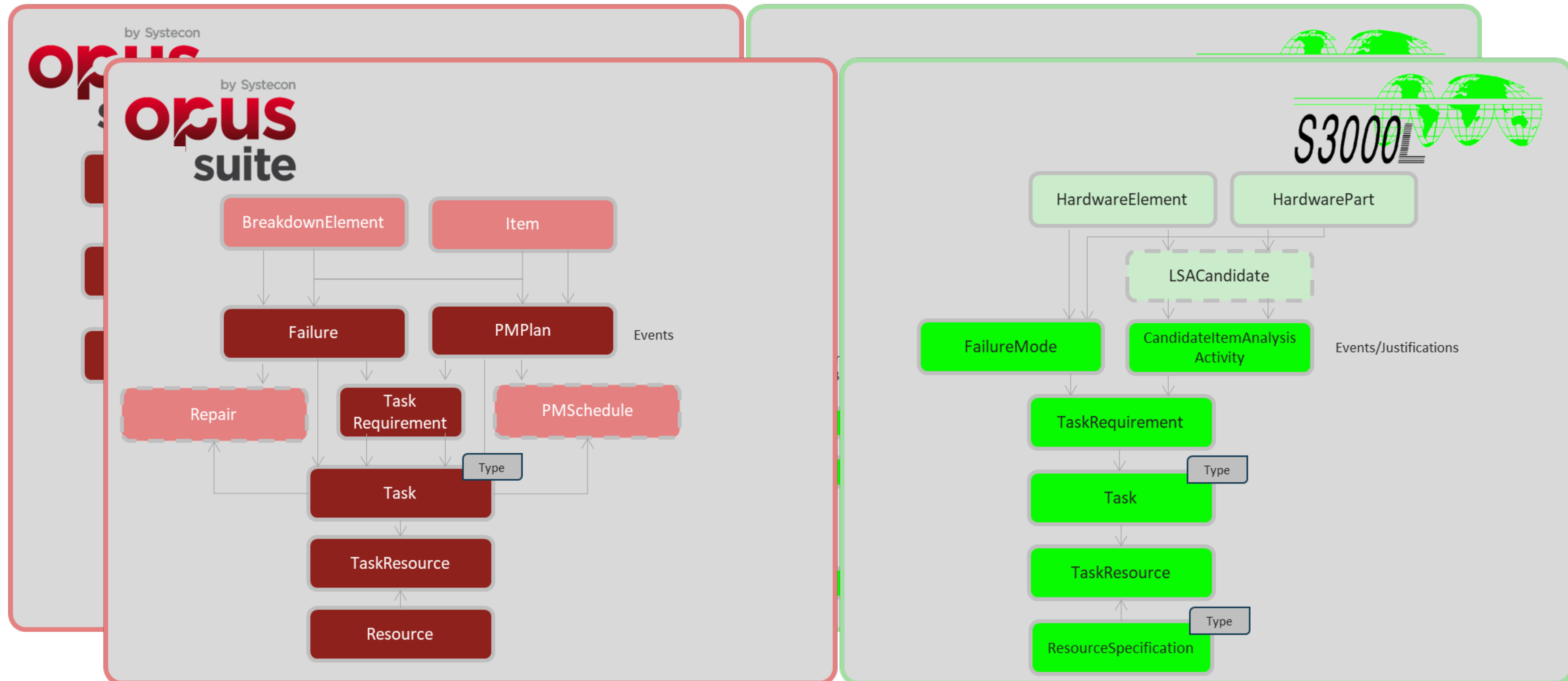
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Opus
suite

Decision support through modeling
analysis, optimization, simulation
Opus Suite data model

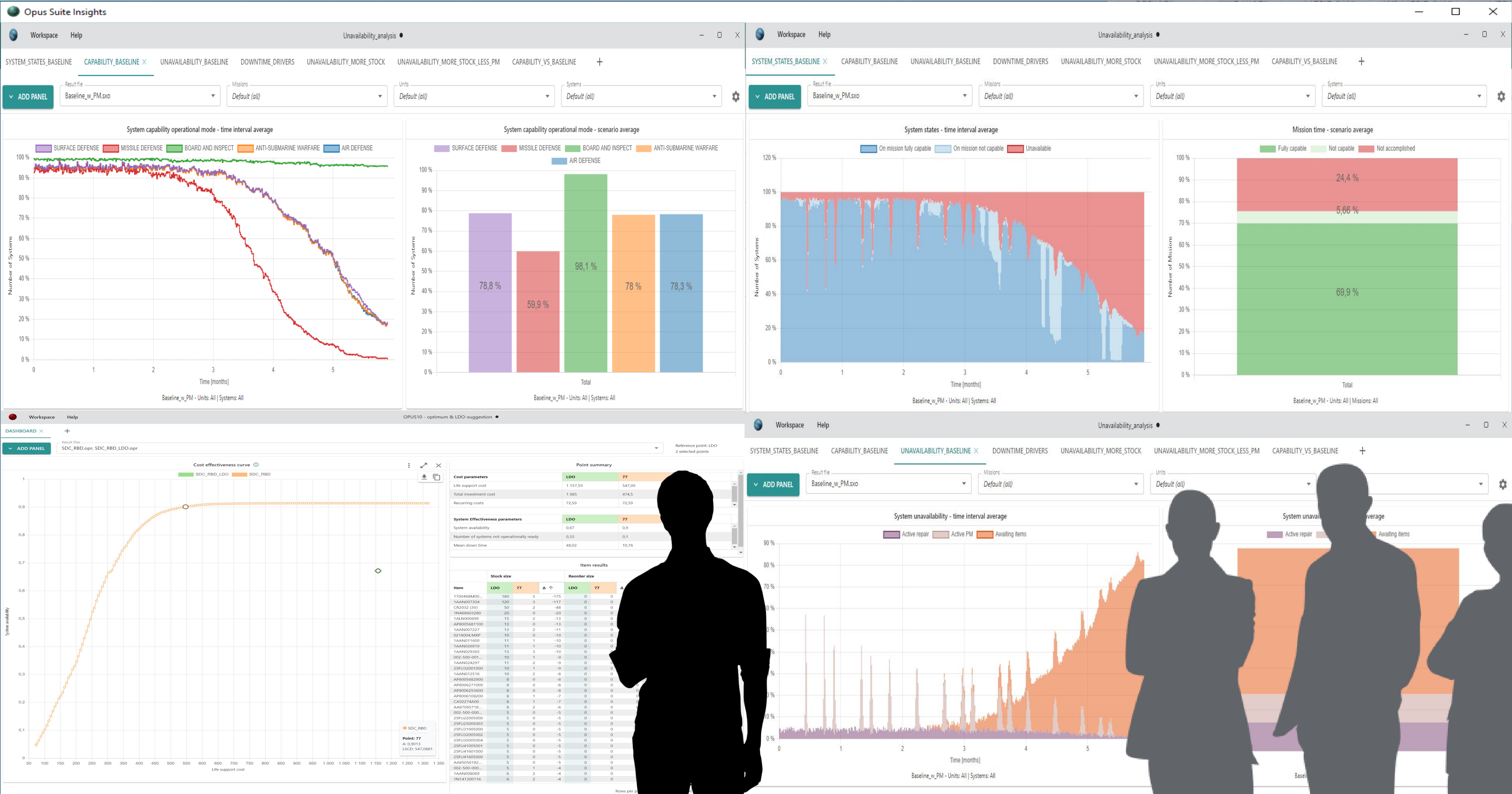


Data model & Information

Harmonization of models



Shared understanding



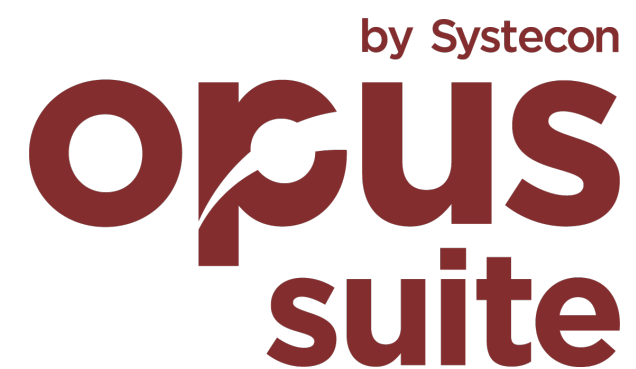
To Summarize



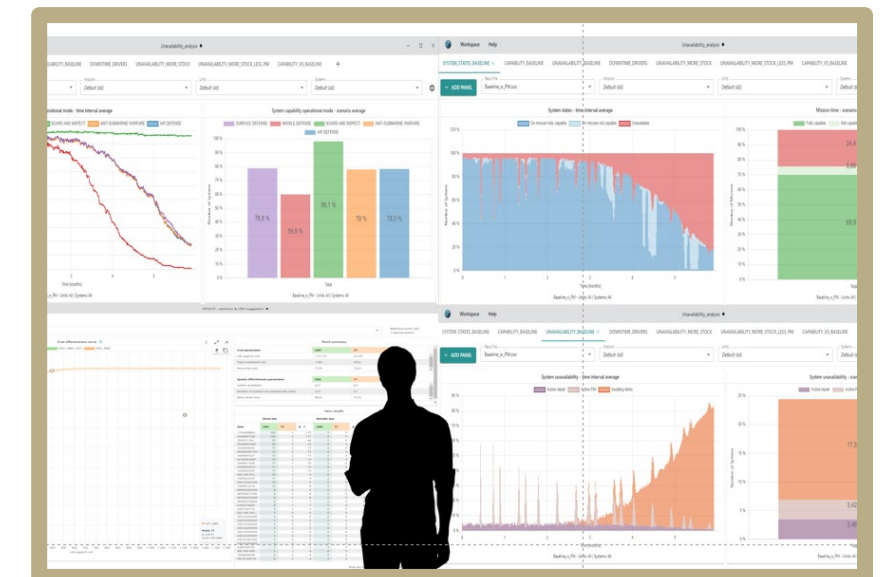
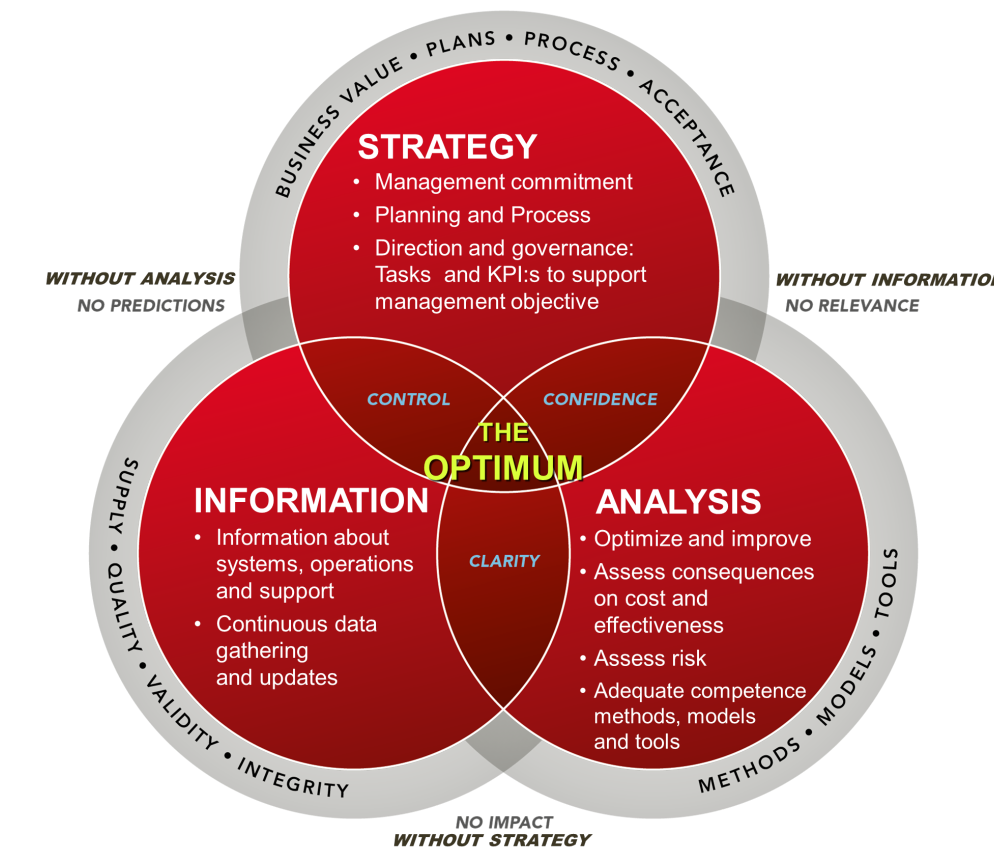
-Collaboration is key to achieve the target of successful LCM



-S-series helps with framework, strategy and process. One outcome is information



-Opus Suite provides the analytic component (prescribed by S-series) enabling informed decision making.



Grazie per l'attenzione

