



AVEVAWORLD
PARIS



Rethinking Digital Thread for Product and Asset Lifecycle Management

The AVEVA / Aras Strategic Partnership

AVEVA World 2024, Paris, France

Malcolm Panthaki (VP of Global Alliances, Aras) & Valentina Futoryanova (Strategic Business Manager, AVEVA)

Agenda

Strategic partnership with AVEVA

Introduction to *The Aras Effect*

Aras for Process Manufacturing

AVEVA Asset Lifecycle Management Program

The AVEVA Deliverables Management application

Modular Design in the EPC Industries

Malcolm
(Aras)

Valentina
(AVEVA)

The AVEVA/Aras Strategic Partnership

1

Co-sell Partnership

- AVEVA can offer Aras Innovator PLM
 - To be offered/deployed alongside AVEVA products
- Available now, through AVEVA Flex
- Collaborative sales and delivery effort



2

Strategic OEM Partnership

- New AVEVA ALM offerings, powered by Aras Innovator
- Deliverables Management available in November 2024
- Uses Aras Innovator as a licensed technology platform

AVEVA

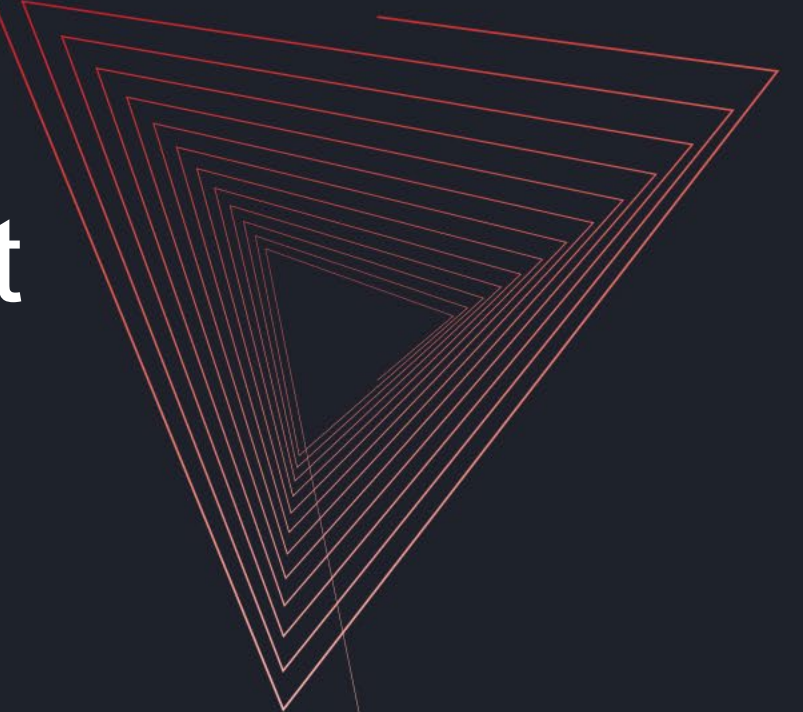




Introduction to the Aras Effect

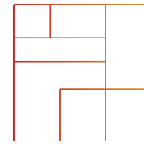
AVEVA World – October 2024

Malcolm Panthaki | VP of Global Alliances | Aras

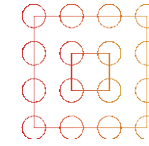


The Reality

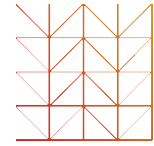
Most product-driven organizations struggle with capturing the potential of digital transformation.



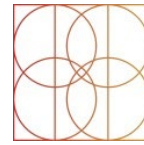
MONOLITHIC APPLICATIONS



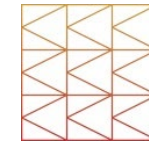
DISCONNECTED DIGITAL THREAD



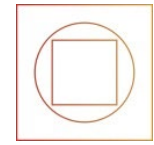
COMPLICATED TO ADAPT



DIFFICULT TO LEVERAGE CLOUD



COMPLEX TO UPGRADE



STAGNANT INNOVATION

Digital Capability Drives Agility.

Product organizations must navigate cascades of regulatory changes, sustainability goals, supply chain disruptions, global competition, economic cycles, and new business models.

Digitalization is a key enabler – the foundation is the Digital Thread.



of product executives say digitalization is fundamental to navigating uncertainty.

2024 Aras Global Insights Survey

TRANSFORMATIVE TECHNOLOGIES

- **Software-defined Business Processes**
- **Digital Threads**
- **Cloud Technologies**
- Workflow Automation
- Collaboration Across Value Chains
- Advanced Simulation
- Analytics and Data Science
- Digital Twins
- Generative AI



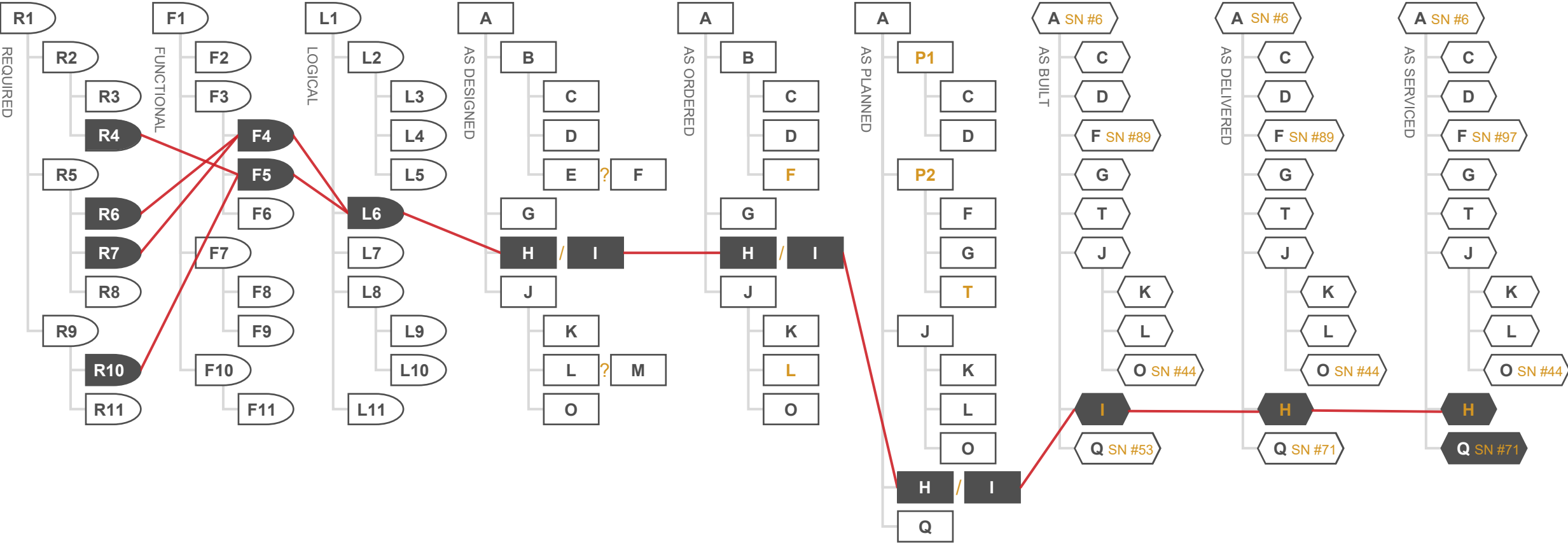
Changing the Paradigm

The Aras vision is to change the way people work together to make things.

We deliver PLM and digital thread solutions that empower our community to embrace what makes them unique, to overcome new challenges, and to seize opportunity.

Own your Digital Thread

Product/Asset Lifecycle

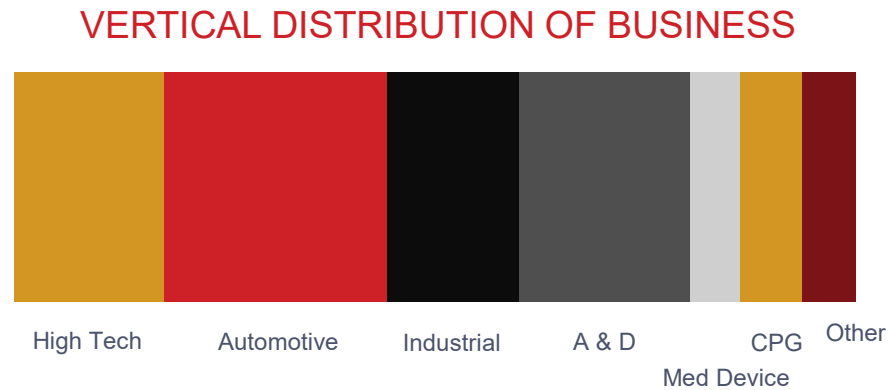
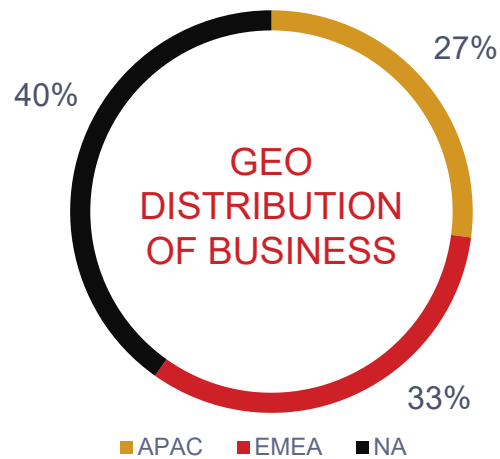


Digital Thread powers systems thinking, collaboration, workflow and applications, analytics and AI, ...



Aras at a Glance

Aras delivers an open and adaptable platform for building PLM and digital thread solutions that empowers digital engineering and product teams to unlock innovation across their organizations.



800
EMPLOYEES

600+
CUSTOMERS

1.6M+
USERS



A Leader in Product Lifecycle Management

TOP RATED PLM SOLUTION

by Peer Review Sites



Aras Innovator



Aras Innovator



RECOGNIZED AS A LEADER

by Industry Analysts

Aras positioned as technology
LEADER
in 2023 Forrester Wave
PLM For Discrete Manufacturers

FORRESTER®

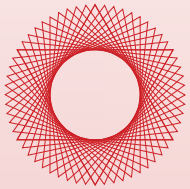
Aras positioned as technology
LEADER
in 2023 SPARK Matrix
for PLM



Aras is a Mindshare
LEADER
for 2023

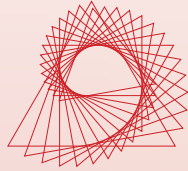
CIMdata

Embrace the Aras Effect



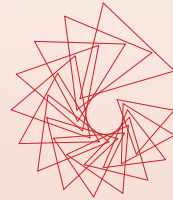
Digital Thread

Build your PLM strategy on a foundation that streamlines collaboration, decision making, and traceability



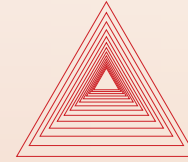
Adaptability

Leverage adaptable PLM solutions that fit your unique needs and can evolve



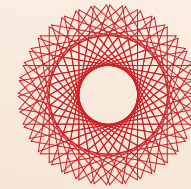
Openness

Gain the agility of an open digital engineering ecosystem



Scalability

Harden and future-proof your PLM infrastructure



Community

Join a community focused on collaborative innovation

ARAS INNOVATOR

A Platform for
PLM +
Digital Thread

AVEVA™ Asset Lifecycle Management Applications



Application Library

Composable applications supporting common PLM business processes



Product Data Platform

The data backbone of your digital engineering ecosystem



Low Code Development

Adapt PLM and digital thread solutions with fully integrated, enterprise-class low code development

Aras Innovator



Ecosystem Integration

Extend digital thread to broader digital engineering and digital enterprise

Unlocking Innovation with World's Leading Brands



1.6M+ Users in Over 50 Countries Across Every Industry



Aras for process manufacturing



What are Process Industries

- A sector of manufacturing that involves the **production of goods through a series of steps or processes.**
- **Involves the continuous or batch production of goods** such as chemicals, food and pharmaceuticals.
- Raw materials undergo various chemical or mechanical transformations to create the final product.
- **Processes are controlled and systematic, often involving precise measurements and specific conditions.**

Process Industry Examples

Bulk drug pharmaceuticals

Chemical, tire, and process industries (CTP)

Cosmeceuticals and personal care (CPG)

Food & beverage, food processing (CPG)

Nutraceuticals

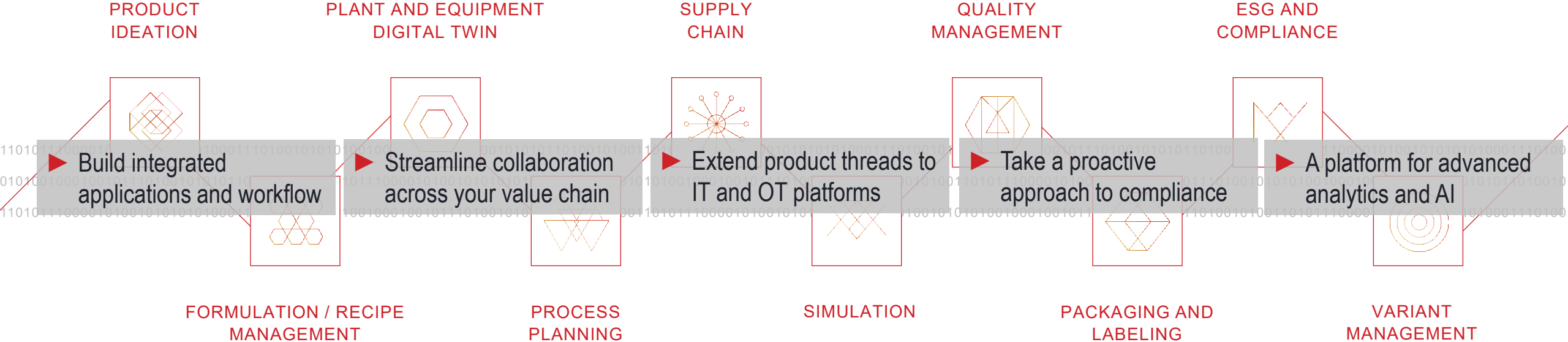
Paints and coatings

Semiconductor fabrication

Steel and aluminum processing

Textiles

Digital Thread and PLM for Process Manufacturing



ARAS FOR PROCESS MANUFACTURING

Rethinking Formulation and Recipe Management in Food & Beverage

Solution

Aras Innovator SaaS as PLM for complex recipe management, supply chain and labeling compliance requirements.

Why Aras

Integration to SAP S4/HANA and broader enterprise application infrastructure.

Business Outcomes

Creation of a unified environment that allows global collaboration with a single set of processes and data.

Use Case

Leverage flexibility to develop applications to accommodate unique requirements.

“ *Transparency and security throughout the entire supply chain is crucial for us as a global beverage manufacturer. Aras Innovator provides a unified environment that allows all users of product information to collaborate around a single set of processes and data.* ”

ARAS FOR PROCESS MANUFACTURING

Managing Complex Labeling Requirements



IMPERIAL BRANDS

Solution

Imperial Brands sought to enhance its operations by implementing Aras Innovator to overcome systems and collaboration challenges to transform their business on a global scale.

Why Aras

Built numerous custom applications to address specific business needs on top of the out-of-the-box functionalities already provided by the platform.

Business Outcomes

The PLM transformation journey empowered Imperial Brands to embark on further digitalization and modernization efforts across their organization and supply chain.

Use Case

Workflows allowed for efficient data transfer between tasks and teams, ensuring work packages reached the right individuals at the appropriate time, aligning with the underlying business processes.

“*The Aras platform revolutionized our approach to collaboration and process streamlining. Its powerful workflow capabilities enabled us to connect our fragmented systems and establish a seamless end-to-end approach, driving efficiency and productivity.*”

Connecting Digital Twins to PLM

Panasonic
ENERGY

Aras Innovator SaaS as a PLM to manage battery, production equipment, and factory level information

PLM and Digital Twin Management for production equipment: Maintained BOM, Installation Details, Digital Thread, Maintenance Instructions, Engineering Changes

Establishing common data environment – maintain Digital Thread for factory as an ecosystem of assets



AVEVA Asset Lifecycle Management: *Deliverables Management Application*

AVEVA World – October 2024

Valentina Futoryanova | Strategic Business Manager | AVEVA

Asset lifecycle management (ALM)

Rigorous lifecycle management tools built from the ground up for continuous industries

ALM supports the *entire* asset lifecycle from concept to decommissioning

Flexibility

Ability to easily move versions and deploy modules according to user and project needs

Scalability

Data-centric ALM system scales with large, complex asset design

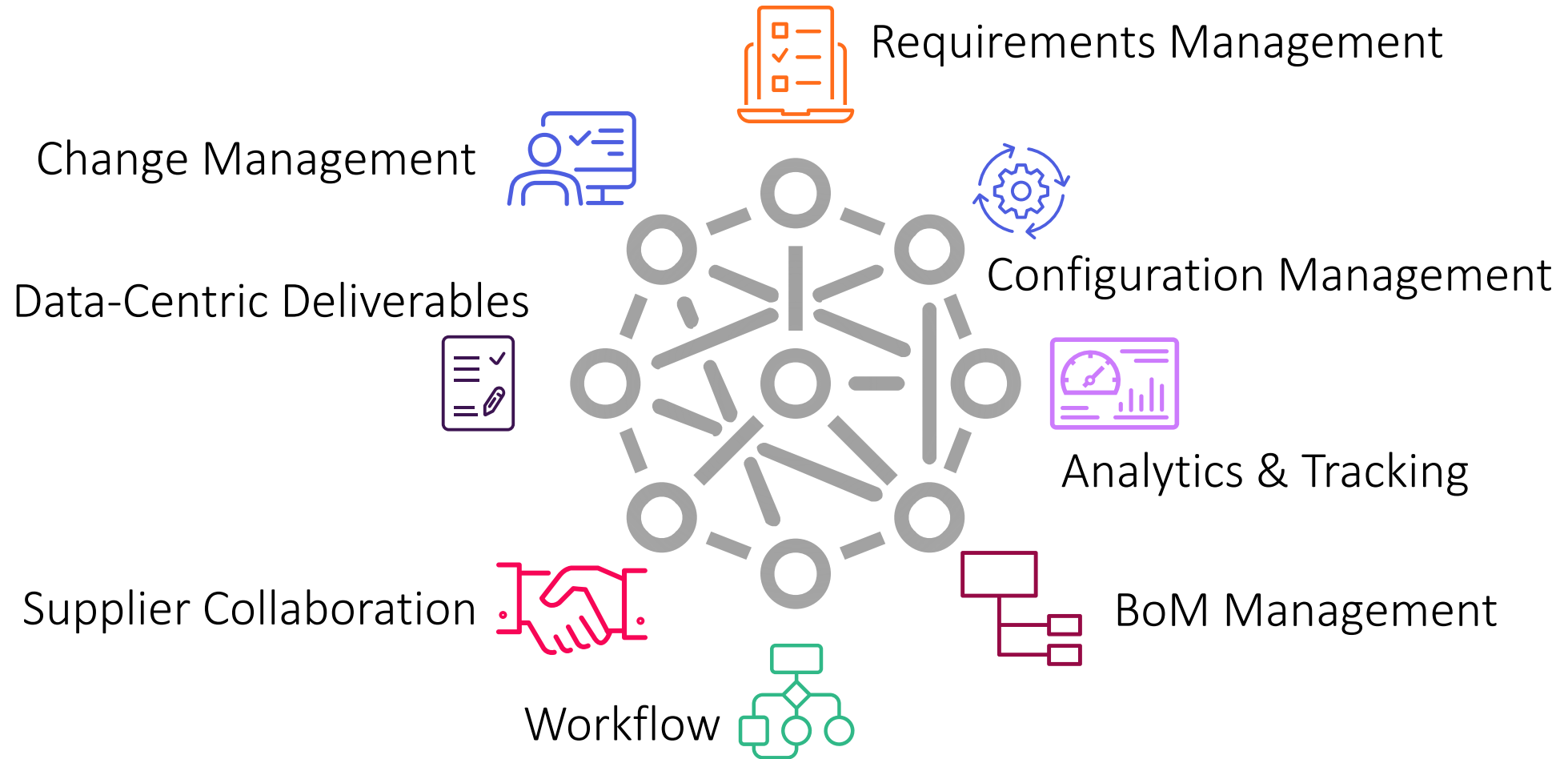
Integration

Integrates natively with engineering and design tools as part of AVEVA Unified Engineering

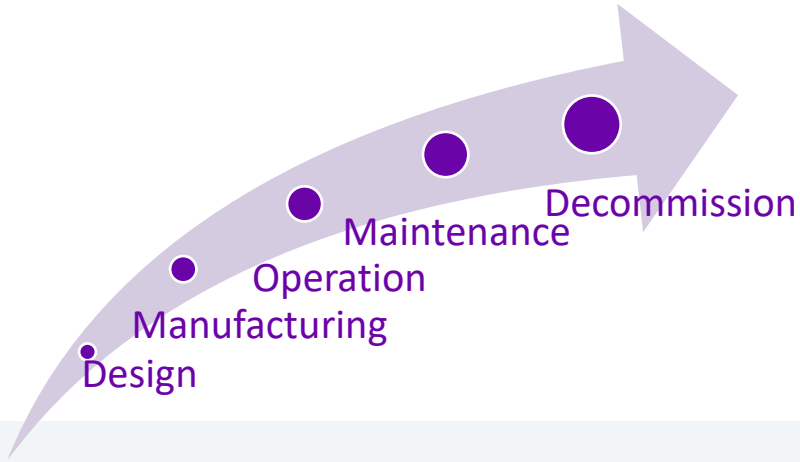
Time to Value

OOTB libraries and reference projects ensure that implementation and adoption is smooth and efficient. Fast ROI as compared to traditional PLM solutions.

Asset Lifecycle Management



AVEVA Asset Lifecycle Management



Integration

AVEVA ALM Solution will integrate with multiple CAD tools typically used in complex projects.



Time to Value

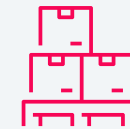
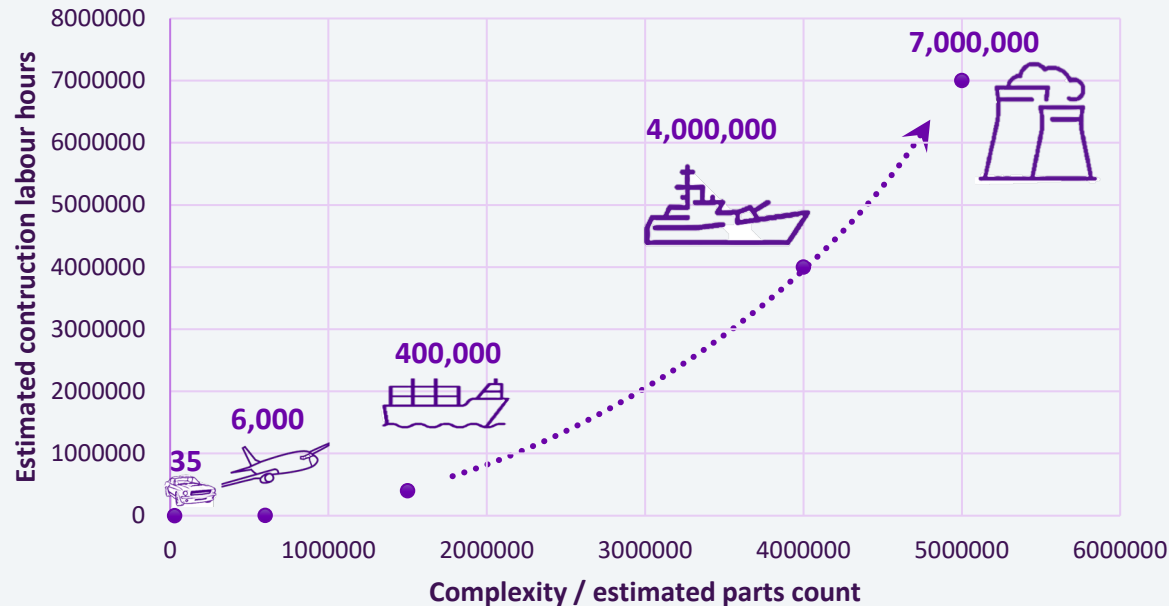
Libraries and reference projects completed as part of ALM development mean that software implementation is smooth and efficient. Benefits achieved within the first year of implementation.



Flexibility

Data-focused and integrated ALM solution offers flexibility and future upgrades to new versions. Flexibility in choice of functionality, i.e. change management can be added separately from requirements management.

Complexity vs Construction time



Scalability

Ships and plants are large in part count, complexity, and labour consumption. Traditional PLM systems are designed for high-volume productions of small part-count products. AVEVA tag-based data-centric system is well-positioned for large-scale systems data management

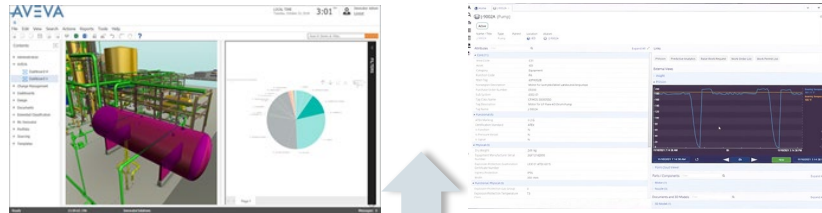
AVEVA Deliverables Management

Powered by Aras

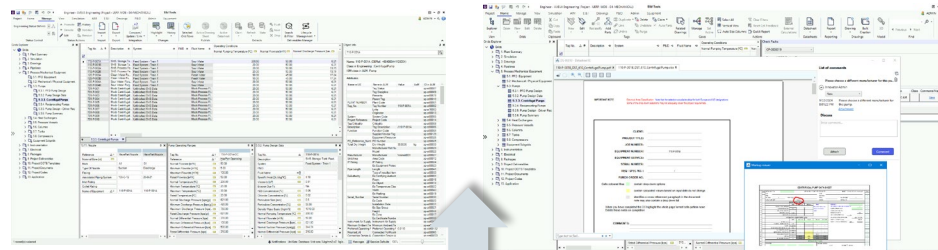


Any Users
View | Decide | Share

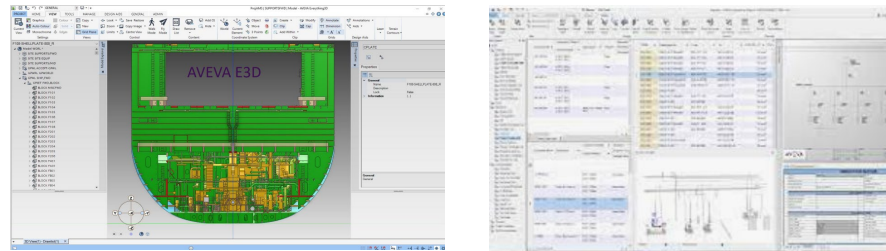
Data aggregation platform and visualization
– AVEVA Asset Information Management



AVEVA Deliverables Management



Process and plant design – AVEVA Unified Engineering



3D Designer
Design | Modify

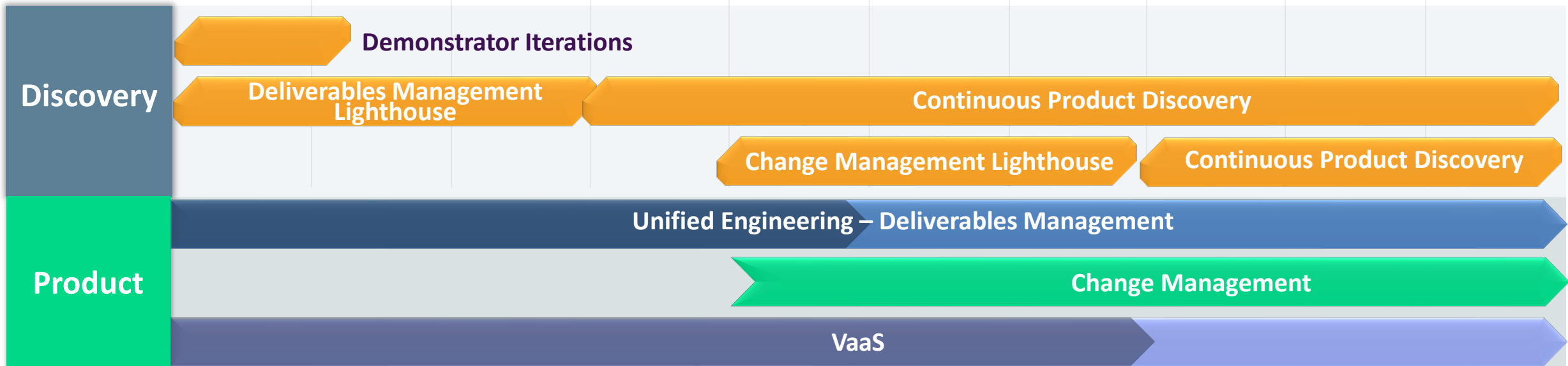
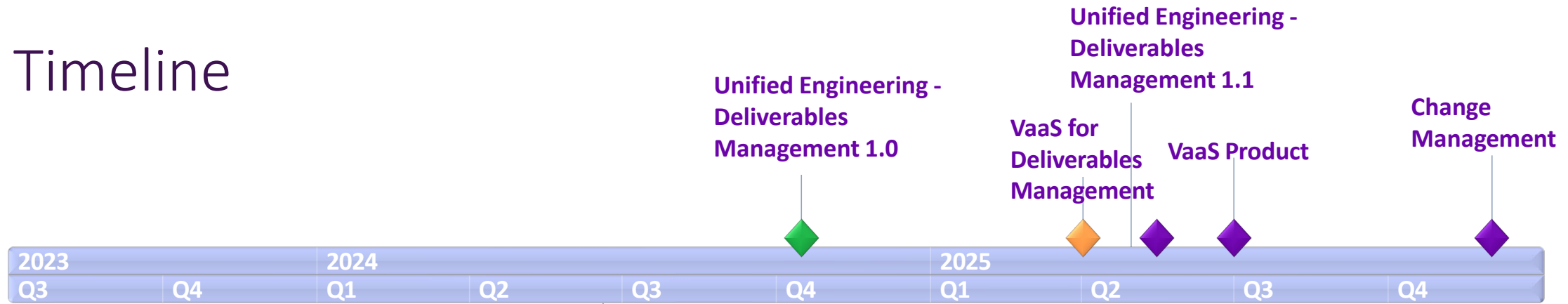
Requirements Engineer /
Program Manager
Analyze | Investigate | Validate

- Deliverables made available for visualization in AVEVA Asset Information Management

- Deliverables registered, versioned, and baselined
- Approvals workflows executed
- Comments created on deliverables
- Deliverables published to AVEVA Asset Information Management

- AVEVA Unified Engineering publishes deliverables to ALM
- Commented deliverables received from ALM and addressed in AVEVA Unified Engineering

ALM Timeline



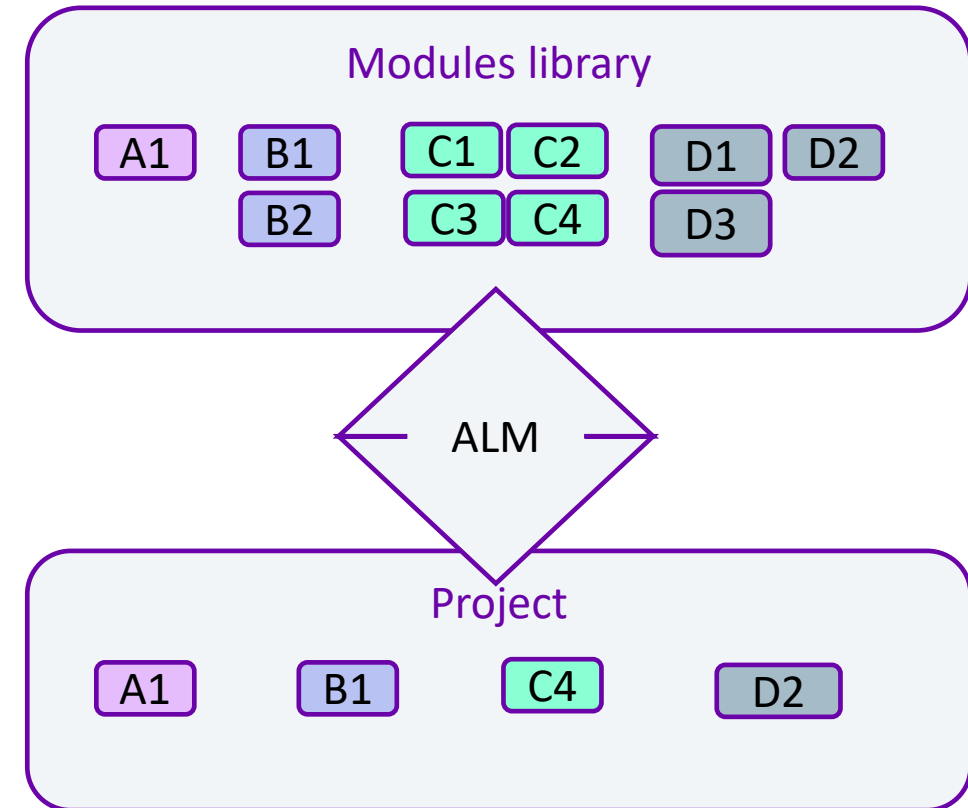
◆ Planned Release
 ◆ Restricted Release
 ◆ Proposed Release



Modular Design for EPCs and Owner/Operators

Modular design benefits in industry

Nuclear Power Plant (SMR), Floating nuclear power, Oil & Gas modular construction, Marine, Grid Management, etc



Key Values and Benefits

- Manage structured, harmonized, consistent and independent definition of variability across multiple domains
- Accelerate variability validation process with rapid access to pertinent rules
- Improve ease of validating the list of permissible configurations in your range of product variants

Relevant Features | Variability Items | Variability Structure | Usage Conditions

Number	Revision	State	Assigned Creator
VI-1	A	Preliminary	Administrators

Number: VI-1, Name: Robot, State: Preliminary, Assigned Creator: Administrators

Relevant Features | Variability Items | Variability Structure | Usage Conditions

Number	Name	RevL	State
VI-2	Controller	A	Released
VI-E	End Effector	A	Preliminary
VI-SW	Software and Programming	A	Preliminary
VI-M	Manuals	B	Preliminary

Robot Configuration

- Series: RS, RW, RP
- Application: Assembling, Sealing, Handling, Arc Welding, Palletizing
- No of Axes: 5, 6
- Maximum Payload: 20kg or less, 21-50Kg, 51-100kg
- Maximum Reach: 1,000 mm or less, 1,001-1,500mm, 1,500-2,000mm, 2,001-2,500mm
- Position Repeatability (mm): ±0.02, ±0.03, ±0.04, ±0.07
- Installation Method: Floor, Ceiling
- Power: 2.0kVA, 5.6kVA, 7.5kVA, 12.0kVA

Changes Required

Selecting RW will remove

- Application: Assembling
- Maximum Payload: 21-50Kg

Show Rules | Proceed | Cancel

Rules Restricting Selection

Variability Item	Rule Number	Rule Name	Rule Expression
VI-1 Robot	00000007		IF Series = RW THEN [Maximum Payload] = [20kg or less]
		Exactly One Option	EXACTLY-ONE [Maximum Payload] = [20kg or less] [Maximum Payload] = ...
		Selected Option	[Maximum Payload] = [21-50Kg]
		Selected Option	Series = RW

Export to Excel 16 Results

Application	Maximum PayL	Maximum Reach	Position Repea...
Assembling	20kg or less	1,000 mm or less	±0.02
Assembling	20kg or less	1,000 mm or less	±0.03
Assembling	20kg or less	1,001-1,500mm	±0.03
Assembling	20kg or less	1,500-2,000mm	±0.03
Assembling	20kg or less	1,500-2,000mm	±0.04
Assembling	21-50Kg	1,000 mm or less	±0.02
Assembling	21-50Kg	1,000 mm or less	±0.03
Assembling	21-50Kg	1,001-1,500mm	±0.03
Assembling	21-50Kg	1,500-2,000mm	±0.03
Assembling	21-50Kg	1,500-2,000mm	±0.04
Assembling	51-100Kg	1,000 mm or less	±0.02
Assembling	51-100Kg	1,000 mm or less	±0.03
Assembling	51-100Kg	1,001-1,500mm	±0.03
Assembling	51-100Kg	1,500-2,000mm	±0.03
Assembling	51-100Kg	1,500-2,000mm	±0.04
Palletizing	51-100Kg	2,001-2,500mm	±0.07

100 | Get Configurations

Benefits of Modular Design and Configuration Management

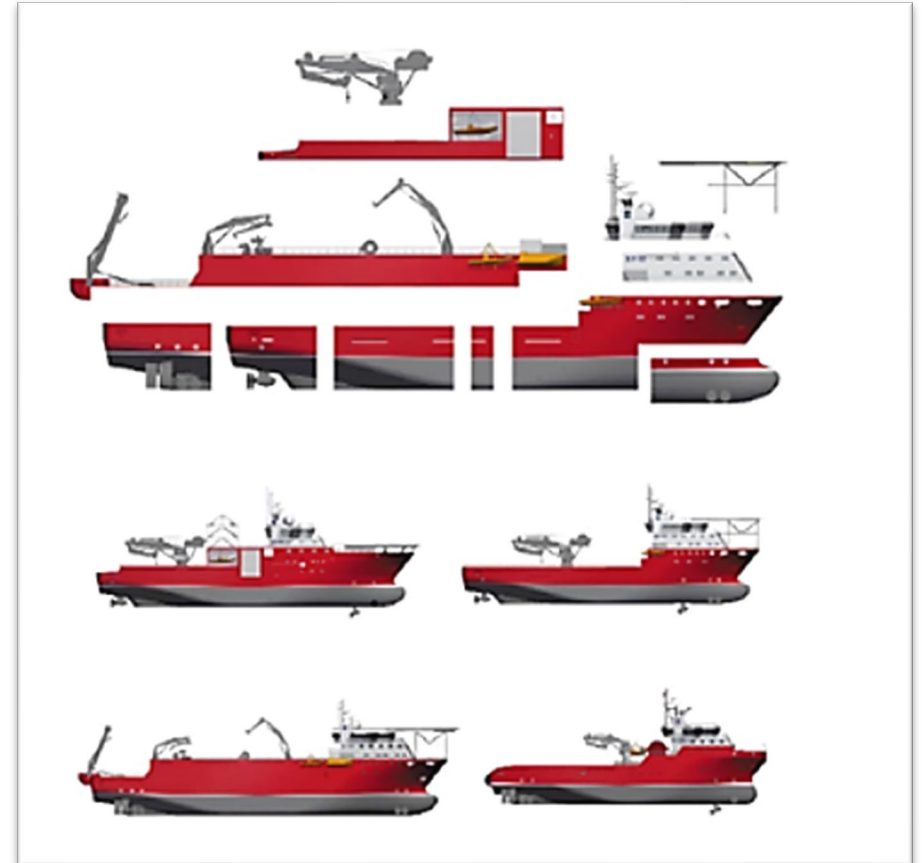
Accelerate Design and Deployment: Enable rapid design iterations and project execution by using pre-approved, reusable modules.

Enhance Flexibility and Scalability: Allow easy modification, addition, or removal of modules to accommodate changing project requirements or scale.

Improve Quality and Consistency: Ensure consistent application of design standards and best practices across all disciplines.

Reduce Costs and Risks: Minimise custom design work, reduce onsite construction time, and lower risks associated with errors or compliance failures.

Facilitate Inter-Disciplinary Collaboration: Enable seamless collaboration among different engineering disciplines throughout the design process.



Thank you



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