Accelerating Shipbuilding Business Transformation through Digital Continuity

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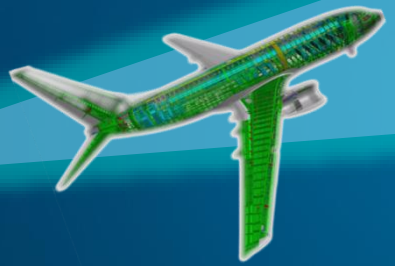
Dassault Systèmes

Innovation Leader since 1981



3D
Conception

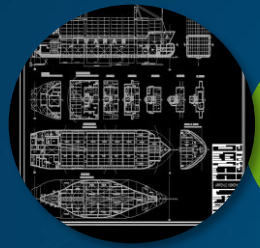
3D DMU
Digital
Mock-Up

3D PLM
Product Lifecycle
Management

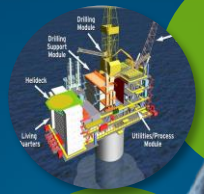
3DEXPERIENCE
Business
Experience

1981 — 1989 — 1999 — 2012

Our Audience



Marine Design & Engineering Suppliers



Engineering Procurement Construction Installation

Offshore Owners & Operators

Ports & Terminals

Maritime Business Services

SHIPYARDS

Fleet Owners & Operators

Naval Architects

Equipment & Systems Suppliers

Electronics & Software Suppliers

Classification Societies

Research & Universities

Business transformation drivers…

Business Drivers

factors leading U.S. Navy to change it's way of doing business

- Fleet readiness and availability
- Governments asking for total cost reduction
- Industry 4.0 initiatives
- Sustaining qualified workforce
- New mission requirements to address emerging situations
- Cyber security

… leading to challenges to solve…

Business Objectives

Challenging transformation to overcome

HOW TO…
Improve shipyard efficiency & productivity
?

HOW TO…
Improve collaboration across all stakeholders
?

HOW TO…
Maintain & develop technological advancements (knowledge & know how)
?

HOW TO…
Retain & recruit skilled workforce
?

HOW TO…
Increase naval ship capabilities and fleet size
?

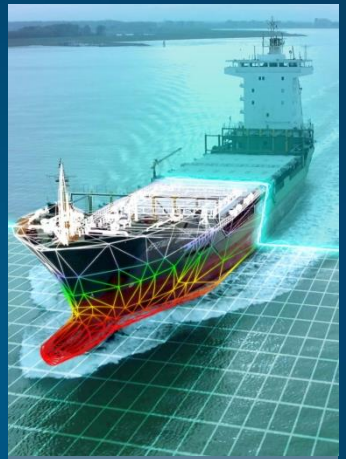
HOW TO…
Integrate state of the art IT technologies and security
?

… through business processes reengineering

BREAKING SILOS

DIGITIZED BUSINESS PROCESSES

BUSINESS PROCESS AUTOMATION



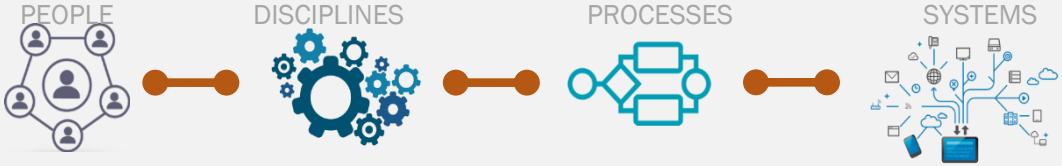
PREDICTIVE SIMULATION & ANALYTICS

STANDARDIZATION & MODULARIZATION

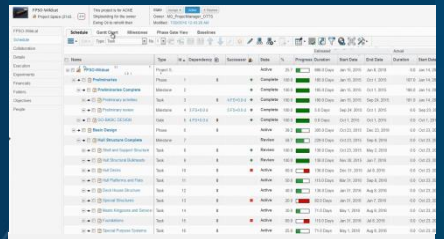
FOR END-TO-END DIGITAL CONTINUITY

Technological pillars of digital transformation

ENSURE END-TO-END NAVAL SHIP LIFECYCLE PROCESS CONTINUITY

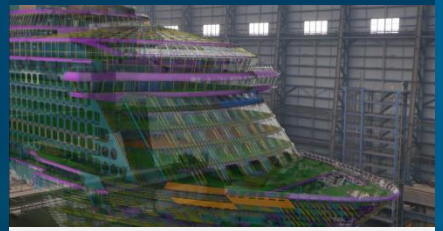


COLLABORATION



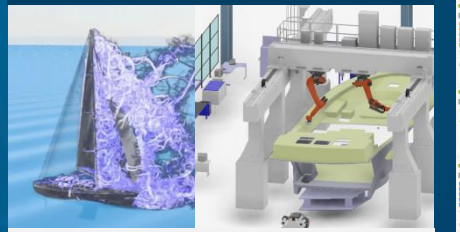
Online Collaborative Business Platform

3D



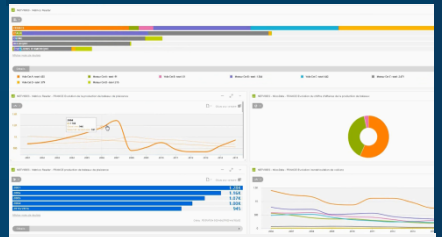
Unique Ship Master Model

SIMULATION



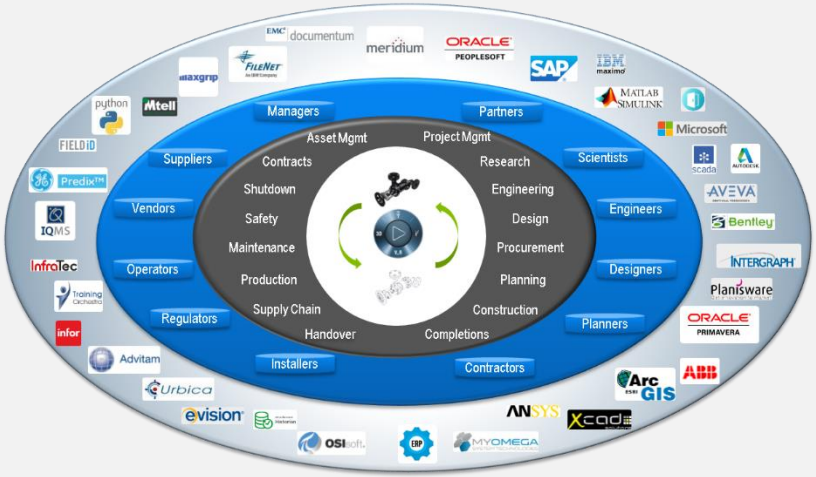
Integrated Multi-Scale Simulation

INFORMATION



Data-Driven Management

Online Collaborative Platform



CONNECTING PEOPLE…

…AND IT SYSTEMS

Unique Ship Master Model (1/2)

Unique Asset Master Model

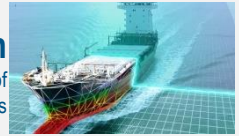
MODEL BASED

3D Digital Mock-Up enriched with smart data through the asset's lifecycle

Digital Simulation

MODEL BASED

Evaluation the conditions of Marine & Offshore assets



Data Analytics and Dashboarding

BIG DATA

Real-Time monitoring of assets' condition and usage

Online Digital Collaboration

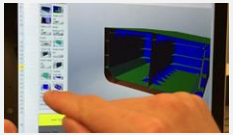
CLOUD

Accessibility for all stakeholders internally and externally - connectivy to other IT legacy systems

Real Life Data Capture

IOT

Enriching of the Asset Master Model with data captured from sensors



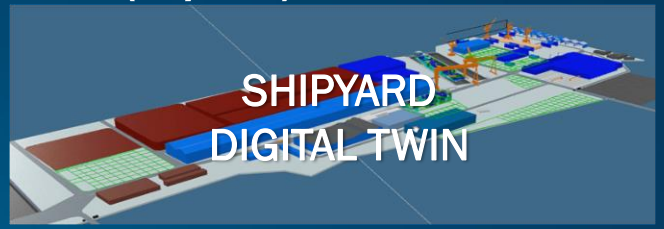
Digital/3D Work Instructions

VR/AR

Leverage the Asset Master Model to define operation, maintenance and repair tasks to perform

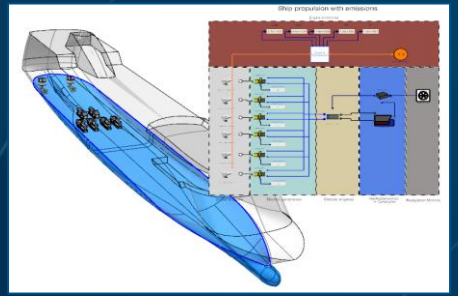
VIRTUAL ⟷ REAL

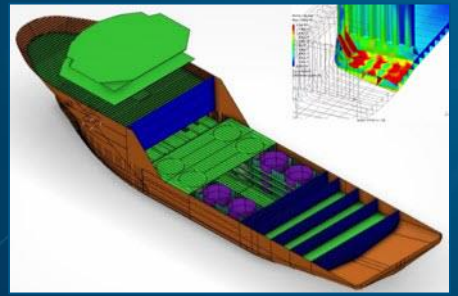
Unique Ship Master Model (2/2)

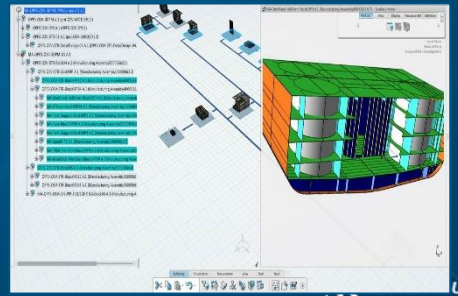


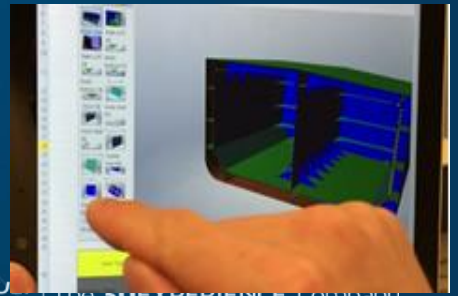
Model-Based Enterprise (MBE) – one single digital model

MODEL-BASED CONCEPT AND SYSTEMS ENGINEERING	MODEL-BASED ENGINEERING DESIGN AND SIMULATION	MODEL-BASED PRODUCTION PLANNING AND MANUFACTURING EXECUTION	MODEL-BASED OPERATIONS AND MAINTENANCE ACTIVITIES





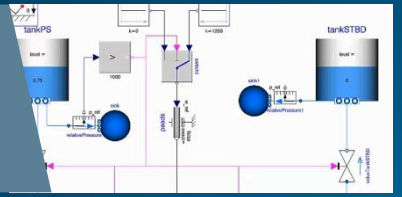


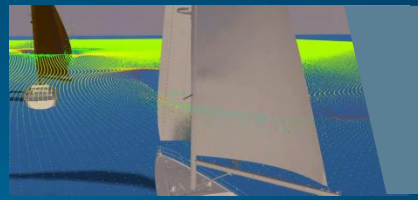


Integrated and multi-scale simulation

PRODUCT SIMULATION

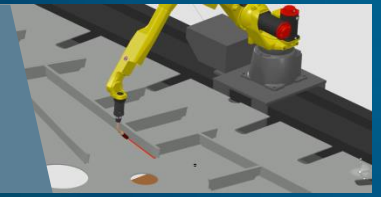
SYSTEMS BEHAVIOUR

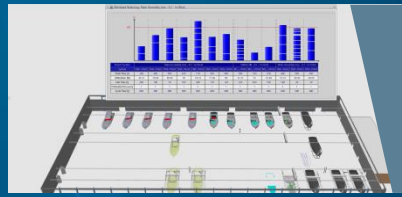




PHYSICAL SIMULATION

ROBOTIC SIMULATION

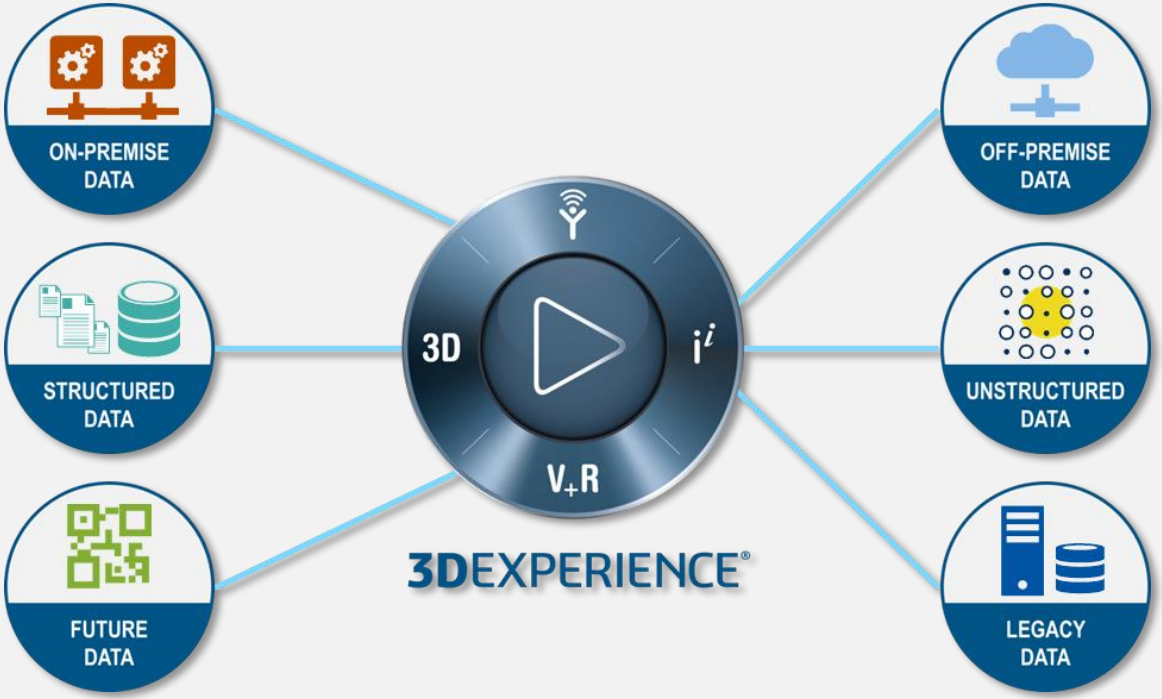




SHIPYARD SIMULATION

PRODUCTION SIMULATION

Data-Driven Management



Dassault Systèmes/Marine & Offshore Strategy

Naval Ship Lifecycle Solution Experiences

VERISTARAIM 3D
A BUREAU VERITAS SOLUTION POWERED BY DASSAULT SYSTÈMES

Next generation Asset Integrity Management to reduce CAPEX and OPEX exposure of operators

On Time To Sea
Plan, manage, track, and connect at anytime and from anywhere

Smart Sea Operations
Run safe, reliable and cost effective maritime operations

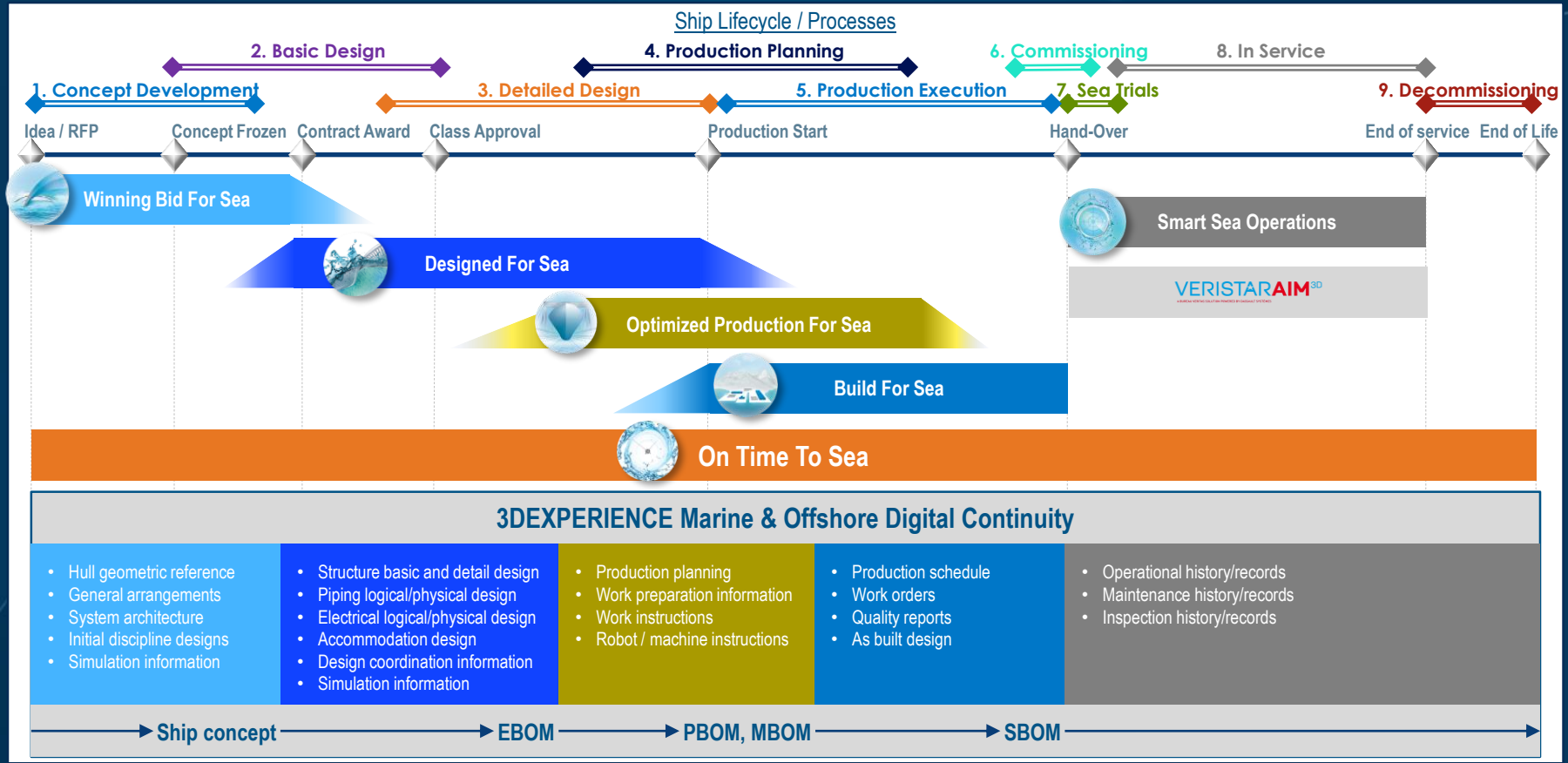
Winning Bid For Sea
Efficiently innovate and sell new marine concepts

Build For Sea
Optimize execution of your manufacturing operations

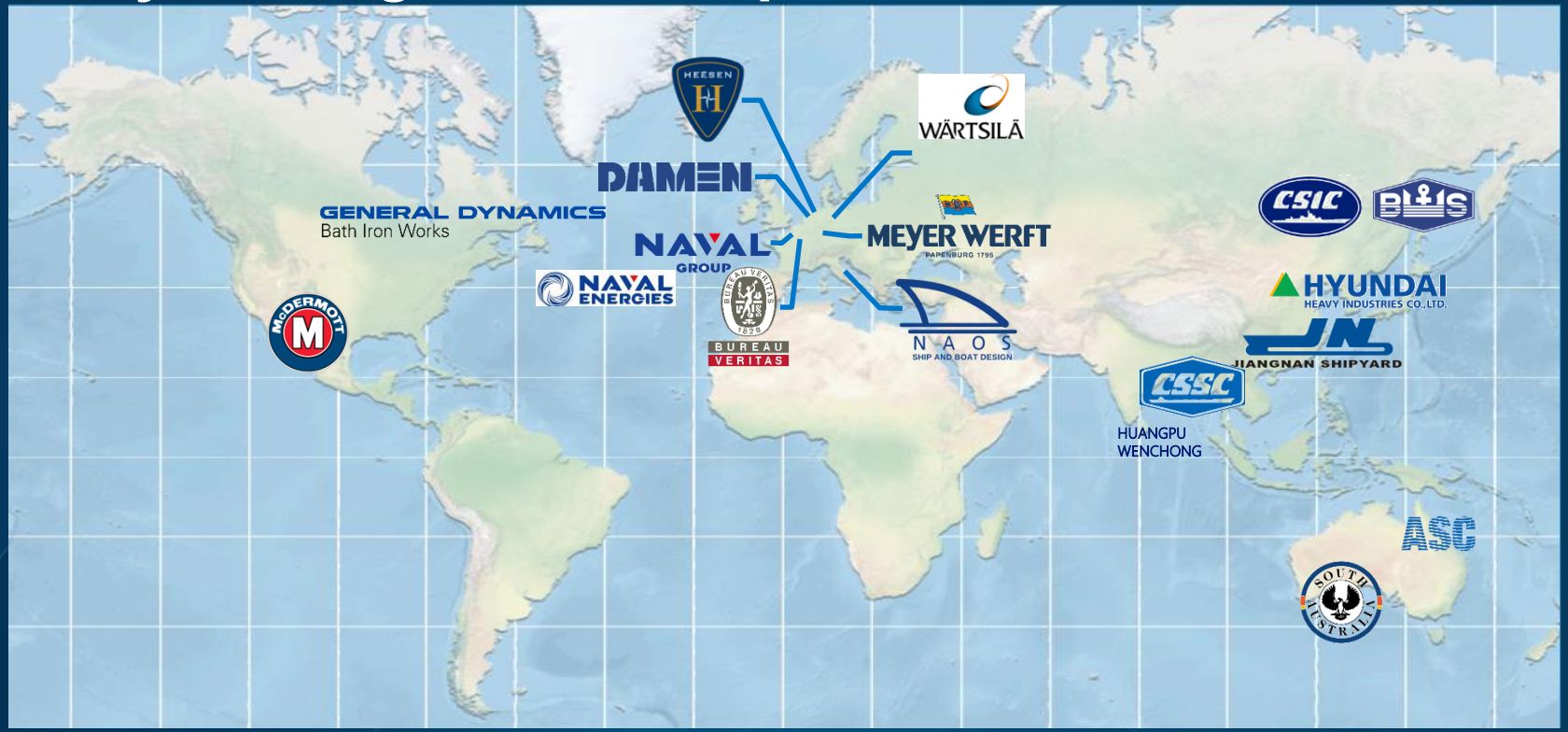
Designed For Sea
Design, optimize, validate, and certify – Efficiently shape your marine project DNA

Optimized Production For Sea
Efficiently plan your marine project manufacturing

Digital Continuity across Naval Ship Lifecycle



Key Driving Partnerships



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