Excelencia en aplicaciones digitales para Construcción Naval: el camino hacia el éxito

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Key Trends in Shipbuilding

Focus on sustainability

Uncertainty in the global economy

Increased demand for high-tech vessels

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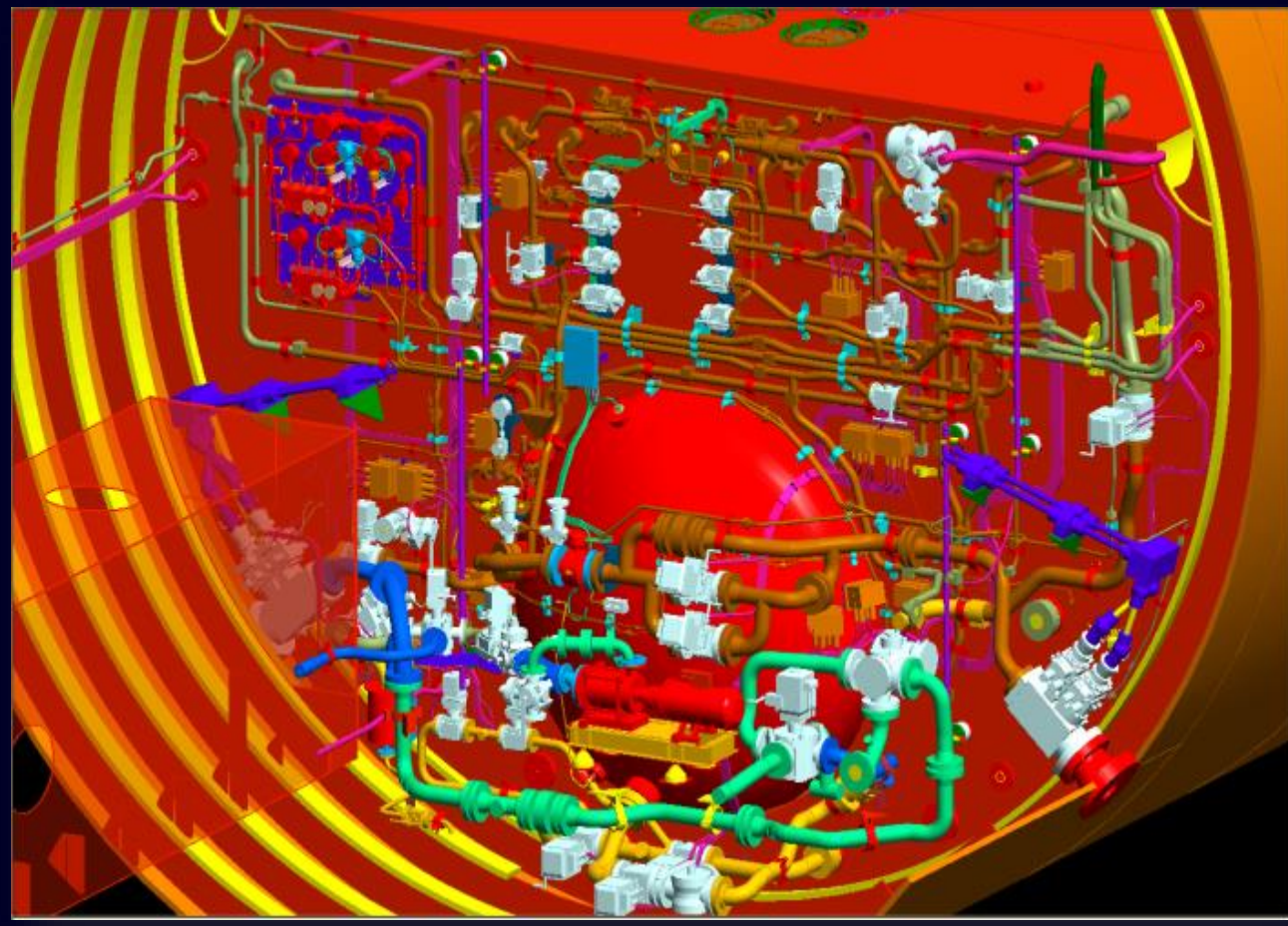
New ship designs must support sustainable design approaches and offer significant fuel efficiency and emissions improvements

- Optimized engineering to reduce rework and increase reuse
- Innovative approaches to collaborative design and engineering
- Transition to cleaner fuel alternatives with innovative propulsion systems



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Increased demand for high value-added, multi-purpose, and autonomous vessels

Increasing complexity of vessels supporting offshore exploration and extraction

Broadening of horizons in the cruising & yachting industries

Growing interest in autonomous vessels for short-sea shipping, ferries & naval operations

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The result

Ships today are more complex than ever before

- More complex equipment and systems onboard
- More electrical systems: more sensors, cables, etc.
- More parties involved and more information to manage and communicate
- Workforce needs to continuously adapt and embrace new technologies

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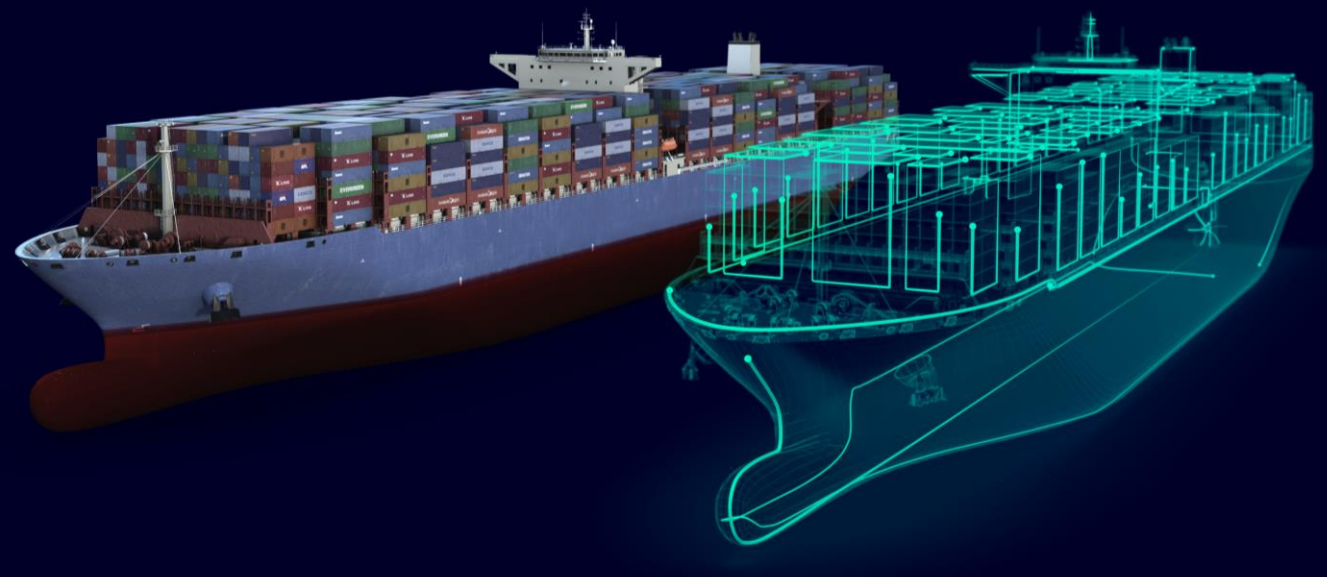
Next generation marine engineering

Ships equipped with modern technology require a **next generation marine engineering** solution that leverages the digital twin to improve processes and efficiency



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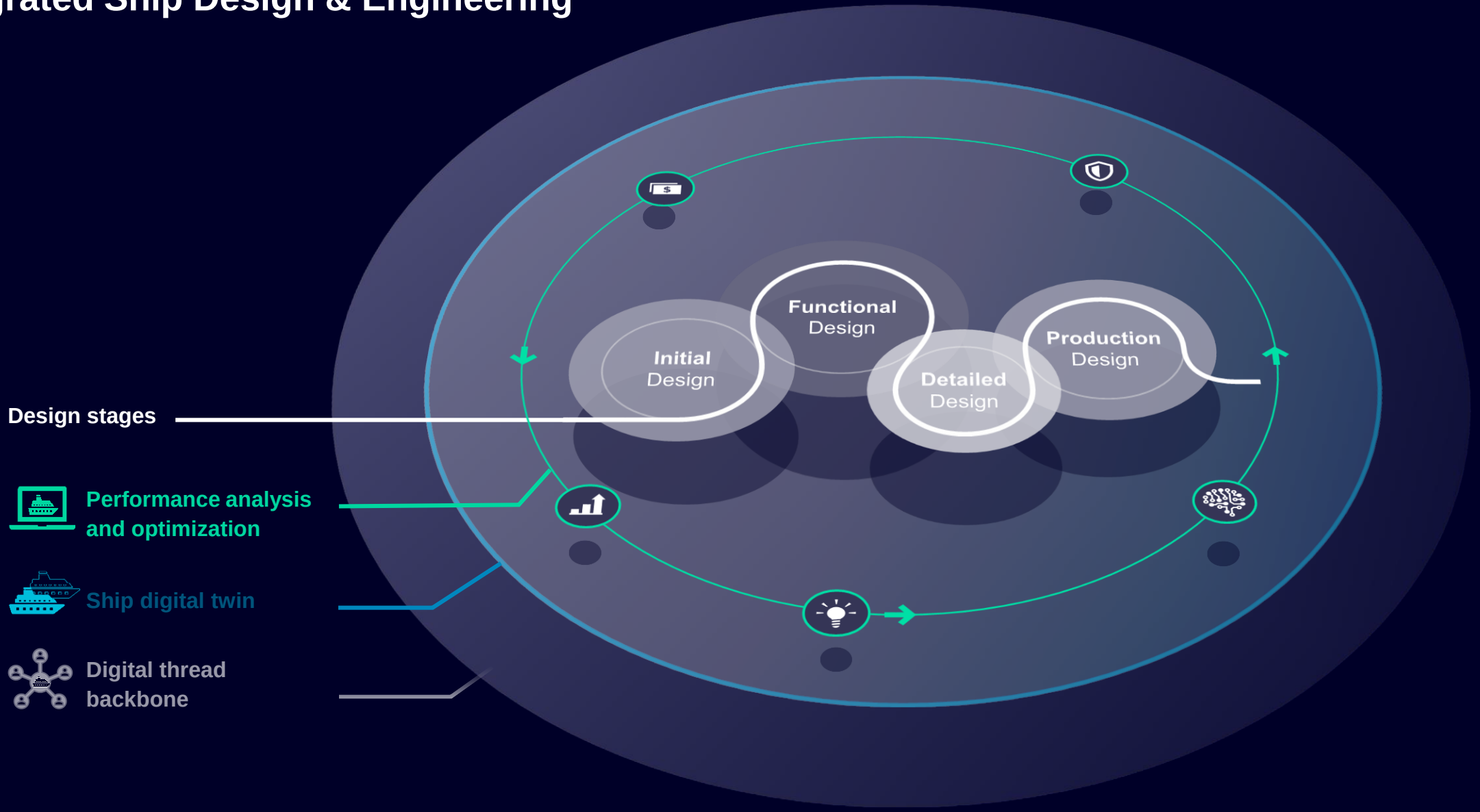
Integrated Ship Design & Engineering



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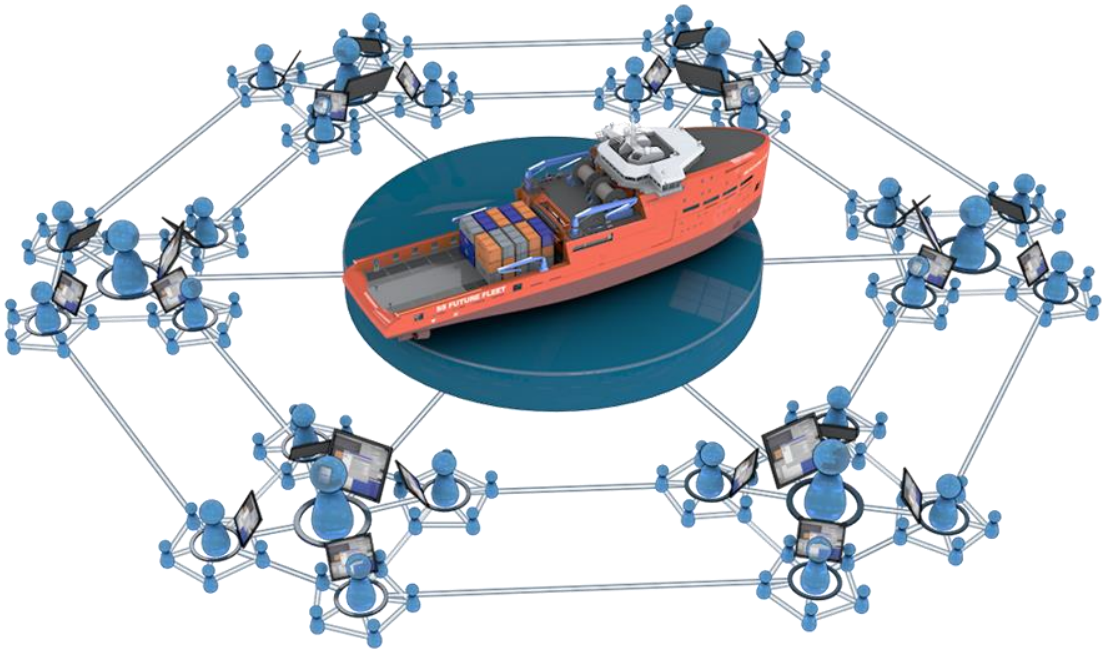

Connected design processes and construction & operations

- Improve current and future designs by closing the loop on manufacturing and ship operations

Improved engineering collaboration and information management

- Design collaboratively across systems, mechanical, electrical and software
- Manage configuration, requirement, change and verification
- Connect teams to data throughout the design and build process

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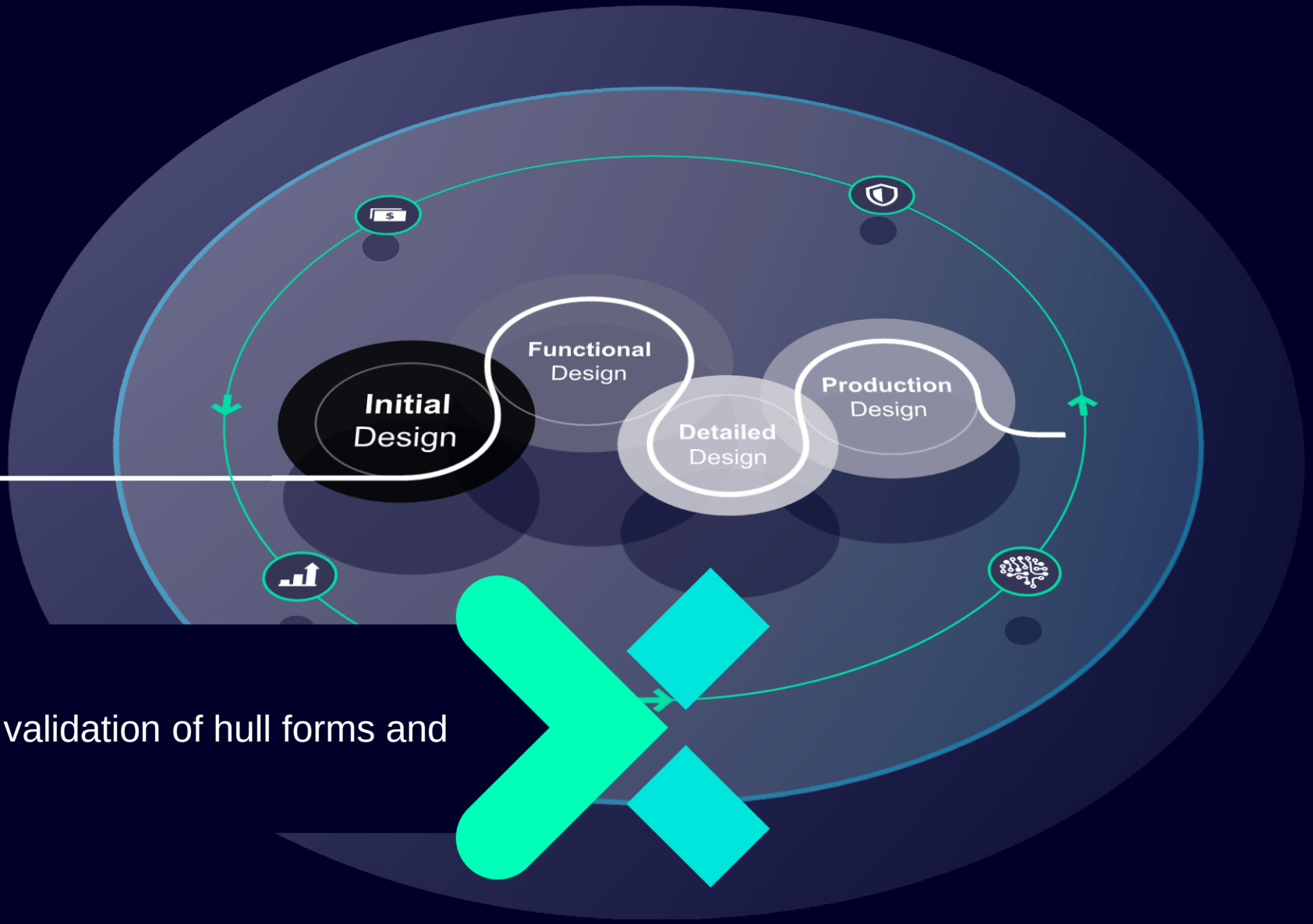
Initial Design



Initial Design

Rapid definition and validation of hull forms and ship control systems

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Benefits from digitalization of the initial design process

Secure vessel data from the start of program

Shorten design cycle through process automation

Reduced errors through continuous validation lowering program compliance risks

Accelerate classification cycle via report automation

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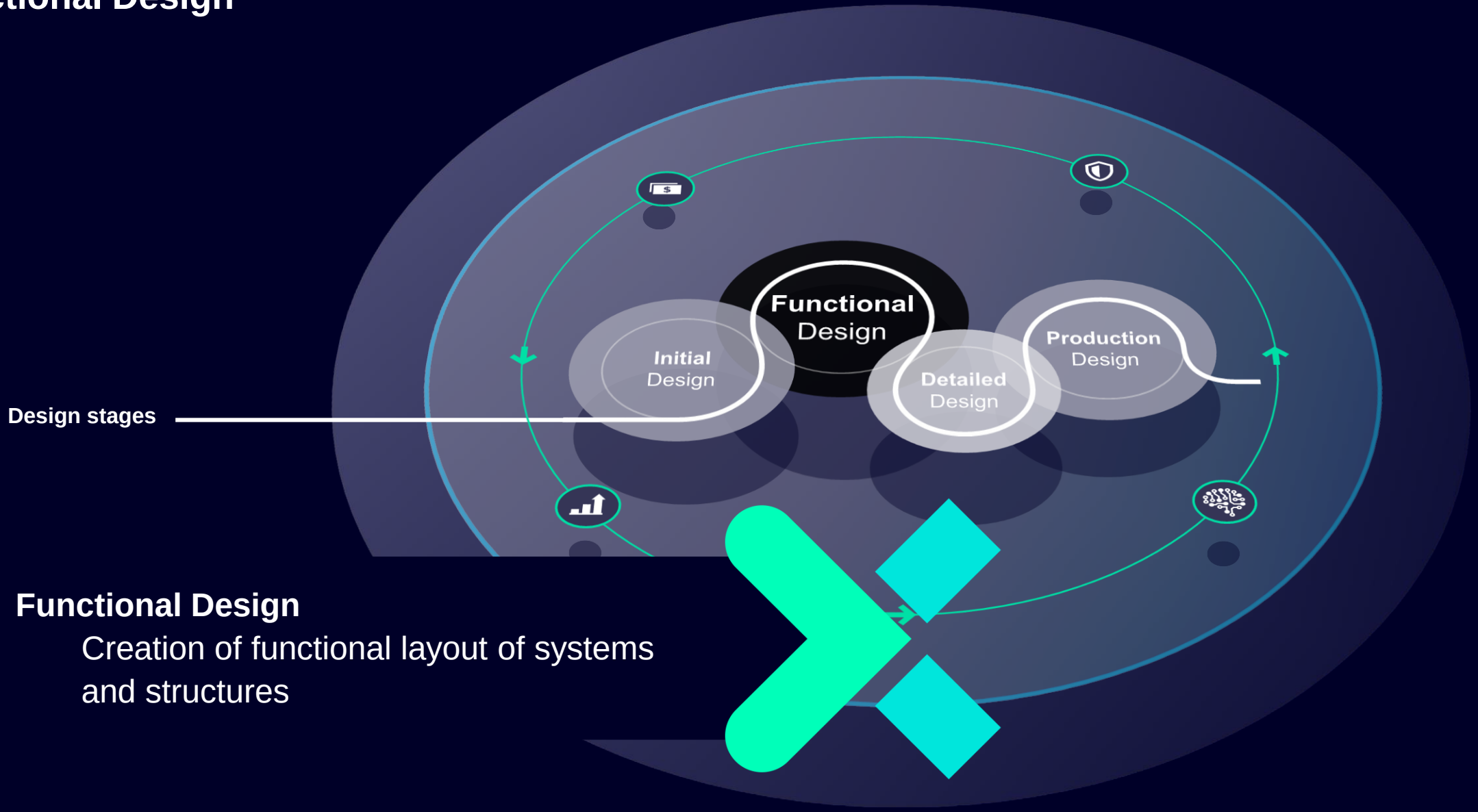
Functional Design



Functional Design

Creation of functional layout of systems and structures

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Benefits from digitalization of the functional design process

Functional systems models contain all key information to control downstream design processes

Reduced design complexity & time through automation

Enhanced supplier collaboration in electrical systems through generation of interface control documents

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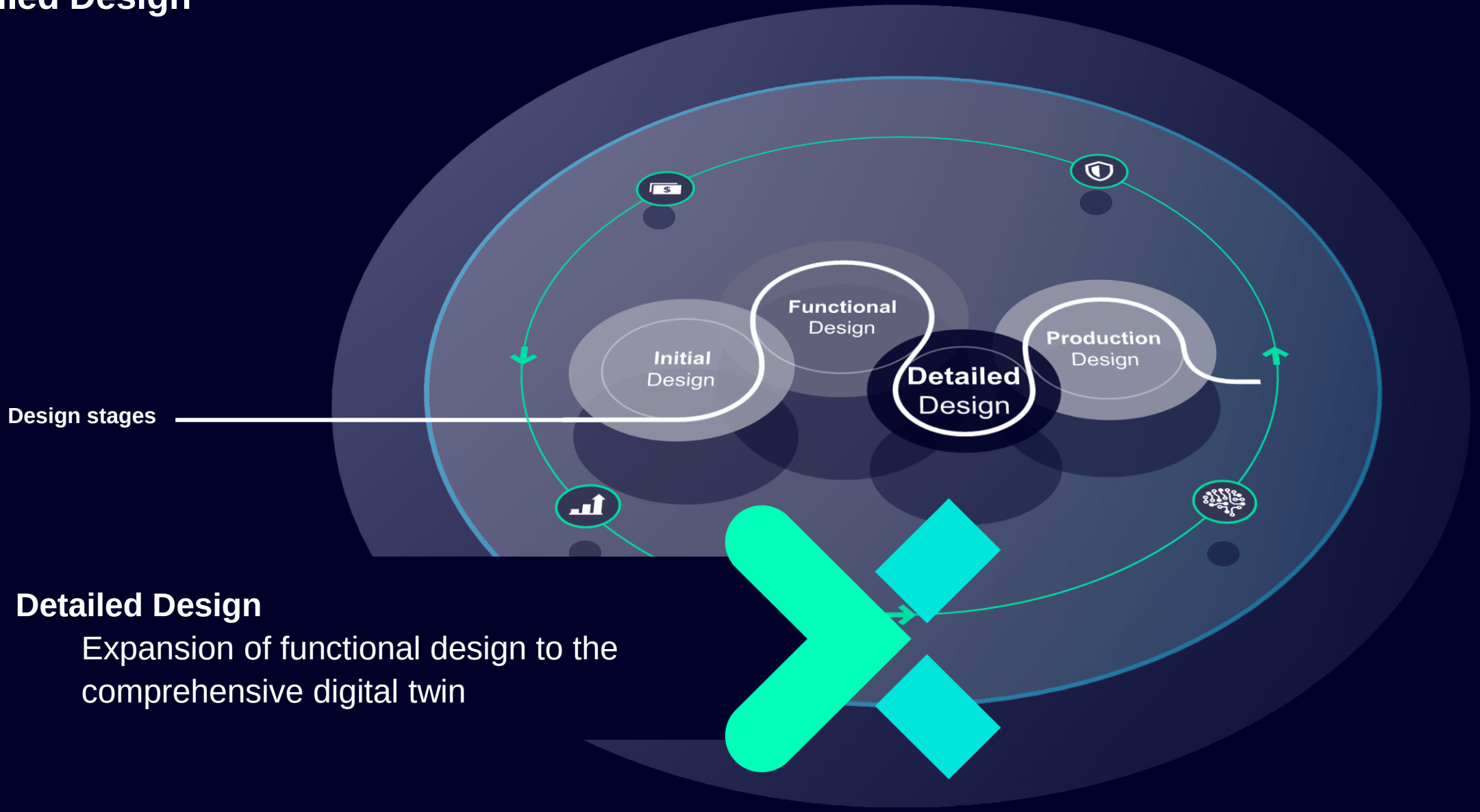
Detailed Design



Detailed Design

Expansion of functional design to the comprehensive digital twin

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Benefits from digitalization of the detailed design process

Enhanced design quality & reduced cycle time through cross-discipline collaboration

Faster, higher quality designs through creation of 3D parametric design data

Reuse of initial design and functional design data ensures project goals are met

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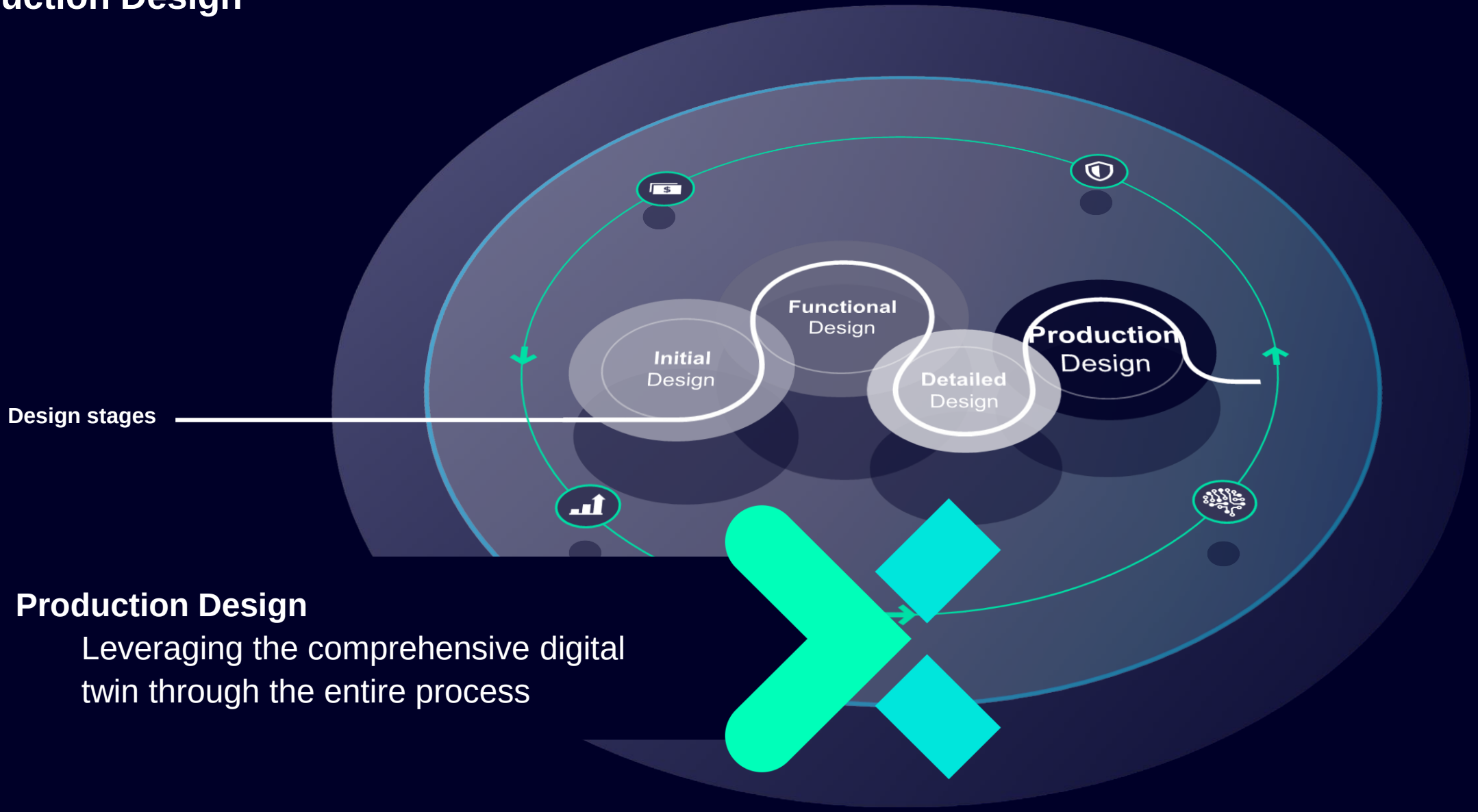
Production Design



Production Design

Leveraging the comprehensive digital twin through the entire process

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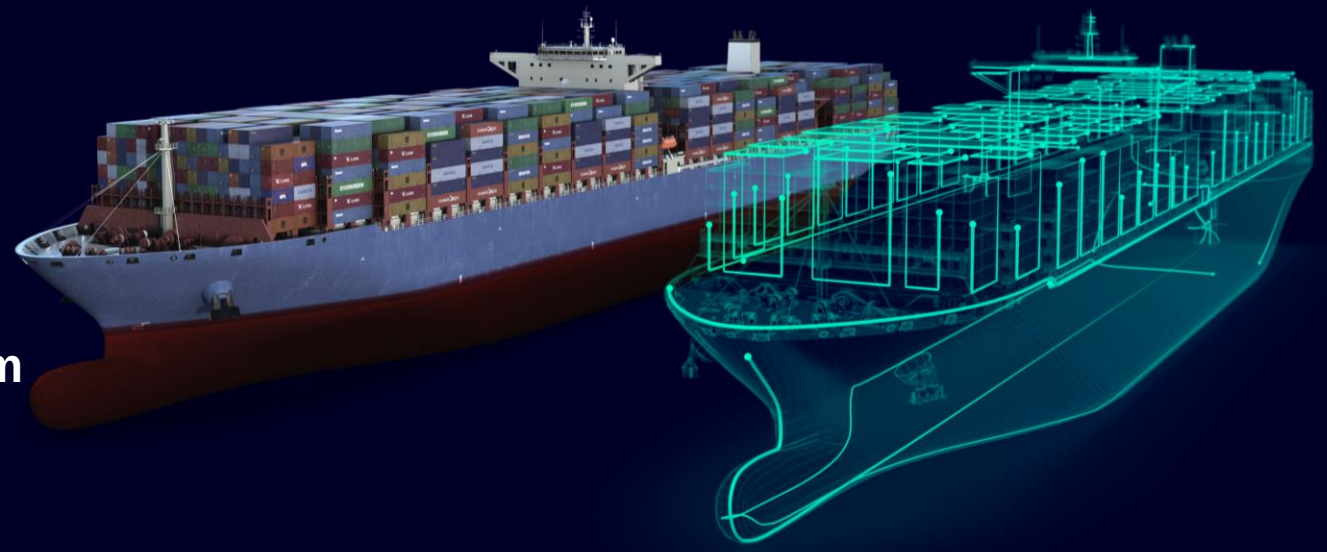
Benefits from digitalization of the production process

- Reduce expensive installation errors
- Plan quicker, more flexible production schedules
- Easily track deviations in program cost or time



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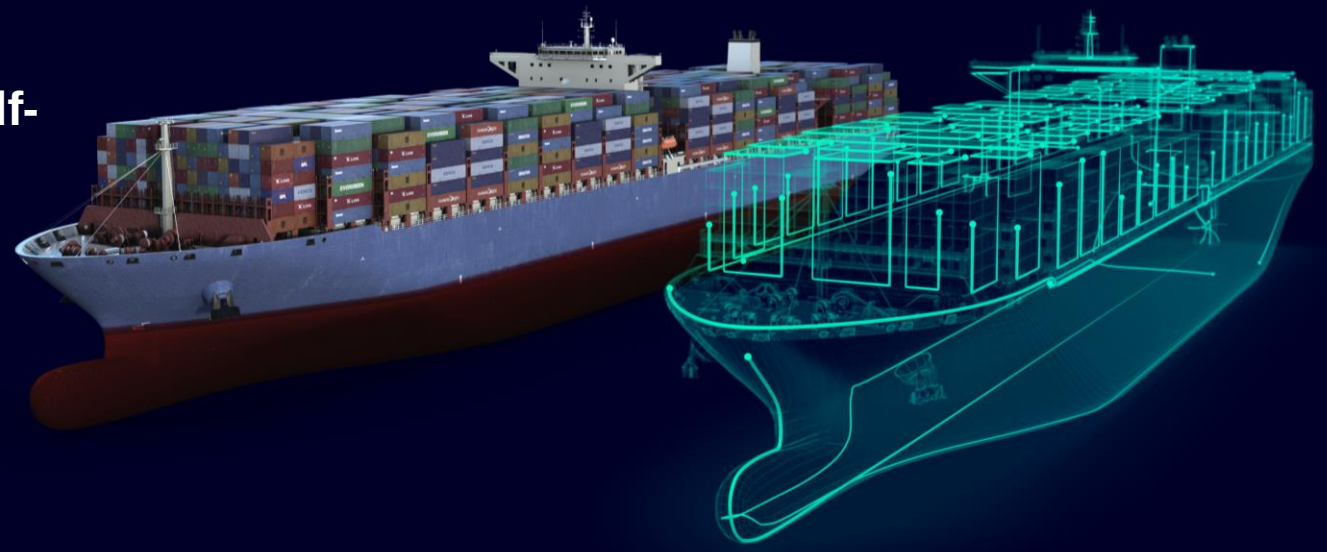
Benefit of continuous validation

Discover better designs faster through simulation and analysis

Increase design quality using self-validating designs

Enhance safety through failure analysis & mitigation



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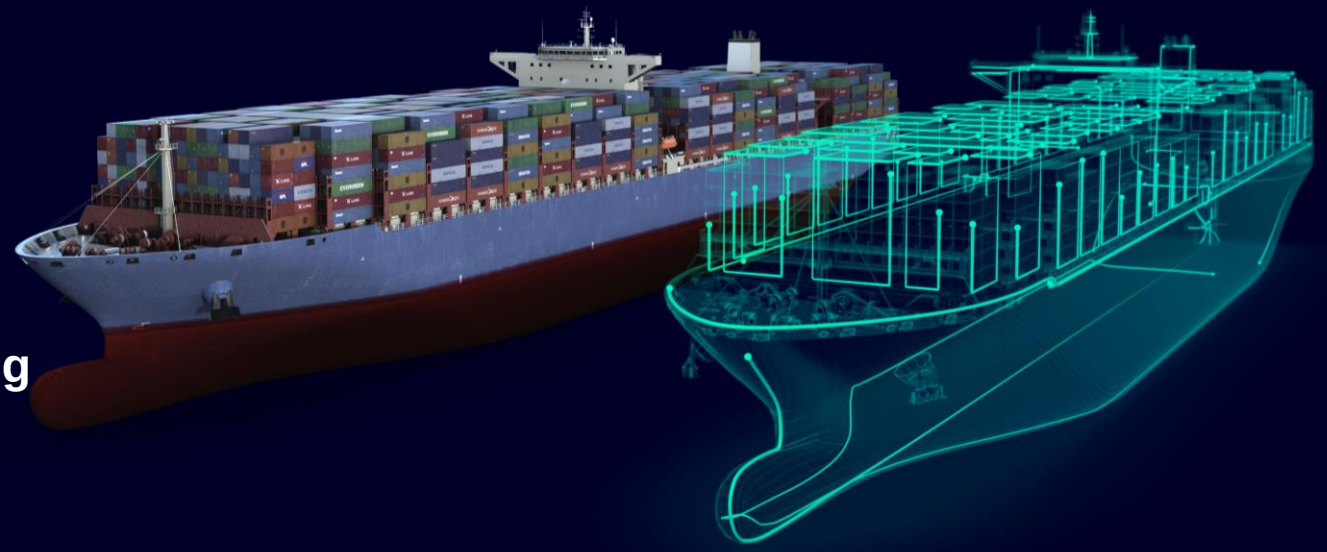
Benefit of effective collaboration

Single source of truth

Streamlined flow of information across all disciplines

Reduced time and effort searching for project information



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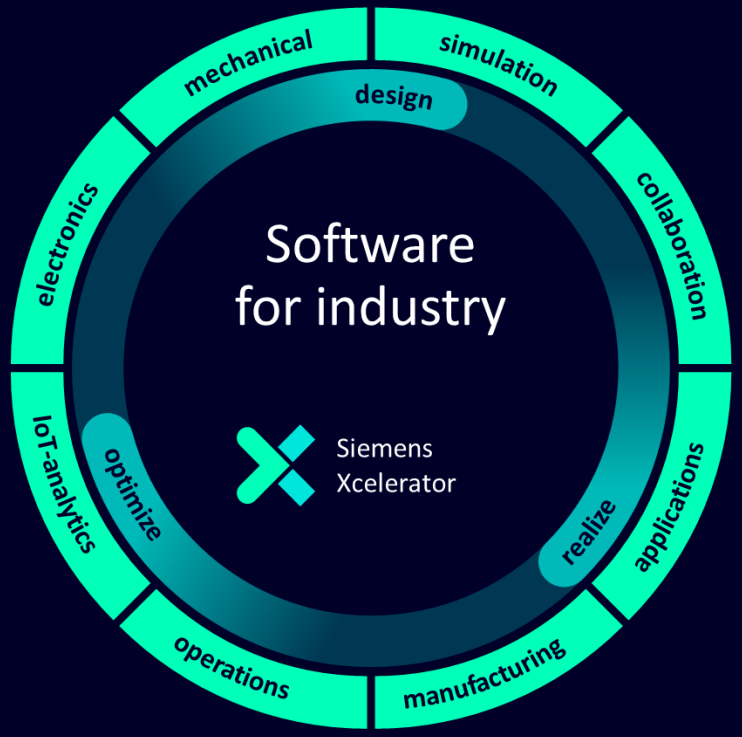

Siemens Xcelerator
Marine Engineering

An integrated ship engineering and manufacturing solution connecting disciplines together with a seamless integrated flow of information

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Catalyst for the Digital Enterprise

An integrated portfolio of software, services and an application development platform that speeds the digital transformation cycle and unlocks a powerful industrial network effect. Blurs the boundaries between traditional stand-alone engineering domains such as electrical, mechanical and software.

Comprehensive Digital Twin

Personalized Adaptable/Modern

Flexible Open Ecosystem

Where today meets tomorrow.

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Thank You

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