Ship Intelligence

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Meriteollisuuden tulevaisuusverstas – 13.10. 2015

Trusted to deliver excellence

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Teknologiateollisuuden Strategia 2015 - 2019

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Information Technology

The dawn of the Ship Intelligence era

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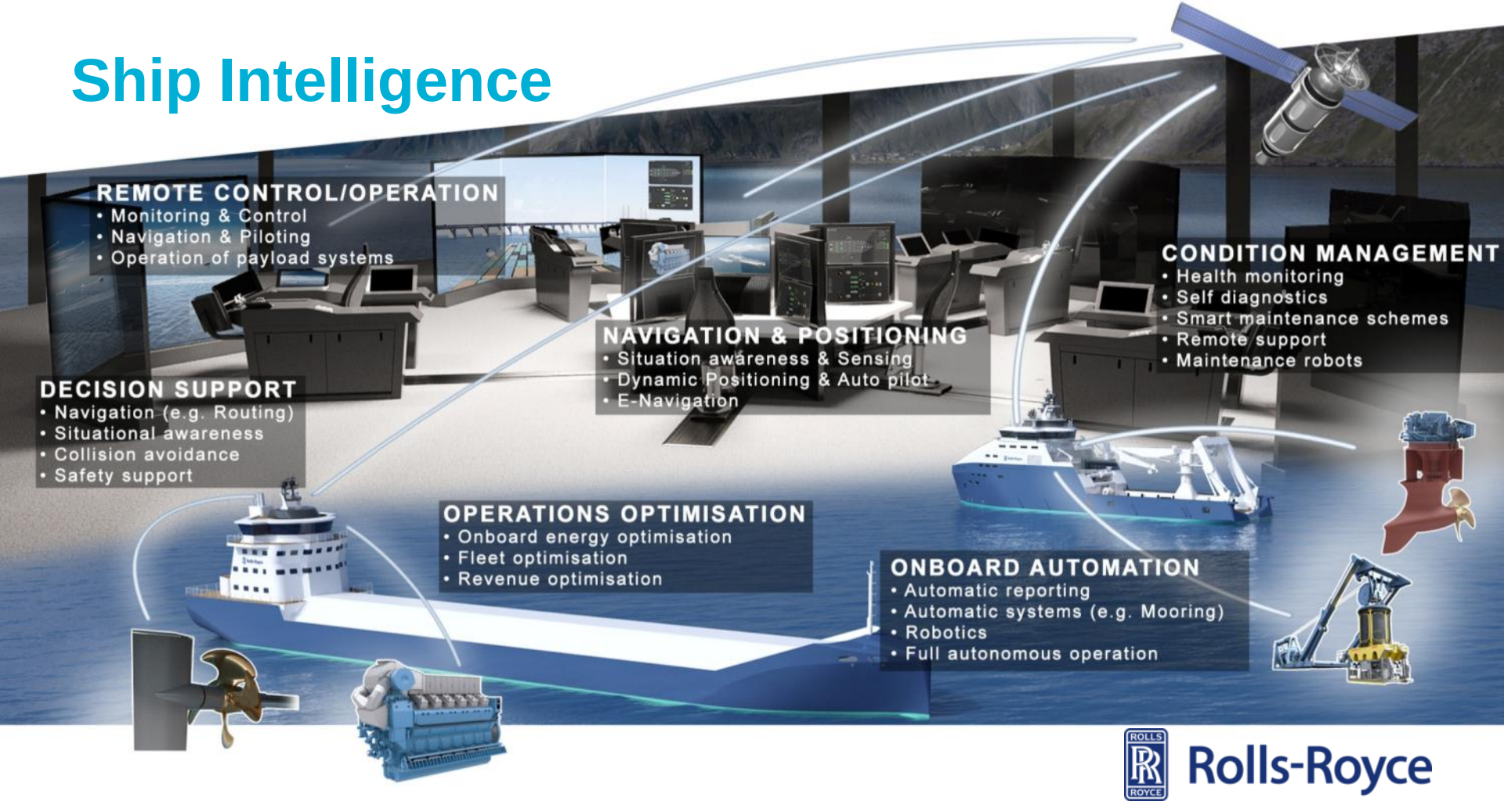
Ship Intelligence



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Data Usage Today

Offerings to customers:

- Equipment health monitoring
- Energy management services
- Marine Care offerings (predictive maintenance)
- Operational performance reporting
- Input to Onboard Vessel Optimization functionalities
- Data analytics to build vessel and fleet performance optimization consultancy business

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Rolls-Royce Capability - Aerospace

- 13,000 gas turbines in service
- 72% covered by TotalCare
- Real time monitoring
- Complex data streamed from engine sensors
- Typical Trent engine – measuring 20 performance parameters (e.g. vibration, oil pressure, temperature etc..)
- Engines have 20+ year life
- We analyse fleet-wide data
- Knowledge builds capability for next generation of engines

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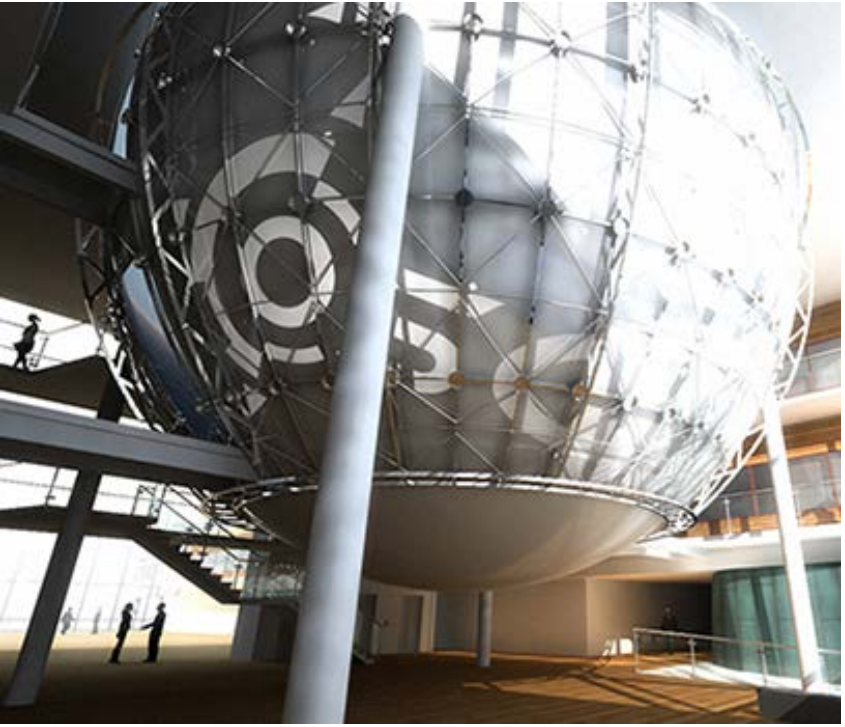
Ship Crew Training & Simulators



Unified Bridge

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Unified Bridge

Common look and feel

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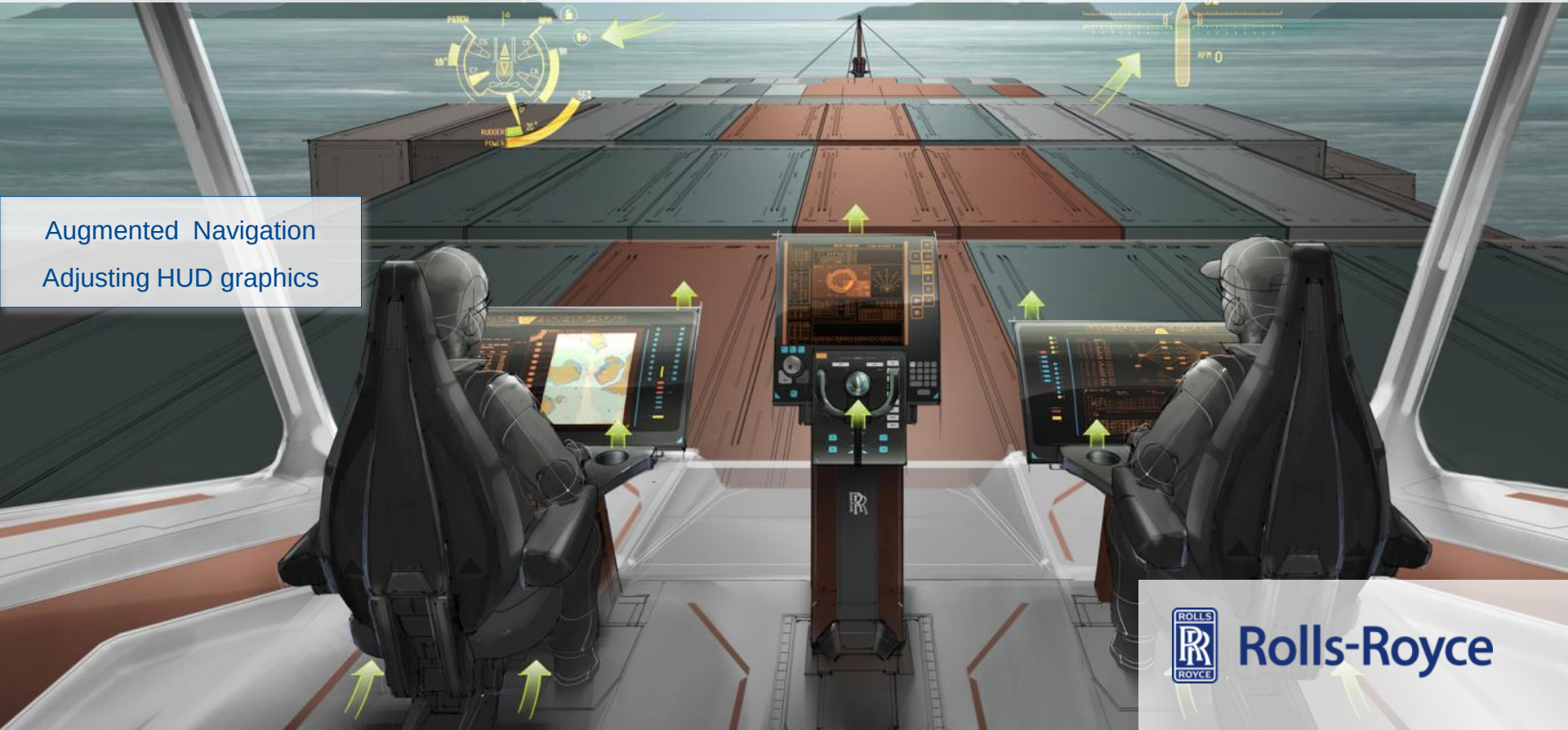
oX – Operating Experience



Augmented Navigation

Adjusting HUD graphics

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oX – Situational Awareness

Augmented Assistance

Remote Operated Sub-Systems

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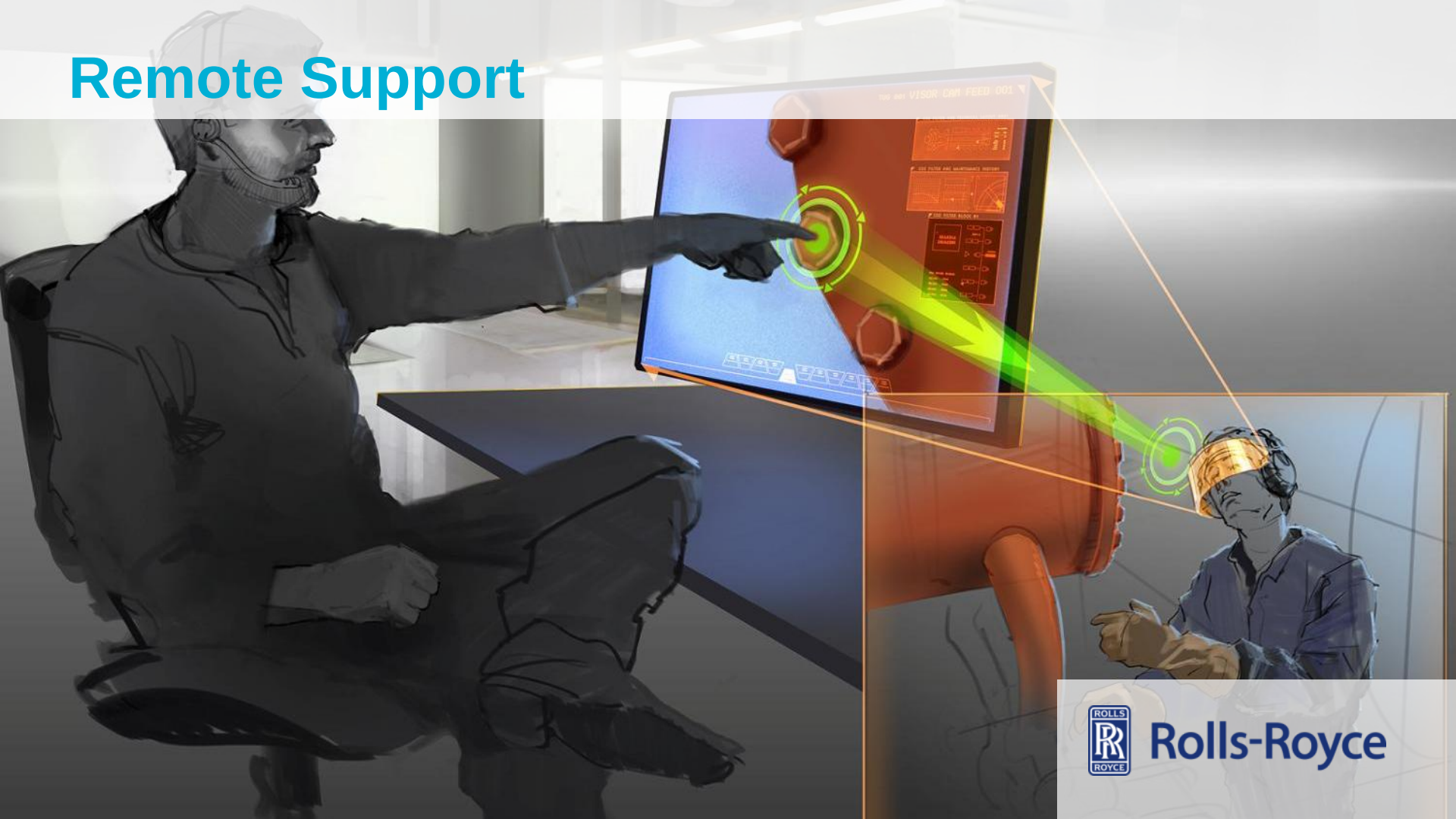
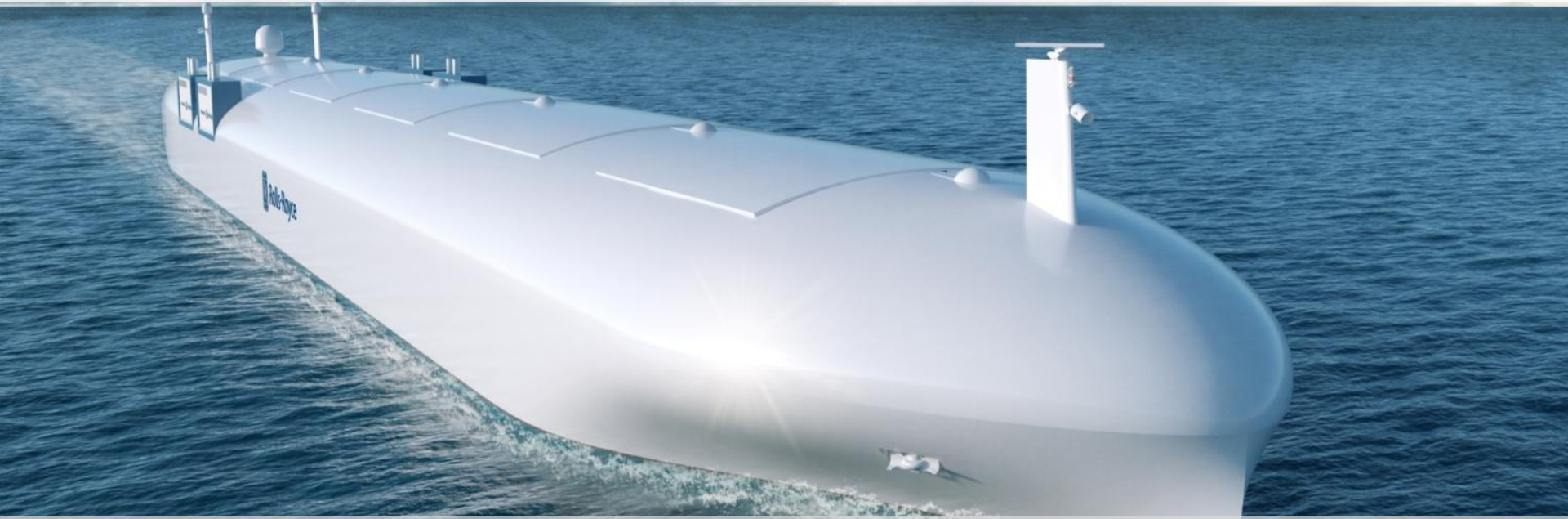
Remote Support



Unmanned Remote Controlled Ships



Making ship transport more efficient and safe!

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Remote Controlled Ships - Features

No deck house

More cargo

New possibilities
- New layouts
- Rethinking the ship design

Lower costs

No hotel systems
- Water production
- Water heating
- AC
- Sewage treatment
- Etc…

New level of Automation

Communications

Redundant machinery

Lower power demand
- Lower resistance from reduced LWT
- Lower hotel load
- Etc…

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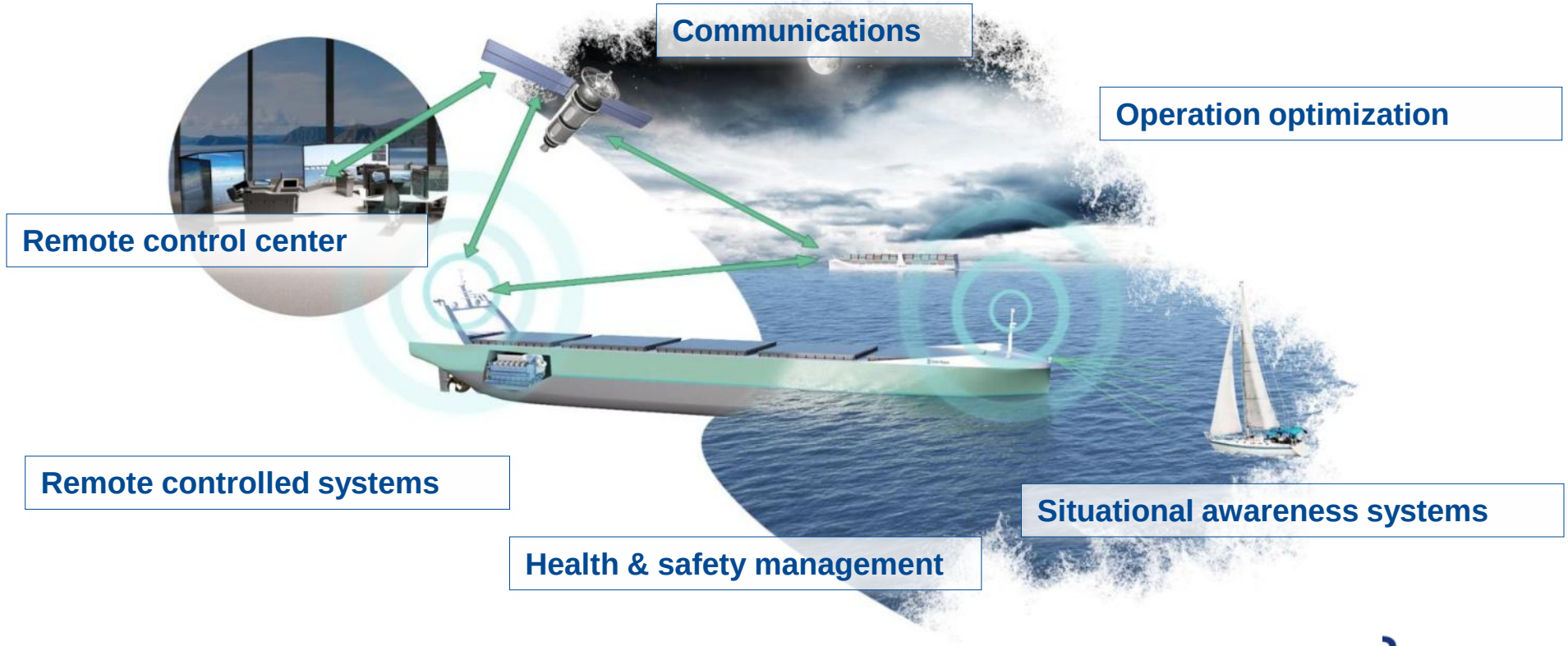
Key Development Areas



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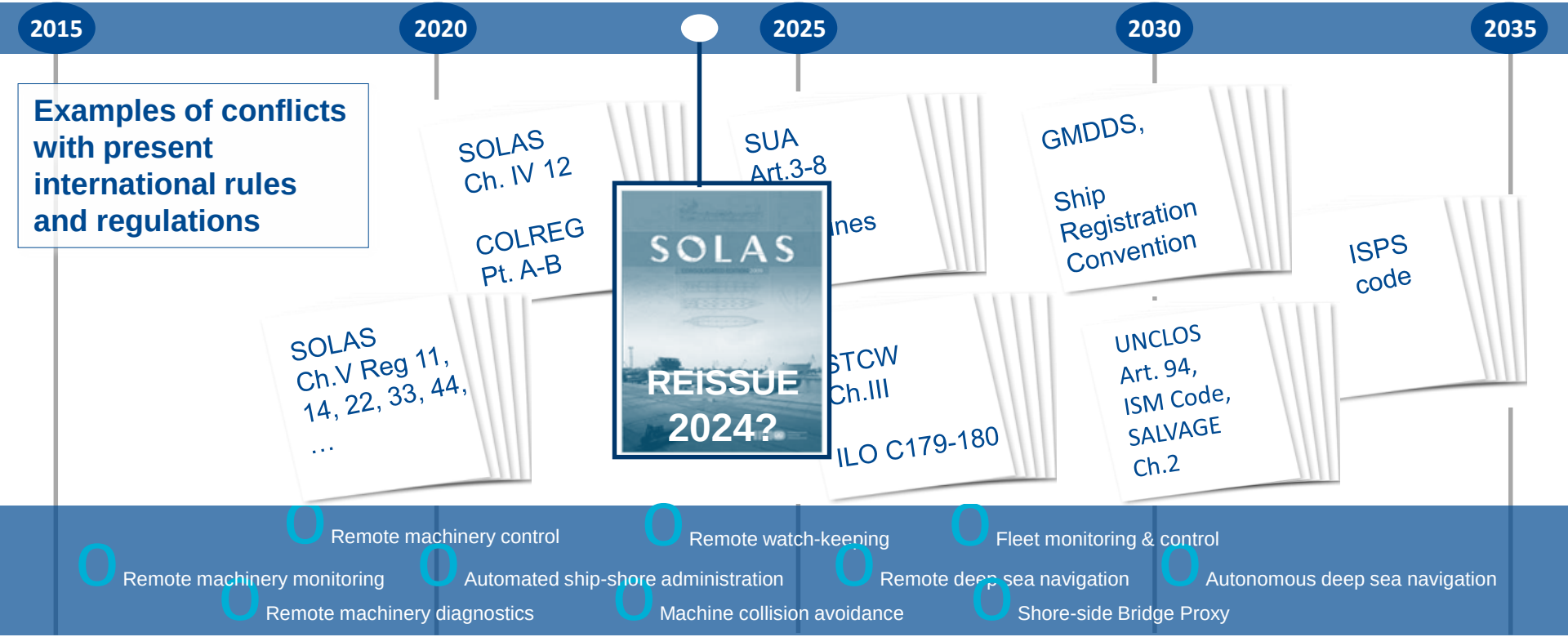
International Regulatory Obstacles



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Digitaalinen murros

- ICT ja data tukitoiminnosta ydinliiketoiminnaksi
- Datan hyödyntäminen
- IoE
- Tuotteista palveluun – teknologian avulla
- Tähtää korkealle – ja aina maailmanlaajuisesti!
- Liittoudu ja käytä todellisia osaajia – eivät löydy yrityksestäsi!
- Luota siihen, että lainsäädäntö muuttuu oikeaan suuntaan
- Tee roadmap ja lähden nopeasti liikkeelle
- Muuta liiketoimintasi itse tai joku muu tekee Uberit alallesi

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Conclusions

We are at the dawn of of the Ship Intelligence era

Unmanned ships will be the most fundamental change in shipping that we will experience

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“The best way to predict the future is to **create** the future”