WELCOME TO WARTSILA VOYAGE SOLUTIONS ACADEMY

Graham Wagstaff

THE SMART MARINE ECOSYSTEM JUST GOT ONE STEP CLOSER
TRANSAS IS NOW PART OF WÄRTSILÄ

FLEET OPERATIONS

SIMULATION AND TRAINING

SHIP TRAFFIC CONTROL

WÄRTSILÄ CONNECTS THE DOTS TO THE FUTURE

WÄRTSILÄ
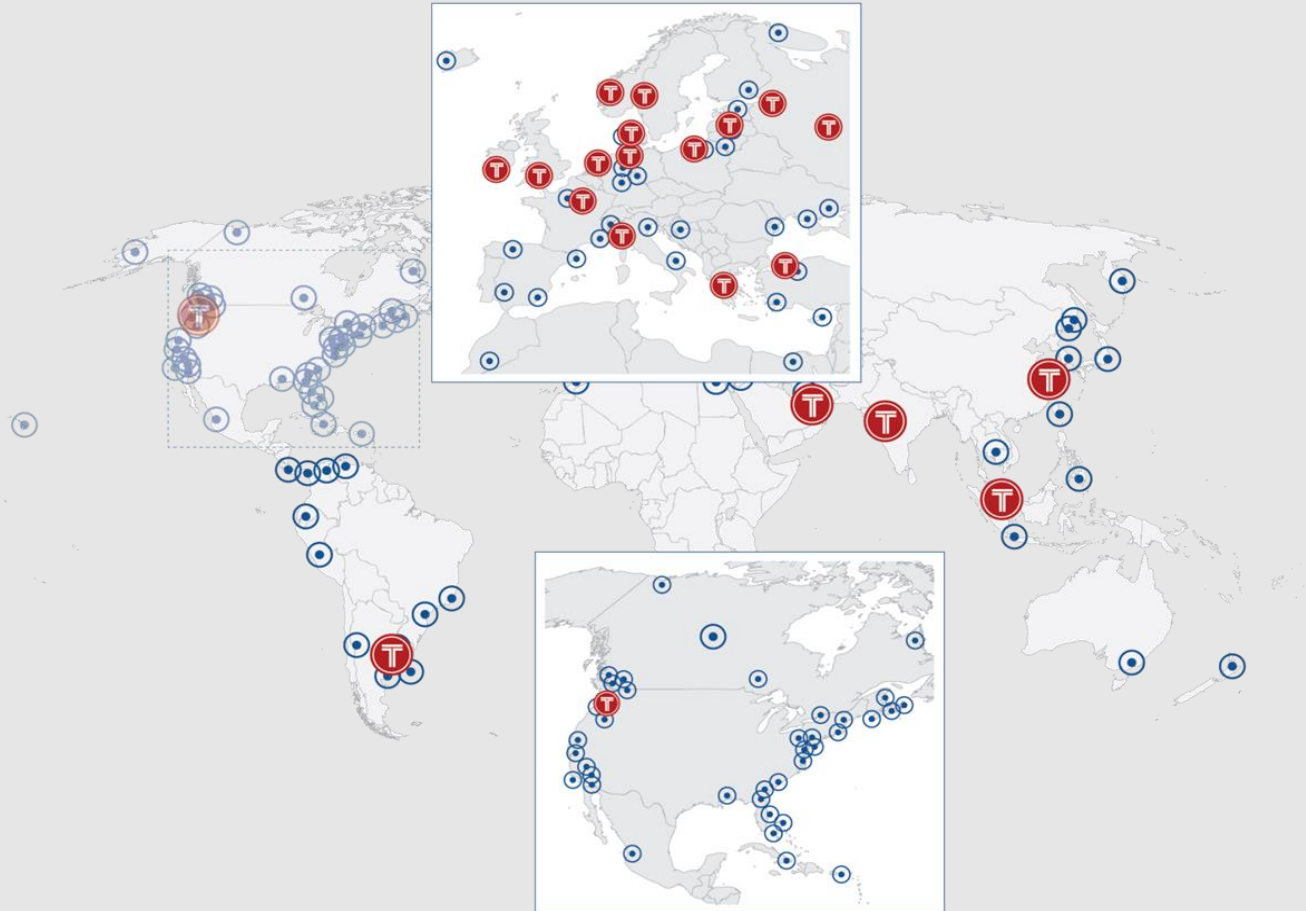
Transsas Company History

Transas (now Wärtsilä Voyage Solutions)

- **TRANSAS (TRANsport SAfety Systems)** was a privately held company focused on development of a wide range of software integrated solutions

- **TRANSAS** held world-leading positions in Maritime : Navigation, Simulation , Shore-based monitoring, Safety and Port Management

- Navigation and Simulation solutions for aviation sector,

- IT-solutions for Defence ,Oil and Gas industry, Railway Transportation and other sectors

- **TRANSAS**   Main offices are in Singapore, Saint-Petersburg (Russia), Gothenburg (Sweden), Hamburg, Portsmouth, Antibes, Cork, Melbourne Florida, Seattle.

- Transas was acquired by Wartsila in 2018 and is now Wartsila Voyage Ltd
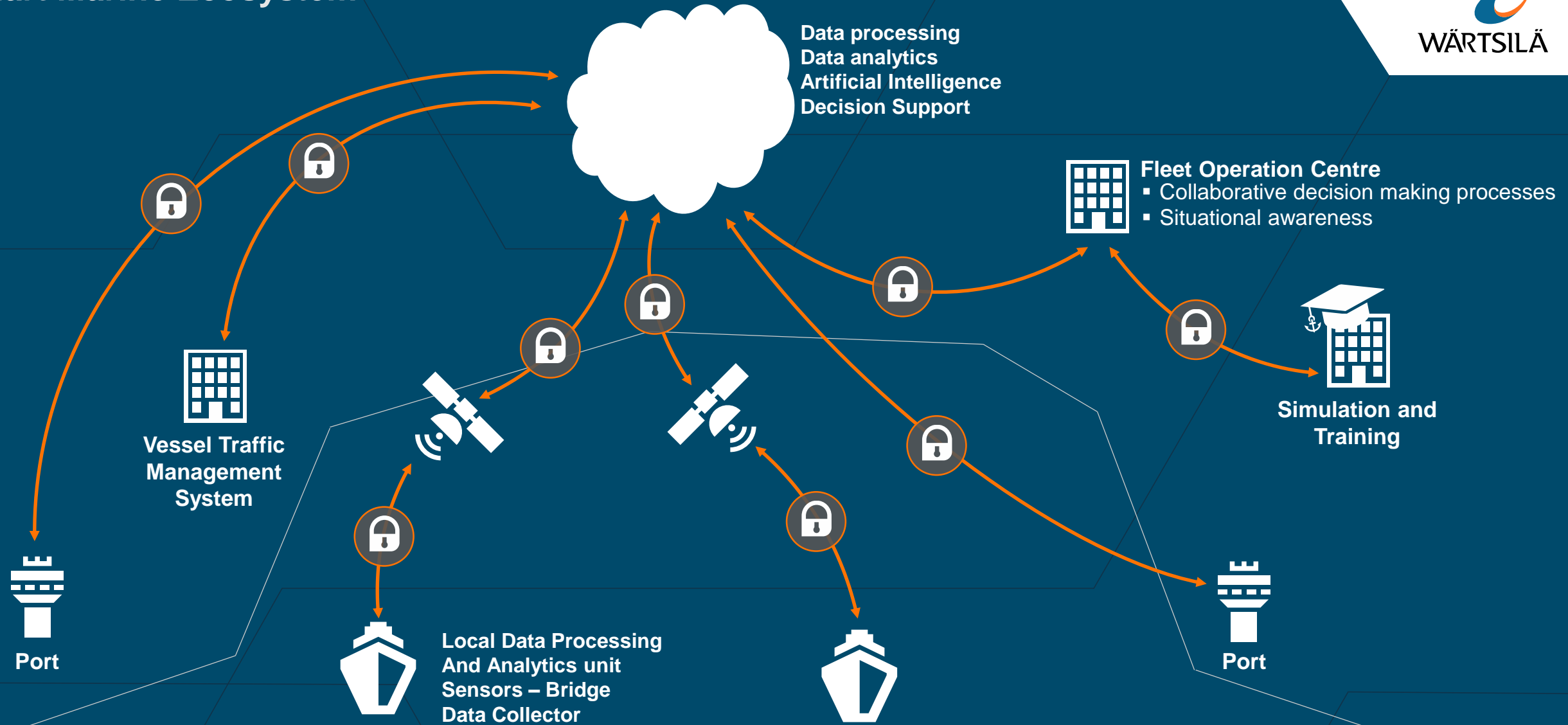
GLOBAL PRESENCE
Global Reach and High Level of Customer Support

At prensent the Wartsila Voyage Solution Headquarters is located in Portsmouth, UK. The company operates 22 own regional offices and has a global network of partners serving Wartsila customers around the world.

Smart Marine Ecosystem

Data processing
Data analytics
Artificial Intelligence
Decision Support

Fleet Operation Centre
- Collaborative decision making processes
- Situational awareness

Simulation and Training

Vessel Traffic Management System

Port

Local Data Processing And Analytics unit
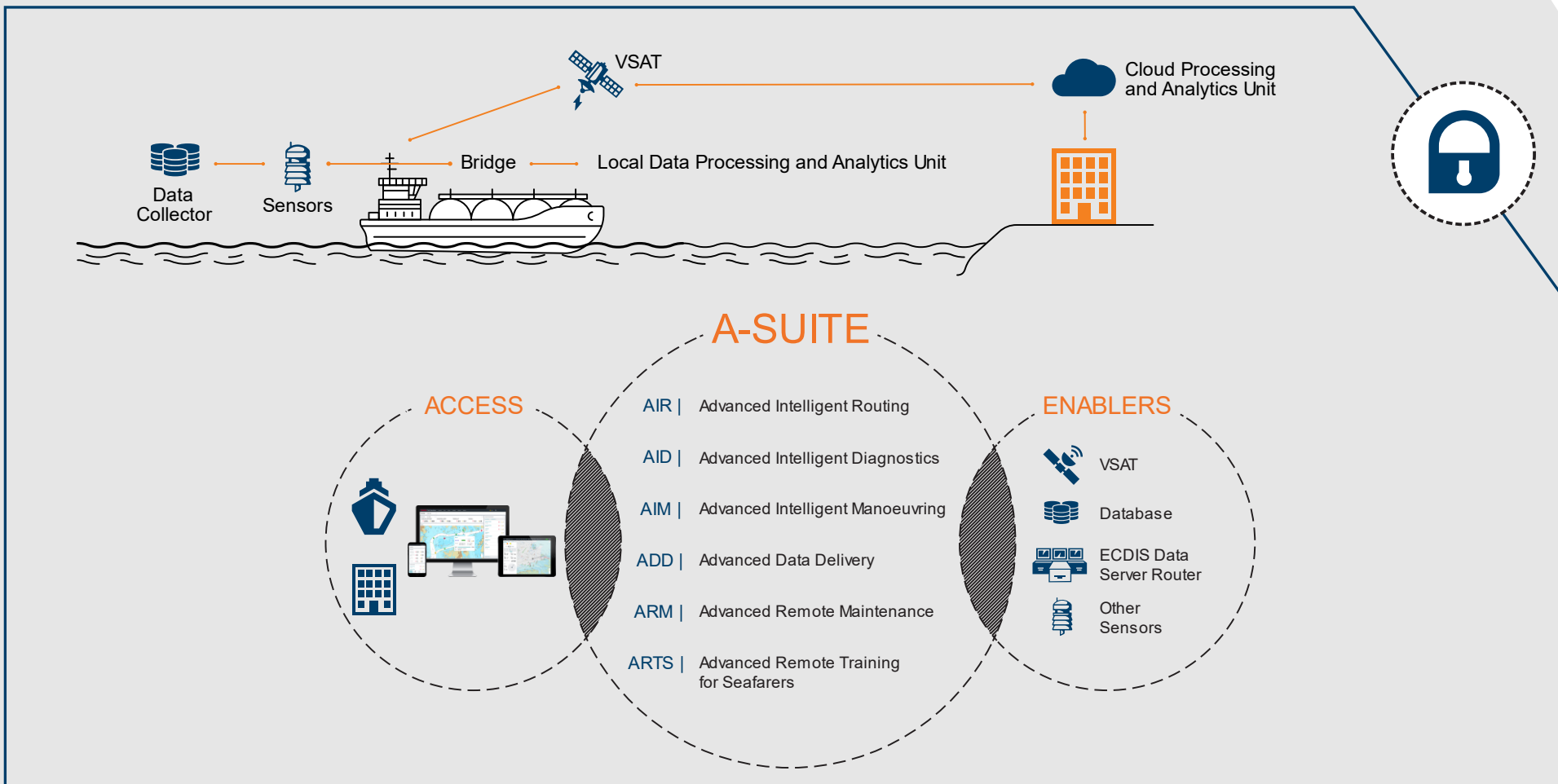Sensors – Bridge
Data Collector

Port

VISION

Fleet Operations Solution (FOS) is designed to achieve the highest level of safety at sea, increase fleet efficiency and simplify everyday tasks both ashore and on board.

With FOS, the operations are processed seamlessly, the compliance is guaranteed and the workload and costs are optimized.

Environment

Efficiency

Safety

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VSAT

Cloud Processing
and Analytics Unit

Data
Collector

Sensors

Bridge — Local Data Processing and Analytics Unit

A-SUITE

ACCESS

AIR | Advanced Intelligent Routing

AID | Advanced Intelligent Diagnostics

AIM | Advanced Intelligent Manoeuvring

ADD | Advanced Data Delivery

ARM | Advanced Remote Maintenance

ARTS | Advanced Remote Training
for Seafarers

ENABLERS

VSAT

Database

ECDIS Data
Server Router

Other
Sensors

All tools and data are connected in one operating system with the ECDIS kernel at its core, building the basis for improved operational efficiency and safe processes, with all stakeholders having access to and relying on the same information.

WÄRTSILÄ

A set of connected intelligent applications inside FOS

Advanced software applications facilitate routine tasks and decrease the workload allowing people to focus on their main objectives.

A-Suite uses artificial intelligence to improve situational awareness and decision support on bridge and ashore.

- Analytics
- Decision Support
- Artificial Intelligence
- Planning
- Maneuvering
- Situational Awareness

A-SUITE

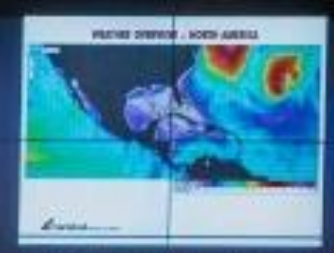AIR | Advanced Intelligent Routing

AID | Advanced Intelligent Diagnostics

AIM | Advanced Intelligent Manoeuvring

ADD | Advanced Data Delivery

ARM | Advanced Remote Maintenance

ARTS | Advanced Remote Training for Seafarers

AIR – ADVANCED INTELLIGENT ROUTING

AIR optimizes vessel route according to a variety of metocean data, as well as traffic separation schemes and regional regulations on acceptable fuel types, using artificial Intelligence technologies.
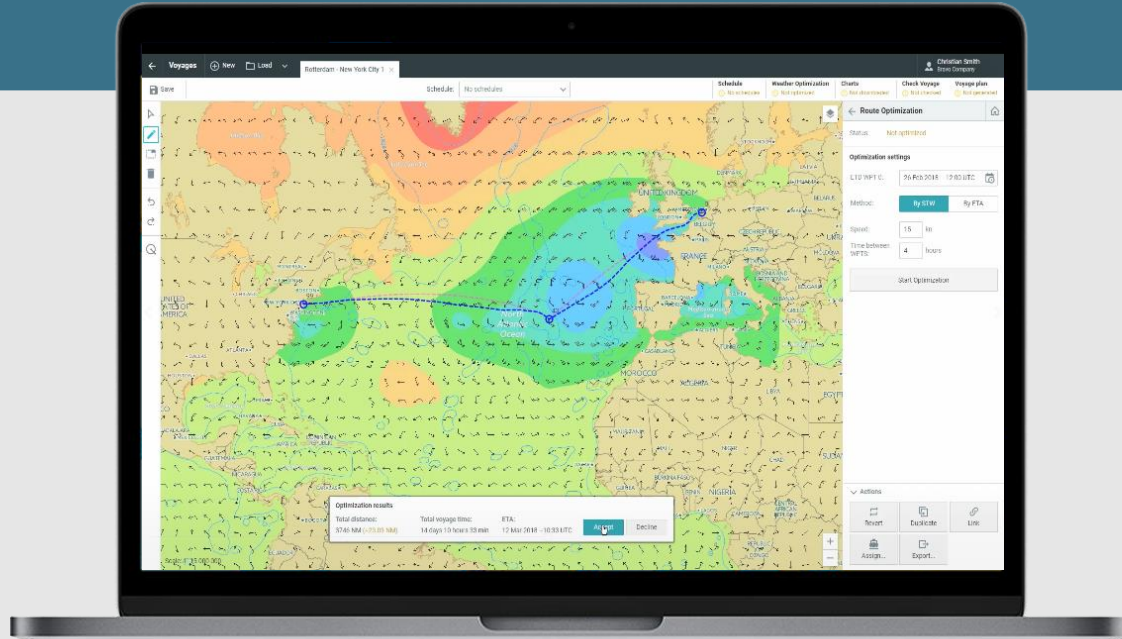
- Automated fastest and safe route generation and update

- Geometric and weather optimization

- Reduced bridge crew workload

- Efficient fuel consumption

- ECDIS integration

- Safety check and Voyage plan documentation.

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Christian Smith
Bravo Company

New Automatic Shortest Route ✕

Name: Rotterdam - New York City

Departure: Rotterdam ⌄ | ⊕ Point

Arrival: New York City ⌄ | ⊕ Point

Vessel Settings

Safety Draught: 5.0 m | Min XTD: 0.10 NM

Safety Air Draught: 5.0 m | Recommended Safe Zone: 0.20 NM

Constraints

> Prohibited areas

Generate | Cancel

Scale: 1:15 000 000

AID – ADVANCED INTELLIGENT DIAGNOSTICS

AID detects anomalies, i.e. abnormal, unusual and/or dangerous patterns in ship behaviour, real-time and post voyage, in order to increase situational awareness, eliminate the possibility of human error and eventually, reduce risk.
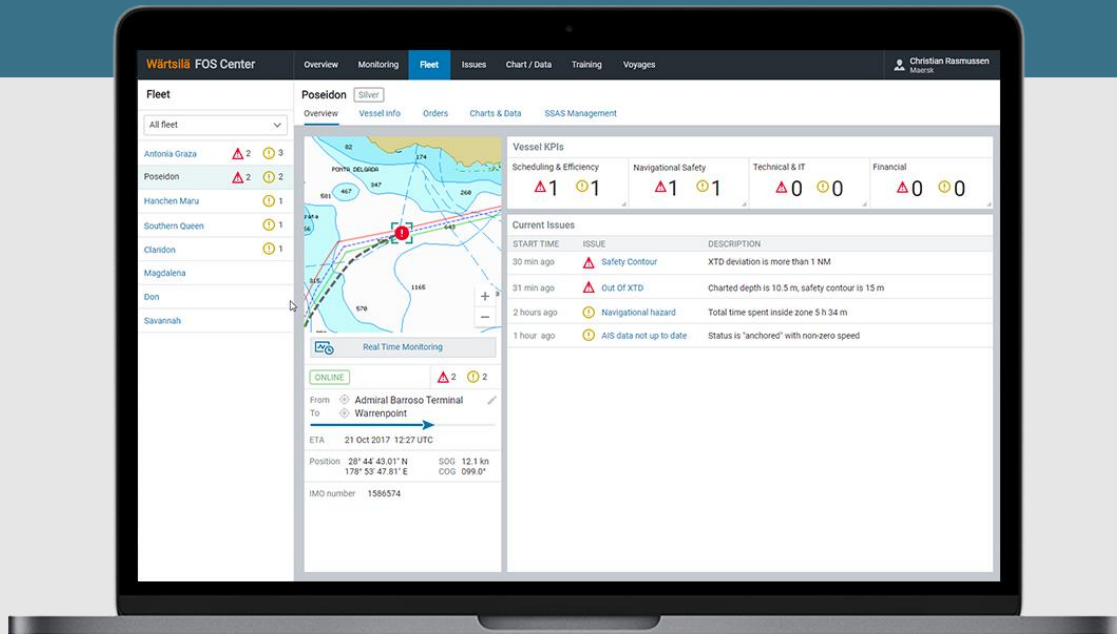
- Automatic anomaly detection and alerts

- Allows to foresee and prevent dangerous situations, including

  - Excessive / extreme maneuvering

  - Near miss collisions / grounding cases

  - Potential loss of ship stability and cargo shift problems

  - Dangerous hull / machinery loads

  - Ignoring critical navigational alarms

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AIM – ADVANCED INTELLIGENT MANEUVERING

Track prediction designed to improve situational awareness and reduce the probability of officer in-attention or poor judgment leading to an incident.
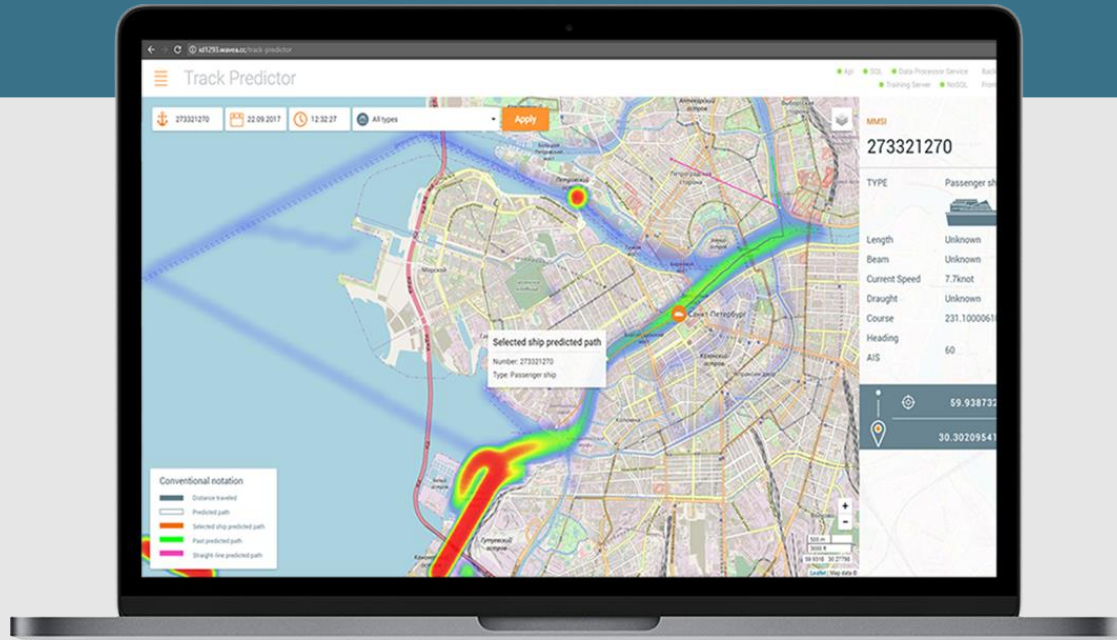
- 15-20 minutes reliable ship trajectory prediction for the area (98.5% accuracy)

- Recommendations of safe & efficient maneuvers to avoid collisions

- Prediction of potential collision and grounding events

- Identification of safety distance parameters applicable for the area

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WÄRTSILÄ

The best possible protection against cyber attacks

Sophisticated security compliant cloud platform
- Identity control
- Secure infrastructure
- Security applications
- Compliant to the General Data Protection Regulation coming in force May 2018

VPN
- Firewall IEC 61162-460 standard approved

LAN business segmentation
- Business and private network segmentation with the traffic priority control

Data security validation
- Data integrity and validity checks.

Secure Network

Secure Infrastructure

Cybersecure Solution

Secure Data

Secure Apps

Secure Identity And Access
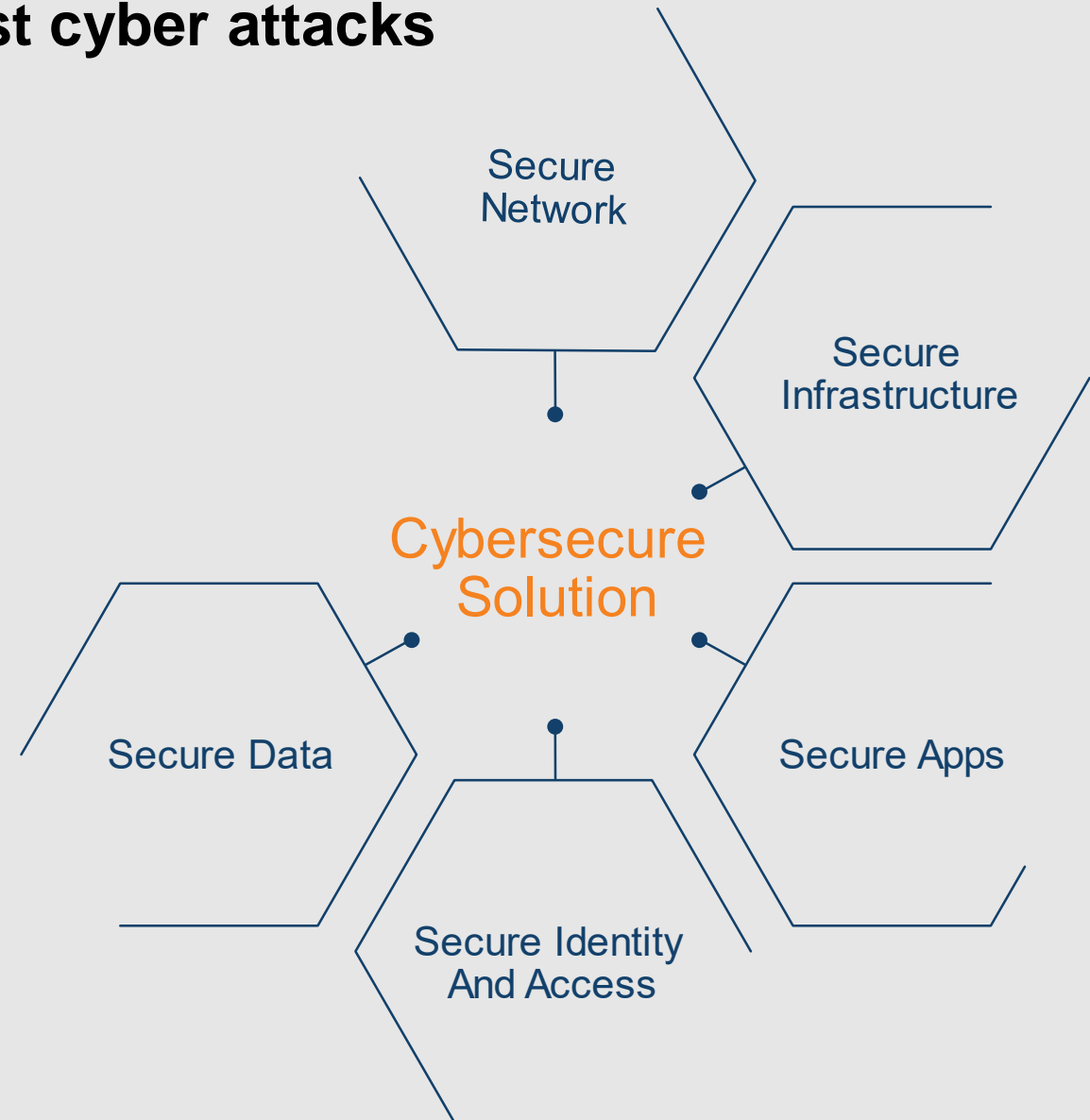
ENHANCED SAFETY & EFFICIENCY ACROSS THE WHOLE VALUE CHAIN

AIR

safest route

up to 5-7% fuel savings

reduced bridge crew workload

just in time arrival at the port

AID

automatic anomaly detection

dangerous situation prevention

analysis of abnormal patterns in ship and crew behaviour

ad hock trainings

AIM

15-20 min trajectory prediction

reduced risks of collisions

reduced risks of human errors

safety in congested areas

SHIP TRAFFIC CONTROL

Facilitation and co-ordination of vessel traffic and ports

VESSEL TRAFFIC SERVICES

COASTAL SURVEILLANCE SYSTEMS

SEARCH AND RESCUE SOLUTIONS

OFFSHORE SOLUTIONS

RIVER INFORMATION SYSTEMS

CONNECTED OPERATIONAL ENVIRONMENT

CROSS-COUNTRY INTERACTION

DECISION SUPPORT TOOLS

SITUATIONAL AWARENESS
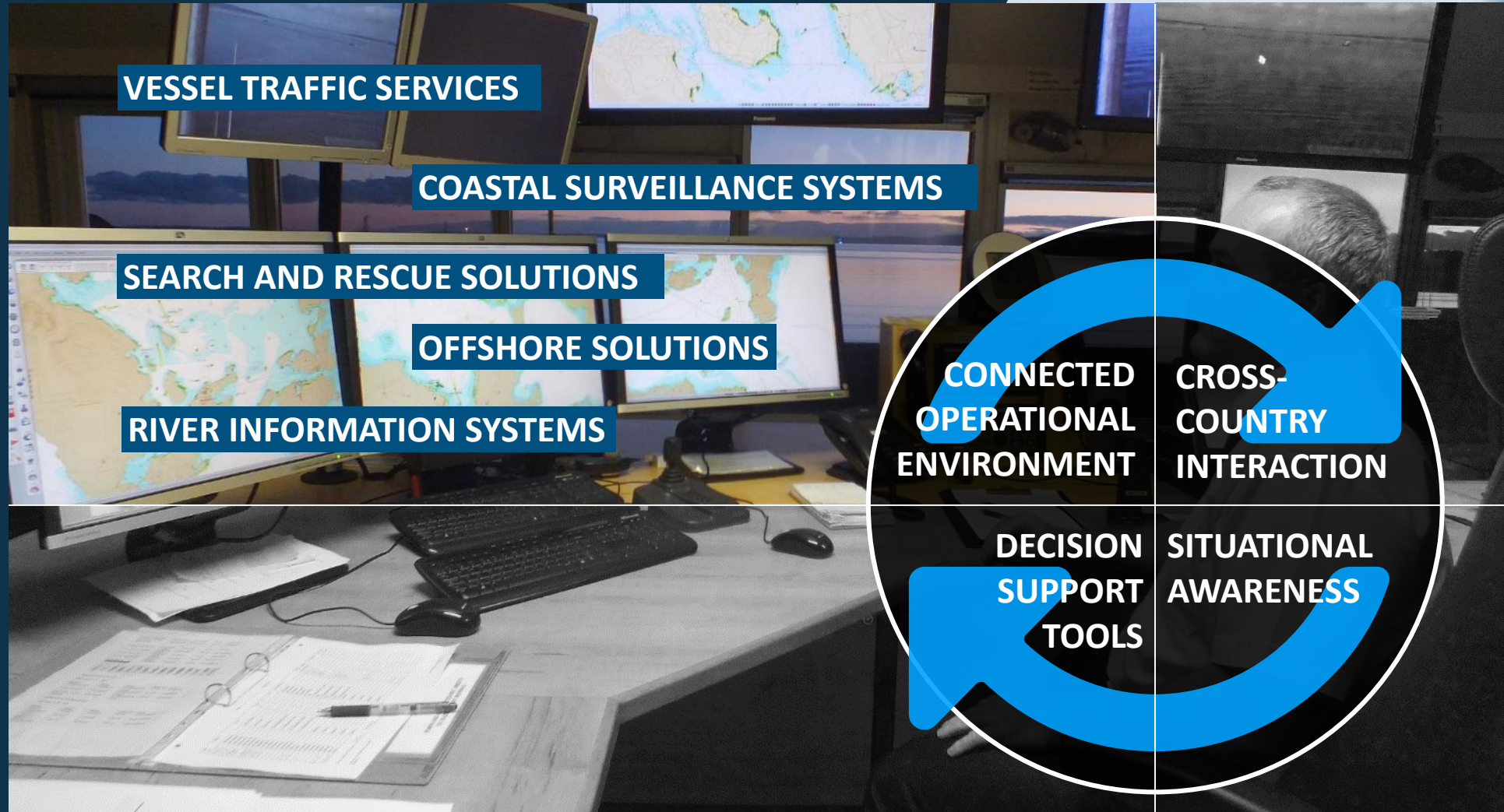
SIMULATION

Bringing technology, expertise and content together

NAVIGATIONAL SIMULATORS

WEB-BASED TRAINING

CREW TRAINING

TECHNOLOGICAL SIMULATORS

DATABASES AND SCENARIOS

COMPETENCE DEVELOPMENT

DECISION SUPPORT TOOLS

DIGITAL TWIN

Engine Room and Bridge Simulator Models Linked

ER+Bridge=DT

Academy Structure and Workflow

WÄRTSILÄ

```
Product              Sales      HR Department           Project
Development                                           Management
Managers                                                Office
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TRG= Training

```
Training
Co-ordination
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Navigation Operations Training Expert Lee Tobin	Navigation Systems Training Expert Jenn Colwell	Technical Systems Training Expert Lyndon Bailey	Training co-ordinator and Commercial Training Expert Sabrina Millward
Responsibilities Training in Academy Product TRG support Product TRG lesson plans Production of TRG material Recruitment of TRG partners Quality Control of TRG Partners	**Responsibilities** Training in Academy Product TRG support Product TRG lesson plans Production of TRG material Recruitment of TRG partners Quality Control of TRG Partners	**Responsibilities** Training in Academy Product TRG support Product TRG lesson plans Production of TRG material Recruitment of TRG partners Quality Control of TRG Partners	**Responsibilities** TRG Co-Ordination Commercial Training in Academy HR TRG support Sales TRG Support Production of TRG material Invoicing and quotation Quality Control of TRG
Training Partners Regional Training Partners	**Training Partners** Regional Training Partners	**Training Partners** Regional Training Partners	

Wärtsilä Voyage Competitors

Market position

Maritime simulators

Maritime electronic charts

Maritime integrated navigation systems

Vessel traffic systems

Thank You for Your Attention

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