

# INTERSCHALT maritime systems AG

## Presentation

**INTERSCHALT maritime systems AG**

**Engineering & Automation**

**Software Solutions**

**Maritime Services**

**References**

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**References**

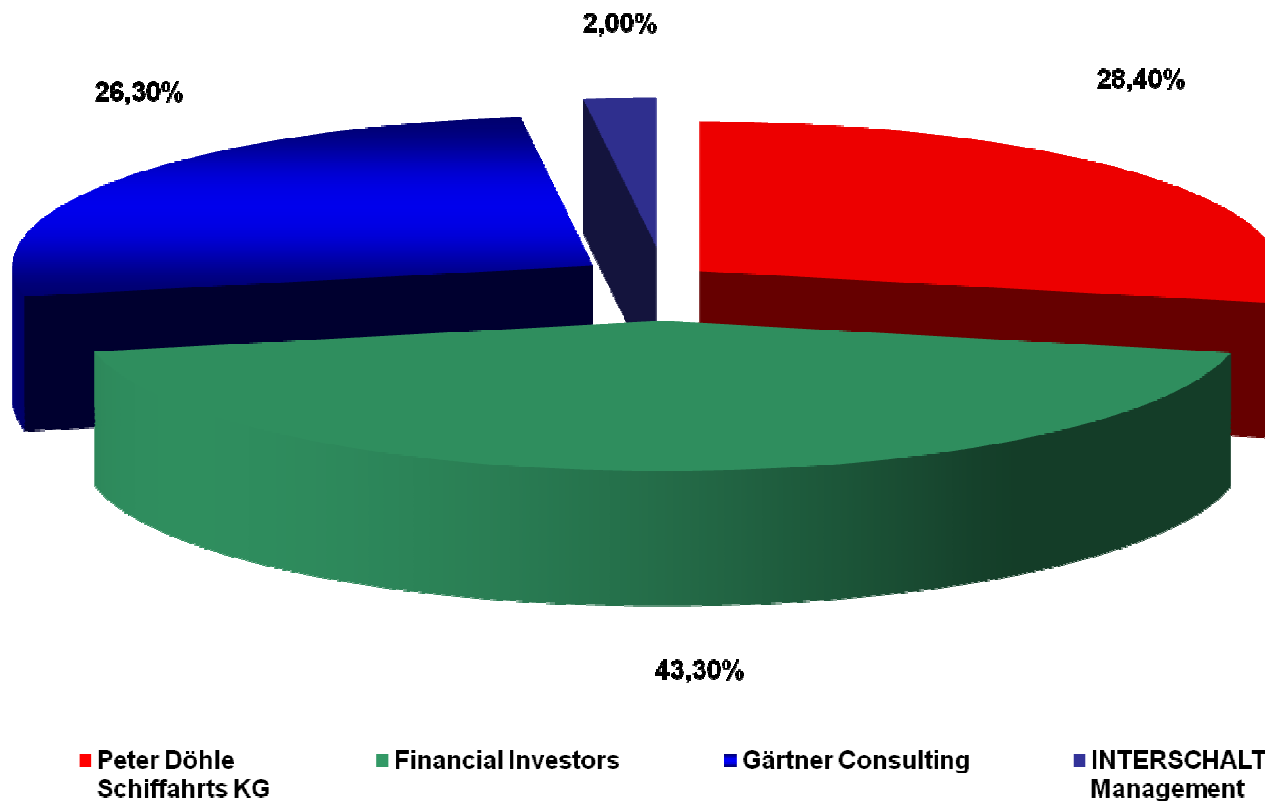
**Our vision is to be the partner of choice in the maritime industry.**

**Our comprehensive product portfolio stands at the forefront of technological and market demands.**

**We offer the best working environment for high potential people, who are really our greatest assets.**

## Focus on mutual success:

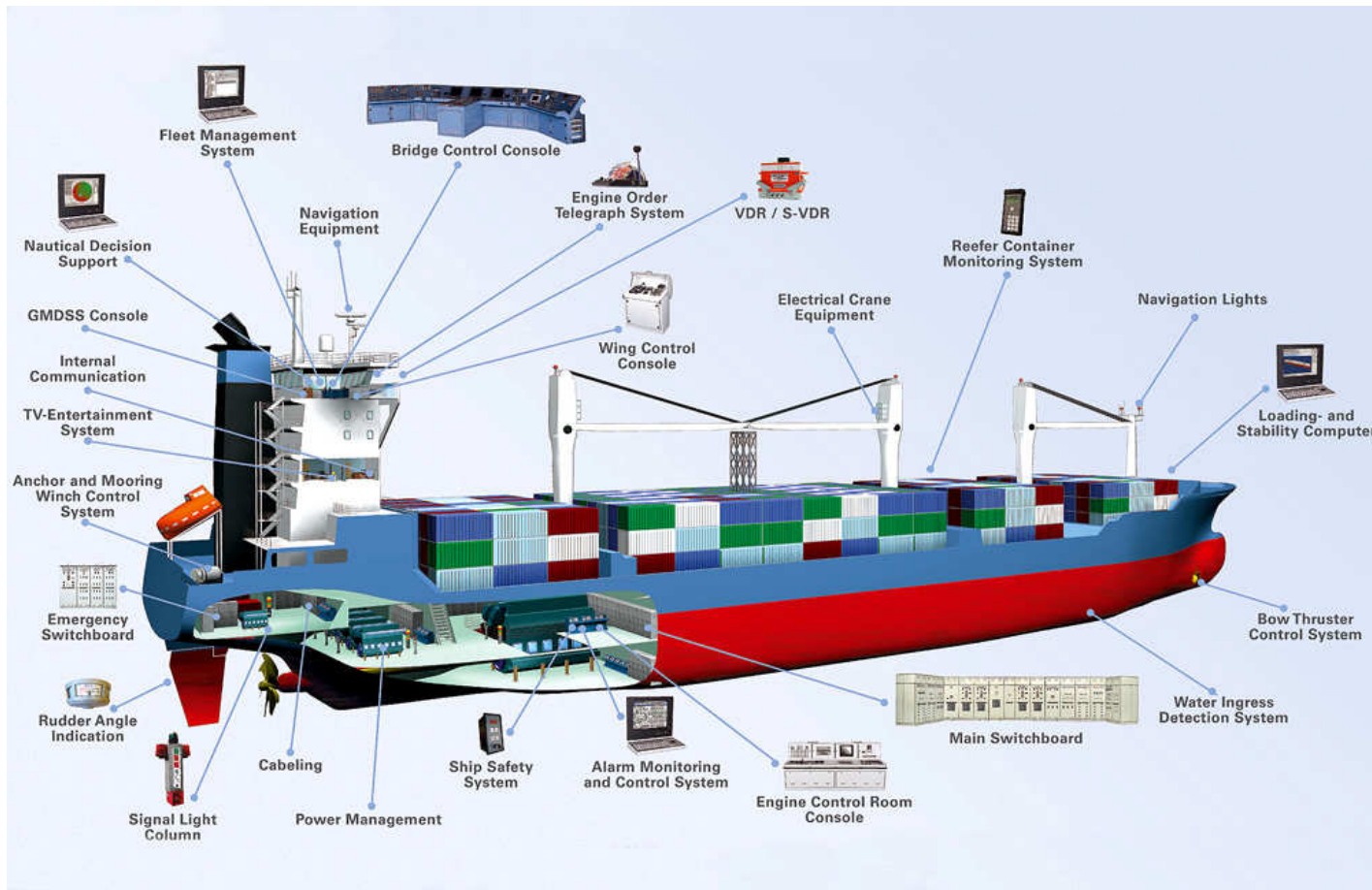
- Strategic partnership with Peter Döhle Schiffahrts KG





**To the benefit of all:**

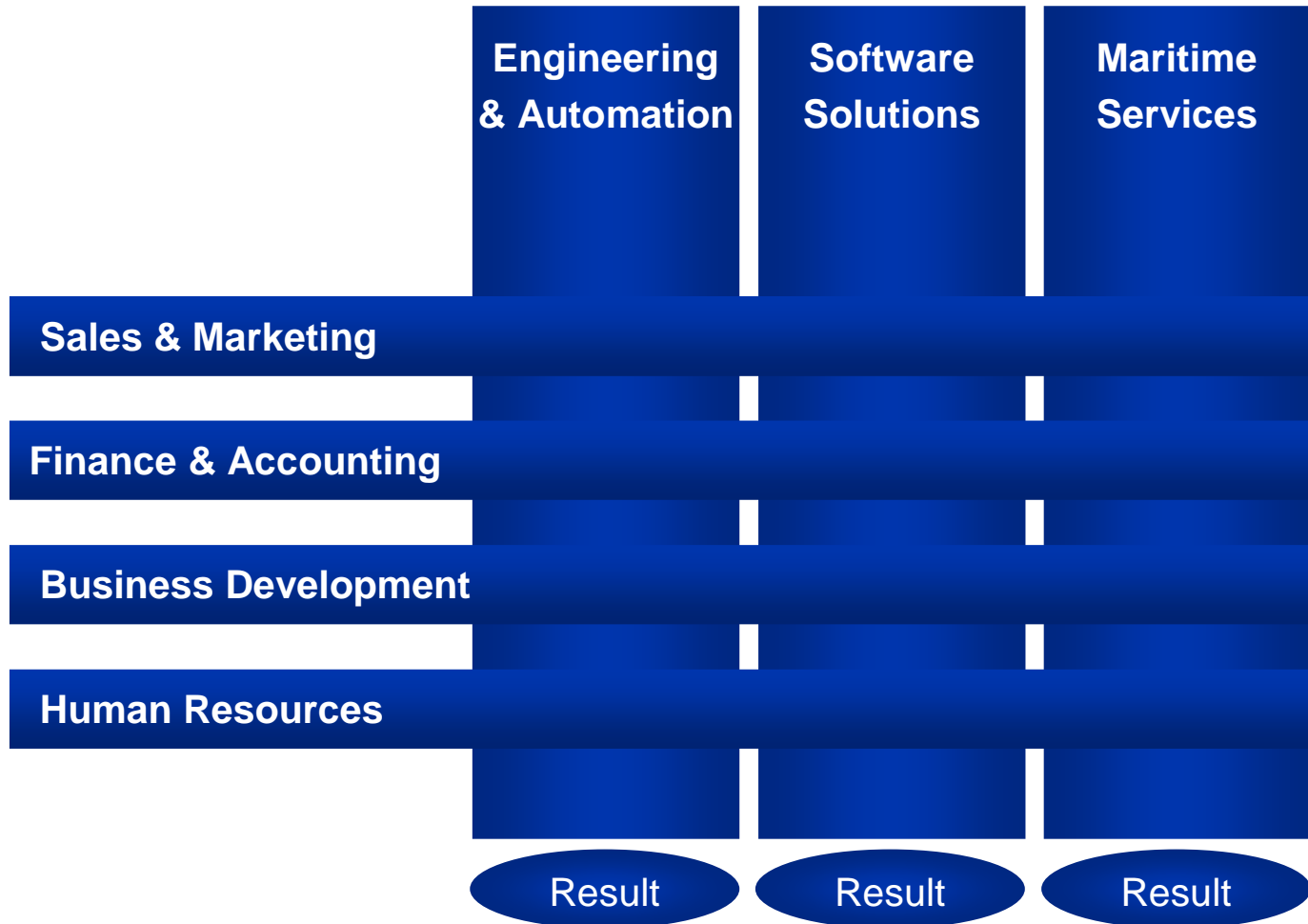
- Added value from integrated products and services
- Partner for the maritime industry



## System integrator for all electronic parts:

- Comprehensive product portfolio
- IS products cover a vessel's entire life cycle
- System integration for own and third party products





## Focussed business structure:

- Customer oriented business structure
- Profit centre structure
- Central functions serving all business units



## Engineering & Automation

- Over 50 years of process management experience
- Over 100 years in realising automation projects
- More than 10,000 vessels equipped with automation products
- More than 1,500 Voyage Data Recorders installed

Experience

Quality

Reliability

Innovations

## Software Solutions

- More than 4,600 Loading Computer installed at over 10,000 user
- More than 2,200 Ship Management licences sold

**Our customers benefit from our experience and quality focus:**

- Various references stand for experience, quality and ability to innovate

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## ||S interschalt Switchboard & Distribution

### Significant Features:

- Load depended start/stop of diesel generator sets (PMS)
- Conditional connection of heavy consumers with fixed or variable load
- Conditional reefer container connection, controlled by Power Management System
- Main bus bar up to 8,500 A with max. Initial-short-circuit alternating current < 130 kA
- Ultra – Rapid power switch for higher short-circuit currents
- Moulded case circuit breaker fixed mounted or plug – in type

### Advantages:

- Modular setup (functional groups)
- Low maintenance, user friendly
- Switch on and Start
- Communication – compatible
- Shipspecific design



## **||S** interschalt Control Console

### ▪ **Significant Features:**

- Implementation of custom-tailored design
- Engineering and Integration of different communication- and navigation systems
- Consoles in high-grade steel-, aluminium-, and steel design
- Wiring according to EMV standards
- Ergonomically created design
- Optimized arrangement of equipment
- Compliance with different class regulations
- Shockproof production of the welded construction
- Marine consoles in special paintwork
- Compliance with MIL-Standards
- Special fabrication of user surface, e.g. of wood or leather

### **Production of consoles for:**

- Special vessels
- Containervessels, Bulkers, (Tankers)
- Pilot vessels
- Ferries
- Megayachts
- Offshore Patrol Vessels
- Marine (e.g K130, T45)



## **Steinsohn Automation**

### **Significant Features:**

- Easy integration of third party systems
- ‘Plug and Play’ interfaces to all system components
- Modular setup of system, central or peripheral
- Process Control Panel (back-up level)
- Off-watch operation by ‘XAS’

### **Advantages:**

- 10 years warranty on all I/O components
- Exchangeable control elements with engine in operation
- User-friendly interface
- Redundant bus systems
- Separate bus system for Extension Alarm

### **Applicable to:**

- Engine Monitoring
- Auxiliary System Control
- Fuel and Bilge Management
- Ballast Water Management
- Power Management
- Cargo Management



## //S steinsohn Reefer Monitoring

### Significant Features:

- Safety reports can be transferred to Microsoft Excel File
- Communication with all types of Loading Computer Systems
- PCT with high- and low data rate according to ISO 10368
- Applicable for up to 1024 Reefer Containers on board
- Mobile Terminal with scanner function for all reefer containers without modem

### Advantages:

- Software replaces manual surveillance of containers
- Contribution to the sureness of the cold chain
- Graphical presentation of the container positions
- Trend illustration for supply air and return air







## **||S** steinsohn *Engine Order*

### Significant Features:

- Engine order telegraph and wing control console are connected by the “Electric Shaft”
- Each lever can be operated as “Master”
- Two-ways operational mode:
  - as control element for engine remote control
  - as engine telegraph
- Counterpart to engine order telegraph is the MKR lever
- Monitorial receiver in engine room for indication of lever position of engine telegraph
- Permanent control of total system by MT – Bus Controller

### Advantages:

- Modular setup
- Electric Wave (Modbus-RTU)
- MT - Function (Modbus-RTU)
- Interface to main engine remote control
- Interface to VDR
- Emergency - MT Function





## **IS** steinsohn Ship Safety

### Significant Features:

- Watch Alarm / Personnel Alarm System
- New development for use on the bridge or in the engine control room
- Functional design with numerical display
- Small dimension of operation- and terminal module
- Compliance with latest rules and regulations of IMO Resolution MCS. 128 (75)
- Key switch for mode selection
- Dimmer function
- Integrated buzzer with changeable tone and volume
- Easy and individual handling of parametrization
- Count-down time indicator

### Further Systems:

- Signal Light Column System
- General Alarm System
- Nautical Alarm System
- Cold Room locked-in Alarm - / Hospital Call System
- Rudder Position Indication System
- Emergency Engine Telegraph System



## //Steinsohn VDR G4

### Significant Features:

- Modular, decentralized system and slim design
- Easy to service
- Decentralized installation of modules close to signal source
- Modules connected and power supplied over Ethernet
- Easy to service, exchange of modules by 'plug and play'
- Digital interface to radars (several types)
- Replay software with ECS functionality

### Advantages:

- Modular and slim design
- Scalable
- Service over GSM
- „Plug & Play“ modules

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## //S seacos Cargo Management

### Significant Features:

#### MACS3 Loading Computer System

- For all vessel types
- Automatically ballast tank optimization
- Interfaces to tank level- and draft gauging
- Interfaces to container booking systems
- Client / Server architecture

### Selected Add-ons:

- Dangerous goods- and safety management
- Calculation of lashing forces and cargo securing
- Graphical stowage planning
- Ballast Water Exchange Management
- Crane Operation Module

### Advantages:

- Complete redesign
- Microsoft .NET technology
- User-friendly
- Add-ons for each individual vessel type and special purposes
- More than 4,000 onboard installations



## //S seacos Fleet Management

### Significant Features:

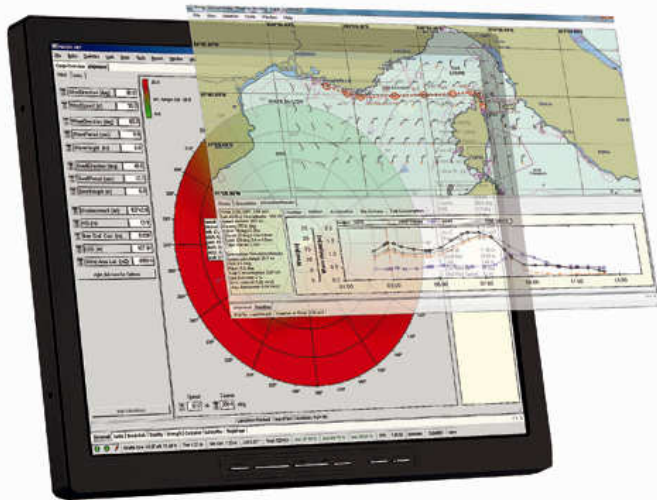
New: *Bluefleet*

Follow-up from IS avecs Fleet Management

- Modern Microsoft System with SQL server database
- Modular Structure
- One database for all ships
- Easy way to generate statistics and overviews
- Capable of handling large amounts of documents
- Ready to use broadband satellite communication
- Fleet wide overview about technical status of ships

### Vorteile:

- Experience from 25 years software development
- Data base technology
- Modular architecture



## //S seacos Nautical Decision Support

### Significant Features:

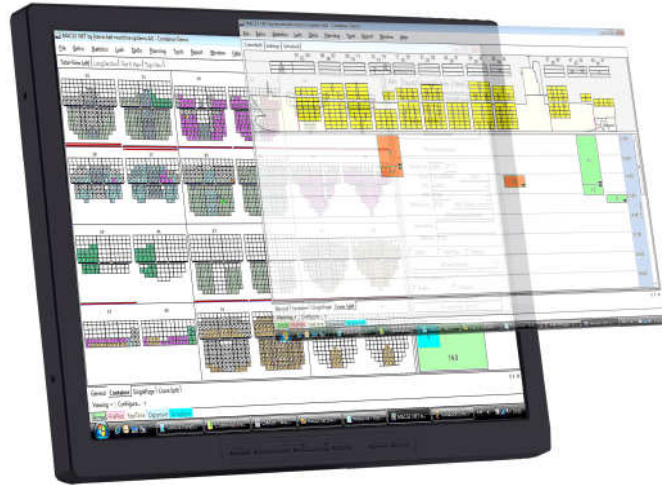
#### *Bluewave*

- Weather routing- and decision support system
- Online processing of weather data
- Dynamic real time representation
- Indication of optimal course and speed
- Integrated electronic sea chart system
- Interface to sensors (GPS, weather etc.)
- Precise prediction of vessel motions
- Avoidance of nonlinear dangerous phenomena (parametric rolling, broaching and surf-riding)
- Interface to the Seacos Cargo Management System

### Advantages:

- Optimal routing
- Fuel economization
- Early danger detection
- Avoidance of damages
- Avoidance of cargo loss
- Prevention of seasickness





## ||S seacos Stowage Planning

### Significant Features:

#### STOWMAN

- Automatic stowage recommendation
- Optimal cargo handling
- Total voyage planning
- Optimal crane operations sequences
- Cargo compatibility check
- Ship's stability calculation possible
- Extensive database of vessel profiles

### Advantages:

- Optimal stowage planning
- Maximum safety
- Rapid planning
- Efficient cargo handling



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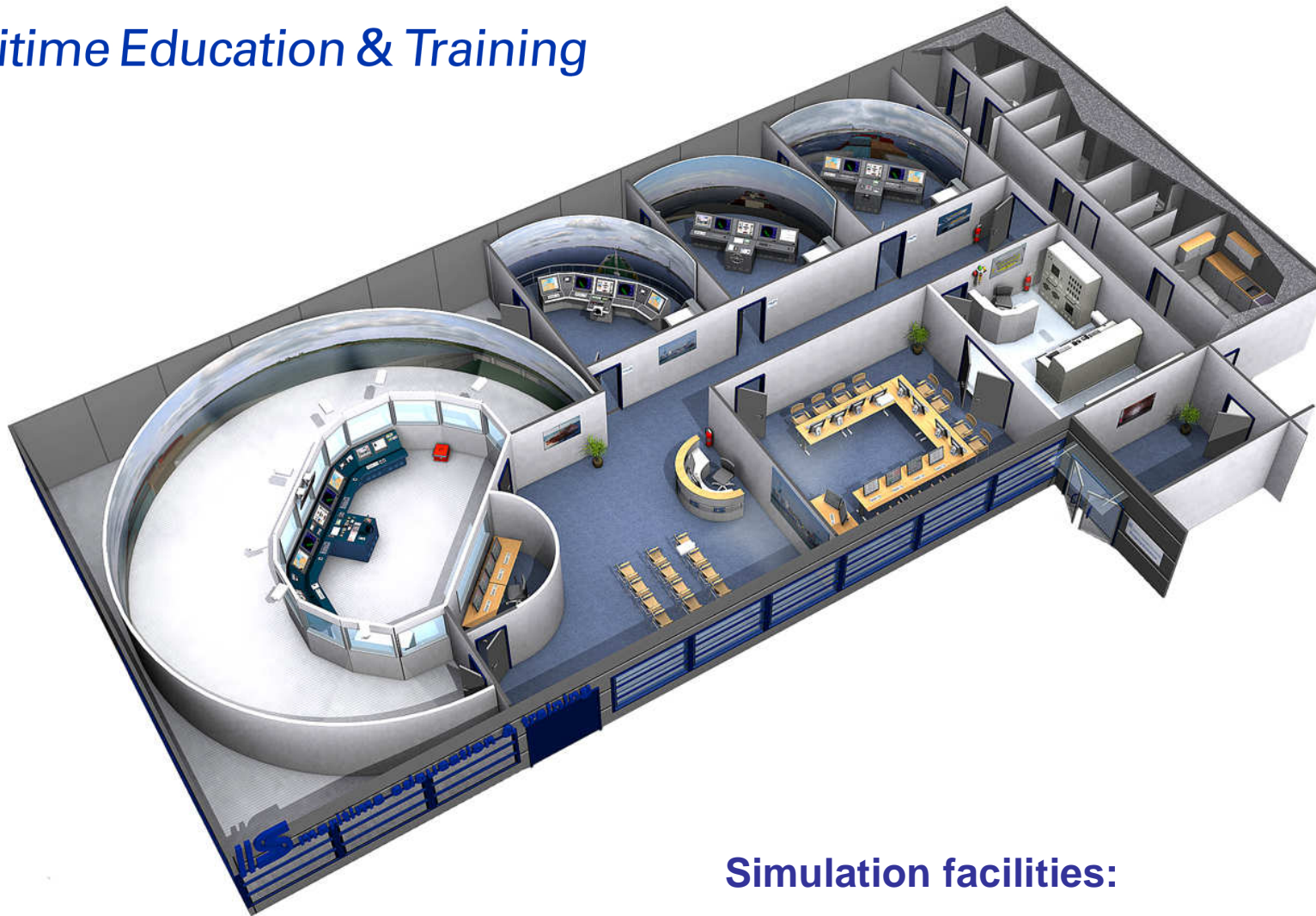
References



## Maritime Education & Training Center (MET)



## ||S Maritime Education & Training



Approval Certificate



### Simulation facilities:

- Four visual bridge systems with 120° to 270° view
- Full mission engine room simulator

Main Bridge

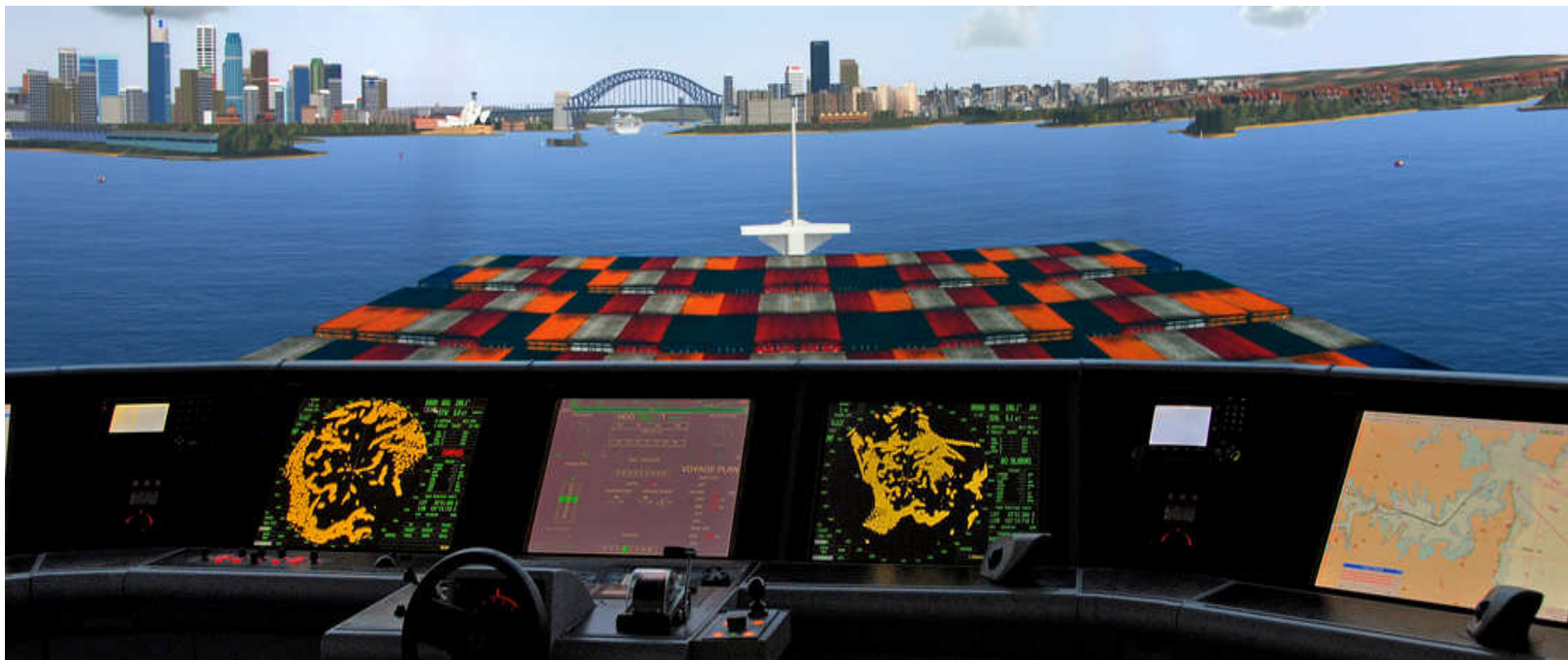
Sperry VM-FT





Bridge London

Sperry Marine Bridge Master E / VMS - ECDIS



Bridge St. Petersburg

TRANSAS



Bridge Kiel

Raytheon Anschütz





**Engine Simulator / Engine Control Room**



## IT – Training Room







## ||S Maritime Education & Training



### Key benefits:

- High qualified staff
- State of the art technology
- Customer specific courses
- Arbitrary arrangements
- Up to 12 participants simultaneously
- Different bridge equipment of several manufacturers
- Extensive customer care and support
- Europes largest private operating training center

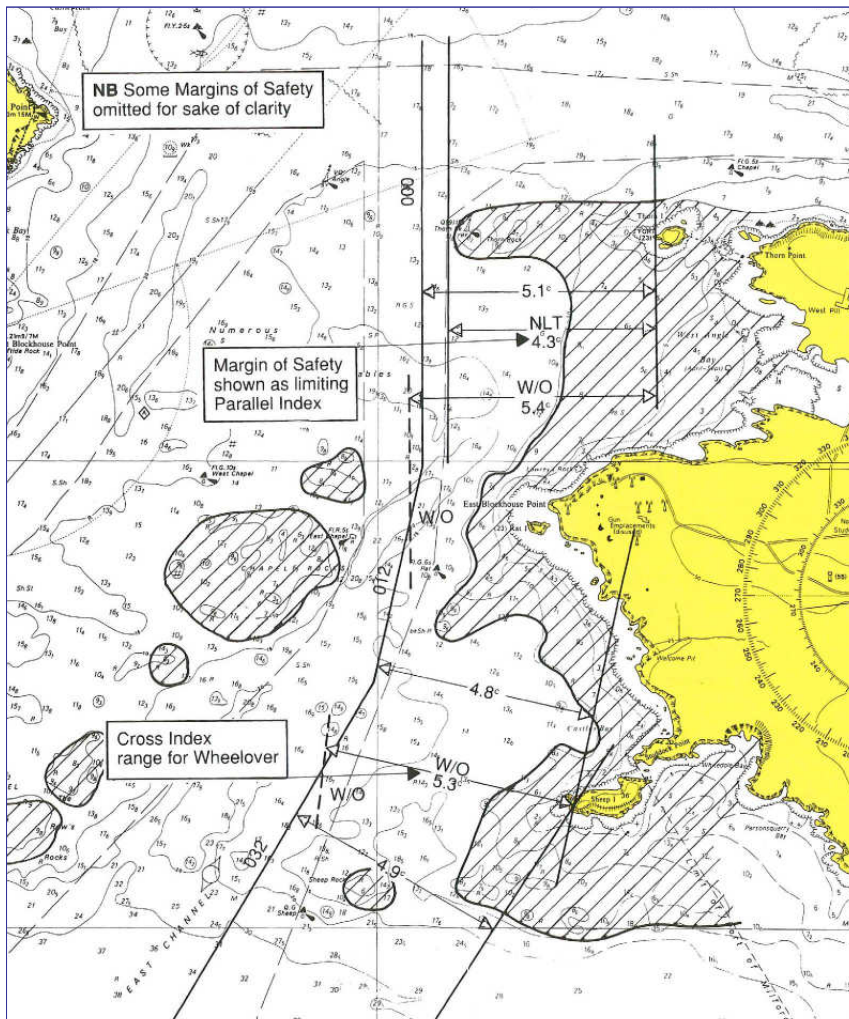
## **IS** Maritime Education & Training



### **Simulation, Navigation & Shiphandling:**

- Basic Navigation
- Shiphandling under various environmental conditions and in different ports
- Advanced shiphandling in extreme situations
- Theoretical aspects of basic ship hydrodynamics
- Analyzing of manoeuvring characteristics
- Integrated bridge systems
- AIS & VDR training
- Consultancy services for new ship & waterway designs

## Maritime Education & Training



### Simulation, Navigation & Shiphandling:

- Proper Passage Planning
- ECDIS training
- Voyage Monitoring
- Track control operation theory and practise
- Routing systems



## ||S Maritime Education & Training



### Bridge Team Management:

- Emergency management
- Human factor
- Situation awareness
- Risk awareness and management
- Error chains
- Communication
- Teamwork
- Assertiveness
- Leadership
- Stress
- Fatigue



## **IS** Maritime Education & Training



### **Technical Ship Operation:**

- Engine Team Management
- Fleet Management Software Systems
- Cargo Management Software Systems
- Stowage Planning Software Systems

### **Safety & Security:**

- Ship Security Officer
- Company Security Officer
- Decision Support Software Systems

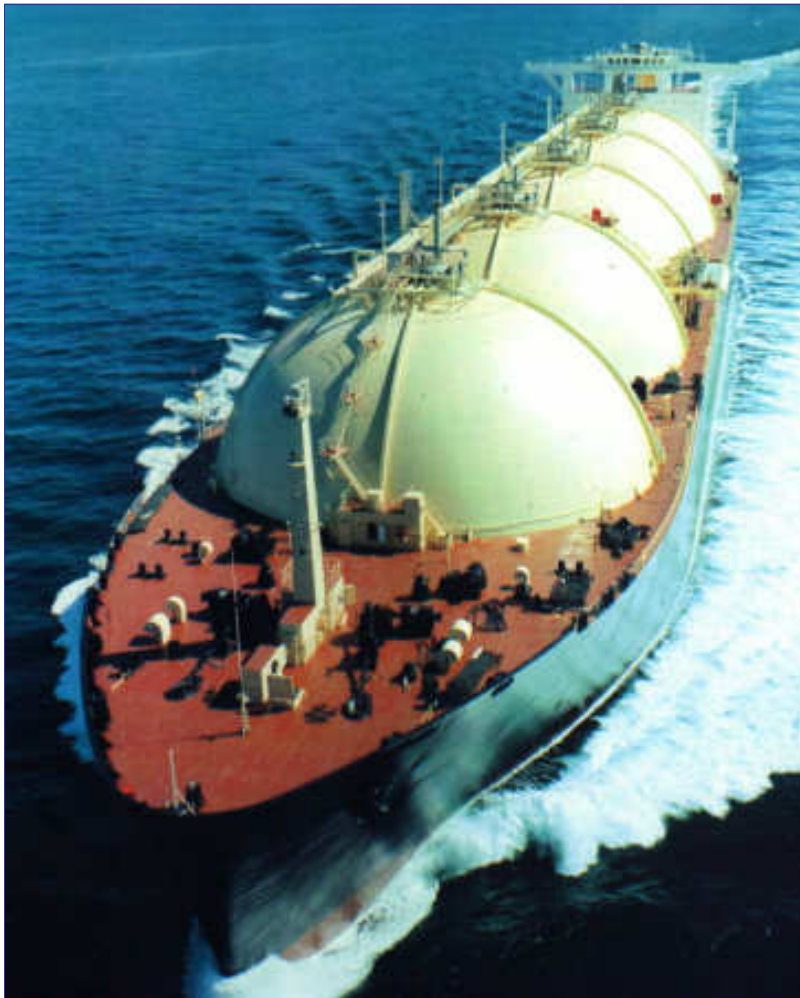
### **Engineering & Services:**

- Marine Electronics, Engine Monitoring & Automation
- Navigation / Communication Service

**IS** Maritime Education & Training**Ship Operation, Navigation & Manoeuvring**

- Development of new ship designs and implementation in a simulator
- Hydrodynamic research and consultancy
- Survey and modelling of navigable waters and areas

## **IS** Maritime Education & Training



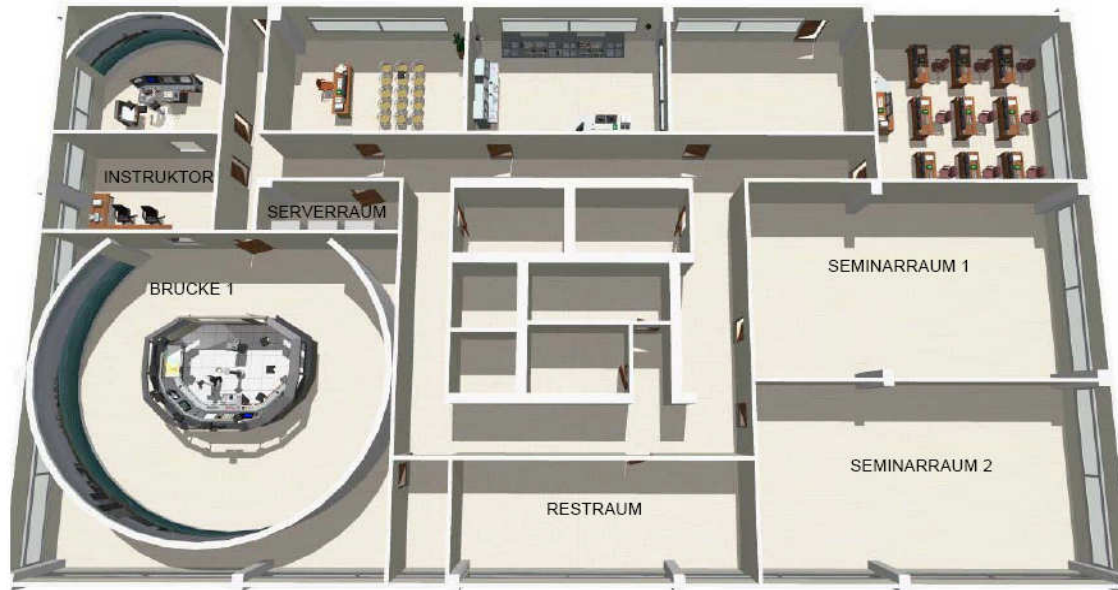
### Various Courses:

- Standard Marine Communication Phrases
- Quality Management QM / ISM
- Tanker Familiarization
- Advanced Tanker
- Dangerous Cargo
- Ballast Water Management

**Future Perspective:**

The International Maritime Education & Training Center

Manila, Philippines



Currently under construction  
To be opened 2009







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## SWATH Pilot Tender

### Performances:

- System responsibility for the complete E-Package, Engineering, Production, Cabling, Implementation
- Integrated bridge system with 10x19' TFT monitors  
Ergonomically designed bridge consoles
- Switchboard for 2 electrical power drives approx. 800 kW onboard network panel
- Navigation with Sperry equipment
- Communication navigation area GMDSS A1
- Lighting System
- Navigation lamps and steering
- Computer network with shore connection via Satcom and GSM/GPRS Net
- Power Management by Co. Böning
- Battery Systems 24V
- 2 electric propulsion engines with 788 kW

### Shipdata: „Cetus“ and „Perseus“

- Year of construction :2005
- Nederlands Loodswezen
- Abeking & Rasmussen
- Length over all: 25,20 m
- Breadth over all: 13,00 m
- Draft: 2,70 m
- Speed, max.: 18 kn
- Diesel drive: MTU 2 x 12V 2000 M70
- E-drive: 2x 788 kW



## MAWEI 700 TEU

(Equipment for a total of 34 newbuildings)

### Performances:

- Project Management, Engineering
- Delivery of the complete E-Package
- Control Consoles
- Switchboards
- Navigation and external Communication with Raytheon Anschuetz Equipment
- Internal Communication
- Automation, Alarm and Monitoring
- Signal Light Column System
- Master Clock System
- Reefer Container Sockets, Reefer Container Monitoring System
- Loading- and Stability Computers
- Voyage Data Recorder

### Shipdata:

- Yard: Mawei VR China
- Length overall: 127,95 m
- Breadth overall: 20,60 m
- Draft: 7,40 m
- Speed, max.: 17 kn
- Main Engine: MAK 1x7 M 43
- Power: 6300 kW
- Gearing: 600 kW



## SIETAS Type 168

(Equipment for a total of 52 newbuildings)

### Performances:

- Bridge Control Console, incl. error messages plant SMA 48 for general bridge alarm, intercommunication system ISCOM 21
- From NB 1251 onwards, a new bridge control console has been implemented in cooperation with the shipping company Peter Döhle
- Wing control consoles
- Alarm panel, incl. engine alarm system, audible and visual pulse emitter unit (AVS) for engines as well as remote control of the operation-relevant pumps
- Main Switchboard, incl. controls and outgoing feeders for: 2 diesel generators, 1 shaft generator, Bow - and stern thruster, 238 reefer containers
- Various power-and light distributions

### Shipdata: MS „OOCL Finland“ ex „Anina“

- Year of Construction: 2006
- Yard: J.J. Sietas Neuenfelde
- Owner: Peter Döhle Schiffahrts-KG
- Main Engine: MAK 9M43
- Tonnage: 11.416 dwt
- Container: 868 TEU



**MY „Kismet“ (for this approx. 70m yacht type, 5 vessels have been commissioned until 2011)**

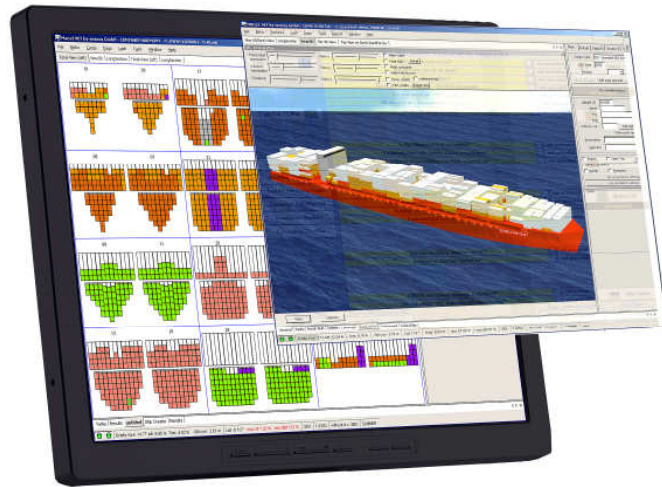
**Performances:**

- Overall responsibility for E- package, engineering, production, cabling, commissioning
- Mainswitchboard incl. 3 Generator Panels each 280 kW, incl. Power Management, 1 Panel Bow Thruster 200 kW and transition to Emergency Switchboard and 4 Consumer Panels
- Emergency Switchboard
- Motorstarters
- Distribution Board
- Integrated Bridge Control Console, Alu – Construction
- Engine Control Console
- Fire Detection System
- Integrated Automation System

**Shipdata:**

- Yard: Lürssen – Rendsburg
- Length overall: 68 m
- Breadth overall: 13 m
- Draft: 3,60 m
- Speed, max.: 16 kn
- Main Engine: TwinCaterpillar
- Power: each 1.500 kW





## MACS3 Loading Computer System

- For Container Vessels
- Tankers
- Multi Purpose Vessels
- Bulk Carriers

**Customer**  
Vessels:  
Products:

**Customer**  
Vessels:  
Products:

**Customer**  
Vessels:  
Products:

## CMA CGM

100 Container vessels  
MACS3.net, Belco, DAGO, Sealash

## Reederei NSB

110 vessels  
**Container vessels:** MACS3.net, Belco, DAGO, Sealash, Hot Areas

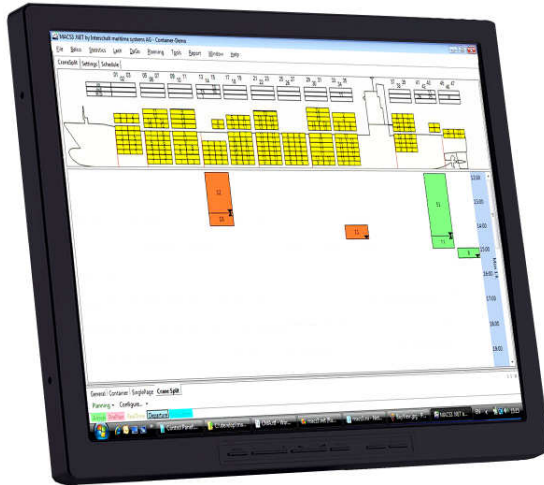
**Tankers:** MACS3.net, UllageReport, Tank Online, DastyMan

## Reederei Claus-Peter Offen

90 vessels  
**Container vessels:** MACS3.net, Belco, DAGO, Sealash, TankOnline

**Tankers:** MACS3.net, DastyMan, Ullage Report, DAGO, BallastMan, Multi Voyage, Online

**Bulker:** MACS3.net, LoadMAN, Bulkstrength, Tank Online, DAGO

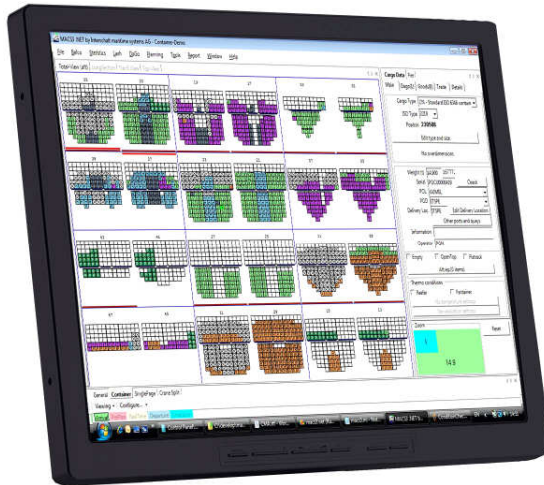


## STOWMAN Stowage planning software

For efficient stowage

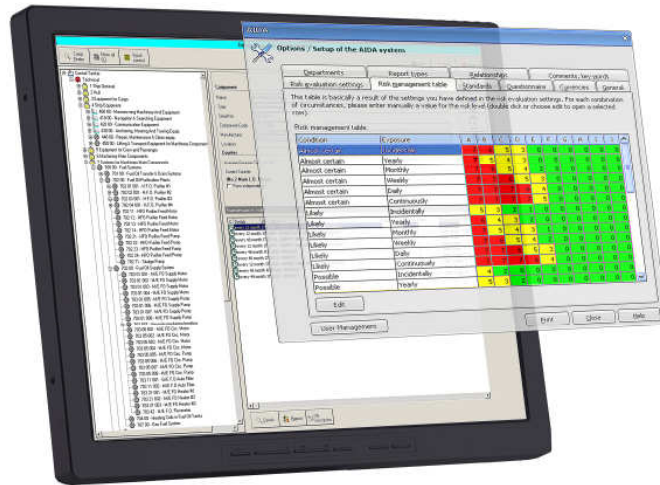
### Terminals

- Terminal Hamina (Finland)
- Terminal Odessa (Ukraine)
- Terminal Santos (Brazil)
- TPSV (Valparaiso /Chile)
- Pakistan International Container Terminal (Pakistan)



### Office

- Ultraport (Chile)
- Unikai (Hamburg / Germany)
- Uniship / Unifeeder (Aarhus / Danmark)



**Customer**  
Vessels:  
Products:

**Reederei NSB**  
130 vessels  
TITAN, NAVECS, QDMS, AIDA,  
ISPS, Purchase

**Customer**  
Vessels:  
Products:

**Ahrenkiel Shipmanagement**  
49 vessels  
TITAN, NAVECS, QDMS, AIDA,  
Cewmaster, Purchase

**Customer**  
Vessels:  
Products:

**Leonhardt & Blumberg**  
56 vessels  
TITAN, NAVECS, QDMS,

**Customer**  
Vessels:  
Products:

**Interorient Navigation**  
73 vessels  
TITAN, Purchase

**Customer**  
Vessels:  
Products:

**Feederlines**  
54 vessels  
TITAN, QDMS, AIDA,

## IS avecs Fleet Management

- TITAN Planned maintenance, Purchasing
- NAVECS Ship information system
- QDMS Document management
- AIDA Audit, inspection and reporting
- Crewmaster crew planning
- ISPS Security management



## Maritime Education & Training

- Main bridge with 270° view angle
- Three bridges with 120° view angle
- Engine room simulator
- IT - room
- Seminar rooms

**Customer**  
Participant:  
Course:

### **Peter Döhle**

191 participants  
ECDIS and Bridge Familiarization  
Bridge Familiarization  
Cargo Management  
Basic Engineering  
Performance rating

**Customer**  
Participants:  
Course:

### **Hapag Lloyd**

42 participants  
Shiphandling and Bridge Team  
Management

**Customer**  
Participants:  
Course:

### **Beluga Fleetmanagement**

34 participants  
Shiphandling and Bridge Team  
Management  
Products and Emergency  
Management  
Cargo Management for Heavy Lift





**Your safety is our mission!**

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