

Improving Efficiency in Port & Terminal Operations

Baltic Ports & Shipping 2018

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Director Marketing & Sales





SAAB? CARS?



- Car division sold to General Motors in 1989



SAAB TODAY – DEFENSE & SECURITY

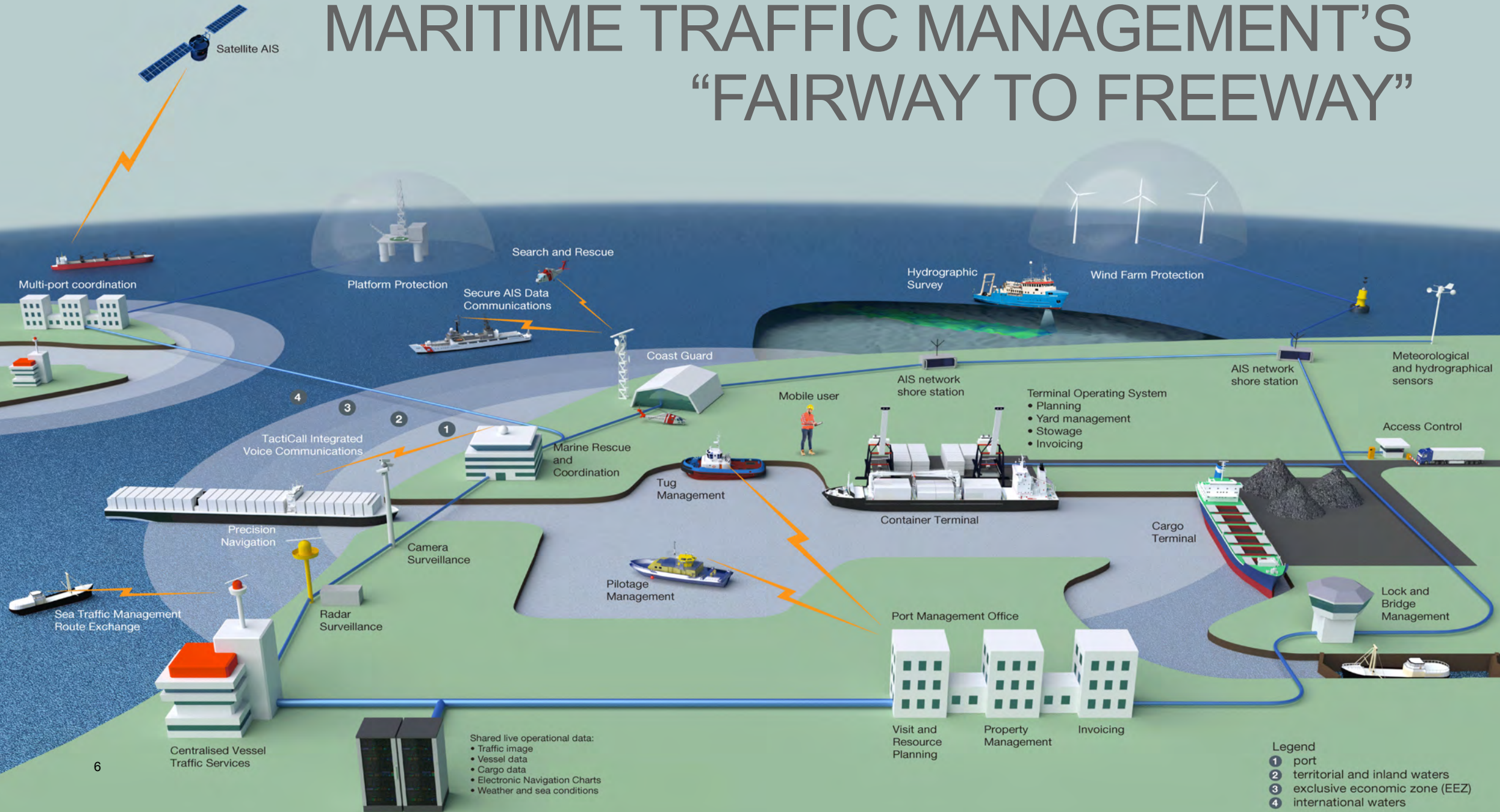


SAAB TODAY – TRAFFIC MANAGEMENT

- Products, systems and solutions for secure, safe and efficient flows in the Air and Maritime domain.
- Approx. 551 employees in 2016.
- Operations in 10 countries: USA, Sweden, the Netherlands, Belgium, Canada, China, India, Australia, UK and Norway
- **Air Traffic Management** products and services are deployed at more than 200 locations.
 - Serving: 18 of the 20 busiest airports in the world
 - 10 of the 12 largest Air Navigation Service Providers (ANSPs)
 - 4 of the 5 largest airlines
- **Maritime Traffic Management** present in over 115 ports or authorities including 5 of the top 11 container ports.



MARITIME TRAFFIC MANAGEMENT'S “FAIRWAY TO FREEWAY”



VESSEL TRAFFIC MANAGEMENT INFORMATION SERVICES



- MARITIMECONTROL™ - Saab Vessel Traffic Management Information Services (VTMIS)
 - Ensures safe, secure and efficient vessel traffic, reduces environmental risk of shipping and gives port all-weather capability
 - Provides operators on shore with real-time traffic situation: Information Service (INS), Traffic Organization Service (TOS), Navigational Assistance Service (NAS)

PORT & PILOT MANAGEMENT INFORMATION SYSTEM



- **PORTCONTROL™** - Port Management Information System (PMIS)
 - Management of resources and services at: Berths, Pilots, Tugs, Stevedores, Contract management (leases)
 - Automates complex tariffs & contracts (cargo, property, visits, resources)
 - Electronically generate, validate and send invoices
 - Information exchange with VTS
- **PILOTCONTROL™** - Pilot Management Information System (PMIS)
 - Advanced scheduling of pilotage services

TERMINAL OPERATING SYSTEM



- **TERMINALCONTROL™** – Cargo Terminal Operating System
 - Registration of expected cargo operations (order management)
 - Real-time follow-up of operations (vessel, truck, barge, train)
 - Yard & vessel planning, equipment control
 - Electronic communication & billing management

Multi-Commodity System
Containers, Breakbulk, Bulk, Cars & Ro-Ro

WHAT IS HAPPENING AT THE PORT/TERMINAL ?



Agents & Port Community



Traffic Management



Pilot Scheduling



Tug Scheduling



Port Services Planning



Vessel Operations

Berth Operations



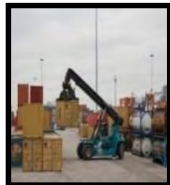
Apron to Storage



Storage



Gate Processing



Cargo & Dangerous Goods



Warehouse Management



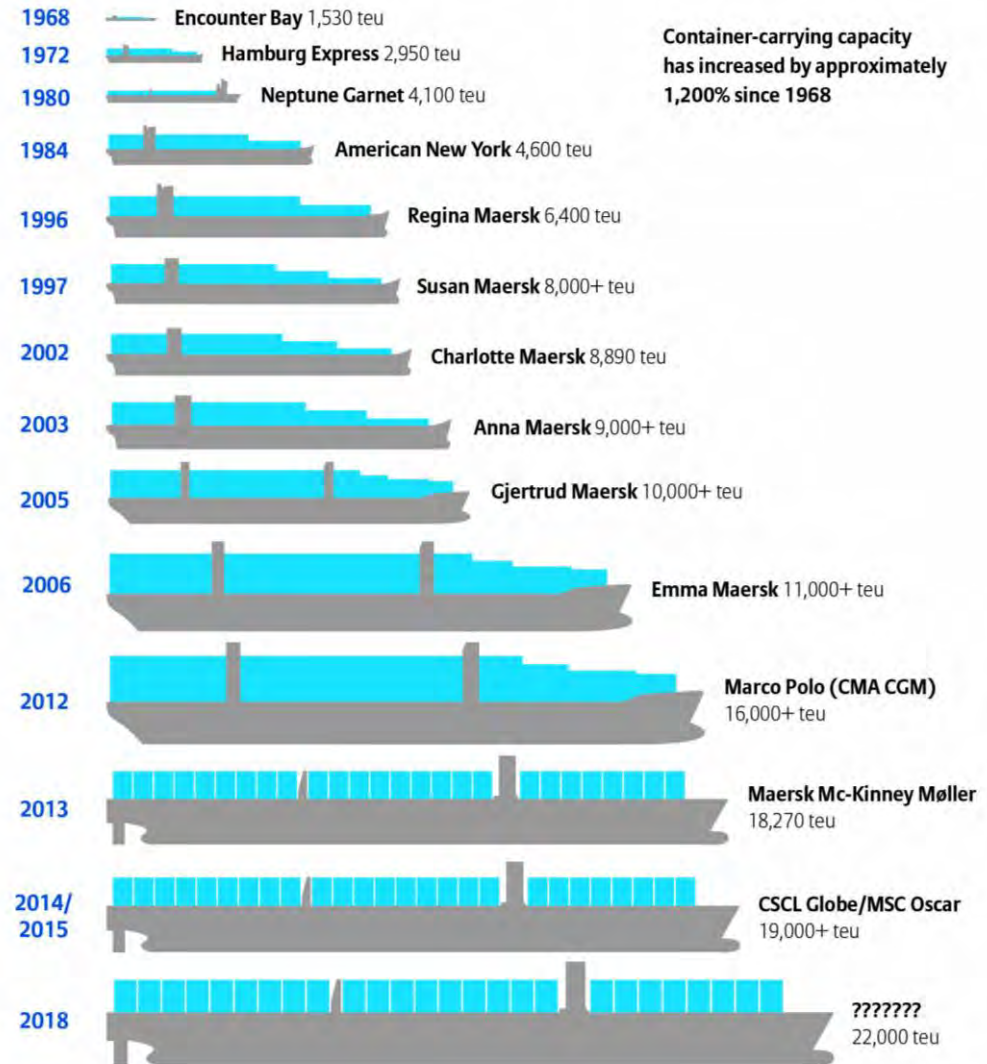
Billing & Accounting

Intermodal Transfer



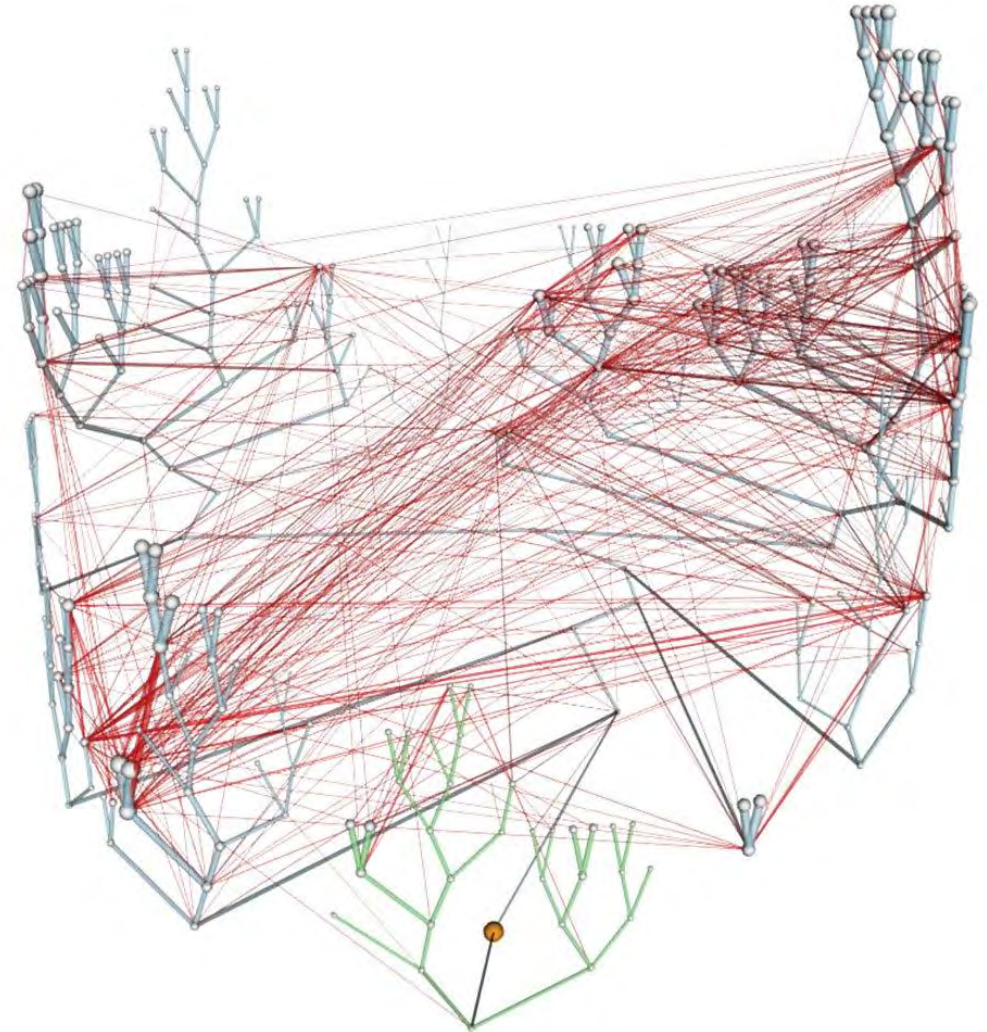
CHANGES TAKING PLACE IN THE INDUSTRY

- Globalization
- Bigger ships
- Rising cost of infrastructure development
- Regulations (VGM)
- The environment, especially emissions (CO2)
- New levels of security along with new threats
- The world economy affecting the import/export balance



OTHER COMPLEXITIES (TECHNOLOGY CHALLENGE)

- Volume of Information
- Various types of users
- Information Dispersed
- Different Information Formats
- Different views of information (data, graphical)
- Dispersed locations of input and reporting
- Extensive Reporting (Detailed, General, Formal)



INFORMATION DUPLICATION

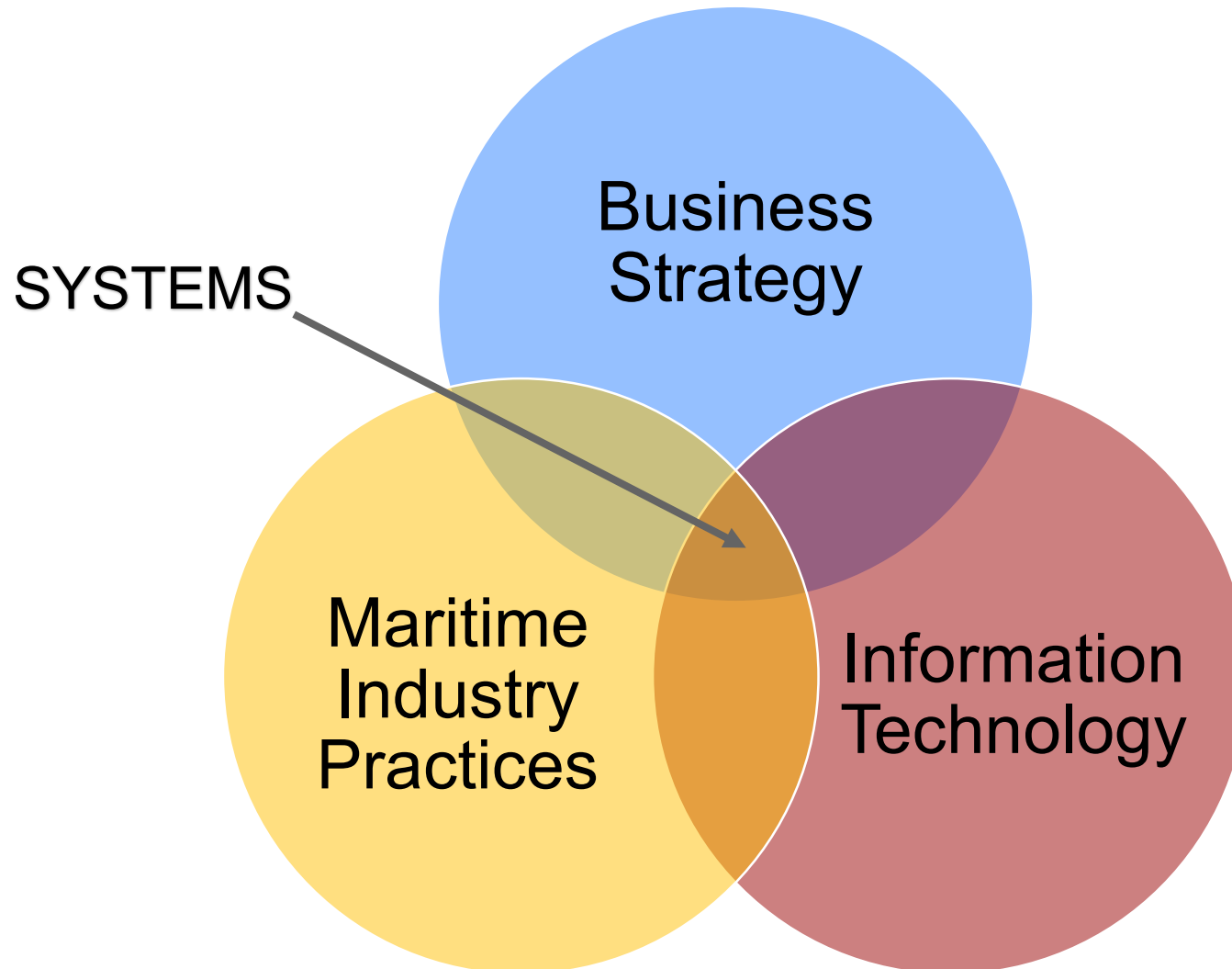
- Paper, carbon copy, fax, notes
- White boards
- Magnetic boards
- Rulers
- Sticky notes
- Cargo manifest
- Agent request, confirmation
- Service providers, request, confirmation, change



SEVERAL PROBLEM AREAS

- **Silos of Information**
- **Independent processes between departments and groups**
- **Need to communicate and share accurate data**
- **Desire to operate in more efficient & timely way**

IS THERE A SOLUTION?

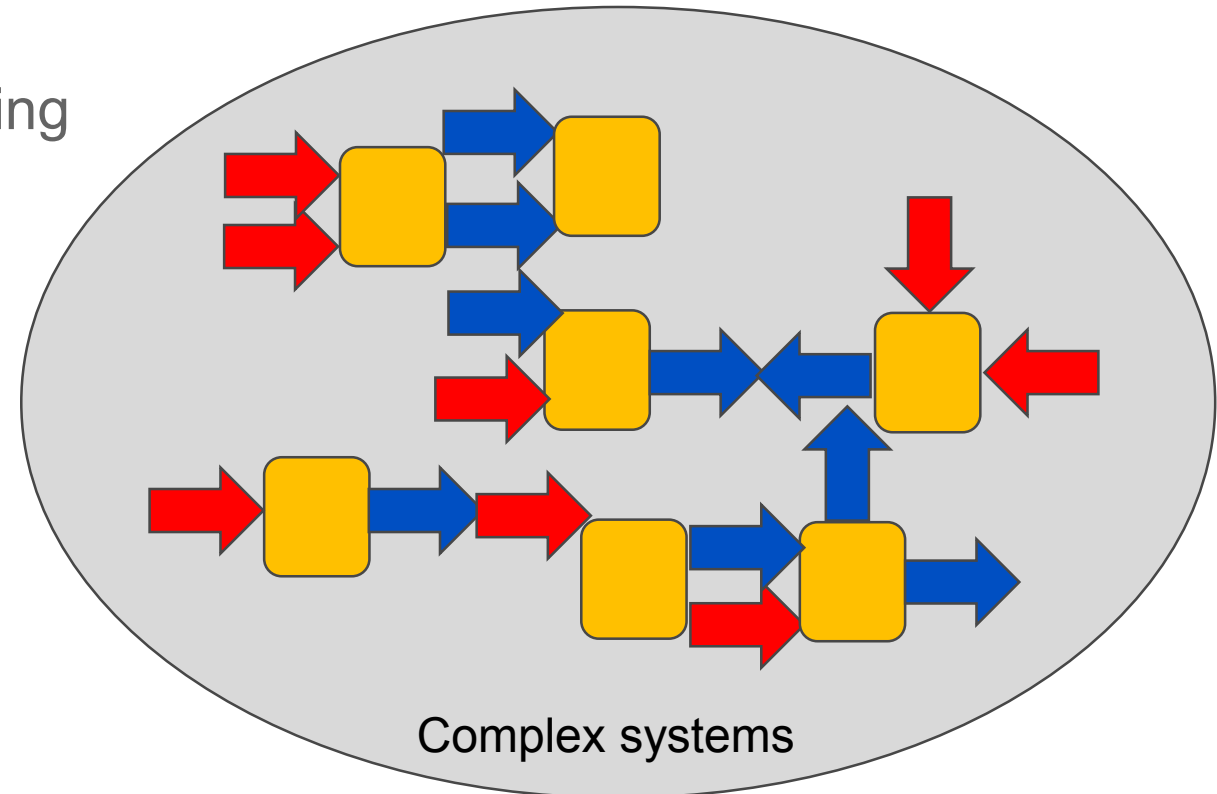


IMPLEMENTING THE RIGHT SYSTEMS

- Think about the port as a system of systems
- A process has inputs & outputs
- When you have many parts it gets complex
- Issues to deal with in complex systems thinking
 - Are the outputs what I want?
 - Are there unintended consequences?
 - Are the inputs going to the right parts of the system?
 - Which parts could be more efficient?



Simple system



Complex systems

IMPLEMENTING THE SYSTEMS THE RIGHT WAY

- Provide everyone with secure and consistent information
- Deliver information “anytime and anywhere”
- Create **effective** business processes with partners
- Make it **easy** to collaborate and share information
- Streamline communication
- Collect and use **real** data to optimize the outcome

HOW TO GET THERE? (R)EVOLUTION STEPS

1. Integrated system – Data
2. Integrated communication platform – Communication
3. Common Operating Platform (COP) – Information
4. Collaboration Decision Making system (CDM) – Collaboration
5. Operation Optimization – Efficiency
6. Expert systems – Workflow automation

STEP 1 - INTEGRATED SYSTEM

If I put two or more things together the result should be better than the parts alone

Visit Management

Resource Management

Cargo Management

Terminal Management

Property Management

Billing Management

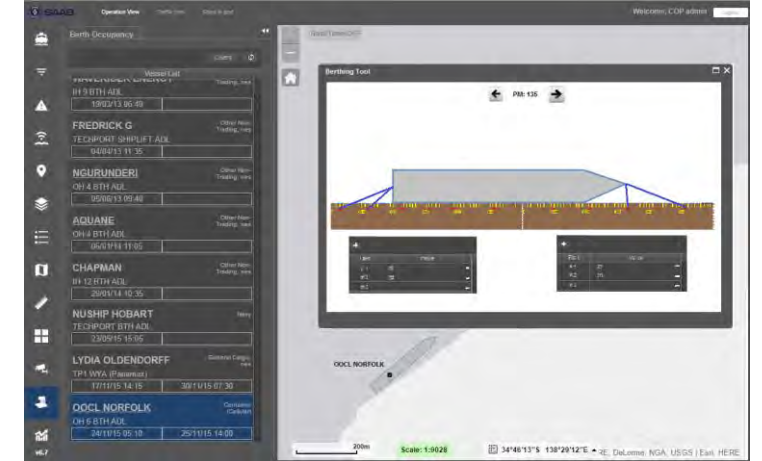
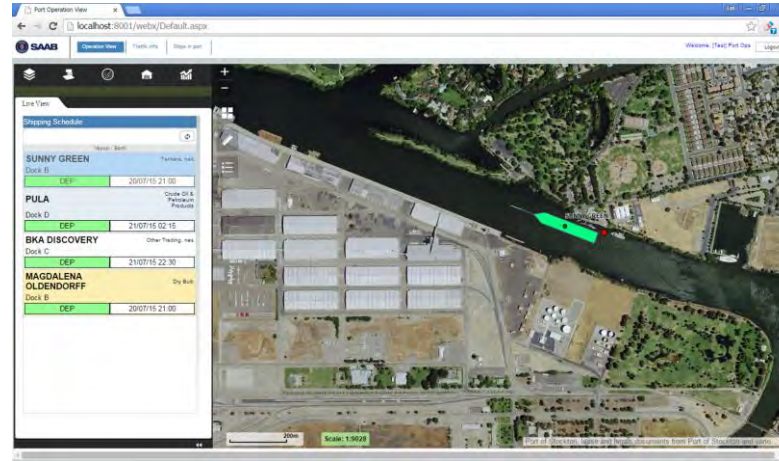
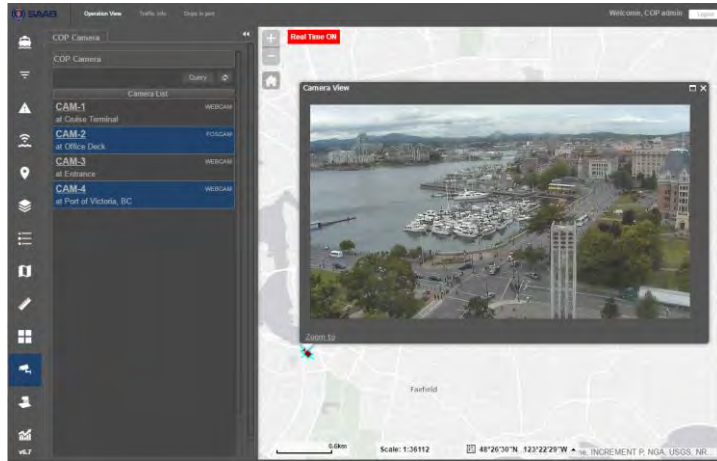


STEP 2 - INTEGRATED COMMUNICATION

- EDI and other 3rd party interfaces
- Email, SMS or other type of messages
- Customs or regulatory needs reporting
- Management & Customer reporting
- Web interface for General Public, Shipping lines, Agents, Service Providers



STEP 3 - COMMON OPERATING PLATFORM



A **COMMON** view of everything happening, planned or that has happened

HOW

- Presented on the web
- Presented on a map
- Presented in layers
- Feeds from other systems

WHY?

- Anyone who has access can see it on any computer or device
- Every piece of information is located geographically, for context
- Layers can be switched on or off to show what you need to see
- To get the best collected representation of reality

STEP 4 - COLLABORATIVE DECISION MAKING

Collaborative Decision Making (CDM) is an approach for making better decisions that:

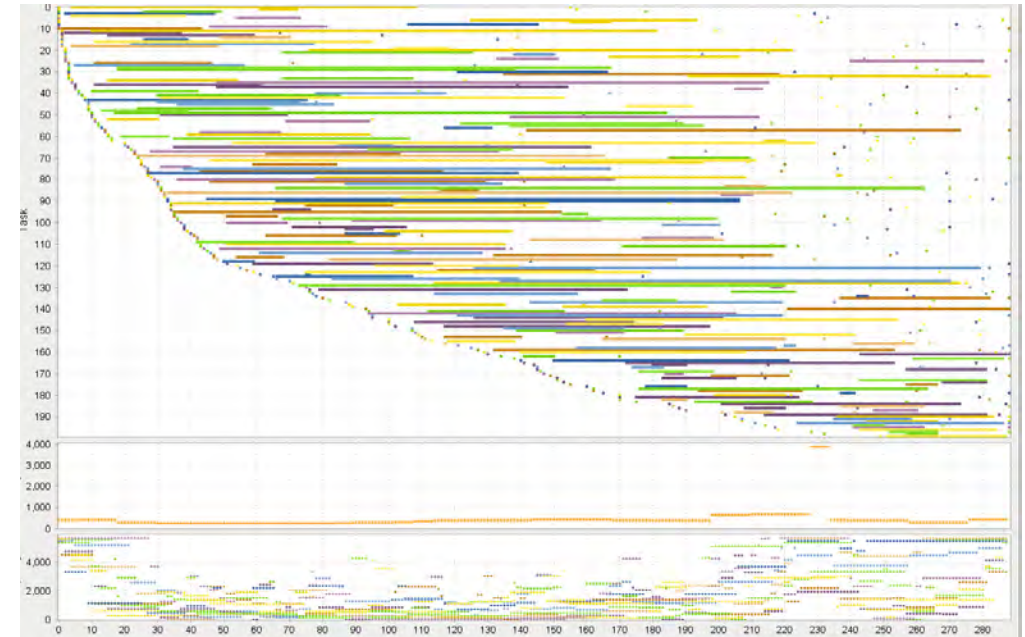
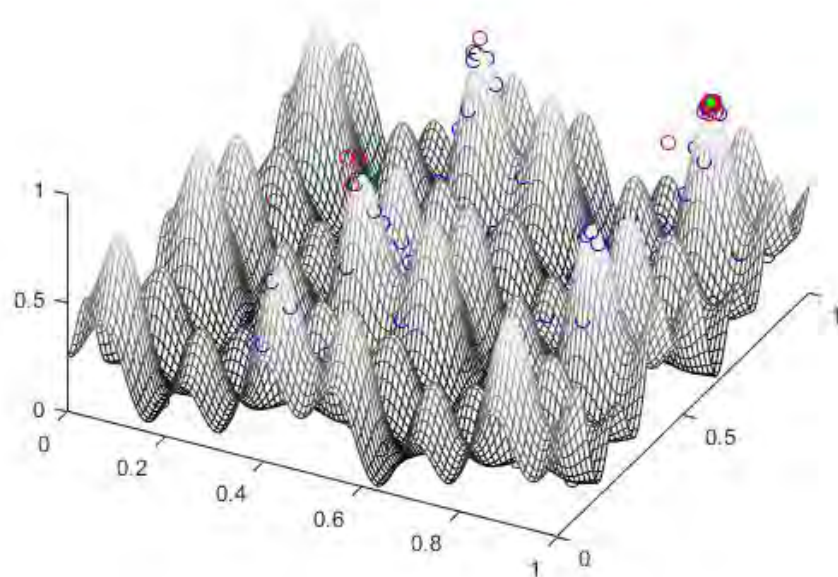
- Brings the **right people** together,
- Enables them to work collectively from a **common picture with better information**,
- In order to develop a **shared understanding and mutual commitment**,
- And ultimately **improve both the safety and efficiency** of operations.

| Running Log Time | Type | Description | Updated By |
|------------------|-----------|---|-------------------------|
| 2015/09/29 15:43 | Schedule | [Test] VTSO changes: Invoicing Body, Schedule Time | [Test] VTSO |
| 2015/09/30 11:04 | Schedule | [Test] VTSO changes: Schedule Time | [Test] VTSO |
| 2015/09/30 11:20 | Schedule | [Test] VTSO changes: Schedule Time | [Test] VTSO |
| 2015/09/30 12:03 | Schedule | [Test] VTSO changes: Sch Time: 2015-09-30 03:00 | [Test] VTSO |
| 2015/09/30 12:04 | Schedule | [Test] VTSO changes: Sch Time: 2015-09-30 16:15 | [Test] VTSO |
| 2015/09/30 12:12 | Pilotage | Service Confirmed | [Test] Pilot Company |
| 2015/09/30 13:53 | Schedule | [Test] VTSO changes: Sch Time: 2015-09-30 19:15 | [Test] VTSO |
| 2015/09/30 14:31 | Pilotage | Service Confirmed | [Test] Pilot Company |
| 2015/09/30 14:36 | Schedule | [Test] VTSO changes: Sch Time: 2015-09-30 19:30 | [Test] VTSO |
| 2015/09/30 14:48 | Pilotage | Service Rejected, Reason: No pilot available until 20:15 | [Test] Pilot Company |
| 2015/09/30 14:49 | Stevedore | Service Rejected, Reason: Loader is broken. Back to work at 19:45 | [Test] Stevedore SCRUTT |
| 2015/09/30 14:50 | Schedule | [Test] VTSO changes: Sch Time: 2015-09-30 21:30 | [Test] VTSO |
| 2015/09/30 15:44 | Schedule | [Test] VTSO changes: Sch Time: 2015-09-30 21:45 | [Test] VTSO |
| 2015/09/30 15:44 | Pilotage | Service Confirmed | [Test] Pilot Company |
| 2015/09/30 15:45 | Stevedore | Service Confirmed | [Test] Stevedore SCRUTT |
| 2015/09/30 15:47 | Boatmen | Service Confirmed | [Test] Boatman JML |

| Service Type | Service Desc | Service Company | Status | Decline Reason | Serv |
|--------------------------------|----------------------------|-------------------------------------|---|---------------------------------|-------------------|
| JOLANTA (DRY BULK) | | | | | |
| DEPART FROM STORMONT 5 | | 10/01/2015 05:30 | AGENT: JOHN BURKE & CO. LTD. | | CHANGE LOG |
| PILOTAGE | DEP FROM STORMONT 5 TO SEA | BELFAST LOUGH PILOTAGE SERVICES LTD | Declined | Pilot only available from 07:00 | |
| BOATMEN | DEP FROM STORMONT 5 | D. FERRAN & SONS | Confirmed | | |
| STEVEDORE | DEP FROM STORMONT 5 | (Own Use Stevedore) | Requested | | |
| BLACK WATCH (CRUISE) | | | | | |
| ARRIVE TO STORMONT 2 | | 09/30/2015 21:45 | AGENT: JOHN BURKE & CO. LTD. | | CHANGE LOG |
| PILOTAGE | ARR FROM SEA TO STORMONT 2 | BELFAST LOUGH PILOTAGE SERVICES LTD | Confirmed | | |
| BOATMEN | ARR TO STORMONT 2 | JOHN MCLOUGHLIN & SON | Confirmed | | |
| STEVEDORE | ARR TO STORMONT 2 | SCRUTTONS NORTHERN IRELAND LTD | Confirmed | | |
| NORWEGIAN STAR (CRUISE) | | | | | |
| ARRIVE TO STORMONT 4 | | 10/01/2015 07:00 | AGENT: JOHN BURKE & CO. LTD. | | CHANGE LOG |
| PILOTAGE | ARR FROM SEA TO STORMONT 4 | BELFAST LOUGH PILOTAGE SERVICES LTD | Requested | | |
| BOATMEN | ARR TO STORMONT 4 | JOHN MCLOUGHLIN & SON | Requested | | |
| STEVEDORE | ARR TO STORMONT 4 | (Own Use Stevedore) | Requested | | |

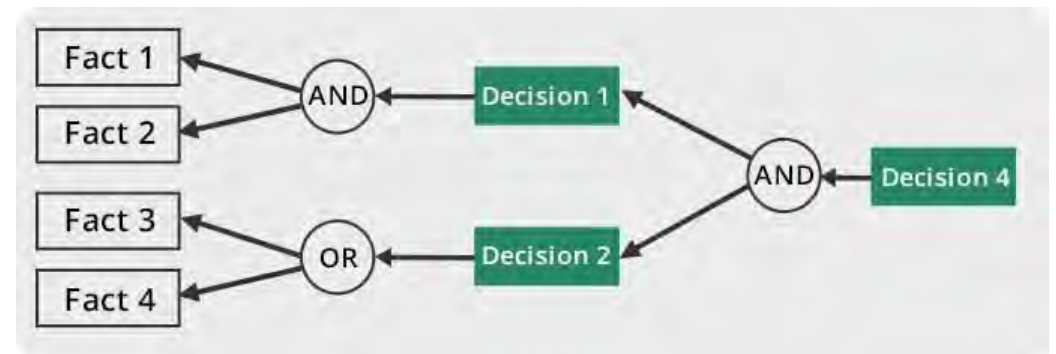
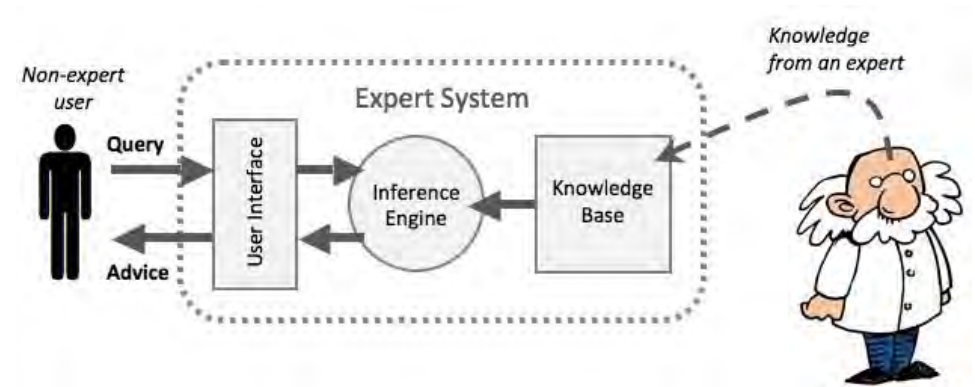
STEP 5 - OPTIMIZATION

- Define what you want to optimize
- Understand the data
- Define rules (hard and soft)
- Create operation model

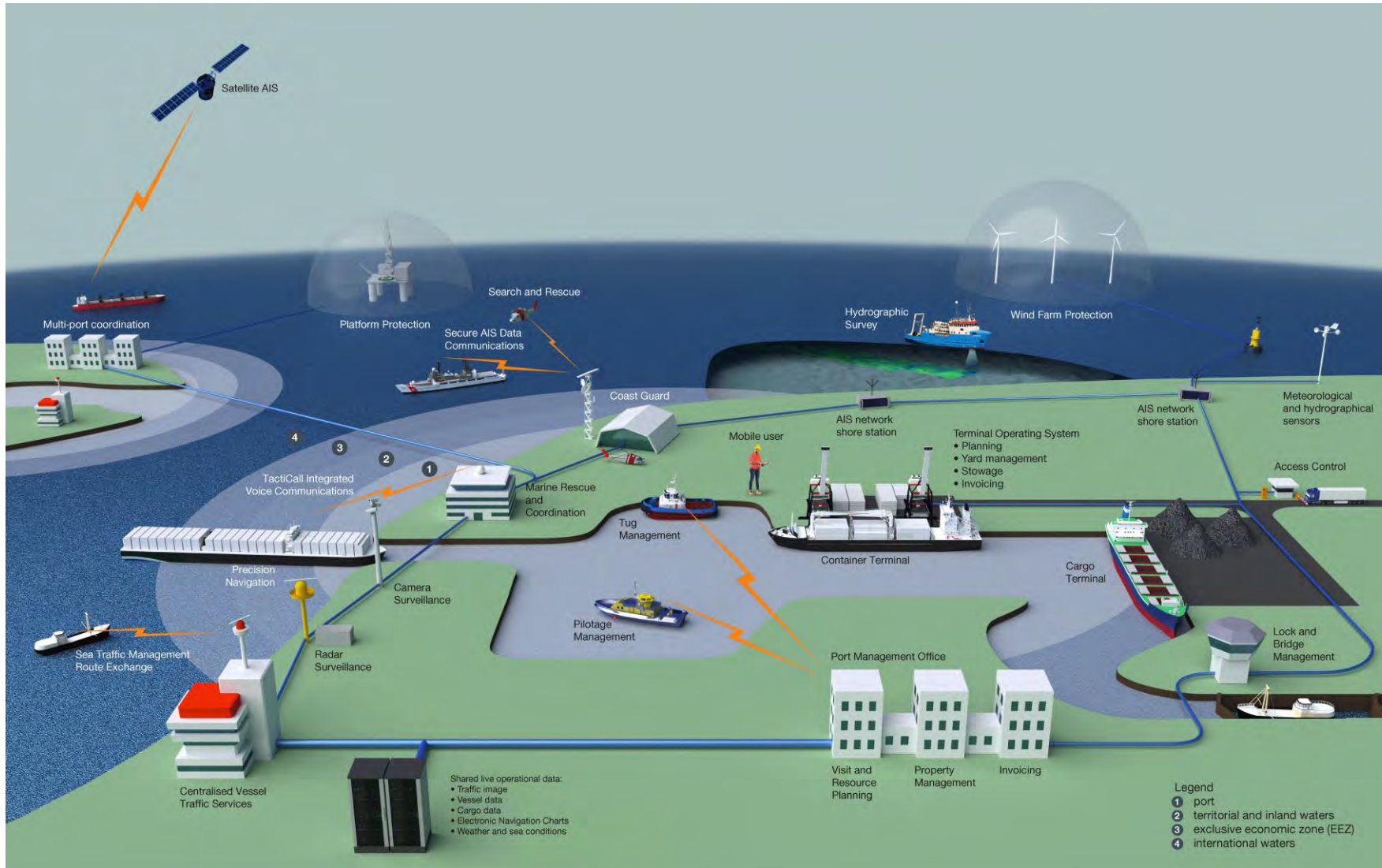


STEP 6 - EXPERT SYSTEMS

- Automate workflows
 - System intelligence
 - Setup business rules based on user experience
- Port Management
 - Efficient resource allocation
 - Optimized berth scheduling
 - Address conflicts (ship movements, tidal windows, etc)
- Terminal Management
 - Effective yard utilisation
 - Equipment optimization



FAIRWAY TO FREEWAY CONCEPT



Fully integrated maritime enterprise solutions

THANK YOU

Questions?

Visit the booth or contact representative below:

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Tom De Smedt (tom.desmedt@saabmaritime.com)

