

eMar - Facilitating Information Exchange

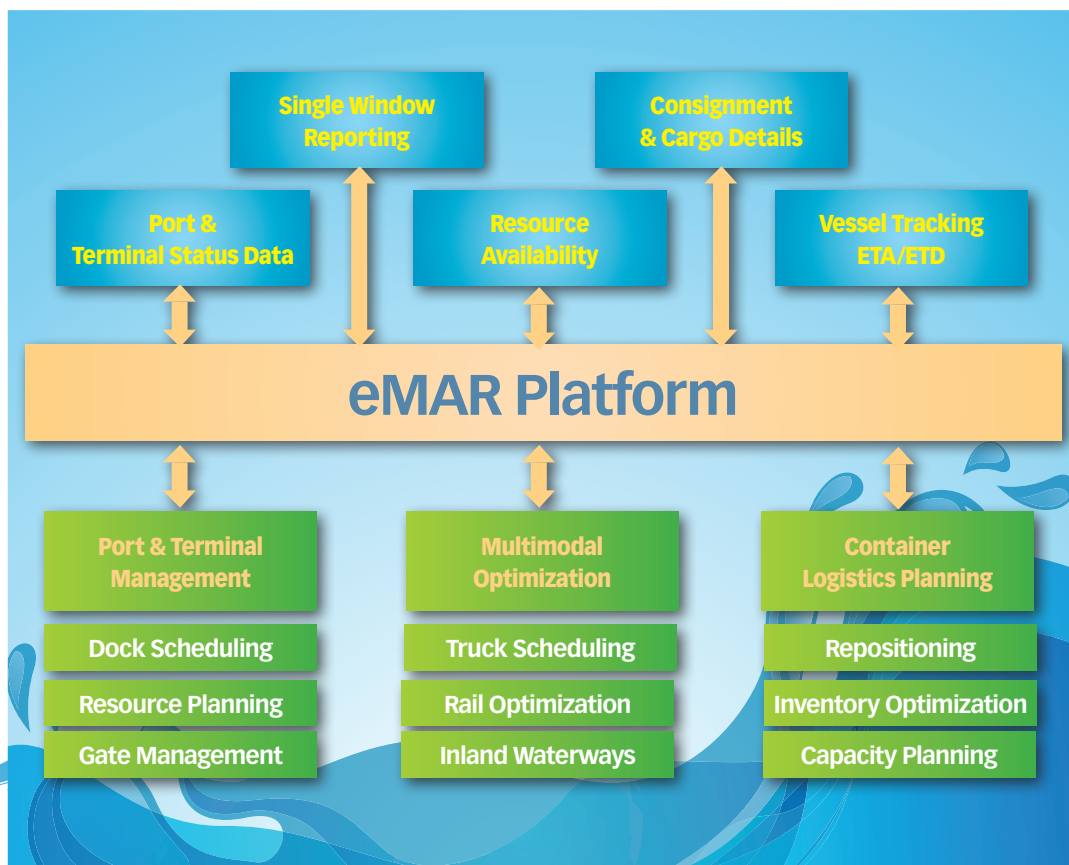
eMAR

The e-Maritime Vision Optimisation

The European Commission's e-Maritime initiative supports paperless, streamlined and optimized maritime operations, saving countless hours of administration and form-filling. **But how can maritime companies benefit from the data availability?**

A common complaint voiced by maritime operators is the huge burden of administrative compliance and paperwork that falls on them due to the stringent reporting requirements imposed by national, international and governmental organisations. The e-Maritime initiative tackles this by implementing standardised electronic reporting mechanisms which significantly reduce complexity and form-filling. The eMAR project, a consortium of industry, government, technical and research organisations, supports the maritime sector by developing and offering the applications and systems that deliver operational benefits of the maritime company into realising the e-Maritime vision. eMAR tools reduce red tape, minimize resource consumption and make the EU Shipping and Maritime Sectors more competitive.

e-MAR's application domains: A360° approach for the modern maritime company





Real-time Logistics Optimisation

A major benefit of the eMAR automated data exchange is the ability to make huge efficiency gains across the entire logistics operation. Estimated savings run into millions of euros for large organisations, easily paying for the investment in the advanced technology required.

Currently most operations have a high degree of manual planning, primarily due to two main factors: (1) poor availability of vital information and (2) outdated, limited planning systems that lack the power to tackle complex operations.

The eMAR project has developed a ground-breaking solution that integrates the planning of the entire maritime logistics operation, using the real-time data made available by the eMAR ecosystem.

The eMAR Optimisation System (EOS) allows all the actors in the maritime logistics operation to plan their operations in a coordinated, integrated way. eMAR provides the core data exchange mechanism which drives the availability of real-time information such as consignment data, resource status and customs clearance, while the EOS plans port operations, hauliers, rail movements, container depots, repositioning movements and shipping capacity, taking into account the real-world operational rules and constraints that have to be considered if a useful output is to be achieved.

Dynamic Port Scheduling

The eMAR platform supplies Optimisation Services with the real-time data needed for planning and scheduling a complex port operation:

- Ship position, ETA/ETD and consignment data is used to optimise multimodal transport operations (including rail, truck and barge) to reduce costs and CO₂ footprint for logistics operators.
- Empty container repositioning movements are scheduled to make use of expected ship capacity, and corresponding land-based movements are planned to integrate with freight movements while minimising congestion in the terminal.
- Resource planning and optimised allocation of consignment movements to transport operators and haulage companies minimises wasted journeys and empty running.
- Dock scheduling and terminal planning is driven by real-time visibility of the entire multimodal logistics operation.

The eMAR ECOSYSTEM

The eMAR project facilitates the transition towards a broader participation of the European maritime public, business and research community stakeholders in a knowledge sharing and economic development process. eMAR leverages the potential of systematic innovation capabilities stemming from emerging technologies, new governance models and novel applications, in support of the maritime sector activities.

The eMAR Ecosystem and the enabling eMAR Conceptual Architecture and Platform are seen as high impact strategic and technological tools and interventions, explicitly contributing to the above goals, towards making the EU maritime sector more competitive and an integral part of a sustainable EU transport system.

eMAR contributes to the EU e-Maritime Programme in terms of:

- 1. The e-Maritime Strategic Framework (EMSF)** which sets a coherent view of a modern approach to operate Maritime Transport achieving the mission and strategic goals of a multi-stakeholder orientated process. The EMSF contains, business processes, and technological assets, for example policy models, reference process models, common/standard messages and optimization services. Special attention is given to e-Maritime Standards, actively promoting alignment between evolving maritime business models and maritime transport operations and applications.
- 2. The Connectivity Infrastructure**, which supports internet-based interactions between all the different maritime transport stakeholders and the exchange of information effectively utilising the EMSF standards and the eMAR services and messages.
- 3. Common Digital Resources** in the form of data, knowledge, applications and optimization services for key activities of the EMSF and the eMAR Platform, which can be combined and used with existing applications, services and IT infrastructures by end users.
- 4. Impact analysis** and recommendation on policy, standardisation and future Research



The eMAR Ecosystem. Two Layers, One Vision:

- **Business Ecosystem:** business communities producing and consuming services and exchanging information compliant with the EMSF common framework type of messages, and
- **Technology Ecosystem:** advanced ICT infrastructures, such as the semantically enhanced eMAR infrastructure supporting interoperability and cooperation between software services, enterprise systems and intelligent objects.

The eMaritime Strategic Framework Philosophy

The EMSF is a key business driver for efficient and sustainable waterborne transportation. The EMSF is a reference domain model that describes information exchange requirements for different user-communities.

The EMSF plays an important role on the development of model driven digital ecosystem environments, addressing contemporary challenges in the maritime transport sector.

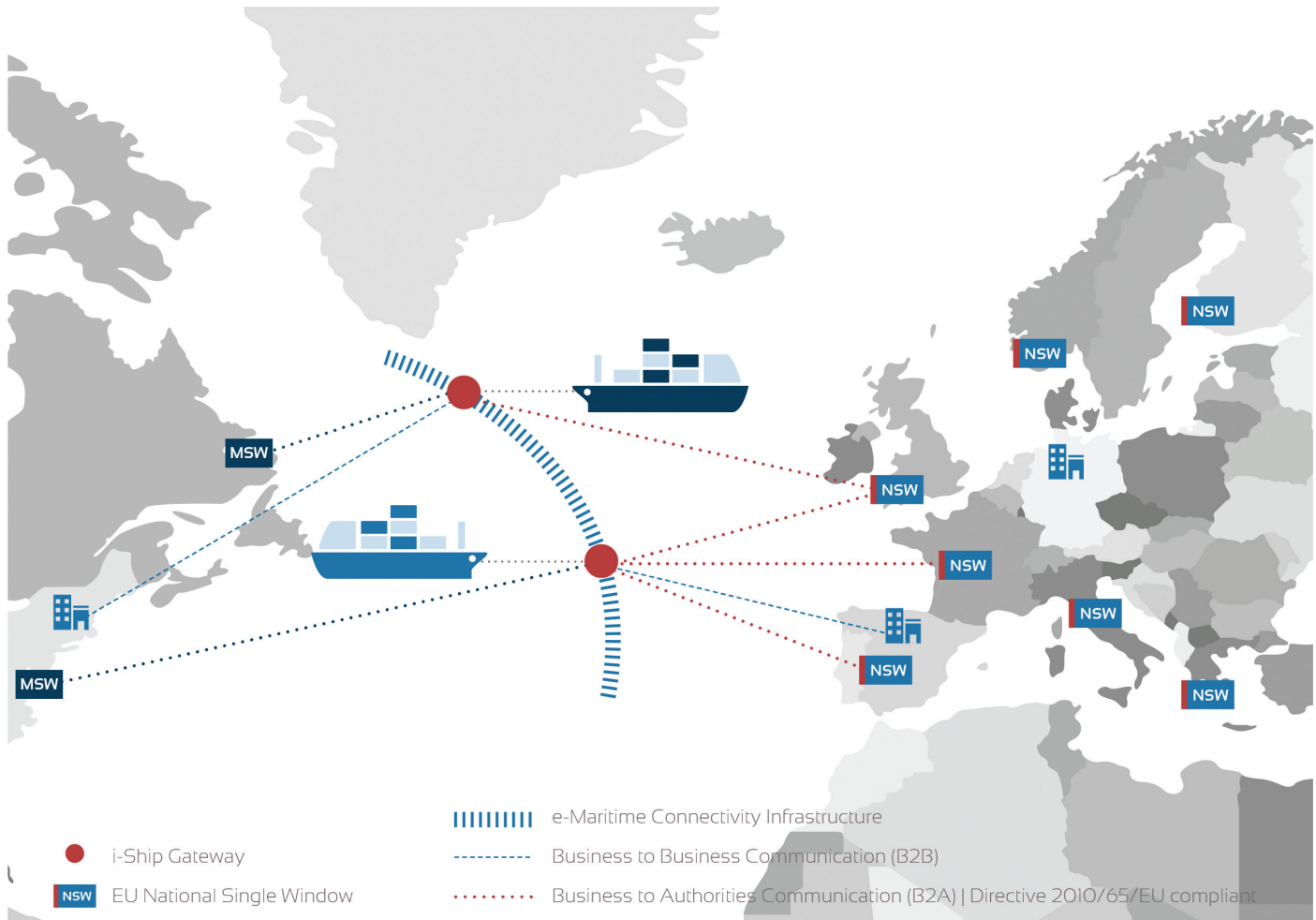
The EMSF is designed to meet global requirements such as:

- **Commonality**
- **Simplicity**
- **Stability**
- **Technology Independence**
- **Usability**

The framework consolidates processes and messages exchanged in ship operations, including interactions with ports and logistic chains, with a focus on compliance with the Maritime Single Window (**Directive 2010/65/EU**) which comes into force on 1st June 2015. The EMSF creates a composite cross-domain field, which can be projected into vertical and horizontal activities, workflows and collaborations, involving concepts of both logistics and maritime transport dimensions. Cargo related processes and messages, are relevant to the logistics domain whereas the horizontal axis involve the shipping and ports operations.



The EU Maritime Single Window



The EU Maritime Single Window focuses on:

1 Customs and Co-ordinated Border Management: import, export, and transit-related regulations and security management

2 Maritime Port & Transport authorities: ship formalities and Vessel Traffic Monitoring regulations for port clearance and for safety / emergency management.



eMAR Applications



The Intelligent Ship Reporting Gateway (i-Ship) is an innovative software application, enabling ship agents and representatives fulfill their reporting obligations to European and International maritime and customs authorities. i-Ship automates reporting formalities in a timely and correct manner taking into account the type of ship and the voyage.

Ship Managers

Ship managers introduce voyage information directly using the i-Ship web application or via a connection to the company's applications. The data introduced may include cargo information.

Cargo Consignors

Cargo consignors introduce cargo consignment data including specific cargo movements, which are decided by the ship operator.

Ship Representatives

Ship masters, ship agents agents at a specific port or other authorized users submit port clearance related formalities to maritime Single Windows or related authority systems.

Cargo Representatives

Cargo representatives submit cargo clearance formalities to maritime Single Windows, such as ENS, eManifest etc., to Port Systems or to Custom Authorities (e.g. ICS, ECS).

ADVANCED REPORTING FEATURES AND KEY BENEFITS

- Flexibility & Ease of use
- Streamlined Reporting Process
- Integration with Fleet Systems
- Extensibility & Customisation
- Compliance Quality Visibility
- Time-Cost Efficiency

eMAR tools



[ABOUT](#) | [NEWS](#) | [VISION](#) | [FUNCTIONALITY](#) | [TERMS & CONDITIONS](#)



Log In

Username

Password

☒ Stay logged in [Need help?](#)

[Log In](#)

Not a member? Please register for free

Register as a company member

Register as an individual

[Register](#)

www.danaosplatform.com

The DANAOS Collaboration Platform

The Danaos platform provides a place to publish and use software services related to shipping. The platform acts as a node in the e-Maritime Network and offers a directory of e-Maritime services that are already used by a number of shipping companies in their day to day operations.

This platform has been developed to:

- Promote collaboration amongst Shipping Companies
- Enable integration between the various in-house systems that shipping companies currently use
- Link business activities with other business partners and third parties, live, through an active shipping directory,
- Socialize professionally via messages, forum postings, conferencing etc.

The DANAOS Platform offers a unique architecture that gives to a company full control over interaction. Ecosystem participants can choose the right mixture of cloud-based, or office-based tasks, in order to tailor their processes according to their needs, from start to finish. No private information is retained on the Danaosplatform, thus full compliance with business ethics, information privacy, security, and auditability requirements is provided. The DANAOS Platform will allow companies in the maritime sector to progress faster into the new era of shipping, where team work, outsourcing, transparency, and visibility drive improvements in performance, quality and profitability.

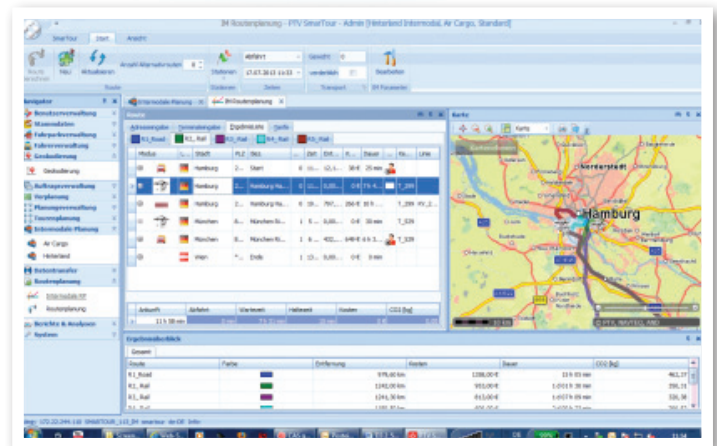


e Mar - Intermodal Planning

PLANUNG TRANSPORT VERKEHR DESCRIBES THE FUTURE OF INTERMODAL OPERATIONS

More transparent and better hinterland transport planning for stakeholders involved in intermodal transport chains connected to seaports is needed. PTV has developed an intermodal routing and planning application interfacing with the eMAR framework and other standards and applications providing intermodal transport alternatives and the possibility to allocate different orders to different carriers and transport modes. The application has many impacts.

For example: Transparency in the intermodal hinterland transport value chain, faster and better planning results, better data availability, enhanced connection of hinterland transport planning and processing with sea port operations.



Measurable Benefits for the Shipping Operations

The e-maritime approach streamlines and optimises the entire maritime logistics operation. The eMAR optimisation system delivers specific efficiency, cost-saving and environment benefits both upstream and downstream:

- **Faster turnaround time for ships:** optimised port planning minimises wasted time in terminals & ensures that capacity on routes is well-utilised for freight or empty re-positioning
- **Reduced congestion in ports & terminals:** better planning of multimodal transport combined with real-time information about ship ETAs and resource availability
- **Cost savings for logistics operators:** the EOS technology has been shown to save around 10% of transport costs for large freight and container operations
- **Reduced environmental impact:** EOS reduces emissions, as well as minimising traffic, congestion and noise around busy logistics hubs



eMar receives funding from the EC's 7th Framework Programme DG Mobility and Transport. The content of the publication herein is the sole responsibility of the eMAR Project Consortium and it does not necessarily represent the views expressed by the European Commission or its services. The general and specific provisions of the eMAR Project Consortium Legal Disclaimer apply to this publication. Grant Agreement No SST.2010.5.2-5.\265851"



BMT Group Bmt Group Ltd



Danaos Shipping Company



Det Norske Veritas As



Ebos Technologies Ltd



Econsult Betriebsberatungsgesellschaft MBH



European Community Shipowners Associations



Conseil Europeen De L'equiment Naval



ICAP Shipping Ltd



Inchcape Shipping Services Holdings Limited



Inlecom Systems Ltd



Interporto Bologna Spa



European Association For Forwarding, Transport, Logistics and Customs Service



Maritime Administration Of Latvia



Marlo AS



MJC2 Ltd



Market & Opinion Research International Limited



Planung Transport Verkehr Ag



Shipserv Ltd



Societe De Gestion De Terminaux Informatiques



Syddansk Universitet



University Of Piraeus Research Centre



Port Authority of Valencia



Vilniaus Gedimino Technikos Universitetas



CLMS (UK) Limited



The Royal Ministry Of Fisheries and Coastal Affairs
– Fiskeri – Og Kystdepartementet



Consortio IB Innovation



Canterbury Christ Church University



Decision Dynamics Limited

eMAR



IMPRINT

BMT

Project Coordinator
www.bmt.org

INLECOM

Technical Coordinator
www.inlecom.com

Decision Dynamic Ltd

Dissemination Manager
www.decisiondyn.com

Photo Selection - Editing
Dynamic Brands Communication

For more info: emar@decisiondyn.com

(c) All rights Reserved