

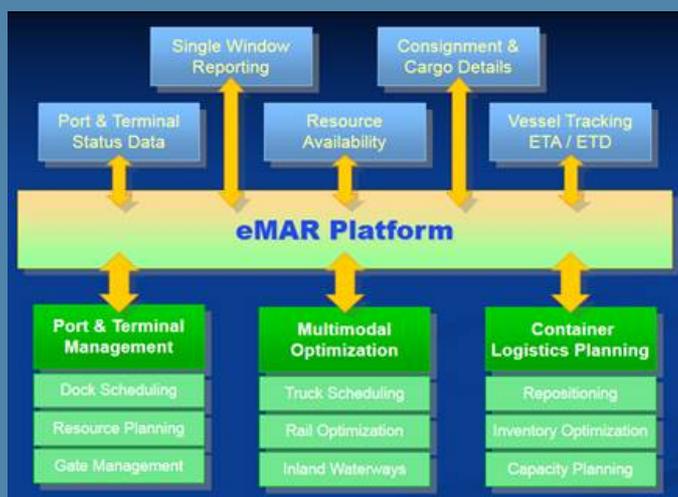


eMAR- Facilitating information exchange

e-Maritime Optimisation

The European Commission's e-Maritime initiative supports a 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 administration and paperwork that falls on them due to the stringent reporting requirements imposed by national and governmental organisations. The e-Maritime initiative tackles this by implementing standardised electronic reporting mechanisms which significantly reduces complexity and form-filling. Nevertheless, a new question emerges: "I now have extra and more detailed information, but what can I do with it?" The eMAR project, a consortium of industry, government, technical and research organisations, supports the maritime sector by offering a set of services that deliver operational benefits. A pivotal one, answering the latter, is the e- Maritime Operations Optimization Services.



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have a high degree of manual planning, primarily due to two main factors: poor availability of vital information and outdated, limited planning systems that lack the power to tackle complex operations.

The eMAR project has developed a groundbreaking 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 the Optimisation Service 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



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- companies minimises wasted journeys and empty running.
- Dock scheduling and terminal planning is driven by real-time visibility of the entire multimodal logistics operation.

Strategic Optimisation

The EOS system includes a flexible and intuitive graphical user interface that enables the user to visualise the operation. Interactive maps, gantt charts, histograms and reports are used to display information such as planned routes/corridors, resource allocation, container inventory levels, port activity and current/expected schedule of ships in the terminal.

The strategic optimisation system allows the user to undertake tactical and strategic analysis of the operation. Based on the enhanced data provided by the eMAR platform the planner can overlay alternative scenarios and assess their impact. For example the impact of changing schedules or availability of resources on the overall efficiency of the operation can be estimated. The EOS includes archiving and data management tools which allow the user to make such changes and build up a library of scenarios that can be used for future operational planning.

Measureable Benefits

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

- **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 repositioning
- **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

e-maritime is a win-win solution for all stakeholders in the maritime logistics industry: increased efficiency and transparency, lower costs and reduced environmental impact.

www.emarproject.eu

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