

# *EfficienSea 2*

## *Efficient, Safe and Sustainable Traffic at Sea*

### Project consortium

- **32** partners from 10 European countries
- **8** Governmental institutions (Maritime, transport, meteorological and telecom authorities)
- **5** Academic institutions (Human Factors, Computer Science, Communication and Space)
- **3** International Associations (Aids to Navigation, equipment manufacturers, ship owners/ports, etc)
- **13** Commercial enterprises (Onboard/onshore equipment manufacturers, hydrographic services,..)
- **3** Non-profit organisations (European innovation networks, applied scientific expertise)

**Timeframe: 36 months**

**Project Lead: Danish Maritime Authority**

**Total project budget: 11.414.161 EUR**

**Total EU funding: 9.759.200 EUR**



# WORK PLAN

## **Work Package 1 - Measures to maximize impact**

- Communication of the progress and of the project

## **Work Package 2 – Novel communication technologies**

- Explore into “new” means of communication, mainly VDES (VHF Data Exchange System)

## **Work Package 3 – Communication Framework – Maritime Cloud**

- IT-Infrastructure framework for upcoming e-Navigations services

## **Work Package 4 – e-navigation services**

- Different new e-Navigations solutions will be explored such as:

- MSI and NM (T&P) service
- METOC service
- Usage of S100

## **Work Package 5 – Administrative burdens and exhaust emissions**

- Test and where possible implement administrative e-maritime solutions.
- Develop solutions to monitor emissions with focus on SOx and conduct validation trials in the Baltic Sea Region

## **Work Package 6 – Advanced solutions in the Arctic and BSR**

- Further develop Route exchange.
- Explore into connect the BSR into one single reporting area.

# Services to improve navigational safety and efficiency

## **Nautical charts based on S-101**

Example charts in new internationally agreed format allowing for better update schemes, integration with different data types and better data maintenance schemes

## **MSI & NM**

Maritime Safety Information (MSI) and Notices to Mariners (NM) in a new format allowing for better promulgation and for portrayal on electronic chart display

## **METOC**

Standardized Meteorological and Oceanographic information (METOC) service allowing for integration on multiple platforms

## **Smart buoy**

Service for interaction by authorities and navigators with buoys, light intensity control and access to METOC sensors

# Services to improve navigational safety and efficiency

## Ice charts

Standardized ice chart services allowing for visualization and electronic chart display on different platforms

## Route exchange

Route exchange service for exchanging information about vessels' intended routes, ship-ship, ship-shore and to be used by other services

## No-go area/comfort zone

Services to merge a variety of data (draft, bathymetry, tidal levels, etc.) into simpler information indicating where a vessel can safely sail

## Generic route optimization services

Standardized, easily accessible service for acquiring an optimized route