

## European Commission Transportation Research Project



### Greener, Smarter, More Competitive Maritime Shipping

### Intelligent Transport Systems and Decision Support

**Objective** Fuel and emission reductions for maritime transport through ship-specific optimal route planning using meteorological and oceanographic (METOC) forecasts.

**Target** 7 % reductions, less than 10 % error in estimated time of arrival (ETA)

- Method**
- Sailing objectives projected onto detailed near-real-time numerical weather forecasts
  - Computer-generated optimal route plans (course and speed) and options minimizing fuel consumption subject to sailing constraints
  - Responsive to ship-specific METOC sensitivities and bias learned over time from actual sailing data
  - Informative, non-intrusive user interface, on board or in fleet headquarters

- Challenges Addressed**
- ✓ Integration of detailed, near-real-time, numerical METOC forecasts
  - ✓ Route-Plan Optimizer (sailing constraints & METOC forecasts)
  - ✓ Shipboard/Headquarter Route-Planning Tool
  - ✓ Customized for Participating Ships
  - ✓ Metrics for Overall Impact

**UNDER WAY** Evaluation by Industry

**Level of Effort** 5,4Mio€ total, 46 months, EC FP7 Grant 3,6Mio€

**Partners**

Advanced Computer Systems SpA – ACS	Det Norske Veritas AS – DNV
Marine & Remote Sensing Solutions Ltd – MARSS	European Space Agency – ESA
Carnival Corporation & Plc – CAR	Uniresearch BV – UNR
NATO Center for Maritime Research & Experimentation – CMRE	

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