



COSMEMOS Project

Venice, April 16° 2012



COoperative Satellite navigation for MEteo-marine MOdelling and Services



Call Identifier: FP7-GALILEO-2011-GSA-1

Activity: Exploiting the full potential (7.4.1)

Area: Scientific Applications (7.4.1.3)

Topic: GALILEO.2011.1.3-1 Galileo and EGNOS for Scientific Applications and innovative applications in new domains



COSMEMOS High Level objectives

- ❑ COSMEMOS objective is to assess the scientific benefits of implementing cooperative meteo-marine data collection schemas, coupled with innovative on board sensor architectures based on current and future GNSS receivers and ad-hoc data processing / fusion techniques
- ❑ Collected data from standard and innovative sensors shall be aimed at:
 - ❑ *improving meteo-marine modelling and forecasting capabilities towards precise high resolution simulations and forecasts;*
 - ❑ *experimenting highly innovative meteo-maritime navigation support products / applications / services, targeted to maritime leisure and commercial customers market, (i.e. high precision weather forecasting and weather routing)*

❑ 17 December 2011

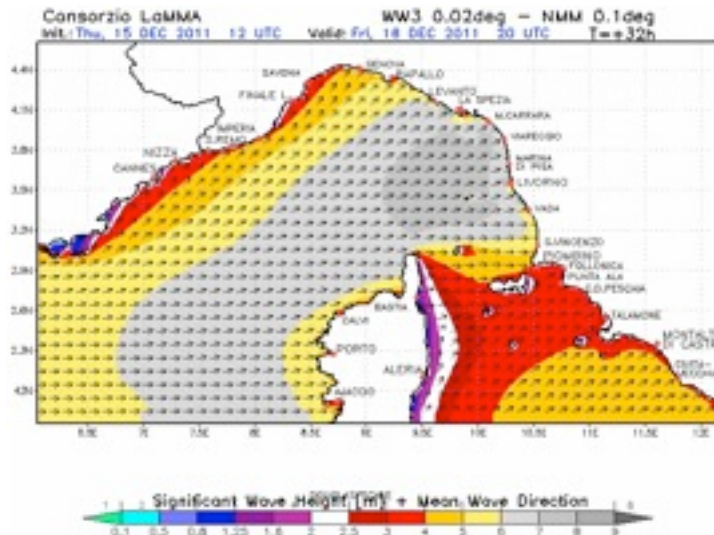
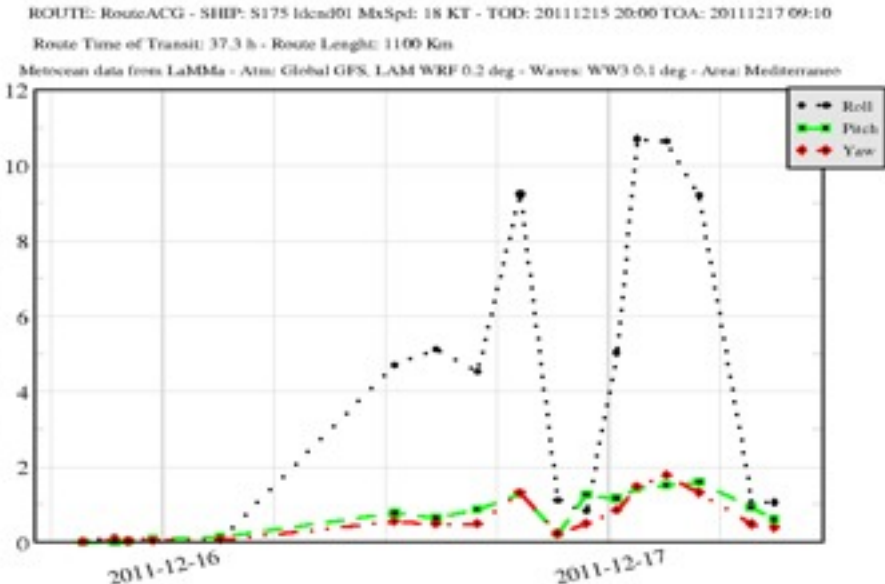
- ❑ *Eurocargo Venezia (Grimaldi Group) loaded with toxic material*
- ❑ *Sea state: F10*
- ❑ *Lost two semi-trailers containing about 200 tanks (200 kg each) with catalysers: mainly, nickel (Ni) cobalt monoxide (CoO) and molybdenum (Mo)*

❑ 21 February 2012

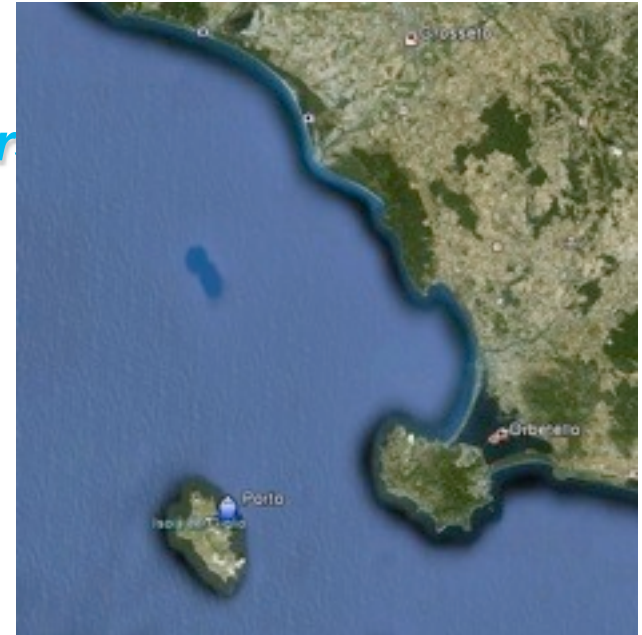
- ❑ *Tanks sunk at 400 meters depth*



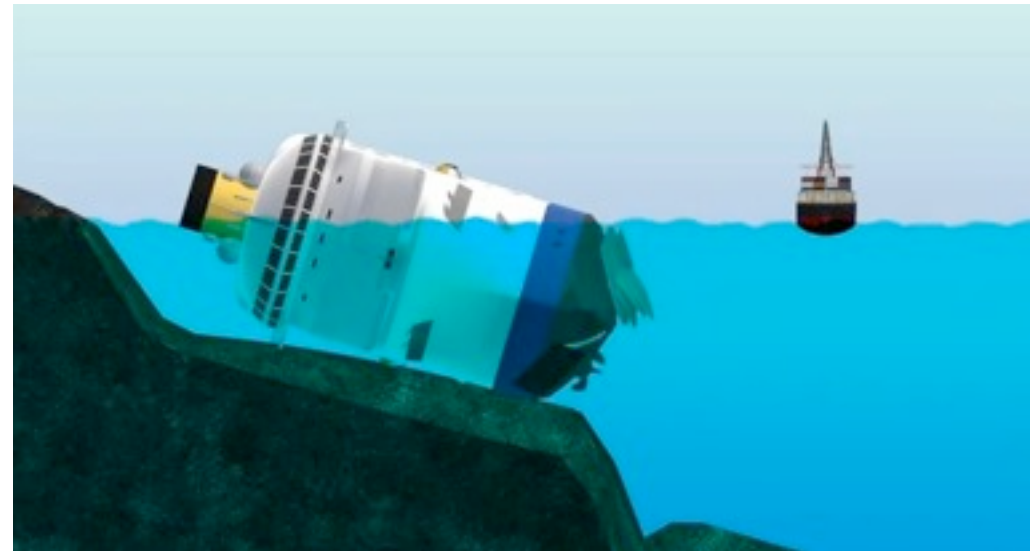
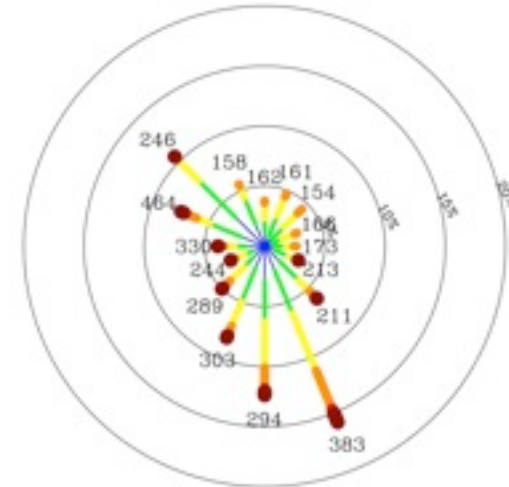
- ❑ Forecast: good but shifted in advance of a couple of hours
- ❑ A more accurate local meteo forecast would have allowed the cargo to save fuel and avoid the loss of the tanks



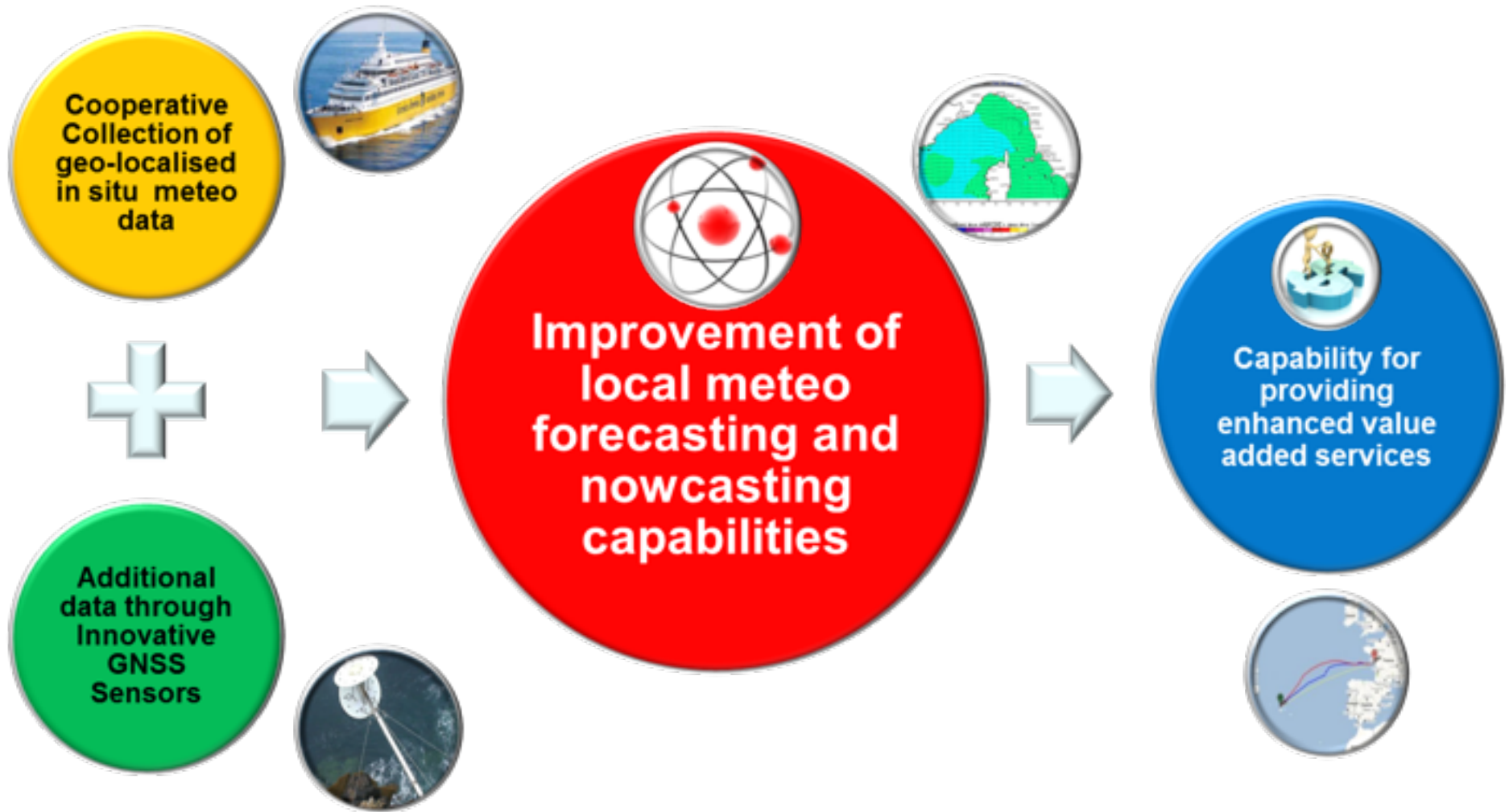
- ❑ 15 January 2012
 - ❑ *Cruise ship Concordia – 4229 passengers*
 - ❑ *The ship hit a rock and started to sink close to the Giglio harbour*



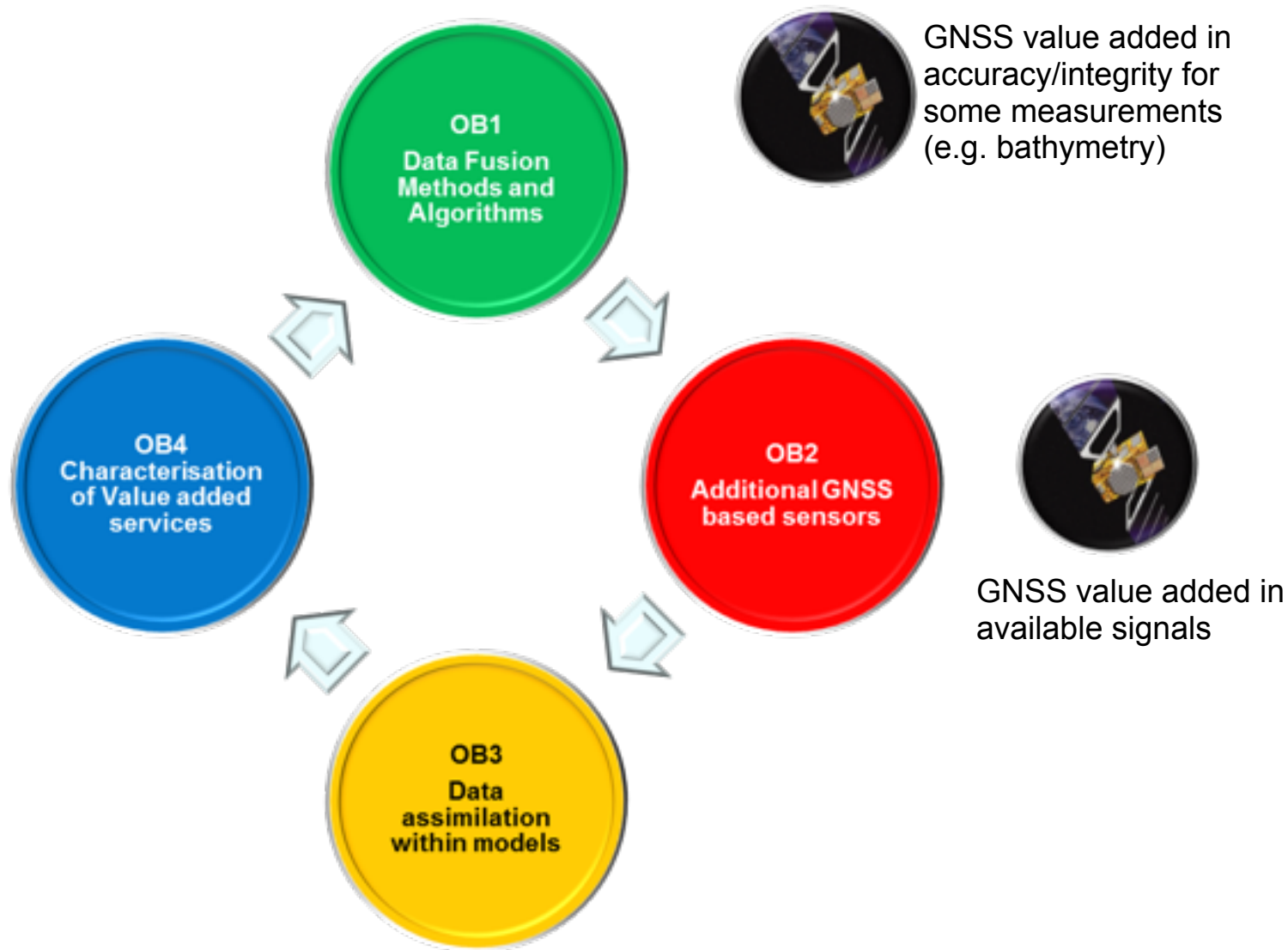
- ❑ January-February 2012
 - ❑ *Ship stability depending on the sea state.*
 - ❑ *Need of a local climatology of waves for task planning*



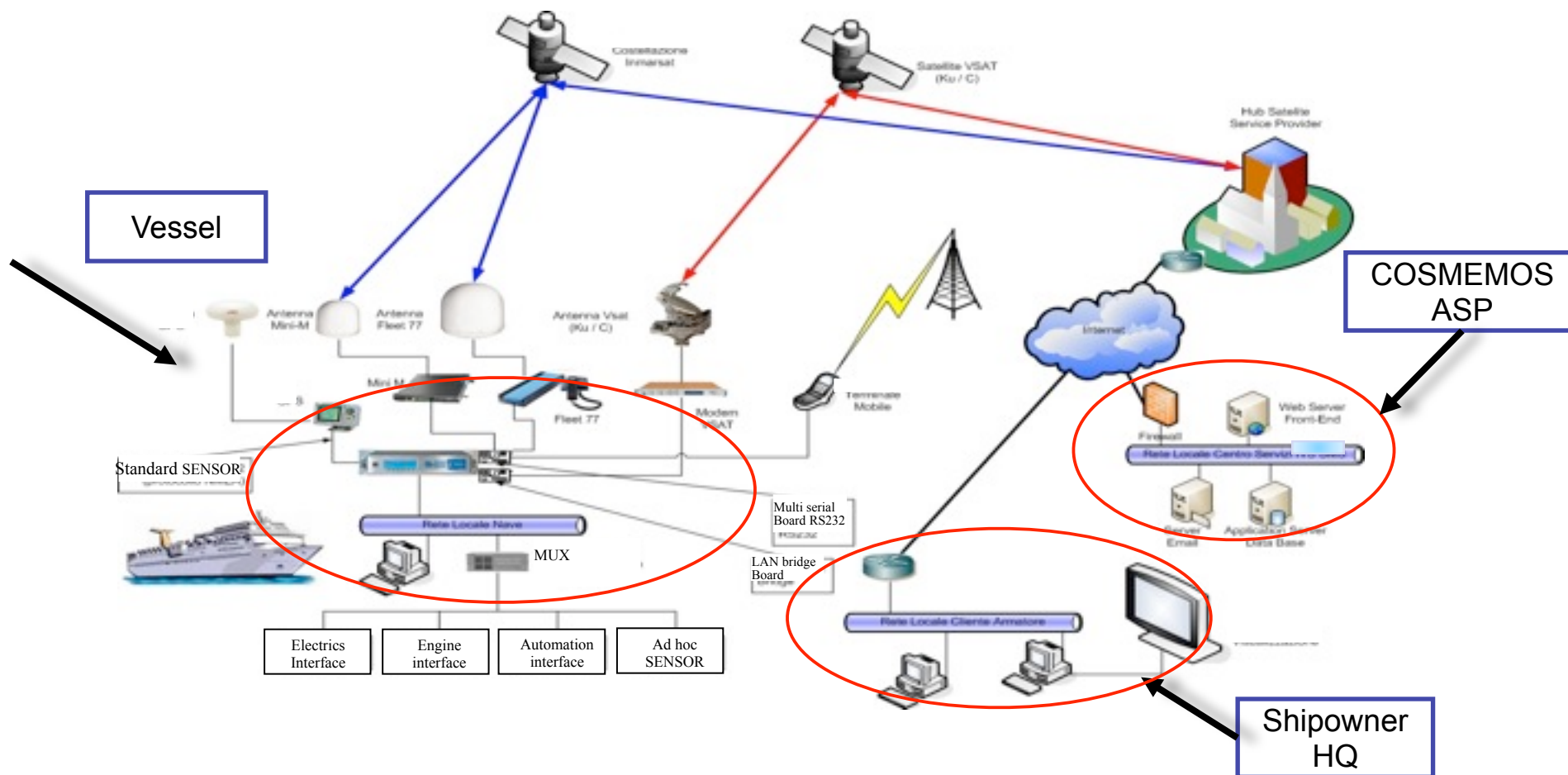
COSMEMOS Paradigm



Measurable Objectives - 1



□ COSMEMOS Data Communication preliminary architecture





Demonstration of:

- Local now/ forecasting;
- Route planning;
- Dynamic re-routing;
- Navigation Assistance.

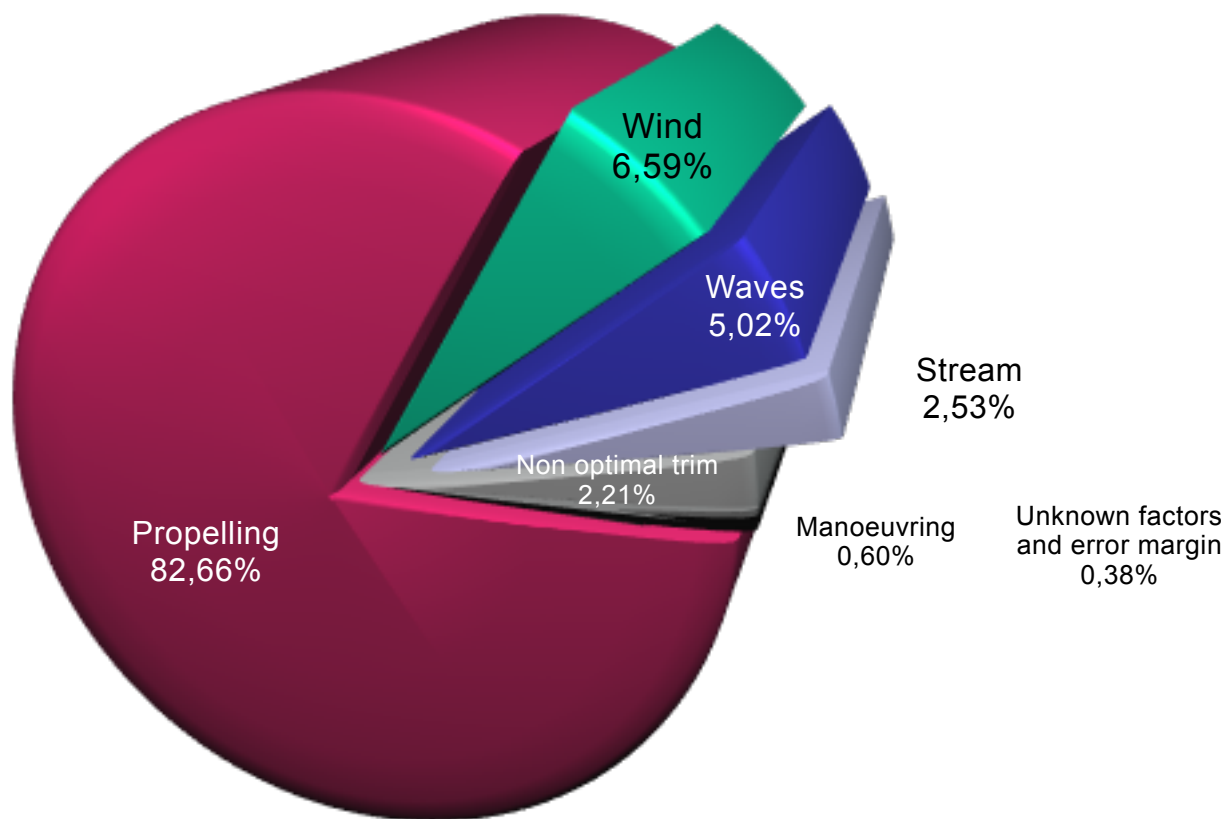
For:

- Commercial fleets (Corsica-ferries);
- Leisure boats.

With:

On board architecture for RT meteo data collection, data transmission and service interface.

Propulsory Energy Decomposition



The Mechanism



Cooperation
Profile

The Customers



Professional



Regular



Leisure



Market
Expansion
Schema



Thanks for you attention...

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