

# ADATOSO

## Acoustic DATA Transmissions Optimized for Subsea Observatories

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# ADATOSO

Acoustic Data Transmissions Optimized  
for Subsea Observatories

- Basic idea
- Expected outcomes
- Who will benefit from ADATOSO ?
- The partners
- Cruises location
- ADATOSO & ESONET DMs
- Work plan & schedule
- Possible long term experiment
- Questions ?

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**Non cabled** observatories are worth considering:

### Modest cost, re-usable / re-locatable

- Complementary to heavy cabled infrastructures
- Particularly suited to the European situation :  
*geographical dispersion of sites*  $\leftrightarrow$  *limited funding sources*

They meet an **actual need**, but ... / ...



NCOs suffer from a serious handicap:

the limited amount of transmitted data,

due to the existing limitations of acoustic modems.

- Until now in Europe, a number of separate experiences came up against the same problem
- Meanwhile, significant progresses are **displayed** by most manufacturers





- Since technological R&D is outside the scope of ESONET, the least we can do is using ESONET weight and network to make sure we use the **best existing technology in the world**.
- For this, ADATOSO proposes to carry out a **comparison of the worldwide offer of acoustic modems**, from the angle of their capability of **serving subsea observatories**
- The comparison will be carried out through **two experiences at sea**:
  - Short term tests
  - Long term (6-7 months) experiment



## Expected outcomes

- An **actual** knowledge of what subsea observatories can (and cannot) expect from acoustic modem technology
- The identification of the modem model(s) most suited for subsea observatory applications, in the world
- A **tangible** step towards standardization / interoperability **at ESONET level**

## Who will benefit from ADATOSO ?

- The results will benefit to ALL the science community interested in subsea observation
- To begin with ESONET DM contenders:



- MoMAR – ESONET
- LOOME (HMMV)
- Hellenic site (*tbc*)
- Possibly FLASH-MAR (Marmara Sea)
- CABLE (Porcupine)
- KOSTOBS (Kosterfjord)
- LIDO (Eastern Sicily and Gulf of Cadiz)

ADATOSO is fundamentally a **transverse**  
action

# An association of experts in subsea acoustics, subsea engineering and observatory users (researchers)

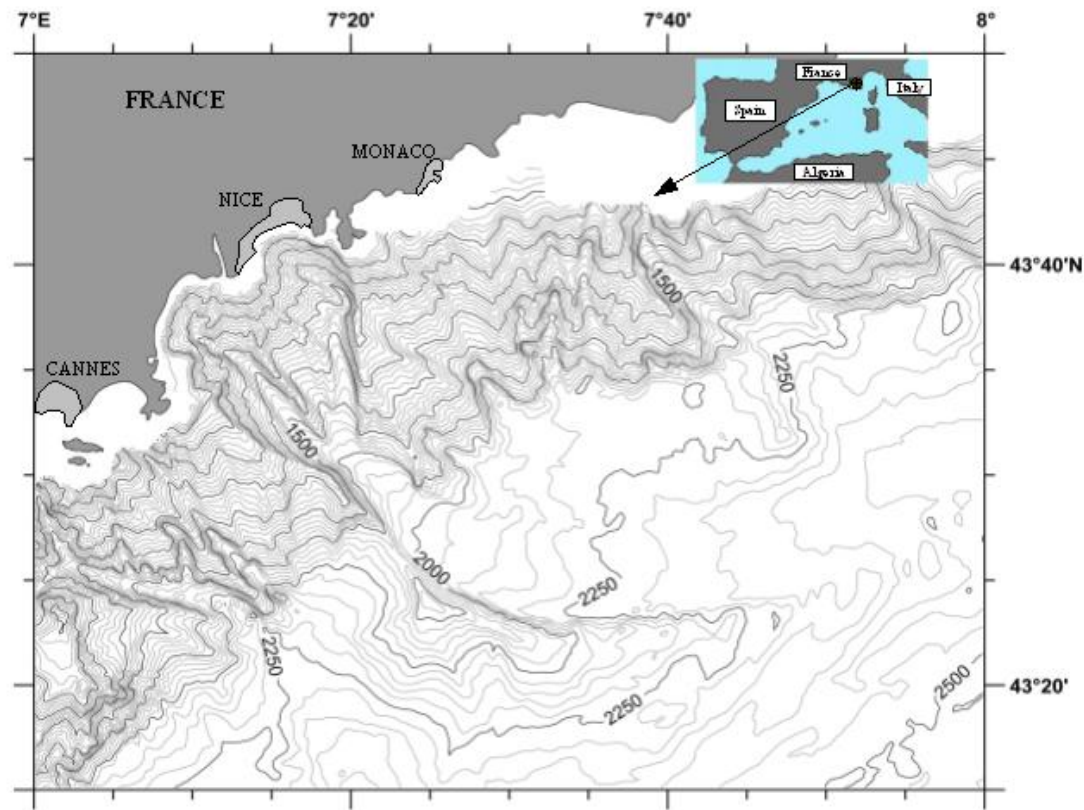
- Ifremer
- University of Bremen
- Universitat Politècnica de Catalunya
- Tecnomare S.p.A.
- Istituto Nazionale di Geofisica e Vulcanologia
- Alfred-Wegener-Institut (tbc)
- IFM-GEOMAR





## Where should ADATOSO cruises take place ?

- The Ligurian Sea (offshore Toulon or Nice) was chosen for its easy access to the required water depth



## ADATOSO in the ESONET DMs context

- Steering Committee comment: « The pre-proposal does not reflect the scientific interest of the demonstration. Scientific issues and the participation of researchers must be addressed »
  - ▶ ADATOSO does not pretend to « demonstrate » anything
  - ▶ ADATOSO pretends to benefits to ALL science fields involving continuous subsea observation
  - ▶ Researchers do participate to ADATOSO
  
- 2 options:
  - ▶ Keep restricted to initial objectives → little chances to succeed
  - ▶ Integrate **particular** scientific objectives, provided
    - ← a **scientific leader is clearly identified**
    - ← budget is increased

## Work plan & schedule

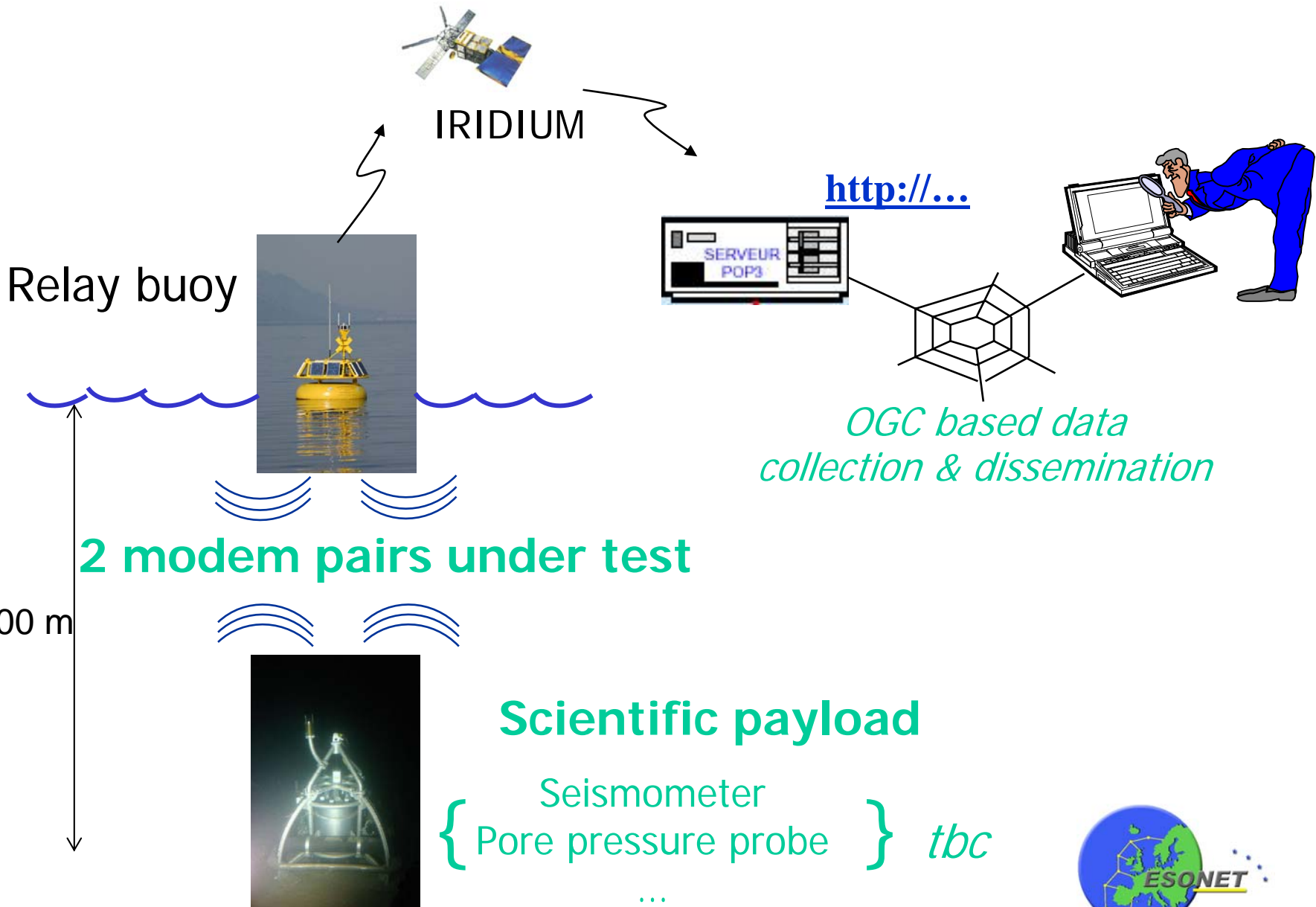
- Set-up of a common requirement specification / evaluation criteria
- Paper selection of 4 to 6 models meeting the specs
- Short term tests at sea of the selected modems (spring '08)
- Results analysis – Selection of two models for the long term exp.
- Long term experiment (Sept. '08 – April '09)
- Performance and reliability analysis – Conclusions - Report

**Tight schedule in order to have  
results available for other DMs**

# Possible long term experiment

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# Questions

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