



# SUNRISE

## *Building and Experimenting with the Internet of Underwater Things*

### *Second Open Call Launch*



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**Web page: <http://fp7-sunrise.eu/>**

# SUNRISE OPEN CALLS

- **SUNRISE is a FIRE Integrated Project**
- **Half the project budget has been allocated to the implementation of open calls → 900K euros (EC funding) available for the second open call**
- **Selected sub-projects become part (WP) of project activities**
- **Partners of the subprojects selected through the open call will enter SUNRISE consortium and consortium agreement for the duration of the sub-project**
- **Average duration of sub projects lies between 6 and 10 months (6 typical)**
  - **Single institution projects are possible**
  - **RTD, RTD/DEM, DEM projects are possible**
- **Budget may range from 50-250 K euro**

# TIMELINE

Three projects selected:  
OPTO-COMM  
EXPOSURES  
EVERUN  
Starting: May 2015

First open call  
M14

Report on the  
results of the  
1st open call  
M30

Deadline: July 31 st 2015

Second open  
call  
M23

Report on the  
results of the  
2nd open call  
M36



# SUNRISE SECOND OPEN CALL

Five kinds of projects:

- **The federation of additional sites** or experiments on already existing SUNRISE testing facilities to further **enhance SUNRISE testing infrastructure** (Project “**TYPE A**”); Max **250K euro**
- The incorporation of **novel algorithms, protocols, sensors, node platforms, communication devices and technologies** to be included in SUNRISE facilities (Project “**TYPE B**”); Max **250K euro**
- The development of **applications and services exploiting SUNRISE technology** and deployments (Project “**TYPE C**”); Max **150K euro**
- **End-user experiments** leveraging on SUNRISE permanent testing infrastructures or re-deployable testing facilities (Project “**TYPE D**”); Max **150K euro**
- **Development of business cases for SUNRISE technologies exploitation** (Project “**TYPE E**”). Max **50K euro**

Proposals can address multiple project types but have to select the ‘main Type’.



# SUNRISE OPEN CALLS

## General Objectives

- balanced geographical distribution of infrastructures across Europe;
- increased heterogeneity of infrastructures and diversity of marine environments, application scenarios, monitoring and service capabilities;
- greater diversity of underwater sensing technologies, supported platforms, underwater communication technologies and protocols, as well as of energy sources used to power underwater assets;
- expanding services and applicability;
- valorisation and exploitation.



# SUNRISE SECOND OPEN CALL

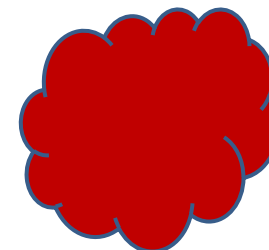
## Expected Outcomes

- For **Type A**: SUNRISE infrastructure extensions by means of **an additional testing facility, to be federated and made available for core partners and third party experiments**, provided that such facility **fills a gap** with respect to the existing federation (e.g. in terms of functionalities/technologies, application scenarios, and marine environment).
- For **Type B**: Development of **novel technologies** to be integrated into the SUNRISE infrastructure, such as **low-cost/innovative sensors**, systems for a more accurate **characterization of the underwater environment** in the location of the deployed facilities technologies (highest interest: SUASIS testing facility), **breakthrough underwater communication, low-cost/long-endurance underwater vehicles**, novel **sensor nodes**, technologies to increase the endurance of underwater assets and to perform **energy harvesting, protocols and algorithms for more efficient, reliable, robust, secure operation and communication of static and mobile assets**. The call aims at integrating technologies providing a breakthrough in terms of the trade-off between functionalities, system intelligence, accuracy, performance and cost.

# SUNRISE Infrastructure extension: a new **testbed** in the federation



**SUNRISE GATE**

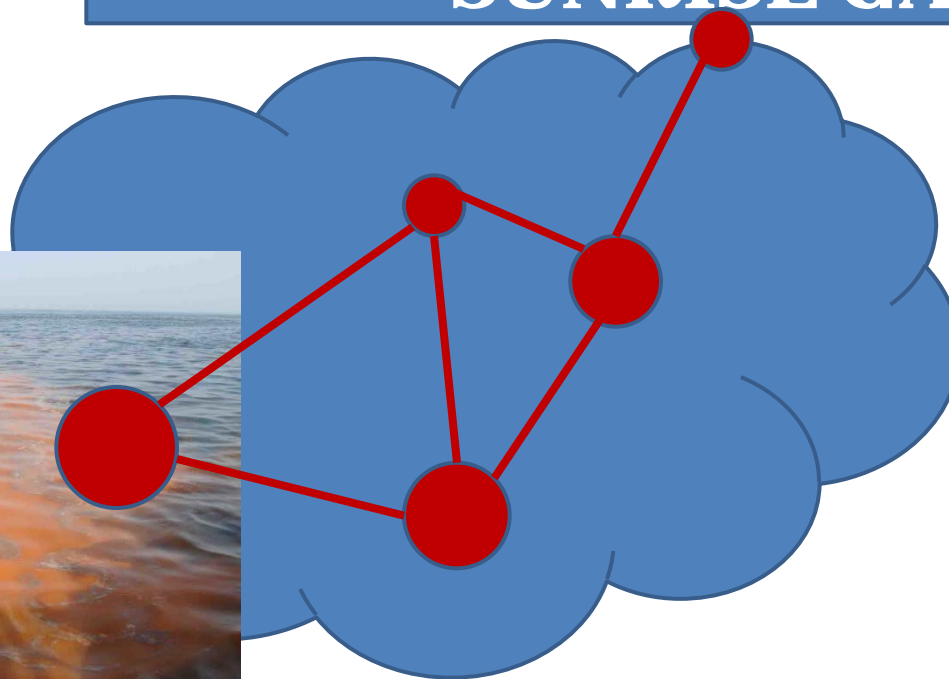




SUNRISE New Technologies:  
a new **sensor** to measure pollution  
low cost multi-parametric sensors  
low cost cameras/side scan sonars



## SUNRISE GATE

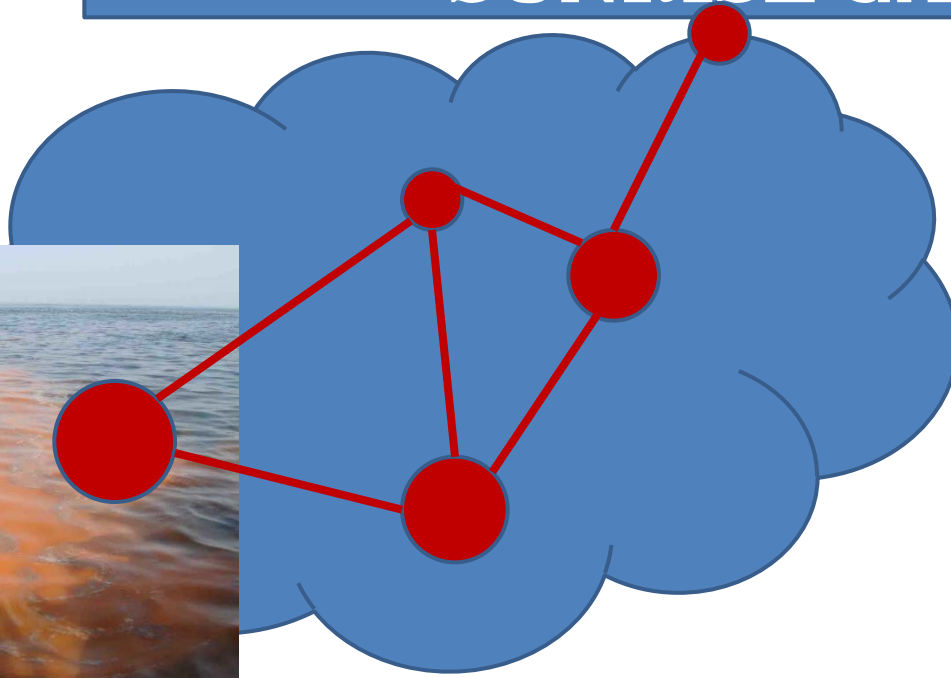




**SUNRISE New Technologies:**  
a high data rate low cost acoustic modem  
a high data rate optical modem  
an RF transceiver for underwater comms.



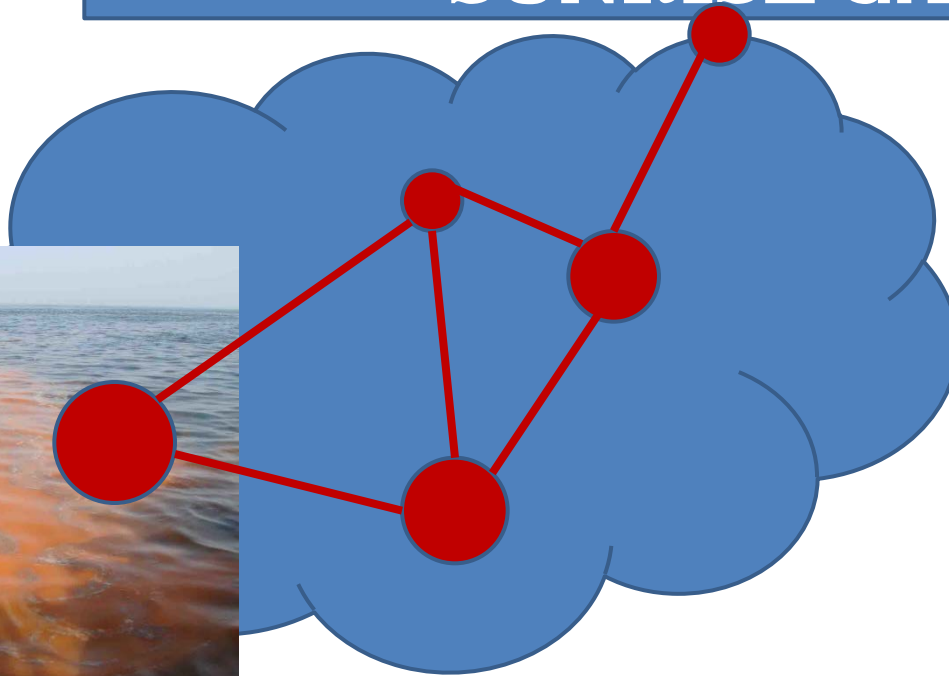
## SUNRISE GATE



**SUNRISE New Technologies:**  
Energy harvesting technologies  
Novel protocols for the SDOAMs and SDCS  
Low cost mobile vehicles



## SUNRISE GATE





# SUNRISE SECOND OPEN CALL

- For Type C: Development of **novel applications and services**.

Activities will:

- include the organisation of end-user community consultation for requirements and evaluation of the end-user experience;
- envision experimental validation in field;
- address the disruptive innovation potential of the proposed applications and services in the proposal (namely Part B, Section B3).



# SUNRISE SECOND OPEN CALL

- **For Type D:** End-user experiments using the existing features of the SUNRISE infrastructure, with a focus on advancing science and knowledge or customizing SUNRISE technologies for specific applications, posing the basis for sustainable use of SUNRISE facilities.
  - On semi-permanent testing facilities
  - short term (two-three weeks) experiments with leased re-deployable SUNRISE testing facilities (typically made of 4-5 nodes equipped with SUNRISE communication and networking HW/SW).
    - Costs of shipping assets to the site and insurance costs will have to be included in the subproject budget (Part B, Section B0), as well as costs of extending this basic SUNRISE facilities (e.g., with probes to monitor specific parameters of interest, and with equipment needed to interconnect the re-deployable testing facility to Internet and a remote control room).



# SUNRISE SECOND OPEN CALL

- For Type E: business development cases proposed by institutions and consulting companies with expertise in business development, **analyzing SUNRISE reference markets and SUNRISE technologies** to identify **business and exploitation plans**, and to provide **an exploitation roadmap**.



# OPEN ACCESS AND OPEN ARCHITECTURE

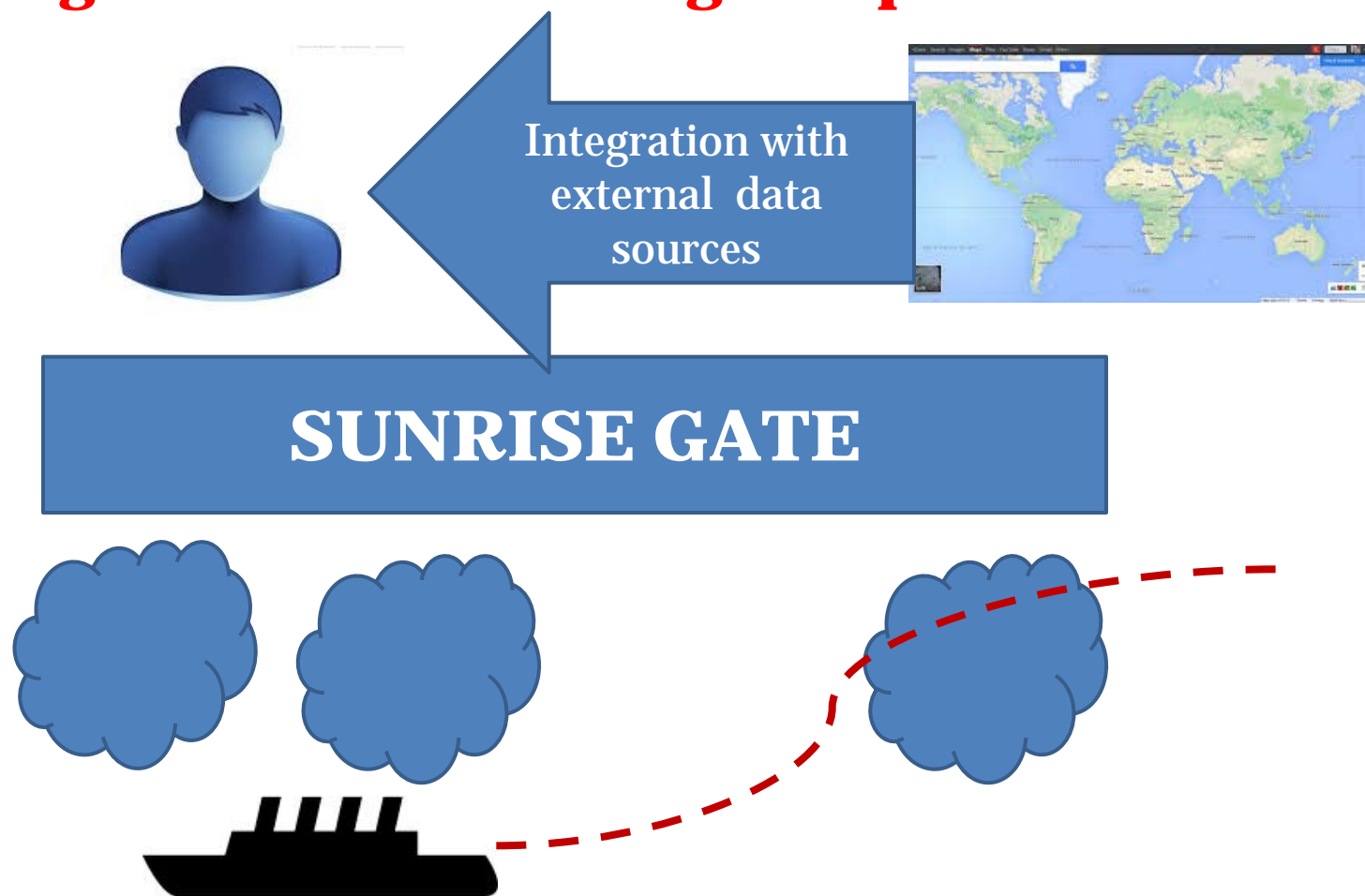
- The approach that will be followed, especially for Project Types A to D, encompasses open hardware, open architectures, open access to testing infrastructures and open access to data.
- It also aims at building ecosystems to provide cutting edge testing facilities to a wide set of users beyond the project lifetime.

# SUNRISE New Application and Services:

**Ship tracking** inferred from fingerprints in engines' noise

**Coastal erosion** monitoring

**Archaeological site monitoring and preservation**

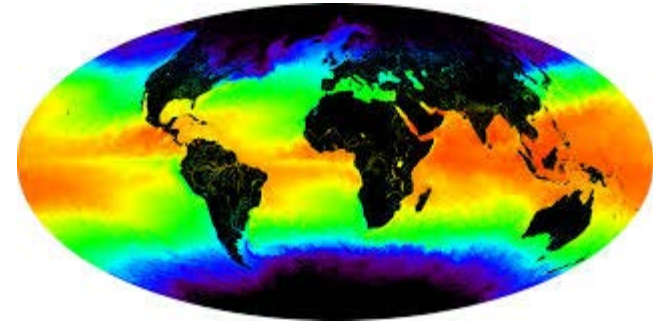




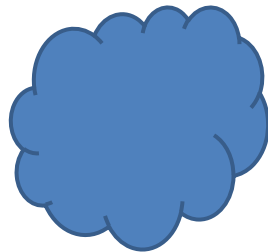


SUNRISE using the existing features :

# Monitoring geochemistry and environmental parameters at a given site



**SUNRISE GATE**



# SUNRISE SECOND OPEN CALL TIMELINE

- **Proposal should be submitted via email to:**  
[sunriseopencall@di.uniroma1.it](mailto:sunriseopencall@di.uniroma1.it) according to the procedure described in the Guide for Applicants (§5.1)
- **Submission deadline:** the call closes at 23:59 on July 31<sup>st</sup>, 2015 (Brussels time).
- **Expected duration of participation in SUNRISE project:**
  - The expected start date for selected sub-projects is November 1<sup>st</sup>, 2015 with an end date falling between April 2016 and August 2016.



# SUNRISE SECOND OPEN CALL TIMELINE

- Average sub-project duration lies between 6 and 10 months.
- Below further information regarding the recommended duration for each of the four types of project addressed by the call:
  - TYPE A: ten months;
  - TYPE B: ten months;
  - TYPE C: between six and ten months;
  - TYPE D: around six months.
  - TYPE E: around six months.



# Questions ?



## **FIRE**

# Future Internet Research and Experimentations

