Joint European Research Infrastructure network for Coastal Observatory – Novel European eXpertise for coastal observaTories - **JERICO-NEXT**	
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Approvals				
	Name	**Organisation**	**Date**	**Visa**
Coordinator	P. Farcy	Ifremer	20/04/16	PF
WP Leaders	S. Sparnocchia	CNR ISMAR	18/04/16	SS

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Executive Summary

This report relates to WP7 - Transnational Access to Coastal Observatories.

During its lifetime JERICO-NEXT will offer coordinated 'free of charge' Trans-National Access to researchers or research teams from academy and industry to original coastal infrastructures described in this report. Users can apply for access by submitting (in writing) a description of the work that they wish to carry out at one of three open Calls planned by the JERICO-NEXT Consortium in 2016, 2017 and 2018. A Selection Panel formed by independent experts will evaluate and select the access projects.

The catalogue of infrastructures involved in the Trans-National Access activities is here reported with the related online tool developed to help the interested possible users discovering the access opportunity suitable to their research.

Introduction

As part of the Trans-National Access (TNA) activity implemented in WP7, JERICO-NEXT offers opportunities to researchers or research teams from academy and industry to access original coastal infrastructures for measurement campaigns and instrument testing. These opportunities are expected to help building long-term collaborations between users and JERICO-NEXT partners, and to promote innovation and transfer of know-how in the coastal marine sector.

Access will be provided 'free of charge' following three open calls, once per year from 2016 to 2018, and the evaluation of proposals by an independent panel of expert.

A user or a user group will access an infrastructure to test an instrument or collect data according to either of the following modalities of access:

1. Remote: the measuring system is implemented by the operator of the installation and the presence of the user group is not required;
2. In person/hands-on: the presence of the user group is required/recommended during the whole operation period;
3. Partially remote: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Funds for travel and subsistence costs of user groups, as well as shipping of their equipment will be negotiated case by case.

A dedicated section has been developed on the JERICO-NEXT website, http://www.jerico-ri.eu/, to promote the TNA activity. This includes an on-line catalogue describing the TNA offer to help potential users evaluating, among the available infrastructures, those suitable for the purposes of their research.

TNA service catalogue

The catalogue of TNA service is made by two chapters, one including proper observing systems, another including supporting facilities and special equipment (Table 1). Use of supporting facilities and special equipment is ancillary to applications for using one or more observing systems.

It includes 35 facilities: 30 observing systems in Chapter 1 and 5 supporting facilities and special equipment in Chapter 2.

Organisation	Chapter 1 (Observing systems)	Chapter 2 (Supporting facilities and special equipment)
	INFRASTRUCTURE/Facility	INFRASTRUCTURE/Facility
CNR-ISMAR	ISMAR OS/Acqua Alta ISMAR OS/SiCO ISMAR OS/S1	
CNRS	GNF	SPI-H
FMI	Utö	
HCMR	POSEIDON/SB POSEIDON/HCB POSEIDON/AB POSEIDON/PFB	POSEIDON/PCL
HZG	COSYNA/FB COSYNA/SFB COSYNA/GL COSYNA/UNH COSYNA/AWIPEV_UNS	
IFREMER	RESEAU EULERIEN/MOLIT RESEAU EULERIEN/MOLENE	METLAB
IMR	IMR COAST/FERRY IMR COAST/FISHING1 IMR COAST/FISHING2 IMR COAST/CABLE	
IO-BAS	NOMOS/GALATA NOMOS/POMOS	
NIVA	NorFerry/FA NorFerry/TF	NRS
SBI	SMARTBAY TDS/CPO SMARTBAY TDS/SMARTBUOY	
SOCIB	SOCIB/GF	
SYKE	ALG@LINE/FINNMAID ALG@LINE/SILJA SERENADE	MRC-Lab
UPC	OBSEA	

Table 1: *The 35 facilities offered to users through the TNA program of JERICO-NEXT (second and third column for Chapter 1 and 2 respectively). The facility providers are indicated in the first column.*

Chapter 1: Observing systems

With observing systems, we mean advanced technological observational platforms equipped with sensors for measurements of physical, chemical and/or biological variables. They are located/used in the coastal and shallow seas around Europe and belongs to the following classes:

1) Fixed platforms: platforms moored in a fixed position, including buoys, piles, beacon, etc. The JERICO-NEXT TNA offer also includes a stationary FerryBox (installed in a fixed station).
2) Coastal cabled observatories: peculiar fixed platforms connected to land via electrical or electro-optical cables.
3) FerryBoxes: very specialised flow-through systems in which water is pumped from a subsurface inlet into the measuring circuit of multiple sensors. They are installed on commercial ships sailing regular routes.
4) Gliders: autonomous underwater vehicles using buoyancy-based propulsion to move across the water column. Besides the vehicle, a glider facility includes also permanent land-based laboratories to support the operation.
5) Fishing vessels: offering space for environmental measurements concurrently with fishing operations.

1.1. Fixed platforms

1.1.1. "Acqua Alta" Oceanograhic Tower (AAOT) – CNR ISMAR

Infrastructure	CNR ISMAR Observing System (ISMAR OS)	
Installation	"Acqua Alta" Oceanograhic Tower (AAOT)	
Location	Mediterranean Sea, Northern Adriatic, Gulf of Venice	
Coordinates	45.31435°N - 12.508317°E	
Bottom depth	16 m	
Organisation	National Research Council of Italy (CNR)	
Country	Italy	
Contact	Mauro Bastianini CNR ISMAR Castello 2737/f Tesa 104, 30122 Venezia, Italy Phone: +39 041 2407982 - Fax: +39 041 2407940 Email: mauro.bastianini@ismar.cnr.it	

Description

The "Acqua Alta" research tower consists of a platform containing an instrument house, supported by a steel pipe structure, similar to that of an oil well derrick. The pipe structure is hammered 22 m into the bottom through each of its four hollow legs. Energy is supplied at 125, 220, 380 VAC (50 Hz –

remote activation), along with continuous voltage 12 and 24 VDC. The tower can host two technicians and three scientists for several days and allows specific dedicated campaigns and long-term measurements. A broadband wireless communication system between the tower and the operating Institute allows 10 Mb/s data communication rate and real time data availability. The bridge allows the tower to be part of the Institute LAN so all the scientists on board can access internet and potentially the instruments could be controlled remotely.
Measurements routinely acquired with periodic sampling concern biology, chemistry, physical oceanography. Autonomous instrumentations cover atmospheric and hydrological parameters with a series of meteorological stations and oceanographic instruments. A direct view of the sea condition around the tower is available continuously by the three high resolution webcams installed on the roof. Two underwater webcams are installed at -3 and -12 m to observe biological populations and to monitor potentially critical phenomena such as jellyfish swarms and mucilaginous macro aggregates. Given the high level of security and wide desk space, sophisticated instruments can be hosted on board reducing drastically the risk of loss (when not in service the tower is locked and a video surveillance is active). The good level of logistic support allows the setup of in situ experiments.
Web site address: http://www.ismar.cnr.it/infrastructures/piattaforma-acqua-alta?set_language=en&cl=en

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation (+) /Depth (-)	Sampling	Frequency of data transmission
Meteo station Davis Vantage Pro2	Wind speed and direction, Air temperature, Humidity	+ 17 m	30 min	30 min
Nortek Awac	Current Profiles	-1 to -15 m	30 min	30 min
Nortek Awac	Waves (high, direction, period)	sea surface	30 min	30 min
SeaCAT	Temperature, Oxygen, Turbidity, Conductivity/Salinity	- 3, -7, -13 m	60 min	60 min

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

A user or a user group shall be given access to the infrastructure for specific experiments, tests of sensors and in-situ validation, or to collect additional data to the ones already acquired by the operator.
Unit of access (UA): 2-months. **Quantity of access available to JERICO-NEXT users**: 2 UA=4 months. Users can apply for a minimum access duration of 2 months (1 UA) or for the maximum duration of 4 months (2 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

The tower will undergo a revamping during summer 2016 (June-August), consequently access in this period won't be possible

Service & support

The "Acqua Alta" tower is a wet and dry laboratory able to host three scientists supported by one technician and two seamen. The high degree of safety (Video surveillance onboard) allows the setup and deployment of high-cost instruments; furthermore with the wideband connection, instruments can be remotely controlled.
A support team formed by one technician and two sea-men, coordinated by a head scientist will assist the user group, helping during installing/uninstalling operations. The user will have access to the infrastructure by boat, this service will be arranged by CNR ISMAR, as well as lodging and meals onboard.
The data will be immediately available to the user accessing the laboratory or also remotely in case of protracted installation of user's instrumentation.

Special rules

Researchers must provide an insurance statement. No smoking is allowed on board, safety equipment is not provided.

1.1.2. Sicily Channel Observatory (SiCO) – CNR ISMAR

Infrastructure	CNR ISMAR Observing System (ISMAR OS)	
Installation	Sicily Channel Observatory (SiCO)	
Location	Strait of Sicily, Mediterranean Sea	
Coordinates	SiCO1: 37.380° N; 11.591° E SiCO2: 37.285° N; 11.5° E	
Bottom depth	SiCO1: 450 m SiCO2: 530 m	
Organisation	National Research Council of Italy (CNR)	
Country	Italy	
Contact	Mireno Borghini CNR ISMAR Forte Santa Teresa, 19036 Pozzuolo di Lerici (SP), Italy Tel: +39 01871788913 Email: mireno.borghini@sp.ismar.cnr.it	

Description

ISMAR OS is a system around Italy and is composed by 11 fixed platforms, HF radars, a glider. The installations proposed for TNA embrace different marine environments and can be used independently.
SiCO is a twin-mooring system placed is in a key area connecting the Eastern and Western Mediterranean Sea. Equipped with current profilers and CTD probes, it continuously monitor surface and intermediate exchange of water masses and properties between the basins. A pCO2 probe is

installed in SiCO1 near the bottom to widen the contribution of the observatory to climate studies and ocean acidification research. The site is part of the CIESM Hydro-Changes Programme.
Web site address: http://www.ismar.cnr.it/infrastrutture/reti-osservative/catene-correntometriche/il-canale-di-sicilia

Instruments/Sensors

SiCO1				
Instrument	**Measured Parameter(s)**	**Elevation/Depth**	**Sampling**	**Frequency of data transmission**
ADCP RDI 75kHz LR	Current Profiles, Temperature	from -410 to 10 m -410 m for T	120 min	ca. every 6 months
SBE16 + SBE63 + Cyclops-7	Temperature, Conductivity/Salinity, Pressure, Dissolved Oxygen, Turbidity	-400 m	60 min	ca. every 6 months
Contros Hydro-C CO2	Partial pressure of CO2	-400 m	3600 min	ca. every 6 months
SBE37	Temperature, Conductivity/Salinity	-80 m	30 min	ca. every 6 months

SiCO2				
Instrument	**Measured Parameter(s)**	**Elevation/Depth**	**Sampling**	**Frequency of data transmission**
Nortek Continental	Current profiles, Temperature	230 m to 10 m	60 min	ca. every 6 months
SBE37	Temperature, Conductivity/Salinity	373 m	15 min	ca. every 6 months
RDI WH300	Current profiles, Temperature	From 378 m to 230	60 min	ca. every 6 months

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

A user or a user group shall be given access to the infrastructure for specific experiments, tests of sensors and in-situ validation, or to collect additional data to the ones already acquired by the operator.
Unit of access (UA): 6-months. **Quantity of access available to JERICO-NEXT users**: 3 UA=18 months. The access is offered for multiples of a 6 months period, corresponding to the periodic maintenance operations, namely 6 months, 12 months or 18 months. Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

A support team will assist the user group, helping during installing/uninstalling operations of their equipment. The user will have access to the installation by boat or research vessel, this service will be arranged by the operator.
Data will be available in delayed mode at the end of the 6 months access period.

Special rules

Researchers accessing the installation by boats must provide an insurance statement and must bring their own safety equipment.
Whenever possible, the start and end of an access interval will be set to coincide with times scheduled for the ordinary maintenance of the installation in the interests of financial economy (e.g. limiting the costs of boat-time, etc.).

1.1.3. Meteoceanographic Site S1 (S1) – CNR ISMAR

Infrastructure	CNR ISMAR Observing System (ISMAR OS)	
Installation	Meteoceanographic site S1 (S1)	
Location	North Adriatic Sea, Mediterranean Sea	
Coordinates	44.7384°N - 12.4526°E	
Bottom depth	21.3 m	
Organisation	National Research Council of Italy (CNR)	
Country	Italy	
Contact	Mariangela Ravaioli, Francesco Riminucci CNR ISMAR Via Gobetti 101, 40129 Bologna, Italy Tel: +39 0516398905 Email: mariangela.ravaioli@bo.ismar.cnr.it, francesco.riminucci@bo.ismar.cnr.it	

Description

S1 is located offshore the Po river delta, in a key monitoring point for studying the interactions between the Northern Adriatic and the Po River, experiencing a broad range of oceanographic conditions. The station is made up by an elastic beacon, it consists of an aerial platform at 6.5 m asl, a steel pipe structure, a submerged float and an elastic joint for mooring to the sinker. The system has logging and NRT transmission devices, power systems with continuous voltage 12 and 24 VDC, meteorological station and double winch (connected to the submersed mooring) accommodating oceanographic instrumentation at different water levels (among them CTD probes, dissolved oxygen, chlorophyll, turbidity and CDOM sensors, ADCP). Additional measurements are routinely collected in the site with periodic sampling concerning biology, chemistry, oceanography.
Web site address: http://s1.bo.ismar.cnr.it/perl/s1_home.pl

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
Meteo station AIRMAR PB200	Wind speed, direction and gust Air temperature, Atmospheric pressure, Humidity	+ 9 m	30 min	60 min
CTD SBE37	Sea Temperature, Conductivity/Salinity and Pressure	- 1.5, -18 m	30 min	60 min
SBE 63	Dissolved oxygen	- 1.5, -18 m	30 min	60 min
WetLabs Ecotriplet	Sea Water Turbidity, Fluorescence and CDOM	- 1.5 m	30 min	60 min
Aanderaa DCS-4100	Current speed and direction	- 1.5 m	30 min	60 min

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

A user or a user group shall be given access to the infrastructure for specific experiments, tests of sensors and in-situ validation, or to collect additional data to the ones already acquired by the operator.

Unit of access (UA): 4-months. **Quantity of access available to JERICO-NEXT users**: 1 UA=4 months. Users can apply for access duration of 4 months only. Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

S1 will provide the user group with RT/NR data. The user will have access to the installation by boat or research vessel, this service will be arranged by the operator. Support teams are established to assist the user group, helping during installing/uninstalling operations of their equipment.

Special rules

Researchers must provide an insurance statement to reach the S1 site. Operation on the elastic beacon is allowed only to the personnel of CNR-ISMAR.

1.1.4. Saronikos buoy (SB) – HCMR

Infrastructure	POSEIDON Monitoring, Forecasting and Information System for the Greek Seas (POSEIDON)	
Installation	Saronikos buoy (SB)	
Location	Saronikos Gulf, Aegean Sea, Mediterranean	
Coordinates	37.611°N -23.564°E	
Bottom depth	209 m	
Organisation	Hellenic Centre for Marine Research (HCMR)	
Country	Greece	
Contact	Leonidas Perivoliotis Hellenic Centre for Marine Research, Institute of Oceanography 46km Athens-Sounio Ave., PO Box 712 Anavyssos, Attica, GR-190 13, Greece Tel: +30-22910 76400, Fax:+30-22910 76323 E-mail: lperiv@hcmr.gr	

Description

POSEIDON is an operational marine monitoring, forecasting and information system for the Greek Seas. The observing component is a distributed infrastructure made by three coastal buoys (Saronikos buoy-SB, Heraklion Coastal Buoy-HCB and Athos buoy-AB) and one FerryBox (PFB). A calibration laboratory is supporting the observing activities.
The Saronikos buoy is equipped with meteo, T, C/S, wave sensors and current meter, is moored in one of the most eutrophic areas in Greece greatly affected by the effluents sewage treatment plant of Psitalia and the Anthropogenic activities in the wider Athens -Piraeus urban environment. HAB's are frequent in some parts of the Gulf while clear trophic gradients are observed.
Web site address: http://www.poseidon.hcmr.gr

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Sampling	Frequency of data transmission
Meteo package	Wind speed/direction, Air Temperature, Atmospheric pressure	2 m	3 hours	3 hours
Oceanor wave sensor	Wave spectrum	surface	3 hours	3 hours
Aanderaa CT sensor	Temperature /Conductivity	-4 m	3 hours	3 hours
Nortek Current meter	Current velocity/direction	-4 m	3 hours	3 hours

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): month. **Quantity of access available to JERICO-NEXT users**: 12 UA=12 months. Users can apply for a minimum access duration of 1 months (1 UA), for the maximum duration of 12 months (12 UA), or for intermediate access duration (n UA, n=2,…,11). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

POSEIDON is both a geographically and scientifically distributed infrastructure in Greek seas offering end-to-end services both to science and to society. Complementary nodes both in off shore and coastal environments integrated into a unique system. From these nodes, the Coastal platforms, SB, HCB, AB and the FerryBox are open for access to users to host sensors for recording a number of parameters that do not belong to the main POSEIDON portfolio. The nodes have been designed to support the open access to different types of sensors by providing also their data in real time in most of the cases. The access is offered for one of the nodes of the network or for any combination of different nodes. Access to SB, HCB and AB will be made during the regular maintenance visits (2-4 per year) on-board the R/V Aegaeo. The duration of these visits is usually 1-2 days and can be extended upon request. Additionally, users can have unlimited access to back up buoys in Athens or Crete for preparatory work prior to deployment of their sensors.

Special rules

The scientific and technical personnel of POSEIDON will carry out all operations, while training courses will be given on both hardware and software. In case of integration of new sensors into the system, the user will have to provide the software and hardware adaptations required.

1.1.5. Heraklion Coastal Buoy (HCB) – HCMR

Infrastructure	POSEIDON Monitoring, Forecasting and Information System for the Greek Seas (POSEIDON)	
Installation	Heraklion Coastal Buoy (HCB)	
Location	Heraklion Gulf, Cretan Sea, Aegean Sea, Mediterranean	
Coordinates	35.391°N - 25.226°E	
Bottom depth	175 m	
Organisation	Hellenic Centre for Marine Research (HCMR)	
Country	Greece	
Contact	George Petihakis Hellenic Centre for Marine Research, Institute of Oceanography Thalassocosmos, Gournes Pediados, P.O. Box 2214, Heraklion Crete GR 71 003 Greece Tel: +30 2810 337755, Fax: +30 2810 337822, GSM: +30 6977 916206 E-mail: gpetihakis@hcmr.gr, gpetihakis@gmail.com	

Description

POSEIDON is an operational marine monitoring, forecasting and information system for the Greek Seas. The observing component is a distributed infrastructure made by three coastal buoys (Saronikos buoy-SB, Heraklion Coastal Buoy-HCB and Athos buoy-AB) and one FerryBox (PFB). A calibration laboratory (see Chapter 2) is supporting the observing activities.

The Heraklion Coastal Buoy will be deployed towards the beginning of 2016 between Dia Island and Heraklion city, equipped with meteo, T, C/S, wave sensors and current meter. Furthermore DO, fluorescence and turbidity sensors at various depths in the euphotic zone will be added in the near future. The location is of particular interest as the coastal expression of the very oligotrophic Cretan Sea ecosystem, modulated by the moderate to small riverine inputs and the rural activities in the Northern Crete.

Web site address : http://www.poseidon.hcmr.gr

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
Meteo package	Wind speed/direction, Air Temperature, Atmospheric pressure	2 m	3 hours	3 hours
Oceanor wave sensor	Wave spectrum	surface	3 hours	3 hours
Aanderaa CT sensor	Temperature /Conductivity	-4 m	3 hours	3 hours
Nortek Current meter	Current velocity/direction	-4 m	3 hours	3 hours

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): month. **Quantity of access available to JERICO-NEXT users**: 12 UA=12 months. Users can apply for a minimum access duration of 1 months (1 UA), for the maximum duration of 12 months (12 UA), or for intermediate access duration (n UA, n=2,…,11). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

POSEIDON is both a geographically and scientifically distributed infrastructure in Greek seas offering end-to-end services both to science and to society. Complementary nodes both in off shore and coastal environments integrated into a unique system. From these nodes, the Coastal platforms, SB, HCB, AB and the FerryBox are open for access to users to host sensors for recording a number of parameters that do not belong to the main POSEIDON portfolio. The nodes have been designed to support the open access to different types of sensors by providing also their data in real time in most of the cases. The access is offered for one of the nodes of the network or for any combination of different nodes. Access to SB, HCB and AB will be made during the regular maintenance visits (2-4 per year) on-board the R/V Aegaeo. The duration of these visits is usually 1-2 days and can be extended upon request. Additionally, users can have unlimited access to back up buoys in Athens or Crete for preparatory work prior to deployment of their sensors.

Special rules

The scientific and technical personnel of POSEIDON will carry out all operations, while training courses will be given on both hardware and software. In case of integration of new sensors into the system, the user will have to provide the software and hardware adaptations required.

1.1.6. Athos buoy (AB) – HCMR

Infrastructure	POSEIDON Monitoring, Forecasting and Information System for the Greek Seas (POSEIDON)	
Installation	Athos buoy (AB)	
Location	North Aegean Sea, Mediterranean	
Coordinates	39.963°N -24.723°E	
Bottom depth	210 m	
Organisation	Hellenic Centre for Marine Research (HCMR)	
Country	Greece	
Contact	Leonidas Perivoliotis Hellenic Centre for Marine Research, Institute of Oceanography 46km Athens-Sounio Ave., PO Box 712 Anavyssos, Attica, GR-190 13 Greece Tel: +30-22910 76400, Fax:+30-22910 76323 E-mail: lperiv@hcmr.gr	

Description

POSEIDON is an operational marine monitoring, forecasting and information system for the Greek Seas. The observing component is a distributed infrastructure made by three coastal buoys (Saronikos buoy-SB, Heraklion Coastal Buoy-HCB and Athos buoy-AB) and one FerryBox (PFB). A calibration laboratory (see Chapter 2) is supporting the observing activities.

The Athos buoy is equipped with meteo sensors and T, C/S, DO, fluorescence and turbidity sensors up to 100m in depth, is located in the coastal area in the Northern Aegean, representative of mesotrophic to oligotrophic conditions affected by circulation. Although coastal the depth of the water column allows deeper observations.

Web site address : http://www.poseidon.hcmr.gr

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Sampling	Frequency of data transmission
Meteo package	Wind speed/direction, Air Temperature, Atmospheric pressure	2 m	3 hours	3 hours
Oceanor wave sensor	Wave spectrum	surface	3 hours	3 hours
Aanderaa CT sensor	Temperature /Conductivity	surface	3 hours	3 hours
Nortek Current meter	Current velocity/direction	surface	3 hours	3 hours
Seabird SBE 37	Temperature /Conductivity	20,50,75,100 m	3 hours	3 hours

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): month. **Quantity of access available to JERICO-NEXT users**: 6 UA=6 months. Users can apply for a minimum access duration of 1 months (1 UA), for the maximum duration of 6 months (6 UA), or for intermediate access duration (n UA, n=2,3,4,5). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

POSEIDON is both a geographically and scientifically distributed infrastructure in Greek seas offering end-to-end services both to science and to society. Complementary nodes both in off shore and coastal environments integrated into a unique system. From these nodes, the Coastal platforms, SB, HCB, AB and the FerryBox are open for access to users to host sensors for recording a number of parameters that do not belong to the main POSEIDON portfolio. The nodes have been designed to support the open access to different types of sensors by providing also their data in real time in most of the cases. The access is offered for one of the nodes of the network or for any combination of different nodes. Access to SB, HCB and AB will be made during the regular maintenance visits (2-4 per year) on-board the R/V Aegaeo. The duration of these visits is usually 1-2 days and can be extended upon request. Additionally, users can have unlimited access to back up buoys in Athens or Crete for preparatory work prior to deployment of their sensors.

Special rules

The scientific and technical personnel of POSEIDON will carry out all operations, while training courses will be given on both hardware and software. In case of integration of new sensors into the system, the user will have to provide the software and hardware adaptations required.

1.1.7. Stationary FerryBox system (COSYNA_SFB) – HZG

Infrastructure	Coastal Observing System for Northern and Arctic Seas (COSYNA)	Helmholtz-Zentrum Geesthacht Centre for Materials and Coastal Research
Installation	Stationary FerryBox system (COSYNA_SFB)	
Location	Cuxhaven, German Bight, North Sea	
Coordinates	53.87°N - 8.7°E	
Organisation	Helmholtz-Zentrum Geesthacht (HZG)	
Country	Germany	
Contact	Wilhelm Petersen Helmholtz-Zentrum Geesthacht GmbH, Institute of Coastal Research Max-Planck-Str. 1, 21502 Geesthacht, GERMANY Tel: +49 4152 872358 Email: wilhelm.petersen@hzg.de	

Description

COSYNA (Coastal Observation System for Northern and Arctic Seas) is an operational coastal monitoring, forecasting and information system for the North Sea composed by fixed platforms, FerryBoxes, gliders and HF-radar systems. It is being developed by institutes of the German Marine Research Consortium (KDM) and collaborating institutions and is operated by the HZG Research Centre. The infrastructure represents an investment of 9 M €. It was build up since 2007 and is fully operational since 2012.

COSYNA_SFB is a Stationary FerryBox system, including self-cleaning features, installed in a container at the mouth of the Elbe River equipped with sensors T, C/S, turbidity, DO, pH, chlorophyll-a-fluorescence, CDOM fluorescence, nutrients (NOx, NO2, PO4, SiO2) and a cooled water sampler.

Web site address: http://www.cosyna.de

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Sampling	Frequency of data transmission
Salinometer	Temperature, conductivity, salinity	Surface (~5m)	10min	Real-time
Fluorometer	Chlorophyll-a fluorescence	"	"	"
AAnderaa Optode	Dissolved oxygen	"	"	"
pH sensor	pH	"	"	"
Turbimeter	Turbidity (FTU)	"	"	"
Nutrient Analyser	NO2, NOx, NH4, o-PO4, SiO2	"	"	"
Alkalinity (temporarily)	Total alkalinity	"	"	"

Modality of access

- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 120 UA=120 days. Users can apply for a maximum access duration of 120 days (120 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

All data from the COSYNA fixed station are delivered in real time to the COSYNA data server open to the public via free internet connection. Furthermore data are delivered in near-real-time to the NOOS portal, including data quality flags. The system have a remote access via mobile phone (in the harbour) and partly via satellite. A support team of technicians and scientists of HZG will prepare the instrumentation; service the instrumented container; support operations at sea; support in processing the data.

Special rules

To be verified with the facility provider.

1.1.8. MOLIT Buoy (MOLIT) – IFREMER

Infrastructure	Reseau Eulerien (RESEAU EULERIEN)	Ifremer
Installation	MOLIT Buoy (MOLIT)	
Location	Loire estuary, France, Atlantic Ocean	
Coordinates	47.46°N - 2.657°W	
Bottom depth	12-16 m (depending on tides)	
Organisation	Institut Francais de recherche pour l'exploitation de la mer (IFREMER)	
Country	France	
Contact	Michel Repecaud Ifremer REM/RDT/LDCM, Centre de Brest – CS 10070 29280 PLOUZANE - France Tel: +33 (0)2 98 22 41 76 Email: michel.repecaud@ifremer.fr	

Description

MOLIT is designed for in situ monitoring in large rivers, estuaries and coastal areas. It is used for since many years in the Loire estuary where a two level sampling, surface and 10 m depth, is performed with multiparameter measurements (T, DO, salinity, turbidity, fluorescence). Nevertheless, if needed, the MOLIT hydraulic system can perform sampling at 4 different levels. The whole hydraulic sampling system is protected from bio-fouling by an efficient seawater electrolysis scheme; this bio-fouling

protection can be used to protect the tested instruments. The data are available by a wireless communication system or can be stored on board.
Web site address: http://wwz.ifremer.fr/webtv/Thema/L-environnement/La-bouee-Molit

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Sampling	Frequency of data transmission
NKE MP6	Temperature, Dissolved O2, Salinity, Turbidity, Fluorescence	Surface and 10 m	30 min	12 hours

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): month.
Quantity of access available to JERICO-NEXT users: 3 UA=3 months.
Users can apply for a minimum access duration of 1 months (1 UA), or for 2 months (2 UA), or for the maximum duration of 3 months (3 UA).
Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

MOLIT is commonly used for demonstration of prototype instruments. For example, it has been used with the Ifremer nutriment analysers CHEMINI. In this situation the MOLIT platform has shown its ability to handle such situation. It is large enough to allow an easy access for 3 people at the same time. The tested instrument is placed in a cabin and then is protected from seawater splashes, from rain and from bird dropping. Additional batteries can be installed for specific energy demand. Remote instrument operation is possible and real time data access is implemented.
Technical assistance to adapt equipment to the platform and its deployment at sea will be provided by the Ifremer scientific and technical staff. Indeed, Ifremer is used to operate equipment on many fixed platforms like Marel coastal network and seabed observatories like Neptune Canada and Azores Momar. As well, technical laboratories are available for partners to test their equipment interfaces and drivers before deployment at sea and to perform final metrology check in a high-level marine metrology calibration lab with National Metrology accreditation (see METLAB in Chapter 2). Marine sensor biofouling expertise can be provided to the users.

Special rules

To be verified with the facility provider.

1.1.9. Weather and sea state observing system (GALATA) - IO-BAS

Infrastructure	Bulgarian National Operational Marine Observing System (NOMOS)	
Installation	Weather and sea state observing system (GALATA)	
Location	Varna, Bulgaria, Black Sea	
Coordinates	43.04462°N - 28.19319°E	
Bottom depth	34 m	
Organisation	Institute of Oceanology - Bulgarian Academy of Sciences (IO-BAS)	
Country	Bulgaria	
Contact	Atanas Palazov Institute of Oceanology-BAS Parvy mai Street 40, 9000, Varna, Bulgaria Tel: +359 897 868538 Email: palazov@io-bas.bg	

Description

NOMOS is a system designed to allow the real-time assessment of weather and marine conditions in the western part of Black Sea and to support sustainable development of the Bulgarian Black Sea coast and EEZ. It consists of several subsystems. The proposed NOMOS's installations for TNA are GALATA and POMOS.

GALATA is built on a fixed, unmanned, earth gas production platform, located in western part of the Black Sea on the Bulgarian shelf 26 km east from the city of Varna and aim to provide real time oceanographic data. The system collects data with minimum components to maximize the use of existing facilities: weather station, water temperature, conductivity, DO, chlorophyll and ADCP.

Web site address : www.bgodc.io-bas.bg

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
Vaisala WXT 520 Weather Transmitter	Wind speed and direction, temperature, humidity, atmospheric pressure	31 m	2 min	2 min
SonTek ADCP cable connected, model ARGONAUT XR-750kHz with SeaBird SM MicroCat	currents speed and direction , significant wave height, water temperature and salinity	34 m	20 min	20 min

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): month. **Quantity of access available to JERICO-NEXT users**: 2 UA=2 months. Users can apply for a minimum access duration of 1 months (1 UA) or for the maximum duration of 2 months (2 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

Real time access to data of all or selected installations and sensors and access to the installations to put in user sensors and instruments. The IO-BAS team will assist the users by

1) Support the user team by providing scientific and technical assistance during the setup of the equipment;
2) Organisation of the local handing and transport of the user team and equipment to the installations;
3) Perform a visit to the installations to verify the functional performance of the instruments during the period of trans-national access.

Special rules

Users will be allowed to visit the platform 2 times per month no more than 7 hours (depending on the weather conditions) per day.

1.1.10. Port Operational Marine Observing System (POMOS) - IO-BAS

Infrastructure	Bulgarian National Operational Marine Observing System (NOMOS)	
Installation	Port Operational Marine Observing System (POMOS)	
Location	Balchik, Bulgaria, Black Sea	
Coordinates	43.4042°N - 28.1653°E	
Bottom depth	3 m	
Organisation	Institute of Oceanology - Bulgarian Academy of Sciences (IO-BAS)	
Country	Bulgaria	
Contact	Atanas Palazov Institute of Oceanology-BAS Parvy mai Street 40, 9000, Varna, Bulgaria Tel: +359 897 868538 Email: palazov@io-bas.bg	

Description

NOMOS is a system designed to allow the real-time assessment of weather and marine conditions in the western part of Black Sea and to support sustainable development of the Bulgarian Black Sea coast and EEZ. It consists of several subsystems. The proposed NOMOS's installations for TNA are GALATA and POMOS.

POMOS is a network of distributed sensors and centralized data collecting, processing and distributing unit. It is designed to allow for the real-time assessment of weather, marine and environmental

conditions throughout the major Bulgarian ports, channels and bays. The parameters measured by POMOS are: wind speed and direction, temperature, humidity, atmospheric pressure, visibility, solar radiation, water temperature and salinity, sea level, current speed and direction and wave height.
Web site address : http://www.bgodc.io-bas.bg/ma/

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Sampling	Frequency of data transmission
Vaisala WXT 520 Weather Transmitter	Wind speed and direction, temperature, humidity, atmospheric pressure	3 m	2 min	2 min
SeaBird MicroCAT SBE 37-CM	Water temperature and salinity	2 m	2 min	2 min
Vaisala PWD 20	Visibility	3 m	2 min	2 min
Range Finder SM-094/10W	Sea level	1.5 m	2 min	2 min

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): month. **Quantity of access available to JERICO-NEXT users**: 2 UA=2 months. Users can apply for a minimum access duration of 1 months (1 UA) or for the maximum duration of 2 months (2 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

Real time access to data of all or selected installations and sensors and access to the installations to put in user sensors and instruments. The IO-BAS team will assist the users by

1) Support the user team by providing scientific and technical assistance during the setup of the equipment;
2) Organisation of the local handing and transport of the user team and equipment to the installations;
3) Perform a visit to the installations to verify the functional performance of the instruments during the period of trans-national access.

Special rules

To be verified with the facility provider.

1.1.11. Galway Bay Data Buoy (SMARTBUOY) - SBI

Infrastructure	Galway Bay Marine And Renewable Energies Test Site (GB MARETS)	SMARTBAY IRELAND
Installation	Galway Bay Data Buoy (SMARTBUOY)	
Location	Galway Bay, Ireland, Atlantic Ocean	
Coordinates	53.22762°N - 9.2611°W	
Bottom depth	23 m (Chart Datum)	
Organisation	SmartBay Ireland, Ltd. (SBI)	
Country	Ireland	
Contact	Rogério Chumbinho SmartBay Ireland, Ltd. Parkmore Business Park West, Galway, Ireland Tel:+353 (0)91 392903 Email: rogerio.chumbinho@smartbay.ie	

Description

SMARTBUOY is an autonomous data buoy used by SBI for testing environmental and meteorological sensors and to efficiently collect metocean time series. All data is transferred to SBI via a variety of wireless communication options and onto users through the SBI online data portal or specialized access. Different mooring designs are adaptable to any specific testing environment; the buoy allows for easy integration of sensors and instruments into the available power and data transmission facilities, with deployment in air, at the ocean surface or deeper in the water column.
The buoy is part of the Galway Bay Marine And Renewable Energies Test Site (GB MARETS), previously known as SmartBay Marine Test and Validation Facility (SMARTBAY TDS).
Web site address: www.smartbay.ie

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
Airmar	Wind velocity, air temperature, air pressure	Surface	Continuous	1 min
Triaxys	Wave characteristics (statistical and spectral)	Surface	Continuous	3 min
Vemco VR2C	Fish tag detector	Surface	Continuous	On detection event

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): month. **Quantity of access available to JERICO-NEXT users**: 2 UA=2 months.

Users can apply for a minimum access duration of 1 months (1 UA) or for the maximum duration of 2 months (2 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

The whole infrastructure for both SBI CPO and SMARTBUOY installations includes the following data services: acquisition, storage, normalisation, presentation and visualisation and data standardisation. The infrastructures are being used by several Irish research bodies, universities and companies in research and development projects. Testing and validation of novel devices or instruments will typically allow devices to move up TRLs 4 to 7.

In addition, SMARTBUOY currently offers: power and data communications to near surface or atmospheric devices; pre-deployment integration testing; dedicated operational team (bench testing, deployment, operations and maintenance, recovery of the sensor/equipment); data processing support; device deployment in a marine environment; real-time data transmission to shore.

Users of SMARTBUOY will be offered a high-quality, end-to-end service including:

1) Project specific ICT team for data acquisition and data transmission support;
2) Real-time data transmission and visualization through a dedicated and secure log-in via the SBI online data portal. All data transmitted and visualized via SBI is encrypted to ensure client data security. A SOS (OGC compliant) web service is also available for automatic data retrieval.

Special rules

SBI has been audited and accredited with ISO 9001, ISO 14001 and OHSAS 18001 standards compliance in December 2015. Therefore, each user of the observatory must adhere to SBI's Health, Safety, Environment and Quality procedures when using the observatory. The relevant procedures will be made available to users prior to any deployment or project implementation.

1.2. Coastal cabled observatories

1.2.1. Utö Atmospheric and Marine Research Station (Utö) - FMI

Infrastructure	Utö Atmospheric and Marine Research Station (Utö)	FINNISH METEOROLOGICAL INSTITUTE
Installation	Utö Atmospheric and Marine Research Station (Utö)	
Location	Utö Island, Archipelago Sea, Baltic Sea	
Coordinates	59.78039°N - 21.35361°E	
Bottom depth	23 m (possibility to go down to 80 m, if needed)	
Organisation	Finnish Meteorological Institute (FMI)	
Country	Finland	
Contact	Lauri Laakso Finnish Meteorological Institute Erik Palmenin Aukio 1, FI-00560 Helsinki Tel: +358-50-525 7488 Email: lauri.laakso@fmi.fi	

Description

Utö is one of the main observing sites of FMI. The Island can be reached 4 times a week by free public transport and has a hotel with conference facilities. Marine observations are mainly scientists-operated, with strong support from FMI observing services unit. Infrastructure includes the following observations:

- Surface waves and temperature; currents (-23 m … -0.5 m); temperature, salinity, turbidity, chlorophyll, O_2 (-5 m); Ice cover; pCO_2; sea-atmosphere CO_2-flux;
- Temperature, salinity, O_2, nutrient profiles (-80 m…0 m) during open sea period only;
- A continuous water flow from the sea (possible to install new instruments utilizing ~ 5 lpm sea water/instrument)
- Atmospheric CO_2- and CH_4-concentrations;

Meteorology: wind speed and direction, temperature, PAR, diffuse and global radiation, weather camera; atmospheric trace gases; physical, chemical and optical properties of aerosol particles.
Web site address: en.ilmatieteenlaitos.fi/uto

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Sampling	Frequency of data transmission
ADCP	Underwater flows and surface waves	23 m	Automatic	Online, 30 min
Flow-through system	Temperature, Salinity, pCO_2, chlorophyll, turbidity	sampling depth -5 m (analysers in a measurement cabin)	Automatic	Online, 1-5 minutes
Eddy-covariance fluxes	FCO_2	10 m a.m.s.l	Automatic	Online, 30 min (post-processing done once/year)
Inductive chain	Temperature, salinity, O_2	0-80 m	Automatic (during open sea period only)	Online
Atmospheric observations	CO_2, CH_4 concentrations	50 m above the sea	Automatic	Online

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 120 UA=120 days. Users can apply for a maximum duration of 120 days (120 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

The online-marine component of Utö measurement station is new, built only in 2013-14. However, diverse manual oceanographic and meteorological observations are available since 1889. The station at Utö has enough 3-phase electricity available. Data can be transmitted through permanent optical fibre or 3G connection.

Utö TNA offers possibilities to use data of the available sensors during the period of TNA, install additional sensors by users and gather water samples for instruments (technical, safety and security limitations allowing). For instruments requiring very limited maintenance, users may participate only in installing/uninstalling activities. FMI has a part-time technician at the site who can help in weekly maintenance 1-2 hours/week (TNA-users have to provide a detailed SOP describing the maintenance procedures).

Special rules

All (physical) visits to the installation will be done under guidance of FMI support team with a prior security screening by the Finnish Defence Forces.

1.2.2. Underwater Node Helgoland (COSYNA_UNH) - HZG & AWI

Infrastructure	Coastal Observing System for Northern and Arctic Seas (COSYNA)	Helmholtz-Zentrum Geesthacht Centre for Materials and Coastal Research AWI ALFRED-WEGENER-INSTITUT HELMHOLTZ-ZENTRUM FÜR POLAR- UND MEERESFORSCHUNG
Installation	Underwater Node Helgoland (COSYNA_UNH)	
Location	German Bight, North Sea	
Coordinates	54.193°N - 7.878°E	
Bottom depth	11 m	
Organisation	Helmholtz-Zentrum Geesthacht (HZG) & Alfred-Wegener-Institut (AWI)	
Country	Germany	
Contact	Prof. Dr. Philipp Fischer Alfred-Wegener-Institut, Helmholtz-Centre for Polar and marine Research, Centre for Scientific Diving Kurpromenade 207, 27498 Helgoland Tel: ++49 4725 640333 Email: philipp.fischer@awi.de	

Description

COSYNA (Coastal Observation System for Northern and Arctic Seas) is an operational coastal monitoring, forecasting and information system for the North Sea composed by fixed platforms, FerryBoxes, gliders and HF-radar systems. It is being developed by institutes of the German Marine Research Consortium (KDM) and collaborating institutions and is operated by the HZG Research Centre. The infrastructure represents an investment of 9 M €. It was build up since 2007 and is fully operational since 2012.

COSYNA_UNH is a cabled underwater observatory operated by AWI together with HZG since 2012 and is providing power, network connection and server support for the permanent operation of in situ sensor systems. The node system has 10 underwater pluggable access points (for network (100 Mbit/ 1Gbit) and power (48V / 2.5 Amp) and is equipped with a standard sensor carrier with an ADCP) and a CTD plus Chl-a fluorescence, oxygen and turbidity sensors for basic oceanographic measurements. The 10 access points are fully remotely controlled. The user gets a “virtual computer” on the COSYNA server on which she/he can log in via remote access software and install own programs to control her/his sensor.

Web site address: http://www.cosyna.de

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Sampling	Frequency of data transmission
CTD	Pressure/depth, Temperature, Conductivity/Salinity, Oxygen, pH, Turbidity, Chl-A	10 m	1 Hz	Real time
ADCP	Current	10 m	5 min	Real time

Modality of access

- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): 14 days. **Quantity of access available to JERICO-NEXT users**: 4 UA=4 periods of 14 days each.

Users can apply for a minimum access duration of 14 days (1 UA), for the maximum duration of 56 days (4 UA), or for intermediate access duration (n UA, n=2,3, corresponding to 28 and 42 days, respectively). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users.

Service & support

The applicant can attach his/her own sensor and has full remote access.

Installation will be supported by a team of technicians and scientists of AWI/HZG for preparing the instrumentation; service the instrumented node, support diving for installation and recovering of the sensors at the end and process the data. A "virtual computer" is also provided to the user for full access to the instruments installed underwater.

Special rules

Data storage for own sensors is only temporally restricted. The owner of a sensor has to ensure, that the data are well stored.

1.2.3. Underwater Node Spitzbergen (AWIPEV_UNS) - HZG & AWI

Infrastructure	Coastal Observing System for Northern and Arctic Seas (COSYNA)	Helmholtz-Zentrum Geesthacht Centre for Materials and Coastal Research AWI ALFRED-WEGENER-INSTITUT HELMHOLTZ-ZENTRUM FÜR POLAR- UND MEERESFORSCHUNG
Installation	Underwater Node Spitzbergen (AWIPEV_UNS)	
Location	Kongsfjord (Ny Ålesund), North Sea	
Coordinates	78.93055°N - 11.919283°E	
Bottom depth	11 – 0 m (vertical profiling upon request)	
Organisation	Helmholtz-Zentrum Geesthacht (HZG) & Alfred-Wegener-Institut (AWI)	
Country	Germany	
Contact	Prof. Dr. Philipp Fischer Alfred-Wegener-Institut, Helmholtz-Centre for Polar and marine Research, Centre for Scientific Diving Kurpromenade 207, 27498 Helgoland Tel: +49 4725 640333 Email: philipp.fischer@awi.de	

Description

COSYNA (Coastal Observation System for Northern and Arctic Seas) is an operational coastal monitoring, forecasting and information system for the North Sea composed by fixed platforms,

FerryBoxes, gliders and HF-radar systems. It is being developed by institutes of the German Marine Research Consortium (KDM) and collaborating institutions and is operated by the HZG Research Centre. The infrastructure represents an investment of 9 M €. It was build up since 2007 and is fully operational since 2012.
AWIPEV_UNS is designed as an experimental platform project between the HZG and the AWI to host sensors and sensor units in a polar fjord system. The system provides underwater data connection and power as well as a server infrastructure for system and sensor control. Attached is an upward looking ADCP and a CTD plus sensors for turbidity, oxygen, chl-a fluorescence.
Web site address: http://www.cosyna.de

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Sampling	Frequency of data transmission
CTD	Pressure/depth, Temperature, Conductivity/Salinity, Oxygen, pH, Turbidity, Chl-A	0 - 10 m	1 Hz	Real time
ADCP	Current	0 - 10 m	5 min	Real time

Modality of access

- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): 14 days. **Quantity of access available to JERICO-NEXT users**: 2 UA=2 periods of 14 days each.
Users can apply for a minimum access duration of 14 days (1 UA) or for the maximum duration of 28 days (2 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users.

Service & support

The system is additionally equipped with a FerryBox system retrieving the same parameters from a fixed inlet at 11 m water depth.
The applicant can attach his/her own sensor either in the FerryBox, *in situ* to the base station of the under water part of the observatory or to the underwater profiling unit. The user will have full access at all three sensor carriers.
Installation will be supported by a team of technicians and scientists of AWI/HZG for preparing the instrumentation; service the instrumented node, support diving for installation and recovering of the sensors at the end and process the data. A "virtual computer" is also provided to the user for full access to the instruments installed underwater.

Special rules

Data storage for own sensors is only temporally restricted. The owner of a sensor has to ensure, that the data are well stored.

1.2.4. Coastal-cabled observatory EMSO-Molène (MOLENE) - IFREMER

Infrastructure	Reseau Eulerien (RESEAU EULERIEN)	
Installation	Coastal-cabled observatory EMSO-Molène (MOLENE)	
Location	Molène Island, France, Atlantic Ocean	
Coordinates	48.401°N – 04.933°W	
Bottom depth	18 m	
Organisation	Institut Francais de recherche pour l'exploitation de la mer (IFREMER)	
Country	France	
Contact	Nadine Lantéri Ifremer REM/RDT/I2M Centre de Brest – CS 10070, 29280 Plouzane - France Tel: +33 (0)2 98 22 46 45 Email: nadine.lanteri@ifremer.fr	

Description

The seabed cabled observatory EMSO-Molène was deployed off shore 2 km north of Molène in the marine protected area “Iroise Marine Park”. MOLENE is an EMSO testing site at depth 18 meters, dedicated to sensors and equipment *in-situ* and long-term qualification. The instrumental module is a removable device that includes the electronic core of the observatory: the “Node” and the “Junction Box”. The Node inputs an optical signal and converts it into electrical. On the node output, the Junction Box relays instructions, collects data, protects the equipment in case of electrical malfunction and provides failure warnings. Remote control of the instruments and data recovery. Network throughput: 1 Gbit/s between the sensors and the relay station, restricted between the island and Brest. A land-based server transmits data to the subscriber. Data time stamping: GPS clock, NTP/PTP Network, Network Attached Storage. Available for the instruments: 6 identical inputs (Subconn MCBH12M, Micro Bulkhead, 12 contacts), voltage: 15V and 48V, power supplied for the 6 connections: 75 W under 15V and 75W under 48V. Seawater physico-chemical measurements are performed by the platforms on the site (high frequency sampling).
Web site address: http://www.emso-fr.org/EMSO-Molene

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
Video camera	Video	18 m	Video in running natural light permissing A 2 minute clip is recorded every hour.	Video streaming available in low definition HD clips are recovered during maintenance
ADCP	Temperature, pressure, current Wave height, on request	18 m	6 minutes	Every day
Hydrophone	Subwater sound	18 m	This sensor was temporarilly removed at the end of 2015	Processed data transmitted in real time Full data is recovered during maintenance
Seabird SBE37SIP (*)	CTD	18 m	5 minutes	Real Time
FLNTURDT WETlab (*)	Fluorescence and Turbidity	18 m	5 minutes	Real Time
O2 optode 4330 AADI (*)	Dissolved Oxygen	18 m	5 minutes	Real Time

The sampling rates, the transmission frequency and the duration of the video clips can be set and modified during deployment to fit user requirement. The maintenance is scheduled 3 to 4 times a year but additional operations can be added on request.
(*) This sensors will be deployed in spring 2016

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): month. **Quantity of access available to JERICO-NEXT users**: 3 UA=3 months. Users can apply for a minimum access duration of 1 months (1 UA), for intermediate access duration of 2 months (2 UA) or for the maximum duration of 3 months (3 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

MOLENE operates all year long and sensors are swapped from twice to four times a year. Technical staff and divers perform marine operations. At the moment, the observatory is equipped with a camera, an ADCP, a hydrophone. A Seabird SBE37SIP, an FLNTURTD WETlab and an O2 Optode 4330 AADI are going to be deployed in spring 2016.

Technical assistance to adapt equipment to the platform and its deployment at sea will be provided by the Ifremer scientific and technical staff. Indeed, Ifremer is used to operate equipment on many fixed platforms like Marel coastal network and seabed observatories like Ocean Network Canada (Neptune) and Emso-Azores (MOMARsat cruises). As well, technical laboratories are available for partners to test their equipment interfaces and drivers before deployment at sea and to perform final metrology check in a high-level marine metrology calibration lab with National Metrology accreditation (see METLAB in Chapter 2). Marine sensor biofouling expertise can be provided to the users.

Special rules

To be verified with the facility provider.

1.2.5. LoVe cable based observatory (CABLE) - IMR

Infrastructure	IMR COAST	INSTITUTE OF MARINE RESEARCH HAVFORSKNINGSINSTITUTTET
Installation	LoVe cable based observatory (CABLE)	
Location	Norwegian Sea	
Coordinates	68.9079°N - 14.38575°E	
Bottom depth	258 m	
Organisation	Institute of Marine Research (IMR)	
Country	Norway	
Contact	Olav Rune Godoe IMR, Nordnesgate 50, 5005 Bergen, Norway Tel: +47 404 37 671 Email: olav.rune.godoe@imr.no	

Description

CABLE is an infrastructure with a suite of physical biological and chemical sensors that involves and impacts several scientific fields and is expected to stimulate innovation and new research. The main driver is the capability of real time monitoring and the possibility to act in accordance with observations. Coupled information is a requirement in most research that aims at understanding function and dynamics of the marine environment and associated marine life as well as assessing impacts due human activity. Cable and node of the Cabled based observatory were launched in spring 2013.
Web site address: http://love.statoil.com/

Instruments/Sensors

Instrument	Brand	Type	Spec
Still Camera	METAS	**DSF5210**	**Size :** Ø220 x 336 mm (D x h) **Material :** Titanium GR2/Carbonfiber **Sealing:** Dual, Radial and Axial **Depth rating:** 150 Bar **Weight in air:** 12,2 kg **Weight in water:** - 0,6 kg **Camera module:** Canon EOS 550 **High-sensitivity:** 18 Megapixel CCD **ISO:** 80 - 6400 **Lense**: 18-55 mm wide-angle zoom lens. f: 3,5 – 5,6 **Mission plan:** Setup via Web interface. **Memory Card:** 16 GB memory card (SD) for internal rec. **Downloading pictures:** USB interface for **Image recording:** RAW or jpeg
Camera Flash	METAS	**DSF4365**	**Size** : 120 x 275mm (d x h) **Material :** Titanium GR2/Carbon fiber **Sealing:** Dual, Radial and Axial **Depth rate:** 150 Bar **Interface:** Camera trigger cable **Connector:** MB2-8 **Max guide number:** 58 (at ISO 100, 105 mm zoom setting) **Maximum view angle:** 14 mm **Flash mode:** manual or E-TTL
Hydrophone:	Ocean Sonic	**SB35 ETH**	**Frequency range:** 10 Hz – 200 kHz **Peak measured signal:** 175 dB re.1µPa **Noise:** 30 dB re. 1 µPa²/Hz at 10 kHz **Sensitivity:** -171 dBV re. 1 µPa with pre-amp **Material:** Titanium GR2

Instrument	Brand	Type	Spec
Scientific Sounder:	Simrad	**EK60**	**Frequency:** 70 kHz Splitbeam **Pulse length:** 64 -2.048 µs **TX Power:** 100 – 1.000W
Sounder Transducers	Simrad	**ES70-CD**	**Transducer:** Composit **Frequency:** 70 kHz Splitbeam **Transducer beam:** 7,0° **Side lobes:** < -23 dB **TX response:** 185 dB re 1µPa per V **RX Sensitivity:** -190 dB re 1V per µPa **Depth rate**: 1.500 meters
ADCP Long Range:	Nortek	**Continental**	**Frequency:** 193,5 kHz **Beams:** 3 beams, slanted at 25° **Beam with:** 3,0° **Max profiling range:** 30 – 40 m **Cell size:** 1-4 mm **Max # of cells:** 128 **Accuracy:** 1% of measured value **Velocity resolution:** 0,1 cm/s
ADCP short range:	Nortek	**Aquadop**	**Frequency:** 0,6 MHz **Beams:** 3 beams, slanted at 25° **Beam with:** 3,0° **Max profiling range:** 30 - 40 m **Cell size:** 1 – 4 m **Max # of cells:** 128 **Accuracy:** 1% of measured value ± 0,5 cm/s

Modality of access

- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 100 UA=100 days. Users can apply for a maximum access duration of 100 days (100 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users.

Service & support

The Cabled observatory is providing near real time biogeochemical data from the Lofoten Vesterålen area for use in science and society.
The IMR infrastructure is under continuous supervision of the technical and scientific team at IMR. The team will provide assistance to users during installation of new instruments and during basic maintenance, and support and advice for the conduction of user projects.

Special rules

The users have to follow the safety regulations as they are applied in the infrastructure.

1.2.6. SmartBay Cabled Observatory (CPO) – SBI

Infrastructure	Galway Bay Marine And Renewable Energies Test Site (GB MARETS)
Installation	Galway Bay Cabled Observatory (CPO)
Location	Galway Bay, Ireland, Atlantic Ocean
Coordinates	53.22733°N - 9.26629°W
Bottom depth	23 m (Chart Datum)
Organisation	SmartBay Ireland, Ltd. (SBI)
Country	Ireland
Contact	Rogério Chumbinho SmartBay Ireland, Ltd., Parkmore Business Park West, Galway, Ireland Tel: +353 (0)91 392903 Email: rogerio.chumbinho@smartbay.ie

Description

CPO is a cabled underwater observatory, operational since August 2015 in the ocean energy test site in Galway Bay (Galway Bay Marine And Renewable Energies Test Site - GB MARETS, previously known as SmartBay Marine Test and Validation Facility - SMARTBAY TDS). The observatory includes a fibre optic data and power cable, a sub-sea sensor hosting platform (node) and a floating sea laboratory (SeaStation) which will be used to connect to energy conversion devices being tested at the 1/4 scale ocean energy test site. This set of equipment is being made available for projects requiring power and data connections for instrumentation underwater or at the surface. The sub-sea sensor hosting platform includes interfaces (ports) capable of providing electrical power and 2-way optical or

electrical (Serial or Ethernet) high speed communications to scientific instruments from R&D projects or sensor developers; the platform includes a set of permanently deployed instruments (CTD, DO2, Turb./Fluor., ADCP, HDTV, hydrophone, acoustic array).
Web site address: www.smartbay.ie

Instruments/Sensors

The following table contains the distribution of DC voltages and communications protocols per science port in the underwater node:

Item	Quantity	Voltage DC	Comms	Equipment	Available
A	4	400 (1.2 kW)	Optical	1 x SeaStation, 1 x Acoustic Array	2
B	2	24 (75 W)	Ethernet	-	2
C	2	15 (75 W)	Ethernet	-	2
D	1	12 (75 W)	Ethernet	-	1
E	4	15 (75 W)	Serial	2 x [CTD, DO2, Turb/Fluor]	2
F	2	12 (75 W)	Serial	-	2
G	2	48 (600 W)	Serial	1 x ADCP	1
H	1	24 (75 W)	Coaxial	1 x HDTV	0
I	4	24 (75 W)	Serial	2 x lights	2

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
Acoustic Array	Sound pressure levels	23 m depth	Continuous	Real time
CTD Idronaut	T, S, pressure	23 m depth	Continuous	Real time
Eco FL WetLabs	Turbidity Fluorometry	23 m depth	Continuous	Real time
ADCP Teledyne RDI Workhorse Monitor	Current	23 m, sampling the entire water column above	30 s	Real time
HDTV Kongsberg PTZ	Image in visible wavelengths	23 m depth	Continuous	Real time

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): month. **Quantity of access available to JERICO-NEXT users**: 2 UA=2 months. Users can apply for a minimum access duration of 1 months (1 UA) or for the maximum duration of 2 months (2 UA). Access duration corresponds to the period of installing, operating and un-installing a

measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

The whole infrastructure for both SBI CPO and SMARTBUOY installations includes the following data services: acquisition, storage, normalisation, presentation and visualisation and data standardisation. The infrastructures are being used by several Irish research bodies, universities and companies in research and development projects. Testing and validation of novel devices or instruments typically allow devices to move up TRLs 4 to 7.

In addition, CPO offers the following services: Power and data link to subsea instruments and sensors; environment with high power and high-speed data transmission capabilities; access to a floating sea laboratory (SeaStation) connected to the subsea observatory; testing and development of ocean energy device components in a 'real world' environment; support to surface or underwater marine research.

Users of the CPO will be offered a high-quality, end-to-end service including:

1) Pre-deployment testing on a dedicated, custom-built test rig to simulate subsea CPO conditions;
2) Dedicated operational team providing bench testing, deployment, operations and maintenance, recovery of the sensor/equipment;
3) Project specific ICT team for data acquisition and data transmission support;
4) Any deployment at the CPO will have access to the observatory's or databuoy's power, data acquisition and data transmission systems;
5) Real-time data transmission and visualization through a dedicated and secure log-in via the SBI online data portal. All data transmitted and visualized via SBI is encrypted to ensure client data security. A SOS (OGC compliant) web service is also available for automatic data retrieval.

Special rules

SBI has been audited and accredited with ISO 9001, ISO 14001 and OHSAS 18001 standards compliance in December 2015. Therefore, each user of the observatory must adhere to SBI's Health, Safety, Environment and Quality procedures when using the observatory. The relevant procedures will be made available to users prior to any deployment or project implementation

1.2.7. *Expandable Seafloor Observatory (OBSEA) – UPC*

Infrastructure	Expandable Seafloor Observatory (OBSEA)	UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH
Installation	Expandable Seafloor Observatory (OBSEA)	
Location	Barcelona, Catalan Coast (Spain), Western Mediterranean	
Coordinates	41.1819°N - 1.7524°E	
Bottom depth	20 m	
Organisation	Polytechnic University of Catalonia (UPC)	
Country	Spain	
Contact	Dr. Joaquín del Río Fernández Polytechnic University of Catalonia (UPC), Rambla Exposición 24 Tel:+34 609926966 Email: Joaquin.del.rio@upc.edu	

Description

OBSEA is an underwater cabled observatory connected with 4 km of cable to the coast of Vilanova i la Geltrú (Barcelona, Spain) and placed at a depth of 20m in a fishing protected area. Operations are done by scuba divers and small boats. A surface buoy located at 40m from the underwater unit is an extension of OBSEA working as surface platform for measuring oceanographic and environmental parameters. A Shore Station provides power (3.6kW) to feed all the devices and the fiber optic link (1Gbps) to establish communications. At the same time from land we manage alarms and data storage. With a length of 1000 meters the terrestrial cable connects the Ground Station to the Beach Manhole where the submarine cable begins its route to the node location at 4 km from the coast and 20 m depth. OBSEA has nowadays two junction boxes with a total of 16 underwater webmate connectors.
Web site address: www.obsea.es
Social Network: https://www.facebook.com/groups/123434677696140/?fref=ts

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Sampling	Frequency of data transmission
CTD	T, S, Depth, Conductivity, Sound Velocity	20 m	10 sec	Real Time
AWAC	Currents and waves	20 m	1 min	Real Time
Hydrophone	Acoustic pressure	20 m	96 kSps	Real Time
Underwater VideoCameras	images	20 m	10 fps	Real Time
Seismometer	Seadbed vibrations	20 m	256 Sps	Real Time
Meteo Station	T, Hr, P, wind	0	10 sec	Real Time
Surface Camera	Images	0	10fps	Real Time
pH and pCO2 (early 2016)		0	soon	Real Time

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period)
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 210 UA=210 days.
Users can apply for a maximum duration of 210 days (201 UA), or for shorter access duration. Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (in person/hands-on and partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

The infrastructure offers power, communications and synchronization to instruments or systems to be deployed in the area. In addition offers the data of permanent instruments, like: CTD, Hydrophone, Seismometer, Video Camera, AWAC, Meteo Station. Quality controlled data available in real time. Data from CTDs and Meteorological buoy are available in real time through as OGC SOS, IEEE 1451 and .csv or .txt files. Hourly data average with QC/QA are available in .csv and netCDF format. The Data can be accessed in EMODnet Physics, OGC SOS, IEEE 1451, and RAW data in .csv, .txt format through OBSEA web page and FTP server.
Biological assessment of species trough real time video cameras and cabled observatories is being carried out at Obsea. Permanent seismometers offer seismic data to regional (Catalan) and national (Spanish) seismic networks. Current meters data (AWAC) are being used to study coastal dynamics.
UPC staff offers technical support for instrument deployment planning, interfacing with observatory, and access to real time instrument data after deployment. Quality control of data is offered. Logistics: ship and scuba divers for instrument deployment.

Special rules

To be verified with the facility provider.

1.3. Ferryboxes

1.3.1. Poseidon Ferrybox (PFB) – HCMR

Infrastructure	POSEIDON Monitoring, Forecasting and Information System for the Greek Seas (POSEIDON)
Installation	Poseidon Ferrybox (PFB)
Location	Heraklion, Crete, Mediterranean Sea
Route	Heraklion - Piraeus
Organisation	Hellenic Centre for Marine Research (HCMR)
Country	Greece
Contact	George Petihakis Hellenic Centre for Marine Research, Institute of Oceanography Thalassocosmos, Gournes Pediados, P.O. Box 2214, Heraklion Crete GR 71 003 Greece Tel: +30 2810 337755 Fax: +30 2810 337822 GSM: +30 6977 916206 E-mail: gpetihakis@hcmr.gr, gpetihakis@gmail.com

Description

POSEIDON is an operational marine monitoring, forecasting and information system for the Greek Seas. The observing component is a distributed infrastructure made by three coastal buoys (Saronikos buoy-SB, Heraklion Coastal Buoy-HCB and Athos buoy-AB) and one Ferrybox (PFB). A calibration laboratory) is supporting the observing activities.
The Ferrybox is installed on board H/S/F "Knossos Palace" and is equipped with sensors measuring T, C/S, DO, pH, fluorescence and turbidity. It is the only Ferry Box in the Mediterranean operating daily along the route Heraklion – Piraeus.
Web site address: http://www.poseidon.hcmr.gr

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Sampling	Frequency of data transmission
SBE 45 MicroTSG Thermosalinograph	Temperature/Conductivity	Surface	1 min	Daily
Scufa II Turner	Fluorescence /Turbidity	Surface	1 min	Daily
Aandera optode 3835	Dissolved Oxygen	Surface	1 min	Daily
Meinsberg electrode	pH	Surface	1 min	Daily

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): month. **Quantity of access available to JERICO-NEXT users**: 12 UA=12 months.

Users can apply for a minimum access duration of 1 months (1 UA), for the maximum duration of 12 months (12 UA), or for intermediate access duration (n UA, n=2,…,11). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

POSEIDON is both a geographically and scientifically distributed infrastructure in Greek seas offering end-to-end services both to science and to society. Complementary nodes both in off shore and coastal environments integrated into a unique system. From these nodes, the Coastal platforms, SB, HCB, AB and the FerryBox are open for access to users to host sensors for recording a number of parameters that do not belong to the main POSEIDON portfolio. The nodes have been designed to support the open access to different types of sensors by providing also their data in real time in most of the cases. The access is offered for one of the nodes of the network or for any combination of different nodes. The Poseidon FerryBox system, PFB, can be accessed daily all year round with only exception the period (1 week) when the hosting ship is under the annual maintenance.

Special rules

The scientific and technical personnel of POSEIDON will carry out all operations, while training courses will be given on both hardware and software. In case of integration of new sensors into the system, the user will have to provide the software and hardware adaptations required.

1.3.2. Cosyna FerryBox (COSYNA_FB) – HZG

Infrastructure	Coastal Observing System for Northern and Arctic Seas (COSYNA)	Helmholtz-Zentrum Geesthacht Centre for Materials and Coastal Research
Installation	COSYNA FerryBox (COSYNA_FB)	
Location	From the English coast to Germany and Skagerrak, Southern North Sea	
Routes	Southern North Sea with different ports	
Organisation	Helmholtz-Zentrum Geesthacht (HZG)	
Country	Germany	
Contact	Wilhelm Petersen Helmholtz-Zentrum Geesthacht GmbH, Institute of Coastal Research Max-Planck-Str. 1, 21502 Geesthacht, GERMANY Tel: +49 4152 872358 Email: wilhelm.petersen@hzg.de	

Description

COSYNA (Coastal Observation System for Northern and Arctic Seas) is an operational coastal monitoring, forecasting and information system for the North Sea composed by fixed platforms, FerryBoxes, gliders and HF-radar systems. It is being developed by institutes of the German Marine Research Consortium (KDM) and collaborating institutions and is operated by the HZG Research

Centre. The infrastructure represents an investment of 9 M €. It was build up since 2007 and is fully operational since 2012.
COSYNA_FB is one of three FerryBox systems on different routes in the southern North Sea equipped with sensors T, C/S, turbidity, DO, pCO2, pH, chlorophyll-a-fluorescence, partly nutrients (NOx, NO2, PO4, SiO2) and a cooled water sampler. The first vessel is a ferry (FunnyGirl) and operates between Büsum and the island Helgoland from April to October on a daily basis, the second vessel (Hafnia Seaways) goes from Cuxhaven (DE) to Immingham (GB) ~6times/week year-round and the third vessel (Lysbris) cruises between Halden (NO), Zeebrugge (BL), Immingham (GB) and Moss (NO) year-round.
Web site address: http://www.cosyna.de

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
Salinometer	Temperature, conductivity, salinity	Surface (~5 m)	20 s	After each cruise
Fluorometer	Chlorophyll-a fluorescence	"	"	"
Aanderaa Optode	Dissolved oxygen	"	"	"
pH sensor	pH	"	"	"
pCO2 Sensor	pCO2	"	"	"
Turbimeter	Turbidity (FTU)	"	"	"
Nutrient Analyser (partly)	NO2, NOx, NH4, o-PO4, SiO2	"	"	"
Alkalinity (partly)	Total alkalinity	"	"	"

Modality of access

- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 120 UA=120 days.
Users can apply for a maximum access duration of 120 days (120 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (partially remote access) or in his/her behalf by the access provider (remote access).
HZG provides access to one of the three FerryBox systems installed on the vessels FunnyGirl, Hafnia Seaways and Lysbris.

Service & support

All data from the COSYNA nodes are delivered real- or near-real time to the COSYNA data server open to the public via free internet connection. Furthermore, all underway FB data are delivered in near-real-time to the NOOS portal, including data quality flags. All systems have a remote access via mobile phone (in the harbour) and partly via satellite. A support team of technicians and scientists of HZG will prepare the instrumentation; service the instrumented ferry; support operations at sea; support in processing the data.

Special rules

To be verified with the facility provider.

1.3.3. Ferrybox system on MV Vesterålen (FERRY) – IMR

Infrastructure	IMR COAST
Installation	Ferrybox system installed on the coastal steamer MV Vesterålen (FERRY)
Location	Norwegian Sea
Route	From Bergen (60.39° N - 5.31° E) to Kirkenes (70.36° N - 31.15° E)
Organisation	Institute of Marine Research (IMR)
Country	Norway
Contact	Terje Hovland IMR, Nordnesgaten 50, 5005 Bergen Tel:+47 997 01 003 Email: terje.hovland@imr.no

Description

FERRY is installed on the coastal steamer MV Vesterålen measuring T, S, Chlorophyll fluorescence and oxygen permanently as well as 30 individual samples are taken on all roundtrips from Bergen-Kirkenes and back. This roundtrip is repeated every 11 days throughout the year.
Web site address: http://www.imr.no/termograf/

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
Seabird SBE 38	Temperature	5 m	1 min	Daily
Seabird SBE 38	Salinity	5 m	1 min	Daily
Seapoint Chlorophyll Fluorometer	Chl fluo	5 m	1 min	Daily
Aanderaa optrode	Oxygen	5 m	1 min	Daily

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 100 UA=100 days.
Users can apply for a maximum access duration of 100 days (100 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system of the users by the access provider in his/her behalf.

Service & support

IMR Coast is providing services along the Norwegian coast. FERRY is providing frequent data on a transect along the whole coast. These measurements are conducted since the 1930´s enabling climate change studies through the long term application or providing validation data for the applied numerical models along the coast.
The IMR infrastructure is under continuous supervision of the technical and scientific team at IMR. The team will provide assistance to users during installation of new instruments and during basic maintenance, and support and advice for the conduction of user projects.

Special rules

The users have to follow the safety regulations as they are applied in the infrastructure.

1.3.4. Ferrybox system on MS Color Fantasy (FA) – NIVA

Infrastructure	Norwegian Ferrybox systems (NorFerry)	NIVA Norwegian Institute for Water Research
Installation	MS Color Fantasy (FA)	
Location	S Baltic Sea and North Sea	
Route	From Kiel (54.33°N - 10.15°E) to Oslo (59.91°N - 10.71°E)	
Organisation	Norwegian Institute for Water Research (NIVA)	
Country	Norway	
Contact	Kai Sørensen Norwegian Institute for Water Research Gaustadalleen 21, 0349 Oslo, Norway Tel: +47 22185100, Mobile +47 90732129 Email: kai.sorensen@niva.no	

Description

The NorFerry infrastructure started back in 2001 and covers a network of 5 Ferrybox-systems in the Baltic, North Sea, Atlantic Sea and Arctic areas. Two of them are offered to TNA.
FA is installed on a ferry. The system has the core sensor with thermosalinograph, inlet temperature sensor, oxygen, Chl-a fluorescence, turbidity and system for water sampling. FA has also the additional fluorescence sensor of PAH, Pycocyanin and cDOM and passive sampling unit for contaminants. FA has spectrophotometric pH and a membrane based solid state detector pCO2 system, and radiometers for marine reflectance of the sea surface. Data are transferred daily via internet communication to a NIVA database as part of the CMEMS. The infrastructure is used for physical, pelagic biodiversity, chemical (contaminants) and biogeochemical (marine acidification) studies.
Web site address: www.ferrybox.no

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
Thermosalinograph	Temperature and salinity	4 m	1 minute	Daily
Inlet temperature sensor	Temperature	4 m	1 minute	Daily
Optode	Oxygen	4 m	1 minute	Daily
Optical sensor packages	Chl-a fluor., PC-fluor., cDOM-fluor. PAH-fluor	4 m	1 minute	
Particles	Turbidity	4 m	1 minute	Daily
pH-sensor	pH	4 m	5 minutes	Daily
pCO2-sensor	pCO2	4 m	1 minute	Daily
Light sensors	Radiance and irradiance	35 m above surface	30 second	Daily
Water sampler	Water samples	4 m	On demand	
Passive sampler	Contaminants	4 m	On demand	

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period).

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 120 UA=120 days.
Users can apply for a maximum access duration of 120 days (120 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (In person/hands-on access) or in his/her behalf by the access provider (remote access). A typical access duration can be from a short 2.5 days trip between Oslo and Kiel or a combination of more trips like a week (e.g from Oslo on Monday and back in Oslo on Friday).

Service & support

Dedicated NIVA persons are available in Oslo to cover the Ferrybox FA. The visiting researcher will be in direct contact with NIVA researcher and with supporting technical staff. Preparations of tests and sensors are possible in advance at NIVA premises or onboard since workshops can be made available. NIVA chemical and biological laboratories are also available for calibration purposes.

Special rules

Visits onboard must be followed by a NIVA person.

1.3.5. *Ferrybox system on MS Trollfjord (TF) – NIVA*

Infrastructure	Norwegian Ferrybox systems (NorFerry)	
Installation	MS Trollfjord (TF)	
Location	N Atlantic and Barents Sea	
Route	From Bergen (60.39°N; 5.32°E) to Kirkenes (69.74°N; 30.05°E)	
Organisation	Norwegian Institute for Water Research (NIVA)	
Country	Norway	
Contact	Kai Sørensen Norwegian Institute for Water Research Gaustadalleen 21, 0349 Oslo, Norway Tel: +47 22185100, Mobile +47 90732129 Email: kai.sorensen@niva.no	

Description

The NorFerry infrastructure started back in 2001 and covers a network of 5 Ferrybox-systems in the Baltic, North Sea, Atlantic Sea and Arctic areas. Two of them are offered to TNA.
TF is installed on a coastal steamer. The system has the core sensor with thermosalinograph, inlet temperature sensor, oxygen, Chl-a fluorescence, cDOM fluorescence, turbidity and system for water sampling. It has spectrophotometric pH and a membrane based solid state detector pCO2 system, and radiometers for marine reflectance of the sea surface. Data are transferred daily via internet communication to a NIVA database as part of the CMEMS. The infrastructure is used for physical, pelagic biodiversity, chemical (contaminants) and biogeochemical (marine acidification) studies.
Web site address: www.ferrybox.no

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Sampling	Frequency of data transmission
Thermosalinograph	Temperature and salinity	4 m	1 minute	Daily
Inlet temperature sensor	Temperature	4 m	1 minute	Daily
Optode	Oxygen	4 m	1 minute	Daily
Optical sensor packages	Chl-a fluor., cDOM-fluor.	4 m	1 minute	
Particles	Turbidity	4 m	1 minute	Daily
pH-sensor	pH	4 m	5 minutes	Daily
pCO2-sensor	pCO2	4 m	1 minute	Daily
Light sensors	Radiance and irradiance	30 m above surface	30 second	Daily
Water sampler	Water samples	4 m	On demand	

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 120 UA=120 days. Users can apply for a maximum access duration of 120 days (120 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (In person/hands-on access) or in his/her behalf by the access provider (remote access). A typical access duration can be from a few days between some of the 35 harbours along the route or the 5 (one way) or 11 days (return trip) along the Norwegian coast.

Service & support

Dedicated NIVA persons are available in Bergen to cover the Ferrybox TF. The visiting researcher will be in direct contact with NIVA researcher and with supporting technical staff. Preparations of tests and sensors are possible in advance at NIVA premises or onboard since workshops can be made available. NIVA chemical and biological laboratories are also available for calibration purposes.

Special rules

Visits onboard must be followed by a NIVA person.

1.3.6. Ferrybox system on MS Finnmaid (FINNMAID) – SYKE

Infrastructure	Marine Research Centre, Ferrybox network in the Baltic Sea (SYKE-ALG@LINE)	SYKE
Installation	Ferrybox at m/s Finnmaid (FINNMAID)	
Location	Helsinki – Travemünde – Baltic Sea	
Route	Helsinki - Travemünde	
Organisation	Finnish Environment Institute (SYKE)	
Country	Finland	
Contact	Jukka Seppälä Finnish Environment Institute Erik Palmenin Aukio 1, 00560 Helsinki, Finland Tel: +358 295 251 631 Email: jukka.seppala@ymparisto.fi	

Description

SYKE Alg@line project in the Baltic Sea monitors the state of the sea and detects algal blooms. Several millions of data points are collected annually from the Baltic Sea, using a fleet of 5-7 ferries. Two best equipped ferries offered in TNA are m/s Silja Serenade, which travels daily between Helsinki and Stockholm (Sweden) and m/s Finnmaid, which travels approx. twice a week from Helsinki to Travemünde (Germany) and back. Both ferries are equipped with flow-through system with thermosalinograph, chlorohyll, phycocyanin and CDOM fluorometers, turbiditymeter and refrigerated

sampling unit providing discrete water samples for laboratory analyses (e.g. microscopy, flowCAM, nutrients, optical analysis, experimental work). Additional sensors e.g. for primary production (FRRF) and light reflectance are used periodically, new sensors for light absorption and pCO2 will be soon implemented. Data can be retrieved in real time using satellite or GSM connection (basic sensors) or downloaded during harbour visits (additional sensors).
Alg@line data is available e.g. through MyOcean and has also been delivered to users based on mutual cooperation, including scientific advice. Algaline ships maintained by SYKE host measurement systems from other countries, and periodically they are used as platforms for international short-term studies.
Web site address: http://www.syke.fi/en-US

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
Thermosalinograph SeaBird 45	temperature, salinity	5 m	automatic	20 seconds
Fluorometer Wetlabs FLNTU	Chlrophyll fluorescence, turbidity	5 m	automatic	20 seconds
Fluorometer Trios MicroFluBlue	phycocyanin fluorescence	5 m	automatic	20 seconds
Fluorometer Trios MicroFluCDOM	CDOM fluorescence	5 m	automatic	20 seconds
Automated sampler, ISCO	water samples	5 m	automatic	24 samples per transect

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 60 UA=60 days.
Users can apply for a maximum access duration of 60 days (60 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (in person/hands-on and partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

SYKE offers possibilities to use data of the available sensors in Alg@line ferries, install additional sensors by users (technical and safety limitations allowing) and gather water samples for instrument. There are possibilities for 1-3 weekly visits to the ships, to install and maintain sensors and to fetch water samples. Deliver of access will depend on the complexity of users instruments and demand. Installing users' equipment will be subjected to technical and safety limitations and data from such new instruments may be available during weekly harbour visits only, when user may also perform maintenance of their instruments.

SYKE support team consists of technicians and scientists regularly operating the ferrybox systems. Team provides assistance to users during installation of new instrument (piping, electricity, interfacing, safety) and during basic maintenance. SYKE scientific support team assists in the selection of methods and instrumentation and measuring protocols if needed and assist in analyzing the data from contemporary ferrybox devices.

Special rules

All visits to the installation will be done under guidance of SYKE support team.

1.3.7. Ferrybox system on MS Silja Serenade (SILJA SERENADE) – SYKE

Infrastructure	Marine Research Centre, Ferrybox network in the Baltic Sea (SYKE-ALG@LINE)	
Installation	Ferrybox at m/s Silja Serenade (SILJA SERENADE)	
Location	Helsinki – Stockholm, Baltic Sea	
Route	Helsinki - Stockholm	
Organisation	Finnish Environment Institute (SYKE)	
Country	Finland	
Contact	Jukka Seppälä Finnish Environment Institute Erik Palmenin Aukio 1, 00560 Helsinki, Finland Tel: +358 295 251 631 Email: jukka.seppala@ymparisto.fi	

Description

SYKE Alg@line project in the Baltic Sea monitors the state of the sea and detects algal blooms. Several millions of data points are collected annually from the Baltic Sea, using a fleet of 5-7 ferries. Two best equipped ferries offered in TNA are m/s Silja Serenade, which travels daily between Helsinki and Stockholm (Sweden) and m/s Finnmaid, which travels approx. twice a week from Helsinki to Travemünde (Germany) and back. Both ferries are equipped with flow-through system with thermosalinograph, chlorohyll, phycocyanin and CDOM fluorometers, turbiditymeter and refrigerated sampling unit providing discrete water samples for laboratory analyses (e.g. microscopy, flowCAM, nutrients, optical analysis, experimental work). Additional sensors e.g. for primary production (FRRF) and light reflectance are used periodically, new sensors for light absorption and pCO2 will be soon implemented. Data can be retrieved in real time using satellite or GSM connection (basic sensors) or downloaded during harbour visits (additional sensors).
Alg@line data is available e.g. through MyOcean and has also been delivered to users based on mutual cooperation, including scientific advice. Algaline ships maintained by SYKE host measurement systems from other countries, and periodically they are used as platforms for international short-term studies.
Web site address: http://www.syke.fi/en-US

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
Thermosalinograph SeaBird 45	temperature, salinity	5 m	automatic	20 seconds
Fluorometer Wetlabs FLNTU	Chlrophyll fluorescence, turbidity	5 m	automatic	20 seconds
Fluorometer Trios MicroFluBlue	phycocyanin fluorescence	5 m	automatic	20 seconds
Fluorometer Trios MicroFluCDOM	CDOM fluorescence	5 m	automatic	20 seconds
Automated sampler, ISCO	water samples	5 m	automatic	24 samples per transect

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 60 UA=60 days.
Users can apply for a maximum access duration of 60 days (60 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (in person/hands-on and partially remote access) or in his/her behalf by the access provider (remote access).

Service & support

SYKE offers possibilities to use data of the available sensors in Alg@line ferries, install additional sensors by users (technical and safety limitations allowing) and gather water samples for instrument. There are possibilities for 1-3 weekly visits to the ships, to install and maintain sensors and to fetch water samples. Deliver of access will depend on the complexity of users instruments and demand. Installing users' equipment will be subjected to technical and safety limitations and data from such new instruments may be available during weekly harbour visits only, when user may also perform maintenance of their instruments.
SYKE support team consists of technicians and scientists regularly operating the ferrybox systems. Team provides assistance to users during installation of new instrument (piping, electricity, interfacing, safety) and during basic maintenance. SYKE scientific support team assists in the selection of methods and instrumentation and measuring protocols if needed and assist in analyzing the data from contemporary ferrybox devices.

Special rules

All visits to the installation will be done under guidance of SYKE support team.

1.4. Gliders

1.4.1. Glider National Facility (GNF) – CNRS

Infrastructure	CNRS-INSU Glider National Facility (GNF)	
Installation	CNRS-INSU Glider National Facility (GNF)	
Location	La Seyne sur mer, France	
Laboratory Coordinates	43.106°N - 5.8833°E	
Organisation	Centre National de la Recherche Scientifique (CNRS)	
Country	France	
Contact	Jean-Luc Fuda CNRS-DT INSU Zone portuaire de Brégaillon c/o IFREMER 83500 La Seyne France Tel: (+33) (0)4 94 30 44 61 Email: jean-luc.fuda@cnrs.fr	

Description

The National Glider Facility (GNF) is held by DT-INSU. It is installed inside the Mediterranean Ifremer center and is part of the CETSM (European Centre of underwater technologies). GNF started in September 2008. It is manned by 3 engineers and 1 technician and operates 10 gliders. The facility is fully equipped with: a glider ballasting tank, an electronic lab for pre-deployment preparation, servers and communications devices for glider operations. It is linked to the ego-network.org web page offering a collaborative work environment and tools for piloting gliders. The following sensors can be mounted on the gliders: CTD, Oxygen Optode, Fluorimeters (ChlA, CDOM, Phycoerythrine, turbidity), Back scattering (470-880 nm). Web site address: http://www.dt.insu.cnrs.fr/gliders/gliders.php
Twitter: https://twitter.com/GliderCNRS

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
All gliders	Temperature	1000 m max	Vertical full resolution << 1 m Low resolution (real time), a few m. 1000 m-profile duration ~ 4 hours	Full resolution data provided immediately after recovery (80 days max, nominal) Low resolution available in real time
	Conductivity	"	"	"
	Chla	"	"	"
	CDOM	"	"	"
	Turbidity	"	"	"
	Phycoerythrine	"	"	"

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 98 UA=98 days.

CNRS-INSU provides access to one or more gliders of the fleet for autonomous operation at sea. Access to the CNRS-INSU GNF by a user group is treated as a concession granted to use the infrastructure (one or several gliders, prior contact to CNRS-INSU required to assure piloting and operation capabilities) in a dedicated experiment to collect specific data following the implementation of an automated measurement programme agreed between the user group and CNRS-INSU. Users can apply for a maximum access duration of 98 days (98 UA).

Service & support

GNF is offering gliders as autonomous observing systems to collect data in specific experiments. The service is presently putting efforts for achieving high quality data through regular calibration/control procedures, as well as for providing users with full resolution post-processed data shortly after glider recovery. The glider facility offers the complete coordination of data measurement using gliders; preparation (batteries installation, electronics/mechanical/informatics preparation, ballasting, compass calibration, testing in deep seawater pool, accurate checks of onboard CTDs using in-house bath), at sea operations (shipping, customs, deployment, recovery), maintenance, communication infrastructure including near real time data set for the scientist, integration of new sensors if necessary. It can deploy gliders for one time operation or work with observatories. A fully trained glider staff will support the user groups working on shift for continuous service (including piloting in close contact with the users).

Special rules

To be verified with the facility provider.

1.4.2. COSYNA Glider (COSYNA_GL) – HZG

Infrastructure	Coastal Observing System for Northern and Arctic Seas (COSYNA)	Helmholtz-Zentrum Geesthacht Centre for Materials and Coastal Research
Installation	Glider (COSYNA_GL)	
Location	German Bight, North Sea	
Laboratory Coordinates	54.185°N - 8.9°E	
Organisation	Helmholtz-Zentrum Geesthacht (HZG)	
Country	Germany	
Contact	Lucas Merckelbach Helmholtz-Zentrum Geesthacht GmbH, Institute of Coastal Research Max-Planck-Str. 1, 21502 Geesthacht, Germany Tel: +49 4152 87 1515 Email: lucas.merckelbach@hzg.de	

Description

COSYNA (Coastal Observation System for Northern and Arctic Seas) is an operational coastal monitoring, forecasting and information system for the North Sea composed by fixed platforms, FerryBoxes, gliders and HF-radar systems. It is being developed by institutes of the German Marine Research Consortium (KDM) and collaborating institutions and is operated by the HZG Research Centre. The infrastructure represents an investment of 9 M €. It was build up since 2007 and is fully operational since 2012. COSYNA_GL is one of the 2 gliders of the system (TWR Slocum Electric, 100 m) equipped with CTD, Wetlabs ECO puck FLNTU (fluorescence and turbidity) and CDOM fluorescence.
Web site address: http://www.cosyna.de

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
CTD	Conductivity, temperature, depth	0-100 m Depth	0.5 Hz	Every 3-4 hours
FLNTU	Fluorescence, turbidity	0-100 m Depth	1 Hz	Every 3-4 hours
BB3SLO	Backscatter 440, 532, 680 nm	0-100 m Depth	1 Hz	Every 3-4 Hours
FLBBCD	Fluorescence, backscatter (600nm) and CDOM	0-100 m Depth	1 Hz	Every 3-4 Hours

Modality of access

- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation,
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.

Unit of access (UA): month (minimum duration). **Quantity of access available to JERICO-NEXT users**: 2 UA=2 months (maximum duration).
HZG provides access to one of the two gliders of the fleet for autonomous operation at sea. Access to the HZG glider by a user group is treated as a concession granted to use the infrastructure (one glider, prior contact to HZG required to assure piloting and operation capabilities) in a dedicated experiment to collect specific data following the implementation of an automated measurement programme agreed between the user group and HZG.
Users can apply for an access duration of 1 month (1 UA) or 2 months (2 UA).

Service & support

A support team of technicians and scientists of HZG will prepare the instrumentation; support operations at sea, including glider deployment; support in processing the data.

Special rules

To be verified with the facility provider.

1.4.3. *SOCIB glider facility (SOCIB-GF) – SOCIB*

Infrastructure	Balearic Islands Coastal Observing and Forecasting System (SOCIB)	
Installation	SOCIB glider facility (SOCIB-GF)	
Location	Mallorca, Balearic Islands, Spain, Mediterranean Sea	
Laboratory Coordinates	39.6665°N - 2.5809°E	
Organisation	Balearic Islands Coastal Ocean Observing and Forecasting System (SOCIB)	
Country	Spain	
Contact	glider.access@socib.es	
	Joaquim Tintoré Subirana SOCIB (Director) Parc Bit, Naorte, Block A,2º Floor, Door 3; 07121, Palma, Spain Tel: 00 34 971 43 98 21 Email: jtintore@socib.es	Marc Torner Tomàs SOCIB (Glider Engineer) C/Miquel Marquès 21, 07190; Esporles, Spain Tel: 00 34 971 61 19 07 Email: mtorner@socib.es

Description

The SOCIB Glider Facility is an example of new technologies being progressively implemented in coastal to open ocean regions allowing autonomous and sustained high-resolution monitoring of specific areas. SOCIB-GF is fully operational in JERICO-NEXT and since 2006 has accomplished 64 missions, 1.244 days in water, 14.555 nm navigated with 39.378 vertical profiles collected. SOCIB-GF human team is composed out of 2 full-time engineers, 1 full-time technician, 2 part-time field-technicians (for at sea operations), 2 part time engineers (for glider data management) and 2 part-time experienced scientists. An intense and fruitful collaboration with IMEDEA (CSIC-UIB) team also exists since the origin of glider operations.

The fleet in 2016 consists of 7 Slocum gliders and 2 iRobot Seagliders, equipped for collecting both physical (T, S) and biogeochemical data (fluorescence, oxygen, etc.) at high spatial resolutions (2km).

SOCIB-GF includes a pressure chamber (1.000 m) as well as ballasting and operations labs. It also has access to other SOCIB facilities such as (1) ETD (Engineering & Technology Development): Hurricane Zodiac 9.2 m RIB, Lab-Van and harbour warehouse; (2) SOCIB-R/V: a 24 m coastal catamaran and (3) Data Center: including data management, public repository, on-line web-based platform tracker -for mission monitoring- and development of tools such as the glider processing toolbox (Troupin et al., Methods in Oceanog., 2015, - freely available scripts available at https://github.com/socib/glider_toolbox).

Web site address: http://www.socib.eu/ (main)
http://www.socib.eu/?seccion=observingFacilities&facility=glider,
http://www.socib.eu/?seccion=multimedia, http://apps.socib.es/dapp/ (on-line mission tracker),
http://thredds.socib.es/thredds/catalog/auv/glider/catalog.html (glider data public repository)

Instruments/Sensors

SOCIB Glider Fleet is composed of 9 instruments (a.k.a. platforms): 7 Slocum gliders (1 Shallow and 6 Deep versions) and 2 iRobot Seagliders, equipped with the sensors listed in the chart below

Sensor	Measured Parameter(s)	Elevation /Depth	Sampling	Frequency of data transmission
CTD (unpumped)	Conductivity (S/m) Temperature (degC) Depth (bar)	0 to -1000 meters	0.5 Hz (max. freq.). This param. is configurable	6 hrs (near-real-time subset) At mission conclusions (full dataset)
GPCTD (pumped)	Conductivity (S/m) Temperature (degC) Depth (bar)	"	"	"
OPTODE (AADI)	O2 Concentration (µM) Air Saturation (%) Temperature (degC)	"	"	"
FLNTU (Wetlabs Eco-puck)	Chlorophyll Concentration (µg/l) Nephelometric Turbidity Unit (NTU)	"	"	"

Typical sensors, sampling rates and surfacing times -when data are transmitted - are:

SOCIB gliders are configured with a default sampling strategy defined to balance efficient and cost-effective scientific-data collection and near-real-time transmission (NRT Tx.). That is:

- CTD: $f_{SAMPLING}$=0,5Hz ; depth-range=[full water column]
- OXY: $f_{SAMPLING}$=1/4Hz ; depth-range=[full water column]
- FLNTU: $f_{SAMPLING}$=1/8Hz ; depth-range=[0-150m]
  $f_{SAMPLING}$=1/16Hz ; depth-range=[150-300m]

Similarly, the SOCIB standard surface strategy contemplates the following:

- Surface when Waypoints are reached (NRT Tx.)
- Surface for periodical report at UTC 4am, 10am, 4pm and 8pm (NRT Tx.)

Finally, the standard near-real-time transmission (NRT Tx.) strategy, with respect to the science data only, implies transmission of the first CTD profile (no decimation) stored after the previous surface (i.e. at 4am the profile after 8pm's call would be sent). A similar approach is followed for OXY and FLNTU profiles. Theses values are only indicative. The user proposed strategies are welcome and will be taken into consideration when evaluating the user's access proposal.

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required.
- **Partially remote**: the presence of the user group is required at some stage e.g. installing and un-installing user's equipment.
- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 110 UA=110 days.
SOCIB provides access to one or more gliders of the fleet for autonomous operation at sea. Access to the SOCIB-GF by a user group is treated as a concession granted to use the infrastructure (one or several gliders, prior contact to SOCIB required to assure piloting and operation capabilities) in a dedicated experiment to collect specific data following the implementation of an automated measurement programme agreed between the user group and SOCIB. Users can apply for a maximum access duration of 110 days (110 UA).

Service & support

The glider team at SOCIB will support the potential users at any stage in proposal development. SOCIB will provide access to a number of specific complementary services:

1) access to glider platforms prepared and ready for operation in line with the highest international standards;
2) qualified personnel for the management of the gliders (platforms and sensors), including logistics for deployment and recovery;
3) a 24/7 operational system to pilot the gliders at sea;
4) access to a collaborative piloting system;
5) access to a collaborative Data Management system;
6) quasi Real Time (usually less than 6 hours) reception of data and visualization system;
7) state of the art quality control procedures (both for Real Time and Delayed Mode);
8) a SOCIB standard post mission glider report;
9) delayed Mode data in NetCDF format.
10) intercalibration between glider sensor data and SOCIB-R/V rosette sensor data performing a joint cast by mounting glider on rosette using a SOCIB-designed bracket
11) access to scientific analysis collaborative team.

Special rules

All proposals will undergo careful peer-review regarding study area, feasibility, mission definition, benefits.

1.5. Fishing vessels

1.5.1. FV Vester Junior (FISHING 1) – IMR

Infrastructure	IMR COAST	INSTITUTE OF MARINE RESEARCH HAVFORSKNINGSINSTITUTTET
Installation	FV Vester Junior (FISHING 1)	
Location	Norwegian Sea	
Port	Måløy (61.937°N - 5.114°E)	
Organisation	Institute of Marine Research (IMR)	
Country	Norway	
Contact	Kjell Nedreaas IMR Nordnesgaten 50, 5005 Bergen Tel:+47 995 38 549 Email: kjell.nedreaas@imr.no	

Description

The Reference Fleet is a small group of Norwegian fishing vessels that provide the IMR with detailed information about their fishing activity and catches on a regular basis. The sampling and data management procedures are similar to the system used on board IMR's research vessels. Data is used for management purposes including stock assessment.

The FV Vester Junior is one of the 20 coastal fishing vessels along the Norwegian coast included within the IMR reference fleet. Details of the vessel can be found in the table below and in the website: http://www.imr.no/temasider/referanseflaten/en

Vessel	Owner	Address	Reg.no.	Call sign	Length (m)	Gear
Vester Junior	Bjørn Andre Weltzien Årdal	Måløy	SF-210-V	LM5970	10,61	Gillnet

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Frequency of data transmission
electronic fish sampling board (Scantrol)	Fish lengths, weigth, species distribution	Fishes caught from different depth	Transmission to land normally daily
scales and otolith sampling device	Otolith extraction and preparation	Fishes caught from different depth	Transmission to land normally daily

Modality of access

- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 50 UA=50 days.

Users are invited to join cruises of the vessels and bring their own measurement devices for use. Users can apply for a maximum access duration of 50 days (50 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users.

Service & support

The Fishing fleet driven by IMR allows to cost effectively increase the knowledge of fish stock size and distribution and is contributing to the provision of the ICES Annual Assessments. Another application is the catch of material for contaminant analysis in fishes. The IMR infrastructure is under continuous supervision of the technical and scientific team at IMR. The team will provide assistance to users during installation of new instruments and during basic maintenance, and support and advice for the conduction of user projects.

Special rules

The users have to follow the safety regulations as they are applied in the infrastructure.

1.5.2. FV Brattholm (FISHING 2) – IMR

Infrastructure	IMR COAST	INSTITUTE OF MARINE RESEARCH HAVFORSKNINGSINSTITUTTET
Installation	FV Brattholm (FISHING 2)	
Location	Norwegian Sea	
Port	Mandal (58.030°N -7.454°E)	
Organisation	Institute of Marine Research (IMR)	
Country	Norway	
Contact	Kjell Nedreaas IMR, Nordnesgaten 50, 5005 Bergen Tel:+47 995 38 549 Email: kjell.nedreaas@imr.no	

Description

The Reference Fleet is a small group of Norwegian fishing vessels that provide the IMR with detailed information about their fishing activity and catches on a regular basis. The sampling and data management procedures are similar to the system used on board IMR's research vessels. Data is used for management purposes including stock assessment.
The FV Brattholm is one of the 20 coastal fishing vessels along the Norwegian coast included within the IMR reference fleet. Details of the vessel can be found in the table below and in the website: http://www.imr.no/temasider/referanseflaten/en

Vessel	Owner	Address	Reg.no.	Call sign	Length (m)	Gear
Brattholm	Geir Even Lunde	Mandal	VA-71-M	LK7238	12,78	Gillnet

Instruments/Sensors

Instrument	Measured Parameter(s)	Elevation/Depth	Frequency of data transmission
electronic fish sampling board (Scantrol)	Fish lengths, weigth, species distribution	Fishes caught from different depth	Transmission to land normally daily
scales and otolith sampling device	Otolith extraction and preparation	Fishes caught from different depth	Transmission to land normally daily

Modality of access

- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period.

Unit of access (UA): day. **Quantity of access available to JERICO-NEXT users**: 50 UA=50 days.
Users are invited to join cruises of the vessels and bring their own measurement devices for use. Users can apply for a maximum access duration of 50 days (50 UA). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users.

Service & support

The Fishing fleet driven by IMR allows to cost effectively increase the knowledge of fish stock size and distribution and is contributing to the provision of the ICES Annual Assessments. Another application is the catch of material for contaminant analysis in fishes. The IMR infrastructure is under continuous supervision of the technical and scientific team at IMR. The team will provide assistance to users during installation of new instruments and during basic maintenance, and support and advice for the conduction of user projects.

Special rules

The users have to follow the safety regulations as they are applied in the infrastructure.

Chapter 2: Supporting facilities and special equipment

This chapter include supporting facilities, such as calibration and research laboratories, and just one item of special equipment. Their use is recommended in applications for using also one or more observing systems of Chapter 1.

2.1 Calibration laboratories

2.1.1 Poseidon Calibration Lab (PCL) – HCMR

Infrastructure	POSEIDON Monitoring, Forecasting and Information System for the Greek Seas (POSEIDON)	
Installation	Poseidon Calibration Lab (PCL)	
Location	Heraklion, Crete, Mediterranean Sea	
Coordinates	35.335°N - 25.281°E	
Organisation	Hellenic Centre for Marine Research (HCMR)	
Country	Greece	
Contact	George Petihakis Hellenic Centre for Marine Research, Institute of Oceanography Thalassocosmos, Gournes Pediados, P.O. Box 2214, Heraklion Crete GR 71 003 Greece Tel: +30 2810 337755 Fax: +30 2810 337822 GSM: +30 6977 916206 E-mail: gpetihakis@hcmr.gr, gpetihakis@gmail.com	

Description

The Calibration Laboratory, PCL, is part of POSEIDON, the operational marine monitoring, forecasting and information system for the Greek Seas. It is based at the HCMR Thalassocosmos complex in Crete and is equipped with a special designed large calibration tank, two smaller glass tanks and a number of reference sensors and equipment for temperature, salinity, chlorophyll-a, turbidity and dissolved oxygen sensors calibration.
The support team consists of the HCMR technicians and scientists who can perform a wide range of sensor calibrations (Temperature, Salinity, Oxygen, Chlorophyll, Turbidity).
Web site address : http://www.poseidon.hcmr.gr

Instruments/Sensors

Instrument	Measured Parameter(s)	Range	Accuracy	Resolution
Deep Ocean Standards Thermometer SBE 35	Temperature (ITS-90)	-5 to +35 °C	0.001 °C	0.000025 °C
AutoSal 8400A	Conductivity Ratio (Salinity)	0.005 to 42 ppt	0.003 ppt	0.0002 ppt

Furthermore a variety of sensors (Seabird 37 SIP, Aanderaa 3919B, Aanderaa 3975) are used in order to monitor the measurement parameters inside the calibration tanks during the experiments. For the calibration of the DO sensors samples are collected during the experiment and analysed later using the Winkler methodology. Regarding fluorometer and turbidity sensor the sensors are calibrated against known concentrations and particles dimensions of reference solutions.

Modality of access

- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period

Unit of access (UA): week (5 days of 8 hours). **Quantity of access available to JERICO-NEXT users**: 4 UA=4 weeks.

Users can apply for a minimum access duration of 1 week (1 UA), for the maximum duration of 4 weeks (4 UA), or for intermediate access duration (n UA, n=2,3). Access to the Calibration Lab is daily all year round.

The scientific and technical personnel of POSEIDON will carry out all operations, while training courses will be given on both hardware and software.

Applications are solicited for using the calibration laboratory in combination with one or all the other installations open to the TNA program, both by HCMR and other partners.

Service & support

The access services offered by the POSEIDON system includes:

Calibration laboratory: PCL can support relevant activities for a wide range of sensors (Temperature, Salinity, Oxygen, Chlorophyll, Turbidity) providing state-of-the-art calibration services.

Field experiments: Calibrated sensors can be tested in the field.

The support team consists of the HCMR technicians and scientists, who regularly prepare the instrumentation, perform field experiments, service and maintain the instruments and assist the users during the experiments in the calibration facility.

Special rules

Requests for calibration services must be made at least 3 months in advance.

The user should provide the measured parameters range of the area where the sensors will be deployed.

2.1.2 *Ifremer Metrology Laboratory (METLAB) – IFREMER*

Infrastructure	Ifremer Metrology Laboratory (METLAB)	
Installation	Ifremer Metrology Laboratory (METLAB)	
Location	Plouzané, France, Atlantic Ocean	
Coordinates	48.357°N, 4.558°W	
Organisation	Institut Francais de recherche pour l'exploitation de la mer (IFREMER)	
Country	France	
Contact	Florence Salvetat Ifremer REM/RDT/LDCM Centre de Brest – CS 10070, 29280 Plouzane - France Tel: +33 (0)2 98 22 49 21 Email: Florence.salvetat@ifremer.fr	

Description

The Ifremer metrology laboratory is in charge of the calibration of the oceanographic sensors used by Ifremer scientists and it also provides calibrations for external customers.
The metrology laboratory deals with the following parameters: temperature and pressure (Cofrac accreditation for these two parameters), conductivity/salinity, dissolved oxygen, turbidity, pH and fluorescence. The laboratory is equipped with high quality reference devices (fresh water and seawater calibration baths, standard platinum resistance thermometers, direct current resistance comparator bridges, fixed point cells, gauge pressure balance, reference salinometer, reference materials for fluorescence and turbidity calibrations and spectrophotometric pHT bench).
Web site address: http://wwz.ifremer.fr/rd_technologiques/Plates-formes-technologiques/Metrologie

Instruments/Sensors

Parameter	Range	Uncertainty
Temperature	-1,5°C to +40°C	± 0,07°C
Pressure	100 kPa to 4MPa 2 MPa to 80 MPa	± (310Pa + $7{,}5.10^{-5}$ *Pr) ± (1200Pa + $1{,}3.10^{-4}$ *Pr)
Salinity	2 to 40	± 1.10^{-2}
Turbidity	0 to 4000 FTU	+/- 5% of full scale
pH	4 to 10	± 0,02
Fluorescence	Depend of sensor technology to be calibrated	+/- 5% of full scale

Modality of access

- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period

Unit of access (UA): week (5 days of 8 hours). **Quantity of access available to JERICO-NEXT users**: 5 UA=5 weeks.
Users can apply for a minimum access duration of 1 week (1 UA), for the maximum duration of 5 weeks (5 UA), or for intermediate access duration (n UA, n=2,3,4).

Applications are solicited for using the calibration laboratory in combination with one or all the other installations open to the TNA program, both by IFREMER and other partners.

Service & support

The metrology laboratory provides: sensor calibrations, metrology trainings, audits and guidance for Ifremer laboratories or external collaborators and customers, metrology expertise and studies in the framework of national, European and international projects (Aquaref, Jerico, Argo, ENV05 Ocean JRP, …).
Visiting researcher will be given access to the laboratory facilities, experimental areas for doing calibration (conductivity/salinity, dissolved oxygen, turbidity, pH and fluorescence). An engineer and a technician will be fully dedicated to the service for TNA.

Special rules

To be verified with the facility provider.

2.2 Research laboratories

2.2.1 NIVA Research Station (NRS) – NIVA

Infrastructure	NIVA Research Station (NRS)	NIVA Norwegian Institute for Water Research
Installation	NIVA Research Station (NRS)	
Location	The Drøbak Sound in Oslo Fjord, North Sea	
Coordinates	59.6159°N – 10.6510°E	
Organisation	Norwegian Institute for Water Research (NIVA)	
Country	Norway	
Contact	Kai Sørensen Norwegian Institute For Water Research Gaustadalleen 21, 0349 Oslo, Norway Tel: +47 22185100, Mobile +47 90732129 Email: kai.sorensen@niva.no	

Description

The Research Station at Solbergstrand performs large-scale experiments in marine ecology, sediment research, biogeochemistry, aquaculture and test technology for treating ballast water. The station has fiberglass and concrete seawater pools with volumes ranging from 20 to 550 m^3. A number of smaller testing facilities on land and the seabed outside the station have been built to manipulate and control marine ecosystems. The station has 10 laboratories for experimentation and analysis activities, among them an authorized infection lab for fish and a special lab for working with radioactive tracers. Facilities at Solbergstrand covers e.g. hard-bottom and soft-bottom mesocosoms, brackish water systems, seaweed and kelp communities, pelagic communities from the upper water depths and continuous water supply from surface and 60 meter with measurements on temperature and salinity.

For surface water additional sensor for Chl-a fluorescence are installed and for 60 m pH and pCO2. Other sensor combinations are available for experiments on request.
Web site address: http://www.niva.no/en/om-niva/kontorer-og-avdelinger/forskningsstasjon-solbergstrand

Instruments/Sensors

Instrument	Measured Parameter(s)	Depth of measurement	Sampling	Frequency of data recovery
Thermosalinograph	Temperature and salinity	1 and 60 m	1 minute	Daily
Chl-a sensor	Chl-a fluorescence	1 m	1 minute	Daily
Particles	Turbidity	1 m	1 minute	Daily
pH-sensor	pH	1 and/or 60 m	5 minutes	Daily
pCO2-sensor	pCO2	1 and/or 60 m	1 minute	Daily
Water sampler	Water samples	1 and/or 60 m	On demand	

Modality of access

- **Remote**: the measuring system is implemented by the operator of the installation and the presence of the user group is not required,
- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period.

Unit of access (UA): week. **Quantity of access available to JERICO-NEXT users**: 5 UA=5 weeks.
Users can apply for a minimum access duration of 1 week (1 UA), for the maximum duration of 5 weeks (5 UA), or for intermediate access duration (n UA, n=2,3,4). Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (in person/hands-on access) or in his/her behalf by the access provider (remote access).
Applications are solicited for using the research station in combination with one or all the other installations open to the TNA program, both by NIVA and other partners.

Service & support

Visiting researcher will be given access to the laboratory facilities, experimental areas for doing tests with seawater supply from surface or deep water, access to sensor data already at the station (online temperature, salinity, pH and pCO2), access to their own test data, workshops and meeting rooms with videoconference possibilities. They will have internet access and access to data by remote systems. They will be lodged in nearby cabins or hotels in the village Drøbak. NIVA staff will support them in the planning and implementation of experiments and sensors for intercalibrations. Special equipment and operator for high precision analysis of the marine carbonate systems (VINDTA) will be made available for campaign and intercalibration studies of carbon system sensors. Contact NIVA if other sensor data are needed.

Special rules

NRS security rules must be followed.

2.2.2 *Marine Research Centre Laboratory (SYKE MRC-lab) – SYKE*

Infrastructure	Marine Research Centre Laboratory (SYKE MRC-lab)	
Installation	Marine Research Centre Laboratory (SYKE MRC-lab)	
Location	Helsinki, Finland, Baltic Sea	
Coordinates	60.2038°N - 24.9616°E	
Organisation	Finnish Environment Institute (SYKE)	
Country	Finland	
Contact	Jukka Seppälä Finnish Environment Institute Erik Palmenin Aukio 1, 00560 Helsinki, Finland Tel: +358 295 251 631 Email: jukka.seppala@ymparisto.fi	

Description

SYKE MRC-lab offers space and instrumentation for testing, validating and calibrating various optical sensors, like LED fluorometers, FRRF fluorometers, absorption meters, turbidity meters, particle size analysers, and imaging in-flow systems. It has up-to-date basic and advanced laboratory facilities, including flow cytometer, FlowCAM, microscopes, spectrofluorometers, plate readers, spectrophotometer with integrating sphere, FRRF fluorometers, controllable LED panels, nutrient analysers and isotope laboratory. It host SYKE MRC phytoplankton culture collection, including hundreds of species strains, which can be used in instrument comparison and validation. Climatic growth chambers and controllable cultivation units (0.5 – 300 L) are available for phytoplankton growth experiments. There is a weekly access to seawater samples taken from various locations from the Baltic Sea. Instrument tests and deployments can be performed together within SYKE Algaline TNA.
Web site address: http://www.syke.fi/en-US

Facility/ Instruments/Sensors

Facility/Instrument	Details
Phytoplankton cultures	Hundreds of strains, representing different size classes and pigment groups. Suitable for calibration, validation or testing optical sensors.
Culturing facilities	Controllable growth chambers and cultivation units for growth experiments, used to cultivate phytoplankton cells, in different environmental conditions, to obtain testing materials for optical sensors.
Online measuring systems for pH, light, nutrients, temperature, and control systems for pH, light intensity and spectra, and temperature	Instruments to control and follow experimental units, to be used in testing optical sensors
Spectrophotometer with integrating sphere (Perkin Elmer 650 UV/Vis); Spectrofluorometer, (Agilent Cary Eclipse); Spectroradiometers, (Trios Ramses ACC-VIS)	Reference instruments and materials for optical sensor tests
FlowCAM, flowcytometer Partec Cube 8, microscopy facilities	Reference instruments for optical sensor tests
FRRF fluorometers (various models from PSI, Chelsea)	Reference instruments for optical sensor tests
Isotope laboratory	Reference measurements for optical sensor tests.

Modality of access

- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period.

Unit of access (UA): 8 hour day. **Quantity of access available to JERICO-NEXT users**: 25 UA=25 days (8 hours working day).

Users can apply for a minimum access duration of 1 days (1 UA), for the maximum duration of 25 days (25 UA), or for intermediate access duration (n UA, n=2,…,25).

Users may bring their own instrumentation to be tested along annual calibration workshop, or testing facilities are modified according to their needs. Access duration corresponds to the period of installing, operating and un-installing a measuring system by the users (in person/hands-on access) or in his/her behalf by the access provider (remote access).

Applications are solicited for using the Marine Research Centre Laboratory in combination with one or all the other installations open to the TNA program, both by SYKE and other partners.

Service & support

SYKE MRC-lab offers possibilities for testing optical sensors with various types of natural samples and phytoplankton cultures, and benchmarking the results against reference materials and methods. It offers facilities and technical and scientific support for studying effects of light, nutrients, temperature, salinity and pH on optical properties of phytoplankton, as required when validating optical sensors. Users may also participate in annual calibration workshops.

SYKE support team consists of technicians and scientists regularly working with optical instruments and reference measurements. It provides assistance to users during testing of new instruments (experimental setups, technical issues, lab work assistance, safety). It assists in the selection of reference methods and instrumentation and measuring protocols if needed and in analysing the data from TNA instruments.

Special rules

During all visits, use of TNA instrumentation will be done under guidance of SYKE support team.

2.3 Special equipment

2.3.1 Sediment Profile Imager (SPI-H) – CNRS

Infrastructure	Sediment Profile Imager (SPI-H)
Installation	Sediment Profile Imager (SPI-H)
Location	UMR EPOC, Station marine d'Arcachon, France, Atlantic Ocean
Coordinates	44.658° N - 1.161°W
Organisation	Centre National de la Recherche Scientifique (CNRS)
Country	France
Contact	Antoine Gremare UMR 5805, EPOC Station marine d'Arcachon, 2 rue du Pr Jolyet, F33120 Arcachon, France Tel:(33) 6 26 92 61 36 Email: antoine.gremare@u-bordeaux.fr

Description

SPI-H allows for the *in situ* acquisition of sediment profile images in cohesive sediments, which constitutes a sound and cost-effective alternative to classical faunal analyses in assessing the ecological quality of benthic habitats (Labrune et al 2012, Romero et al 2013). This piece of equipment exists in two versions: (1) for shallow bottom (i.e., down to 30 m) waters, which can be operated from small ships, and (2) for deep (i.e., down to 1000 m) waters, requiring the use of a large oceanographic ship.
Web site address: http://spiarcbase.epoc.u-bordeaux1.fr/

Instruments/Sensors

Instrument	Measured Parameter(s)	Depth of measurement	Sampling	Frequency of data recovery
Sediment Profile Imager (SPI-H)	*In situ* sediment profile images	0-1000 m	10 images/station	Once/station

Modality of access

- **In person/hands-on**: the presence of the user group is required/recommended during the whole operation period.

Unit of access (UA): week. **Quantity of access available to JERICO-NEXT users**: 5 UA=5 weeks.
Users can apply for a minimum access duration of 1 week (1 UA), for the maximum duration of 5 weeks (5 UA), or for intermediate access duration (n UA, n=2,3,4). Access duration corresponds to the period of installing, operating and un-installing the measuring system.
Applications are solicited for using the Sediment Profile Imager in combination with one or more observing systems open by the JERICO-NEXT consortium to the TNA program.

Service & support

The support includes shipping to the location of use, and assistance for the deployment of the profiler as well as for the acquisition of images and their transfer to a microcomputer by an experienced staff. The support also includes advices for the "manual" processing of the acquired images and their ecological interpretation by this staff. The use of the SPIArcBase software developed within the FP7 project JERICO is provided as a virtual service access by JERICO-NEXT (see proper section in this website).

Special rules

To be verified with the facility provider.

Online catalogue

A TNA section of the website has been created to provide information about the process, outcomes, the facilities, rules and calls. The navigation allows access to all the TNA pages (as shown below) to find all the relevant information.

Figure 1: *TNA sections and pages on the website www.jerico-ri.eu*

A catalogue of facilities is accessible by browsing through the 'Jerico Facilities in TNA', either by country or by facility type (Cabled observatories, Ferryboxes, Fishing Vessels, Fixed Platforms, Gliders, Specialised Equipment, Supporting Facilities).

Once the desired facility is located, information is available on the facility including:

Infrastructure short-name
Installation
Locations coordinates and depth (if appropriate)
Name of the organisation operating the facility
Country
Contact details (email addresses are available but registration is required)
Description of facility
Details of instruments / sensors
Modality of access
Service & support
Special rules

In addition to a directory-based catalogue for accessing facilities, an interactive map has been created to allow: visualisation of the locations of all the facilities, to zoom in and out and read more

information by hovering over a facility with the mouse cursor. By clicking the 'View Details' button in the popup, it is possible to view more information and go directly to the facility page in the catalogue.

The map is currently placed on the home page of the website but it is anticipated that later in the project is will be integrated into the TNA pages.

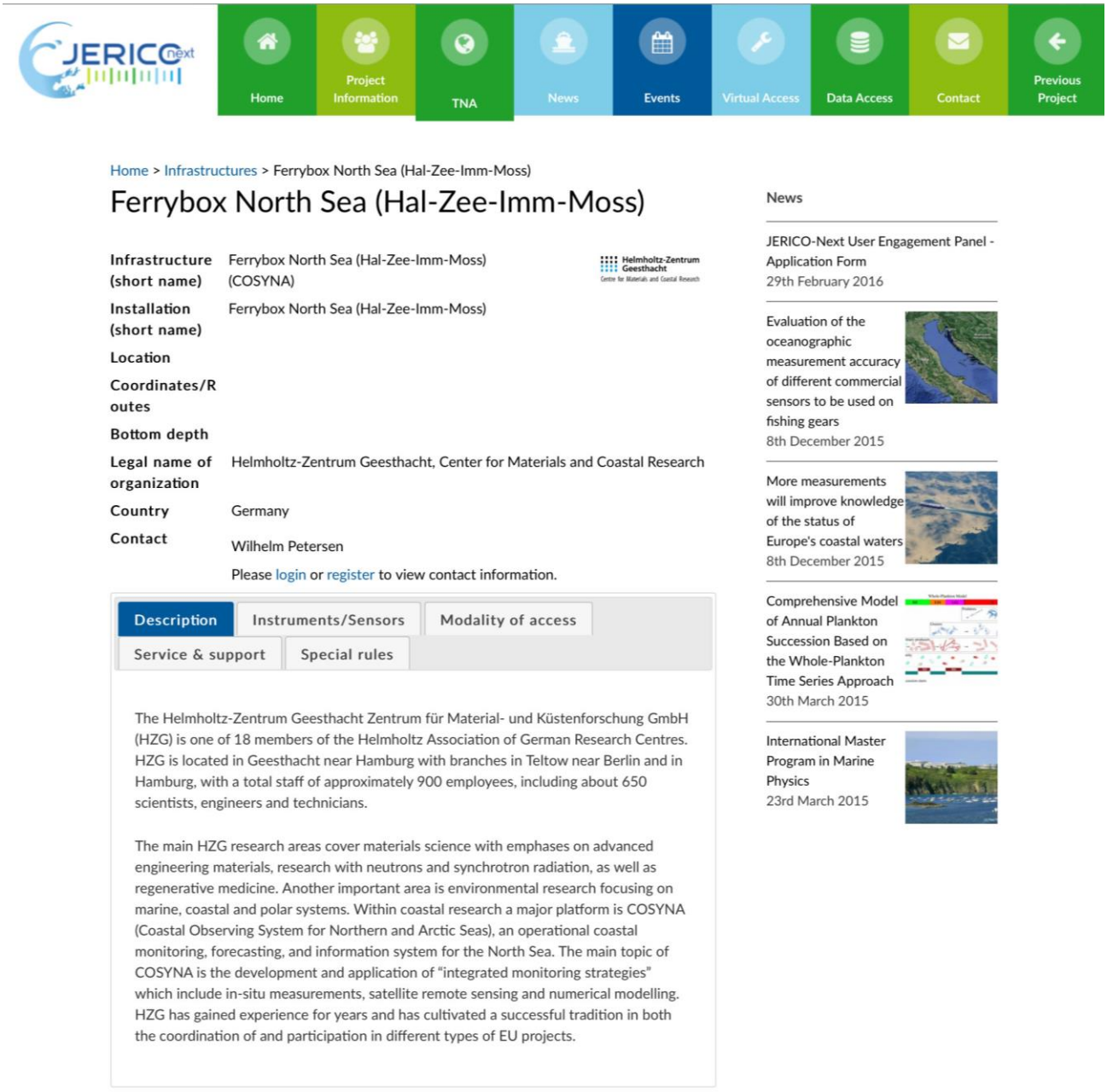

***Figure 2**: Facility page in the TNA catalogue.*

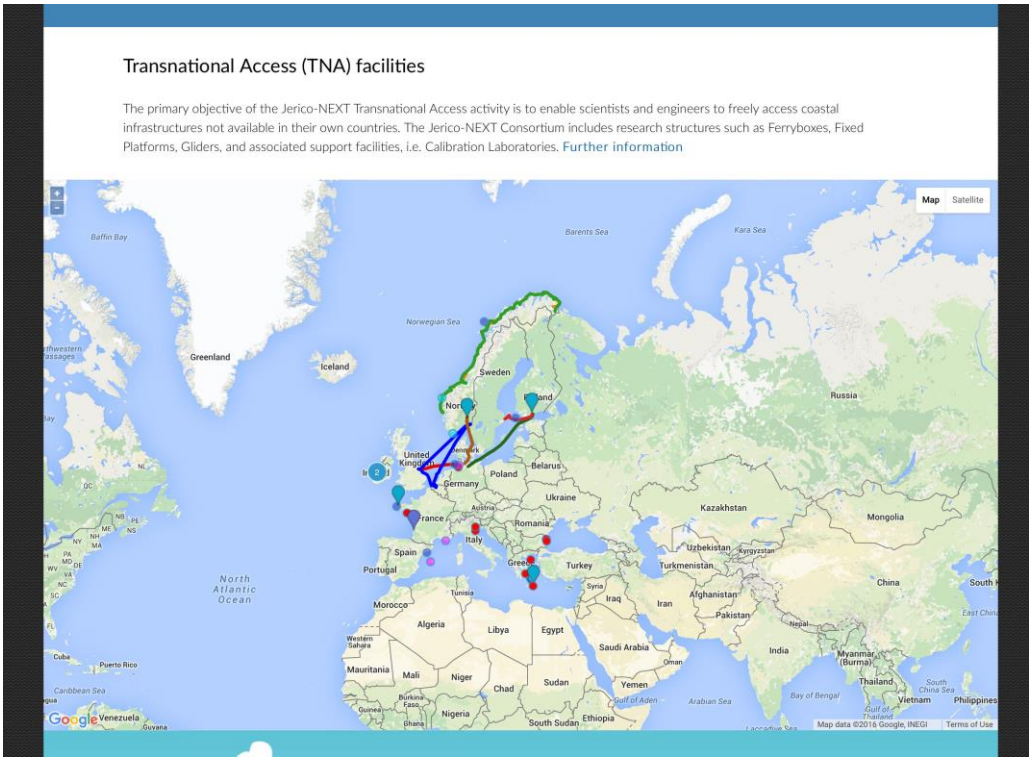

Figure 3: *TNA information and map on the homepage of www.jerico-ri.eu*

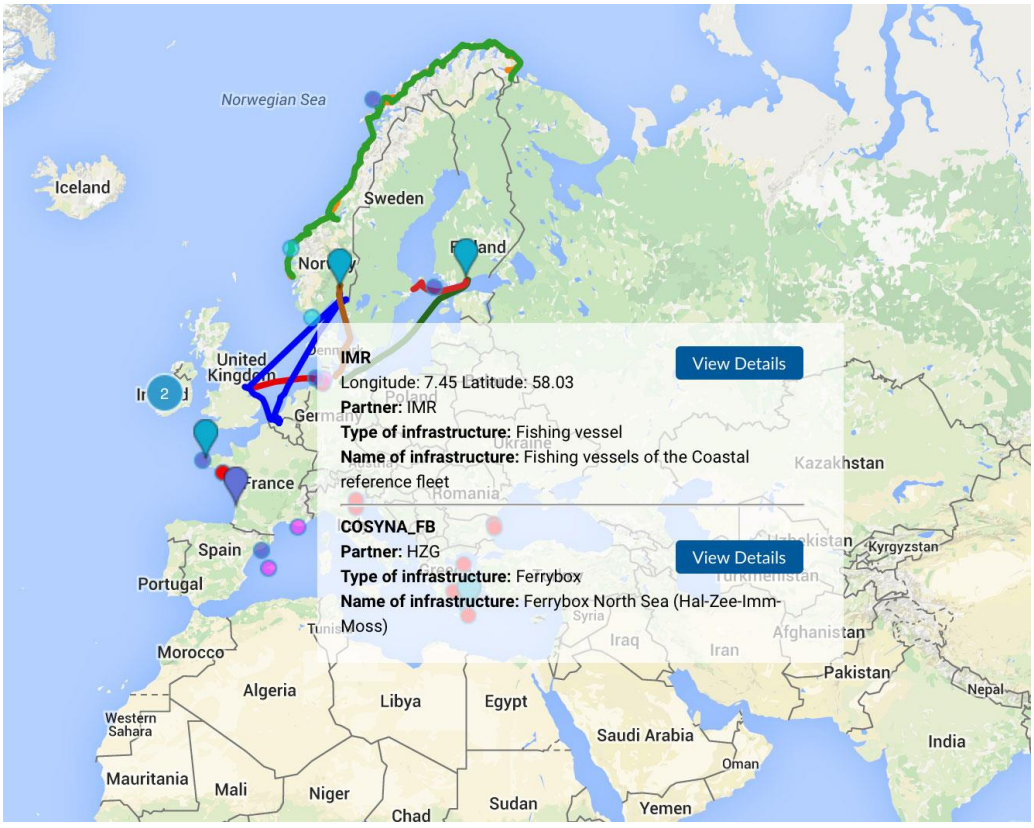

Figure 4: *Interacting with the TNA facilities map*

Conclusions

The catalogue of infrastructures involved in the Trans-National Access activities of JERICO-NEXT is published in paper form (this deliverable) and as an interactive map on the official website of the project. The latter allows the visualisation of the locations of all the facilities and navigation to obtain information, including access service offered to users by each infrastructure.

This is the first element of the TNA webpage which will be under continuous development during the JERICO-NEXT life for disseminating useful information for accessing the coastal observatories managed by the JERICO-NEXT Consortium and will later contain also preliminary results of the hosted user projects.