

JERICO-NEXT 1st General Assembly Report 16th March 2017

<u>Grant Agreement</u> n° 654410 <u>Project Acronym</u>: JERICO-NEXT

<u>Project Title</u>: Joint European Research Infrastructure network for Coastal Observatory- Novel European eXpertise for coastal observaTories

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<u>Involved Institution</u>: Ifremer <u>Version Date</u>: 19.07.2017

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1. Document description

REFERENCES

Annex 1 to the Contract: Description of

Document information				
Document Name	Report after the 1st General Assembly			
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Author	Anne Schmidt, Ingrid Puillat, Sylvie Pichereau, Patrick Farcy			
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History			
Revision	Date (2017)	Modification	Author
0.1	1 June 2017	First version	Anne Schmidt
0.2	6 June 2017	Corrections and comments in WP1, 2, 3, 4, 5, 9	I. Puillat
0.3	8 June 2017	WPs report	WP leaders
0.4	29 June 2017	Statement of decisions, STAC recommendations	Ingrid Puillat
0.5	4 th July 2017	Statement of decisions, STAC recommendations, WP5, WP8	Anne Schmidt
1	19 th July 2017	Annexes	Anne Schmidt

Diffusion list				
Consortium beneficiaries	X			
Third parties	X			
Associated Partners	X			
other				

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2. Organisation & overview of the week's agenda

The first JERICO-NEXT General Assembly was organized in Helsinki from March 13th to March 16th 2017.

The coordination team took the opportunity of this important meeting, where most of the partners were present, to organize other specific workshops and to discuss the making of the future of JERICONEXT.

The JERICO-NEXT week at a glance:

When?	What and Who?	Where?
Monday 13 March 2017 14:00 -18:00	Registration of participants	Reception
Monday 13 March 2017 14:30-15:30	Meeting with all work packages	Auditorium
16:00-18:00	WP1 meeting – Strategy	Auditorium
Monday 13 March 2017 18:00	Ice Breaker	FMI basement and 5 th floor lobby
Tuesday 14 March 2017 08:30-12:30 14:00-18:00	WP4 Workshop #1 PART 1 WP5 meeting// WP2 meeting+ WP3 meeting	Auditorium Terra room// Auditorium
09:00-18:00	User Panel meeting	Aqua Room
Wednesday 15 March		
2017 08:30-16:00	Joint WP2&WP3 workshop	Auditorium
08:30-16:00	WP6,WP7, WP8 meetings	Terra room
08:30-12:00	WP4 Workshop #1 PART 2	Mare room
Wednesday 15 March	Cultural activities & Official dinner	Departure by a Charter
2017		bus from FMI 16:30
16:30		
Thursday 16 March 2017		
8:30-16:30	JERICO-NEXT General Assembly	Auditorium
17:00-18:00	Steering Committee meeting	

3. General Assembly meeting

3.1 Agenda

Thursday, 16 th March – General Assembly meeting				
08:00-8:30	Registration			
08:30-10:30	General Assembly meeting: (10' discussion per presentation) - Welcome(08:30-08:45)			
Auditorium	- WP 9 (08:45-09:15): Coordination	P. Farcy,		
	- WP 1 (09:15 – 9:50)	P. Farcy - S. Pichereau		
	- WP 4 (9:50-10:30)	D. Durand I. Puillat		
10:30-11:00	Coffee break + Approval of decisions			
11:00-12:30	- WP 2 (11:00 – 11:30)	R. Nair		
Auditorium	- WP 3 (11:30 – 12:00)	L. Delauney		
	- WP 5 (12:00 – 12:30)	L. Perivoliotis		
12:30-14:00	Lunch			
14:00-15:30	- WP 6 (14:00 -14:30): Virtual access	V. Creach		
Auditorium	- WP 7 (14:30-15:00): Transnational access	S. Sparnocchia		
	- WP8 (15:00-15:30): Outreach	S. Keeble		
15:30-16:00				
Auditorium	Reporting – questions	Coordination team		
Terra Room	STAC deliberation	STAC		
16:00-16:15 16:15-16:30 Auditorium	Recommendations of the STAC Conclusion of the General Assembly	STAC coordination team		
16:30-17:00	Coffee Break			
17:00-18:00 Terra room	Steering Committee meeting	Steering committee members		
v.	neral Assembly Week			

Participants list

Institution	Family name	Name
ACRI-HE	MANGIN	Antoine
	RUBIO	Anna
AZTI	MADER	Julien
	CABALLERO	Ainhoa
Blue Lobster	KEEBLE	Simon
CEFAS	COLLINGRIDGE	Kate
GEFAS	CREACH	Veronique
CMCC	JANSEN	Eric
CIVICO	CILIBERTI	Stefania
CNR ISMAR	SPARNOCCHIA	Stefania
OTATE TOTAL AT	GRIFFA	Annalisa
	QUENTIN	Celine
	GIRAUD	Sylvain
CNRS	GREMARE	Antoine
	COPPOLA	Laurent
	ARTIGAS	Felipe
COVARTEC	DURAND	Dominique
Deltares	BLAUW	Anouk
ETT	NOVELLINO	Antonio
EuroGOOS	GORRINGE	Patrick
Luiddood	NOLAN	Glenn
FMI	LAAKSO	Lauri
Flemish government	VERCUYSSE	Johan
FUGRO NORWAY	SVEGGEN	Olaf
	PERIVOLIOTIS	Leonidas
HCMR	NTOUMAS	Manolis
	FRANGOULIS	Constantin
HZG	PETERSEN	Wilhelm
	OVE MOLLER	Klas
	PICHEREAU	Sylvie
	PUILLAT	Ingrid
	FARCY	Patrick
IFREMER	SCHMIDT	Anne
	SALVETAT	Florence
	DELAUNEY	Laurent
	QUIMBERT	Erwann
	VITORINO	Joao
IH	ZACARIAS	Nuno
IMR	WEHDE	Henning
INGV	BERANZOLI	Laura
IO-BAS	SLABAKOVA	Voileta
IRIS	RAVAGNAN	Elisa
MARINE INSTITUTE	GAUGHAN	Paul

	O CONCHUBHAIR	Diarmuid
MARINE SCOTLAND	TURELL	Bill
OBS VLFR	MOUSSEAU	Laure
OGS	NAIR	Rajesh
063	MEDEOT	Nevio
PLOCAN	DELORY	Eric
SLR	O'NEILL	Nick
SMARTBAY	CHUMBINHO	Rogerio
	KARLON	Bengt
SMHI	LINDERS	Johanna
	ALLEN	John
SOCIB	HESLOP	Emma
COCID	MOURRE	Baptiste
	TINTORE	Joaquin
	KAITALA	Seppo
SYKE	SEPPALA	Jukka
	TAMMINEN	Timo
UNIVERITY OF MALTA	GAUCI	Adam
VLIZ	CLAUS	Simon
V LIZ	DENEUDT	Klaas

3.2 Statement of actions & decisions

Deci sion/ actio n	WP#	Content	Who	When
1.1	WP1	Future of JERICO-RI The TSF will work on a new H2020 Infra call (for the next step after JERICO-NEXT) to be proposed in 2019	TFS*	ASAP
1.2	WP1	Future of JERICO-RI Each partner representative agreed to support and participate to the process allowing JERICO-RI to enter in an ESFRI roadmap and consequently signed a dedicated document in General Assembly meeting #1	All	During the GA
1.3	WP1	Task Force Strategy To set up mechanism to link communication with the TFS	TFS	ASAP
4.1	WP4	WP4 sessions 2 WP4 sessions will be organized: one during the EGU conference (April 2018 in Vienna) and the other in the framework of the ICHA.	WP4&WP3 leaders / JRAPs leaders	Spring 2018
4.2	WP4	Creation of a working group on integrated monitoring analysis with a first physical meeting in Bordeaux	Antoine Grémare	Done
4.3	All	Publications When JERICO-NEXT is mentioned on a publication, an email with the references MUST be sent to the PMT (needed for the reporting).	All	
8.1	WP8	Website & Social media More content on the web site or social media is needed. Consequently for each event some photos and videos shall be sent	All	
8.2	All	Communication and dissemination linked to Sea cruises For each cruise a few lines of explanation with photos shall be sent to the PMT, copy to Simon Keeble	All	
5.2	WP5	VLIZ will deliver a document on biological QC procedures on M24	VLIZ	M24 (August 2017)
5.3	WP2&5	Check with EuroGOOS the organization of the JERICO- NEXT WP2&5 best practices workshop scheduled as a side event of the next EuroGOOS conference (3-5 October 2017, Bergen, Norway)	P. Farcy, L. Perivoliotis, R. Nair	ASAP

5.4	WP5,6,8	Regarding the D5.16 deliverable "Linking JERICO-NEXT	WP5,6,8	
		activities to a Virtual Access infrastructure" was discussed	partners	
		among the coordinator, the WP5, WP6 and the WP8		
		leaders to organize of a common meeting between WP5,		
		WP6 and WP8 to better coordinate the interactions in		
		between them.		
6.1	WP6	Virtual Access	WP6 leader	
		The criteria for the assessment of the Virtual Access		
		activity will be aligned/ will consider with the criteria		
		defined for D5.16 proposed by Antonio Novellino (ETT)		

TFS: Task Force Strategy: a working group set in WP1 to work on the JERICO-RI strate



3.3 Minute of the General Assembly meeting

3.3.1 WP9: Coordination by P. Farcy (Ifremer)

This General Assembly meeting was introduced by the coordinator, Patrick Farcy, who presented the WP9 progress. Here after is a summary of his words.

At this stage it is fundamental to start working on the future of JERICO-RI in order to progress in collaboration in EOOS (European Ocean Observing System). A collaboration with EuroGOOS has been started to propose something as a Coastal Oceanographic Ocean System.

One aim of JERICO-NEXT is to go further than the previous project with new infrastructures as HF Radar and Ocean Bottom Observatory plus to focus more on biochemical & biological data and parameters.

Patrick Farcy listed the objectives of the project (cf. WP9 slides in annex) including one of the most important ones which is to produce a long term strategy for further development (part of the WP1).

The upcoming events have been announced:

- The second period will last until August 2018 (M36)
- The third steering Committee meeting will take place in Heraklion from June 13 to 14
- The Mid-term review will be held in Brussels in October 2017 (23-24)
- The fourth Steering Committee meeting should take place either in December 2017
- The second General Assembly meeting will take place in Ireland (Galway) in September 2018, organized by the Marine Institute
- ➤ The third General Assembly meeting could be organized in September 2019 by the coordination in Brest

Every month a video conference is organized with the members of the Steering Committee to discuss on main issues and to make a follow-up on WP's actions.

Afterwards Sylvie Pichereau informed on the second amendment of the project which includes modifications on: TNA rules (access to TNA chapter 2), WP8 Milestones 58&59 (explained below in WP7 session) and WP3 changes on task 3.4 & task 3.7.

Regarding these modifications each partner's representative agreed by signing the official papers. In this way the process of signature has been respected.

A particular attention has been drawn to the unforeseen subcontracting as they are not declared in the contract annex 1: the DOA. Patrick Farcy underlined the importance to make a dedicated amendment to the contract as the European Commission looks at it carefully.

Regarding the first reporting period (financial and technical), the importance of the financial statements requested in the XLS file was pointed out as the PMT needs it to prepare a financial consolidation with information not included in the online Forms C.

3.3.2 WP1: Integrated Science Strategy and Governance from local to European Scales by Dominique Durand (COVARTEC)

Dominique Durand presented the WP1 with main achievement driven during the past few months, along with the next steps. Here after is a summary of his words.

He started by reminding that the aim of the WP1 is to provide a framework for the long term sustainability of the infrastructures and the impact of the infrastructure, on research, innovation and European policies. Through the WP1 there is the ambition to interact with all the WPs as they contribute to the creation and development of this long term strategy. The next months will be focused on developing the interaction with Work Package 2 and Work Package 3 which are important information providers for the strategy.

The follow up of the WP1 was presented by task:

- Task 1.1 Literature review

The task started at the KO meeting and ended in February 2017. Two questionnaires came out from the work carried out to obtain the views of WP1 partners and collaborators, and information on environmental threats and adequacy of monitoring programmes respectively. The first one dealt with the threats and the second one with monitoring programmes. They were distributed among the partners and the User Panel members. The analysis of these questionnaires is summarised and presented in the Deliverable 1.1 (D1.1).

D1.1 Key outcomes: preliminary analysis of the scale issue which will be developed and furthered in the task 1.2. JRAPs results

Task 1.2 Science strategy

The concept of science governance became quite strong during theses 18 first months and is now being developed as an approach focused on scientific arguments to justify the governance of the infrastructure with its observations. The process to elaborate a science strategy has been initiated with the preparation of **table of content of the deliverable D1.2 "Scientific strategy"** presented to the Assembly.

- Task 1.3 Interaction with biology and biochemistry infrastructures and consortia

Interactions with biology and biochemistry infrastructures includes lot of contributors. The aim of these interactions is to establish operational links between biological communities and to provide outputs to task 1.4 in terms of elaborating scenarios for long term sustainability.

A lot of interactions among initiatives and projects rose during the first 18 months.

A process of initiating close interactions and mechanism for exchange of know-how between these biological initiatives and JERICO-RI has been materialized.

The strategic rapprochement between JERICO RI and EMBRC has been presented to the Assembly. It stands in a couple of meetings organized to find a way of collaborating and to a possible joint application to a call.

- Task 1.4 Interaction with European and international Ocean Observing networks

The work progress of this task has been listed as follows:

- key players have been identified
- Specific discussions with EuroGOOS towards EOOS among others
- Interactions with observing systems outside Europe
- Two tools have been developed through this task for communicating and planning a better interaction:
 - o 1) A Google Docs has been established to report on interaction and planed them with the goal to identify "where we go?", "who is there?", "who do we plan to interact with?" "What is the goal of this communication and the outcomes?" and "What could we use in the future?".
 - 2) I. Keys messages specifying the identity of the JERICO-RO consortium have been validated by the Steering Committee.

- Task 1.5 Strategy toward sustainability: Economics and Governance

A Task Force Strategy (TFS) has been established (linked to both interaction and governance aspect) and validated by the Steering Committee. The TFS is made with a preliminary group of contributing persons which will be extended to more people, as for example those of WP8 (communication) as it is crucial.

The first goal of the Task Force Strategy is to go from JERICO-RI to JERICO ESFRI and to focus as well on other models for the future. Considering becoming an ESFRI requires a long way of process, it is important to start working on it now.

Regarding to this ESFRI issue an important decision was taken during the General Assembly. Each partner representatives has agreed by signing on the following: "As a JERICO-NEXT partner do you agree with supporting and participating in a process with the aim of submitting a proposal of entering JERICO-NEXT Research Infrastructure into an ESFRI Roadmap?".

- Task 1.6 Strategy for the future and the JERICO label

This task will start later on with the aim of providing a global strategy for the implementation of sustainable network of coastal observatories.

The first action will be related to the JERICO label with a part linked to the WP2. Dominique Durand pointed out the importance to establish the right model and the right progress time lead.

WP1 general Discussion

Q1 Eric Delory asked if this ESFRI project will be open beyond the JERICO-NEXT consortium. Patrick Farcy positively answered and he underlined that it is a long process of negotiations with nation representatives which is time consuming due to several exchanges.

Dominique Durand added that it could be open to other communities as JERICO-RI should grow and integrate other partners.

Q2 Laura Beranzoli: For a pedagogical purpose it is important to say that when agreeing to enter on an ESFRI schema, it means that we are engaging on a coordinated infrastructure, instead of a federative one.

Q3: Bengt Karlson: Does it means that each nation will have to be engaged on the contribution?

Patrick Farcy: Yes. The project will be proposed in 2019 so we have to start now the procedure by going step by step. If we do not try it will be difficult to have a sustainable infrastructure.

3.3.3 WP4: Valorisation through applied joint research by Ingrid Puillat (Ifremer)

In introduction, Ingrid Puillat remembered that WP4, as a pillar of JERICO-NEXT, has been settled to answer some key scientific questions and policy requirements. Then, she summarised the work achieved and the newt steps in the whole WP4.

She pointed out results and achievements within some JRAPs as examples of the presentations given during the WP4 workshop#1 held a few days before in Helsinki (Milestones MS44 "Presentation of JRAP progress, showing links with other WPs"). This workshop was a success and the level of showed presentations and material appears to be very promising for the future.

Several conclusions on this WP4 workshop# 1 were communicated to the Assembly as follows:

1) To start producing/organizing a JERICO-NEXT Special issue

Two Special issues could be edited in the life time of JERICO-Next according to the number of publications. Ingrid Puillat insisted on the fact that these Special issues are open to the other WPs, as for instance to WP3 publications on developments and technology.

Lauri Laakso suggested using the open access journal managed by EGU.

- 2) To organize a special session during the EGU conference in April 2018 (Vienna)
- 3) JRAP1 informed that new joint field actions are in implementation process. They still need to be discussed
- 4) Creation of a working group called "Group on integrating monitoring analysis" to work on the method dedicated to joint data analysis (not only correlation), led by Antoine Grémare (CNRS-EPOC).
- 5) JRAPs 1, 2, 3 & 5 contributors expressed the need to get information from the environment on physical part. In the other hand, JRAPs 4 & 6 physicians need to get more information in terms of the needed sampling frequency and extension of the covered area.

From these two conclusions came out that a physical meeting is necessary. Antoine Grémare (CNRS-EPOC/ university of Bordeaux) is dealing with the organisation of this JRAPs meeting which will probably take place in Bordeaux.

WP4 General Discussions:

- i) Regarding the second conclusion of the WP4 workshop, it has been proposed to organize a special WP4/JRAP1 session during the next ICHA (International Conference on Harmful Algae) which will be held in Nantes in October (21-26) 2018 (Philipp.Hess@ifremer.fr is one of the organizers).
 - It was also suggested to arrange a session on automated HAB observations supported by JERICO-NEXT during this conference.

<u>Decision</u>: Ingrid Puillat agreed and confirmed that 2 WP4 sessions could be organized: one during the EGU conference (April 2018 in Vienna) and the other in the framework of the ICHA.

ii) Bengt Karlson pointed out to avoid the connection between the 2nd General Assembly of JERICO-NEXT in Ireland and the ICHA.

Felipe Artigas made another suggestion which is to organize a special WP4 session in the framework of a Marine dedicated conference as ASLO. But as it will be in USA in 2018, this option was cancelled.

iii) Ingrid Puillat ended her presentation by an open question related to the publication of a JERICO-Next Special Issue: Do you have enough material to start a Special issue and what are your wishes?

The partners expressed their interest to contribute to this Special Issue.

<u>Decision</u>: When JERICO-NEXT is mentioned on a publication, an email with the references shall be sent to the PMT (needed for the reporting).

3.3.4 WP8: Outreach, communication and engagement by Simon Keeble (BLIT)

Simon Keeble showed the status of each task in WP8, he explained the work gone and the actions to be implemented by task, as follows:

- Task 8.1: Create a channel for 2-way communication with user groups: User Panel meeting went well. During the next few weeks, we will be sharing notes with each session leader, get feedback, and compile one report.
- Task 8.2: Inform and engage stakeholders and public user groups: an interactive map of layered information to describe what the system looks like. It was well received by the UP and decided that we should proceed with it. Also the possibility to collaborate with other projects (AtlantOS) was considered to see if we can create a larger platform giving greater context.
- Task 8.3: Inform and engage research and policy end-users: Cefas will be considering very soon what type of products they could produce. Several ideas were discussed that require further investigation.
- Task 8.4: Inform and engage industry: Positive feedback from the interactions with the UP. Further discussions to take place with some of the members.

Simon Keeble also presented the next WP8 events according to the tasks:

- Task 8.5: Enhance European human capacity building in operational marine sciences: For the next summer school, Deltares received 27 applications and accepts everyone. The topics that the Malta workshop will cover are still flexible but will try to promote JERICO NEXT services and products as much as possible. The Malta summer school will be divided into lessons as well as practical sessions. For the online course material, the general feeling was that we should have videos of 12 to 15 minutes each that cover various topics. We will then provide slides to go with each one. Online course material should be uploaded on YouTube for high visibility.
- Task 8.6: Sustain and develop JERICO-NEXT web presence for dissemination of products and knowledge: an update was provided on the website statistics.

Discussions:

Communication issue

Simon Keeble informed that there is not enough content in the website and/or for social media and he suggested that for each event shall be sent some photos and/or videos with few lines in an article. Successful website are the ones with regular feeding not the static ones. WP8 doesn't have enough content nor enough information to make a good dissemination. We have cruises. We have to communicate more.

The European Union has sent an email asking for more communication, this is crucial.

Patrick Farcy insisted on the fact that for each cruise shall be sent some photos with an article explaining what has been done.

Felipe Artigas pointed out that it is important to insist on the communication => some people involved in professional communication could make some videos on cruises or on other activities.

User Panel issue

Eric Delory: How did you select the User Panel members? What were the criteria and the scope?

Simon Keeble: We had an application form process through the website with scoring criteria. We underlined the importance of their background. Some applicants were already familiar and we made invitations as well.

Eric Delory: Is it voluntary work? Quite difficult to get them engaged?

Simon Keeble: Yes it is. We made it really clear. They are expected to contribute and so far it has been ok. I hope they will get something from this work and continue the way it stated as it is really positive.

3.3.5 WP2: Harmonization of technologies and methodologies by Rajesh Nair (OGS)

The WP2 follow-up was given by Rajesh Nair who presented what has been done within this work package in the first 18 months of the project.

To begin with, the main objectives and tasks of the WP were reviewed. Then, the milestones and deliverables relevant to the M1-M18 period were listed, and a table indicating the various partners formally involved in the WP was shown. Thereafter, the statuses as regards the achievement of the milestones and the consignment of the deliverables were presented. Each milestone and deliverable was described singly, highlighting any difficulties and delays encountered, consequences and impacts. Two off-programme events (not specified in the DoA) relating to the WP were also described. Next, the activities pertaining to the successive 18 months (M19 to M36) were illustrated. These included the following:

- the finalization and submission of D2.2 ("Report on the status of sensors used for measuring nutrients, biology-related optical properties, variables of the marine carbonate system, and for coastal profiling, within the JERICO network and, more generally, in the European context");
- the analysis and reporting of the results from the WP2 Salinity Performance Evaluation Exercise;
- the drafting of questionnaires for the survey on the needs, equipment and usage practices of JERICO-NEXT partners for pH and DO measurements;
- the organization of the workshop of Task 2.2: Consolidation of initiated harmonization actions, dealing with Fixed Platforms, FerryBoxes and Gliders;
- the preparation of D2.3 ("Report on ongoing harmonization initiatives within the JERICO network for the following three key technology areas: Fixed Platforms, Ferryboxes and Gliders".

The presentation ended with an overview of the remaining milestones and deliverables of the WP. There were no questions from the audience concerning the WP, and no subjects came up for discussion.

3.3.6 WP3: Innovations in Technology and Methodology by Laurent Delauney (Ifremer)

Laurent Delauney presented the WP3 progress, the faced difficulties and the next steps to achieve.

The main highlights of the presentation:

- Task 3.2 DEVELOPMENTS ON CURRENT OBSERVATIONS FROM HF RADARS: The installation of a new phased array (PA) system is delayed, waiting for authorization. The current plan aims to install the station for July 2017, no effect on project schedule.
- Task 3.3 PROFILING COASTAL WATERS: Issues in development of the 3 profiling systems. Solutions have been engaged. Difficulties for the Yoyo deployment, but no effect on project schedule.
- Task 3.4 MICROBIAL AND MOLECULAR SENSORS: Change in route for the FerryBox on ship TransPaper means that the focus of the subtask has changed. The mitigation solution is under investigation with the WP3 leaders and Coordination.
- Task 3.6 BENTHIC COMPARTMENT AND PROCESS: i) The Sampling cruise in the Bay of Brest initially planned in March 2017, rescheduled in 2018 because of bad weather conditions; consequently it is postponing the submission date of DL3.10 from M24 to M36. ii) The change in the CNRS salary grid resulted in the impossibility of hiring a post-doctoral fellow working on eddy-covariance as initially planned. CNRS is still looking for a solution.
- Task 3.7 OSE/OSSE technology:
- 1) The general on-going activities by IFREMER, CNRS, HZG and SOCIB are in time and well organized considering the requirements of T3.7.
- 2) CMCC is actually working for repairing accumulated delays due to the leading transition. In particular, due to numerical results of preliminary experiments with OSE/OSSE system in the W Adriatic and NW Med, CMCC is going to:
 - ✓ Review the numerical assessment of the AIFS-DA EnKF system for assimilating T/S profiles and HF radar
 - ✓ Assess consequently the OSE/OSSE system and its quality in the W Adriatic and NW Med
 - ✓ To achieve the goals, CMCC would propose to review T3.7 deadlines and approach, especially for the Adriatic and the NW Med, in order to achieve in good way the WP3 objectives

There were no questions from the audience concerning the WP3, and no subject came up for discussion.

Aside Patrick Farcy has drawn the attention of the audience on Deliverables issue insisting on the fact that they are not only made for the European Commission. Indeed they are needed for the progress of the project and also for the community. They should be regarded as bibles and each deliverable could be upgraded.

3.3.7 WP5: Data management by Leonidas Perivoliotis (HCMR)

Leonidas Perivoliotis presented the work progress of WP5 along with the next steps for the work package.

By reminding the objectives & the challenges of this WP, Leonidas Perivoliotis insisted on the fact that JERICO-NEXT is not building its own Data Center. Data will be directed to the major European Infrastructures and they will be available to the community.

After having presented the main significant results and progress on the tasks, the following decisions/actions regarding the implementation were presented and were approved by the partners:

- ✓ The JERICO-NEXT data policy will be simple and clear promoting the free and open access to the data.
- ✓ The Sextant tool will be used to generate the JERICO-NEXT's metadata catalogue and for the DOI assignment to the data.
- ✓ VLIZ will deliver a document on biological QC procedures on M24
- ✓ SMHI FerryBox Toolbox will be disseminated to the relevant JERICO-Next users for further evaluation.
- ✓ Discussion will be made among WP5 partners for the contribution to the JERICO-NEXT best practices workshop scheduled as a side event of the next EuroGOOS conference (3-5 October 2017, Bergen, Norway).

Moreover, the content of the D5.16 deliverable "Linking JERICO-NEXT activities to a Virtual Access infrastructure" was discussed among the coordinator, the WP5, WP6 and the WP8 leaders. It was suggested the organization of a common meeting between WP5, WP6 and WP8 to better coordinate the interactions in between them.

3.3.8 WP6: Virtual access by Véronique Créach (CEFAS)

WP6 follow-up was introduced by Véronique Créach who explained what has been done within this work package for the past few months.

This presentation included a summary of the aims of the work package, the discussion with the User Panel members and the workshop.

Because this activity is new in the H2020 European projects, the difficulty to put together the different requirements was highlighted.

No specific question was asked on the assessment tool (Google analytics, Piwik or AWStats) or on the template for the assessment which was not yet finalised and still in discussion.

However, a discussion has been initiated by Patrick Farcy on the relations with other work packages and particularly with WP5 (task 5.8: Linking JERICO-NEXT activities to a Virtual Access infrastructure).

In conclusion of the discussion, it has been agreed that the criteria defined in D5.16 by ETT (Antonio Novellino) will complement the criteria for the assessment of the Virtual Access activity.

Following the discussion, Henning Wehde (IMR) was surprised that the assessment will be mostly on the information flow and not on services. This comment was shared with Antoine Grémare (CNRS) and Dominique Durand (Covartec).

It has been pointed out that ways have to be found to provide more attractive new services. Dominique Durand added that the services provided by one portal might not be flag as JERICO services, they will come from the integration of data (sensors & platforms). It is necessary to define what will be JERICO services.

Patrick Farcy informed that this point was discussed during the User Panel meeting and the aim is to have few services at the beginning (2 or 3) not many.

Dominique Durand suggested to organize a brainstorming workshop on what could be virtual services.

Véronique Créach explained that it was difficult to base an assessment on services when the data are freely available and there is no process in place to identify the users except by the country of origin. However, some of the data portal providers could be able to bring information about how the data are used particularly for new services.

At the end of the GA, there was no comment from the STAC on the WP6.

3.3.9 WP7: transnational Access to Coastal Observatories by Stefania Sparnocchia (CNR-ISMAR)

Stefania Sparnocchia presented the work progress of the WP7, the difficulties faced and the next steps to achieve.

She started by underlining that this work package is one of the services that JERICO infrastructure is providing.

The Trans-National Access consists of three phases: 1) Delivering a call 2) Evaluating the proposals submitted 3) Implementing experiments.

Every partner involved in JERICO-NEXT needs to attract users (advertising a call is essential) and to support the User Group.

The main changes were listed as follows:

- In terms of Milestones: MS58 has been advanced by 3 months (M21=>M18); MS59 has been advanced as well by 3 months (M32 => M29)
- In terms of TNA criteria: criterion 1 and 4 created some problems to the Selection Panel so they were changed (cf. WP7 slides below)
- In terms of budget: the amount of budget per user project was increased to 6000€ for the second call independent of the number of facilities used (in order to stimulate potential users to apply, because if the budget is low they are probably not very interested)
- The TNA management team has changed, In terms of composition: Charles Troupin (SOCIB) has been replaced by John Allen (SOCIB)
- ➤ In terms of Access time: in the First Call a user requested for more access time that was available in the DoA, which has been approved. The extra cost will be partially (0 to 100%, depending of the remaining budget after the last TNA call) reported in the final financial reporting (M48)

There were no question from the audience concerning the WP, and no subject came up for discussion.

3.4 Recommendations of the STAC (Scientific and Technical Advisory Committee)

Members of the STAC: Janet Newton, Alicia Lavin, Laura Beranzoli, Roger Proctor, Eric Delory, Peter Herman, Richard Lamptitt

Present: Eric Delory (PLOCAN), Laura Beranzoli (INGV, EMSO-ERIC)

WP9

According to the STAC, there should be a better connection with other projects in sensors development. Eric Delory reminded the 9 projects on sensor development in course (launched) (5 on biosensors and 4 on innovative sensors). There are also some harmonization tools led or used in these projects which can be handy for the technological harmonization under JERICO-RI. Eric Delory specified that information and connections could be provided by the STAC.

The connection with FiXO3 project (sister project of JERICO-NEXT in the Open Ocean field) was also suggested in order to use the work done as for example for the Best Practices handbook led by HCMR which should be of value for JERICO.

WP1

The STAC agreed with the idea to maintain interactions between projects with regards to the activities on metadata and sensor registry. The fact that there is no deliverable dedicated to this action was pointed out so this might be an issue to consider in motivating people to work on that. (Off line note from the coordination: Deliverables 5.6 and 5.7 are dealing with that).

FiXo3 deliverables are adding a good value for this topic.

Regarding the strategy, Laura Beranzoli noted that the link with GEO/GEOSS has not been mentioned. Concerning the ESFRI roadmap, this is a long process with 3 main phases: 1) Proposal phase 2) Preparatory phase structuring the infrastructure with a central coordination 3) to become a landmark recognized as an actor in the research infrastructure community.

Consequently, it is important to set up a process supported by the maturity in the relationships between the national research communities and the governments. In addition, when the infrastructure is getting operating for some time the governments wish to see what are the revenues for their country.

The infrastructure of JERICO-RI is complementary to the other ones so it could be a gap if JERICO would not become an ERIC in the future.

WP4

Laura Beranzoli has found the WP4 workshop very impressive and JRAPs valuable activities. She suggested to integrate more the JRAPs either on common geographical areas or in the methodology and she added that JERICO-RI could produce basic, dynamic and comprehensive models for some region.

Ingrid Puillat answered that a discussion has started on the need to have a preliminary work on the method of analysing the data in order to then make deployment in 1 or 2 regions. She added that this is a long term process which will not end under JERICO-NEXT.

WP8

Dissemination and Outreach

There is a potential for the test bed initiatives (SMARTBAY, PLOCAN, EMEC...) which are test infrastructures where you have got industry coming in and testing renewable energy devices (new aquacultures, methodologies, infrastructures...). These types of organizations and collaborations may be something to study for promoting TNA and engaging industry as they need test bed to get the authorization to go to commercial scales. So they can be an alternative to TNA as there is no way to simplify the interaction between these 2 communities.

Ocean business / Innovation and Industry

According to Eric Delory this event faced a problem of announcement because there were very few participants from the industry.

WP7 TNA

Eric Delory underlined the problem with the TNA communication. He suggested to consider a way that identifies the clear benefice in addition to what is already planned.

Eric Delory reminded that to redistribute the leftovers of funds the decision should be taken at the Steering Committee level and the SC must make sure that the European commission is aware of it.

WP2 Harmonization

Eric Delory suggested to ensure that JERICO-NEXT reports are available online and shared as the technical reviewer will ask for it.

WP3

On innovation and technologies, ERIC Delory pointed out the importance to be aware off the other projects and the necessity to have a look on Atlantos technology work map updates which provide technology assessments.

Regarding new developments which are co-developed by other projects, Eric Delory pointed out the importance to refer to these projects with logos in the JERICO-NEXT presentations in order to avoid the confusion from the reviewers or the EC.

WP5 Data management

Eric Delory pointed out that ENVRI+ is not mentioned and should be added.

Data management represents a long term perspectives that cannot be solved in JERICO-NEXT life time.

Eric Delory noticed that there is a focus on Copernicus but at the opposite GEO doesn't appear on the map. He suggested that someone from the WP5 could pay attention to ensure the link to GEO with

concrete objectives. This work will be a plus for the future of JERICO-NEXT and the technical reviewer will probably point the GEO to our attention asking what our strategy is to respond.

Conclusions:

The STAC invited JERICO-RI to have better connections with the other projects and initiatives in order to save time as we might discover that some issues and subjects have already been solved.

JERICO-NEXT coastal infrastructures with the JRAPs proved that the project can have a large impact on science. Indeed, the potential of JRAPs is that they can provide some tools for the practical management of coastal environment.

According to the STAC, the connections among WPs is clear but the synergies must be improved as there are potentials for improving and giving a more comprehensive and integrated vision of the coastal management.

4. Annexes





IOINT EUROPEAN RESEARCH INFRASTRUCTURE NETWORK FOR COASTAL OBSERVATORIE

Integrated Science Strategy and Governance from Local to European scales

WP1

Dominique Durand / Covartec / dominique.durand@covartec.eu

www.ierico-ri.ei

JERICO-Next 1st GA - Helsinki - FINLAND 16th March 2017

Outline



- 1) Main objective associated Tasks and targets
- 2) List of partners and expected involvement
- 3) Main significant results and progress on tasks
- 4) Progress on Deliverables and milestones
- 5) Next steps for upcoming 18 months
- 6) Bottlenecks and mitigation

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Main objectives of WP1



- To produce a long term strategy for the development and integration of coastal observatories in Europe
- To provide a framework for the realisation of the project workplan and for the long term sustainability and impact of the RI on research, relevant European policies and innovation
- WP1 interacts with all other WPs to ensure an optimal feedback from the different NA, TNA and JRA activities to the JNEXT strategy.

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WP1 - Basic information



- Coordination: D. Durand (COVARTEC),
 - Deputy coordinator: A. Gremare (CNRS)
- Expected effort: 89 person-months
- 19 participants

• Duration: M1 – M48

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WP1: Tasks and organisation



- Task1.1: Literature review (S. Painting, CEFAS) M1-M18
- main environmental issues and threats and how they are presently tackled through European organizations, initiatives and projects
- Task 1.2: Science strategy (A. Grémare, CNRS) M1-M42
 - To tackle key scientific questions about how best to observe physical, chemical and biological parameters in European waters and the adequacy of present observation strategies to meet key scientific and societal challenges in the costal ocean
 - Science committee follow-up
- Task 3 & 4 (C. Arvanitidis, HCMR; J. Tintore, SOCIB) M1-M42
 - Specific interactions with other relevant European and international ocean observing systems and infrastructures that provide complementary observations of biological (task 1.3) and /or physical, chemical (task 1.4) parameters
- Task 1.5 (P. Gaughan, MI) M18-M42
 - Strategy towards sustainability. To look at long term financial and legal governance structures for the sustainable implementation of JERICO-NEXT infrastructures
- Task 1.6 (P. Farcy, Ifremer) M24-M48
 - Roadmap for the future and the JERICO label

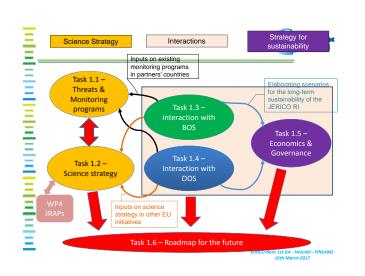
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Tasks vs. Participants



Partners		Task1.1	Task 1.2	Task 1.3	Task 1.4	Task 1.5	Task 1.6	
Institution	Contact Name & Email	Effort						
COVARTEC	Dominique Durand	12	х	х			х	х
CNRS	Antoine Gremare	12	х	X/J	х			х
lfremer	Patrick Farcy / Ingrid Puillat	9,5	х	х	х	х	х	Х
MI	Fiona Grant / Paul Gaughan	9				х	х	х
HCMR	Georges Petihakis / Christos Arvanitidis	12			х	х	х	х
CEFAS	David Mills / Kate Collingridge	8,6	х	х	х	х	х	х
SOCIB	Joaquin Tintore	4		J		х	х	х
SYKE	Timo Tamminen / Jukka Seppälä	3			х	х		х
SMHI	Bengt Karlson	3		J	х			
NIVA	Luca Nizzetto / Richard Bellerby	2,3		J	х			
AZTI	Julien Mader/ Anna Rubio	4		J	х			
EuroGOOS	Patrick Gorringe / Glenn Nolan	4				х	х	
IMR	Einar Svendsen / Henning Wehde	1,6		х		х		
ogs	Rajesh Nair	1,1		х				
IO-BAS	Atanas Palazov	1				х		
CNR	Stefania Sparnocchia	0,6				х		
FMI	Lauri Laakso	1		J		х		х
EMSO-ERIC	Paolo Favali					х		
EuroArgo-ERIC	Sylvie Pouliquen	0,5				х		
NRSC / FixO3	Richard Lampitt (STAC)					х		

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Task 1.1 – Literature review M1-M18



- Lead partner: (Cefas) Suzanne Painting, Kate Collingridge
- Partners: CNRS (Antoine); Ifremer (Ingrid); COVARTEC (Dominique)
- all WP1 partners as national representatives and acting through other tasks
- Aim to
 - Consolidate the backbone of the future science strategy
 - Focus on the scale issue
 - Consider the main environmental threats within European coastal
 - Get an overview of coastal monitoring programs around Europe

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Task 1.1: Progress & Results



Actions completed	
Literature review	
Elaboration and distribution of the JERICO-Next Questionnaires distributed widely, for responses (all WP1 partners, User Panel WP8, all J-Next partners, OSPAR and EuroGoos contacts and networks, and colleague networks)	Jan-June 2016
Responses to questionnaires closed	November 2016
Final analysis of results	December 2016
Preparation of draft Final Deliverable	January 2017
Final Deliverable	M18

Key Outcomes

- Preliminary analysis of the scale (spatial and temporal) issue for observing and apprehending coastal complex processes, coupling physical, chemical and biological compartments reported D1.1
 - Fundamental input to the science strategy for the JERICO-RI
 - New light on strengths and weaknesses of existing monitoring programs in Europe

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Task 1.2 – Science Strategy



- Lead partner: CNRS : Antoine Grémare
- Partners: IFREMER (Ingrid), COVARTEC (Dominique), CEFAS (Veronique), OGS (Rajesh), IMR (Henning)
 - JRAPs Leaders: B. Karlson/F. Artigas, A.Grémare, L. Nizzetto, A. Rubio, L. Laasko/J. Seppälä and B. Mourre
 - CEFAS (Task 1.1): Suzanne Painting / Veronique Creach
 - HCMR (Task 1.3): Christos Arvanitidis / George Petihakis
 - SOCIB (Task 1.4) : Joaquin Tintore

To tackle key scientific questions about how best to observe physical, chemical and biological parameters in European waters and the adequacy of present observation strategies to meet key scientific and societal challenges in the coastal ocean

Scientific dimension for recommendations for a future governance

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Task 1.2: Progress & Results



Actions completed	
Several meetings with JRAPs leaders with objective of defining their sampling strategy to optimize their future contribution to the final version of D1.2 (due by M44).	Oct 2015 - onwards
A first meeting with representatives of IMOS and IOOS. The principle of a visit to IOOS has been adopted	September 2016
ToC and writing of D1.2 has been discussed at the WP1 workshop on Monday	January 2017 (->M20)

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Coordinated action plan WP1/WP4



MS6 First feedback from the JRAPs (M36)

• D1.2 - Science strategy v2 (M44)

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Proposed structure for D1.2 (1/2) 1. Executive summary 2. Introduction 3. Specificities of the European coastal ocean 3.1. Area of major importance for human activities and well-being 3.2. Diversity and spatial heterogeneity: a continuum from the Sea scale to the habitat level 3.3. Temporal dynamics heterogeneity: coexistence of several temporal cycles 3.4. Coupling between physical, chemical, biogeochemical and biological compartments/processes 3.5. Benthic-Pelagic coupling 4. Current technological means of observation of the European coastal ocean 4.1. Physics 4.2. Chemistry 4.3. Biogeochemistry 4.4. Biology 4.5 Essential Marine Variables

Synthesis on the impact of technical limitations on monitoring spatial and temporal scales

Proposed structure for D1.2 (1/2)

5. Interactions between the nature of (1) the spatiotemporal dynamics of monitored compartments/
processes and (2) environmental threats

5.1. Compartments and processes
5.2. Environmental threats (inputs from D1.1)

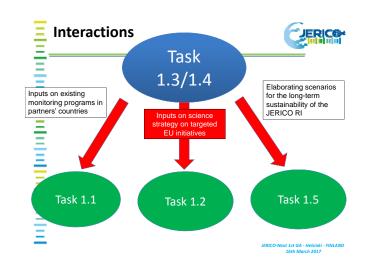
6. Lessons learned from similar RIs

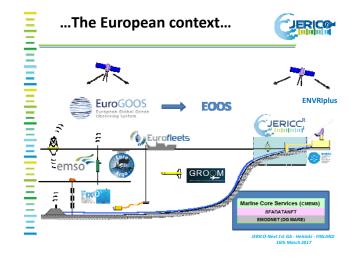
6.1. Input from JERICO
6.2. IOOS (USA) and IMOS (Australia)
6.3. Others?

7. Interactions with and experience gained from the JRAPs
7.1. JRAP-1: Planktonic biodiversity and primary production
7.2. JRAP-2: Benthic biodiversity and processes
7.3. JRAP-3: Contaminants distributions and novel monitoring technology
7.4. JRAP-4: Trans-boundary hydrology and transport

8. JERICO-NEXT strategy and propositions

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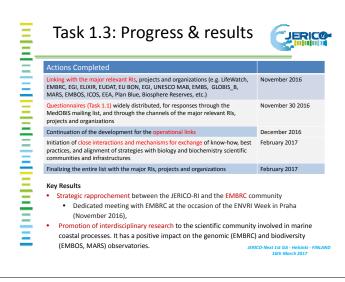


Task 1.3 -Interaction with biology and

Establishing operational functioning links with existing consortia, communities, projects and organizations coordinating biological and/or biogeochemical RIs of relevance to JERICO_NEXT
 Provide inputs to support task 1.5 in elaborating scenarios for the

long-term sustainability of the JERICO-RI

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Task 1.4 - Interaction with European and **International Ocean Observing Networks**



M1-M42

- Lead partner: (SOCIB, Emma Heslop & Joaquín Tintoré)
- Partners: MI, Ifremer, IMR, HCMR, SYKE, FMI, NOCS, CEFAS, IO-BAS, CNR, EuroGOOS, EuroARGO
- - Establishing close contacts with existing RI
 - Focus on ocean observing systems, mostly addressing physical and chemical parameters (but further develop biological observation)
 - Mechanisms for exchange of know-how, practices, and alignment of strategies with existing European (I3, ESFRI, ERIC) and other marine observing systems outside Europe.
 - Provide inputs to support task 1.5 in elaborating scenarios for the long-term sustainability of the JERICO-RI.

Task 1.4: Progress & Results



Task 1.4: Progress & Results	CERIC	
Actions completed & Results	December 2016	
Identified Key Players and initiated discussions with EUROGOOS, Oceanology International UK and EOOS meeting EU Parliament. Feedback: Coastal Component is crucial, nobody is doing the coordination and JERICO-NEXT is uniquely positioned	March 2016 Sept 2016	
Marine observing systems outside Europe (IMOS, US-IOOS). In depth discussions with the Australian and US ocean observing systems, STAC meeting lesson learned failure to avoid	October 2016	
Created a template for JERICO-NEXT participation at key international meetings & conferences, to develop a forward looking strategy on what JERICO-NEXT wants (see below) and to interact with other WP's Partners	December 2016	
Identify key JERICO-NEXT messages to be presented at key meetings & by WP8 (discussed at SC) Feedback: at SC and from Partners	December 2016	

Task 1.4: Progress New Orleans USA Washington USA Portland, Oregon USA https://docs.google.com/spreadsheets/d/1QFyhuvgC_xUalf08Ge6RKBcaVQTxDc

Strategic communication

Key JERICO-NEXT messages



<u>Idea</u>: Two or max 4 key messages to clarify and give an identity to JERICO-RI Purpose: efficient and broad communication

Coastal regions are seen as having the strongest potential for growth and employment

- Coastal focus uniquely positions the JERICO-RI Coastal Observing network to respond to the pressing societal questions, and by doing so, to engage with key maritime stakeholders, both government and commercial - including flooding and coastal erosion, sustainable marine resources, MPAs and CZM, aquaculture, shipping, climate change adaptation
- The importance of complex processes in the coastal zone means that the JERICO-NEXT Project is investing in scientifically sounded simultaneous observations of physical, chemical ters and in innovation in key areas of biogeochemical observing technologies
- An integrated European system of regional coastal ocean observatories does not yet exist. The work of the JERICO-NEXT Project, in line with GOOS initiatives, is to coordinate coastal OO components through harmonisation of data collection, QA and access, filling technological gaps, linking open ocean change to coastal systems and societal impacts
- Supporting the visibility of the coastal ocean observing community through engaging with stakeholders (including industry, SMEs), advocating the value of coastal systems, enhancing ocean data use through JERICO-NEXT virtual portals

Task 1.5 – Economics and Governance M18-M42



- Lead partner: MI (Paul Gaughan)
- Contributors: HCMR, Ifremer, EuroGOOS, Covartec, CEFAS, SOCIB
- Objective: Strategy towards sustainability. To look at long term financial and legal governance structures for the sustainable implementation of JERICO-NEXT infrastructures

KO at the occasion of the GA, Helsinki, March 13, 2017

- Objectives:
- Establish links with national funding and regional agencies, supporting observing systems.
- Make an assessment of the CAPEX and OPEX costs
 - Legal framework for the long-term implementation of JERICO-NEXT - an assessment for the most commonly used legal forms (ERIC, AISBL)
 - Recommendation to which is the most suitable special purpose vehicle or legal entity
- Comprehensive cost benefit and value analysis, outlining both the direct costs and benefits

Task 1.5 – Economics and Governance



Case Study 1: EMSO ERIC

EMSO-ERIC (European Multidisciplinary Seafloor and Water Column Observatory— European Research Infrastructure Consortium) - is the legal entity in charge of co-ordinating and facilitating access to open ocean fixed point observatory Infrastructures in Europe.

Membership subscription is paid by countries to join the ERIC, of which the costs are used to run the EMSO ERIC

Key Results: EMSO ERIC only recently established with support from H2020. Call: INFRADEV-03-2016-2017 "Individual support to ESFRI and other world-class research infrastructures" - Total Budget: €4,359,451.25 @ 36month

Case Study 2: Euro-Argo ERIC

EURO-ARGO ERIC aims to enhance the collective ability of the European nations to contribute to Argo, and by working together to do so more efficiently in the future

<u>Key Results:</u> Euro-Argo ERIC has seen is membership rise over the past 2 years with the addition of Ireland (2016) and Spain (2017). The ERIC has just issued a collaborative tender for float procurement (replacing individual countries procurement and attaining a more competitive price(float).

Objective 3 will result in a recommendation to which is the most suitable special purpose vehicle or legal entity for which JERICOnext should follow.

Task Force Strategy

Interactions Inputs on existing monitoring programs in partners' countries Threats & Monitoring sustainability of the JERICO RI Task 1.5 -Governance Task 1.2 -Science strategy Task 1.6 - Roadmap for the future

Task Force Strategy - TFS



- Elaborating scenarios and providing timely information and analysis on the following strategical framework:
 - Role of JERICO-RI in a future EOOS
 - JERICO-RI as a standalone ESFRI RI (preparatory phase)
 - Increasing the visibility of the JERICO-RI towards the EC, JPI-Oceans, Marine Board, EuroGOOS, other relevant communities
 - Link to and interaction with international RIs IOOS, IMOS; Neptune, ...
 - Link to and interaction with other initiatives including marine observation: ENVRI+, ICOS, EMBRC, ...
- TFS will provide recommendation on strategic communication and statements to be conveyed by the JERICO community outwards – Link to WP8

Haille	Organization	FOSILIOII
Patrick Farcy)	IFREMER	Project coordinator
Dominique Durand	COVARTEC	Leader WP1 - strategy
George Petihakis	HCMR	
Joaquin Tintore	SOCIB	
Antoine Gremare	CNRS	Co-Leader WP1 and WP4
Glenn Nolan	EuroGOOS	

From JERICO-RI to JERICO-ESFRI



As a JERICO-Next partner, I agree with supporting and participating in a process with the aim of submitting a proposal of entering JERICO-Next Research Infrastructure on the ESFRI Roadmap?

Task 1.6 – Roadmap for the future M24-M48



Lead Partner: Ifremer (Patrick Farcy)

Contributors: COVARTEC, HCMR, CNRS, MI, SOCIB, SYKE, FMI, **CEFAS**

Scope: from a holistic analysis of the WP1 results to a realistic roadmap for the future

> Activity not formally started KO at the M24 meeting in September 2017 (mid-term review)





Deliverables & Milestones

Deliverables



D1.1	Review of sites at threat (Task 1.1)	4	CEFAS	R	PU	M18
D1.2	Science strategy (Task 1.2)	4	CNRS	R	PU	M20 M44
D1.3	Governance and financial structure (Task 1.5)	4	МІ	R	СО	M38
D1.4	Roadmap for the future (Task 1.6)	4	Ifremer/ Covartec	R	PU	M48

Milestones



	Mil	JERICE			
Milest ones	Actions	WPs	Month	Progress	Validation criteria
MS1	Workshop task 1.1	WP1.1	M1	100%	MoM
MS2	Workshop task 1.2.1	WP1.2	M1	100%	МоМ
	Meeting with STAC - endorse the guidelines for JRAPs	WP1.2	M6 Postponed M12	100%	МоМ
	Strategic guidelines for the implementations of the JRAPs	WP1.2, WP4	M7	100%	Guidelines communicated to an endorsed by the consortium
MS5	Mechanism for interaction with similar facilities	WP1.3/ WP1.4	M12 Postponed M18	100%	Mechanism communicated to and endorsed by the consortiu
MS6	Feedback from the JRAPS (Workshop)	WP4/WP 1.2	M36	50%	D4.4 delivered
MS22	Recommendation from HF radar community	WP3, WP1.6	M36	0%	Report delivered
MS7	Jerico Label	WP1.6, WP2	M42	0%	Label endorsed by the Jerico label Committee

Action plan for M18 - M36



Task		
1.2	Redaction of the first iteration of D1.2 Elaborate the science dimension of the future governance model Pursue interaction and knowledge integration from JRAPs	April 2017 M18-M36
3	Internal discussion (WP1 event) on the mechanisms for exchange of know-how, best practices, and alignment of strategies Support to Tasks 1.2, 1.5, 1.6	Spring 2017 Onward
1.4	Building interactions/cooperation with: ATLANTOS; CMEMS (added value we can offer User panel); EOOS frame (actions with EuroGOOS and TFS); DG Mare, DG Research, DG Environment (TFS); BlueMED EU initiative and Black Sea; International Regional/Coastal Observing Systems (visit IOOS, Neptune); JERICO-NEXT Arctic and Mediterranean: next	M18-M36
1.5	Complete assesment of mechanisms for Legal Framework for Jerico-Next – Lesson learn from EMSO, EuroARGO, EOOS case studies Terms of Reference for Cost Benefit Analysis Input: TFS, WP6, WP7 Definition and Compilation of relevant data for the CBA review similar work in FIX03, ATLANTOS, NOAA Options for who will Carry out CBA – investigate previous work	M18-M36
1.6	Detailed planning of the task. Interaction with task 2.6 (Label)	M24-M36

Bottlenecks and mitigation



Possible challen	ges / Issues	Mitigation
	towards a sustainable -RI (focus on ESFRI)	Task Force Strategy
Jerico Label: pro the strategy	gress and contribution to	Link between task 1.6 and task 2.6 Feedback from JRAPs
Communication	cooperation WP1/WP8	Good interactions established on UP. Same to be established for strategic communication and link to industry
task 1.3/1.4 and	he partners relevant to the overall strategy. tributors to the tasks	Item under WP1 workshop to be consolidated
	th parallel initiatives in OS WGs, Marine board, er EU projects	Task Force Strategy An efficient information flow has to be established (Project coordination)
	dination between WP1 and zing outcomes from the ence strategy	Continuous joint follow-up by leadership for WP1 and WP4





This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 654410.





IOINT EUROPEAN DESEARCH INERASTRUCTURE NETWORK EOR COASTAL ORSERVATORIES

Harmonization of technologies and methodologies - technical strategy

WP2

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Main objective of WP2



Harmonization of technologies, methodologies and procedures across the JERICO observing network in the JERICO-NEXT project.

This will involve:

- organizing, managing and reporting on the WP during the lifetime of the project;
- consolidating ongoing network harmonization efforts carried over from the concluded JERICO project;
- extending these efforts to include new systems and sensors;
- standardizing operations and processes, as much as possible.

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Task 2.1: Coordination of network harmonization (OGS+HZG, M1-M48)

Task 2.2: Consolidation of initiated network harmonization actions (HCMR+CNR, M1-M48)

WP2: Tasks

Task 2.3: Harmonizing new network systems (AZTI+HZG, M1-M48)

Task 2.4: Harmonizing new network sensors (HZG+NIVA, M1-M48)

Task 2.5: Calibration and assessment (IFREMER+OGS, M1-M48)

Task 2.6: The JERICO Label Technical Committee (OGS+HCMR, M1-M48)

JERICO-Next 1st GA - Helsinki - FINLAND 16th March 2017 **WP2: Milestones**



M1-M18

MS8: WP2 Kick-off Meeting. (M1)

MS9: First Workshop of Task 2.3, "Harmonizing new network

systems". (M6)

MS10: First Workshop of Task 2.4, "Harmonizing new network

sensors". (M8)

MS11: First Workshop of Task 2.5, "Calibration and assessment".

(M14)

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WP2: Deliverables



M1-M18

D2.1: Report on the status of HF-radar systems and cabled coastal observatories within the JERICO network and, more generally, in the European context. (M12)

D2.2: Report on the status of sensors used for measuring nutrients, biology-related optical properties, variables of the marine carbonate system, and for coastal profiling, within the JERICO network and, more generally, in the European context. (M18)

ERICO-Next 1st GA - Helsinki - FINLAND 16th March 2017 WP2: List of partners



Networking Activity, 17 partners, roughly 101 person-months

Work package number	2	Start M	onth	1	End	Month	48
Work package title	techn	A2 - Harmonization of Chnologies and methodologies - Chnical strategy		methodologies - activity			NA
Lead Beneficiary		6 STATE OF STATE	(OGS & H	ZG		
Participant number	23	15	2	4	6	7	9
Short name of participant	ogs	HZG	AZTI	CEFAS	CNR- ISMAR	CNRS	DELT
Person-months per participant:	24.5	15	7.5	- 4	10	2	0.6
Participant number	13	14	17	1	22	27	28
Short name of participant	FMI	HCM R	IMR	Ifrem er	NIVA	SMHI	SOCIE
Person-months per participant:	1	11	1.75	5.5	5.3	3	2
Participant number	29	31	11	1		- 5	
Short name of participant	SYK E	UPC	EURO ARGO				
Person-months per participant:	- 3	- 5	0		- 6		

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WP2: Tasks



Main actions

(M1/September 2015 - M18/February 2017)

Task 2.1 Kick-off Meeting/WP2 Coordination (MS1) ✓

Task 2.3 First Workshop/HF Radar systems & Cabled Observatories (MS9) ✓

Task 2.4 First Workshop/New sensors (MS10) ✓

Task 2.5 First Workshop/Calibration & Assessment (MS11) ✓

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WP2 Kick-off Meeting (MS8)



<u>Kick-off Meeting/WP2 Coordination (MS8)</u>
Mallorca, Spain, 29 September 2015, hosted by SOCIB.

Main outcomes

- · Official start of the WP within the project.
- Presentation of the main objectives of the WP, including deliverables and milestones and their respective deadlines.
- · Presentations of tasks and sub-tasks.

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First Workshop on New Systems (MS9)



The HF-radar Workshop (MS9-1)
San Sebastian, Spain, 09-11 March 2016, hosted by AZTI.

The Cabled Coastal Observatories Workshop (MS9-2)
Vilanova i la Geltrú, Spain, 19-20 April 2016, hosted by UPC.

Main outcomes

- Survey and descriptions of the HF-radar systems and cabled coastal observatories run by JERICO-NEXT partners, and the establishment of their relative levels of development.
- A framework for cooperation amongst partners to render interoperable these systems to permit their assimilation into the existing JERICO observing network.

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First Workshop on New Sensors (MS10)



Workshop on sensors for nutrients (MS10-1)
Brest, France, 10 October 2016, hosted by IFREMER.

Workshop on sensors used for measuring biology-related optical properties, variables of the marine carbonate system, and for coastal profiling (MS10-2)
Paris, France, 13-14 December 2016, hosted by IFREMER.

Main outcomes

- Survey and descriptions of the sensors used by JERICO-NEXT partners for measuring nutrients, biology-related optical properties, variables of the marine carbonate system, including integral systems for coastal profiling, and the establishment of their relative levels of development within the network.
- A framework for cooperation amongst partners to render interoperable these sensors/systems to permit their assimilation into the existing JERICO observing network.

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First Workshop on Calibration & Assessment (MS11)



Workshop on Calibration and Assessment (MS11)
Brest, France, 11-12 October 2016, hosted by IFREMER.

Main outcomes

- Approval of the implementation plan for the programmed WP2 Salinity Performance Evaluation Exercise.
- Decision to carry out a survey on the needs, equipment and usage practices of JERICO-NEXT partners for pH and DO measurements.
- Decision to work towards the definition of technical protocols for the WP2 pH and DO inter-laboratory comparisons planned for the period 2017-2018.
- Clarification of the kind of laboratory testing that will be undertaken in relation to the activity on harmonization of calibration methods for fluorometers.

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Overview of status: M1-M18



Number	Title	Delivery month (project month)	Leader (organization)
Deliverables	11 2	2	
D2.1 V	Report on the status of HF- radar systems and cabled coastal observatories	M12 - final document submitted in month 15	AZTI/UPC/OGS/HZG
D2.2 V	Report on the status of sensors used for measuring nutrients, biology-related optical properties, variables of the marine carbonate system, and for coastal profiling, within the JERICO network and, more generally, in the European context	M18 - final document to be submitted shortly	HZG/NIVA/SYKE/CNR/OGS
Milestones			
MS8 🗸	Kick-off Meeting/WPZ Coordination	M1	OGS/HZG
MS9 ✓	First Workshop/HF Radar systems and Cabled Observatories	M6 - held as two events in months 7 and 8	AZTI/UPC
MS10 🗸	First Workshop/New sensors	M8 held as two events in months 14 and 16	HZG/OGS/CEFAS
MS11 🗸	First Workshop/Calibration and Assessment	M14	IFREMER/OGS

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Main difficulties/delays



MS9: The activities constituting the "First Workshop/ New Systems", were concluded in M8 instead of M6, as was originally specified in the DoA, because of the division of the workshop into two separate events.

MS10: The activities constituting the "First Workshop/ New Sensors", were concluded in M16 instead of M8, as was originally specified in the DoA, because of the division of the workshop into two separate events.

D2.1: The final version was submitted in M15 instead of M12, as was originally specified in the DoA, due to delays in the revision process.

D2.2: The final version will be submitted in M20 instead of M18, as was originally specified in the DoA, due to delays in the revision process.

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Off-programme workshops



Common WP2 - WP3 Workshop

7th Ferrybox Workshop/JERICO-NEXT Meeting Heraklion (Crete), Greece, 06 April 2016, hosted by HCMR.

Main outcomes

- The presentation and acceptance of the concept of a common FerryBox (FB) database by the JERICO-NEXT consortium.
- The proposal of a governance plan for FB activities in general (EmodNet funding, similar to EuroArgo).
- Involvement of JERICO-NEXT in the preparation of a white paper under the guidance of the EuroGOOS FB Task Team on the achievements and needs of the European FB community.

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Off-programme workshops



Common WP2 - WP3 Workshop

<u>Joint WP2-WP3 Workshop:</u>
<u>Scoping opportunities for stronger interaction between WP2 & WP3</u>
Helsinki, Finland, 15 March 2017, hosted by FMI.

Main aims

- define common ground where effort could be better coordinated between WP2 and WP3;
- agree on practical steps to maximize interaction on potentially overlapping/complementary activities;
- establish a viable work plan to apply these steps in the pursuit of the respective WP goals.

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WP2: next steps (M19-M36)



- Finalization and submission of D2.2 ("Report on the status of sensors used for measuring nutrients, biology-related optical properties, variables of the marine carbonate system, and for coastal profiling, within the JERICO network and, more generally, in the European context").
- Analysis and reporting of the results from the WP2 Salinity Performance Evaluation Exercise.
- Drafting of questionnaires for the survey on the needs, equipment and usage practices of JERICO-NEXT partners for pH and DO measurements.

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WP2: next steps (M19-M36), contd.



- Drafting of technical protocols for the WP2 pH and DO intercomparison exercises planned for the period 2017-2018.
- Implementation of the planned pH and DO inter-comparison exercises.
- Organization of the workshop of Task 2.2: Consolidation of initiated harmonization actions, dealing with Fixed Platforms, FerryBoxes and Gliders (M33).
- Preparation of D2.3 ("Report on ongoing harmonization initiatives within the JERICO network for the following three key technology areas: Fixed Platforms, Ferryboxes and Gliders." (M36)

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WP2: next milestones



M19-M36

MS12: Workshop of Task 2.2, "Consolidation of initiated harmonization actions, dealing with Fixed Platforms, Ferryboxes and Gliders". (M33)

M37-M48

- MS13: Second Workshop of Task 2.3, "Harmonizing new network systems". (M38)
- MS14: Second Workshop of Task 2.4, "Harmonizing new network sensors". (M40)
- MS15: Second Workshop of Task 2.5, "Calibration and assessment". (M42)

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WP2: next deliverables



M19-M36

D2.3: Report on ongoing harmonization initiatives within the JERICO network for the following three key technology areas: Fixed Platforms, Ferryboxes and Gliders. (M36)

> JERICO-Next 1st GA - Helsinki - FINLAND 16th Murch 2017









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Innovations in Technology and Methodology

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16th March 2017

WP3 - Innovations in Technology and Methodology



7 **Tasks** Task 3.1 AUTOMATED PLATFORM FOR THE OBSERVATION OF PHYTOPLANKTON DIVERSITY IN RELATION TO ECOSYSTEM SERVICES (M0-M44)

Task 3.2 DEVELOPMENTS ON CURRENT OBSERVATIONS FROM HF RADARS (M0-M46)

Task 3.3 PROFILING COASTAL WATERS (M0-M44)

Task 3.4 MICROBIAL & MOLECULAR SENSORS (M0-M44)

Task 3.5 COMBINED SENSORS FOR CARBONATE SYSTEMS (MO-M40)

Task 3.6 BENTHIC COMPARTMENT AND PROCESS (MO-M40)

Task 3.7 OBSERVING SYSTEM EXPERIMENTS (OSEs) & OBSERVING SYSTEM SIMULATION EXPERIMENTS (OSEs) TECHNOLOGY (M0-M24) JERICO-Next 1st

WP3 - Innovations in Technology and Methodology

Tasks 1 to 7 information

Table of content

- 1) Main objective associated Tasks and targets (deadlines etc.)
- 2) List of partners and expected involvement (Men months)
- 3) Main significant results and progress on tasks
- 4) Progress on Deliverables and milestones (% of achievement)
- 5) Main difficulties, delays and mitigation solutions
- 6) Next steps for upcoming 18 months (calendar), questions and further steps to discuss

Task 3.1.: Automated platform for the observation of phytoplankto "JERICO diversity and related ecosystem services

Main objective associated Tasks and targets (deadlines etc.)



- •Innovative sensors can provide new insights into phytoplankton dynamics at higher resolution than current monitoring, including eutrophication processes, HAB and data can be used for better parameterisation of ecosystem models.
- •In addition, they can be used for an automatic warning system of plankton developments as harmful algal blooms (e.g. in areas of fishing or aquaculture).

There is a need of improving the operability and discrimination of existing innovative techniques focusing on phytoplankton diversity, functional groups distribution and/or photosynthetic parameters assessed in coastal marine waters, based on phytoplankton morphology and/or single cell or bulk optical characteristics.

The objective of this task is to combine and improve the use of innovative (semi)-automated observation techniques for addressing phytoplankton dynamics in several European coastal and shelf seas, at high resolution, in (near) real-time, in key monitoring platforms.

The focus will be on innovative sensors, which can provide new insights into phytoplankton detection and characterisation in the field.

Task 3.1.: Automated platform for the observation of phytoplankton diversity and related ecosystem services

Main objective associated Tasks and targets (deadlines etc.)

Development of innovative optical techniques for assessing phytoplankton abundance and/or biomass equivalents, per size/functional groups, photosynthetic activity/physiological status:

- Subtask 3.1.1: Image acquisition and analysis (in flow/in situ)
 Subtask 3.1.2: Single-cell optical analysis (pulse-shape recording FCM)
- Subtask 3.1.3: Optical bulk multispectral techniques (fluorometers, spectrophotometers)

To organize two workshops on Phytoplankton Automated Observation in 2016

- The first one for discussing about the State og the Art of the application of automated innovative techniques for studying phytplankton in aquatic systems (in relation to WP2.4.2) and for planning improvements on their effective implementation in European marine coastal waters
 The second one, to inter compare most of the techniques applied by JERICO-
- Next partners both in the field during an autumn bloom as well as in monocultures

work on common improvements on existing automated techniques, both on their implementation in JRAP#1 (WP4.1) sites of different regimes and affected by different kind of phytoplankton blooms, as well as on data analysis tools and data storage into data bases (WP5)

Task 3.1.: Automated platform for the observation of phytoplanktor diversity and related ecosystem services

List of partners and expected involvement (Men months)

- CNRS-LOG (ULCO, coord), CNRS-BOREA (UniCaen), CNRS-LOV (UPMC), CNRS-MIO - France
- SMHI Sweden
- VLIZ (s.c.: U. Gent) Belgium
- IFREMER (LER/Boulogne sur Mer) France
- SYKE Finland
- · HZG Germany
- AZTI Spain
- RWS (s.c. NIOZ and TRP) Netherlands
- CEFAS United Kingdom

Task 3.1

List of partners and expected involvement (Men months)

Pulse-shape recording Flow Cytometer (+ Image acquisition) module (VLIZ, CNRS LOG-MIO-BOREA, RWS, CEFAS)

- **Imaging Flow Cytometer (SMHI** coll.WHOI, SYKE)
- Flow Cytometer (HZG)
- FlowCAM (IFREMER, SYKE, AZTI)
- FastCAM (IFREMER)
- Absorption meter PSICAM (HZG, SYKE)

- Spectral fluorometer AOA or Fluoroprobe (CNRS-LOG-BOREA, IFREMER, SYKE)
- PAM or Phyto-PAM (CNRS LOG-BOREA, CEFAS)
- FRRF or spectral FRRF (SYKE, CNRS LOG-BOREA, VLIZ-RWS-NIOZ, CEFAS)
- Underwater Vision Profiler -UVP5 (CNRS-OSU V)
- (Semi-)Automated data analysis (CNRS LOG-MIO, RWS-TRP, IFREMER, SYKE)

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Task 3.1.: Automated platform for the observation of phytoplankton diversity and related ecosystem services

Main significant results and progress on tasks



- ☑ M10 June 2016 Organisation (CNRS-LOG) of the First International Workshop on Automated Phytoplankton Observation (Wimereux, FR)
- ☑ M12 Common Lifewatch JERICO-Next meeting on first field inter comparison of Automated Flow Cytometry and Multispectral fluorometry
- ☑ M13 September 2016 Organisation (SMHI) of the Second International Workshop on Automated Phytoplankton Observation
- Practical demonstration of all sensors explored within JERICO-Next and inter comparison of their use on both field and culture samples (Gothenburg, SE)
- $\ensuremath{\underline{\square}}$ Starting of calibration of flow cytometry analysis and of standardisation of data delivered to databases (WP5)
- ☑ Starting of inter comparison and improvements of analytical tools for discriminating phytoplankton groups (FCM, Image analysis) capitalising on previous projects
- $\ensuremath{\square}$ Start the discussions on conversion from Photosynthetic parameters addressed by variable/induced fluorometry and primary production, capitalising on previous projects

Task 3.1.: Automated platform for the observation of phytoplankton diversity and related ecosystem services

Debriefing of workshops and their reporting - 1

First International Workshop on Phytoplankton Automated Observation, CNRS-LOG, Wimereux, May 31 -June 2, 2016

Scientists from 15 partners and SMEs addressed the state of the art on innovative optical techniques (WP 2.4.2) and discussed about technical and analytical improvements for building an automated platform for the observation of phytoplankton diversity and related ecosystem services in coastal waters (WP 3.1), which will allow the implementation of innovative automated techniques in pelagic biodiversity - plankton. Harmful Algal Blooms and eutrophication joint research studies (WP 4.1), in connexion with actions on Coastal Carbon fluxes (WP 4.5).

Imaging inflow, single-cell analysis, multi-spectral fluorometry/spectrophtometry and variable/induced fluorescence were presented and discussed through plenary presentations.

Related technical adjustments, developments, operational application in various sites, analytical procedures and data storage were discussed in small groups and reported in summary sessions.



Task 3.1.: Automated platform for the observation of phytoplankton JERICO. diversity and related ecosystem services

Debriefing of workshops and their reporting- 2

Second International Workshop on Automated Phytoplankton Observation SMHI-Göteborg (SE)-Sept. 26-30, 2016

Presentation, demonstration and inter comparison of automated methods for phytoplankton monitoring by SMHI, SYKE, RWS, NIOZ, VLIZ, CNRS, IFREMER scientists.

Field profiles made in the Tangesund observatory - Imaging FlowCytoBot (McLane - WHOI-SMHI) and Fluoroprobe (bbe Moldaenke-CNRS LOG). Work on discrete field samples and cultures in the SHMI laboratory - two CytoSense flow

cytometers (Cytobuoy, RWS and CNRS), Fast Repetition Rate Fluorometer (Chelsea, RWS), PhytoPAM (Waltz, CNRS), PsiCAM (HZG), Fast-CAM (Ifremer).

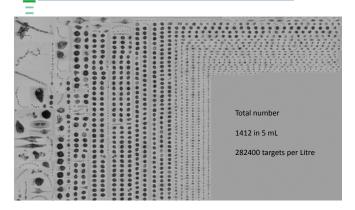
Main discussions on:

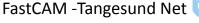
- results gathered together - improvements allowing an optimised implementation on automated platforms
- tools for data analysis - type of data for filling
- databases type of data for users



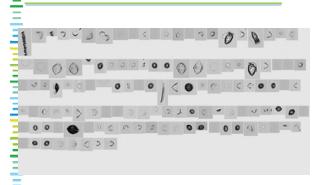
IFCB results Tångesund 28 Sep. 1313 UTC











FastCAM Tangesund **PICO-Next 1st GA - Nebinkil - FINLAND 16th March 2017**

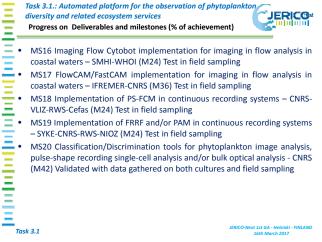
Multi-spectral fluorometry results Tângesund 28 Sep. 1313 UTC Pluorescence Fluorescence Fluoresc

CytoSense field Recording (Tangesund) JERIC® Mean \pm sd for each parameter 4.6 ± 2.8 13.2 ± 18.6 1.2 ± 1.6 3.0 ± 3.8 3 6.4 ± 8.7 1301.8 ± 1600.3 31.2 ± 30.0 423.6 ± 504.9 3747.9 ± 5321.7 NanoRED 1213 5.7 ± 5.5 0.7 ± 1.0 0.5 ± 0.7 0.08 ± 0.1 0.02 ± 0.02 503 13.0 ± 4.1 12.4 ± 12.6 33.3 ± 15.2 5.6 ± 2.7 1.0 ± 0.4 10 66.7 ± 68.1 4281.5 ± 5452.6 6 groups found in at Tangesund station. Total FLR (u.a.) Nanophytoplankton were the most abundant classes. Standard deviation in each group reveal big intragroup Impossible to discriminate dinoflagellate and diatoms in the microphytoplankton group

diversity and related ecosystem services
 Progress on Deliverables and milestones (% of achievement)
 The inter comparison of different innovative optical techniques for assessing phytoplankton abundance and/or biomass equivalents, per size/functional groups, and of photosynthetic activity/physiological status will be performed in separated as well as in some joint activities – 20%
 Both technical and analytical improvements will be performed by some partners but approved and tested by as many partners as possible. A connection with improvements in microbial and molecular sensors (WP3.5) will be sought – 10%

Task 3.1.: Automated platform for the observation of phytoplankto

- The definition of the range of applicability of each technique will contribute to
 the harmonisation and best practices for the use of optical sensors for
 addressing biological parameters (WP2.4.2). It will help selecting the best
 combinations to be applied in joint studies on pelagic biodiversity (plankton,
 algal blooms and eutrophication) in JRAP#1. A connection with JRAP-5 on
 carbon fluxes (including Primary Productivity) and carbonate system will be
 proposed in some sites. 10%
- Finally, the analytical improvements will include a better Integration of biological data into databases WP5.2, as well as the proposition of Improved innovative tools for the automation of data analysis from different techniques and approaches (WP6). - 20%



Task 3.1.: Automated platform for the observation of phytoplankton diversity and related ecosystem services

Progress on Deliverables and milestones (% of achievement)

Link to other WPs deliverables:

D2.2 - Report on the status of sensors used for measuring nutrients (lead HZG), biology-related optical properties (lead SYKE), variables of the marine carbonate system (lead NIVA), and for coastal profiling (lead CNR) – HZG (M18)

D4.2 Progress report #1 - IFREMER M13

D4.3 Progress report #2 - IFREMER Report M24

D4.4 First valorisation results for each region IFREMER M36

D4.5 JRAP Synthesis and contribution, to the strategy for the future - CNRS M43

Task 3.1.: Automated platform for the observation of phytoplankton

diversity and related ecosystem services Main difficulties, delays and mitigation solutions "JERIC®

For the moment, activities are being carried out at scheduled.

However, some technical and analytical improvements are pending on the availability of colleagues which are temporarily hired and/or from laboratories which collaborate with JERICO-Next partners (but not funded directly by JERICO-Next, need to submit new applications).

Some technical improvements also depend on firms which are providing the devices we are using.

We need to be aware about it and stick to the schedule in order to cope with eventual difficulties or delays derived from these two difficulties.

Task 3.1.: Automated platform for the observation of phytoplankton "JERIC® diversity and related ecosystem services

Next steps for upcoming 18 months, questions and further steps to discuss

D3.1 Synthesis report after developments dedicated to the observation of the phytoplankton diversity – lead SMHI (M 24) – It will gather results of:

methodology assessment after comparison of imaging and single-cell optical "pulse shape recording" techniques addressing phytoplankton, functional/taxonomical diversity, as well as recommendations for technical and analytical improvements. methodology assessment after inter comparison of automated bulk optical (fluorescence induction, spectrophotometry and spectrofluorometry) techniques addressing phytoplankton functional diversity and phytoplankton productivity as well as recommendations for technical and analytical improvements M20-M23 - Preparation of the first deliverable (D3.1)

M24 (late August 2017) : First delivery D3.1 – Milestones (MS16-MS17-MS18-MS19)

D3.2 Report on the technical and analytical improvements of innovative techniques and recommendations on their use lead CNRS (M 42)

This deliverable will report on the technical and analytical improvements carried out for the implementation of innovative techniques for assessing phytoplankton diversity and productivity and will summarize recommendations on their use according to the coastal system considered and the type of platform available

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Task 3.1.: Automated platform for the observation of phytoplankton diversity and related ecosystem services

Next steps for upcoming 18 months, questions and further steps to discuss

2017 - We will continue to explore different ways of improvement and developments for the application of different techniques, working both on their application as well as on data analysis tools, capitalizing from the main discussion on both workshops on phytoplankton automated observation.

We will continue the analysis of data gathered together within the second workshop as well as during preliminary common field work.

We will continue to exchange experiences on the application of devices aimed at automated observations of phytoplankton, including harmful algae:

Imaging in flow systems and in situ imagery devices Automated pulse shape-recording flow cytometers Multispectral fluorometers & spectrophotometers Fast repetition Rate Fluorometer (FRRF) and PhytoPAM

We will also benefit of the joint research work in the field (JRAP1) to continue to compare the performance of instruments on natural samples of different coastal systems and to better define which improvements can be made for optimising and standardising as much as possible their implementation.

Task 3.1.: Automated platform for the observation of phytoplankto diversity and related ecosystem services



- WP 2.4.2 Harmonisation and best practices for the use of optical sensors for addressing biological parameters
- WP 3.4 Link with microbial and molecular sensors
- WP4: JRAP-1 on pelagic biodiversity (plankton, algal blooms and eutrophication)
- WP4: JRAP-5 on carbon fluxes (including PP) and carbonate system
- WP5: Task 5.2: Integration of biological data
- WP6: Improved innovative tools for the automation of data analysis from different techniques and approahes.
- WP7: Possibility of sharing the new platform with external institutions on proposed sites
- WP8: To provide some outreach information on the techniques

Task 3.2 DEVELOPMENTS ON CURRENT OBSERVATIONS FROM HE-RADARS (M0-M46) - Leader Annalisa Griffa

1) & 2) Main objective associated Tasks, partners, targets (dea

Improve the quality of surface current estimates and the design of radar networks. Integrate radar surface information with vertical information from other components of the observing system to improve 4D transport estimates

Partners: CNR-ISMAR, AZTI, HZG, MIO, UIB-CSIC, EuroGOOS, SMHI

Subtask 3.2.1 New HF radar procedures for current retrievals and data quality control (led by HZG)

Subtask 3.2.2 HF radar network developments (led by AZTI)

Subtask 3.2.3 New products for 4D characterization of shelf/slope hydrodynamics and transport (led by CNR-ISMAR)

Synergies with: Task 3.7 of WP3, WP2, WP4, WP5

Task 3.2 DEVELOPMENTS ON CURRENT OBSERVATIONS FROM HE-RADARS (M0-M46) - Leader Annalisa Griffa JERICO

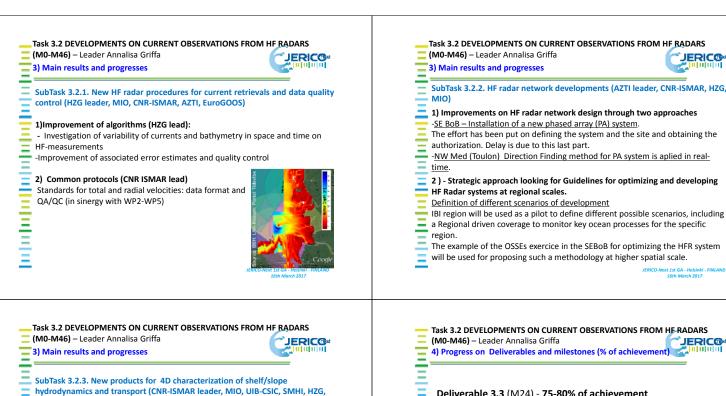
1) & 2) Main objective associated Tasks, partners, targets (dea

Deliverables and milestones (ref DOA)

Report on first methodological improvements on retrieval algorithms and HF radar network design. Results obtained to date in Subtasks 3.2.1 & 3.2.2 will provide first recommendations on the implementation of improved techniques for HF radar systems

Deliverable 3.4 (M46)

Report on final assessment of methodological improvements and testing.



Task 3.2 DEVELOPMENTS ON CURRENT OBSERVATIONS FROM HE RADARS (M0-M46) – Leader Annalisa Griffa 4) Progress on Deliverables and milestones (% of achievement) Deliverable 3.3 (M24) - 75-80% of achievement Report on first methodological improvements on retrieval algorithms and HF radar network design. Results obtained to date in Subtasks 3.2.1-3.2.2 will provide first recommendations on the implementation of improved techniques for HF radar systems. Deliverable 3.4 (M46) - 40% of achievement Report on final assessment of methodological improvements

and testing.

(M0-M46) - Leader Annalisa Griffa

Task 3.2 DEVELOPMENTS ON CURRENT OBSERVATIONS FROM HE RADARS

Task 3.2 DEVELOPMENTS ON CURRENT OBSERVATIONS FROM HE RADARS (M0-M46) - Leader Annalisa Griffa JERIC® 5) Main difficulties, delays and mitigation solutions

1) Integration of surface HF radar currents with water column information

2) Improvements of Lagrangian products for tracking biological and pollution quantities from HF radar fields (lead UIB-CSIC, CNR-ISMAR, AZTI)

Estimation of transport and retention from radar data and impications for

3) Improvements of Short Term Prediction methods using HF radar fields

Estimation of eddy transport using dynamical system methods from radar and

Joint analysis of glider, ADCP and hydrographic data in the

3.2.2 SE BoB - Installation of a new phased array (PA) system.

Delayed waiting for authorization.

AZTI)

(SMHI, CNR-ISMAR lead)

Ligurian Provencal current (MW Med) Data assimilation in Skagerrak (North Sea)

satellite data in the SE BoB and Ibiza Chnnel

fishet management in the Manfredonia Gulf

The current plan aims to install the station for July 2017.

 Network design. => Work on the three subtasks will continue along the present lines. In particular, steps along the following lines are expected: Method developments and data analysis for the the estimation of 4D transport. Data assimilation. Fishery application. STP(s) methods.

Application ad comparison of of OMA.

6) Next steps for upcoming 18 months, questions and further

=> During the next 6 months the Report for D3.3 will be completed. It will include the achieved method improvements and the first

recommendations on improved techniques for HF radar systems regarding: Algorithms and common protocols for velocity retrievals.

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Task 3.3 PROFILING COASTAL WATERS

(M0-M44) - Leader: Manolis Ntoumas

1) Main objective associated Tasks, and targets (deadlines etc.)



Task 3.3 PROFILING COASTAL WATERS (M0-M44): will enhance our capacities for innovative, cost-effective, autonomous observing systems investigating the physical and biogeochemical processes throughout the water column from the surface to the sea floor in coastal waters.

different coastal profiling technologies are being improved and developed even further.

MASTODON2D (IFREMER) is an extension of the Mastodon project which provides time series of bottom temperature with low cost mooring.

YOYO trawl-secured profiling system (IMR) aims at developing an automated system that conducts daily full profiles measuring T, S, Chi fluorescence and oxygen, including quasi real time automatic data transmission for dissemination.

JELAB: Jerico Extended Lagrangian Bio-Geoprofilers (HCMR)

Will expand the capacities of advanced Argo-type floats by extending available payload with a camera

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Task 3.3 PROFILING COASTAL WATERS

(M0-M44) - Leader: Manolis Ntoumas

3) Main significant results and progress on tasks (1)



The work performed so far includes innovative improvement of existing profiling approaches and is divided in the following subtasks.

SubTask 3.3.1: two bottom mounted systems (MASTODON2D and YOYO) have been developed even more by adding new operational capabilities Both of the systems are being tested in-situ in coastal environments in order to evaluate the performance and the necessary adjustments needed to permit for both systems to operate in even greater depths. Furthermore, apart from the operational improvements, the processing and data storage functions of the systems will be improved too.

SubTask 3.3.2: a new instrumentation payload for Argo floats is being developed. The new payload will be a camera system capable of imaging in the water column and on the seafloor adding a new dimension to integration of surface to bottom biologeochemical measurements. So far, a prototype is build and is under testing in laboratory conditions. The next step will be the in-situ tests before the integration in an Argo float.

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Task 3.3 PROFILING COASTAL WATERS

(M0-M44) - Leader: Manolis Ntoumas

3) Main significant results and progress on tasks (2 in details)



3 different coastal profiling technologies

MASTODON2I

•Validation of low cost temperature and pressure sensors through a cross-shore one week transect of 5 moorings (10,20,40,60,80 m depth) with about 30 T/P sensors.
•First deployments of the Mastodon 2D mooring system with subsurface buoys and date-based low cost release system:

- -> May 2016 in Bay of Biscay : 2 moorings (60m depth) 0 moorings recovered
- -> September 2016 in Mediterranean Sea : 3 moorings (50,110, 160m depth) 3 moorings recovered.

YOYO

•Successful testing the YOYO system near the IMR marine station Austevoll

JELAB

- •Two different optic modules technologies have been tested, evaluated and now are being developed.
- •Several lenses configurations and sampling schemes are being tested.
- •First camera module is ready for lab and field testing (pressure tested for 2000

16th March 2017

Task 3.3 PROFILING COASTAL WATERS

(M0-M44) - Leader: Manolis Ntoumas

4) Progress on Deliverables and milestones (% of achievement)



MS 24: Temperature sensor housing (M18) ☑

Deliverable 3.5 (M38): Report after development dedicated to profile coastal waters. This report will include the details of MASTODON2D: material, performances, accuracy, test at sea and final cost for possible industrial transfer, including plan designs, and the behavior and robustness of the YOYO system in deep energetic environment.

Deliverable 3.6 (M40): Report on the JELAB instrument performance and trials at sea.

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Task 3.3 PROFILING COASTAL WATERS

(M0-M44) - Leader: Manolis Ntoumas

5) Main difficulties, delays and mitigation solutions



The deployment of the YOYO system at the LoVe Ocean Observatory (Lofoten Vesterâlen Ocean Observatory) has been delayed because of the delay in the deployment of the main infrastructure cable for LoVe nodes that was planned for spring 2016. The contract for the deployment of the cable is under finalization so that the deployment is planned to take place in spring 2017.

First deployments of the Mastodon 2D mooring system with subsurface buoys and date-based low cost release system :

- May 2016 in Bay of Biscay : 2 moorings (60m depth)
- -> 0 moorings recovered
- September 2016 in Mediterranean Sea : 3 moorings (50,110, 160m depth)
- -> 3 moorings recovered

First prototype of the JELAB was destroyed during lab testing (capacitor failure) . It is redesigned with advanced protection (micro ups).

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Task 3.3 PROFILING COASTAL WATERS

(M0-M44) - Leader: Manolis Ntoumas

6) Next steps for upcoming 18 months, questions and further s



MASTODON2D

- \bullet $\,$ Improvement of T/P probes : $\,$ Test of a new quartz to increase time
- precision and test of high precision and low cost pressure sensor.
- Spring 2017. Validation of the mooring concept by deployment of several test moorings in harsh environment (Iroise Sea).

YOYO

- Plan for deployment at the LoVe ocean observatory (Lofoten-Vesterålen).
- Data transmission and power supply via connection to node 1 of LoVe observatory.

JELAB

- Lab tests are already being performed.
 In situ tests are planted to take place.
- In situ tests are planned to take place at Cretan Sea in Spring 2017.
- Integration to Argo float and deployment.

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Task 3.4 MICROBIAL AND MOLECULAR SENSORS (M0-M44) - Leader: Catherine Boccadoro 1) Main objective associated Tasks, and targets (deadlines, etc). Task leader: Catherine Boccadoro

The main objective of this task is to develop biosensors for harmful algal blooms, microbial community changes and pollutants and improve current platforms and sampling methods to accommodate these technologies.

- New configuration of the algae toxin sensor Milestone M16
- Identification of suitable molecular markers for the detection of hydrocarbon pollutants – Milestone M24
- Adaptation of the automated sampling of rDNA to the Ferrybox M24
- Test of the toxin biosensor in the bay of Brest M32
- Reports:
- Progress report
- M24and final Report M42.

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Task 3.4 MICROBIAL AND MOLECULAR SENSORS

(M0-M44) - Leader: Catherine Boccadoro

2) List of partners and expected involvement (Men months)



Task leader: Catherine Boccadoro

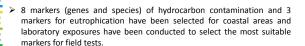
- IRIS (8,5 mm),
- Ifremer (19.5mm).
- SMHI (7,6mm),
- HZG (16,39mm)

(mm is given here for the whole WP as I am unsure how much the partners have allocated into this task specifically)

Task 3.4 MICROBIAL AND MOLECULAR SENSORS (M0-M44) - Leader: Catherine Boccadoro

3) Main significant results and progress on tasks

Task leader: Catherine Boccadoro



- > Field sampling campaigns have been conducted: 1 ferrybox sampling in conjunction with JRAP3, and 1 in sample collection in Tangesund.
- > A new configuration of a domoic acid biosensor based on an immunoassay has been developed.
- The biosensor module for the detection and quantification of algae is under development.

Task 3.4 MICROBIAL AND MOLECULAR SENSORS

(M0-M44) - Leader: Catherine Boccadoro

4) Progress on Deliverables and milestones (% of achievement)

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Task leader: Catherine Boccadoro

- > MS30: New configuration of the algae toxin sensor Milestone completed March 2017
- MS31: Identification of suitable molecular markers for the detection of hydrocarbon pollutants - Deadline M24 - 50% completed
- MS32: Adaptation of the automated sampling of rDNA to the Ferrybox – Deadline M24
- MS33: Test of the toxin biosensor in the bay of Brest M32

Progress reports (D 3.7) and report (D3.8) not started yet.

Task 3.4 MICROBIAL AND MOLECULAR SENSORS

(M0-M44) - Leader: Catherine Boccadoro

5) Main difficulties, delays and mitigation solutions



Change in route for the FerryBox on ship TransPaper means that the focus of the subtask has changed

=> New cooperation with the Project AFISMON: Development of the current Automatic Flow Injection Sampler to monitor microbially driven biogeochemical processes in the Baltic Sea water.

Task 3.4 MICROBIAL AND MOLECULAR SENSORS

(M0-M44) - Leader: Catherine Boccadoro

6) Next steps for upcoming 18 months, questions and further

April-May 2017: Task 3.4 workshop for planning of joint laboratory tests.

May-June 2017: Marker species and genes test results from the field campaign in conjunction with a cruise sampling during JRAP4

March- April 2017: Samples from the Tangesund study will be analysed using both rDNA barcoding

April-July 2017: Fully automated biosensor module for the detection of toxic algae will be tested under field conditions on fixed stations. A scientific paper will be prepared for publishing the comparison of rDNA-barcoding data with microscopy for phytoplankton in the Baltic Sea collected

September 2017: Task 3.4 workshop for analysis of results and multivariate analysis in conjunction

September 2017: Completion of the progress report M24

End 2017 - early 2018: buoy deployment of an underwater prototype of the algae sensor in the bay

Jan-June 2018: Field campaign to combine all sensors

Early 2019: End report Results from the deployment of the phycotoxin biosensor and sampling device adapted to the Ferrybox. Microbial and molecular sensors for the detection of pollution and toxic algae,



Task 3.6 BENTHIC COMPARTMENT AND PROCESS (M0-M40) – Leader Antoine Gremare 1) Main objective associated Tasks, and targets (deadlines, etc). Developing an integrated multi-sensors towed video system. Achieving new technological developments regarding the

MS36 (M24): "Adaptation of the towed video system"

monitoring of organic matter remineralization.

D3.10 (M24): "Reports on developments dedicated to monitor and study benthic compartments and systems".

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Task 3.6 BENTHIC COMPARTMENT AND PROCESS

(M0-M40) – Leader Antoine Gremare
2) List of partners and expected involvement (Men months)



> Ifremer: 19.5 man/month

> CNRS/UB: 18.3 man/month

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Task 3.6 BENTHIC COMPARTMENT AND PROCESS

(M0-M40) - Leader Antoine Gremare

3) Main significant results and progress on tasks

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Subtask 3.6.1 Integrated multi-sensors towed video system

Design, production and tests (in tank and at sea) of the new towed video system

Subtask 3.6.2 Organic matter mineralization

In situ assessment of diffusive oxygen fluxes through the vertical microprofiling of oxygen concentration

- Design and building of a specific new frame
- Acquisition and fitting of more powerful batteries
- Test at sea (Berre Lagoon August 2016)

In situ assessment of total oxygen fluxes through the use of incubation chambers

 Design and first tests (Arcachon Lagoon February 2016) of the oxygen chambers.

In situ assessment of total oxygen fluxes through eddy-covariance techniques

See the "main difficulties" section

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Task 3.6 BENTHIC COMPARTMENT AND PROCESS

(M0-M40) - Leader Antoine Gremare

4) Progress on Deliverables and milestones (% of achievement)



Subtask 3.6.1 Integrated multi-sensors towed video system M36 and D3.10: 90%

Subtask 3.6.2 Organic matter mineralization D3.10: **70%**

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Task 3.6 BENTHIC COMPARTMENT AND PROCESS

(M0-M40) – Leader Antoine Gremare

5) Main difficulties, delays and mitigation solutions



Subtask 3.6.1 Integrated multi-sensors towed video system

Sampling cruise in the Bay of Brest initially planned in March 2017, rescheduled in 2018 because of bad weather conditions. No possibility to rescheduled it before!

Subtask 3.6.2 Organic matter mineralization

- Change in the CNRS salary grid resulted in the impossibility of hiring a post-doctoral fellow working on eddy-covariance as initially planed.
- Change in the regulation regarding the aerial transportation of batteries.

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Task 3.6 BENTHIC COMPARTMENT AND PROCESS

(M0-M40) – Leader Antoine Gremare

6) Next steps for upcoming 18 months, questions and further



Subtask 3.6.1 Integrated multi-sensors towed video system

- Sampling cruise in the Bay of Brest rescheduled in 2018

Subtask 3.6.2 Organic matter mineralization

- Test of the incubation chambers (Bay of Brest, April 2017)
- Test of the microprofiling system (West Gironde Mud Patch, August 2017 + 2 other JRAP 2 cruises in 2018)
- Eddy covariance?

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Task 3.7 OSE/OSSE technology

(M0-M24) Leader: Stefania Ciliberti, Giovanni Coppini



1) 2) 4) Main achievements until now: tasks, milestones and deliverables

3.7.1 Transport in high-resolution DA systems (CMCC, HZG, CNR-ISMAR) 3.7.2 OSE/OSSE infrastructure (CMCC, HZG, Ifremer, CNR-ISMAR)

3.7.3 Optimization of HF-radar DA for the tracer transport (HZG, CMCC/CNR-ISMAR, Ifremer/CNRS

Milestones achieved in September 2016

- MS38 5M6): Biochemical transport diagnostics in DA systems
- MS39 (M6): High-resolution nature runs for OSSEs

- · OSE/OSSE activities for HF radar data for the Bay of Biscay region (IFREMER/CNRS).
- · Initial transport diagnostic and OSE activities for the Ibiza Channel region (SOCIB),
- · Transport diagnostic for the German Bight region (HZG),
- Transport diagnostic and OSE/OSSE activities for the Adriatic and the NW Mediterranean regions (CMCC and CNR)

Means of verification: documented demonstration

Task 3.7 OSE/OSSE technology

(M0-M24) Leader: Stefania Ciliberti, Giovanni Coppini



1) 2) 4) Main achievements until now: tasks, milestones and deliverables 3.7.1 Transport in high-resolution DA systems (CMCC, HZG, CNR-ISMAR)

3.7.2 OSE/OSSE infrastructure (CMCC, HZG, Ifremer, CNR-ISMAR)

3.7.3 Optimization of HF-radar DA for the tracer transport (HZG, CMCC/CNR-ISMAR, Ifremer/CNRS

Milestone achieved in November 2016

- MS41 (M9) HF Radar observation operators for DA.

Activities:

Development of software for the assimilation of HF Radar surface current velocities into ocean models, developed in the framework of T3.7. The novelty of said software lies in the fact that it allows to directly assimilate the radial velocity measurements of the HF Radar antennas, without first reconstructing the Cartesian components of the surface current.

Means of verification: research software made available to partners

Task 3.7 OSE/OSSE technology

(M0-M24) Leader: Stefania Ciliberti, Giovanni Coppini



1) 2) 4) Main achievements until now: tasks, milestones and deliverables

3.7.1 Transport in high-resolution DA systems (CMCC, HZG, CNR-ISMAR) 3.7.2 OSE/OSSE infrastructure (CMCC, HZG, Ifremer, CNR-ISMAR)

3.7.3 Optimization of HF-radar DA for the tracer transport (HZG, CMCC/CNR-ISMAR, Ifremer/CNRS

Status of Deliverables and Milestones

- D3.11 Optimal OSE/OSSE infrastructure (planned for M12, submitted at M14)
- MS40 Calibrated errors statistics for OSSEs (planned for M12, submitted at M14)

Activities:

- Description of the nature run simulation and their verification, and calibration of error for both equipment types.
- Implementation and verification of the biochemical transport module in DA systems.
- Results of the transport analyses and their verification have been presented with reference to the targeted coastal areas and statistics for OSSEs via comparison between OSSE and OSE results for the existing observation networks

Means of verification: documented demonstration

Task 3.7 OSE/OSSE technology

(M0-M24) Leader: Stefania Ciliberti, Giovanni Coppini



3) Main significant results and progress on tasks

Bay of Biscay (ST3.7.2-3)

Array Modes (ArM) methodology has been extended to consider HF Radar observations in the SE Bay of Biscay (in collaboration with JRAP#4). Ensemble numerical simulations and validation have been carried out. demonstrating the improvements of new HF Radar deployment and future experiments will be based on new ensemble with higher spatial resolution

Ibiza Channel (ST3.7.3):

- development and evaluation of the HF radar data assimilation system in WMOP
- first data assimilation experiments for specific predefined periods
- Observing System Experiments to evaluate the impact of HF radar observations in the Ibiza Channel, as part of JRAP6

Task 3.7 OSE/OSSE technology

(MO-M24) Leader: Stefania Ciliberti, Giovanni Coppini



3) Main significant results and progress on tasks

German Bight (ST3.7.1-3):

activities have been based to evaluate the impact of HF radar surface currents measurements in combination with traditional tide gauge data. HZG has implemented a pre-operational assimilation system for combining HF radar in the COSYNA system. An OSE/OSSE has been setup to reproduce the main characteristic features of currents and water levels and help easy tuning and inversion. Calibration has been assessed and results have been presented, showing how perturbations of the open boundaries are able to reproduce the deviations between model and real measurement. Experiments using a combination of HF radar and tide gauge data.

Western Adriatic and North-Western Mediterranean regions (ST3.7.1-3): setup of the Adriatic-Ionian regional model and validation; data assimilation scheme based on Ensemble Kalman Filter approach; preliminary tests using AIFS-EnkF-DA to be further improved; improvement in HF radar operators for data assimilation

Task 3.7 OSE/OSSE technology

(MO-M24) Leader: Stefania Ciliberti, Giovanni Coppini

3) Main significant results and progress on tasks Bay of Biscay

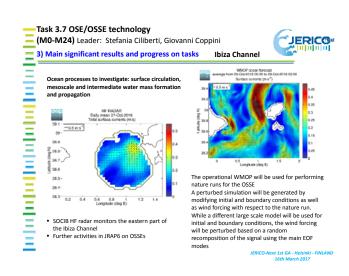


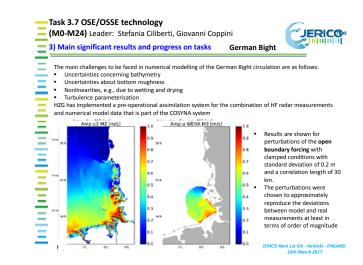
ArM (Array Modes) methodology can be applied to evaluate the objective performance of a network design at detecting prior errors without having to run a fully assimilated system (as in usual OSSEs).

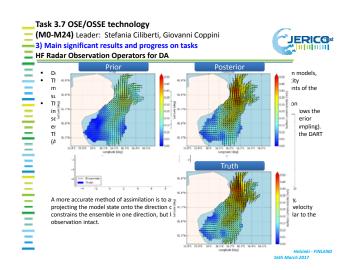
he method has been successfully extended to HF

These first experiments she Radar observation, However, is not suitable to clear Consequently, in the second reproduced using ensemble. ed ensemble with coarse spatial resolution (4 te the efficiency of the different networks.

of the projects, these experiments will be gher spatial resolution. Furthermore, during this of the method (shape of observation operator) have been ic lemented. Ensemble spread, limited 0.2-0.3° C) due to the model stability even in the case of larger parameter perturbations.







Task 3.7 OSE/OSSE technology
(MO-M24) Leader: Stefania Ciliberti, Giovanni Coppini
5) Main difficulties, delays and mitigation solutions

Task 3.7 OSE/OSSE technology

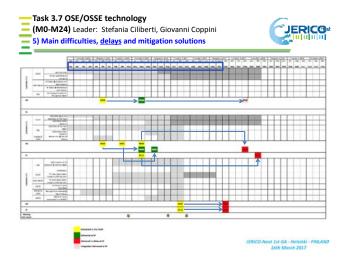


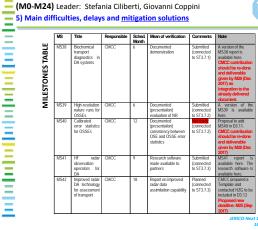
- The general on-going activities by IFREMER/CNRS, HZG and SOCIB are in time and well organized considering the requirements of T3.7.
- CMCC is actually working for repairing accumulated delays due to the leading transition. In particular, due to numerical results of preliminary experiments with OSE/OSSE system in the W Adriatic and NW Med, CMCC is going to:
 - Review the numerical assessment of the AIFS-DA EnKF system for assimilating T/S profiles and HF radar
 - Assess, consequently, the OSE/OSSE system and its quality in the W Adriatic and NW Med

To achieve the goals, CMCC would propose to review T3.7 deadlines and approach, especially for the Adriatic and the NW Med, in order to achieve in good way the WP3 objectives

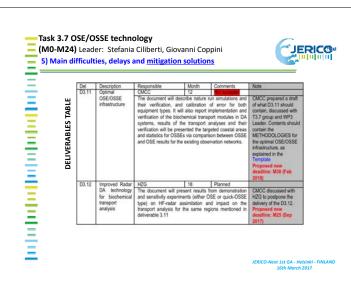
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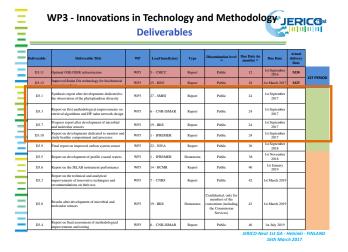


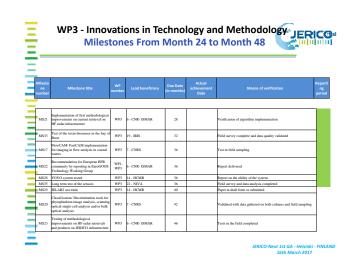
Task 3.7 OSE/OSSE technology
(M0-M24) Leader: Stefania Ciliberti, Giovanni Coppini
5) Main difficulties, delays and mitigation solutions



- CMCC proposes to extend the temporal coverage of T3.7 development (actually, from M1 to M24; the proposal is to end the activities at M36).
- Milestones and Deliverables status: regarding T3.7, it is proposed to postpone the requested reporting documentation. In particular:
 - MS40 (Calibrated error statistics) + D3.11 (Optimal OSE/OSSE infr.) from M12 to:
 - M28 for MS4
 - M30 for D3.11
 - MS42 (Improved radar technology) + D3.12 (Improved radar technology) from M18 to M25 (Sep 2017).

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WP3 - Innovations in Technology and Methodology

Main difficulties summary

- Task 3.1 ():

- Task 3.2 (HF Rad): 3.2.2 SE BoB - Installation of a new phased array (PA) system.
Delayed waiting for authorization. The current plan aims to install the station for July 2017.

- Task 3.3 (Prof syst): Issues in dev. of the 3 profiling systems. Solutions have been engaged. 1 year delay for the Yoyo.

- Task 3.4 (Bio sensors): Change in route for the FerryBox on ship TransPaper means that the focus of the subtask has changed => New cooperation with the Project AFISMON: Development of the current Automatic Flow Injection Sampler to monitor microbially driven biogeochemical processes in the Battic Sea water.

- Task 3.5 (Carbonate Sensors): No delays or difficulties as of yet.

- Task 3.6 (Benth...):
1) Sampling cruise in the Bay of Brest initially planned in March 2017, rescheduled in 2018 because of bad weather conditions. No possibility to rescheduled it before !
2) Change in the CNRS salary grid resulted in the impossibility of hiring a post-doctoral fellow working on eddy-covariance as initially planed.

- Task 3.7 (OSSE...): Actually under discussion...

WP3 - Innovations in Technology and Methodology



WP3 - Innovations in Technology and Methodology				
WP3 WORKSHOPS LIST				
Project Month	Calendar Month	WORKSHOP		
M7	March 2016	HF RADAR WORKSHOP (WP2, 3, 5) San Sebastian 4Spain), 9th - 11th of March		
M8	April 2016	FB WORKSHOP (WP2 & WP3) Iraklion - Crete Greece, 6th of April		
M10	June 2016	Progress Meeting #1 & Common WS between Task 3.1, JRA 4.1, Task 3.5 and Task 2.4 Wimereux (France), 31st May - 2nd June		
M12	September 2016	Common WS WP3.1 - WP 4.1 JERICO Plankton Workshop Goteborg - 27-30 Sept 2016		
M19	March 2017	Common WP2 - WP3 HELSINKI Finland), 15th march 2017		
M27	November 2017	Progress Meeting #2 & Common WS between Task 3.1 and JRA 4.1		
M36	August 2018	JRAP1 workshop next to 2nd GA		

WP3 - Innovations in Technology and Methodology



Tomorrow workshop:

SCOPING OPPORTUNITIES FOR STRONGER INTERACTION BETWEEN WP2 & WP3

Objectives

> Define common ground where effort could be better coordinated btw the two WPs;

Agree on practical steps to maximize interaction on overlapping activities;
 Establish a viable work plan to apply these steps in the pursuit of the respective WP goals.

Topics

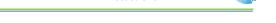
> WP3 ST3.1.1: Imagery instrum. & WP2 ST2.4.2: Optic. sensors for biological param.

> WP3 Task3.2: Dev. on current observations from HF radars & WP2 ST2.3.1: HF-radar

> WP3 Task3.3: Profiling coastal waters & WP2 ST2.4.4: Sensor syst. for coastal profiling

■ ➤ WP3 Task3.5: Combined sensors for carbonate systems & WP2 ST2.4.3: Sensors for parameters of the marine carbonate system.

WP3 - Innovations in Technology and Methodology **Discussions**



> WARNING: Next 6 months (September 2017) :

11 Milestones: SMHI, CNRS, HCMR, IRIS, NIVA 4 Deliverables: SMHI, CNR, IRIS, Ifremer

WP3 Dissemination?

Publication, Conferences, Proceedings?

In relation with JRAPs? In relation with WP2?

=> anything in mind ?







This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 654410.





Valorisation through applied joint research

WP4

Puillat I. / Ifremer/ jerico@ifremer.fr

16th March 2017

Table of content



- I. Memory refresh.... One pillar of JERICO-NEXT
- II. WP4 objective, partnership, organisation and expected
- III. Main achievements toward targets: progress on deliverables and milestones
- IV. Snapshot for 2 JRAPs
- V. Next steps and related open questions x 18 months

I. One JERICO-NEXT Pillar



6 Key scientific/policy areas

- 1) Pelagic biodiversity,
- 2) Benthic biodiversity,
- 3) Chemical contaminant occurrence and related biological responses,
- 4) Hydrography and transport,
- 5) Carbon fluxes and carbonate system,
- 6) Operational oceanography.

I. One JERICO-NEXT Pillar



Work & Information flow

II. WP4 Main objectives & organisation Carrier



- Synthesis of the project
- Built upon activities in other WPs,
- Gathering the consortium
- Around applied 6 Joint Research Activity Projects (JRAPs)
- Put forward the added value of JERICO-NEXT
- ▶JRAP-1 on pelagic biodiversity (B. Karlson, SMHI, F. Artigas, Univ . of Littoral)
- ▶JRAP-2 on benthic biodiversity (A. Grémare, CNRS)
- ▶JRAP-3 on chemical contaminant occurrence and related biological responses (L. Nizzetto, NIVA)
- ➤JRAP-4 on hydrography and transport (A. Rubio, AZTI)
- >JRAP-5 on carbon fluxes and carbonate system (L. Laakso, FMI)
- >JRAP-6 on operational oceanography (B. Mourre, SOCIB)

II. WP4 Main objectives & organisation



JRAP #	lead	Partners	TITLE
1	B. Karlson, SMHI F. Artigas, Univ. Littoral	SMHI, CEFAS, CNRS-LOV, CNRS-Univ Litt, CNRS-MIO, Deltares, Ifremer, NIVA, RWS, SYKE, VLIZ, and DAFF	Phytoplankton diversity, (harmful) algal blooms and eutrophication
2	A. Gremare, CNRS-EPOC	CNRS-EPOC, HCMR, Ifremer- Benthos, CNRS-UBO	Monitoring changes in benthic diversity
3	L. Nizzetto, NIVA	NIVA, HZG, IMR, IRIS, CEFAS	Occurrence of chemical contaminants in coastal waters and biological responses
4	A. Rubio, AZTI	<u>AZTI</u> , Ifremer, CNR-ISMAR, CNRS-MOI, CNRS-LEGOS, CMCC, HZG	4D characterization of trans-boundary shelf/slope hydrodynamics and transport
5	L. Laakso, FMI	<u>FMI</u> , <u>SYKE</u> , NIVA, SMHI, HZG, HCMR, CNR , CNRS -SBR	Coastal carbon fluxes and biogeochemical cycling
6	B. Mourre, SOCIB	SOCIB, IH, AZTI, CMCC, CNR, FMI, HCMR, IMR	Operational oceanography and coastal forecasting

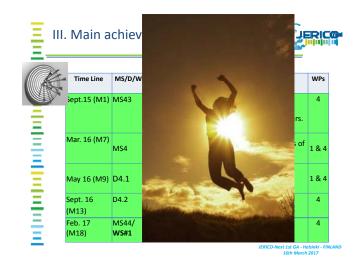
II. WP4 Main objectives & organisation



☐ Lead: I. Puillat, co-lead: A. Grémare (CNRS)

14
12
5.8
5
12.8
20.9
1.5
6.5
33
5.8

Partner	Expected MM
IH	9
IMR	2.5
IRIS	3.15
NIVA	6.6
RWS	1.5
SMHI	6.5
SOCIB	5.5
VLIZ	2.5
COVARTEC	2.25
TOTAL	162



III. Main achievements toward targets CIERCO



III. Mair	achie	vements toward targets	R
Time Line	MS/D/WS	Actions	WPs
Sep.15 (M1)	MS43	Presentation of JRAP projects during KO meeting. Presentation of WP4 activities and time schedules agreed with WPs and partners. Actions with WP1 & 8 planed.	4
Mar. 16 (M7)	MS4	Strategic guidelines for the implementations of the JRAPs OI London 15 march	1 & 4
May 16 (M9)	D4.1	Present approaches to monitor European coastal seas (Covartec)	1 & 4
Sep. 16 (M13)	D4.2	Progress report #1 (Ifremer)	4
Feb. 17 (M18)	MS44/ WS#1	WP4 Workshop#1: Presentation of JRAP progress, highlighting links with other WPs .	4

III. Main achievements toward targets





- STAC: more integration
- Presentation of deadlines • First Survey: integration vs funding
- Strategy: first description, brainstorming, commonalities in place and time (ppt)
- Data survey (WP5)
- Debriefing of the surveys
- Template of D4.1 and 3 versions of D4.1 and intermediate brainstorming
- Presentation during the Joint WP4 & 1 workshop 15 March in London



• Debriefing and brainstorming with the STAC to build upon D4.1 with objective to contribute to the D1.2

III. Main achievements toward targets

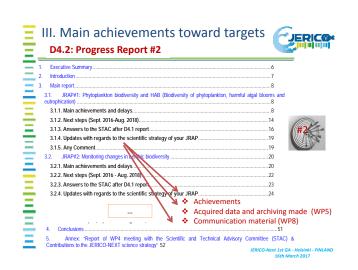




D4.1: Present approaches to monitor European coastal seas

- A comprehensive document
 - Each JRAP described as a science project
 - Emphasis on
 - Scientific questions, knowledge gaps and expected outcomes
 - · Sampling strategy
 - Integration physical, geochemical, biological parameters
 - · Innovation and impact
 - Interaction between JRAPs
 - Link to WP1 (science strategy and roadmap for the future) and WP3 (JRA technology)





III. Main achievements toward targets





MS44: WP4 workshop #1: 13 &1 4 Mar. 2017, Helsinki

Day 1: Presentation of JRAPs' first results: methodology, intercomparison, first field surveys: to share and discuss scientific aspects.

~ 40 attendees

- → Very promising:
 - ✓ Material for special issue(s),
 - ✓ Presentation in a JERICO session at EGU 2018 proposed.

And you???

III. Main achievements toward targets CIERCO



MS44: WP4 workshop #1: 13 & 1 4 Mar. 2017, Helsinki

Day 2: Round table to discuss on collaborative work across JRAPs, ~ 15 attendees

1) New joint field actions: JRAP1 with VLIZ and with JRAP5 (North Sea on Carbon system) and JRAP4 (HF radars in German bight),

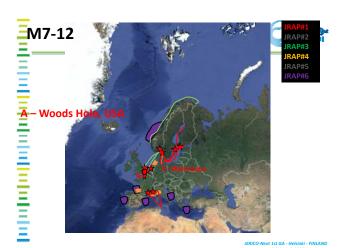
2) Working Group "Integrated monitoring analysis" to work on

a) methods dedicated to JOINT data analysis of i) biodiversity with ecosystem function data sets, ii) environment with biodiversity data sets, iii) comparison of the two kinds of methods.

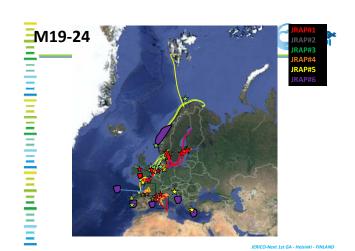
b) establishment of INTEGRATED sampling methods/strategies: need to understand missing environmental information and data seen from the biology, biochemistry and carbon communities: JRAP1 2 3 and 5 will be asked to express their needs of physical information and data to JRAP4&6 community

IV. Snapshot for 2 JRAPs





M13-18



JERICO

WP4 Workshop #1

JRAP# 1: flash presentation

Pelagic biodiversity

Biodiversity of phytoplankton, harmful algal blooms and eutrophication

Presenter: Bengt Karlson, SMHI

email bengt.karlson@smhi.se

Contributor(s): JRAP 1 participants

JERICO-Next GA1 week/FMI / Helsinki / Finland/ 13th to 16th March 2017

Main objectives of JRAP 1



- To enhance the understanding of the dynamics of algal blooms by combining data on phytoplankton distribution, abundance and diversity with chemical and physical oceanographic data.
- To apply novel in situ automated or semi-automated methods to address phytoplankton diversity, abundance, biomass and photosynthesis parameters in marine coastal systems, with a focus on harmful algae and eutrophication
- To assess their potential for complementing traditional methods, which are based on discrete water sampling and labour intensive laboratory microscope work

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Methods and strategy



- Work in diverse types of pelagic ecosystems
 - Baltic Sea, Kattegat-Skagerrak, English Channel, North Sea and the Western
 Mediterranean
 - Intense short term studies in different seasons
- From overview to detail
 - Fluorescence and absorption of algal pigments
 - Flow Cytometry cell numbers, identification based on size or pigment group
 - In situ video
 - Imaging Flow Cytometry cell numbers, identification of organisms based on morphology
 - Microscopy cell numbers, biomass, identification of organisms based on morphology
 - Identification of organisms based on genes
- Multiple instrument platforms
- Couple observations to models, e.g. transport of algal blooms

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Calendar of activities: Accomplished



6 months periods	What?	Where?	Who?
6-12 and 13-18	Sampling during cruises using Ferrybox systems etc.	Western Mediterranean English Channel – North Sea, Skagerrak-Kattegat, Baltic Sea	CNRS – Marseille, Ifremer, CNRS- Wimereux, VLIZ, RWS, Cefas, NIVA, SMHI, SYKE
8-14	Intense study of HAB at aquaculture site	Skagerrak, eastern North Sea Tångesund observatory	SMHI, WHOI, NIVA(UGOT, AWI)
6-12 and 13-18	Two International Workshops on Automated Phytoplankton Observation	Wimereux, France Gothenburg, Sweden	WP3.1 and 4.1 partners and invited guests

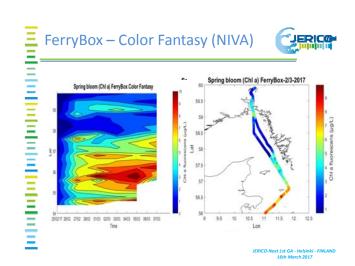
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Ex: Kattegat-Skagerrak area 🕞 ERICO • Early spring bloom normal on this area due to strong

stratification

Diatoms

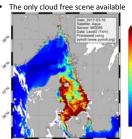
Pseudochattonella causes fish mortality



Distribution of Pseudochattonella mid February to early March 2017

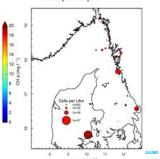


Satellite remote sensing of ocean colour 10 March 2017



Data from Ferrybox sampling and manual sampling

Microscope analysis



Calendar of activities: Planned



6 months periods	What?	Where?	Who?
19-24 and 24-30	Cruises, sampling campaigns etc.	Baltic Sea, Kattegat-Skagerrak, English Channel, - North Sea, Western Mediterranean	WP4.1 partners
24	D4.3 Progress rep.		WP4.1 partners
30-36 (43)	Processing of data and writing of scientific articles		WP4.1 partners
32 (May 2018)	Joint WP3.1/4.1 workshop on scientific results	Marseille	Participants in WP3.1 and 4.1
36	D4.4 Results		WP4.1 partners
43	D4.5 Synthesis		WP4.1 partners

WP4 Workshop #1

JRAP# 3: flash presentation

Presenter: Luca Nizzetto (NIVA)

email: Luica.Nizzetto@niva.no

Objectives of the JRAP#3



- To identify new contaminants in coastal waters
- To describe spatial distribution of chemical contaminants
- Exploring the drivers controlling spatial distribution
- Exploring co-linearities between contaminant concentrations and biological responses

Contributor(s):

IRIS (Katherine Boccadoro, Elisa Ravagnan), IMR (Jon albertsen), CEFAS (Naomi Greenwood), HZG

In kind contributors: AZTI (Ana Rubio), Instituto idrografico (Joao Vitorino), SMHI (Anna Wranne), VLIZ (Klaas Deneudt)

-

Method and strategy



- Use of the ferryBox fleet in the North sea/Norwegian Sea/Baltic outflow to analyse a range of chemical contaminants of emerging concern in surface water.
- Use of passive samplers on mooring to collect data on hydrophobic contaminant levels in Atlantic and North sea European coastal areas.
- High resolution analysis of oil related pollutants and bacterial biomarkers in the Baltic outflow/Kattegat/Skagerrak/oslo fjord
- Analysis of covariance between contamination data and biological/hydrophysical data from Jerico sensors.

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Deployments done and to come



- Activity 1. Ferry Box based sampling of emerging contaminants: 4 routes, 75 samples processed (80% sampling effort accomplished)
- Activity 2. Passive sampling deployment on 7 fixed platforms(90% of sampling effort accomplished)
- Activity 3. High resolution sampling of contaminants and DNA biomarkers: 4 FB routes (100% sampling effort accomplished)

All collected samples are already under analysis

Preliminary data analysis (FB sensor dataset)preparing scripts and data structuring for statistic analysis

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Microorganisms response to contaminants – JRAP3

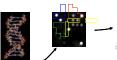


→ Molecular 'marker' species and genes indicative of hydrocarbon exposure and eutrophication.

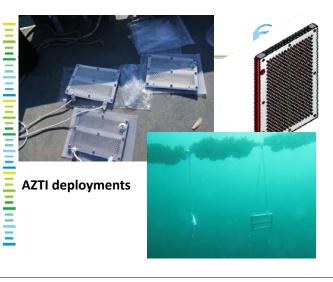
- Selection of species and genes suitable as markers of coastral hydrocarbon pollution and eutrophication – WP3 Activity Biosensors and Molecular Microbial Sensors. 6 markers of hydrocarbon pollution, 2 indicators of total bacterial numbers, 3 eutrophication/algae bloom markers. Tested through WP3.
- Development of assays adaptable to automated sampling devices (qPCR based) and adaptable to Ferrybox sampling (WP3/JRAP3).
- Sample collection through field campains and correlation with chemical and physical data through modelling.

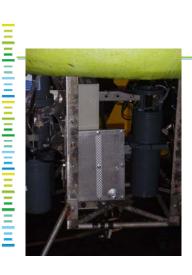






WP3: Innovations in rechilfold of an a week to do to







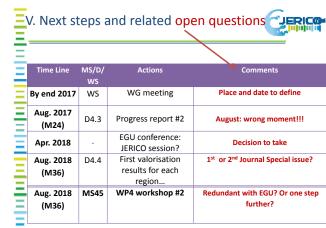
CEFAS deployments

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Istituto idrografico. Collection after ~3 months







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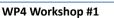






This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 654410.





JRAP# 2: flash presentation

Contributor(s): Jacques Grall, Antoine Carlier, Christos Arvanitidis, Christina Pavloudi, Bruno Deflandre, Rémi Sinays, Sabine Schmidt, Guillaume Bernard, Frédéric Garabetian, Alicia Romero, Nicolas Lavesque, Pascal Lebleu

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Objectives of the JRAP2



• Main scientific objectives

- Assessing spatio-temporal changes in (macro- and micro-benthic) diversity under different sources of disturbance
- Assessing functional consequences resulting from spatio-temporal changes in benthic diversity
- Contributing to the definition of a strategy for the future monitoring of European coastal waters

Partners

- CNRS/UB and CNRS/UBO
- IFREMER,
- HCMR

Method and strategy Correlation between disturbance and faunal correlation matrices Hierarchical approach for the assessment of the effect of diversity on function

First scientific results



- 1 PhD student on biogeochemistry, 1 Master student on Sediment profiling and enthic diversity
- Only raw data at the moment
- Exemples of two Sediment Profile Images to show station heterogeneity





Deployments done and to come



• A calendar....

Deployment time	What?	Where?	Who?
June 2016	1 diversity cruise	Bay of Brest	CNRS/UBO
October 2016 and January 2017	2 diversity cruises	Bay of Brest	CNRS/UBO
October 2016	1 diversity cruise	Cretan Sea	HCMR
October-November 2016	1 diversity+function cruise	West Gironde mud Patch	CNRS/UB



WP4 Workshop #1

JRAP# 4: Flash presentation: 5 min

Presenter: Anna Rubio

email: arubio@azti.es

Contributor(s): Annalisa Griffa & Carlo Mantovani (CNR-ISMAR), Guillaume Charria, Pascal Lazure & Ivane Pairaud (IFREMER), Alejandro Orfila (IMEDEA), Johannes Schulz-Stellenfleth (HZG), Bruno Zakardjian & Celine Quentin (CNRS-MIO), Pierre de Mey (CNRS-LOS), Giovanni Coppini & Stefania Ciliberti (CMCC), Julien Mader, Luis Ferrer & Ainhoa Caballero (AZTI)

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Methodology and strategy: chosen solution cterization of shelf/slope circula time variability year-round in three trans-boundary areas, through the joint energies of multiplatform data line with MFSD objectives.

Methodology and strategy: chosen solution





- Demonstrating the potential observatories for the understanding and monitoring coastal circulation;
- Expanding the surface information from HF radars to the ocean interior through moored instruments, gliders, drifters and high-resolution models;
- Quantifying the impact of ocean transport on the distribution of floating and dissolved matter;
- · Short time prediction, using data or combination of

Chosen solution: what possibilities? What choice made? Why?.

- > Demonstration based on HISTORICAL DATA and NEW OBSERVATIONS (SCALES: hourly, > 1
- Observing System Simulation Experiments (7ask 3.7), used to objectively propose optimization in existing observing network (new HFR antennas, different fixed stations position). Their application will depend on technical and economical criteria.

Deployments done and to come period What? Where? Who? NW Med area (5Terre, Easterr Ligurian Sea). CNR-ISMAR DEC 2016 2 HF radar antennas 25 MHz Trial experiment is planned for the week of with CTD, ADCP, and plastic sampling NW Med (rada MASTODON mooring test OCT 2016 AUG 2017 OCT 2017 MASTODON mooring deployment JUL - AUG 2017 SE BoB (radar IFREMER IFREMER / AZTI SE BoB (radar area) PASSIVE SAMPLERS deployment (JRAP4&3) AZTI / NIVA



WP4 Workshop #1

JRAP# 5: flash presentation: 5 min

Presenter: Lauri Laakso, FMI

email: lauri.laakso@fmi.fi

Contributor(s): Jukka Seppälä, SYKE

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Objectives of the JRAP



- Understanding and quantifying the influence of biological activity on carbon release or uptake, relative to physical and chemical processes affecting sea-air carbon fluxes.
- Describing temporal and spatial variability of #1 (not much studied)
- Understanding the differences and similarities b/w different coastal/border sea areas is the main focus ("big picture" in addition to localized studies)
- FMI (Finland), SYKE (Finland), NIVA (Norway), SMHI (Sweden), HZG (Germany), HCMR (Greece), CNR (Italy), CNRS (France)
- Baltic Sea; Mediterranean Sea; Norwegian Shelf; Barents Sea; North Sea; Bay of Biscay (?); Western Channel (?)

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Method and strategy



- At each site, we will do observations of chlorophyll, pCO₂ and physical parameters
- At some sites, extended measurements, e.g. pH, alkalinity, primary production, nutrients, carbon fluxes:
 - => No other similar networks/combined observations in EU => Biologically active coastal areas undersampled & difficult
- Physical, chemical and biological variables observed together at same sites
- Commonly agreed data cleaning methods
- · Data used jointly

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Calendar of activities 6 months periods What? M10 Information on relevant Excel sheet Lauri Laakso & observations by partners collected D4.1; D4.2 on my partners computer Meeting M18 Parners during GA (Mon 13.3.) M19 - M31 Intensive observing All observing Partners period M32 Cleaning and sharing of Partners data; M34...36 Instrument tests? Partners M36 D4.4; Writing joint paper WS? Partners M43 Partners

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JERICO-

WP4 Workshop #1

JRAP# 6: flash presentation
Operational oceanography and coastal forecasting

Presenter: Baptiste Mourre (SOCIB)

email: bmourre@socib.es

Contributor(s): J. Vitorino, S. Cilliberti, E. Jansen, L. Ferrer, J. Mader, A. Rubio, L. Laakso, G. Korres, L. Perivoliotis, H. Wehde, M. Juza, E. Heslop, E. Aguiar, J. Hernandez, E. Reyes, J. Tintoré

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Objectives of JRAP #6

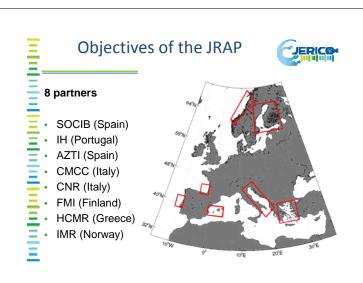


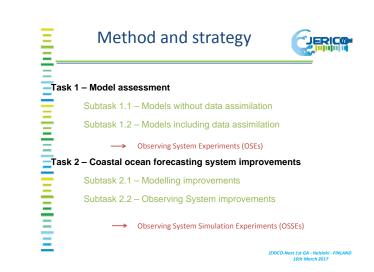
Show the importance of JERICO-NEXT observations for the assessment of operational regional models implemented in the coastal ocean, leading to recommendations for coastal forecasting system improvements, both in terms of models and observations.

It will answer to the following questions:

- How realistic are our coastal ocean models ? (focusing on specific variables and processes)
- · What do we have to improve in the models ?
- What is the impact of coastal observations on the model performance when data are assimilated?
- How should we optimize coastal ocean measurements?

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Calendar of activities						
Milestones / Deliverables	Title	Subtask	Leading institution	Participants	Delivery date	
JRAP6-R1	Strategy, preparation and implementation of the JRAP		SOCIB	SOCIB, IH, AZTI, CMCC, CNR, FMI, HCMR, IMR	Month 8 (May 2016)	
JRAP6-R2	Model assessment using JERICO observations	1.1	IH	SOCIB, IH, AZTI, CMCC, CNR, FMI, HCMR, IMR	Month 18 (March 2017)	
JRAP6-R3	Data-assimilative model assessment and Observing System Experiments (OSEs)	1.2	HCMR	SOCIB, IH, CMCC, CNR, HCMR	Month 30 (March 2018)	
JRAP6-R4	Recommendations for modelling strategy improvements	2.1	AZTI	SOCIB, IH, AZTI,CMCC, FMI, HCMR, IMR	Month 38 (November 2018)	
JRAP6-R5	Observing System Simulation Experiments (OSSEs) and recommendations for coastal observing systems	2.2	смес	SOCIB, IH, CMCC	Month 38 (November 2018)	
JRAP6-R6	JRAP synthesis		SOCIB	SOCIB, IH, AZTI, CMCC, CNR, FMI, HCMR, IMR	Month 40 (January 2019)	





Data management

WP5

Leonidas Perivoliotis / HCMR / lperiv@hcmr.gr Patrick Gorringe/EuroGOOS/ Patrick.Gorringe@smhi.se

16th March 2017

WP5: Data management



Objectives

- Integrate the biological data in the JERICO NEXT data portfolio
- Define the project's data policy by enhancing/promoting the open access to the data
- Implement a more efficient platform registration and metadata management system
- Define properly the data flow within JERICO NEXT
- Improve the quality of measurements derived from platforms that are widely used in coastal monitoring such as the FerryBoxes, HF Radars and Gliders
- Explore the possibility to connect the JERICO NEXT Data system with a Virtual Access Infrastructure

WP5: Data management



Challenges

Integration of the biological data in the JERICO NEXT data portfolio

Manage a diverse and non-homogeneous data system as data from different communities will be available

Maintain and strengthen the operational links with EMODNET and CMEMS (Copernicus Marine Environment Monitoring System) and the connections with the SDN network

Increase the quantity and the quality of the data available through the major European infrastructures.

JERICO NEXT is not building its own Data Center Data will be directed to the major European Infrastructures and they will be available to the community

WP5: Data management



Partnership and Workload

Man Months				
	Man Months			
HCMR	24			
EuroGOOS	8			
SOCIB	7			
IFREMER	7			
CNR-ISMAR	10			
AZTI	5,5			
VLIZ	6			
SMHI	5,3			
OGS	5			
HZG	4			
NIVA	1,4			
ETT	6			
MARIS	2,95			
SYKE	2			
CNRS	2			
Total Person-months	96,15			
	HCMR EuroGOOS SOCIB IFREMER CNR-ISMAR AZTI VLIZ SMHI OGS HZG NIVA ETT MARIS SYKE CNRS			

WP5: Data management



Tasks Overview

Task 5.1: Data policy and distribution (EuroGOOS)

Task 5.2: Integration of biological data (VLIZ)

Timeline: M1-M48

Task 5.3: Platform registration and metadata management system (Ifremer)

Timeline:M1-M44
Task 5.4: Interope

Task 5.4: Interoperable data flow from in situ measurements to archiving in data centers (CNR-ISMAR) Timeline:M1-M42

Task 5.5: Enhancement of Quality Control procedures for sensor based biochemical data

(SMHI) Timeline: M1-M40 Task 5.6: Definition of Quality Control procedures for HF Radar data (AZTI)

Timeline: M1-M42
Task 5.7: Scientific calibration procedures on gliders data collection (SOCIB)

Timeline: M1-M40
Task 5.8: Linking JERICO-NEXT activities to a Virtual Access infrastructure (EuroGOOS)

Main significant results and progress on tasks



Task 5.1: Data policy (EUROGOOS)

Provide recommendations on a free and open data policy for JERICO-NEXT (D5.1, Month 24)

- Review of existing data policy documents (e.g. WMO resolution 40, IOC Oceanographic Data Exchange Policy (IOC-IODE), ICES, FixO3, IMOS, US IOOS and others).
- The document may follow similar open information policies from around the world and also be in-line with leading European initiatives such as CMEMS and SDN
- Jerico Next data policy should be light and simple No agreement/signatures required
- Data collected and provided by JERICO-NEXT are open access and free to anyone

Main significant results and progress on tasks

Task 5.1: Data policy (EUROGOOS)

Deliver a JERICO-NEXT catalogue of metadata (D5.2, Month 36, 1st September 2018, MARIS)

- Deliver a catalogue of metadata which is fully compatible with the INSPIRE directive. The JERICO-NEXT data and metadata will be described using ISO discovery metadata and will be accessible via Open GIS.
- The catalogue will be implemented using Sextant, developed by Ifremer. Sextant meets the needs of different projects on a regional, European to global scale (EMODnet, CMEMS, SDN etc.) and internationally recognised ISO an OGC standards. Sextant brings together data related to a project, an organisation, a department etc.
- Integration will be started form the JN systems

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 16th March 2017

Main significant results and progress on tasks Task 5.1: Data policy (EUROGOOS) Defining specifications for a European Ferrybox data management system.(D5.3, Month 24, SMHI)

Main significant results and progress on tasks



Task 5.2: Biological Data Integration (VLIZ)

Report on Quality Control Steps of marine biological data management - Marine biological data: quality control and management practices (D5.4, Month 12)

- The diversity of the biological data generated within this project (more specifically within JRAPs 1&2) was recorded through a dedicated template that was filled out by the data providers and served as a basis for the work within this task.
- Current ongoing activities include the case by case evaluation of the sensor/sampling data. The variety in sensors, sampling techniques, device setups, calibrations and other makes this a very complicated task.

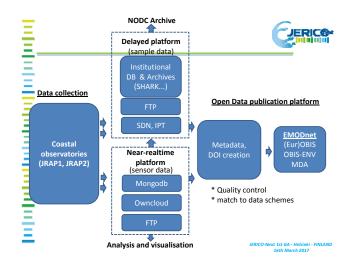
Main significant results and progress on tasks

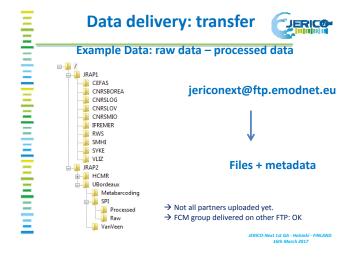


Task 5.2: Biological Data Integration (VLIZ)

Marine biological data: quality control and management practices

- It appeared that many data types are currently not fit for the integration in global existing databases. Therefore, specific user groups (per sensor type, e.g. flow cytometry) are formed to discuss on data types, data standards and integration.
- In September 2016 the deliverable D5.4 was submitted and it was extended to a more general 'Biological data management plan'. A meeting held in Paris in December 2016 led to a more detailed roadmap for this working task. The outcome of this meeting was added to the final version of deliverable D5.4 submitted on February 2017.





Roadmap → Timeline JERICO FEBRUARY 1 2017 MARCH 2017 Raw data examples delivered Video discussions per sensor group **APRIL 1 2017** Processed data example delivered MAY 1 2017 Description per sensor of what is raw data, processed data and technical metadata (agreements) JUNE 1 2017 Raw data of Year 1 delivered FFBRUARY 1 2018 Raw data of Year 2 MAY 1 2018 JUNE 1 2018 JRAP1 workshop (present results) Processed data year 1&2 DECEMBER 1 2018 Raw data Year 3 Processed data Year 3 MAY/JUNE 1 2019 Data release JUNE 2019 AUGUST 2019 Deliverable

Main significant results and progress on tasks

Task 5.3: Platform registration and metadata management system (IFREMER)

Requirements specifications for the observatory operator console (D5.6, Month 16)

- During the WP5 progress meeting in London in April 2016, a presentation of the planned development and a demonstration, based on Ifremer's Sensor Nanny framework provides a platform graphical editor and a drop-box like system for data provider to submit or synchronize local data flow on the cloud. The framework is compliant with OGC/Sensor Web Enablement standards.
- It has been agreed to focus on support for fixed platforms (moorings, sea bed observatories), HF radar and flow cytometry operators, in this order of priority. Function for the submission of data to ROOS (for Copernicus MEMS Services) and NODC (for long term preservation) has also been requested.

Main significant results and progress on tasks

Development is based on Sensor Nanny and Data Cloud technology



Main significant results and progress on tasks



Task 5.4: Interoperable data flow from in situ measurements to archiving in data centers (CNR)

Report on data management best practices and Generic Data and Metadata models (D5.9, Month 20)

- The first version of the deliverable D5.9 on data management best practices and Generic Data and Metadata models (official delivery is on M20) has been released among the partners for comments and reviews. As it was decided in WP5 progress meeting in London, a handbook on the release of Near Real Time data will be prepared by Ifremer and will be attached as a separate annex in D5.9 deliverable.
- Moreover, information was collected also for the report D5.10 (due on M36) that will check the improvements of scientific methods and quality methodologies, done within the Scientific Committee on Oceanic Research (SCOR) activities ERICO-

Main significant results and progress on tasks



Task 5.5: Enhancement of Quality Control procedures for sensor based biochemical data (SMHI) Best practice for quality control of sensor based biochemical data

- (D5.11, M24)
- The open source software for QC-control, the FerryBox Toolbox used on SMHI, has been used to make manual quality control of the 2016 FerryBox data from the ship Transpaper. During the work some needed features and required changes have been identified e.g. it will also to be configured to be able to deliver an output format of automatic quality controlled data in near real time via
- The new and updated version is ready to be disseminated to the FerryBox users of Jerico Next for evaluation. Ongoing work for making the FerryBox Toolbox freely available.

Main significant results and progress on tasks



Task 5.6: Definition of Quality Control procedures for HF Radar data (AZTI)

Recommendation Report 1 for HFR data (D5.13, M18)

- Recommendation at European level for the harmonization of HFR data management, including the following points: data format, metadata structure, QC flagging scheme and QC tests. D5.13 delivered: A practical document of recommendations useful for disseminating the results, with clear indications, guidelines and examples
- The document content is based on : (1) the characteristics of HFR data acquisition and processing, (2) the existing standards in non-EU networks (in particular in IOOS), (3) the existing international standards and Directives that are used in Europe for Marine Data Management to ensure compatibility with existing data infrastructure (CMEMS, SeaDataNet, EMODnet, DATAMEQ Recommendations). ISMAR-CNR (L.Corgnati) is leading the discussions with the different "HFR partners" of JERICO-NEXT, and involving when possible a wider community with other key actors from Europe, US and Australia.

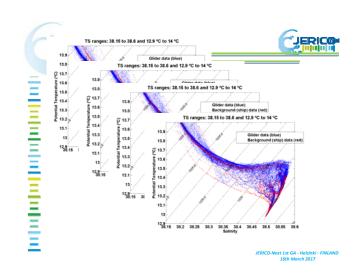
Main significant results and progress

Task 5.7: Scientific calibration procedures on gliders data collection (SOCIB)

Guidelines for the scientific correction of glider data (D5.15, M36)

Post-mission inter-calibration of glider CTD data (referred to as scientific or field correction from now on) including also the archival of delayed-mode corrected glider data. However, as a key pre-cursor to this, newly established data processing procedures must be applied in near real-time during, and after every mission. Accordingly, SOCIB's glider data from monitoring lines and targeted science missions have been run through the SOCIB glider data processing toolbox.

A first version of delayed mode field correction software is now complete and has been tested on SOCIB glider campaign datasets. Also, a **first draft of the deliverable D5.15** has already been sent to the co-authors of the collaborating partners of task 5.7. This draft still requires a number of figures and the presentation of the new code outlined above. However, it contains a description of both the method used in the field correction code and the handling of other potential errors in glider data such as spikes, temperature sensor thermal lag and bio-fouling conductivity offsets.



Main significant results and progress on tasks

Task 5.8: Linking JERICO-NEXT activities to a Virtual Access infrastructure (EuroGOOS)

Adapting JERICO NEXT activities to a Virtual Access Infrastructure: Survey on the existing technologies – needs and requirements for the adaptation [D5.16, M18 - ETT]

JERICO-NEXT connection to a Virtual Infrastructure system that will provide not only the required interconnections but also the necessary background for building synthetic products based on original data. In this task, an extended review of the existing Virtual Access platforms/systems was planned to be carried out in order to discover to what extent the JERICO-NEXT activities could be supported. To this end, the Virtual Infrastructures listed in the WP6 were evaluated adopting an approach similar to the methodology proposed by the EMODnet Med Sea Check Point, and in particular to the "availability" indicators. More specifically the "availability" indicates the degree to which the datasets are ready for use and obtainable from the JERICO NEXT VIs.

The study also examines the technical background of each infrastructure and its ability to efficiently support a multi-node distributed system. To obtain datasets, information is needed on the data provider (visibility), how to access them (accessibility), and how fast the process is to take possession of them (performance).

The D5.16 provides also suggestions for improving JERICO-NEXT VIs to better serve the JERICO-NEXT data portal and other European Marine Data and Information Infrastructures (EMODnet, CMEMS, SeaDataNet, etc).

Adapting JERICO NEXT activities to a Virtual Access
Infrastructure: Survey on the existing technologies – needs
and requirements for the adaptation (D5.16, M18 - ETT)



Conclusions

A non-expert user can almost easily be redirected to the proper Virtual Infrastructure landing page by means of a simple Google search, and, in general, Google is pointing to a more recent link than the one indicated in the WP6 JERICONEXT DOW.

A non-expert user cannot easily identify interoperability services on the VIs pages, ROOSs data portal page, but all of the ROOSs data portal are integrated into the infrastructure that deliver data to CMEMS and EMODnet Physics. If a dataset is not downloadable from the ROOSs data portal, it is available and downloadable from both CMEMS and EMODnet Physics (without restrictions for past 60 days and with authentication for older data).

The JERICO-NEXT section of EMODNET Physics is missing many of the VIs and VI datasets, and in particular it is missing more VIs and VIs datasets than CMEMS and EMODNET Physics.

JERICO-NEXT VIs are not (easily) identifiable into the CMEMS products catalogue EMODnet Physics is missing the following VIs: NIVA NorFerry: MS Oslofjord (OF), MS Norønna (NO); FMI UTO: Uto; SMHI MOS: HFRadar; SYKE Alg@Line: Silja Victoria; NIVA NRS: NRS; IOBAS: Galata, Pomos.

All of the ROOSs data portal (but the Arctic ROOS one) are showing data plots:

Jerico Next Data management

WP5 Deliverables during the first 18 months

D5.4 (VLIZ) Report on Quality Control Steps of marine biological data management (M12) – Delivered

D5.6 (IFREMER) Requirements specifications for the observatory operator console (M16) – Final version awaiting

D5.13 (AZTI)Recommendation Report 1 for HFR data (M16) – Delivered

D5.16 (ETT): Adapting JERICO-Next activities to a Virtual Access infrastructure (M18) – Delivered

Deliverables in advance

D5.9 (CNR-ISMAR): Report on data management best practice and Generic Data and Metadata models (M20-Almost final) D5.15 (SOCIB): Guidelines for the calibration of glider data (M36-Extended draft) Main difficulties, delays and mitigation solutions



The delivery of D5.4 (Biological Data Management) was postponed for a few months in order to contain more specific and focused information. After a dedicated meeting that was organized by the WP leader and the Project coordination team (Paris, December 2016) with the participation of the biological data providers (JRAP1/2), the D5.4 content was revised and submitted for delivery.

The implementation of all WP5 tasks was realized according to project's schedule

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Jerico Next Data management

D5.9 (CNR-ISMAR): Report on data management best practice and Generic Data and Metadata models

Month 24

D5.1 (EuroGOOS): Recommendations on open and free data policy D5.3 (SMHI): Specifications for a European FerryBox data management system

D5.7 (IFREMER): Definition of SWE templates for the targeted observatory networks

D5.11 (SMHI): Best practice for quality control of sensor based biochemical data

<u>Milestones</u>

Add digital citation of data as important component of data policy (EuroGOOS)

Automated quality control services operational + hand and hand the services operational + hand the servic



WP5 Progress Meeting #3

Month 32

Milestone: Console with core services for observatory operators and automated publication towards data management systems (Ifremer)

Month 36

D5.2 (MARIS): Release of a JERICO-Next catalogue

D5.10 (CNR-ISMAR): Report on harmonisation with SCOR WGs

D5.14 (AZTI): Recommendation Report 2 on improved common procedures for HFR QC analysis

D5.15 (SOCIB): Guidelines for the calibration of glider data

Milestones

Modules for data Quality Check, including WPS service (OGS)







This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 654410.





OINT EUROPEAN RESEARCH INFRASTRUCTURE NETWORK FOR COASTAL OBSERVATORIES

VIRTUAL ACCESS

WP6

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www.ierico-ri.eu

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JERICO Virtual access



- Virtual Access (VA) to make available oceanographic data resources to a wide range of communities within and outside the EU.
- Provide a free of charge service integrating datasets and derived information from in situ systems (HF radar, ferrybox and fixed platforms).
- Promote the improvement of existing services and potentially the development of new services:

access to in situ data can improve calibration and validation of numerical models and also provide sea truth data that improves the quality of information derived from remote sensing.

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		Man month
1 - IFREN	∕IER	5.60
2 - AZTI		6.40
4 - CEFAS	S	11.20
6 - CNR-I	ISMAR	7.60
7 - CNRS		15.12
13 - FMI		10.56
14 - HCN	1R	20.80
15 - HZG		8.64
16 - IH		11.16
18 - IO-B	AS	5.80
22 - NIVA	A	1.60
27 - SMH	11	3.24
28 - SOC	IB	8.80
29 - SYKE	Ε	4.00
Total		120.52

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Task 8.9: Coordinating WP6 Virtual Access (M1-M48)
 Cefas (Lead), Ifremer

Cefas (Lead), Ifremer
To coordinate the provision of access to Virtual Services identified WP6

Milestones (MS52, report , Month 30): 10 %

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JERICO Virtual access



- Develop methods for periodic assessment of the services and definition of access statistics (deliverable 8.12; Month 8)
- Set up a template for assessment that collects basic statistical information including: number of annual visits (e.g. to a web site), origin of visit (e.g. national, international)
- Provide a international review panel with assessment of services (deliverables 6.1; 6.2; Months 30, 48)

Create a review of panel external/internal members: User panel, JERICO-NEXT partners (VP5-task 8)

• Report the results of the periodic assessments to the EC (deliverables 8.13, 8.14; Months 24, 47)

Needs to be modified

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periodic assessment

- ${\bf 1.} \ {\bf Assessment} \ {\bf based} \ {\bf on} \ {\bf the} \ {\bf quantity} \ {\bf and} \ {\bf diversity} \ {\bf of} \ {\bf the} \ {\bf web} \ {\bf based} \ {\bf traffic}$
- Repeat visitors over a period
 - Average length of time per visit Number of Downloads
- Locations of enquiries

Can show the user coming

Google analytics

PiwiK, AWStats

from JERICO-NEXT website

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each VA provider will be assessed by the review of panel external/internal members

BUT

We will combine all the results for the report to the EC

ACTION: ask the commission if it is a good approach

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JERICO Virtual access



periodic assessment

- 2. Assessment based on the utility of the data and how the data is used across European and international frameworks.
- where the data goes
- who is using it
- what other internal or external functions are improved or elevated due to the information contained on the website.

Examples will include data being accessed by national and international modelling processes, validation of earth observation data and inputs into European data streams

When the users are known, get information about the contribution of the data in their product development (only for some VA providers)

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JERICO Virtual access



periodic assessment

3. Assessment based on the integration of data services reported under the VAI

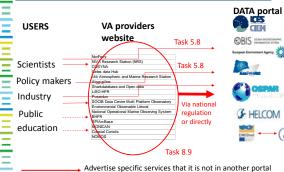
ie: Follow the publications (DOI reference) referring of the use of the data from the VA providers.

T5.8: Linking JERICO-NEXT activities to a Virtual Access infrastructure contributors: ETT, EUROGOOS; MARIS, HCMR, IFREMER

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JERICO Virtual access





Advertise specific services that it is not in another portal by making advertising on the website and renew them regularly

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JERICO Virtual access



16 Virtual Access Providers: data and services

	Location	Service name	Institute
1	Baltic, North Sea, Atlantic Sea and Arctic areas.	NorFerry	NIVA
2	Oslofjord, Norway.	NIVA Research Station (NRS)	NIVA
3	North Sea	COSYNA	HZG
4	North Sea, Channel, Celtic Sea, Irish Sea	Cefas Data Hub	CEFAS
5	Baltic Sea; Archipelago Sea, Island of Utö	Utö	FMI
6	BOOS. Baltic Sea - Helsinki, Finland -> Travemunde,	Alg@line-real time algal monitoring in the Baltic Sea	SYKE
7	Gothenburg and Norrköping, Sweden	SHARK and OPen data	SMHI
8	Ligurian Sea	LISO-HFR	CNR-ISMAF
9	Aegean Sea, Cretan Sea	POSEIDON	HCMR
10	Balearic Islands	SOCIB Data Centre Multi Platform Observatory	SOCIB
11	Ligurian Sea	Environmental Observatory Littoral	CNRS
12	Western Black Sea	NOMOS	IO-BAS
13	SE Bay of Biscay	BHFR	AZTI
14		SPIArcBase	CNRS
15	Nazare, Portugal	MONICAN	IH
16	Channel, Celtic Sea, Bay of Biscay, Mediteeranee	Coastal Coriolis	IFREMER

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JERICO Virtual access



- They are very diverse
 - : the platforms

6 categories: Ferry/ship; buoy/drifter, HF Radars, station, gliders, cables

: parameters

14 biogeochemical (at least):

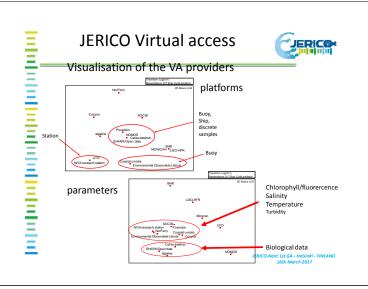
most common: Temperature, salinity, chlorophyll/fluorescence, turbidity and (some are unique: pCO $_{\rm 2})$

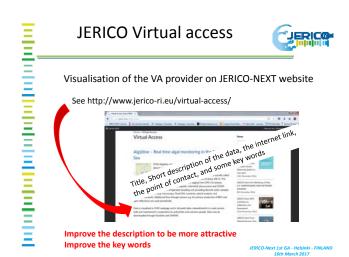
4 biological:

plankton, invertebrates, fish, but also mammals (seals) and primary production (FRRF)

- : real-time (75%) and archive data and software
- : from very $\underline{\text{simple to very elaborated/mature}}$

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JERICO Virtual access



Future actions:

- Finalise the document of the periodic assessment
- Define an expert panel for the assessing the VA providers (not more than 4 persons)
- Ask advice to the commission about the process of assessing the VA as it has been discussed with the VA providers
- Make more attractive the Virtual access in JERICO-next
- Make a closer link with Eurogoos (T5.8)
- Having publicity material promoting uptake of services for display at scientific and technical meetings
- Identify unique service and advertise new services

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Thank you







IOINT FUROPEAN DESEARCH INERASTRUCTURE NETWORK FOR COASTAL ORSERVATORIES

Trans National Access to Coastal Observatories

WP7

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www.ierico-ri.e

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Main objective of WP7



To provide coordinated 'free of charge' trans-national access to researchers or research teams (users) from academy and industry to original coastal infrastructures.

13 PARTNERS: CNR ISMAR (coord), CNRS, FMI, HCMR, HZG, Ifremer, IMR, IO-BAS, NIVA, SMARTBAY, SOCIB, SYKE, UPC

35 INSTALLATIONS/INFRASTRUCTURES: 30 in Chapter 1 (Observing systems) + 5 in Chapter 2 (Supporting facilities and special equipment)

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WP7&WP8: Tasks



The implementation and dissemination of WP7 are done in WP8 (Tasks 8.8 and 8.6)

Main tasks:

- To develop procedures for transnational access provision (starting from JERICO), including establishing TNA panels and teams (WP8, M1-M8).
- To prepare **3 open calls** and publish them in the website (WP7&WP8, M6-M36).
- To manage the evaluation of the submitted proposals and publish results in the website (WP8, M6-M36).
- To **support** users and facilities operators with access implementation, reporting and dissemination and publish results in the website (WP7&WP8, M18-M47).

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WP7: List of partners and expected involvement



				Infrastructures	5		
Organisation	Fixed platform	Cabled observatory	Glider	Ferrybox	Fishing vessel	Supporting facility	Special equipment
1 – IFREMER	1	1				1	
6 – CNR	3						
7 – CNRS			1				1
13 – FMI		1					
14 – HCMR	3			1		1	
15 – HZG	1	2	1	1			
17 – IMR		1		1	2		
18 - IO-BAS	2						
22 – NIVA				2		1	
26 – SBI	1	1					
28 – SOCIB			1				
29 – SYKE				2		1	
31 – UPC		1	·				
	11	7	3	7	2	4	1

- Advertizing the Calls → attracting users !!!
- Supporting the user groups in preparing the proposals and in the implementation of selected access projects

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Progress on Deliverables and Milestones (WP7&WP8)



	Title	Month	Actual date
D8.9	Rules and procedure for TNA	8	26/04/2016
MS53	Infrastructure available for users	9	28/04/2016
D7.1	Description of facilities participating to the TNA program	9	18/04/2016
MS57	First TNA Call on website	9	02/05/2016
MS58	Second TNA Call on website	21 18*	20/02/2017
D8.10	Technical and scientific advancements of TNA program	24	(Aug 2017)
MS59	Third TNA Call on website	32 29*	(Jan 2018)
D7.2	Trans National Access Provision V1	30	(Feb 2018)
D8.11	Final report on TNA program	47	(Jul 2019)
D7.3	Trans National Access Provision V2	48	(Aug 2019)

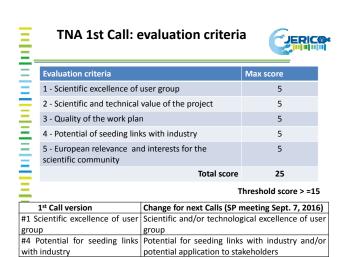
*Ref: Modification of the DOA regarding TNA (WP9 presentation, this morning)

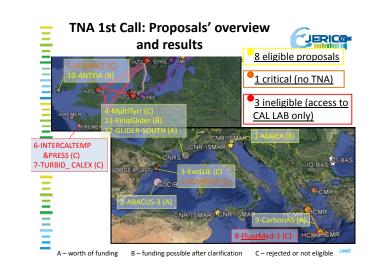
TNA 1st Call: Details and dates

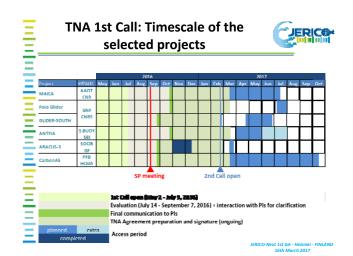


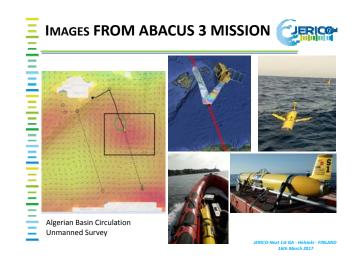
- Opening: May 2nd, 2016 Deadline: 11:59 (CET) of July 5th, 2016 http://www.jerico-ri.eu/tna/call-program/1st-call
- Evaluation: July 14 September 7, 2016
- Selection Panel meeting: Bordeaux, September 7, 2016
- TNA Management team Video-meeting: September 26, 2016
- Final communications to PIs: (A, C) September 30 2016 (B) October 26, 2016
- Results in the website: http://www.jerico-ri.eu/tna/call-program/1st-call/selected-projects/
- Funds for user groups: base amount of 3000 € for each facility involved in their TNA project
- Call was organised according to specific provisions for transnational access (TNA) under EC H2020 + provisions in the DoA

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user groups Project Approved grant (euros) MAICA 6,000 FinisGlider 2,484 GLIDER-SOUTH 4,000 ANTEIA 3,580 ABACUS-3 4,800 CarbonAS 3,000 Total 23,864 Users budget + SP 200,000 travels

TNA 1st Call: Budget allocated to

12% of available budget spent

- 1) To facilitate the access of the users groups the rule on financing (the base amount of 3000 € set for each facility involved in a TNA project) was relaxed when the budget
- 2) Travel & Subsistence costs related to installation/de-installation of users' equipment and to other necessary practical meetings (as for instance post-access meetings for debriefing on the collected data) were accepted as eligible.
- 3) Costs for shipping users' equipment to the facility were accepted as eligible.

Organisation		N. of Infras.	Access costs (DoA)	Estimated access costs 1st Call		a access osts	NOTES
1-IFREMER	MOLIT, MOLENE, METLAB	3	78,809.45				
6-CNR-ISMAR	AAOT, SiCO, S1	3	109,294.53	47,268.85			MAICA (AAOT): available access time is consumed. SiCO didn't participate to 1st Ca
7-CNRS	GNF, SPI-H	2	118,561.40	70,615.8			FinisGlider+GLIDER-SOUTH(GNF): residual access time 17 days
13-FMI	Utö	1	65,513.60				
14-HCMR	SB, HCB, AB, PFB, PLC	5	118,187.52				CarbonAS (PFB): residual access time 5 months
15-HZG	COSYNA_FB, SFB, GL, UN, AWIPEV	5	166,426.00				
17-IMR	Ferry, Fishing 1&2, Cable	4	73,750.00				
18-IO-BAS	GALATA, POMOS	2	41,000.00				GALATA didn't participate to 1st Call
19-IRIS	BG-ICO	1	31,643.75				Withdrawn
22-NIVA	NorFerry FA&TF, NRS	3	90,221.00				
26-SBI	SMARTBAY CPO, SMARTBUOY	2	119,207.72	36,148.76	36,:	148.76	ANTEIA (SMARTBUOY): available access time is consumed, extra access time requested
28-SOCIB	GLIDER	1	131,583.10	47,848.4			ABACUS-3 (GLIDER): residual access time 70 days
29-SYKE	FINNMAID, SILIJA SERENADE, MRC-lab	3	76,418.08			5/35	infrastructures will deliver access (14%)
31UPC	OBSEA	1	78,739.50			16 20	% Available budget spent
nnex I, Pages 9	18-100)	35	1,299,355.653	210.267.25		10.2	o Available bauget spellt

Three proposals were rejected since they Modification of the DoA (ref to WP9 presentation, this morning), effective from applied to a Supporting facility only (Chapter 2) [Call text: Items in Chapter 2 are intended to be used in conjunction with one or more of the observing systems described 1) Change: sentence was deleted and if a Two proposals were rejected (C-grade) since they were lacking information (and also field required for evaluaton is empty, it will received low scores in other parts) [Call text: be simply scored 0. 'Incomplete proposals, where the template 2) The TNA management team will prehas been filled in only partially, will screen the proposals before evaluation and automatically be rejected']. will recommend, amendments of technical issues only, with short response time, e.g. one week Most proposals requested budgets greater Rule relaxed in this Call. than the limit of 3000 € set for each facility New limit in the next Call (6000 €) involved in a TNA project. Requests for more access time than that Interested partners will report the extra allocated in the DoA. costs in the last financial report in the form of an adjustment, as long as residual funds are available in the allocation of WP7.

Change in the composition of TNA management team



TNA management team

pre-screen of proposals, coordinates the evaluation process

Previous team

Stefania Sparnocchia (CNR ISMAR), Sylvie Pichereau (Ifremer), George Petihakis (HCMR), Charles Troupin (SOCIB), Jukka Seppälä (SYKE)

New team

Stefania Sparnocchia (CNR ISMAR), Sylvie Pichereau (Ifremer), George Petihakis (HCMR), John Allen (SOCIB), Jukka Seppälä (SYKE)

Next steps (M18-M36) (1)



Completing the user-projects selected in the 1st Call (reports will be published in the project's website at http://www.jerico- ri.eu/tna/call-program/first-call/selected-projects/).

Selected pro	jects	
The first call for TNA to J July 5, 2016.	ERICO NEXT infrastructures opened	on May 2, 2016 and closed on
A total of twelve proposa alphabetical order):	ls were received, six of them passed	the evaluation (listed below in
Project Acronym	Project title	Host infrastructure
ABACUS-3	Third Algerian BAsin Circulation Unmanned Survey	SOCIB glider facility, Spain
	Directional wave measuring	SBI Galway Bay Data Buoy.

Next steps (M18-M36) (2)

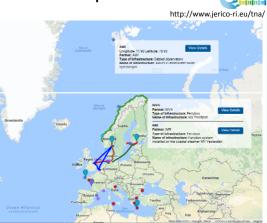


Completing the 2nd Call, start of selected User-projects in Autumn 2017.

	Agenda
20 FEB 2017	Launch of the second call
	http://www.jerico-ri.eu/tna/call-
	program/second-call/
10 APR 2017	Deadline
17 APR 2017	Feasibility assessment (facility operators)
24 APR – 26 MAY	Evaluation of proposals
2017	
mid JUNE 2017	Selection panel meeting
mid JULY 2017	Granting letters to PIs of selected user groups
July-August 2017	TNA agreements signature
September 2017	Starting of TNA projects
August 2018	Expected end of TNA projects

TNA 2nd Call: Map of infrastructures CIRCO





TNA 2nd Call: Advertising plan



Ocean Business 2017: Jerico Next workshop - Coastal **Observatories: Innovation Meets Industry**

Tuesday 4th April 1pm in Room G1 166/21 - 6th Floor http://www.oceanbusiness.com/conferencesseminars/coastal-observatories-innovation-meets-industry/

- Next issue of the JERICO NEXT Newsletter
- Initiatives from partners are expected (publishing the call in their websites, direct emailing to their contacts / projects / expert groups).

Next steps (M18-M36) (3)

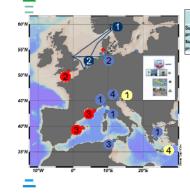


Deliverables and Milestones

- Reporting on the technical and scientific advancements of TNA program (D8.10, M24, August 2017)
- Preparing the 3rd Call, opening January 2018 (MS59).
- Reporting on transnational access provided by each infrastructure (D7.2, M30, February 2018).

The TNA experience in JERICO 1: demand vs facility





	1st Call 2012	2nd Call 2013	extra 3rd Call 2013	TOTAL
ubmitted rojects	13	6	ь	24
upported rojects	9	5	5	19

Number of submitted proposals per facility

	JERICO Plan (1 May 2011)	JERICO Reported (30 April 2015)
N. of facilities	20	13
Access (days)	1543	2670
Budget allocated to the action	550 k€	528 k€

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Feedbacks from the User Panel meeting (1)



1- TNA facilities challenge

They are heterogeneous in term of chance to succeed

A- Gliders = very attractive, innovative but expensive

- need expertise and time consuming
- not easy to deploy in areas where currents are too strong
- -> explain the higher demand in Med Sea (CNRS, SOCIB)

B- Ferryboxes = well developed in the north of EU but difficult to plug extra sensors

-> Difficulty to develop new lines in the Med Sea (geopolitical context, time consuming,...)

Based on JERICO 1 and JERICO-NEXT experiences, the community should decide, in future, which platforms are more attractive for users

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Feedbacks from the User Panel meeting (2)



2 - SMEs participation in TNA

Two type of SMEs can/should be attracted by TNA: developing sensors and exploiting the data

- SMEs that applied were mainly on the industry side
- Few participation of SMEs: bad background, they are not aware about the existence of $\ensuremath{\mathsf{TNA}}$
- Process to apply is difficult and mainly based on academic rules. It should be simplified for SMEs

How can we target SMEs? Do we have the right infrastructure available for them to use?

- -> yes, but communication should be better (use flyers, summarize the 35 infrastructures to promote them,...)
- -> not be afraid to report the success story about JERICO 1 to a larger community

JERICO-RI should promote and disseminate the infrastructures, limit the constraints about funds mechanisms and reinforce the communication through meetings (eg. ASLO, EGU,...)











Outreach, Communication and **Engagement**

WP8

Simon Keeble / Blue Lobster / simon@bluelobster.co.uk

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Table of content



- 1) List of contributing partners
- 2) Main aims and objectives
- 3) Tasks and deliverables
- 4) Main significant results and progress by task
- 5) Progress on Deliverables and milestones
- 6) Main difficulties, delays and mitigation solutions
- 7) Next steps for upcoming 18 months (calendar), questions and further steps to discuss

List of partners and expected involvement (person months)



Partner number and short name	Person Months
1 - IFREMER	4.00
3 - BLIT	12.48
4 - CEFAS	13.80
6 - CNR-ISMAR	17.00
9 - DELTARES	4.90
10 - ETT	3.00
14 - HCMR	2.50
21 - MI	2.00
25 - SLR	8.00
28 - SOCIB	6.10
29 - SYKE	0.80
30 - UOM	6.50
Total	81.08

Main aims and objectives



The WP aim is to increase understanding of the importance and maximise the impact of JERICO-NEXT research for targeted end-users across policy, industry, science and educational sectors and the wider public and to promote uptake of JERICO-NEXT Services for Transnational and Virtual Access.

The main objectives are:

- To create an end-user panel for engagement and fostering 2-way communication
- with public, policy, research, education and industry user groups. To inform, engage with and identify requirements of the key user groups. To ensure best possible uptake of new knowledge and evidence.
- To enhance European capacity building in operational marine sciences (through
- training).
 To maximise JERICO-NEXT international impact.
- To promote the potential of Coastal Observatories to support ocean science
- technological development through Transnational Access.
 To design, launch, maintain and host the JERICO-NEXT website with integrated

9 Tasks



Task 8.1:Create a channel for 2-way communication with user groups (M1-M12) (University of Malta Cefas, Blue Lobster, SOCIB, Ifremer) Task 8.2:Inform and engage stakeholders and public user groups (M12-M48) (Blue Lobster, Cefas,

Task 8.3:Inform and engage research and policy end-users (M1-M48) (Cefas, Blue Lobster, Deltares,

Task 8.4:: Inform and engage industry (M1-M48) (SLR Consulting, MI, Cefas)

Task 8.5:Enhance European human capacity building in operational marine sciences (Engaging with Education) (M1-M48) UOM, Cefas, Deltares)

Task 8.6:: Sustain and develop JERICO-NEXT web presence for dissemination of products and knowledge (M1-M48) (Blue Lobster, All partners to contribute content)

Task 8.7:JERICO Data Portal (M1-M48) (ETT, Blue Lobster, Ifremer)

Task 8.8:Implementing Transnational Access to coastal observatories (M1-M48) (CNR, HCMR Ifremer,

Task 8.9:Coordinating WP6 Virtual Access (M1-M48) (Cefas, Ifremer)

14 Deliverables



- D8.1: Formation of the user-group panel (M8)
- D8.2: Three visualisation products during the project to inform and engage public users (M48)
- D8.3: Visualisation products during the project to inform and engage professional users (M48) D8.4: Final report on the Three workshops, KTN and Tender Watch service (M40) D8.5: Summer School 1 (M24)
- D8.6: Summer School 2 (M36)
- D8.7: Launch of revised Jerico-NEXT web presence. (M12)
- D8.8: Prototype/demonstrator of the data portal and developed features (M6, M24, M42)
 D8.9: Rules and procedure for TNA Document to report rules and procedures to implement
- the TransNational Access (M8).
- D8.10: Technical and scientific advancements of TNA program Document to report the technical and scientific advancements of the TransNational Access program (M24).
- D8.11: Final report on TNA program Document to summarize the scientific and technical results of the TransNational Access program (M47).
- D8.12: Template for reporting of periodic assessments of Virtual Access (M8)
 D8.13: Report of periodic assessment of Virtual Access to the international review panel (M24)
 D8.14: Final report on Virtual Access (M47)

Task 8.1: Create a channel for 2-way communication with user groups (M1-M12) (University of Malta, Cefas, Blue Lobster, SOCIB. Ifremer



- A User Panel composed of 11 selected experts representing different user categories has been set up.
- An Introductory Video Conference Session was hosted by the University of Malta in October 2016
- The first face-to-face meeting of the User Panel was held on Tuesday 4th March (25 people attended).

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JERICO NEXT User Panel

What is it?

 Provide a dynamic and two-way communication channel with user groups, linking the project to beneficiaries, and ensuring that project deliverables meet their needs.



- public authorities
- policy
- research
- education
- operational communities
- Industry
- Members networked to extended user groups







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JERICO NEXT User Panel



Published Expression of Interest
Published Terms of Reference
Promoted User Panel in Oceanology International

April 2016

• Evaluation of applications received

October 2016

• Virtual meeting

March 2017

• First face-to-face meeting in Helsinki

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Business interaction

- Interact with the industry to develop innovative services and products.
- Role playing exercise. Each participant was asked to represent a particular sector:
 - fisheries,renewable energy
 - renewable ener
 water quality
 - aquaculture
 - portsoil&gas
 - insurance
 - insurance
 tourism
- Different services were then plotted on an Utilisation VS Impact chart.







Task 8.2: Inform and engage stakeholders and public user groups (M12-M48) (Blue Lobster, Cefas, SOCIB, Ifremer)



- The website continues to grow with content and increasing in views.
- "Follow the Glider" educational materials.
 Progress 75 %. Spanish & Catalan versions complete. Finishing off English.
- During the next period we will develop visual outputs with input from the User Panel.

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Task 8.3: Inform and engage research and policy end-users (M1-M48) (Cefas, Blue Lobster, Deltares, Ifremer, SOCIB)



- This tasks aiming to communicate new scientific knowledge derived from JERICO-NEXT to maximise societal benefit in policy, research and operational will be discussed during this General Assembly with the User Panel, task participants.
- During the next period, visual products will be produced with input from the User Panel.

Task 8.4: Inform and engage industry (M1-M48) (SLR Consultina . MI. Cefas)

Main significant results and progress on tasks

- SLR hosted two workshops at Oceanology International, March 2016
 - Innovation meets Industry
 Technology Cluster ***
 - Technology Cluster Workshop
- SLR participated in the NERC Oil and Gas Decommissioning Brokerage Event on 5th July in Aberdeen
- SLR planned to host the "Ocean Observatories: Innovation meets Industry" workshop at Seatech, Brest, 2016



Task 8.4 Inform and Engage Industry



Main difficulties: Poor industry participation at some events

- More careful selection of conferences/exhibitions
- 2. Applications to B2B events organised by others
- 3.Demonstration of online access to Jerico RI data is the best way to
- promote Jerico RI in face to face meetings 4.Develop a fast track TNA process for industry

Task 8.5: Enhance European human capacity building in operational marine sciences (Engaging with Education) (M1-M48) UOM, Cefas, Deltares)



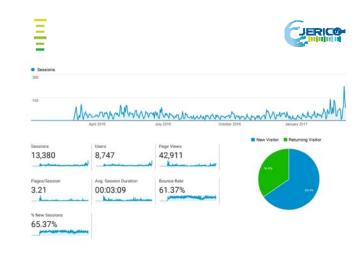
Deltares will run a summer school for 30 early career marine scientist will be held from 19-23 June 2017 (Monday - Friday) in a coastal resort near The Hague in the Netherlands. The theme of the summer school will be: "From multidisciplinary data to integrated information for coastal areas".

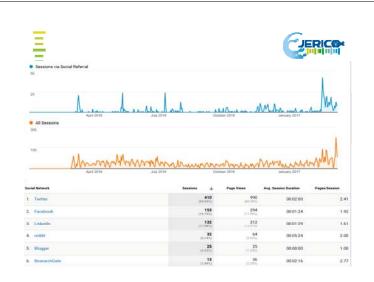
Task 8.6: Sustain and develop JERICO-NEXT web presence for dissemination of products and knowledge (M1-M48) (Blue Lobster, All partners to contribute content)



- The JERICO-NEXT project website was launched in March 2016 and has received more than 13,000 session views.
- The website has been maintained and updated to provide the latest news, events, products and results.
- Updates are broadcast through the projects established Social Media channels, Social media quite effective.







Task 8.7: JERICO Data Portal (M1-M48) (ETT, Blue Lobster, Ifremer)



- The JERICO data portal was launched in March 2016 and provides access to data and data visualization and interoperability services.
- The tools have received more than 1,500 access to date.
- Further work to be done.



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GERICO

- Task 8.8: Implementing Transnational Access to coastal observatories (M1-M48) (CNR, HCMR Ifremer, SOCIB, SYKE)
- Task 8.8: Implementing Transnational Access to coastal observatories (M1-M48) (CNR, HCMR Ifremer, SOCIB, SYKE)

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Main difficulties, delays and mitigation solutions



More content needed for dissemination.

Continued work on business engagement.

Find a way to better outreach to potential TNA and VA users

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The Next 18 Months



- Continued and meaningful engagement with the End-User Panel
- The first summer school will take place
- Planning and implementation of the second summer school
- Design and development of end-user products for outreach and dissemination
- Continued evolution of the project website and dissemination of products and services via the Social Media Channels
- Continued development of the JERICO-NEXT data portal
- Continued collaboration with WP6 Virtual Access
- Continued collaboration with WP7 TNA

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GENERAL ASSEMBLY

WP9 - MANAGEMENT

Presenter: Patrick Farcy et Sylvie Pichereau

Jerico-next GA1 week/ FMI / Helsinki / Finland/ 16 March 2017



2) Modification of the milestone 58 and 59 (page 83 of 101 of the DOA annex 1 part A) Milestone number Milestone title Lead beneficiary Due Date (in months) Means of verification MS58 Second TNA call 6 - CNR-ISMAR 21 Updates on website MS59 Third TNA call 6 - CNR-ISMAR 32 Updates on website

Will be changed by

Milestone number Milestone title Lead beneficiary Due Date (in months) Means of verification MS58 Second TNA call 6 - CNR-ISMAR 18 Updates on website MS59 Third TNA call 6 - CNR-ISMAR 29 Updates on webs

• 3) Regarding Work Package 3 - Task 3.7 – OSE/OSSE

This task is rebuild according to the changes asked by CMCC for Sub-tasks 3.7.1 and 3.7.2 and delays accordingly for Deliverables and milestones

We have to process to the same procedure, please if agreed, sign during the coffee break

• 4) Fund transfer between coordination and FMI

For your information

- 5) Unforeseen sub-contractings

Future amendment to the DOA



An amendment has to be prepared for the following:

Regarding access to TNA for Infrastructure of chapter 2 – Supporting facilities and specialized

• 1) Modification of the definition (page 66 of 101, line 18, DOA annex 1 par A)

"Items in Chapter 2 are ancillary to applications of users for Observing systems described in Chapter 1"

Will be changed by

"Items in Chapter 2 may be used alone or in conjunction with one or more of the observing systems described in Chapter 1. The priority will be given to the projects in conjunction with an observing infrastructure described in chapter 1."

Has been agreed by all of you already

This following sentence was changed on the TNA webpages and TNA call text

"Items in Chapter 2 are intended to be used in conjunction with one or more of the observing systems described in Chapter 1"

Will be changed by

"Items in Chapter 2 may to be used alone or in conjunction with one or more of the observing systems described in Chapter 1. The priority will be given to the projects in conjunction with an observing infrastructure described in chapter 1."

UPDATE OF Deliverables at M18

Deliverable	Deliverable Title	WF	Lead bracking	Type	Discretization level a	Due Date (in months) **	Dar Date	Actual delivery Date	
e.x	Senior Data Portal	MPK.	DO BTT	Dranouina	o Paldo		14 March 2011	19 May 2008	Submitted Late
98.1	Eigend Conservieus agreement	90.TV	- PEISEX	Report	confidential, only for members of the convention (including the Commission Services)		Del Manch 2016	10 May 2008	in the second law
0.2	Quality assurance plan	679	11 - ME	Report	nan-		Lei March 2016	19 May 2008	Administration
6.1	Establishment of end: more punct	678	1003-0	Other	Natural Control	×	14 May 2006	7 July 2014	Submitted late
Lo	Bales and precedure for TNA	N79.	- CNE DIMAR	Coport	nan-	×	14 May 2008	28 April 2006	
6.12	Exeptate for periods assessments	679	E - CEPIAN	Geptori	NACL CO.	ж	Da May 2008	August 2006	Submitted late
4.1	Approaches to monitor European counted was	M71	19 - ININ	Report	nan-		14 Jan 2005	27 June 2064	
0.1	Description of Excilities participating to the TNA response	M97	- CNE DIMAR	Coppert	nace.		14 June 2016	28 April 2006	
10.1	Expert on the status of HP-sadar systems and subfiel constal observatories within the HHECO servants and, more generally, in the European content.	MP2	i - APTI	Copus	No.		Ini Repireshov 2004	7 December 2004	Submitted Sale
	Optimal CHE/CHOE infrastructure	MP7	- CMCC	Report				MW	
0.4	Erport on Quality Control Steps of marine trological data management	M273	12 - VLDE	Separi			Ini Espirashov 2004	27 Polomary 2087	nament law
16.7	Launch of revised Desire Next subsite	nov.	- 10.27	Kirlmänn, painein Silling, rår.	nua.	п	Ini Espirantov 2064	t Neptomber 2011	Colombia de Sala
14.2	Programa separa #1	mara .	PRINTE	Seguei	nec.		Da Outober 2064	S December 2006	Submitted Lab
10.6	Expainments qualifications for the observatory quantity conside	M373	PRINCE	Erperi	rue.	36	la January 2016		
08.13	Recommendation Report 1 for 10 % data	N73	: ACT	Report	nes.	24	la lanary 2016	X 55auls 2017	Admitted total
6.1	Errore of sites at these	M71	- CIPAI	Esperi	Parks.	DK .	Ini March 2017	Betweend March 2017	
0.2	Report on the states of wearen and for measuring nations, biology related optical proposition, variables of the master carbonate system, and for control profiling, within the DECO network and, some generally, to the European content.	9872	EN - MONG	Report	Paris.	и	Del March 2017	until he late	
	Improved Easie DA inchmings for binchmical representations.	MP1	11 - 1620	Company Company				MD	
D0.30	Adapting BEECO NEXT activities to a Visited	M273	O-RTT	Coposi	nace.	18	14 March 2017	X 50ault 2017	

UPDATE OF Milestones at M18



			Lead beneficiary	Due Date (in months)	Actual achievement Date	Means of verification	
D1	Modeling tests 1.1	MIN.	N COVARTIC	- 1	I Outsler 2003	States of Workshop	
EX2	Finishing test 1.2.1		12 COVARTIC		I Outsler 2003	Sharin of Workshop	
DX.	NT Salvel Meeting	waro	23 - OCIX		I Ovider 203	This substance will be the slow of the WYT Each off Moring, which will evidebils the general readings for the implementation of this VSF and us out the strategy that will be useful or authors its standard path. The substance will mark the stant of the activities of WYZ of HEECO-DEXT.	
B13	Percentation of SEAF people is during NO serving Actions, with WF1 & X-planed	975	1-1900-00K	100	I Outsides 2003	Experied in a 822 meeting report	
ENIO	Cut of moving	939	119030K	- 1	I Overley 2003	Close of event	
BX3	Finishop with winnish committee	971	NI - COVARTIC		7 Xeptomber 2016	Massir of Warkshop has still to be produced	
DIT .	First Workshop of Task 2.3: Hammisting new network systems	990	- AZTT		11 March 2004	Close of event	
DL718.	Southweited interpret diagnostics in DA spirms.	W371	- csacc		X March 2017	CMCC contribution reduce M28	
EX.79	Eigh medicine nature runs for COSEs	931	- csacc		X March 2017	Discounted (preventation) reduction of nature runs	
es:	Dairgis guidelines for the implementations of the SEAPs	W71, W71	199200K	7	27 June 2004	Outdelives communicated to and endorsed by the concertion	
E 110	First Workshop of East 2.5 Hamonising	W97	13 - 16203	×	Protposed Chicker	Close of room	
D.III	EF Ender observation operators for DA	931	- csacc		10th March 2017	Errounik soliman made analiable to partners	
EX33	electrorises available for even		CON-TOMAK		28 April 2014	Opdates on website	
EX37	First TNA cell	939	COOK-DIMENT		2 May 2006	Uplates on Website	
833	Medicalism for interaction with similar inclinion	975	M - COVARTIC	12	17 Pelessey 2017	Mechanism communicated to and endered by the concertion	
DX36	letics Waltsite	WIN	HERE	12	1 March 2014	Edmin available	
B11	First Workshop of Task 2.3: Calibration and correspond	W92	23 - OCB	14	Chiedrov 2016	Close of event	
D.30	New configuration for the physician increases	W311	19 - 182X	34	7 March 2017	Up and running protetype	
0024	Prospensions unnow bearing	921	11 HEME	18	13 March	Trein in lab completed	
0.03		en .	- CMCC			Report on improved rather data assimilation capability	
0111	Percentation of SEAF progress, showing looks with other WTs	NO.	-199200K	IX	13 March	Reported in WFC workshop#1	
	First intermediate GA	929	I IPKINDE	18	16 Merch	One of cont	

M18 REPORTING reminders



Technical reporting

PART A

To be completed on line

The coordinator needs all information requested in this part from the WP leaders, briefly:

Summary for publication

Summary of the context and overall objectives Work performed

Progress beyond the state of the art, expected results

Deliverables Milestones

Ethical issues

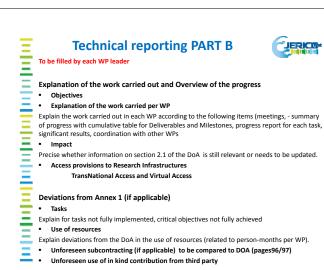
Foreseen and unforeseen risks

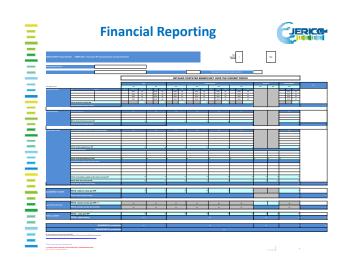
Dissemination and exploitation of results (all articles, posters, exhibitions and at sea cruises, ...)

Impact on SME's

Science/society Infrastructures

Gender









WHY fill in both documents? For PM as well as financial consolidation

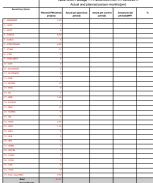


	Table Work Package 1 – Period 09/01/2015 – 02/28/2017 Actual and planned person-months(pm)									
Beneficiary Name	Planned PM (whole project)	Actual pro (previous period)	Actual pre-current period)	Actual per (all periods)WP1	*					
1 PRISER	9.50									
2 / AZH	- 4									
3 - 1027										
4 - CHPAX	X.40									
3 - CMCC										
6 - CNE DDLAK	0.60									
7 CNRX	12									
X - CHIC										
9 DELTARSS										
10 : 177										
II - BandOON	4									
12 - PLESEBON										
11-960										
H-HIME	12									
19-100										
14 - 18										
17 - DISK	1.60									
TH - ED BLAX										
19 : 803	12									
30 - MARIE										
21 - MI	,									
22 - NEW	2.30									
21 - OEB	1.10									
22 - 89/3										
28 - NE.E										
24 - 382										
27 / 3588	3									
28 - NOCHE	4									
29 - AYKE	,	_								
30 - 1000										
n - tre										
32 - W.EE										
33 - Dani Ago 1800	0.50									
Total Person/Months	XH.30									

For further precisions on cost statement

JERICO-



Please note that we have a time slot at 15h30 this afternoon

THANK YOU FOR YOUR ATTENTION







