



GRANT N°: 871153
PROJECT ACRONYME : JERICO-S3
PROJECT NAME : Joint European Research Infrastructure for Coastal Observatories - Science, services, sustainability
COORDINATOR : Laurent DELAUNEY - Ifremer, France - jerico-s3@ifremer.fr

JERICO-S3 MILESTONE	
Joint European Research Infrastructure network for Coastal Observatory Science, Services, Sustainability	
MS#, WP# and full title	JERICO-S3 MS5 - WP2 - "All-regions workshop 4 -synthesis of implementation"
5 Key words	
Lead beneficiary	Ifremer
Lead Author	Laurent Delauney
Co-authors	Léa Godiveau
Contributors	
Submission date	31/07/2024

→ Please specify the type of milestone:

- Report after a workshop or a meeting (TEMPLATE A)
- Report after a specific action (TEMPLATE B) (test, diagnostic, implementation,...)
- Document (TEMPLATE B) (guidelines,...)
- Other (TEMPLATE B) (to specify)

Diffusion list			
<u>Consortium beneficiaries</u>	Third parties	Associated Partners	other

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A) TEMPLATE A - report after a workshop or a meeting

1.A - Attendees

Cf List of attendees in Annex.

2.A - Statement of Decisions

Cf Decisions taken in each session, in Annex.

3.A - Agenda A - Main report

The JERICO-S3 ARW#4 took place between the 18th and the 20th of April, 2023. Agendas, details of sessions and minutes of meetings are available in Annex.

4.A - Conclusions

The JERICO-S3 ARW#4 reached its objectives.

5.A - Annexes and references



JERICO RI

SCIENCE - SERVICES - SUSTAINABILITY



JERICO-Week#3

April 2023

IRB, Rovinj, Croatia

FINAL REPORT

ZOOM MAIN ROOM : <https://zoom.us/j/4633526762>



JERICO-Week 2023, April 18-20, IRB, Rovinj, Croatia

AGENDA

JERICO-Week 2023

April 18-19-20, Rovinj, Croatia

COORDINATION INTRODUCTION and JERICO-Week opening

The JERICO-S3/DS projects are funded by the European Commission's H2020 Framework Programme under grant agreements No. 871153/951799. Project coordinators: Remya, France.

JERICO-Week 2023, April 18-20, IRB, Rovinj, Croatia

A WORD OF WELCOME FROM OUR HOSTS !

Martin Pfannkuchen, on behalf of IRB and his team




A greeting from David Mondrusan from the city of Rovinj

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JERICO-Week 2023, April 18-20, IRB, Rovinj, Croatia

Logistics of the week, social events, questions ?

IN THE VENUE

Room 1 : Conference hall Hütterot



Room 2 : Meeting room Erna&Marie



Wednesday April 19th - dinner at 20:30 at Restaurant Kantinon (Rovinj old town) - take the ferry from the island at 20:00 to go to the town

Other days: free time or informal exchanges in the evening

COFFEE BREAKS ARE AT 10:30 AND 15:30
Right outside the main meeting room

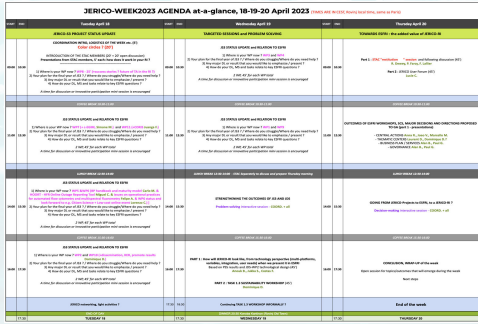
LUNCH IS 12:30-14:00
Lunch in a buffet in the restaurant downstairs in the hotel



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Laurent D. : General Assembly Agenda



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JERICO-Week 2023, April 18-20, IRB, Rovinj, Croatia

Laurent D. : General Assembly Agenda

DAY 1

Thursday April 18

JERICO-S3 PROJECT STATUS UPDATE
COORDINATION: INFO, LOGISTICS ON THE WEEK etc. (S)
Color circles ? (2P)

WP8
1) Where is your WP now ? (WP1 - 20) (Innovation challenge) (Nature of DS, the DS)
2) Your plan for the final year of J3 ? Where do you struggle/Where do you need help ?
3) Any major DL or result that you would like to emphasize / present ?
4) How do your DL, MS and tasks relate to key ESRI questions ?
A time for discussion or innovative participation mini-session is encouraged

WP7
1) Where is your WP now ? (WP1 - 20) (Innovation challenge) (Nature of DS, the DS)
2) Your plan for the final year of J3 ? Where do you struggle/Where do you need help ?
3) Any major DL or result that you would like to emphasize / present ?
4) How do your DL, MS and tasks relate to key ESRI questions ?
A time for discussion or innovative participation mini-session is encouraged

WP11
1) Where is your WP now ? (WP1 - 20) (Innovation challenge) (Nature of DS, the DS)
2) Your plan for the final year of J3 ? Where do you struggle/Where do you need help ?
3) Any major DL or result that you would like to emphasize / present ?
4) How do your DL, MS and tasks relate to key ESRI questions ?
A time for discussion or innovative participation mini-session is encouraged

WP5
1) Where is your WP now ? (WP1 - 20) (Innovation challenge) (Nature of DS, the DS)
2) Your plan for the final year of J3 ? Where do you struggle/Where do you need help ?
3) Any major DL or result that you would like to emphasize / present ?
4) How do your DL, MS and tasks relate to key ESRI questions ?
A time for discussion or innovative participation mini-session is encouraged

WP6
1) Where is your WP now ? (WP1 - 20) (Innovation challenge) (Nature of DS, the DS)
2) Your plan for the final year of J3 ? Where do you struggle/Where do you need help ?
3) Any major DL or result that you would like to emphasize / present ?
4) How do your DL, MS and tasks relate to key ESRI questions ?
A time for discussion or innovative participation mini-session is encouraged

WP2
1) Where is your WP now ? (WP1 - 20) (Innovation challenge) (Nature of DS, the DS)
2) Your plan for the final year of J3 ? Where do you struggle/Where do you need help ?
3) Any major DL or result that you would like to emphasize / present ?
4) How do your DL, MS and tasks relate to key ESRI questions ?
A time for discussion or innovative participation mini-session is encouraged

WP10
1) Where is your WP now ? (WP1 - 20) (Innovation challenge) (Nature of DS, the DS)
2) Your plan for the final year of J3 ? Where do you struggle/Where do you need help ?
3) Any major DL or result that you would like to emphasize / present ?
4) How do your DL, MS and tasks relate to key ESRI questions ?
A time for discussion or innovative participation mini-session is encouraged

JERICO networking, light activities ?

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Laurent D. : General Assembly Agenda

DAY 2

Wednesday April 19

TARGETED SESSIONS AND PROBLEM SOLVING

WP3
1) Where is your WP now ? (WP1 - 20) (Innovation challenge) (Nature of DS, the DS)
2) Your plan for the final year of J3 ? Where do you struggle/Where do you need help ?
3) Any major DL or result that you would like to emphasize / present ?
4) How do your DL, MS and tasks relate to key ESRI questions ?
A time for discussion or innovative participation mini-session is encouraged

WP4
1) Where is your WP now ? (WP1 - 20) (Innovation challenge) (Nature of DS, the DS)
2) Your plan for the final year of J3 ? Where do you struggle/Where do you need help ?
3) Any major DL or result that you would like to emphasize / present ?
4) How do your DL, MS and tasks relate to key ESRI questions ?
A time for discussion or innovative participation mini-session is encouraged

WP1
1) Where is your WP now ? (WP1 - 20) (Innovation challenge) (Nature of DS, the DS)
2) Your plan for the final year of J3 ? Where do you struggle/Where do you need help ?
3) Any major DL or result that you would like to emphasize / present ?
4) How do your DL, MS and tasks relate to key ESRI questions ?
A time for discussion or innovative participation mini-session is encouraged

WP9
1) Where is your WP now ? (WP1 - 20) (Innovation challenge) (Nature of DS, the DS)
2) Your plan for the final year of J3 ? Where do you struggle/Where do you need help ?
3) Any major DL or result that you would like to emphasize / present ?
4) How do your DL, MS and tasks relate to key ESRI questions ?
A time for discussion or innovative participation mini-session is encouraged

STRENGTHENING THE OUTCOMES OF J3S AND JDS
Problem-solving interactive session - COORD = all

PART 1 : How will JERICO-RI look like, from technology perspective (Multi-platforms, verticals, integration, user needs) when we present it at ESRI? Based on PSS results and JDS-WP2 technological design (4S)
Arnaud B., Julien S., Corine F.

PART 2 : TASK 1.3 SUSTAINABILITY WORKSHOP (4S)
Dominique D.

Continuing TASK 1.3 WORKSHOP INFORMALLY ?

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Laurent D. : General Assembly Agenda

DAY 3

Thursday April 20

TOWARDS ESRI : the added value of JERICO-RI

STAC User Forum

Part 1 : STAC "rebirth" - mission and following discussion (4S)
R. Beyer, F. Frenay, G. Lubier

Part 2 : JERICO User Forum (4S)
Lucie C.

CONCLUSION, WRAP-UP of the week
Open session for topics/outcomes that will emerge during the week

Next steps

End of the week

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WHAT THE COORDINATION HAS BEEN UP TO ... (Léa, Laurent, Lucie)

FROM THE BEGINNING OF JERICO-S3 and DS
Before COVID hit, aiming at grouping in-person meetings more than before (JWeeks)

INTENTIONS

Maximising efficiency both in JERICO-Weeks and meetings in general

ACTIONS TAKEN

Applying "meetings best practices":

- Strong agenda
- Meeting minutes
- Time control
- Send docs ahead

COVID-19, RISE OF REMOTE MEETINGS
A new way of working (with pros and cons !)

INTENTIONS

- Focus discussions
- Actively work to collect everyone's inputs in a Zoom meeting

ACTIONS TAKEN

- Implementing meetings BPs was more important than ever
- Short and more frequent meetings, remotely
- Asking direct questions -> try to avoid having "ghosts" on Zoom
- Smaller groups if possible
- Using gatherings like JERICO-Weeks to be on the same page

FOR THE LAST YEAR and CURRENTLY
Dealing with a mix of remote and in-person meetings, with less and less time (more work)

INTENTIONS

- Take advantage of every meeting to collect valuable inputs and outcomes
- Involve everyone (not only the extraverted personalities willing to participate)
- Make decisions as a group
- Work to collaborate, not only cooperate

ACTIONS TAKEN


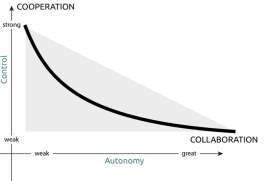
- Coordination asked around for feedback on meetings and JERICO-Weeks : wants, needs
- Starting a short training on **collective intelligence** and agile methods of working
- Design more dynamic and diverse meetings, hoping to foster participation and work effectively as a group

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WHAT THE COORDINATION HAS BEEN UP TO ... (Léa, Laurent, Lucie)

Collective intelligence is the body of knowledge that grows out of a group

Let's head towards great collaborative work with collective intelligence and active participation!


In JERICO, we have great cooperation and teamwork (and that's already really positive)

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WHAT THE COORDINATION HAS BEEN UP TO ... (Léa, Laurent, Lucie)

How can we foster good collaborative work and use the agile, collective intelligence principles ?



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Introducing the week with an exercise, to know yourself and your colleagues better ! (and foster more "on-point" collective work)

Different members of a team share the same objectives (having a great JERICO-Week ! or shared projects (JERICO-RI !)

But each team member is **unique**, with their own vision of things as well as their own expectations, needs and modes of communication



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What do YOU bring to the table ?

The "DISC" exercise

Sunshine Yellow
Allow time for brainstorming


Earth Green
Recognise everyone's contribution

Fiery Red
Deliver a results update

Cool Blue
Capture what was discussed

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The **DISC** model was put forward following research by **William Marston Mouton** in 'Emotions of Normal People' in 1928.

Emotions and natural personalities lead to **differences in behavior** among groups

Marston explains that the behavioral expression of emotions can be classified according to **four primary components** which result from self-perception in the relation between a person and their environment.

These four components are : **dominance / directiveness, influence / inspiration, stability / steadiness and conformity / conscientiousness.**

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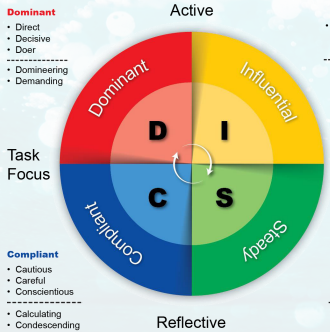
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By identifying our **major profile** (we are all a mix of all 4 profiles), we can maximise collective intelligence and adapt our communication to take into account each other's natural ways of thinking and interconnecting



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Dominant
• Direct
• Decisive
• Doer
• Dominating
• Demanding

Influential
• Inspirational
• Interactive
• Interesting
• Impulsive
• Initiating

Steady
• Stable
• Supportive
• Sincere
• Slow
• Sensitive

Compliant
• Cautious
• Careful
• Conscientious
• Calculating
• Condescending

Identify now your **main** profile, and add a color sticker to your badge, your computer, your phone !

And let's reach the maximum benefit of our collective intelligence by recognising the great diversity in the room

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DISC D-type personalities

Dominance:
direct, strong-willed, and forceful (fast-paced and skeptical)

D-style people tend to be fast-paced and outspoken. They also display questioning and skeptical traits. You'll notice the D-style acting assertively, making quick decisions, and speaking candidly.

Dominant profiles
Powerful - Outspoken

DISC I-type personalities

Influence:
sociable, talkative, and lively (fast-paced and accepting)

I-style people can often recognize **lifestyle** people by their outgoing energy, optimism, warmth, and gift of gab. They seek new experiences rather than routine, and care a great deal about their relationships with others. Influential profiles

Influential profiles
Powerful - Self-assertive

DISC S-type personalities

Steadiness:
gentle, accommodating and soft-hearted (cautious and accepting)

S-style people tend to be more reflective than outspoken. They are warm, sincere, and accepting personalities. If you want someone to listen patiently to you, this might be the person you go to.

Stable profiles
Sober - Loyal

DISC C-type personalities

Conscientiousness:
private, analytical, and logical (cautious and skeptical)

C-style people value high standards, careful analysis, and diplomacy. They excel at bringing an objective lens to various situations, and care about demonstrating their competency.

Conscientious profiles
Alertness - Methodical

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Introducing our STAC members

- **CHAIR** : Richard Dewey
- Patrick Farcy
- Alejandro Iglesias-Campos [SLIDES](#)
- François Lallier

We are asking you to reflect on 3 main questions during the week.

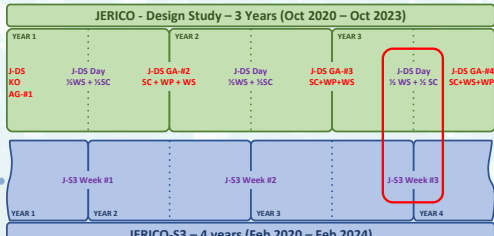
Many thanks !

[QUESTIONS LINK](#)

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J-S3 Meetings timeline vs J-DS (Without prolongation)



J-S3 duration extension : 6 months => August 2024

J-DS duration extension : 4 Months => February 2024

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JERICO-RI
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JERICO-RI is a marine research infrastructure

that addresses the challenge of **observing the highly complex and variable coastal seas** at a **Pan-European** level within the context of the **EU policy drivers** to support **excellence in marine coastal research in Europe.**

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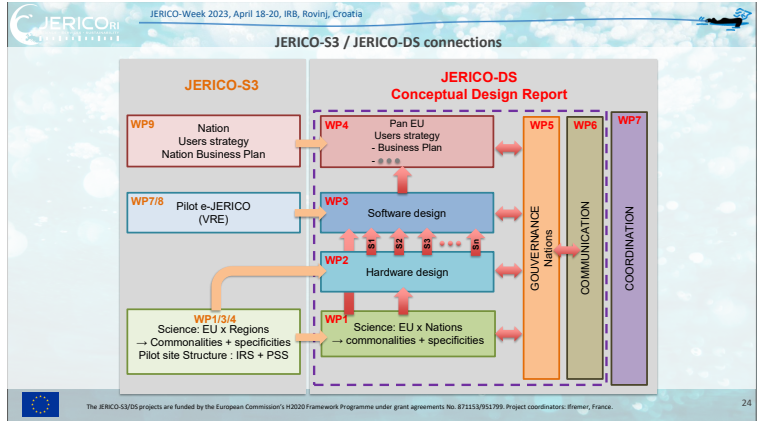
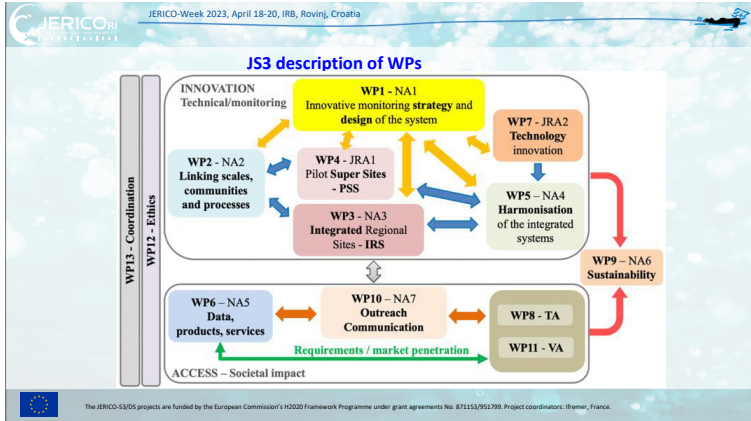
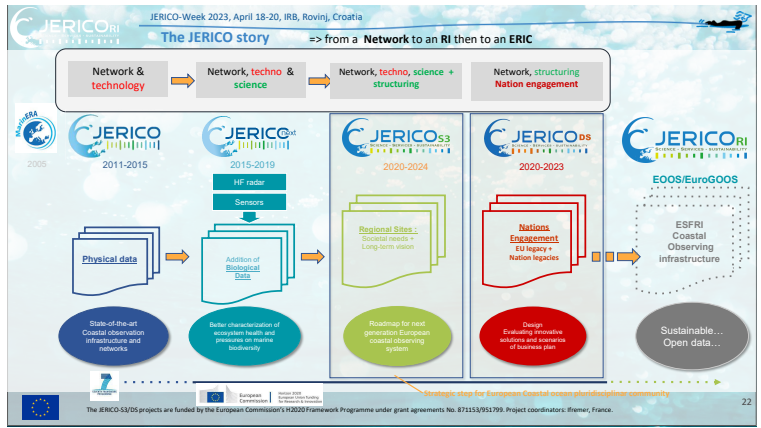
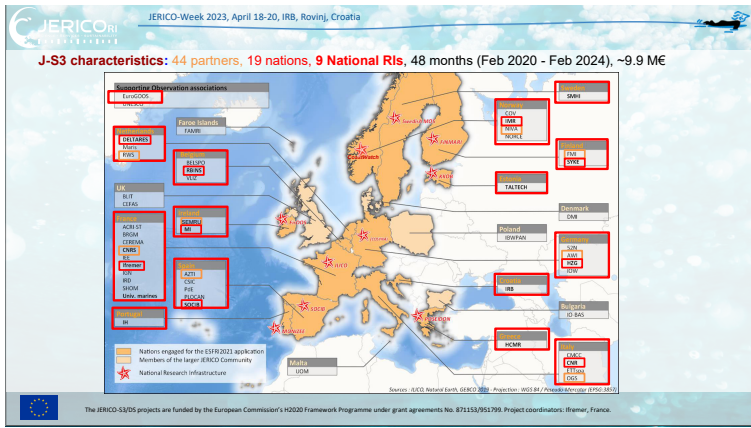
JERICO-RI is a marine research infrastructure

that addresses the challenge of **observing the highly complex and variable coastal seas** at a **Pan-European** level within the context of the **EU policy drivers** to support **excellence in marine coastal research in Europe.**

JERICO-S3 project objectives:

- to provide a **state-of-the-art, fit-for-purpose** and visionary **observational** Research Infrastructure (RI)
- to provide **expertise** and **high-quality data** on European **coastal** and **shelf seas.**
- to **support world-class research, high-impact innovation** and a **window** of European excellence worldwide.

The JERICO-S3/05 projects are funded by the European Commission's H2020 Framework Programme under grant agreements No. 871153/951799. Project coordinators: Remy, France.



JERICO-RI GOVERNANCE

JERICO-S3 project objectives:

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- to **support world-class research, high-impact innovation** and a **window** of European excellence worldwide.

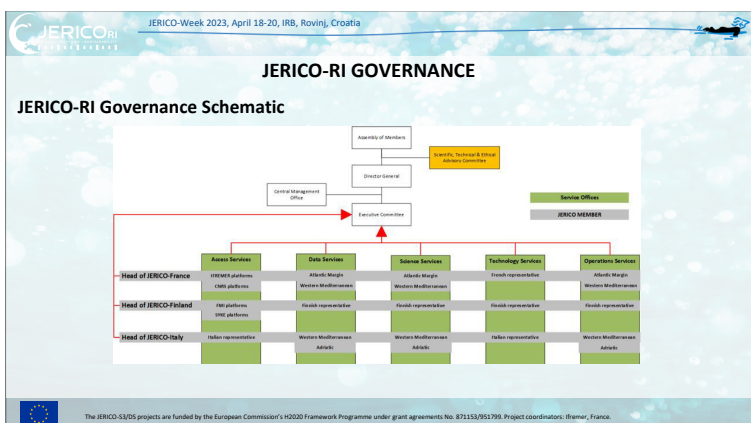
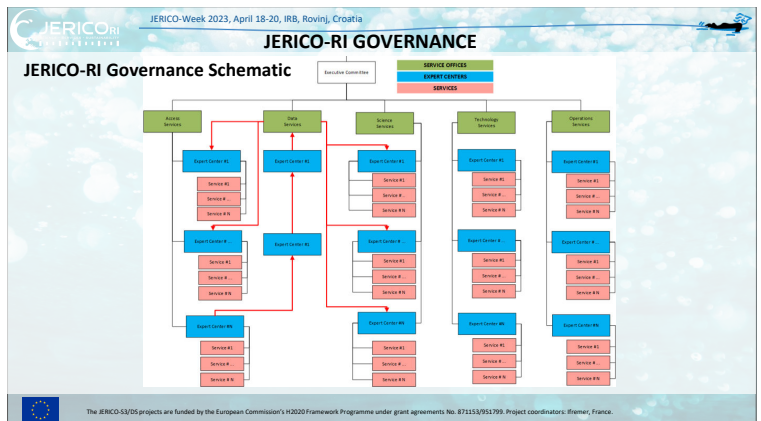
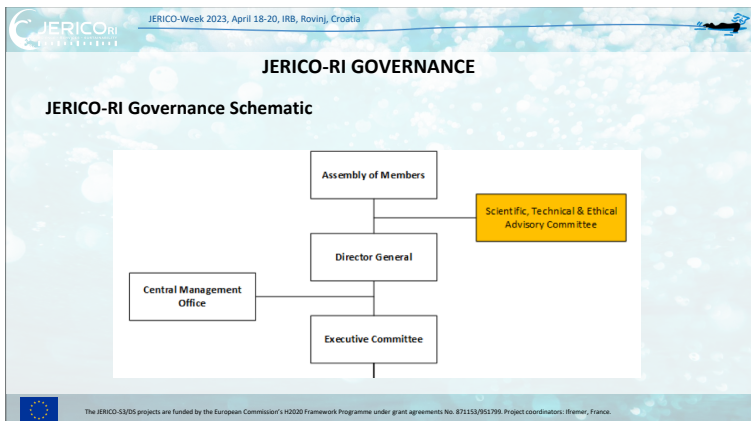
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JERICO-RI GOVERNANCE

JERICO-RI is developing an ontology to specifically identify key terms and provide a simple definition of those terms...

Governance: ...
 Assembly of members: ...
 Scientific, Technical and Ethical Advisory Committee: ...
 Director General: ...
 Executive Committee: ...
 Office: ...
 Expert Center: ...
 Services: ...
 etc.

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Communication

2 Things to do this week

- 1) Communicate via Twitter, Facebook etc
- 2) Send a tweet / photo about something in your presentation or workshop to:

simon@bluelobster.co.uk

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Use social media

Here is a list of Twitter Hashtags and Mentions/Handles that could be used when communicating during the JERICO week - there will be others but these can be used for ideas - the most important of which is: #JERICORI.

Hashtags

#JERICORI
 #ResearchInfrastructures #Innovation #H2020 #MarineScience
 #OceanScience
 #OceanObservation #CoastalObservation #WaterMonitoring #OpenData #Marine
 #Science #Ocean #ResearchImpactEU #Oceanography #Assessment
 #EarthObservation #BlueGrowth
 #openaccess #FAIR

Mentions/Handles

@JERICORI
 @EU_H2020
 @EU_MARE
 +partners

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Note from the EC:

European Commission social media channels

The social media platforms the Commission and its agencies use can help you expand your audience by sharing your posts.

Try the following:

- Add #H2020 to your tweets. Be part of the online conversation about Horizon 2020 and your tweets become searchable.
- Tag @EU_H2020 in your tweets. Relevant posts are sometimes shared on EU social media accounts.

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What to post:

- 💡 Look at the introduction of sessions for text ideas
- 📸 Use appropriate screenshots of images or diagrams
- # Hashtags and mentions
- 👤 Mention colleagues
- 👉 Engage...

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JERICO-Week 2023 Wrap-up

Firstly : a huge thank you to our hosts and all participants !!

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JERICO-Week 2023, April 18-19-20 Croatia

WRAP-UP : WP1, Science Strategy (Anna, Antoine) and Sustainability workshop (Dominique)

1. What is the "take-home" message for your WP or the topic you are responsible for?

Next deliverables from WP1 to be conceived with JERICO-DS outcomes and ESFRi in mind

JERICO-DS and S3 interaction is key

For ESFRi:

Role of regions in the implementation is key and must be clearly presented.

Extension of JERICO activities up to the coastal zone is validated. It is coherent with the present list of SSC and KSCs and seems to be a base to elaborate on the inclusion of these activities in the Science Strategy.

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JERICO-Week 2023, April 18-19-20 Croatia

WRAP-UP : WP1, Science Strategy (Anna, Antoine) and Sustainability workshop (Dominique)

2. Added-value of the JERICO-Week : did you have satisfying interactions, discussions, new ideas, solutions etc. ? Synthesize in a few words:
 - a. For your WP in JERICO-S3 ?
 Identified some elements (and key people) for the structuration of D1.3
 Outcomes from the Technological WS for D1.4
 - a. Relating to any other WP or general topic ?
 Clarification of JERICO-RI Governance strategy
 Update on implementation in PSSs and IRS
 Overview on the gap analysis and roadmap in WP2 for JERICO-DS
3. Are you leaving with a solid plan for the end of JERICO-S3 and the long term ? YES / NO / YES&NO ? Why ? → If YES, what is this plan ? If NO / YES&NO what are you still missing and how can we collectively help ?

Well, follow up actions will be needed in the short term to organise contents and contributions for the next deliverables

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JERICO-Week 2023, April 18-19-20 Croatia

WRAP-UP : WP2, Interfaces (Holger)

1. What is the "take-home" message for your WP or the topic you are responsible for?

The definition of JERICO's role in the European landscape (RIs, industrial sector, satellite community) is being defined. We are not there yet, but:

- MoCs with other RIs will be initiated in the near future (Groom already underway)
- Relationship with potential new partners and other (non-European RIs) are progressing
- Relationship with the satellite community is developing nicely
- Relationship with industry and RSCs needs more effort from our side (become more mature, define services)
- Regional connectivity issues have been investigated and recommendations for filling of gaps are almost ready

1. Added-value of the JERICO-Week : did you have satisfying interactions, discussions, new ideas, solutions etc. ? Synthesize in a few words:
 - a. For your WP in JERICO-S3 ?
 Discussions with colleagues and STAC clarified processes towards fulfilling our deliverables, including technicalities of interactions
 Perspectives for future interactions with others become easier as we are getting closer to defining where we are and what we want
- a. Relating to any other WP or general topic ?

Valuable input from IRSs and PSSs regarding their work and local perspectives. In general, many valuable discussions!

1. Are you leaving with a solid plan for the end of JERICO-S3 and the long term ? YES and NO
 - a. Clear plan for RI interaction, still somewhat unclear how far we will be able to get with industry and RSCs
 - Clear perspective how to finalize outstanding deliverables

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JERICO-Week 2023, April 18-19-20 Croatia

WRAP-UP : WP3, IRS (Andrew, Martin)

1. What is the "take-home" message for your WP or the topic you are responsible for?

Integrated Regional Sites are "Networking Actions" - they have been building aspects of the regional/national integration, harmonisation, business case, and organisation/structure. Regions have established roadmaps which directly contribute to the ESFRi process.

1. Added-value of the JERICO-Week : did you have satisfying interactions, discussions, new ideas, solutions etc. ?
 - a. For your WP in JERICO-S3 ?
 IRSs have been focused on the future regional development (integration/interoperability) - talks, discussions, etc. have indicated that work remains for a vision further into the future - 5-10 year time horizon.
 - a. Relating to any other WP or general topic ?
 Other WPs can check in with IRSs on topics related to JERICO-RI governance, business case, user/stakeholders, coordination, data management/handling - local and relevant experience can contribute significantly to the bigger picture!
1. Are you leaving with a solid plan for the end of JERICO-S3 and the long term ?

Yes, some tasks remain related to data management, business case, and organisation/structure development. Strong interactions with other WPs is needed, and IRSs will need to mobilise to make links with national/regional users/stakeholders/partners.

Things that have been done well:

- Collaboration
- Integration
- Interoperability
- Data management

What to focus on in the next steps:

- Money coordination
- Data management

From last night in front of the restaurant

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JERICO-Week 2023, April 18-19-20 Croatia

WRAP-UP : WP4, PSS (Jukka, Costas)

1. What is the "take-home" message for your WP or the topic you are responsible for?

PSSs demonstrated the added value of integration in various levels (regional, paneuropean, thematic, RI-RI etc) as well as in identifying gaps, challenges, common goals and learning lessons (institutional, national, regional etc). Now we need to analyse the outcome and promote it!

1. Added-value of the JERICO-Week : did you have satisfying interactions, discussions, new ideas, solutions etc. ? Synthesize in a few words:
 - a. For your WP in JERICO-S3 ?
 Showing PSS implementation results and getting feedback on them.
 - a. Relating to any other WP or general topic ?
 Beneficial discussion for future position/status of SuperSites within a JERICO-RI (THANKS TO ALL!). We obtained 16 responses to our questionnaire (to be still analysed - and you may still add yours!)
1. Are you leaving with a solid plan for the end of JERICO-S3 and the long term ? YES / NO / YES&NO ? Why ? → If YES, what is this plan ? If NO / YES&NO what are you still missing and how can we collectively help ?

Yes. For the end of JS3: Need to well promote outcomes of PSS at multiple levels
 Yes. For long term: That regional dimension is the most important for the future

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JERICO-Week 2023, April 18-19-20 Croatia

WRAP-UP : WP5, Harmonisation and WP6, Data (Carlo, Miguel, Felipe, Peter, Lorenzo)

1. What is the "take-home" message for your WP or the topic you are responsible for?
WP5: No significant delays on the planned work, confirmed interest by JERICO-S3 community for best practices development and improvement possibly as a stable service for internal & external users in the future RI.
WP6: Largely under control, two delayed deliverables on the way, please stay tuned for a nice workshop on citizen science and low-cost sensors for which we need input from interested partners. Jerico DMP is crucial for bridging from national interests to the EU perspective.

1. Added-value of the JERICO-Week : did you have satisfying interactions, discussions, new ideas, solutions etc. ? Synthesize in a few words:
a. For your WP in JERICO-S3 ?
WP5: beneficial discussion on key elements for next development, added value identified on releasing harmonized methods & best practices for processes observation, practical details need further discussion. Plan for submitting BP's Maturity Model on peer-reviewed journal
WP6: Not ideal since many from WP6 missing in JWeek, but we do have a plan to solve D6.5 now, and have addressed the upcoming last actions.

a. Relating to any other WP or general topic ?
WP5: clearer view on how WP5 results can be positioned in the future
WP6: will cooperate with WP5 in the low-cost/citizen science workshop, and will contribute to the QA/QC e-library from WP7. We got evidence that Jerico DMP will be key to support the implementation of FAIR data flows for coastal observation platforms towards EU data aggregators, that are one of the pillars of the Jerico-CORE.

1. Are you leaving with a solid plan for the end of JERICO-S3 and the long term ? YES
WP5: no objections on the plan presented in the WP5 report, which is then confirmed
WP6: Yes we have a plan to close the WP well, and collect the input we need for the final deliverables. Regarding the long-term (see new slides) there are ideas what the data management role will be, but these do need to be further discussed of course (also in relation to the focus in other areas).

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JERICO-Week 2023, April 18-19-20 Croatia

WRAP-UP : WP7, Techno development (Eric - PLOCAN, Simone - CNR)

1. What is the "take-home" message for your WP or the topic you are responsible for?
Several innovations have been (jointly) defined, co-designed, developed and are now under test or demonstration, fulfilling about 75% of the engineering cycle in average. cEGIM (Ifremer, CNRS, UPC, 52N, CNR, PLOCAN) pre-demo completed. ACOBS (CNRS) on its way to be demonstrated. Water cDNA sampler is however just about to start - thanks to NIVA-IRB stepping in. Jerico-CORE has also been delivered to WP1 as planned (IEEE, SCOB et al.). Sensor packages defined (COVARTEC, NORCE et al.)

1. Added-value of the JERICO-Week : did you have satisfying interactions, discussions, new ideas, solutions etc. ? Synthesize in a few words:
a. For your WP in JERICO-S3 ?
The community is interested to improve intelligent services and for extending them to other platforms. On sensors and platforms, priority is to focus on implementable tech innovations that work or are going to work soon (high TRL). Data FAIRness is key for future JERICO technological developments and innovations and JERICO-CORE.

a. Relating to any other WP or general topic ?
WP11 now in charge of operation of Jerico-CORE (and Jerico-DS). Data will come from the cEGIM demo for science, delivering back to WP1 (science drivers). STAC summary very useful to remind us of the enormous potential of AI- Let's be "AI-ready" (FAIRness again) . Future of JERICO tech innovation requires greater involvement of developers and manufacturers, insufficiently represented in Jerico-S3.

1. Are you leaving with a solid plan for the end of JERICO-S3 and the long term ? YES / NO / YES&NO ? Why ? -- If YES, what is this plan ? If NO / YES&NO what are you still missing and how can we collectively help ?

WASP development back on track and a realistic workplan has been defined. ACOBS development on track, all other activities progress according to initial plan with minor adjustments..

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JERICO-Week 2023, April 18-19-20 Croatia

WRAP-UP : WP8, TA (Paul, Christine)

1. What is the "take-home" message for your WP or the topic you are responsible for?
4 Successful TA calls completed - Focus moving now on wrapping up project completion and more focus on TA statistical analysis

1. Added-value of the JERICO-Week : did you have satisfying interactions, discussions, new ideas, solutions etc. ? Synthesize in a few words:
a. For your WP in JERICO-S3 ?
Yes - Discussion with Jay - How to analyse new innovations produced in TA projects and information on adoption of best practices in TA projects and analysis of scientific excellence/papers etc

a. Relating to any other WP or general topic ?
WP1 Discussion with Anna Rubio - Look at TA projects from a regional and scientific perspective what are scientific questions being addressed in TA

WP9 Provide information on TA users to Jerico User Committee

WP10 Dissemination of TA outputs - main highlights and TA success stories

1. Are you leaving with a solid plan for the end of JERICO-S3 and the long term ? YES / NO / YES&NO ? Why ? -- If YES, what is this plan ? If NO / YES&NO what are you still missing and how can we collectively help ?

Yes clear plan in place for the final year of TA and Analysis and surveys of TA users and TA project Data.

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JERICO-Week 2023, April 18-19-20 Croatia


WRAP-UP : WP9, Sustainability (Lucie, Inga/Vicente)

1. What is the "take-home" message for your WP or the topic you are responsible for?
The last year will be crucial for WP9, as the definition of services becomes more and more concrete thanks to the development of the other WPs.
Major deliverables are expected in terms of RI Design, Governance, User Strategy, Business Model
User Committee and User Forum are becoming more tangible as we met with Kamala, Tom, Hans Peter Sofia Lana (USER personas)

1. Added-value of the JERICO-Week :
a. For your WP in JERICO-S3 ?
Lots of inspiring interactions (with STAC, with other WPs, partners) Thank you !
Constructive exchanges during the problem solving session "Income from provisions of services : what are the rules do we want to put in place?" and also very useful to have time to discuss 'in person' with the core WP9 team, even if there will be some turnover in the next weeks...

a. Relating to any other WP or general topic ?
We all share a common goal of defining efficient, realistic, cost-effective services
JERICO Core, as a key outcome of JERICO-S3, will require special focus in terms of strategy & beta testing

1. Are you leaving with a solid plan for the end of JERICO-S3 and the long term ?
Yes ! Find time and resources to (1) Capitalize on the outcomes of the JERICO User forum (2) Set up the JERICO User committee (3) Continue actions to encourage nation engagement (4) Refine the JERICO design through a collective intelligence process. (5) Sharpen the business model



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JERICO-Week 2023, April 18-19-20 Croatia

WRAP-UP : WP10, Communication (Joao)

1. What is the "take-home" message for your WP or the topic you are responsible for?
The WP is running on track, with the main targets being accomplished.
DEP - Linking Dissemination actions to JERICO results and DP; Consolidate who and how explore KERS
JERICO Brand
Workshops & Webinars
National Translation

1. Added-value of the JERICO-Week : did you have satisfying interactions, discussions, new ideas, solutions etc. ? Synthesize in a few words:
a. For your WP in JERICO-S3 ?
Communicating PSS knowledge/experience to the broad JERICO community
Implement better/faster ways to bring information to partners.

a. Relating to any other WP or general topic ?
WP4-PSS

1. Are you leaving with a solid plan for the end of JERICO-S3 and the long term ? YES / NO / YES&NO ? Why ? -- If YES, what is this plan ? If NO / YES&NO what are you still missing and how can we collectively help ?

YES

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JERICO-Week 2023, April 18-19-20 Croatia

WRAP-UP : WP11, VA (Miguel, Juan-Miguel)

1. What is the "take-home" message for your WP or the topic you are responsible for?
• WP11 is moving as expected.
• We have developed and define many aspects toward providing data, products, services and impacting society
• JERICO-CORE could use these results to provide relevant support to JERICO-RI goals
• Still need lot to do (and lot of funding needed)

1. Added-value of the JERICO-Week : did you have satisfying interactions, discussions, new ideas, solutions etc. ? Synthesize in a few words:
a. For your WP in JERICO-S3 ?
Interesting discussions around JERICO-CORE but also related to foundation of JERICO (Thematic services, data lifecycle,...)

a. Relating to any other WP or general topic ?
Need support from all partners and WP in order to design and implement JERICO-CORE for all

1. Are you leaving with a solid plan for the end of JERICO-S3 and the long term ? YES / NO / YES&NO ? Why ? -- If YES, what is this plan ? If NO / YES&NO what are you still missing and how can we collectively help ?

Yes, plans are clear to develop feature but not enough resources. Feature development were prioritized.

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JERICO-Week 2023, April 18-19-20 Croatia

WRAP-UP : TECHNOLOGY DESIGN : What will JERICO look like ? (Jukka, Anouk, Costas)

1. What is the "take-home" message for your WP or the topic you are responsible for?
Technology design need to go beyond sensors and platforms we want to use in the future. We need to consider wholistically technology strategies, supporting structures, actual tech systems, and related staff and skill - as a change requested/predicted in one component (1S) will likely require a change or responses of the other ones too (RSs).

1. Added-value of the JERICO-Week : did you have satisfying interactions, discussions, new ideas, solutions etc. ? Synthesize in a few words:
a. For your WP in JERICO-DS ?
Great feedback received from consortium on TS framework for roadmap development: importance of regional/global challenges, improvements on graphical interface of technical design, how to address the generation shift and knowledge transfer to junior/diverse scientists. After several workshops in technology design, we are converging to final structure of Roadmap

a. Relating to any other WP or general topic ?
We still need to work to get inputs from PSSs, IRSs, WP1s, but elements are there

1. Are you leaving with a solid plan for the end of JERICO-DS and the long term ? YES / NO / YES&NO ? Why ? -- If YES, what is this plan ? If NO / YES&NO what are you still missing and how can we collectively help ?

YES, by the end of J-DS: Technology design is in close-to-final phases, with Roadmap still pending. Be prepared to contribute! MAYBE at the long term: Realisation of roadmap need to be followed, and tuning done when needed. Do we have mechanisms for that? KPIs - to be created - will help in beginning.

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JERICO-Week 2023, April 18-19-20 Croatia

WRAP-UP : Key-questions for the ESFRI : Governance, Business plan, central actions, thematic centers (Laurent, Alan, Paul, Joao, Marcello, Anna, Lucie, more ?)

1. What is the "take-home" message for your WP or the topic you are responsible for?
Financial information on Infrastructures to be updated by Nations via Nations Committee members to help Business plan analysis. More detail on developing Jerico Services Model needs to be

1. Added-value of the JERICO-Week : did you have satisfying interactions, discussions, new ideas, solutions etc. ? Synthesize in a few words:
a. For your WP in JERICO-S3 ?
Need to interact with IRS and PSS for any Business case updates.
Look at case study for Access in EMBRC infrastructure
Question about added value of being in Jerico - involvement in new projects etc- can we quantify this of provide an explanation - Martin Pj
Membership fees query - Benefit in Kind Policy to be

a. Relating to any other WP or general topic ?
Governance Plan ? What are the next steps for the Governance Draft ?
Yes - Business plan is drafted the various elements need to be completed. More information on Governance/ Jerico Services will help the business plan Central Actions/Thematic Centers/Services - What is the cost to provide and use these services being planned ?

1. Are you leaving with a solid plan for the end of JERICO-S3 and the long term ? YES / NO / YES&NO ? Why ? -- If YES, what is this plan ? If NO / YES&NO what are you still missing and how can we collectively help ?

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JERICO-Week 2023, April 18-19-20 Croatia

1) WHAT DO WE WANT PEOPLE TO SEE WHEN THEY LOOK AT JERICO-CORE, THE "WINDOW" FOR JERICO-RI ?

TAKE-HOME MESSAGE(S) :

We identified these features during the discussion:

- Resource catalog for integrated access to all JERICO resources
- Show KPIs results defined in JERICO-S3 in JERICO-CORE
- Support with expertise and tools the data life cycle from acquisition to distribution
- Supports the creation and management of advanced products that provide added value

Comments:

- HFR as example on how JERICO
- Need a clear roadmap of the integration with RI in the European Landscape (OceanOps, Coriolis, EMODnet,...)
- Video demo

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JERICO-Week 2023, April 18-20, IRB, Rovinj, Croatia

WP1 Innovative monitoring strategy and Design of the system

D1.2 Regional approach: common vs. regional specificities, requirements, gaps and opportunities

- A questionnaire was set up for the three identified KSCs and the Specific Scientific Challenges (SSCs) described in D1.1

The most relevant SSC: **land-sea continuum and impacts of rare and extreme events** are the most "very relevant" SSCs for 7 regions (over 9 in total) with a score of 100% and 78%

"land-sea continuum" = land-derived discharges and exchanges with open ocean (nutrients, particles and organic matter, inorganic carbon, litter and contaminants)

"impacts of rare and extreme events" = floods, storms/large waves, heat/cold waves, landslides/sudden erosion, tsunamis, volcanic eruptions, harmful algae and jellyfish blooms, accidental pollution, interactions between events.

KSC#1 can be addressed largely on the basis of local currently running *in situ* observations

KSC#2 needs more mature technologies, adaptive observing strategy, scientific expertise

KSC#3 requires greater collaboration between institutes/RIs and scientists to improve the design, acquisition and analysis of field observations, development of appropriate statistical and modelling-AI tools

KSC	SSC	IRB-BSDP	PSS-CCS	PSS-ANM	PSS-ECNCS	IRB-BOS	IRB-AM	IRB-NA	IRB-KS	IRB-NW
Assessing changes under the combined influence of global and local drivers	Light Sea Ocean continuum	KS, NS		BOB	KS, NS	NW/LEC	NW		NS, GF	NW
	Sea-terrestrial interface	NA, NS	NA, NW	NA	KS, GF				NS, GF	
	Connectivity and transport									
Assessing the impacts of extreme events	Resilience trends									
	Ecosystem biogeochemical processes and interactions									
	Carbon budget and CO2 system			GF, CS	KS				NS, GF	
Unravelling and predicting the impacts of natural and anthropogenic changes	Impacts of sea level extreme events					NA, NW			NS, GF	
	Resilience change impacts					NA, NW	EC		NS, GF	
Unravelling and predicting the impacts of natural and anthropogenic changes	Resilience anthropogenic growth									
	Disentangling impact/collapses									

Collaborations exist but not exclusively with neighbouring regions or part of the same oceanic basin. This concerns essentially the SSC "transport of water masses" and "land-sea continuum"

Based on involvement in EU & international consortia (ROOS, EUROGOOS TT, OSPAR, CIESM...)

Based on projects/programs to facilitate the networking, students exchange...

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JERICO-Week 2023, April 18-20, IRB, Rovinj, Croatia

WP1 Innovative monitoring strategy and Design of the system

D1.2 Regional approach: common vs. regional specificities, requirements, gaps and opportunities

How are the regions treating with the current SSC ? 60% for land-sea continuum and 51% for extreme events

Score lower = lack of expertise, mature technologies and data accuracy, adapted strategy for the multi-platforms approach, existing tools (e.g. regional models, AI) and cooperations between countries, networks/infrastructures and institutes

Few societal adhesion but the production of MSFD indicators is relevant to provide information to the stakeholders. It depends on the history of the establishment of regional systems: based on science or on societal needs

Collaboration between the regions in the defined SSC

Collaborations exist but not exclusively with neighbouring regions or part of the same oceanic basin. This concerns essentially the SSC "transport of water masses" and "land-sea continuum"

Based on involvement in EU & international consortia (ROOS, EUROGOOS TT, OSPAR, CIESM...)

Based on projects/programs to facilitate the networking, students exchange...

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JERICO-Week 2023, April 18-20, IRB, Rovinj, Croatia

WP1 Innovative monitoring strategy and Design of the system

D1.2 Regional approach: common vs. regional specificities, requirements, gaps and opportunities

- Main objectives of JERICO-RI is to bring together several regions under a single label addressing common issues, while keeping the regions capable of responding to their local specificities expected by the scientific community and policy makers
- Consideration of societal factors in SSCs through the contributions of scientists, policy makers and managers of the coastal marine environment, in the co-design of the JERICO-RI strategy.
- Requires flexibility and willingness from national and regional stakeholders to adopt new sampling strategies, technologies, and data FAIR principles
- JERICO-RI role = centralise KSC3 type actions with a European vision and strategy : regions should collaborate more and share their data and expertise. This would be an added value of JERICO-RI over a network of national observatories

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JERICO-Week 2023, April 18-20, IRB, Rovinj, Croatia

WP1 Innovative monitoring strategy and Design of the system

Plan for the final year (end of July 2024 if extension)

D1.3 - Synthesis of the implementation (Expected delivery M44) Synthesis of the implementation of multidisciplinary integrated observations and innovative monitoring in IRSs and PSSs.

D1.4 - Long-term vision for JERICO-RI (D. Durand) - Expected delivery M46

D1.5 JERICO-RI Scientific Strategy and implementation plan (CNRS) M48

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JERICO-Week 2023, April 18-20, IRB, Rovinj, Croatia

WP1 Innovative monitoring strategy and Design of the system

Plan for the final year (end of July 2024 if extension)

D1.3 - Synthesis of the implementation (Expected delivery M44) Synthesis of the implementation of multidisciplinary integrated observations and innovative monitoring in IRSs and PSSs.

WP in relation to the ESFRI and the future JERICO-RI

D1.3 contents, with ESFRI in mind:

- Strategies for multidisciplinary, multiplatform and multi-nation integration (success stories in regions - D3.4 and D4.4, and including TA and WP7 experimentation)
- Inventaire of measured variables (operational and non operational)
- JERICO added value: multidisciplinary datasets and not data
- Interaction JERICO with the external world (and not only other RIs, but other data providers, and institutions working for the MFSD)

What else? Where to find this information? How can you contribute?

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JERICO-Week 2023, April 18-20, IRB, Rovinj, Croatia

WP1 Innovative monitoring strategy and Design of the system

Plan for the final year (end of July 2024 if extension)

D1.5 JERICO-RI Scientific Strategy and implementation plan (CNRS) M48

WP in relation to the ESFRI and the future JERICO-RI

D1.5 contents, with ESFRI in mind:

Tight interaction with JERICO-DS in the last months

Role of regions in the future JERICO-RI ? Region as a major element for the implementation

How make this explicit in the implementation schema? How to ensure the coordination at regional level with a governance based on nations?

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JERICO-Week 2023, April 18-20, IRB, Rovinj, Croatia

INTERACTIVE SESSION: ESFRI related questions - identified GAPS

JERICO Observational domain to be extended to the coastline

- Science analysis performed in WP1 (KSC and SSC where the littoral is key)
- Societal expectations
- Feedback from some nations

Do we agree?

Let's see if we are ready!

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INTERACTIVE SESSION: ESFRI related questions - identified GAPS

JERICO Observational domain to be extended to the coastline

- Science analysis performed in WP1 (KSC and SSC where the littoral is key)
- Societal expectations
- Feedback from some nations

1. What observational activities is your institution performing up to the coastline?

1. What are the key processes to be observed by JERICO-RI? please specify.

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What observational activities is your institution performing up to the coastline?

What are the key processes to be observed by JERICO-RI?

Surname/Name
One observational activity by postit

Surname/Name
One key process by postit

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WP OUTCOME AS A TRANSFORMING BREAKTHROUGH FOR JERICO-RI STRUCTURING AND FUNCTIONALITY

- 1) any major outcomes from your WP that will be key points to demonstrate that JERICO-RI goes beyond a NETWORK
KSC-level actions
- 2) any major outcomes from your WP that will be key points for the JERICO-RI users (e.g. SERVICES)
KSC-level actions and KSC oriented services
- 3) any major outcomes from your WP that will be key points to build the operational GOVERNANCE
Region vs. Nation approaches
- 4) any major outcomes from your WP that will be a key point for the JERICO-RI IMPLEMENTATION
The building of Expert centers, central actions and a service portfolio coherent with JERICO science strategy

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JERICO S3 **JERICO DS**



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JERICO-Week 2023

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WP8 Transnational Access presentation - JERICO-S3 Status update

Christine Loughlin, Paul Gaughan
Marine Institute

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45 min - WP... presentation : WP TITLE

Suggestion of content (for the entire presentation):

- 1) Where is your WP now ?
- 2) Your plan for the final year of JS3 ?
- 3) Any major DL or result that you would like to emphasize / present ?
- 4) Your WP in relation to the ESFRI and the future JERICO-RI ? (c.f. Last slide)

Concluding with a flash workshop and/or interactive-oriented session is encouraged, to maintain everyone's attention after a long presentation ! Feel free to innovate, even a little bit !

(ideas : targeted questions to the audience, asking for 4-5 people to come in front and debate a question, interview their neighbour about a topic, draw on a piece of paper what they thought of the presentation etc.)

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Presentation Outline

- TA Status Update Slides 4-5
- TA Success Stories 6-7
- Plan for Final Year 8
- TA Learnings and Challenges 9
- ESFRI Questions 10

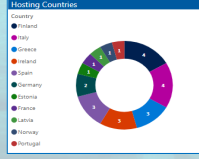
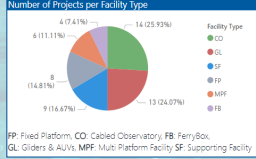
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Where is your WP now? Status Update

- JERICO-RI Transnational access program accepted **47 projects in 4 calls**- all are listed on the TA section of the website
- **19 final project reports submitted/ accepted to date**; 2 completed experiments and finalizing reports; 9 projects in operation; remaining are due to begin imminently in spring 2023
 - 1 has been cancelled due to time constraints for ordering/ shipping instruments
 - 1 in the process of cancelling due to funding/ excess shipping charges than applied for in TA proposal
- **28 projects accepted were led by research organisations**; 8 projects from SMEs 48% SME & private (industries, private companies)
- Half the projects accepted applied for use of cabled observatories and gliders

Legal Status of lead organisation	Number of projects
Research organisation	28
University	6
SME	8
Private	5
Other	0

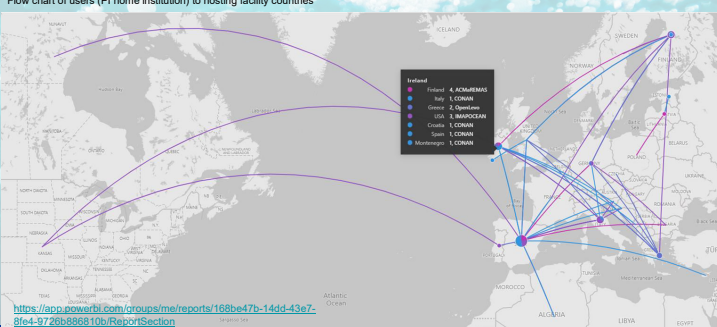



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Where is your WP now? Status Update

Flow chart of users (PI home institution) to hosting facility countries



<https://app.powerbi.com/groups/me/reports/168be47b-14dd-43e7-8fd4-5726b86810b/ReportSection>

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Success stories & future of TA in the RI

- Successful launch and completion of 4 TA Calls - 47 Projects
- RI-RI interactions-
 - Two projects accepted in the 3rd call, and a further 2 from call 2, formed joint studies with **AQUACOSM Plus**, with these projects being hosted by **JERICO-RI Pilot Supersite SYKE** (Projects: AquaAction 1 & 2, Balhox, Obs-Exp-Bridge).
 - Two projects formed collaborations with **DANUBIUS-RI** (Project: Jive) and **EUROFLEETS** (Project: GOOM)
- "Facility of the Week" Campaign to raise profile of Jerico-RI Facilities
- "Women in Science" Campaign - leading to increase in female participation in TA projects (30% women)
- The TA calls 3+4 had a number of projects taking place in the Baltic Sea (6 projects) and one in the Black Sea
- Future of TA:
 - EU commission survey for research infrastructure: user group questionnaire- useful for planning future JERICO access projects
 - Gather testimonials/Feedbacks from TA users for future improvements to access programme

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Success story: Aquacosm - JERICO-S3 at SYKE

Researcher Experiences of RI-RI Collaboration Funded by the JERICO-S3 Transnational Access (TA)

Published on 08th February 2023

Stella Berger, Christian Diawoko, Alison Gustaf, Ioanna Moutzourou, Silvestre Mes, Behrang Mousavi, Ana Rodriguez, David Paris, Prashant Pillay, Tongyi Song, Katerina Spasibak, Antonella Baldo, Francesco Villani


During a Transnational Access of JERICO-S3 called the "Joint JERICO-S3 and AQUACOSM plus study on Baltic Sea 'hotspots'", twelve indoor mesocosms were used to simulate different levels of MHWs at the French Environment Institute (IFREMER) in Brest from late August to early September 2022, in order to study their impact on the Baltic Sea plankton communities.

Severe anomalous warming events, known as Marine Heat Waves (MHWs), are expected to increase under continued global warming. Although the effect of the temperature increase has been investigated in multiple systems, little is known about the response of plankton communities to Marine Heat Waves (MHW). MHWs are expected to be a major driver of aquatic ecosystems and can modify the interactions between different groups of plankton and shift the structure and functioning of the community, sometimes in an irreversible level.

Five scientists from the Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB) (Germany), three scientists from the Helmholtz Centre for Marine Research (HZM) (Germany) and five scientists from the National Centre for Scientific Research (CNRS) (France), all benefiting from the Transnational Access support of JERICO-S3, participated in this mesocosm experiment in collaboration with more than fifteen scientists of the host laboratory SYKE.

Building strong relationships with industry eg. chelsea tech, seaber, SMEs

SEABER'S YUCO-CTD TO ACCESS SMARTBAY OBSERVATORY THROUGH JERICO-S3 PROJECT




As part of the JERICO-S3 European Infrastructure JERICO-S3 project, French company SEABER is accessing the SmartBay Observatory.

The main objective of this access period is to enhance the capability and complementarity of the YUCO-CTD in providing spatially-referenced, quantitative ocean data to a real-time coastal environment with ocean operators and fish. These types of data sets are important for monitoring our marine environment.

The YUCO-CTD is a multi Autonomous Underwater Vehicle (AUV) system, equipped with sensors that is used to conduct underwater research. The YUCO-CTD mission ranges from 100m long, 10m in height and has up to 10 tons of autonomous battery life.

Success Stories Continued

SME success story- PI from SEABER for TA project YUCO-CTD held a webinar 2023 to inform about the benefits of an SME using TA (Facility: MI SmartBay Observatory)



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Plan for the final year of JS3

- Follow up with TA projects
 - Turn in final reports on time
 - Complete User Survey
 - Links for TA data
 - Maintain links with Jerico user committee- testimonials from users
 - Work with coordination on TA Testimonial event/ dissemination event (at final general assembly/)
 - Publication information/ links
- Statistical analysis on user groups and TA projects
 - Provide information on TA users to Jerico User Committee
- Abstract submitted for EuroGOOS 2023 featuring a Decade of Jerico-RI Transnational Access activity

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Challenges of TA Access/ discussion points

- **Complex legal procedures** (back-log of contracts) 3 legal entities are needed for signing contracts
- Multi-platform nature of facilities results in complex operational logistics (eg. contract negotiation & legal terms,
- **Provision of data issues** (eg. timeline of 30 days causes after completion causes difficulties, uncertainties of data repository- may be helpful to have a JERICO repository for project data?)
- Acknowledgment of role of facility staff in **publications**: this has been a concern expressed and unsure how to address
- Challenges with **shipping costs** due to COVID and BREXIT issues
- **Administration capacity**- 4 Calls >40 Projects, high volume of admin work in Evaluation and managing TA
- **Standardisation of Units of Access** - Linked to Jerico-RI BIK Policy/Business Plan/Governance Model

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How do your DL, MS and tasks relate to key ESFRI questions

- Access to infrastructures will be a **key service** provided by JERICO-RI from the start of ESFRI- Easy to understand Single point of Entry/ **ONE-STOP-SHOP** for Access to JERICO RI Infrastructures is important part of the Business Model
- **Physical Access** important element of **JERICO-RI STRUCTURING AND FUNCTIONALITY**
- A legal entity is required for efficiency
- Proven record of TA users over the last decade of JERICO
- Increased access over the **10 years** from 2012-2024
 - o 19 TA projects were supported by **JERICO-PP7**
 - o 28 TA projects were supported by **JERICO-NEXT**
 - o 47 Projects are being supported by **JERICO-S3**
- Marine Institute has been leading the TA coordination for JERICO-S3 and EuroFleets - **Infrastructure Management Tools**
- Future Models for Physical Access in JERICO-RI - Co-Funding/BIK/Industry funding



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Jerico-S3 TA Providers - Facility Type

Number of Projects per Facility Type

Facility Type	Number of Projects	Percentage
CO	14	25.93%
GL	13	24.07%
SF	9	16.67%
MPF	8	14.81%
FB	4	7.41%
FP	6	11.11%

FP: Fixed Platform, CO: Cabled Observatory, FB: FerryBox, GL: Gliders & AUVs, MPF: Multi Platform Facility SF: Supporting Facility

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Jerico-S3 TA User Types

Legal Status of lead organisation	Number of projects
Research organisation	28
University	6
SME	8
Private	5
Other	0

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JERICO-Week 2023

April 18-19-20, Rovinj, Croatia

WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

JERICO-S3 Status update

Lucie Cocquemot, Ifremer
Vicente Fernandez, EuroGOOS
Kieran Reilly, Marine Institute et al.

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

- 1) Where is your WP now ?
- 2) Your plan for the final year of JS3 ?
- 3) Where do you struggle ? Where and how do you need help ?
- 4) Any major DL or result that you would like to emphasize / present ?
- 5) Your WP in relation to the ESFRI and the future JERICO-RI ?

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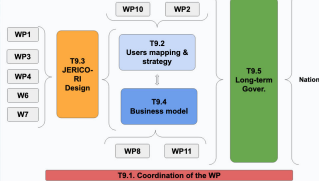
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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

1) Where is your WP now ?

WP9 is dedicated to gathering information across JERICO-S3 and to prepare specific recommendations to progress towards a sustainable RI.

- **Duration: M1 – M48**
- **5 tasks (on going)**
- **7 deliverables (6 expected during the last year)**
- **8 milestones (6 due)**



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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

Your plan for the final year of JS3 ?

MAJOR DELIVERABLES PRODUCTION

- D9.3: The JERICO-RI business plan (M40)
- D9.4: Final version of the proposed organisation, structure, and long term governance (M42)
- D9.2: User engagement strategy plan + metric to assess user satisfaction/expectations (M42)
- D9.5: JERICO-RI Design report, final version (M46)
- D9.6: Common action plans with other RI initiatives and one with EOOS for the future (M46)
- D9.7 Report synthesising nation positions with regards to the expected commitments (M48)

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

Your plan for the final year of JS3 ?

MAJOR DELIVERABLES PRODUCTION

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- D9.6: Common action plans with other RI initiatives and one with EOOS for the
- D9.7 Report synthesising nation positions with regards to the expected commit

Adapting the deadline to wait for the definition of clear services. Work in connection with the work on the JERICO-DS business model

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

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- D9.6: Common action plans with other RI initiatives and one with EOOS for the f...
- D9.7 Report synthesising nation positions with regards to the expected commit...

For the user satisfaction metrics we have relied heavily on TA so far, but as WP develops, we can extend the scope (JERICO-CORE, WP5-6, WP2, WP3-4)

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Your plan for the final year of JS3 ?

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

Your plan for the final year of JS3 ?

- Stronger collaborations with other WPs: we become a user-oriented service provider

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

Your plan for the final year of JS3 ?

- Stronger collaborations with other WPs: we become a user-oriented service provider
- Stronger collaboration with JERICO-DS WP4: Sustainability

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

Your plan for the final year of JS3 ?

- Stronger collaborations with other WPs: we become a user-oriented service provider
- Stronger collaboration with JERICO-DS WP4: Sustainability
- Stronger collaboration with Nations (high expectations!!!)

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

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- Stronger collaborations with other WPs: we become a user-oriented service provider
- Stronger collaboration with JERICO-DS WP4: Sustainability
- Stronger collaboration with Nations (high expectations!!!)
- Benefit from additional resources (2 open positions at Ifremer, subcontracting capacities)

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

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- Stronger collaboration with JERICO-DS WP4: Sustainability
- Stronger collaboration with Nations (high expectations!!!)
- Benefit from additional resources (2 open positions at Ifremer, subcontracting capacities)
- Strong contribution to JERICO ESFRI Application

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

3) Where do you struggle ? Where and how do you need help ?

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

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We need collective help :

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

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-let's clearly set out the distinctions between: the minimum we need in the ESFRI proposal, and what we would want in an ideal system

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

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-let's clearly set out the distinctions between: the minimum we need in the ESFRI proposal, and what we would want in an ideal system

-let's start implementing basic elements, and see how robust our mechanisms are

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-let's support JERICO-Core with strategic orientations/Beta tests

19

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-let's start implementing basic elements, and see how robust our mechanisms are

-let's support JERICO-Core with strategic orientations/Beta tests

-let's adopt a user perspective everytime we can

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

4) Any major DL or result that you would like to emphasize / present ?

Knowledge gained from the RI train

User analysis + Progress on User groups

Nation Committee **monthly** meetings (decision-making process improvement)

Synthesising nation positions with regards to JERICO added value

Help of the Scientific Attachés from the French embassy

Active help from Other partners

21

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4) Any major DL or result that you would like to emphasize / present ?

Knowledge gained from the RI train

Online training tailored for both JERICO Nations Committee and the Funding Working Group members (approx 15 participants) from February 2022 to June 2022.

23

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

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Knowledge gained from the RI train

The Strategic Planning Process

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WP9 - A sustainable JERICO-RI: Preliminary design towards implementation

4) Any major DL or result that you would like to emphasize / present ?

Useful tools to support Business planning Business Model Canvas Framework

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
National Research Infrastructures National Institutes National and European bodies of user operating activities European Commission Data aggregation Related civilian environmental ERIC and IIRs Suppliers of equipment and infrastructure ESKOOCs and related task teams European Marine Board International/Oceanographic Commission (IOC)	Data collection, quality control, standardization and management Operation and maintenance activities on national infrastructure Co-ordination by the central hub	JERICO RI is an integrated multiplatform RI providing oceanographic data which is harmonized to tackle issues of global climate and anthropogenic stresses in the coastal domain to provide shared evidence with homogeneity and comparability data for national, regional, European and pan-European stakeholders JERICO RI delivers the following services: National infrastructure and data Business Development Group Funding Working Group Funding Source Issue Solver Access to knowledge (eg expert advice, training and education)	User strategy to under development in DS and DS Customer relationship will be managed through the JERICO User Committee and User Forum User service needs feedback from users on their experience of the service provided Channels National infrastructure JERICO RI infrastructure Transnational access programme Direct: Workshops/Seminars at regular events	JERICO RI user sectors varied based on number of users Coastal management Academic and applied research Shoreline services and ocean knowledge High-tech education Fisheries Clean technology Tourism and recreation Maritime activities Agriculture Shipping
Owner/Managing System Annual/regular operations and support of national infrastructure (personnel, equipment, hardware) Annual operational expenditure of national infrastructure (personnel, maintenance, the time costs, etc) Cost of service provision Annual operational costs of the central hub (personnel, IT and data management, governance activities)			Revenue Streams National research and infrastructure Funding (by National Research Funders from in related European grant funding Income from provision of products and services Annual reports, observer and host country members are in-kind contributions for the running of the central hub	

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Knowledge gained from the RI train

- User analysis + Progress on User groups
- Nation Committee **monthly** meetings (decision-making process improvement)
- Synthesising nation positions with regards to JERICO added value
- Help of the Scientific Attachés from the French embassy
- Active help from Other partners

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User analysis + Progress on User groups

Up to the 6 of July 2021, 470 Users of JERICO-RI data and services among the RI's 11 regions, which cover 17 European countries. D9.1

Figure 19. Rates (%) of users per targeted access types. Users may target several access types.

Figure 20. JERICO-RI users classification according to Power and Interest

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JERICO User Committee : External User groups - revised Terms of References
Agreed members : Mercator, EMODnet, Copernicus In Situ STAC + Blue Cloud ?

JERICO User Forum : Internal User community
1#s meeting tomorrow : Interactive work on User Profiles + User journey

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Coastal observation community is our prime user

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Tomorrow you will meet 4 key user profiles And we're going to look at their use of our services: their needs, their frustrations, their habits.

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Senior scientist

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Tomorrow you will meet 4 key user profiles :

Senior scientist Junior scientist Tech Engineer

And we're going to look at their use of our services: their needs, their frustrations, their habits.

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1st meeting tomorrow : Interactive work on User Profiles + User journey


Tomorrow you will meet 4 key user profiles :




Senior scientist



Junior scientist



Engineer



Head of a marine institute / national RI

And we're going to look at their use of our services: their needs, their frustrations, their habits.

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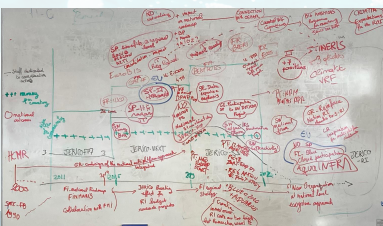
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Synthesising nation positions with regards to JERICO added value

What has been JERICO added value for your country ?



<https://miro.com/app/board/uXjVPw85DBk/>



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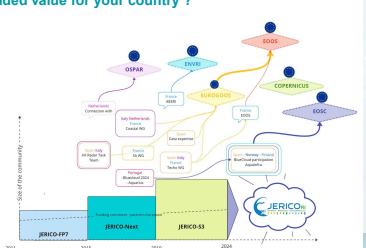
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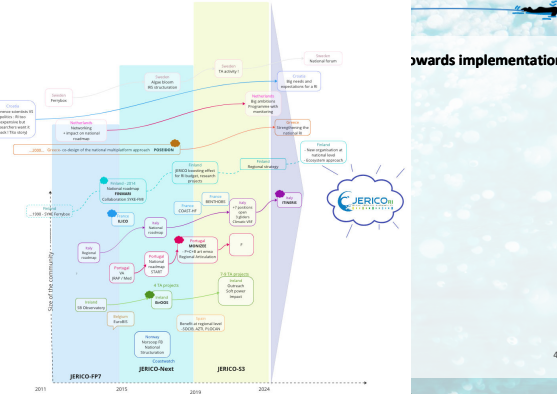
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Help of the Scientific Attaché from the French embassy

Information from JERICO-DS on:

- GOOS national focal points & JERICO National representative
- on coastal observation national roadmap

Meeting between WP9 & JERICO National representatives:

- Situation
- Contacts

Preparation meetings at the French ministry of Research with the French Scientific Attachés:

- ESFRI context
- Coastal environment

French support : French ESFRI Representative CNRS + Ifremer Scientific directors

Formal invitation letter

Meeting

Agreement on commitment

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WP OUTCOME AS A TRANSFORMING BREAKTHROUGH FOR JERICO-RI STRUCTURING AND FUNCTIONALITY

Major outcomes to build the operational GOVERNANCE
Development of agreed Governance structure will help define Jerico Services for the Business plan

Draft Services Estimation Process For Jerico RI – Need more data

	Preparation Phase			Implementation Phase			Operation Phase			Termination Phase
	Worst Case	Baseline	Best Case	Worst Case	Baseline	Best Case	Worst Case	Baseline	Best Case	
No of Members	8	10	12	8	12	14	4	8	10	0
Associate Members (Observers)							4	6	6	0
Access Services – Physical Access	e.g. 100 Access Units (TBD)			e.g. 150 Access Units (TBD)			e.g. 300 Access Units (TBD)			0
Access Services – Virtual Access E Jerico	0.5 FTE + Access Costs			0.5 FTE + Access Costs			2.0 FTE + Access Costs			0
Science Services	1 FTE			2 FTE			3 FTE			0
Technology Services	1 FTE			2 FTE			3 FTE			0
Operations Services	1 FTE			2 FTE			3 FTE			0

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WP OUTCOME AS A TRANSFORMING BREAKTHROUGH FOR JERICO-RI STRUCTURING AND FUNCTIONALITY

Major outcomes for the JERICO-RI users (e.g. SERVICES)

JERICO-RI products, services and users

Detailed service	Example of products	User/disciplines	Access mode	Access mode policy
Ecosystem access	- Coastal research vessels - Access to observing platforms (Fixed platforms, cabled observatories)	Research Education Industries	JERICO-CORE	A written contract or agreement between the "Access Provider" and the "End User" will delineate the actions to be undertaken, the resources that will need to be allocated, the length of planned user stays (if any), and the period of use
Experimental facilities	- Wet laboratories - Dry laboratories - Field experiments	Research Education Industries		
Technology platforms	- Ferrybox, - gliders - Molecular biology and omics - Structural and chemical analysis - Remote sensing and telemetry - Other - Data access system (incl. visualisation) - Analysis platform	Research (Climate, Earth, Biological and Education)		

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WP OUTCOME AS A TRANSFORMING BREAKTHROUGH FOR JERICO-RI STRUCTURING AND FUNCTIONALITY

Major outcomes for the JERICO-RI

We are a mature community,
We have great achievements...

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WP OUTCOME AS A TRANSFORMING BREAKTHROUGH FOR JERICO-RI STRUCTURING AND FUNCTIONALITY

Major outcomes for the JERICO-RI

We are a mature community,
We have great achievements...

becoming an infrastructure on the ESFRI roadmap will help us to do things in a **more efficient, simpler, more sustainable** way !

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JERICO-S3 SCIENCE - SERVICES - SUSTAINABILITY

JERICO-D5 SCIENCE - SERVICES - SUSTAINABILITY



Part of this work was supported by the JERICO-S3 and D5 project. These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 871153/951799.

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JERICO-week 2023 Rovinj WP6 Status and plans

JERICO-week WP6

Status and further plans
18 April 2023

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JERICO-week 2023 Rovinj WP6 Status and plans

WORKSHOP ON FAIRness Evaluation in IRS and PSS

Outline

1. WP6 progress summary
2. Status of deliverables
3. Upcoming actions

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JERICO-week 2023 Rovinj WP6 Status and plans

1. Status of the WP

- In general status "green" with regular meeting to discuss progress!
- Some recent highlights:
 - Filling gaps for best practices of bio imaging data
 - D6.4: Data Management Best practices for quantitative imaging systems
 - Including uptake in OBPS
 - Data management Best Practices for "mature" physical platforms
 - Published as part of WP5 e-handbook
 - FAIRness evaluation of PSS and IRS related to data management policy (D6.7)
 - Interesting exercise done on a sample set of data from the IRS and PSS platforms
 - Check against the process documented in the DMP in which main aim is to feed Coastal Platform data for re-use and optimised FAIRness to the EU aggregators (SDN, EMODnet, Copernicus INSITU-TAC)
 - Leading to a set of recommendations for improvement, e.g.
 - Platforms missing at aggregator level
 - Delayed mode data not flowing to SDN
 - Incomplete (not completely FAIR) metadata at aggregator level

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JERICO-week 2023 Rovinj WP6 Status and plans

2. Deliverable status

D6.3	Data Management Best practices report for physical and BGC platforms	HCMR	6	February 2022 => submitted
D6.4	Data Management Best practices for quantitative imaging systems	VLIZ	6	March 2022 => submitted
D6.5	Data Management Best practices report for biological optical sensors	CEFAS	6	now September 2022 => mar 2023, before SCI
D6.6	Gap Analysis of Best Practices for PSS and IRS	SOCIB	6	March 2022 => postponed to sept 2022=> delivered to coordinator
D6.7	FAIRness evaluation report of PSS and IRS's related to data management policy	MARIS	6	May 2022 => postponed to dec 2022, delivered
D6.8	Data management Best practices and strategy for coastal carbonate systems	IOW	6	M36 = end jan 2023, input collected by IRI, IOW = Gregor needs to finish (jan 2023???)
D6.9	E-library contribution report	MARIS	6	M42 = end july 2023
D6.10	Data Management implementation report for all platform types	HCMR	6	M48 = end jan 2024
D6.11	Report of coastal citizen science adoption options and harmonisation	MARIS	6	M48 = end jan 2024
D6.12	Final Data Management Plan	MARIS	6	M48 = end jan 2024

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JERICO-week 2023 Rovinj WP6 Status and plans

2. Information about deliverable status

- Most deliverables on track, either delivered or under control
- Delayed:
 - D6.5 (CEFAS): Data Management Best practices report for biological optical sensors
 - Almost ready
 - D6.8 (IOW): Data management Best practices and strategy for coastal carbonate systems
 - Planned for delivery june 2023 (communicated to Coordination)

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JERICO-week 2023 Rovinj WP6 Status and plans

3. Plans until end 2023

- Next round of collection of JERICO CORE e-library content (input for D6.9)
 - MARIS in cooperation with SOCIB
 - Collect data management and QC software metadata
 - Action will start after next WP6 meeting
- Organise in June 2023 an online citizen science and low-cost sensor workshop (input for D6.11)
 - MARIS (Peter) in cooperation with SMHI (Patrick) and IFREMER (Lucie)
 - Focus on knowledge exchange and inspiration
 - Two parts in which the partners "pitch":
 - Citizen science uptake in the JERICO regions
 - Jerico partners experiences with integration and cooperation with citizen science
 - Low-cost sensors that are suitable for citizen science
 - Existing low-cost sensors used
 - New low-cost sensors in their own development
- Finalise deliverables

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JERICO-week 2023 Rovinj WP6 Status and plans

Suggestion of content (for the entire presentation): WP6 - please elaborate

- 1) Where is your WP now ? OK
- 2) Your plan for the final year of JS3 ? OK
- 3) Where do you struggle ? Where and how do you need help ? => slide 8
- 4) Any major DL or result that you would like to emphasize / present ? OK, more or less
- 5) Your WP in relation to the ESFRI and the future JERICO-RI ? (see below)

WP OUTCOME AS A TRANSFORMING BREAKTHROUGH FOR JERICO-RI STRUCTURING AND FUNCTIONALITY

- 1) any major outcomes from your WP that will be key points to demonstrate that JERICO-RI goes beyond a NETWORK
- 2) any major outcomes from your WP that will be key points for the JERICO-RI users (e.g. SERVICES)
- 3) any major outcomes from your WP that will be key points to build the operational GOVERNANCE
- 4) any major outcomes from your WP that will be a key point for the JERICO-RI IMPLEMENTATION

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JERICO-week 2023 Rovinj WP6 Status and plans

Struggles & Challenges

- D6.5 : finalise the deliverable with a more practical guidance than recommendations
- Finalise D6.8 "Data management Best practices and strategy for coastal carbonate systems".
 - IOW might need additional support?
- Content for D6.9 "E-library contribution report".
 - A new survey will be sent out. Needs feedback from all partners to produce a good overview in the CORE module.
- Participation in the citizen science/low-cost sensor event from partners.
 - It is well possible that other colleagues than the ones involved in the JERICO-S3 project are working in citizen science, or on low-cost sensor development or deployment. They need to be reached.
- In general (see also D6.7): a lot of JERICO partners, and other data providers in the IRS/PSS regions seem to struggle with the publication of their data in European data infrastructures.
 - Jerico DMP provides guidance, but in many cases data management does not get the attention/funding it needs?

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JERICO-week 2023 Rovinj WP6 Status and plans

Major outcomes from your WP that will be key points to demonstrate that JERICO-RI goes beyond a NETWORK

JERICO RI is (imo) aimed to support research and innovation in EU coastal observation, and thus the coastal obs platforms (not on data access services, operational services, VRE's etc, which are covered already by e.g. EU aggregators, EuroGOOS ROOSes, Blue-Cloud).

WP6 focuses on the data and data management. Important examples of current output how the JERICO-RI is supported from the WP:

- Develop/contribute to new metadata and data models, supported by vocabularies to support FAIR data exchange from new sensors, like now for biological imaging data. (D6.4, D6.5)
- Support (new) platform operators to guide them with BP's on data management: How to organise the data flow from sensor to EU aggregator (D6.3)
- Where gaps exist in FAIR data publishing in the research areas, signal this and support (D6.7). This needs more attention because there are many gaps.

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JERICO-week 2023 Rovinj WP6 Status and plans

Major outcomes from your WP that will be key points for the JERICO-RI users (e.g. SERVICES)

- Services are not a key component of the RI, but the RI contributes (via content, data, BP's) to improvement of existing services at EU level (from aggregator to DTO).
- There are some smaller (support) services the RI could run as part of the CORE, to support e.g. the data flow like a catalogue of QA/QC software, publications/BP's(?) or just as example: demonstration services for innovative developments like an integrated products with citizen science data, visualisation of data of a new type of sensors that are being tested/deployed, ..

When it comes to data and data management the users will notice:

- Improved, more, better, and better described (FAIR) data from coastal observation platforms via the EU aggregators
- Available BP's how to develop the data flow from existing and new platforms and sensors

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JERICO-week 2023 Rovinj WP6 Status and plans

Major outcomes from your WP that will be key points to build the operational GOVERNANCE

- Core Data Management Plan for internal in the RI, as well as BP's for data management of coastal observation platforms.
- Experts in data management to join the Governance body and bridge from national interest to the EU perspective.

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JERICO-week 2023 Rovinj WP6 Status and plans

Major outcomes from your WP that will be a key point for the JERICO-RI IMPLEMENTATION

- Core data management expertise to innovate and support the implementation of a FAIR data flow for coastal observation platforms (towards EU aggregators)

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JERICO-week 2023 Rovinj WP6 Status and plans

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JERICO-Week 2023

April 18-19-20, Rovinj, Croatia

PART 1 : How will JERICO-RI look like, from technology perspective (multi-platforms, variables, integration, user needs) when we present it in ESFR! Based on PSS results and JDS-WP2 technological design (45')

Jukka Seppälä SYKE, Anouk Blauw DELTARES, Costas Frangoulis (HCMR)

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Agenda

- 1) Introduction
- 2) Technology Gap analysis (Anouk Blauw 10')
- 3) Technology Roadmap (Jukka Seppälä 15')
- 4) Discussions (20')

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JERICO-DS WP2 Technical Design for an Operational JERICO-RI (physical part of the RI)

Technology Outlook - Gap Analysis - Roadmap

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Desired state according to Technology Outlook

- set of **variables** which observation data is required to address the key scientific challenges (KSCs)
- observation methods at a sufficiently high **TRL** to make observations of high scientific quality
- observations at sufficient **spatial and temporal resolution** to address the KSCs

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Gaps identified by:

- nation representatives
- JERICO projects
- review of reports on:
 - EUROGOOS perspective
 - Regional Sea Conventions perspective
 - COPERNICUS perspective
 - AtlANTOS perspective

On:

- Variables observed
- TRL level
- Spatial and temporal resolution

And reasons for these gaps were identified from questionnaire results

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Conclusions on variables and TRL levels

- physical variables in most countries observed at high TRL level
- oxygen, SPM, chlorophyll and coastal morphology are observed at high TRL level in few countries
- many biochemical variables are applied in pilot phase, with limited:
 - harmonisation
 - use of joint best practices
 - QC/QA
 - continuity of observations
- Many biological and benthic variables are still under development
- Some variables are hardly observed by JERICO-RI (sound, transparency, nutrients in sediment, coastal morphology)

Variable	number of countries quoted		
	advanced (TRL 8-9)	pilot phase (TRL 5-7)	under development (TRL<5)
water temperature	11		
salinity	10		
sea level	8		
wave height	9		
currents	7		
underwater light/ transparency			1
Sound/ Noise		1	
oxygen	2	4	
Carbon (DIC, pCO ₂ , pH, alkalinity)		6	1
nutrients (N, P, Si) in water		4	3
nutrients (N, P, Si) in sediment			1
particles / SPM/ contaminants	1	2	2
phytoplankton biomass/ chlorophyll	2	2	2
phytoplankton diversity		3	2
primary production		2	4
zooplankton biomass			4
zooplankton diversity			2
benthic biomass			2
benthos composition			2
coastal morphology	1		

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Conclusions on resolution and multi-platform approach

Spatial resolution is lacking particularly:

- Near the coast
- Vertical profiles
- Specific areas (Black Sea, Arctic, southern Mediterranean)

Temporal resolution:

- Near-real time data delivery is particularly needed for COPERNICUS operational forecasting on chlorophyll-a, dissolved oxygen, pCO₂, SPM and pH
- Representation of seasonal dynamics particularly relevant for Regional Sea Conventions

Multi-platform approach limited to specific variables, mostly:

- Temperature, salinity, currents
- Oxygen, SPM, chlorophyll

Platforms most commonly used are:

- satellite data, research vessels, fixed platforms and FerryBoxes

Variable	Nr of platform types used per country							
	FR	EE	NO	PPT	SW	NL	IT	BE
water temperature	3	3	3	2	2	2		
salinity	3	3	4	2	2	2		
sea level								
wave height								
currents								
underwater light/ transparency			3		3			3
Sound/ Noise								
oxygen			2	3	2			
Carbon (DIC, pCO ₂ , pH, alkalinity)								
nutrients (N, P, Si) in water								
nutrients (N, P, Si) in sediment								
particles / SPM/ contaminants							2	2
phytoplankton biomass/ chlorophyll			3	2	3			3
phytoplankton diversity & HABs								
primary production								
zooplankton biomass								
zooplankton diversity								
benthic biomass								
benthos composition								
coastal morphology								

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Main reasons for gaps

Lack of funding:

- Research grants have short duration and are not meant for QC, maintenance and harmonisation (from pilot phase to advanced observations)
- Scattered national funding sources
 - Hamper international collaboration
 - National priority settings on variables observed
- Lack of technology pull and investments from stakeholders

Lack of international coordination to promote:

- Harmonisation of approaches
- Investments to enhance resolution and coherence
- Provision of services to European stakeholders (RSC, EEA, COPERNICUS et.)

Technologies for biological and benthic observations need time and budget for further development

Some relevant parties developing technologies and making observations are not part of JERICO-RI, yet

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Questions or comments on Gap Analysis?

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Selection of pre-conditions

- 10 year perspective
- JERICO-RI moves towards ERIC
- Regional coverage at least as we have now
- Platforms and variables as described in Outlook/Gap analysis
- Key Scientific Challenges as defined now
- Users as identified so far

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

JERICO-RI Technology Roadmap:

- Technology strategy until ERIC implementation, 10 yr perspective
- Focus in key objectives, prioritise
- Identify main development areas
- Highlight innovation needs
- Provide support for identifying Governance needs
- Communication of roadmap (visualisation!)
- Provide visibility for JERICO-RI plans

Methods:

- McKinsey 7S Framework
- Nation questionnaire
- Reviews of other systems/roadmaps
- JERICO history

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Shared values: as given from J-DS WP1

Vision:
"By 2030, the JERICO-RI will be the European gateway to long-term scientific observations and related services for European coastal marine systems at the convergence between the land, open ocean and atmosphere; empowering European research excellence and expertise for the benefit of society."

Mission:
"JERICO-RI is an integrated pan-European multidisciplinary and multiplatform research infrastructure dedicated to a holistic appraisal of coastal marine system changes. It is seamlessly bridging existing continental, atmospheric and open ocean RIs, thus filling a key gap in the ESFRI landscape. JERICO-RI establishes the framework upon which coastal marine systems are observed, analysed, understood and forecasted. JERICO-RI enables open-access to state-of-the-art and innovative facilities, resources, FAIR data and fit-for-purpose services, fostering international science collaboration."

And taking into account:

- national, institutional, regional and pan-European needs and users with their specificities

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Strategy:
JERICO-RI technology design needs to reflect and align with existing (or work-in-progress) national and regional strategies

Points taken for Roadmap:

- Including JERICO in national/regional strategies and tech roadmaps
- Build up (or maintain) national technical coordination and sustained funding
- Regional tech coordination and communication, balancing with national needs
- Thematic tech coordination, different needs per KSC
- Technology synergies with other RIs and initiatives
- Interactions with modelling and remote sensing

Tools/Needs:

- Scientific and technical centers, their role and hierarchies
- Joint projects for developments
- National JERICO nodes and financial commitments

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Structure:
Share of work, performing the observations and supporting actions -while targeting KSC

Points taken for Roadmap:

- Priorities in KSCs, pan-European added value of jointly steered observations
- Nation/region-specific priorities in KSCs
- Importance of supporting action (calibration, intercomparisons)
- Adopting common SOPs and Best Practices
- Benefits from transnational technology collaborations
- Private sector involvement as collaborator, key support for some platforms

Tools/Needs

- Efficient feedback mechanism from science (KSCs) to technology design
- Transnational supporting structures for technologies (calibration, BP, test-beds)
- Collaboration models to work with private sector

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Systems:
how the technology (platforms, sensors, supporting technology) is selected and implemented to meet the JERICO science strategy

Points taken for Roadmap:

- Shared operations and platforms, and mutual support for new methods
- Support for regional specificities and selection of appropriate technologies
- Development and validation of new technologies, inclusion of BGC/biology sensors
- Overall improvements in observation capacities, incl. citizen science
- Support for blue economy
- Multiplatform approach crosscutting

Tools/Needs:

- Definition of JERICO platforms and variables now and in 10 years perspective
- Coordination of technology support, especially for emerging ones
- Common technology components, shared technologies

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Staff and skills:
human resources for coastal observations, competencies, needs for training, transnational support and specialisation

Points taken for Roadmap:

- Overall confidence the capacity is in place
- Issues in finding some specific technical personnel
- Issues in funding (also in salary levels compared to private sector)
- Need for training system and career roadmap for technical staff
- Sharing of technical works/services between partners
- Smart specialisation of some partners

Tools/Needs

- Identification of competence gaps and mechanism to solve these
- Transnational technology training schemes (to non-partners as profit mechanism)
- Methods of sharing personnel and centralised actions

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Style:
leadership and organisation structures, affecting technology implementation

For Governance to continue from here ...

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

NEXT STEPS:

Discussion to follow in some themes (or free topics if you wish so)

- Provide your feedback now, during coffee break, send a mail...

Nation representatives, provide your feedback on Gap Analysis to Anouk by May 2nd

J-DS WP2 continues with D2.3 "Roadmap" (join the group if you wish!)

- Selection of Key elements from 7S analyses
- Proposal for their development as action plan, alternatives as feasible
- Alignment with other initiatives

Timeline for D2.3 "Roadmap"

- Mid June: distribution of draft for comments
- End of July: DL for comments
- End of August: Final version

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Contents of Roadmap

- Background 1: Mission, Vision, Objectives
- Background 2: Outlook, main points
- Background 3: Gap analysis, main points

- Define a set of development proposals for various S's

- Main activities to be implemented in next 10 years

- Action plan

- Prioritisation of activities, their sequence & timing

- Roadmap monitoring plan

Long version (D2.3), but do we need also a short & visual one?

Example of Roadmap Action plan visualisation (SYKE 2021)

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Discussions:

Think about 10 year perspective (and if possible ESFRI application phase).
What are low hanging fruits & what are the needed elements

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Discussions: Theme 1 **Strategy**:
JERICO-RI technology design needs to reflect and align with existing (or work-in progress) national and regional strategies

For NATIONS / IRSS:
*How can we promote/secure JERICO is represented in national and regional technology strategies?
Should we document existing situation for ESFRI proposal?*

Tools/Needs:
*Scientific and technical centers, their role and hierarchies
Joint projects for developments
National JERICO nodes and financial commitments*

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Discussions: Theme 2 **Structure**:
Share of work, performing the observations and supporting actions -while targeting KSC

For JERICO KSC & D2PTS - wizards, PSSs, IRSS :
*What are the low hanging fruits to demonstrate towards ESFRI, existing JERICO pan-European capacities to study some KSCs in a coordinated way?
Which are the best examples to demonstrate private sector collaborations?*

Tools/Needs
*Efficient feedback mechanism from science (KSCs) to technology design
Transnational supporting structures for technologies (calibration, BP, test-beds)
Collaboration models to work with private sector*

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Discussions: Theme 3 **Systems**:
how the technology (platforms, sensors, supporting technology) is selected and implemented to meet the JERICO science strategy

For JERICO label committee/ communications :
*How can we proceed in defining which are the JERICO-components in coastal observations?
Do we have a proper (high quality) graphical tools to show our geographical/methodological presence in coastal observation landscape, needed in ESFRI documents?*

Tools/Needs:
*Definition of JERICO platforms and variables now and in 10 years perspective
Coordination of technology support, especially for emerging ones
Common technology components, shared technologies*

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Discussions: Theme 4 **Staff and skills**:
human resources for coastal observations, competencies, needs for training, transnational support and specialisation

For JERICO Governance/HR-study, PSSs, IRSS:
*What could be the funding mechanisms for transnational technical training?
How could we improve collaboration of technical personnel?*

Tools/Needs
*Identification of competence gaps and mechanism to solve these
Transnational technology training schemes (to non-partners as profit mechanism)
Methods of sharing personnel and centralised actions*

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JERICO-DS Technology Outlook - Gap Analysis - Roadmap

Discussions: Any other topics?!

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JERICO-S3 Status update

WP5 Harmonisation of integrated Multiplatform & Multidisciplinary systems

1

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Where is WP5 now

End of WP5 activity: M40 (april 2023) = NOW! + extension

5 out of 7 deliverables submitted

- D5.1 : Catalogue and checklists for existing biological sensors that will be implemented in JERICO-S3
- D5.2 : Technical handbook published within the OBPS Repository of BP for implementing and operating coastal observatories
- D5.3 : Report on the Key Platform Performance Indicators and Key Integration Performance Indicators developed for the JERICO-RI
- D5.4 : Recommendation for Multiplatform implementation of a biogeochemical NRT observatory
- D5.5 : Report on the functional homogenization tools that will support the implementation of best practices within the JERICO-RI

2 deliverables in preparation

- D5.6 : Best practices document for sampling procedures of biological automatic sensors (imaging-in-flow, automated flow cytometry and multispectral fluorometry) [M38+extension]
- D5.7 : Technical recommendations for integration based on the monitored experiences in PSS/IRS [M40+extension].

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WP5 plan for the final year of JS3

- Production and submission of D5.6 and D5.7
- Review of all WP5 Deliverables for providing a comprehensive overview of all the achievements and a consistency check.
- Integration of BPs elements in the JERICO Label
- Review of KPPIs and KIPIs, and their applicability; possible definition of new KPPIs oriented to the Best Practices maturity assessment
- Functional tools for mature platforms application and monitoring
- Training & dissemination activities on BPs (supported by WP10)

Most of the tasks could involve WP6

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WP5: Where do you struggle?

- Diversity of the platforms and their different complexity versus dedicated resources and critical mass of community members involved in JERICO-RI
- For some platforms there is a huge amount of sensors, need to decide where to focus
- Not clear strategy on what is happening from now on, and how the output of WP5 will be used in JERICO-RI. Need to be discussed

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Deliverables & results presented in this session

End of WP5 activity: M40 (april 2023) + extension

5 out of 7 deliverables submitted

- D5.1 : Catalogue and checklists for existing biological sensors that will be implemented in JERICO-S3
- D5.2 : Technical handbook published within the OBPS Repository of BP for implementing and operating coastal observatories
- D5.3 : Report on the Key Platform Performance Indicators and Key Integration Performance Indicators developed for the JERICO-RI
- D5.4 : Recommendation for Multiplatform implementation of a biogeochemical NRT observatory
- D5.5 : Report on the functional homogenization tools that will support the implementation of best practices within the JERICO-RI**

2 deliverables in preparation

- D5.6 : Best practices document for sampling procedures of biological automatic sensors (imaging-in-flow, automated flow cytometry and multispectral fluorometry) [M38+extension]**
- D5.7 : Technical recommendations for integration based on the monitored experiences in PSS/IRS [M40+extension].

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Deliverables & results presented in this session

D5.5 : Report on the functional homogenization tools that will support the implementation of best practices within the JERICO-RI

This document describes a series of functional tools available for the JERICO-RI community supporting the harmonized management of mature coastal observing platforms as described in JERICO-S3 D5.2, namely Mooring, FerryBox, High Frequency Radar, Underwater Glider. They include tools entirely designed and realized within JERICO-S3 and tools that have received a substantial contribution from JERICO-S3 discussions, deliverables, workshops, and have been developed in a collaborative framework with other projects. Tools span from software routines for data management and data Quality Control to web applications for joint management of platform issues to methods and guidelines for structuring practices documentation and assessing their maturity level.

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Deliverables & results presented in this session

D5.5 : Report on the functional homogenization tools that will support the implementation of best practices within the JERICO-RI

Name/title	Best Practices Maturity Model
Type	Conceptual scheme and evaluation criteria
Purpose	Assessment of maturity level covering the status of methods documentation and the degree to which the methods are widely and effectively implemented for research and operations
Target observing platform	All mature platforms
Developers	CNR, IEEA, IOC-UNESCO
Funding projects and/or initiatives	JERICO-S3
Link to the tool	JERICO-S3 D5.2

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Deliverables & results presented in this session

D5.5 : Report on the functional homogenization tools that will support the implementation of best practices within the JERICO-RI

Name/title	HOORT: HFR Online Outage Reporting Tool
Type	Free and open web-based application
Purpose	To aid High-Frequency Radar (HFR) operations and maintenance and keep operators more aware of common outages, supporting also the reporting.
Target observing platform	HFR radar stations (can be adapted to any platform with major upgrade). Key Platform Performance Indicators (KPPIs) available in the dashboard from HOORT have been defined for all mature platforms (e.g. HFR, gliders, ferry boxes, fixed stations) in JERICO-S3 D5.3.
Developers	SOCIB. Contributions from CNR and AZTI. Other contributors: see D5.5
Funding projects and/or initiatives	EuroSea ⁴¹ , JERICO-S3
Link to the tool	https://hoort.hfrnode.eu/
Manuals and other related documents	Product User Manual (to be available in the tool)

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Deliverables & results presented in this session

D5.6 : Best practices document for sampling procedures of biological automatic sensors (imaging-in-flow, automated flow cytometry and multispectral fluorometry)

PREVIEW: advanced work on biological technologies, mostly focusing on automated flow cytometry and multispectral fluorometry -> results of WP5 issues on operational practices after the workshops carried out in summer 2022

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WP5 OUTCOME AS A TRANSFORMING BREAKTHROUGH FOR JERICO-RI STRUCTURING AND FUNCTIONALITY

- any major outcomes from your WP that will be key points to demonstrate that JERICO-RI goes beyond a NETWORK AND for the JERICO-RI IMPLEMENTATION
 - Commitment of RI members on applying and sustain BPs lifecycle. It involves running observing platforms following the same recommendations, developing and using shared tools, organize training
- any major outcomes from your WP that will be key points for the JERICO-RI users (e.g. SERVICES)
 - harmonization across similar platforms/sensors will facilitate data comparability, and the quality of data itself.
- any major outcomes from your WP that will be key points to build the operational GOVERNANCE
 - Identified gaps in BPs could help in defining next objectives and consequently organize technical competence centers with clear role and structure inside the RI's general governance model. Harmonization and BP procedures could be adapted inside different JERICO regions --> Regional approach to the RI governance model

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WP10 - JERICO-S3 Status update

Dissemination and Exploitation Plan

- Maximizing the impact of the project

https://docs.google.com/spreadsheets/d/1Qo7O9hcyP8m4Xhy3XOI4P7nBuedfNfedit?usp=share_link&oid=11700271369075343760&rfp=true&sd=true

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JERICO Brand

- JERICO – Joint European Research Infrastructure for Coastal Observatories
 - JOINT**: not good communication in the context of «from a network of RIs to a EU RI»
- JERICO: From an acronym to a brand
- JERICO:
 - Pan-European Research Infrastructure for Coastal Observation
 - The European Coastal Ocean Observing system
- Motto/slogan:
 - Marine Coastal Observatories, Facilities, Expertise and Data for Europe

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WP5 presentation

Best Practices Maturity Model

Example of application

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Best Practices Maturity Model

Overview

conceptual scheme and criteria are defined for helping the maturity level assessment of ocean observing practices from the point of view of their documentation, application and evolution.

existing practices can be reviewed against a series of capability attributes, and gaps can be identified and addressed towards a uniform level of maturity.

The final objective is to push practices and make them become best practices, formally endorsed by experts, widely applied, and sustained by training programs and tools for their application and improvement.

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Best Practices Maturity Model

Criteria examples: combination of facts and judgements

- Document is openly available in a sustained digital repository (**FACT**)
 Capability 1 - no
 Capability 2 - yes, in a generic repository
 Capability 3 - yes, in the sustained OBPS or similar repository with a DOI
- Best practice document has sufficient detail to be implemented by other practitioners (**JUDGEMENT**)
 Capability 1: no
 Capability 2: Yes, user needs extensive and relevant prior skill
 Capability 3: Yes, non-expert users with limited prior knowledge can implement it

Latest achievements: refinement of criteria definition and organization.
Next steps:

- Provision of more extensive criteria description and further examples of their application
- publication of BPs Maturity Model on a peer-reviewed journal

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Five maturity levels are identified, where level 5 is the most mature. Only levels 3 to 5 are considered as they refer to mature observing platforms where practices are well documented.

Best Practices Maturity Model

Level		Description
5		Mature Practices are endorsed by multi-institutional expert panels. Practices have formal diagnostic tools and user feedback loops supporting continuous improvement and optimization over the practice lifecycle. Practices have associated methods for training and sustainability. Practices are embedded into advanced information infrastructures.
4		Broadly adopted Practices are widely adopted by multiple institutions. Practices with standardized formats and comprehensive metadata are in a sustained repository with DOIs assigned. Documents and metadata are machine-actionable. Practices have associated guidelines and metrics for their implementation, monitoring and evolution. Practices can be replicated with no prior experience in the process.
3		Defined and documented Practices are formally defined and documented with metadata, are openly available, and can be replicated by independent practitioners with prior knowledge in similar processes.

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Best Practices Maturity Model

Example of application: review of criteria and their capabilities

VS
 "Recommendation Report 2 on improved common procedures for HFR QC analysis, JERICO-NEXT Deliverable 5.14, Version 1.0."

3.1 Best practice document is openly available in a digital repository	✓
3.2 Best practice document has sufficient detail to be implemented by other practitioners with extensive and relevant prior skill in similar processes	✓
3.3 Best practice document is described with comprehensive but not standard metadata	✓
3.4 Best Practices document format conforms to local recommendations	✓

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Best Practices Maturity Model

4.1 Best practice document is openly available in the sustained OBPS repository with a DOI	✓
4.2 Best practice document has sufficient detail to be implemented by other practitioners with no prior experience in the process	✓
4.3 Best practice document is described with metadata that conforms to OBPS or other global standards	✗
4.4 Multiple organizations (e.g. in a network) recognize and use this documented practice	✓
4.5 Best practice document format (e.g. index of contents) conforms to OBPS templates or other global standards	✗
4.6 Best practice document is compliant with OBPS or similar recommendations for full machine-actionability	✗
4.7 Informal recommendations and procedures are used for assessing the compliance of a given process/method to the best practices document	✓
4.8 There is a commitment for review and upgrade over intended lifecycle of the process and documentation through a series of guidelines and predefined review periods	✓
4.9 Practices have guidelines for their continuous improvement	✗

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Best Practices Maturity Model

5.1 Best practice is widely adopted globally	✓
5.2 Machine-actionability supports practices to be embedded in advanced information infrastructures	✗
5.3 Formal monitoring tools and protocols are widely adopted for assessing the compliance of a given process/method to the best practices document	✓
5.4 There is a commitment for review and upgrade over intended lifecycle of the process and documentation through a specific protocol (e.g. all the steps, dates, contributors are defined)	✗
5.5 Practices have formal diagnostic tools and user feedback loops supporting continuous improvement and optimization	✗
5.6 Best practice is formally endorsed	✗
5.7 Knowledge of the best practices is sustained through structured and documented training	✗

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WP3 Integrated Regional Sites

JERICO-S3 Status update

9:00-9:30 19 April 2023

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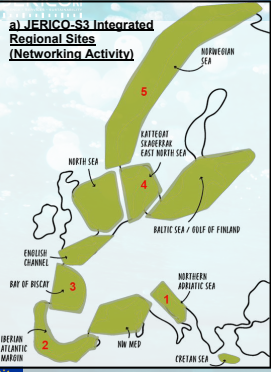
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45 min - WP3 presentation : Integrated Regional Sites

Agenda:

- Status of WP3 (5 minutes)
- Updates from Integrated Regional Sites (5 x 7 minutes)
- WP3 in relation to the ESFRI and the future JERICO-RI? (5 minutes)

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WP3 overview

b) Roadmap table for IRS development

Objective	Activities
Integration	Institutions, people, IRs, initiatives
Interoperability/harmonisation	Common strategies, data availability, best practices
Business case	User cases, financial sustainability
Organisation/structure	Memoranda of understanding, joint projects, national/regional IRs

c) Deliverables/Milestones

Deliverables 3.1, 3.2, and 3.3 submitted (initial analysis, report on integration, and data handling/accessibility. D3.4 (month 38) and D3.5 (month 42) are pending - final reports on monitoring strategies/sustainability and integration within/between IRs

Milestones 12-16: WP3 sessions at JERICO-Week meetings

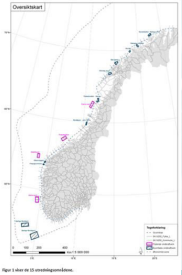
Norwegian Sea IRS

General updates

- Continued operation of the observation network of Ferryboxes, Gliders, Buoys and Research vessels/other vessels
- Assessment of the Findability and Accessibility attributes of FAIR (Findable, Accessible, Interoperable, and Reusable) conducted

Regional integration activities

- National workshop and activities to establish a coastal service
- Collaboration with NERSC, MET, IMR, NIVA, Mdr, NORCE, NIBIO, Kartverket, NGU
- Contributing as representative for Norway to the Marine Forum
- Collaboration forum for Offshore wind
- Co existence activity led by several ministries
 - Industry and technology development
 - Collaboration of industry- fisheries and institute sector dealing with
- Industry development and supplier chains
- Internationalisation and export
- Research, technology, development and competence building



Interoperability/harmonisation activities

- Collaboration underway with IODE/IEEE on metadata/documents in the Ocean Best Practices System repository

- Working with SOCB, IODE and IEEE in the design and development of a proof of concept of a decision tree model to allow users to select, locate and access the appropriate method and/or best practice related to any data lifecycle step
- Cooperation and common participation by IMR, NIVA, and FAMRI in workshops related to biological imaging technologies

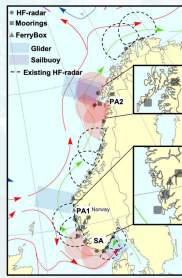
Business case activities

- Reapplying for COASTWATCH
- Continuous monitoring along coast and model assimilation IMR/NERSC/MET/NIVA mfl
- Opening pre-proposals in June, Final submission in November 2023
- Discussions ongoing on whether we develop separate core observational proposal versus an integrated approach as in the years before

Organisation activities

- General MoU's in place or operational oceanography institutes in NS-IRS, MoU's with coastal focus in preparations
- IMR-NIVA have a consortium agreement for project-based work, NIVA-HAV have an MoU for mutual cooperation on a FerryBox installation
- Collaboration agreement IMR/MetNorway

Norwegian Sea IRS

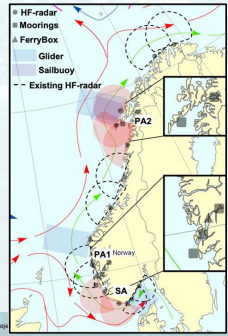


Norwegian Sea IRS

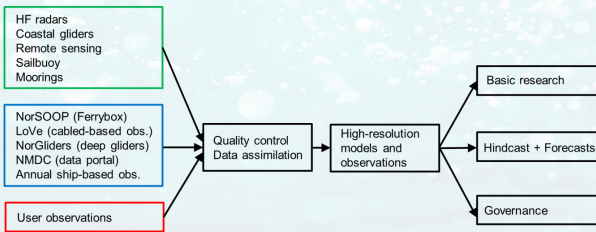
COASTWATCH - Continuous monitoring along coast and model assimilation

IMR/NERSC/MET/NIVA mfl

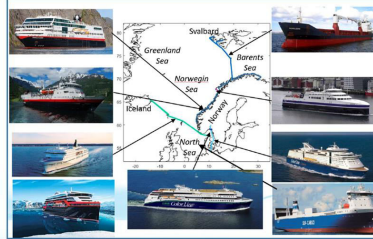
- Continuous observations enable process understanding
- Assimilation in GCMs
- Both ocean predictions and reanalysis
- Traffic light system, risk assessment to oil spills, recruitment mechanisms in fish, dispersal studies etc
- Precise and continuous descriptions of the physical and chemical environment are a necessary and important component in IEAs



COASTWATCH - integrate and compliment existing coastal systems



Norwegian Sea IRS



- Standard FerryBox**
- Temperatur, Salinity, Chl-a, Fluor, cDOM, Fluor, Turb.
 - Water Samplers (Chl-a, TSM, cDOM, Pigm., Nutrients)
 - Nutrient analysers (PO4, NO3, SiO2, NH4)
 - Carbonsystem (pH, pCO2, Alkalinity)
- Deck installations:**
- Marine reflectance and PAR (Irradiance)
 - Weather stations (Wind, temp, pressure, humidity and radiation)
 - Sea Surface Temperature
- Advanced installations**
- Contaminants and microplastic sampler
 - Olje fluorescence, Cyano fluorescence
 - CPR (SAHFOS), ADCP and XBT (Univ. Rode Island)
 - Flow Cytometry, Imaging, PSICAM, FRRF/PAM,
 - Atmospheric properties over marine water

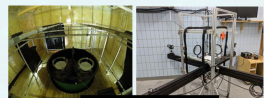
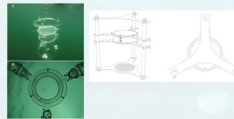
Norwegian Sea IRS

- Understanding the impact of operational noise of OWFs on behavior and movement of fish larvae
- Understanding the impact of EMFs generated by the turbines on behavior and movement of fish larvae

In situ

Experiments in laboratory

Use of drifting chambers for observation of larval behavior in situ



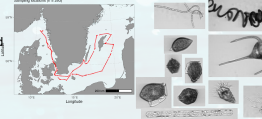
Kattegat/Skagerrak Eastern North Sea IRS

General updates

- Continued operation of buoys and Ferrybox systems on merchant and research vessels
- New IMR observing system on island Torungen on the Norwegian coast: Coastal observatory Skagerrak - KOS
- New results on using automated phytoplankton analyses (IFCB) as part of FerryBox systems (Fantasy and Svea)
- Continued operation of automated observations of carbonate systems: pH, pCO2 and total alkalinity (linked with ICOS)
- New experiences with bio-optical observations (Fantasy and Svea): chl. a, fluorescence, phycoerythrin fluorescence, phycocyanin CDOM fluorescence

Regional integration activities

- Workshop in Gesselhacht, Germany September 2022
- Deployment of PPS (WASP, WP7) for eDNA analyses on Fantasy, shared samples with IRB (NA IRS) and NIVA



Interoperability/harmonisation activities

- Plans for setting up standardised data flows for plankton imaging data to EMODnet biology (SMHI and HERION) for creating a zooplankton data lake for a digital twin of the ocean.
- European IFCB network, workshop in Sweden august 2022
- 3 day workshop on automated phytoplankton analyses in Drøbak, Norway 23-25 May 2023 (SMHI and NIVA, open for participation)
- Workshop on applying molecular methods for phytoplankton observations in Iceland, preliminary date 8 September 2023 (EuroGOOS BioWG)

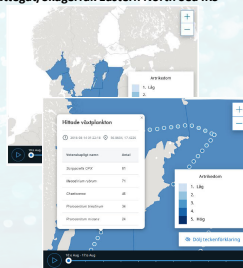
Business case activities

- Contacts with national authorities
- Discussion about arranging a KASKEN workshop for stakeholders in autumn 2023

Organisation activities

- Setting up Nordic Microalgae (<http://nordicmicroalgae.org>) as a hub for annotated plankton images for supervised training of plankton identification using machine learning/AI and visualization of NRT plankton data
- Plans for standardised data flow for plankton eDNA (metabarcoding) data to EMODnet biology (already existing Swedish National Oceanographic Data Centre at SMHI)

Kattegat/Skagerrak Eastern North Sea IRS



Visualisation system for near real time plankton data from Imaging FlowCytobot (SMHI)

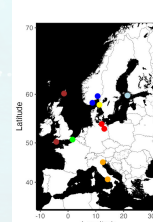
TRANSFORMING BREAKTHROUGH

The European Imaging FlowCytobot Network

Share experiences and creating training datasets for NRT Phytoplankton automated analyses

Develop early warning system of Harmful Algal Blooms

New service to society and to aquaculture industry, tourism etc.



- Examples of phycotoxin producing phytoplankton
- All images from IFCB
- DE - IGB Berlin
 - DE - IOW
 - FI - SYKE
 - FR - IALCO
 - IT - IISMAR
 - IT - Stazione Zoologica
 - NO - IMR
 - NO - NIVA
 - SE - SMHI
 - UK - FNL
 - UK - SAMS-SUHI
- Nodularia spumigena
- Dinophysis acuta
- Lingulodinium polyedra
- Alexandrium pseudogonyaulax

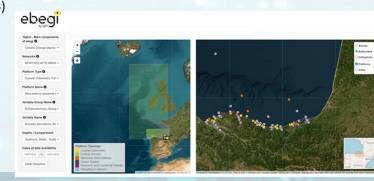
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Bay of Biscay IRS

General updates
Assessment made on the availability of data, data FAIRness, data aggregation levels and contribution to monitoring related to the Water Framework and the MFSO. Review of RAs. Several initiatives towards integration to be highlighted.

Regional integration activities
France: regional integration through ILICO national RI (national observing services deployed in Bay of Biscay). Spain: regional integration (and FAIRness) depends on the systems. High for operational HF radar and fixed stations but low for manual sampling.
→ In 2022: building of the **ebegi project and dashboard** (aztidata.es/ebegi/) integration of the different components of the ocean observation in the SE BoB, towards the constitution of an optimised observatory (but still need to integrate other regional contributions – PDE, IEO, ILICO in the SE BoB)

Interoperability/harmonisation activities
France: High degree of interoperability/harmonization:
• demonstrator of new virtual services integrating observation from ILICO networks
Spain: Depends on the system, in 2022 (institutional level):
• DOIs for systems and data
• Data Management Plans (DMPs)
• Integration of glider data in NRT in OceanOPS



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Bay of Biscay IRS


Business case activities

- Possibility for a second BOB - stakeholder meeting – ISOBAY conference??
- SE Bay of Biscay (AZTI): The Oarsoaldea Blue Hub business case : integration of main local stakeholders for the development of Operational Oceanography Services (glider, Videometry, Ferrybox, ASV, high-resolution wave-current coupled model), Marine Robotics Center (new ASV) and Remotization and Electrification of Boats.
 - Interconnection with JERICO-RI platforms is clear, interconnection at the level of RI is to be defined
 - List of stakeholders/actors for OOS and marine robotics
 - Specific business plan for coastal videometry

Organisation activities

- Review of Research axes in the BOB in relation to D1.2
- Assessment of FAIRness and organisation for D3.3

→ Two levels of organization, which could coexist within a future Bay of Biscay Integrated Regional System: the French approach being probably more efficient for channelling data flows generated by JERICO RI per se, whereas the more flexible Spanish approach being probably more relevant for processing the data flow generated by external JERICO partners.



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Iberian Atlantic Margin IRS


General updates
➢ ARTICULATION BETWEEN IH, PDE AND PLOCAN TO PROVIDE INPUTS TO WP7 D7.4 (FAIRNESS) AND WP3-D3.3

Regional integration activities
➢ DEVELOPMENT OF A PILOT STUDY ON INTEGRATION OF OBSERVATIONS (IH, PDE, PLOCAN)

Interoperability/harmonisation activities
➢ COLLABORATION BETWEEN PLOCAN (SPAIN) AND INSTITUTO HIDROGRÁFICO (PORTUGAL) TO MAINTAIN A REGULAR GLIDER SECTION BETWEEN NAZARÉ (W PORTUGAL) AND CANARY ISLANDS (SPAIN)
Allowing to:
• Forming IH competences in glider operation
• Using IH calibration facility to calibrate the glider before deployment
• Using IH logistical means to conduct deployments/recoveries and cope with technical problems at sea

➢ COLLABORATION BETWEEN PUERTOS DEL ESTADO (SPAIN) AND INSTITUTO HIDROGRÁFICO (PORTUGAL) AIMING THE IMPLEMENTATION AT IH OF THE SELENE SOFTWARE FOR SEA LEVEL NEAR REAL TIME QC.

➢ ARTICULATION BETWEEN INSTITUTO HIDROGRÁFICO AND PUERTOS DEL ESTADO IN DEFINING THE NEXT STEPS REGARDING THE HF RADAR STATIONS ALONG THE SW COAST.



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PILOT STUDY ON INTEGRATIONS OF OBSERVATIONS

Iberian Atlantic Margin IRS

JERICO OBSERVATIONS

- HF Radar Currents
- Current Profile in MP Buoys
- T in Wave Buoys
- T,S in MP Buoys
- T,S Glider
- SSH at coastal tide gauges

2 CASE STUDIES

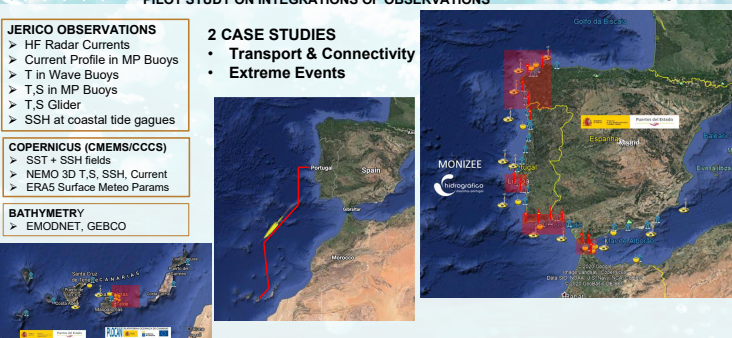
- Transport & Connectivity
- Extreme Events

COPERNICUS (CMEMS/CCCS)

- SST + SSH fields
- NEMO 3D T,S, SSH, Current
- ERA5 Surface Meteo Params

BATHYMETRY

- EMODNET, GEBCO




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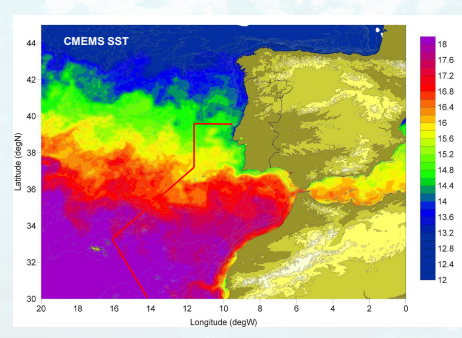
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Iberian Atlantic Margin IRS

CHARACTERIZING THE DEEP OCEAN FORCING ACTING ON THE IAM COASTAL OCEAN



PLOCAN GLIDER SECTION
07 FEB-05 MAY 2020

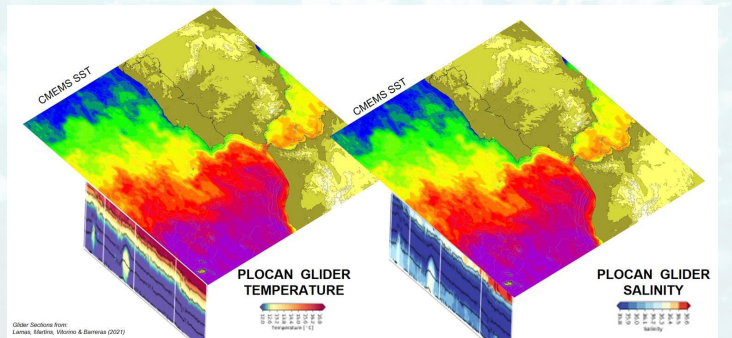


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Iberian Atlantic Margin IRS

MAPPING THE DEEP OCEAN FORCING



Glider Section from Lemos, Duarte, Vilhena & Benezes (2021)

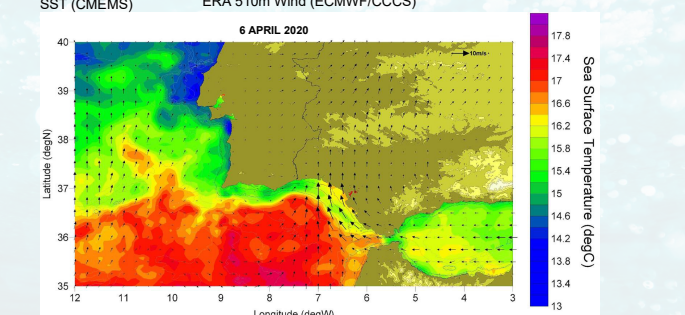
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Iberian Atlantic Margin IRS

SST (CMEMS) ERA 510m Wind (ECMWF/CCCS)

6 APRIL 2020



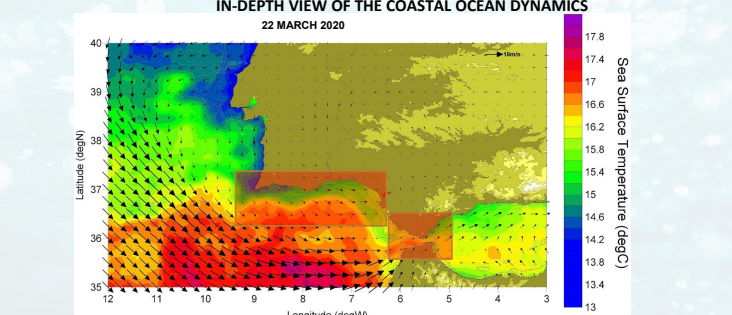
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Iberian Atlantic Margin IRS

IN-DEPTH VIEW OF THE COASTAL OCEAN DYNAMICS

22 MARCH 2020

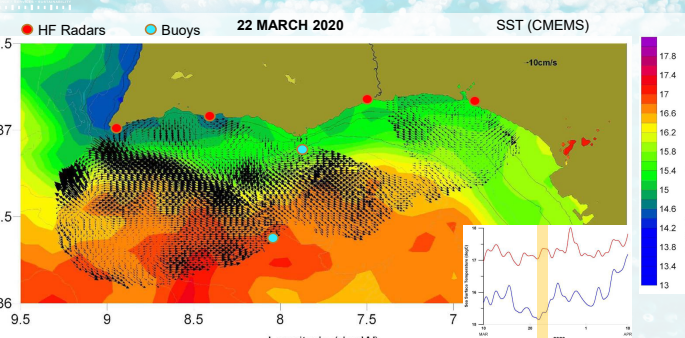


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Iberian Atlantic Margin IRS

HF Radars 22 MARCH 2020 SST (CMEMS)

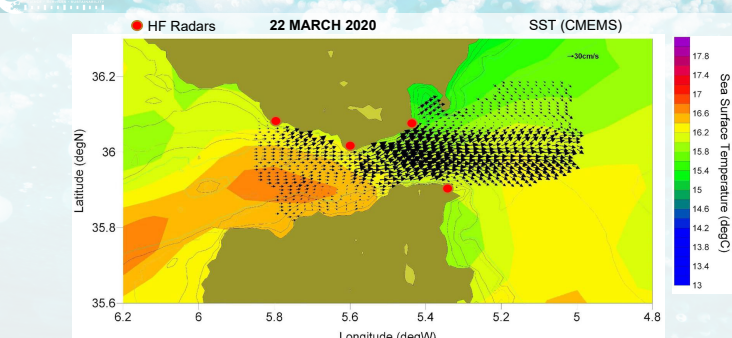


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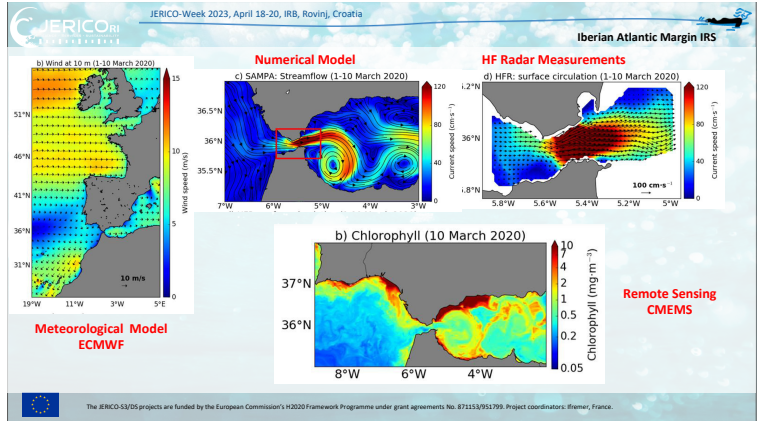
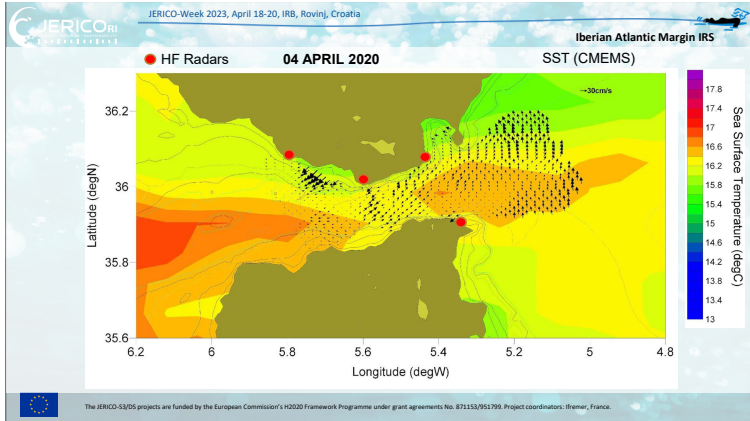
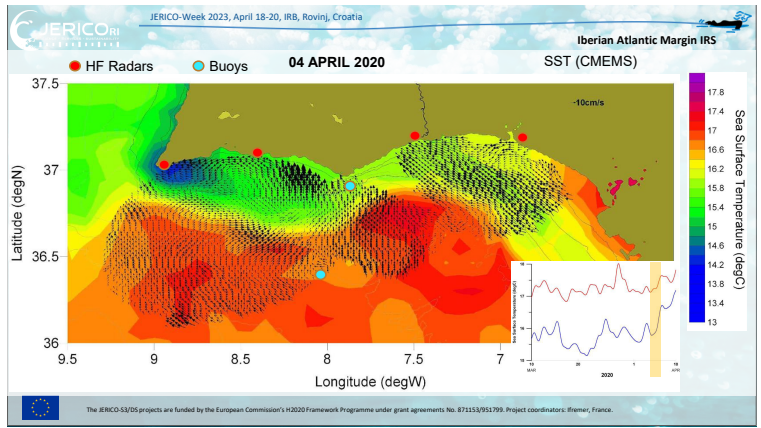
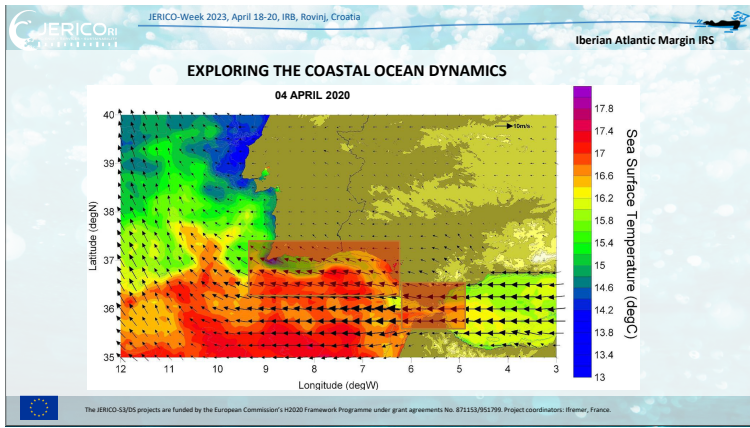
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Iberian Atlantic Margin IRS

eoosc Blue-Cloud2026

VIRTUAL LAB 1: Unlocking the potential for integration of Coastal Ocean Observations along Europe (ICOOE)

3 JERICO PARTNERS INVOLVED:

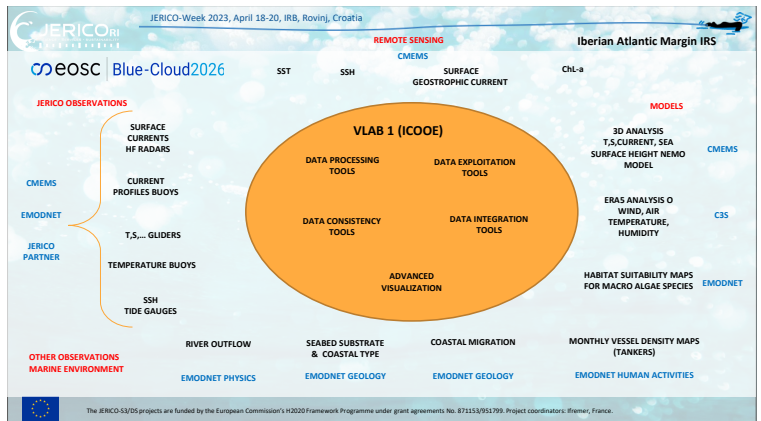
- INSTITUTO HIDROGRÁFICO (Portugal)
- SOCIB (Spain)
- IEEE France

3 THEMATIC SERVICES

- TS#1: TRANSBOUNDARY PROCESSES AND CONNECTIVITY ALONG THE EUROPEAN COASTAL MARGINS
- TS#2: EXTREME EVENTS
- TS#3: OCEAN GLIDER

ICOOE

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Northern Adriatic Sea IRS

General updates

Expansion of observational capabilities with the deployment of two fixed platforms CIM ODAS I and CIM ODAS II by the IRB, both operational from 2022 and integrated into a nationwide hydrometeorological sensor network.

Upcoming expansion of observational capabilities of fixed platforms operated by OGS and CNR in the Northern Adriatic under the Italian Recovery Plan.

Regional integration activities

Informal contacts were established with the National Institute of Marine Biology of Slovenia to explore their cooperation in the JERICO network with special emphasis on the Northern Adriatic. Following these contacts, a virtual meeting was organised on December 17, 2022. During this meeting, the coordinator presented the JERICO-S3 project and the benefits of collaboration. An extensive discussion followed, at the end of which the Slovenians expressed great interest and reserved the right to present the potential of cooperation to their colleagues. In view of this expressed interest, the coordination officially invited the Slovenians to participate to this JERICO event.

Interoperability/harmonisation activities

Data availability and accessibility, as well as the flow and various storage modes, were examined for all NA-IRS platforms that are part of the JERICO network. The results of the analysis were included in the JERICO-S3 deliverable D3.3 - WP3 - "Recommendations based on regional data handling and accessibility."

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Northern Adriatic Sea IRS

Business case activities

The NA-IRS consortium continue a collaboration with the Regional Civil Protection agency (stakeholder), through better harmonisation and sharing of data provided by coastal platforms, with particular reference to extreme events.

The observational systems in the NA-IRS provide biogeochemical data that are relevant to environmental monitoring and in particular contribute to the assessment of MSFD descriptors 1, 3, and 5. There is a strengthened collaboration with the Regional Environmental Protection Agency on some biochemical variables as oxygen and chlorophyll.

A challenging plan for integration with other National Research Infrastructures, expansion of observational capabilities and overcoming the current gaps has been submitted for NA-IRS, in the framework of the Italian component of JERICO-S3, as a contribution to the Recovery Plan. The plan has been approved and started in November 2022.

Organisation activities

The JERICO-RI Northern Adriatic-IRS was present within other meetings organised by projects operating in the same area, with the intention of enhancing the research infrastructure and promoting collaboration with entities not involved in JERICO-S3. A MoU for sharing HF-Radar data with the Regional Environmental Protection Agency is being developed. The Interreg Italy-Croatia projects CASCADE and AdriaClim generated an operational ERDDAP node mesh and data products for the Adriatic.

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WP3 OUTCOME AS A TRANSFORMING BREAKTHROUGH FOR JERICO-RI STRUCTURING AND FUNCTIONALITY

- Beyond a "network":** Regional integration (IRSxIRS, IRSxPSS) demonstrates that multiple institutions and countries can tackle coastal ocean observing in a coordinated and organised way (observing activities, methods, data handling, etc.; all WP3 Deliverables). → Mapping of observational capacity
- For "services":** IRSs include nation representatives and coastal observing efforts that directly link to local/regional stakeholders and policy makers.
- Towards operational "governance":** Roadmap goals have been set towards developing governance, but none yet beyond informal agreements or a few MoUs.
- Towards "implementation":** Region-specific harmonisation and interoperability activities that are necessary for high quality, fit-for-purpose coastal observations.
- Integrated, interoperable multiplatform data handling is operational at institutional or even regional scale → **towards a JERICO product.**

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Collective knowledge contribution via Slido word cloud

- What is the most important contribution by JERICO-S3 IRSs thus far?
- What needs to be improved on by IRSs for contribution to the ESFRI application (and ESFRI roadmap phase)?

Join at Slido.com with the code #6845674

<https://app.sli.do/event/kV7uP1chNTMkXc4yDQPE4>

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AI-assistance (ChatGPT) in answering question 2 about JERICO-S3 IRs and ESFRI

A Short response on what needs to be improved on by IRs for contribution to the ESFRI application (and ESFRI roadmap phase)?

ESFRI (European Strategy Forum on Research Infrastructures) is a forum that promotes the development of research infrastructures in Europe. To contribute to the ESFRI application and roadmap phase, IRs (Infrastructure resource sharing) need to improve in several areas, including:

1. Interoperability: IRs should ensure that their resources can be integrated with other research infrastructures and be easily accessible to users across Europe.
2. Standardization: Standardizing data formats and protocols across IRs would improve interoperability and make it easier for researchers to use these resources.
3. Sustainability: IRs need to ensure that they are financially sustainable and that their resources can be maintained over the long term.
4. User engagement: IRs should actively engage with users and researchers to understand their needs and to develop resources that are relevant and useful to them.
5. Data management: IRs should have robust data management practices in place to ensure the accuracy, integrity, and security of research data.

By improving in these areas, IRs can better contribute to the ESFRI application and roadmap phase, and ultimately help promote research excellence in Europe.

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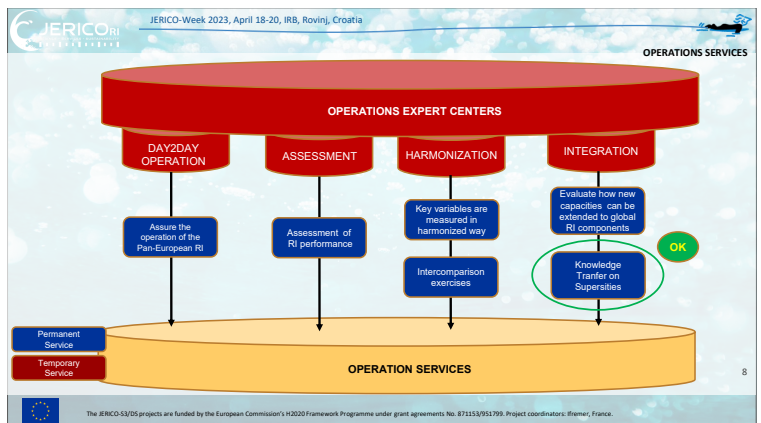
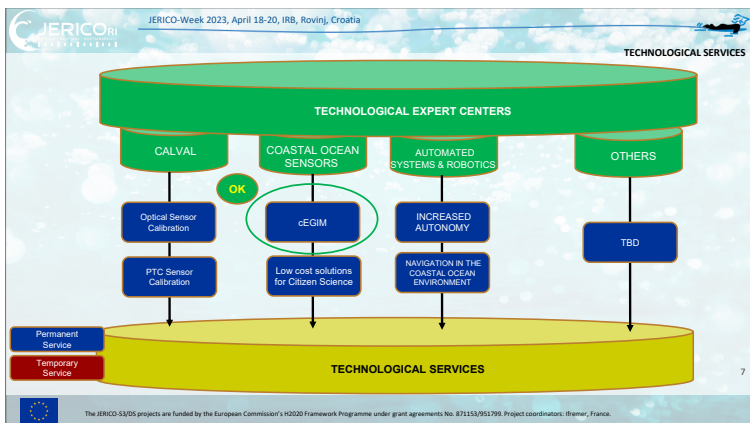
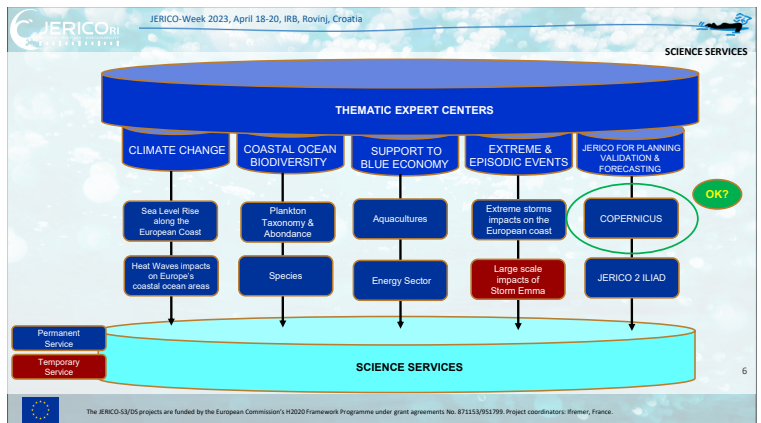
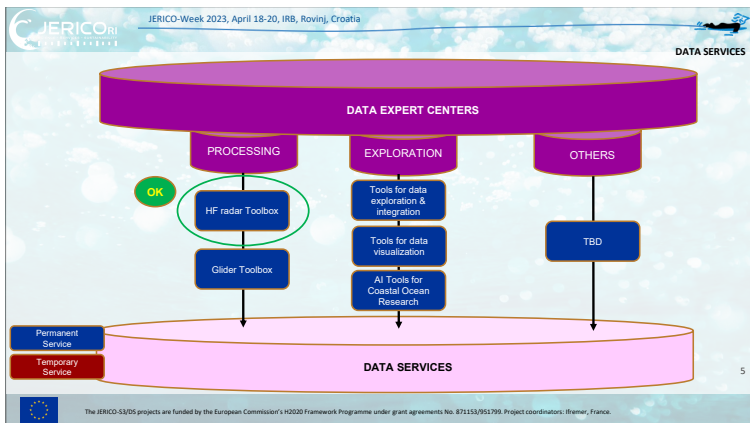
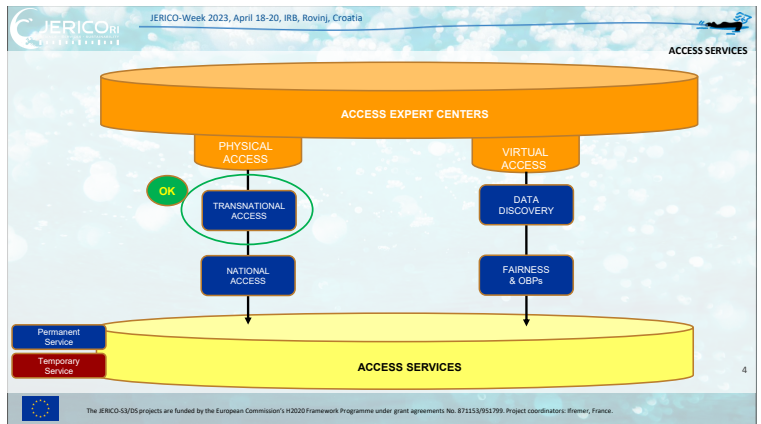
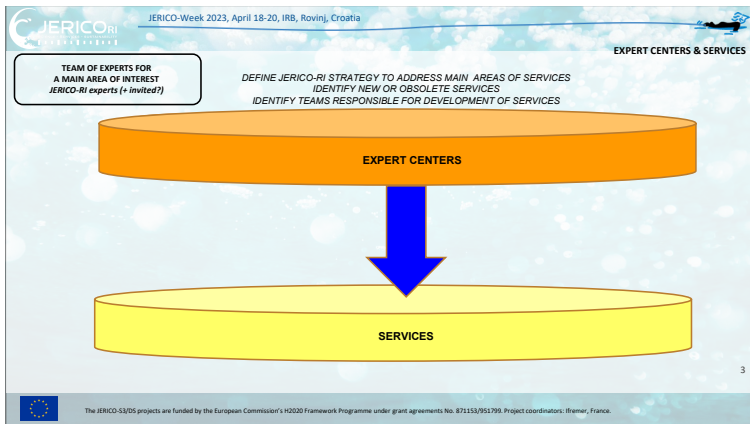
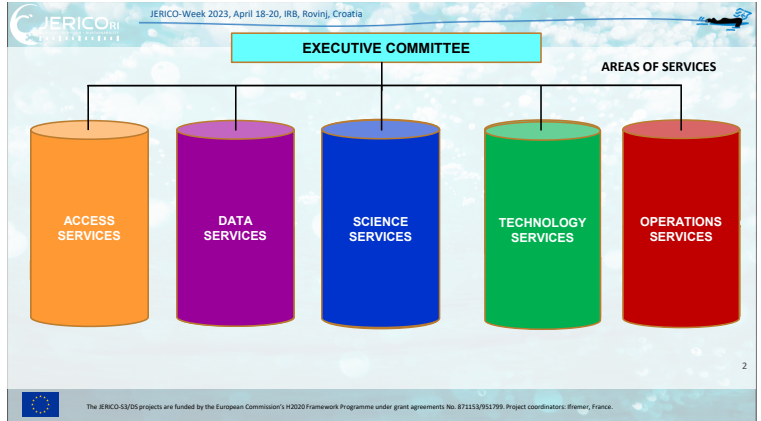
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Outcome of ESFRI Workshop

Services

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AREAS OF SERVICES

- OPERATION SERVICES
- ACCESS SERVICES
- DATA SERVICES
- TECHNOLOGICAL SERVICES
- SCIENCE SERVICES

KEY SCIENTIFIC CHALLENGES

- THE KEY VARIABLES ARE MEASURED AT THE RELEVANT SPACE AND TIME SCALES, IN AN HARMONIZED WAY, ALONG THE PAN-EUROPEAN COASTAL OCEAN
- HIGH-QUALITY, HARMONIZED, FAIR DATA IS PROVIDED TO THE RESEARCH COMMUNITY. RI CAN ACCOMMODATE SENSORS AND DEVICES REQUIRED FOR SPECIFIC RESEARCH REQUIREMENTS
- SPECIFIC TOOLS DESIGNED TO PROCESS, & QUALITY CONTROL, TO AND AND SERVICES BRINGING TOGETHER OBSERVATIONS AND EXPERTISE IN COASTAL OCEAN PROCESSES
- SPECIFIC PRODUCTS AND SERVICES BRINGING TOGETHER OBSERVATIONS AND EXPERTISE IN COASTAL OCEAN PROCESSES
- SPECIFIC PRODUCTS AND SERVICES BRINGING TOGETHER OBSERVATIONS AND EXPERTISE IN COASTAL OCEAN PROCESSES

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JERICO-Week 2023

April 20th, Rovinj, Croatia

JERICO Business Plan Status update

Kieran Reilly Paul Gaughan Alan Berry

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THIS DOCUMENT IS A TEMPLATE, PLEASE USE "FILE"->"MAKE A COPY"

45 min - WP... presentation : WP TITLE

Suggestion of content (for the entire presentation):

- 1) Where is your WP now ?
- 2) Your plan for the final year of JS3 ?
- 3) Where do you struggle ? Where and how do you need help ?
- 4) Any major DL or result that you would like to emphasize / present ?
- 5) Your WP in relation to the ESFRI and the future JERICO-RI ? (c.f. Last slide)

Concluding with a flash workshop and/or interactive-oriented session is encouraged, to maintain everyone's attention after a long presentation ! Feel free to innovate, even a little bit !

(Ideas : targeted questions to the audience, asking for 4-5 people to come in front and debate a question, interview their neighbour about a topic, draw on a piece of paper what they thought of the presentation etc.)

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JERICO S3 T9.4 Business plan

Key Focus Areas:

- Develop RI Service Offerings – Evaluate existing RI business plans
- JERICO RI User Strategy, Users key part of defining business plan (D9.2)
- RI Services Physical access, Virtual Access (e-Jerico), Science Services Technology Services Operational Services
- Business Development Group - 2020

Jerico User Committee

JERICO DS T4.6 September 2023

Key Focus Areas:

- JERICO RI User Strategy, (D4.1)
- JERICO RI Governance and Organisation,
- RI Management(CMO) and Human Resources,
- Financial and funding framework/plan, Funding development group
- Implementation of KPIs into Business Plan

Development of Business plan for each phase of RI development

Comprehensive Business Plan For Jerico RI Future ESFRI application 2024/25

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Where is the Business plan Now ?

1) Where is the Business Plan now ?

Draft business Plan for Jerico RI has been developed.

- MI had a meeting with Socio-Economic Marine Research Unit (University of Galway) in January to discuss the current draft of the JERICO business plan
- Feedback from SEMRU was provided in relation to:
 - Business Model Canvas
 - Projected revenue streams and the confidence/certainty of this
- MI will assess feedback and update business plan accordingly
- Key Elements of Plan in Relation to Services/Running costs/BIK still under development
- Work is linked closely with maturity of Jerico RI Governance Model

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JERICO-RI Business Plan Table of contents

- Users & stakeholders
- Access policies (data, TA, equipment & sensors, testing)
- Products and Services
- Socio-economics & added value
- Governance & Organisation
- Human resourcing
- Income & Expenditure
- Funding requirements & funding sources
- Risk Assessment (financial, organisational, technical, etc)
- Impact Assessment (Scientific, Technological, Economic, Societal, Training and Education)

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JERICO Business plan update

Financial Risk Assessment and Mitigation Strategy (MI)

- Financial Risk assessment and Mitigation Strategy will inform the Implementation chapter in the business plan
- What are some of the financial risks facing JERICO RI and how do we address/mitigate them?
 - Reliance on project funding
 - National funding commitments
 - Sustainability - how to keep consortium together during next phases

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JERICO Risk Matrix example

Example Financial Risk: Reliance on project funding

Probability of risk event occurring: 4

Impact risk event would have: 4

Risk magnitude = probability * impact = 16

Probability	5					
	4					
	3					
	2					
	1					
		1	2	3	4	5
		Impact				

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JERICO Risk Matrix example

Example Financial Risk: Low No. Of Full Eric Members

Probability of risk event occurring: 5

Impact risk event would have: 5

Risk magnitude = probability * impact = 25

Probability	5					
	4					
	3					
	2					
	1					
		1	2	3	4	5
		Impact				

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JERICO Business plan update

Design of Research Infrastructure Funding plan

- A Funding plan workshop was held at the JERICO DS meeting in Delft in October 2022
- **Benefit In-kind contribution policy** was drafted by the MI and sent to the **Funding Working Group** and **Nations Committee** for comment
 - IKC gives a broad overview of the JERICO policy
 - further iterations will work out specific contributions from members
 - <https://docs.google.com/document/d/1oV0zKLhuGy7f9pbW39BMGH5puKzULns/edit>

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JERICO Business plan update

Design of Research Infrastructure Funding plan (MI)

- Template spreadsheet sent to Nations Committee requesting:
 - a list of the infrastructure that you will include in a future JERICO RI.
 - financial data on the cost of running the infrastructure that you will include in a future JERICO RI (non binding !)
 - Please update this ASAP - **(NC members !)**
 - https://docs.google.com/spreadsheets/d/1zMRhFOE-8DBDy_LevTE4Kb8LfZzzX_rv5UMfXep79oo/edit
- Updated Funding plan will be a **critical element** of the JERICO RI business plan.

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Alignment of Jerico-RI Governance Model, User Strategy and Business Plan.

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Draft Services Estimation Process For Jerico RI – Need more data

	Preparation Phase			Implementation Phase			Operation Phase			Termination Phase
	Worst Case	Baseline	Best Case	Worst Case	Baseline	Best Case	Worst Case	Baseline	Best Case	
No of Members	8	10	12	8	12	14	4	8	10	0
Associate Members (Observers)							4	6	6	0
Access Services – Physical Access	e.g. 100 Access Units (TBD)			e.g. 150 Access Units (TBD)			e.g. 300 Access Units (TBD)			0
Access Services – Virtual Access E-Jerico	0.5 FTE + Access Costs			0.5 FTE + Access Costs			2.0 FTE + Access Costs			0
Science Services	1 FTE			2 FTE			3 FTE			0
Technology Services	1 FTE			2 FTE			3 FTE			0
Operations Services	1 FTE			2 FTE			3 FTE			0

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Business Model Investigations - Distributed RI focused on Physical Access

MARINERG-I Business model

- **MarinERG-I** is a distributed RI providing infrastructure access and services to the Offshore Renewable Energy sector
- They developed a "lean burn" business model that will maximise in-kind contributions from members to minimise the "hard cash burn" associated with operating the business.
- Staff secondments to establish initial traction of the MARINERG-I business at start up
- This "fast-start" approach enables the MARINERG-I RI to become business operational at the earliest opportunity, post launch.
- A percentage based levy based on the access fee charged for the MARINERG-I DRI access will be paid by the commissioned infrastructure to the CMO.

	Year 1 (2026)	Year 2 (2027)	Year 3 (2028)	Year 4 (2029)
Hosting Partners	1	1	1	1
Full Members	6	8	12	14
Associate Members	4	7	10	12
Hosting annual fee (€)	110,000	66,000	44,000	44,000
Membership annual fee (€)	20,000	14,000	10,000	10,000
Associate members annual fee (€)	10,000	7,000	5,000	5,000
Infrastructure access weeks	0	42	90	168
Infrastructure weekly access costs (€)	20,000	20,000	20,000	20,000
Access levy paid per access weeks (%)	15	15	15	15
Income (€)	270,000	353,000	484,000	748,000

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Financial Model Investigations MarinERG-I

- Developed a financial model in Excel that estimates:
 - the costs of implementing and operating the DRI (central hub, 6 service groups, country node)
 - revenues based on the business model (membership fees, access fees, revenues from other services, other revenues and funding)
- The model also includes a sensitivity analysis of the main inputs and sources of risk for the long-term sustainability of the DRI.
 - Number of members and observers
 - Number of service groups
 - Number of infrastructures and units of access
 - Base fee and host premium
 - Utilisation rate
 - Commission rate
 - Levy values
- The model includes a balance sheet and three scenarios (full, medium, lean) across all phases

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Discussion

Important Questions to still to address

- How will Jerico services be costed, funded and sustained?
- What is the role of JERICO Core in the business plan?
- What are the costs of developing and maintaining JERICO Core? - dependent on services being provided, sensitivity analysis - 3 scenarios (Min, Med, Max),
- ESFRI Application will require an updated "Cost Book" for Jerico - need updated costings for Jerico Infrastructures.
- Impact of Inflation on Costbook calculations.
- Better Define and quantify the Jerico Value Add in proposed services
- Integration of relevant Business Case Data from the IRS/PSS

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Thank you !

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JERICO CMO costs submitted in ESFRI application 2021 - Need to Link to Services Estimation

ITEM	COST (€)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Personnel Costs	400,000	384,615	369,822	355,599	341,922
Services	35,000	33,654	32,359	31,115	29,918
Business Travel & Promotional Expenses	70,000	67,308	64,719	62,230	59,836
Annual IT facilities for provision of central service	20,000	19,231	18,491	17,780	17,096
Overheads	131,250	126,202	121,348	116,681	112,193
Studies	15,000	14,423	13,868	13,335	12,822
Other Running Costs	10,000	9,615	9,246	8,890	8,548
Total Annual Running Costs	681,250	655,048	629,854	605,629	582,335

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Open issues to be further addressed by the JERICO's community

Business model design:

- The positioning of JERICO-RI within the Marine/Ocean ecosystem: What is its value added/differentiation? How does it interact (partner, integrate, etc.) with the other players within the ecosystem?
- How is JERICO-RI portfolio split between the existing and new services offered?
- What is the timeline for new service portfolio development?

Financial Sustainability of the business model:

- Cost book: detail the services offered and cross-check with related cost items and estimates (including in-kind)
- Detail costs and revenues (cash and in-kind) over a 5-year financial plan by different assumptions and scenarios
- Increase the long-term financial commitments from Member States (e.g., in-kind from individual partners should be presented as financial commitments from the related Member States)

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In-kind contribution definition

IKCs are non-cash contributions provided by a legal entity (e.g. in terms of personnel or machine time, supply of equipment, services, buildings, etc.) - ESFRI Guidelines on cost estimation of Research Infrastructures They represent a non-cash benefit (and risk) transfer of Goods and Services and/or Personnel based on Statute and/or Agreements involving (directly or indirectly) the Members and planned in yearly programs approved by the GA. - CERIC workshop on IKCs in the lifecycle of an ERIC, Dec 2019

Two main cases of in-kind contributions can be distinguished:

- contributions to the construction and operation of an RI by procuring and transferring goods and services and
- contribution to the implementation and operation of an RI by making available existing facilities, which may be improved "in-situ" within the contributing member during the ERIC operation.

In general, IKCs are accompanied by cash contributions, to allow enough independent capability to the ERIC.

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ESFRI application - JERICO RI Cost Book Summary

Table D2.1: Investment and operating costs of JERICO-RI in €000, not discounted

Phase	Total (discounted thousand and EUR 2020)	Design Phase		Preparatory Phase	Implementation on Phase	Operational Phase	Termination
		2015-2019 (Total)	2020-2022 (per year)	2023 - 2026 (per year)	2027 - 2029 (per year)	2030 - 2050 (per year)	2051
Capital investment costs							
Construction and upgrades to national nodes		21,505	4,301	4,301	4,301	4,301	
Total investment costs	103,629	21,505	4,301	4,301	4,301	4,301	
Operating costs							
Central hub	10,802				681	681	30
National nodes	414,427		22,656	22,656	22,656	22,656	
Total operating costs	425,230		22,656	22,656	23,337	23,337	

Overview of the JERICO RI cost book over the design, preparatory, implementation, operational and termination phases. The capital expenditure refers to the investment in new infrastructure and equipment by the JERICO member nations

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JERICO Business plan update

User and stakeholder strategy

- User strategy will be a chapter in the JERICO Business plan
- The focus of the strategy is on how JERICO RI can satisfy different users (e.g. Copernicus and EMODnet, TA users, etc)
- A number of meetings were held with JS3 WP9 leaders to discuss how inputs from JS3 D9.2: User engagement strategy, the ESFRI application can feed into the business plan.

Design of national commitment framework

- Two surveys were sent to GOOS NFPs and JERICO national representatives last summer
- Responses from the survey are being used to inform the deliverable on national commitment framework which will feed into the business plan.

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An example of this estimation process - example in another RI

	Preparation phase 2019 - 2022			Implementation phase 2023 - 2028			Operational phase 2029 - 2034			Termination phase 2035
	Worst case	Baseline	Best case	Worst case	Baseline	Best case	Worst case	Baseline	Best case	
No. of EA members	10 members			10			13			0
0,2 FTE per member	4 services			8			9			0
Services - infrastructure	5,5 FTE			9,5 FTE			14,5 FTE			0
Services - users helpdesk	3 FTE			3 FTE			3 FTE			0
HR needs	3 FTE			3 FTE			3 FTE			0
Training Catalogue	4 trainings/year			10 trainings/year			12 trainings/year			0
No of trainings/year	3 FTE			3 FTE			3 FTE			0
Scientific Experts	3 permanent FTEs			3 permanent FTEs			3 permanent FTEs			0

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JERICO-Week 2023

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JERICO User forum

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Welcome to JERICO User Forum

The Scope :

Today, we will focus on users from research institutes that need coastal observations:

- Because we have the opportunity to have interesting specimens gathered in Rovinj.
- Because it is an opportunity to take off our RI builder's hat and say "what's in it for me?"
- Because it may help us to convince colleagues and teams of the importance of JERICO-RI -> JERICO ambassadors
- Because it may be an opportunity to bring out the JERICO Value proposition
- Because that it gives us dreams and perspectives on what we want in the long term.
- Because it is to become clear we are developing a process to deal with expectations/complaints (customer satisfaction monitoring)

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Disclaimer :

But yes ! we should also address external users :

They are essential to demonstrate that JERICO addresses Societal Needs

We identified them in D9.1

We worked on this during JERICO-RI Train - more on that in upcoming D9.2

Some comments (from Anouk) :

- "JERICO-RI does not exist yet. What does exist are national research infrastructures and monitoring programmes that take part in JERICO projects. But the resulting data would also be available for users without JERICO."
- "Quite often the persons downloading the data do not represent the actors that ultimately have a stake in the information"

Figure 4. Distribution of users per sector.

Define JERICO value proposition will help

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Disclaimer :

The methodology we will employ has been proven. These are methods used in the framework of UX design.

In UX Design, there is the "design" aspect (the interface design) and the "UX" part (which refers to the user experience).

In essence, UX Design refers to the design of a product or service from a user-centric perspective, taking into account the needs of users and the need to offer them an optimal experience

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Welcome to JERICO User Forum

Senior scientist Junior scientist Engineer Head of a marine institute / national RI

The goal of this activity is to collect infos on problems and pains and to practice on key target users and their journey

- Identify relevant users based on your personal experience; it is very useful if you identify actual people (i.e. Amadeus, Professor of Marine Science, Universität Hamburg; Barbarella head of ILICO, the french JERICO node)
- Describe their problems and pains that could be possibly solved by JERICO

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Welcome to JERICO User Forum

Senior scientist Junior scientist Engineer Head of a marine institute / national RI

MSFD monitoring contributor

The goal of this activity is to collect infos on problems and pains and to practice on key target users and their journey

- Identify relevant users based on your personal experience; it is very useful if you identify actual people (i.e. Amadeus, Professor of Marine Science, Universität Hamburg; Barbarella head of ILICO, the french JERICO node)
- Describe their problems and pains that could be possibly solved by JERICO

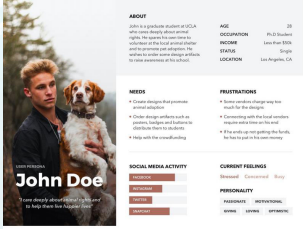
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What is a user (persona)

- Personas are generalized characters that encompass the various needs, goals, and observed behaviour patterns among our real and potential users.
- Personas help us understand our users better so that we can make better decisions related to our service design and features
- Creating personas helps us keep the focus on the user and it also aids us to communicate and explain user experience to various stakeholders
- Personas serve different purposes in different service development stages.



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Welcome to JERICO User Forum

Customer Journey Mapping

The User Journey Map is a visual representation of the process that a person goes through in order to accomplish a goal.

- It's used for understanding and addressing customer needs and pain points and aids us in identifying possible functionalities for our services. For example, you are considering a research team in the Netherlands looking for free access to specific coastal facilities from October to December. What are the steps we should design in order to effectively satisfy this need with our service system?
- To build your customer journey start by imagining what the life of the customer is like. What is the problem the customer is trying to solve? How are they solving it today? What are they happy or frustrated about? Mapping this out will give us a number of (hypothetical) touch points to validate in the real world. These touch points are moments in the customer's life where they are experiencing a problem, taking action, or planning their next steps. We require to focus on the journey of the user, from the first interaction to the last touch point.
- Then, a field-based user analysis will tell us if the touch points you mapped are the ones that actually show up in your customer's experience.
- At the end, we will have a deep understanding of the challenges faced by the users (in different stages) and their possible solutions.

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Step 1 : Pick a persona

Persona




Name
Age
Statut
Additional relevant info for the service you want to prototype

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Step 2 : describe the steps

Persona



Name
Age
Statut
Additional relevant info for the service you want to prototype

Description



Step 1 Step 2 Step 3 Step 4 Step 5 Step x

Chronology


Time 1 Time 2 Time 3

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Step 3: Identify the time spent per step

Persona



Name
Age
Statut
Additional relevant info for the service you want to prototype

Description



Step 1 Step 2 Step 3 Step 4 Step 5 Step x

Chronology

Time 1 Time 2 Time 3

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Step 3: Identify the time spent per step

Persona



Name
Age
Statut
Additional relevant info for the service you want to prototype

Description



Step 1 Step 2 Step 3 Step 4 Step 5 Step x

Chronology


Time 1 Time 2 Time 3

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Step 4: Identify blockages, frustrations and dropout points/rates

Persona



Name
Age
Statut
Additional relevant info for the service you want to prototype

Description



Step 1 Step 2 Step 3 Step 4 Step 5 Step x

Chronology

Time 1 Time 2 Time 3

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Step 5: Describe what he/she thinks/feels/does

Persona



Name
Age
Statut
Additional relevant info for the service you want to prototype

Description



Step 1 Step 2 Step 3 Step 4 Step 5 Step x

Chronology

Time 1 Time 2 Time 3

Verbatim


"Feelings" "Feelings" "Feelings"

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Step 6: Write down your questions and assumptions

Persona



Name
Age
Statut
Additional relevant info for the service you want to prototype

Description



Step 1 Step 2 Step 3 Step 4 Step 5 Step x

Chronology

Time 1 Time 2 Time 3

Verbatim

"Feelings" "Feelings" "Feelings"

Questions

?

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The example of a user journey - "Lucie trying to find a ride to the airport"

Persona
Lucie
20 y.o
very busy and doing things at the last minute

Description
I leave JERICO meeting at 5 PM. I walk to hail a cab. A cab finally stops. I tell him I want to go to Marco Polo airport. He refuses to drive me to Italy. I walk down a larger road to find another cab.

Chronology
5:00 5:05 5:20 9:25 Iteration until she finds a cab

Verbatim
"I'm tired and how do I get home?"
"Finally...I've been freezing for 15 minutes!"
"Will he refuse or will I get lucky?"

Questions
At this point, how does the user feel? I assume she is tired...
I guess the waiting time is about 15 minutes but I'm not sure...
Do many people, give up at this stage and choose an alternative to the cab?
02153/951799. Project coordinators: Remyer, France.

Welcome to JERICO User Forum

DETAILS OF THE SESSION (45 min):

Introduction (intention) and frame of the session - 10 min

"Codev" in open-forum format :

1. Going into 5 small groups : develop persona profiles -20 min
2. Share with the audience : one 'rapporteur' present the persona to the audience - 5 min
3. We consider a user journey for our personas or we get inspired by the following presentations to consider future user journeys.

COFFEE BREAK

THE BEST IDEAS ARE BORN IN TEAMS

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Welcome to JERICO User Forum

PRINCIPLES OF "OPEN-FORUM" APPLY

- 1) Every person is the **right** person, in the right time, at the right place !
- 2) No **judgements** zone
- 3) The **"rule of the two feet"** : if you feel like you cannot be a constructive participant anymore, take your own two feet and go somewhere else !
- 4) What **had to happen will happen** : even if the direction changes a bit, it is also a valid conclusion and deserves to be presented

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JERICO S3
SCIENCE - SERVICES - SUSTAINABILITY

JERICO DS
SCIENCE - SERVICES - SUSTAINABILITY

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WP2: Linking scales, communities and processes

Holger Brix, WP 2 team and task leads

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Task 2.2 Collaboration and interoperability with marine, river and terrestrial RIs

- Where is your WP now ?
 - Relations with various RIs have been established (e.g., intense work with Danubius and ICOS on LandSeaLot proposal (call HORIZON-CL6-Governance-01-11 - March 2023), work on other proposals (AMRIT, call INFRA-DEV-01.04), shared regional projects)
 - Initial idea of establishing MoUs with "all other RIs" has been dropped (due to logistical Reasons - not considered as the best mechanism any longer)
 - "Template" MoC (Memorandum of Collaboration) is being developed (advantage of MoCs:
 - can be signed by Coordination without strict end date of JERICO-S3 with mandate from JERICO-S3 GA
- Your plan for the final year of JS3 ?
Prepare and get signed MoCs for as many RIs as possible (contribution to ESFRI process):
 - Individualization based on template (Groom MoC)
 - Content should not be too binding, but geared at individual overlap with other RIs
 - Work along priority list

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WP 2: Linking scales, communities and processes

Task 2.2 Collaboration and interoperability with marine, river and terrestrial RIs

	EMBRC	EMSO	EuroARGO	ICOS	Danubius	eLTER	LifeWatch	AQUACOSM
Priority	2	2		2	1			
Volunteers	Laurent Coppola	Alan Berry	Alan Berry	Dominique Durand	Holger Brix	Lucie Cocquempot	George Petihakis	Jukka Seppala
		Lucie Cocquempot	Lucie Cocquempot	NIVA	Carolina Cantoni			Behzad Mostajir
	George Petihakis			Carolina Cantoni	Laurent Delauney			

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WP 2: Linking scales, communities and processes

Task 2.2 Collaboration and interoperability with marine, river and terrestrial RIs

- Where do you struggle ? Where and how do you need help ?
 - Perception of JERICO in some contexts appears to be as "indecisive" - the discussion about MoUs/MoCs has dragged on too long.
 - Need a vote at the GA (today!?) to task Laurent with signing MoCs
 - How is the exact process – do we need another vote from the GA once the text are prepared and discussed?
 - Do we need additional approval from JERICO-DS?
- DL 2.1, due May '23 postponed to end of project

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WP 2: Linking scales, communities and processes

Task 2.3: Interfacing with COPERNICUS and coastal-based industries

- Where is your WP now ?
 - Dialogue with CMEMS TACs have been fostered (documented in milestones)
 - For collaboration with industry:
 - JERICO needs clearly message and value proposition to reach out to large companies (Users)
 - Good connection with SMEs (technology providers)
- Your plan for the final year of JS3 ?
 - Establish contact with head of Copernicus (P.-Y. Le Traon) – missing so far
 - Industry: Gathering of success stories from regions and lessons learned
 - Gathering feedback from TNAs: collect feedback regarding work with SMIs
- Where do you struggle ? Where and how do you need help ?
 - Discussion: how to promote JERICO in industry context?
 - Survey to JERICO partners will come soon
- D 2.2, postponed to September

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WP 2: Linking scales, communities and processes

Task 2.4: Regional connectivity and link between scales and dynamics

- Where is your WP now ?
 - Work has been done on milestones 10 and 11:
 - i) Gap analysis in national coastal-estuarial monitoring in DE/DK/EE/FI/NL/NO
 - ii) Gap analysis in **high connectivity area for offshore wind farms**
Observations for multi-purpose (siting, maintenance, impact assessment, cable protection)
Fit-for-purpose assessment of gaps and integrated model-data capacity
 - iii) Recommendations for filling the gaps
 - Publication based on ii) is on-going (aiming at JISE Special Issue, deadline 30 June 2023)
- Your plan for the final year of JS3 ?
 - Finalize the paper, write things up, prepare deliverable
 - Deliverable will be on time (September)

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WP 2: Linking scales, communities and processes

Task 2.5: Interfacing with monitoring programmes, non-European OOS and the political realm

- Where is your WP now ?
 - Issues accessing material for collaborations from JERICO-NEXT (has been solved)
 - Starting point user perspective: Regional Sea Conventions science needs agendas
 - Starting point data provider perspective: databases that contain JERICO-S3 data products
 - Matching session in Geesthacht workshop: Most relevant themes: eutrophication, pelagic habitats, food webs and ocean acidification – various parameters
- Your plan for the final year of JS3 ?
 - Integrate information on potential partnerships with Black Sea and North African partners
 - Integrate Jerico's links to Decade Actions into report
 - Databases and RSCs: identification of potential matches and guidance on how to further elaborate these

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WP 2: Linking scales, communities and processes

Task 2.5: Interfacing with monitoring programmes, non-European OOS and the political realm

- Where do you struggle ? Where and how do you need help ?
 - Input from SAB (Richard, Patrick) about Ris outside Europe
- Deliverable probably on time (September and November)

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WP OUTCOME AS A TRANSFORMING BREAKTHROUGH FOR JERICO-RI STRUCTURING AND FUNCTIONALITY

- Connections to other RIs will clarify the role JERICO-RI has in the European RI landscape
- Exchange with other RIs will contribute to further develop exchange about standards, SOPs etc.
- Exchange with other RIs on JERICO services, e.g., JERICO-CORE, on inter-usability (if that is a word...)
- The role of the "administration" of all the connections to RIs and other entities will need to be located in a future GOVERNANCE structure
- Fit-for-purpose gap analysis performed in T2.4 can be standardized for JERICO-ESFRI/RI
- Integrated modelling-monitoring is essential to fit for multi-purposes in high connectivity areas; which can be a build-in service in JERICO-ESFRI/RI
- A legal entity status will facilitate the establishment of official, sustainable and reliable collaboration with RSCs, industry and other communities

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JERICO-Week 2023

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WP4 presentation - JERICO-S3 Status update

Jukka Seppälä SYKE
Costas Frangoulis HCMR
PSS leads

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WP4 presentation : Pilot Supersites

Agenda

- Update of the WP4 time schedule (5')
- Report of the implementation phase - PSS Actions (4x 7')
- State-of-the-art of PSS synthesis (5')
 - Elements for other WPs, J-DS, ESFRI and future JERICO-RI ?
- Immediate comments/discussion and filling out the questionnaire (7')

with online feedback via Google Forms

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Update of the WP4 time schedule

MS17 - Analysis of regional actors and critical gaps in multidisciplinary data provision for user needs per PSS - COMPLETED
 MS18 - Joint WP1, WP3 & WP 4 workshop to draft D4.1 - COMPLETED
 MS19 - Start of PSS implementation - COMPLETED **JANUARY 2021**
 MS20 - Presentation of PSS progress at ARW#2 - COMPLETED
 MS21 - Presentation of PSS progress at ARW#3 - COMPLETED
 MS22 - End of PSS observations - COMPLETED **NOVEMBER 2022**
 MS23 - Presentation of PSS progress at ARW#4 - Due M37 = **meeting today -> MS report M40 May 2023**
 MS24 - Presentation of PSS final results at ARW#5 - Due M48 = FINAL MEETING

D4.1 - PSS monitoring strategies - COMPLETED
 D4.2 - Refined PSS monitoring strategies - COMPLETED
 D4.3 - Progress report on PSS implementation - COMPLETED
 D4.4 - Assessment of PSS implementation - Due M38 -> **SUGGEST POSTPONING UNTIL M41 June 2023**

After spring 2023:

- Dissemination of results, publications, BPs, ...
- Communication of results with other WPs
- Synthesis of PSSs - meet the needs of ESFRI proposal

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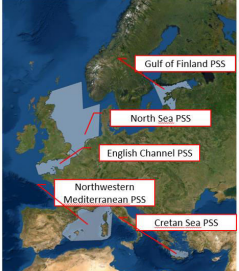
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Report of the implementation phase - PSS Actions

4 PSS sites, each with 6-10 Actions


- to demonstrate how transnationally and transinstitutionally integrated multidisciplinary and multiplatform observations may add value to our ability to answer the multiple key scientific and social challenges the coastal ocean is facing.

We run through highlights of each PSS and **ask for your feedback** in [questionnaire](#) (as representative of JERICO-S3 WP, JERICO DS WP, STAC-member, nation/region representative, thematic scientist, user community, JERICO ESFRI Task Force, etc.)



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Questionnaire for PSS progress and feedback

JERICO-S3 WP4 feedback during ARW in 2023

What is your role when answering? *
[You may select several]

WP lead in JERICO-S3/-DS
 Task lead JERICO-S3/-DS
 PSS partner
 IRS partner
 Other JERICO partner
 STAC member
 Nation representative
 Other:

How could PSSs contribute in coming months to meet the goals of JERICO-S3 / -DS ? If possible, specify WPs/tasks, where PSS results may be needed most.

What are the key findings of PSS that should be highlighted in ESFRI proposal documents?
[i.e. what are the key PSS outputs which could already demonstrate the added value of JERICO-RI]

Can you provide any suggestions for PSS dissemination? Any workshops or events where we should be present!
[Note also if you volunteer as a presenter]

Should JERICO-RI continue integration from Pilot Supersites towards Supersites *
1= YES, 2 = MAYBE, 3 = NOT SURE/NO OPINION, 4=MAYBE NOT, 5=NO

Other feedback/advice to PSSs.
[If your response target only one or few PSSs, please mention their name(s)]

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Questionnaire for PSS progress and feedback

JERICO-S3 WP4 feedback during ARW in 2023




LINK to [questionnaire](#)

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GoF PSS: #1 Harmonised observations, #6 Biological interplay with the carbonate system & #9 Promotion of the use of PSS data and products

Key Messages
Improvements done in regional harmonisation of observations, at various phases of the data value chain, including participants outside PSS and JERICO-RI. Such harmonisation and sharing of information within region is especially vital for emerging observations, like carbonate system variables in GoF. It is important to convey such advances towards key regional stakeholders.



Main achievements

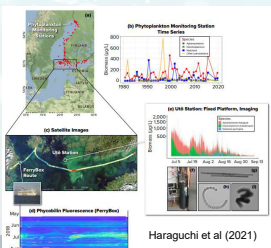
- Workshops for i) sensor calibration, ii) harmonisation of sensors and calibration practises and Best Practices and iii) joint platforms, including partners outside PSS
- Session in IEEE Metrology of the Sea (2021) and related publication
- Participation in the ICOS OTC CO2 intercalibration workshop
- Scientific papers on diurnal variability in the carbonate system, field survey of vertical pCO2 & interannual variability
- Workshop on "Best practices strategy for coastal carbonate systems data management" during the JERICO-days 2022
- Participation in BOOS and HELCOM workshops

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GoF PSS: #3 Optical data for Ocean Color product validation, #4 Detection of cyanobacterial blooms & #7 Forecast models for cyanobacterial blooms

Key Messages
To describe the magnitude and spatiotemporal distribution of cyanobacterial blooms, combination of multipatform sampling and EO data is required (and used in our PSS). Combining observations with EO and models requires further improvements because their data (obtained and needs) are not in uniform units.



Main achievements

- A review of the development in multipatform cyanobacterial detection methods was published
- Description of near-real-time neural network classification of cyanobacteria species images was published, with open code
- NRT cyanobacteria data used in SYKE weekly algae reviews, some images delivered to Ecotaxa and data to EMODnet Biology (link to WP7 D2PTS)
- Match-ups between EO data and JERICO observations visualised at SYKE web-platform
- New approach for statistical forecast modelling of cyanobacteria blooms tested

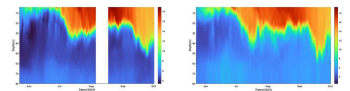
Haraguchi et al (2021)

2020 Framework Programme under grant agreements No. 871153/951799. Project coordinators: Remyar, France.

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GoF PSS: #2 The performance of operational forecast models & #5 Mapping the deep water oxygen conditions

Key Messages
JERICO observations allows O2 mapping and to assess the Copernicus BGC model products reasonably well. Spatial extension of some measurements need to be improved, by re-establishment of cross-gulf ferrybox measurements and adding observations in the eastern part of the GoF. Continuous current measurements and nutrient measurements in the deep layer should be started.



Main achievements


- CMEMS operational model products analysed against GoF PSS data to understand model uncertainties, resulting in two publications
- Transnational data used in analysis, starting point towards more harmonised data formats and processing
- Data collection and production at least weekly near-bottom oxygen maps in the GoF.
- Support the spatial monitoring and help to plan and modify/tune scientific surveys.

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GoF PSS #8 Extreme events affecting phytoplankton - AQUACOSM collaboration | GoF PSS & #10 Connecting the other RIs in the region

Key Messages
Strong collaboration with AQUACOSM, with mesocosm experiment and imaging technologies. Other regionally active RIs connected at specific events.



Main achievements

- A joint JERICO-AQUACOSM mesocosm experiment, with three TA projects, was successfully conducted studying the effect of heatwaves on plankton communities. Papers to come...
- TA project with AQUACOSM on operability of imaging
- JERICO-session in FINMARI days in 2022, with EURO ARGO
- pCO2 measurements at JERICO platform, Ferry Silja Serenade, now part of ICOS OTC
- Participation in ICOS pCO2 calibration WS
- JERICO work presented during MINKE metrology WS in 2022
- Participation in LandSeaLot application with a link to DANUBIUS

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GoF PSS SUMMARY

Contribution to future JERICO-RI, Supersites & integration

- Baltic observing community has a long tradition in sharing knowledge & data, collaboration in technologies, using the same platforms and sharing the workload towards joint goals - PSS work has reinforced this and provided a framework for transnational operations
- Connections to several non-JERICO partners are well established
- Good national support for JERICO and regional/European collaboration in general
- Connecting with other RIs (e.g. ICOS, EURO-ARGO, EMBRC, DANUBIUS) should be relatively straight forward
- Connections between PSSs have been efficient in some thematic

Identified gaps, challenges and lessons learned

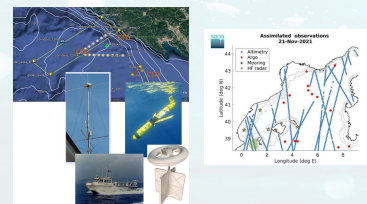
- We still need to work for harmonising methods, creating joint data products
- More efficient spreading of information (and acting) is needed (e.g. for data needs)
- Need to connect better with other regions
- Only few people involved, needs more commitment from institutes
- Observation gaps identified, joint work ahead

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NW MED PSS: #1 Reconstruction of the 3D coastal dynamics

Key Messages
Reconstruction of 3D coastal dynamics from multipatform observations and models and investigation of its impact on particle dispersion and biological implications.
A demonstration action was conducted in La Spezia area in April 2022 with operational platforms (CNR, CNRS, ENEA, ALSEAMAR) to monitor and investigate small scale coastal dynamics and biophysical coupling.



Main achievements

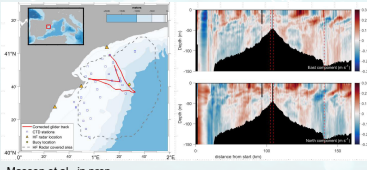
- Multipatform approach using a combination of autonomous platform (HF Radar, gliders, drifters) and targeted water samplings is an effective strategy to study the BGC-physical coupling in the coastal area
- The assimilation of regional data in the North Current region allow the reconstruction of coastal dynamics in 3-D and analyse its impact on water mass characteristics, particle transport and biological species distribution.

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NW MED PSS: #2 Impacts of River discharge to coastal ecosystems

Key Messages
River input databases were gathered and compared in order to highlight main measured variables, sampling frequency and methodology (Ebro, Rhone, Arno; link to DANUBIUS-RI).
A demonstration action was conducted in front of the Ebro River in Septembre 2021 with operational platforms (Puertos del Estado, CSIC, CNRS) to study the impact of river inputs on coastal ecosystems.



Main achievements

- Multipatform approach using HF Radar, field campaign at sea, buoys, gliders is suitable to study the impact of river inputs in the coastal area
- HF Radar measurement highlighted the high frequency spatio-temporal variability of surface currents impacted by northern wind pulses
- ADCP-glider measurements showed shear structures in the whole water column which could have an important impact on mixing processes and resuspension of coastal sediments.

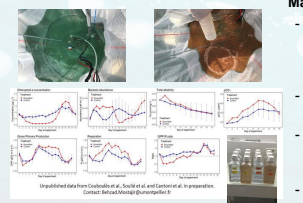
Masson et al., in prep.

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NW MED PSS: #3 Extreme events affecting phytoplankton

Key Messages
The effects of terrestrial dissolved organic matter input and water temperature increase on phytoplankton community were investigated in 2021 by collaborations between JERICO-S3 and AQUACOSM-plus.
More exchanges of knowledge were established in 2022 between the PSS of NW-MED-Sea, GoF and CRETAN to highlight the consequences of global change in the marine system.



Main achievements

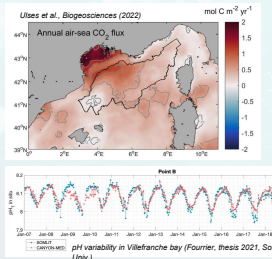
- The brownified river flood inputs engender the light decrease reducing the Chl-a and Growth Primary Production at the beginning of the experiment providing the material for remineralisation leading bacterial respiration
- River flood inputs increase total alkalinity during the first 2 days and enhance the pCO2
- The effect of brownification (flooding) was greater than that of increased water temperature (+3°C), and the combination of two stresses induced synergistic interactions (greater effect).
- Several communications were done and several papers are in preparation.

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NW MED PSS: #4 Biogeochemical data integration

Key Messages
Use multi-platforms approach, regional 3D model and neural network to augment our capacity to study air-sea CO2 flux and pH variability in the NW Mediterranean Sea



Main achievements

- New module has been developed and validated to simulate seasonal and annual CO2 uptake; underlines the role of the Rhone river and GoL shelf as annual CO2 sink (Ulises et al., 2022)
- Platforms able to provide TSO2 have been used in Neural Network to predict pH-pCO2 variability (Fourrier et al., 2020 & 2022)

Powerful tool to fill the gaps in coastal time series and provide synthetic EOV not directly measured with good uncertainty
Workshops with ILICO-RI, ICOS; Participate to BP in WP5 for BGC expertise

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NW MED PSS SUMMARY

Contribution to future JERICO-RI, Supersites & integration

- NW MedSea is active for multi-platforms approach: repeated cruises, autonomous lagrangian and fixed platforms, ... : a **very good place to demonstrate the actions and mutual benefits of RIs**
- North Current play a key role to connect countries and existing networks
- We shared different expertises (eg. BGC-ADCP glider in La Spezia experiment)
- Data workflow and models are mature and benefit from several years of networking (eg. CIEMM, MONGOOSE) and EU projects (eg. SESAME, PERSEUS...)
- The integration tools are ready and will be further developed

Identified gaps, challenges and lessons learned

- Ocean color products did not progress for coastal waters - **Demo duration was too short**
- Missing BGC and biologists (eg. benthic) involved in JERICO-RI concept (need to be attractive !)
- Missing societal needs and products that PSS could provide for stakeholders and end-users
- Gulf of Lion shelf and Rhone river will be observed carefully for the next 6 years with potential propositions for long term observation and JERICO-RI design (e.g. DNA, contaminants, smart platforms, higher resolution models...)
- Region is a good approach for JERICO-RI implementation but it needs to be better specified (regional vs. european vision) + societal key challenges... (see WP1 J-S3 and J-D5)

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NSEA & CHANNEL PSS: #1,2,6 Regional Carbon Fluxes, Riverine Input, Observational Gaps

Key Messages
Carbon observations were quality controlled, harmonized and published on the SOCAT database; subsequent use in estimations of regional sea-air carbon fluxes. As a result, regional air-sea fluxes (including trends over five years) could be calculated for the southern and central North Sea. Providing harmonized, useful data for riverine input to the North Sea and Channel remains challenging due to spatio-temporally varying measurement strategies and data FAIRness. Gaps in observations and interactions that hamper regional studies of carbon cycle and eutrophication have been identified.

Figure 4: Hovmöller diagrams of ΔpCO_2 (a) and CO_2 flux (b) from the Scheldt to the Dutch coast over a large portion of the central and southern North Sea PSS. Positive/negative ΔpCO_2 and CO_2 flux indicate seawater values higher/lower than atmosphere. The figure was originally published as Figure 4 in Macovei et al. (2021).

Main achievements

- pCO₂ measurements from Ships of Opportunity could be used to improve on existing ICOS records
- Cuxhaven Stationary FerryBox, located at the mouth of the Elbe estuary, has been integrated into the ICOS network
- Imaging data has successfully been used to calculate particulate organic carbon (POC) concentrations
- A simple method to calculate correction factors for river concentration and flow values for Seine and Elbe was developed
- Methods and recommendations for gap analysis were developed based on workshop discussions

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NSEA & CHANNEL PSS: #3, 4: Harmonized Observation of Plankton, Eutrophication Status Assessment

Key Messages
Integrated phytoplankton observations were carried out combining reference methods and innovative automated imaging inflow and benchtop devices, pulse shape-recording flow cytometers as well in vivo fluorometers for different platforms. Based on optimised monitoring programs and data flows, regional data were combined for use in developing and demonstrating new products on impacts of eutrophication contributing to regional ecosystem assessments and reporting.

Left: Phytoplankton observation and monitoring stations in French coastal waters including national, regional and local monitoring. Right: Spatio-temporal variation of temperature (°C) (A), salinity (g/L) (B), in vivo fluorescence (FM) (C) and chlorophyll a concentration ($\mu g L^{-1}$) (D) between 2015 and 2021 (DYPP/HYRAD). The x-axis indicates the gradient from coastal (R) to offshore (R4) stations.

Main achievements

- New vocabulary for flow cytometry
- New (pre)processing tools based on ML/AI
- Workshops on practices for deploying the main automated techniques applied for monitoring phytoplankton's functional and taxonomic diversity.
- Optimization of a Phytoplankton diversity and dynamics Obs Syst from low to high resolution in time and space and in near real-time (incl HAB, functional types, niches...)(+ extreme events)
- Contribution to the cEGIM implementation strategy
- Transfer of knowledge based on the best available science within EU Directives and Regional Sea Convention working groups

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NSEA & CHANNEL PSS: #5: Intercomparison of phytoplankton distribution

Key Messages
In-situ observation data from different portals and partners have been collated in one model validation database. In the process, the FAIR availability and spatial and temporal resolution of these data has been evaluated. The Delarues biogeochemical model, including both the Channel and North Sea has been validated with this coherent dataset.

Figure 6: Layered structure of the North Sea and Wadden Sea Data Management system (NWDM)

Main achievements

- Available in-situ data have been aggregated from publicly accessible data portals with FAIR data: EMODNET, SOCAT and COSYNA. These data have been complemented with additional data from Jerico-S3 partners (Hereon, VLIZ, RWS, CNRS, CEFAS, IMR, IFREMER, SMHI, RBINS) and other organisations (PML, NLWKN, MSS, NIOZ, Denmark).
- Other data are available but lack QC
- Successful model runs have been performed, but additional validation is needed

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NSEA & CHANNEL PSS: #7, 8, 9: Communication Between PSS, Support to EU Directives, Interaction with other RIs

Key Messages
It has proved important that the two PSSs communicate with each other to share their experience and improve their best practices. Potential matches of OSPAR data needs and datasets provided by the JERICO-S3 community have been identified. The intense discussion of collaboration measures continued and culminated in close collaboration with DANUBIUS-RI through a shared station and with ICOS-ERIC through integration of a station in their network, with both through a shared proposal.

Figure 7: Two-day NSea/EC/KASKEN workshop in September, 2022

Main achievements

- Two-day NSea/EC/KASKEN workshop in September, 2022
- Several meetings for harmonization of nutrient flux processing (IFREMER and HEREON)
- MoU between NIVA and RWS
- Integration of Cuxhaven Jerico station into ICOS network (first ever coastal station)
- Shared development and operation of Tesperhude station together with Danubius
- Focus on use of innovative ocean observation techniques in future OSPAR assessments (basis for coherent MSFD reporting by EU member states)
- Connection between data user and provider experts improved

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NSEA & CHANNEL PSS SUMMARY

Contribution to future JERICO-RI, Supersites & integration

- Improvement of regional Carbon fluxes budget, observation of phytoplankton (incl. HAB), eutrophication assessment
- Data flow optimization (incl. DMP, QA/QC procedures => FAIR principle)
- Development of data (pre)processing tools based on ML/AI
- Improvement of connecting with other RIs (link ILICO/OZCAR/RZA-ELTER + DATA TERRA + DANUBIUS, ICOS)
- Connections to several non-JERICO partners were established => new perspectives / new projects
- Spinning out some of the PSS expertise/achievements to the overseas territories / international projects
- Connections with Societal needs, scientific support to start-up, transfer of knowledge within the scientific community and with industry
- Contribution to education and training (data flow, best practises, technologies...)

Identified gaps, challenges and lessons learned

- Only few people involved, needs more commitment from the scientific community (need to focus on structuring project, too much spread), from institutes and funding agencies (sustainable financing and other resources)
- Missing physicists (hydrodynamical conditions) in the PSS consortium
- Part of the EC PSS area (Bay of Seine) will be observed carefully for the next 6 years with RIOMAR and FUTURE-OBS french projects (PPR Océan & Climat) => Integrated Observation
- Continued observations funded through Horizon Europe projects envisioned (e.g., LandSealOt)

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CRETAN PSS: Actions related to carbonate system – a. in situ observations

#1 Solubility and biological pumps, #4 Upscale of Regional Data, #5 New strategies, new technologies, best practices, #6 Partnership building

Key Messages
Creation of new carbonate system time series. The combination of platforms/tools/variables and interaction with partners and ICOS was key.

Figure 8: Carbonate system time series in the E. Med. showing pCO₂, pH, TA, and TAlk for various stations.

Main achievements

- First marine pCO₂ time series in the E. Med.
- Interaction with ICOS. New ICOS station candidate.
- Participation in the ICOS OTC CO₂ intercalibration workshop
- Second pH time series in the E. Med.
- First time series with combination of 4 carbonate variables.
- Presentation to several conferences, webpages (POSEIDON, JERICO), newsletters (EuroGOOS, OA-med hub)

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CRETAN PSS: Actions related to carbonate system – b. modelling and algorithms

#4 Upscale of Regional Data, #5 New strategies, new technologies, best practices, #6 Partnership building

Key Messages
-In situ data allowed to identify model drift/bias and make adjustments for improvement
-The model allowed to identify the CS footprint for different carbonate variables in the Mediterranean.
-Existing regional algorithms for estimating carbonate variables were tested and new ones created.
-Data submission to specialised portals for carbonate variables was initiated.

Figure 9: pCO₂ time series (ppm) from Dec 2019 to Dec 2021, comparing in-situ observations with model simulations.

Main achievements

- In situ data (CS and NW Med PSSs) allowed to identify factors regulating the simulated carbonate system and model drift/bias leading to model improvement
- Data QC/practices established
- Submission to SOCAT. First national submission to SDG14.3.1
- Presentation to several conferences, webpages (POSEIDON, JERICO), newsletters (EuroGOOS, OA-med hub)

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CRETAN PSS: Actions related to phytoplankton – a. Improved approximations of PP

#2 Improved approximations of PP, #5 New strategies, new technologies, best practices, #6 Partnership building

Key Messages
-Multiple in situ data collection allowed to improve phyto model predictions.
-New in situ PP practices tested will allow PP to further improve model validation.
-Examination of applicability of PP methods to platforms providing potential for in situ PP monitoring
-Collaboration with AQUACOSM+ and industry partner was key

Figure 10: Improved approximations of PP showing Surface Chlorophyll, Surface Fluorescence, and Surface Fluorescence Ratio for different stations.

Main achievements

- New practices for in situ PP observations in oligotrophic areas tested, in mesocosms. Applicability on existing platforms examined
- Various lab methods for phytoplankton biomass and production tested and compared under low biomass conditions
- Joint experiment with AQUACOSM+
- 3D BGC model further validated, parameterization slightly modified using multiple platform and satellite data sources
- Presentation to webpages (POSEIDON, JERICO, MINKE)

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CRETAN PSS: Actions related to phytoplankton – b. Extreme events

#3 Extreme events affecting phytoplankton, #5 New strategies, new technologies, best practices, #6 Partnership building

Key Messages
-An RI-RI mesocosm experiment provided phytoplankton monitoring in mesocosms and guidance on phyto sensors.
-A multiparameter/multivariate approach contributed to data QC/gap filling and study of extreme events.

Figure 11: Phytoplankton monitoring during a rain event showing Chl a, Chl b, and POC time series.

Main achievements

- follow up of evolution of extreme rain event on phytoplankton by combining data from buoy, glider, satellite, and RV visits
- use of mesocosms to study extreme event effects on phytoplankton with new sampling strategies
- Collaboration with AQUACOSM+, EMBRC ERIC

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CRETAN PSS SUMMARY

Contribution to future JERICO-RI, Supersites & integration

- Technological advances/tests/practices for improved phyto and PP in situ observations in oligotrophic areas, valuable tool regionally
- New carbonate system observations/data flows/practices/strategy, useful to regional and pan-European efforts in modelling and remote sensing algorithms
- Enhanced and new RI-RI partnership created (ICOS, AQUACOSM+, EMBRC, etc)
- Transfer of knowledge: transinstitutional, with industry
- Capacity and added value of multiparameter and multiEOV,EBV approach demonstrated
- Integration via National RI including all marine and inland water observing systems
- Various dissemination tools/actions

Identified gaps, challenges and lessons learned

- to be considered for next phase: Capacity of multiparameter and multiEOV,EBV demonstrated, but long-term maintenance very challenging
- Sustained funding for system maintenance and for participation to RIs is a key gap.
- to be considered for next phase: transnational dimension due to gap of neighbouring sustained observation system
- Important to plan (with timeline) strategic KSC goals coupled with integration and dissemination goals

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State-of-the-art of PSS synthesis Elements for other WPs, J-DS, ESFRI and future JERICO-RI ?

Regional integration:

- PSSs have provided a framework for thematic and interdisciplinary regional collaboration, joint use of resources, and planning and executing common activities - and we feel proud of the developments.
- PSSs have created new connections, transfer of technologies and knowledge, and scientific results within regions.
- We see some observations/challenges are becoming regional instead of being national.
- Improvements obtained in multipatform sampling strategies
- Integrating and maneuvering transnational & multipatform observations is tedious and requires clearly set goals and incentives (institutional, national, regional).

Pan-European Integration:

- Pan-European cooperation has been wanted more, but there haven't been many resources for it - but it needs to be done at the same time as regional integration!
- We have good case studies to build on (carbonate, phytoplankton, emerging technologies, RI-RI work, Land-to-Sea, some already from J-NEXT era)
- cf. PSS/IRS session in Lisbon, with topics: 1) Fastlane for harmonising observations, 2) Towards JERICO-RI regional and transregional biodiversity observations, and 3) Interactions with user groups and other RIs >>>

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State-of-the-art of PSS synthesis Elements for other WPs, J-DS, ESFRI and future JERICO-RI ?

Thematic integration (largely, needs to be done...)

- To tackle KSC, need to find balance between regional and pan-European integration (e.g. looking after carbonate system and algae blooms may require different strategies)
- Supersites contributing to (or, better, be part of) thematic national and regional strategic monitoring plans
- Formulation of common objectives, sampling strategies, and communications
- Need to tackle the societal challenges for all regions
- Consider what JERICO-RI thematic services we could offer based on feedback from the PSS/IRS regions

RI-RI collaboration

- Region-specific examples of good collaborations - from practical work to high impact science (e.g. land-sea continuum, multipatform, experimental-observations)
- Bottom up approach which need to be aligned with strategic top-down approach.
- Some alliances have started to form, taking use of PSSs - how to bring them further
- Coastal waters are attractive for some RIs: how to build bridges (eg. common workshop, calibration exercises...)
- TA proven as useful tool for RI-RI collaboration

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State-of-the-art of PSS synthesis Elements for other WPs, J-DS, ESFRI and future JERICO-RI ?

Data flows, Data compilations, Harmonisation, Best Practices

- Improvements esp. in carbon data and imaging data flows and compilations
- Within PSSs harmonisation has taken steps ahead
- Endorsement of Best Practices within PSSs not documented
- Work ahead: Need to publish JERICO-RI BP to Frontiers to better valorise the work done in JERICO-RI

Emerging Technologies, Science stories, Dissemination

- PSSs have facilitated the use of new technologies, but not in a coordinated way (lack of structures, objectives and resources)
- There are several scientific papers published and in prep (but only 2 papers submitted from PSSs to JERICO Ocean Science special issue...)
- Web pages as good reference, news have been flowing in. Need for final dissemination (plan)!
- TA was proven an important tool for integration of new technology with involvement of industry

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WP4 OUTCOME AS A TRANSFORMING BREAKTHROUGH FOR JERICO-RI STRUCTURING AND FUNCTIONALITY

- Major outcomes from WP4 that will be key points to demonstrate that JERICO-RI goes beyond a NETWORK**
 - PSSs (Supersites in future) as focal points for i) co-designing JERICO multipatform observations, ii) connecting other RIs (and to-be a key element in EOODS), and iii) acting as test-beds and reference systems
- any major outcomes from WP4 that will be key points for the JERICO-RI users (e.g. SERVICES)**
 - PSSs (Supersites in future) can be in leading position in providing consistent regional and pan-European data and products. Flexible and modular transnational observations for emerging needs, also linking to modelling and EO.
- any major outcomes from WP4 that will be key points to build the operational GOVERNANCE**
 - To manage JERICO supersites requires some level of national altruism (or, pan-European/global thinking) and balancing between national/regional/European sampling strategies. JERICO as a tool to fulfill international commitments!
 - Study some regional examples of gaps observed by PSSs, what governance actions are needed to progress?
- any major outcomes from WP4 that will be a key point for the JERICO-RI IMPLEMENTATION**
 - Need to couple PSS assessment with J-DS technology design
 - Re-thinking JERICO-RI observatory network, role/size/context of Supersites
 - Passing JERICO PSS objectives and outcomes to national, regional and European strategies

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Comments/discussion and filling out the questionnaire




Questionnaire for PSS progress and feedback
JERICO-S3 WP4 feedback during ARW in 2023

[LINK to questionnaire](#)

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JERICO-Week 2023

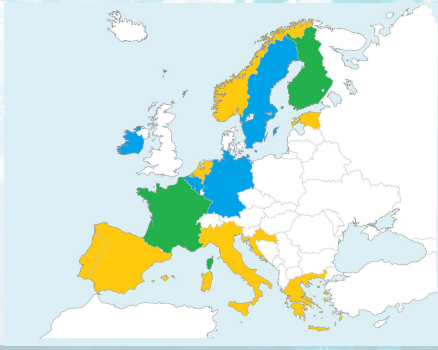
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Outcome of ESFRI Workshop

Governance

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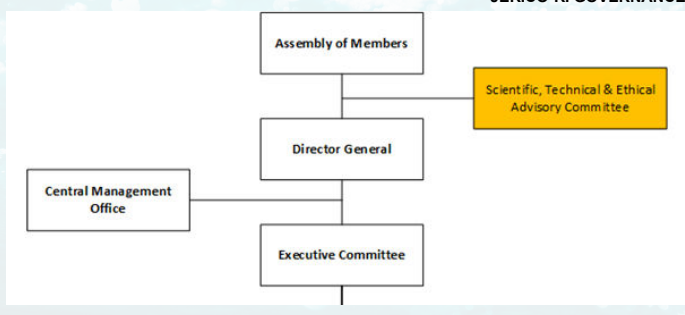


JERICO-RI (2030*)

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JERICO-RI GOVERNANCE

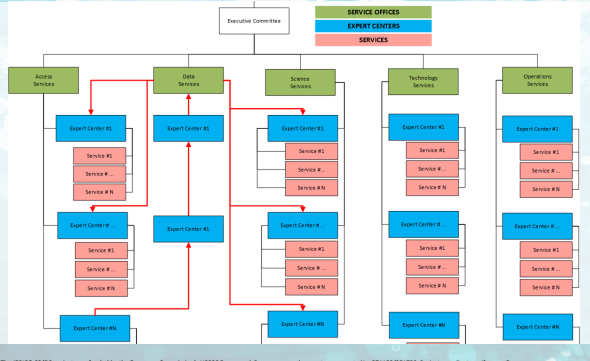


The chart shows the following structure:

- Assembly of Members** (top level)
- Director General** (reports to Assembly of Members)
- Executive Committee** (reports to Director General)
- Central Management Office** (reports to Director General)
- Scientific, Technical & Ethical Advisory Committee** (advisory role, reports to Assembly of Members)

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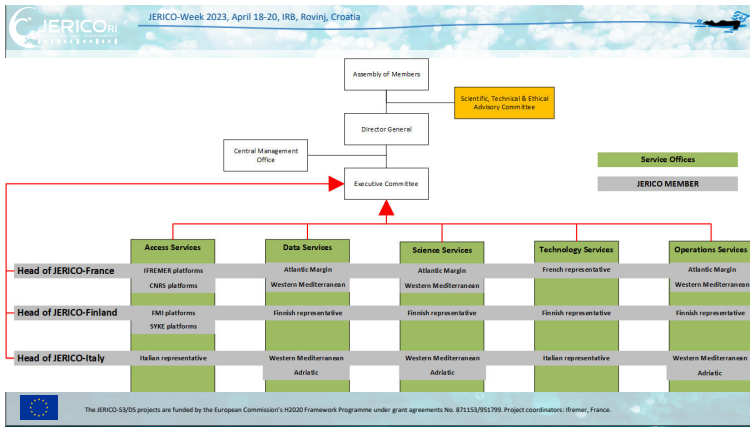
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The chart details the service structure:

- Executive Committee** (top level)
- SERVICE OFFICES** (top level)
- EXPERT CENTERS** (top level)
- SERVICES** (top level)
- Service Areas:**
 - Acacia Services:** Expert Center #1-4, Service #1-4
 - Diata Services:** Expert Center #1-4, Service #1-4
 - Science Services:** Expert Center #1-4, Service #1-4
 - Technology Services:** Expert Center #1-4, Service #1-4
 - Operational Services:** Expert Center #1-4, Service #1-4

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PROBLEM SOLVING COLLABORATIVE SESSION

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BASIC PRINCIPLES OF AN "OPEN-FORUM" FORMAT

- 1) Every person is the **right** person, in the right time, at the right place !
- 2) No **judgements** zone
- 3) The "**rule of the two feet**" : if you feel like you cannot be a constructive participant anymore, take your own two feet and go somewhere else !
- 4) What **had to happen will happen** : even if the direction changes a bit, it is also a valid conclusion and deserves to be presented

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THE BEST IDEAS ARE BORN IN TEAMS

DETAILS OF THE SESSION (1h)

Introduction (intention) and frame of the session - 5 min (coordination)

"Codev" in open-forum format → going into small groups (led by "problem-bearers")

- 1) Pitch , presentation of the problem by the "problem-bearer" and questions - 5 min
- 2) Brainstorming, identifying solutions and ideas - 20 min

COFFEE BREAK : keep the discussions alive !

- 1) After coffee break : Presentation of results : two "problem-bearers" discussion, exchanges on what was identified by their group - 4 x 5min = 20min

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LEADING IDEA : during the past 2 days, we have brought up some **problems** or **challenges**. We are now offering a smaller group setting to encourage everyone's participation, getting away from computer a little bit

INTENTION : interrogate the "**way we have always done things**" in different themes and encourage all participants to give their ideas, even the most exotic ones !

No idea is a bad idea, if this is an issue we have not solved so far !

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"Problem"#1 - Felipe A. and Vania L.

HOW TO MAKE JERICO KNOWN AS THE REFERENCE POINT TO SCIENTIFIC COMMUNITIES SO THAT THEY DO NOT "REINVENT THE WHEEL" ?

(students, researchers outside JERICO, industries, citizen science, diverse users, other communities ?)

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"Problem"#2 - Miguel C. and Cristian M.

WHAT DO WE WANT PEOPLE TO SEE WHEN THEY LOOK AT JERICO-CORE, THE "WINDOW" FOR JERICO-RI ?

(Identifying 2-3 key services or 2-3 key features to focus on in the early implementation of J-Core ? In the timeframe of the ESFRI proposal in 2024 ?)

DEFINITION for DECISION-MAKING

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"Problem"#3 - Lucie C. and Paul G.

INCOME FROM PROVISION OF PRODUCTS AND SERVICES: WHAT ARE THE RULES DO WE WANT TO PUT IN PLACE ?

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"Problem"#4- Christine L. and Andrew K.

HOW TO SIMPLIFY and HARMONISE THE COLLECTION OF INFORMATION FROM THE COMMUNITY

(either completing a presentation, or answering questionnaires, taking into account the issue of limited time and resources that we all face?How can we co-create an easier way to gather information?)

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"Problem"#5- Carlo M. and Anna R.

CREATING WAYS TO IMPLEMENT BEST PRACTICES GUIDELINES FOR CONTINUOUS IMPROVEMENT

(in the HFR example ? Applicable to other DLs or documents that have the potential to be improved over time ?)

CO-CREATION

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WP1 – Task1.3 - Sustainability Workshop

The future of coastal observation: A prospective view

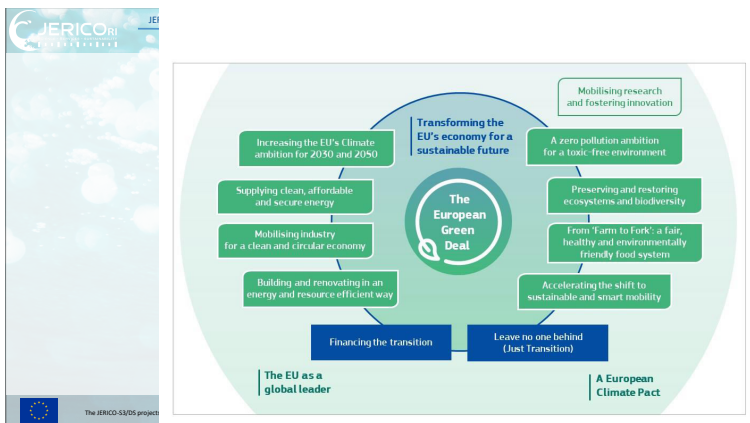
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Task 1.3 Long-term vision for JERICO-RI

- Coastal observing system of the future - Perspective 2030 and beyond
 - Science challenges to be answered
 - DoA: HAB, contaminant quantification/transport/distribution, benthic-pelagic coupling, coastal acidification
 - Technology opportunities
 - DoA: IoT/AI, Biotech, Automation/robotics, photonics
- Contributors:
 - DoA: COV, CNRS, NORCE, IFREMER, PLOCAN
 - In practice: much broader – everyone may have an expert view

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Policy Framework - Conserving/restoring while Exploiting: New paradigm under the European Green Deal

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Challenges – Needs

- Science for Society and Policy-support
- New integrated knowledge supporting "What if" scenarios
- MORE/new (integrated) data/datasets (Observing processes - support to AI-based models, etc.)
- FAIR as an enabler
- Citizen Empowerment as an opportunity

Opportunity for JERICO

- Importance of *In-situ* observations will increase!
 - Data science
 - AI applications
- Observations answering science needs
- JERICO science strategy on observing coastal processes: Multidisciplinary, Multiplatform, ++ 10-year experience
- Citizen science in coastal zone – low-hanging fruit
- JERICO-driven D&I agenda

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The future of Coastal Observation

KSC	SSC
Assessing changes under the combined influence of global and local drivers	Land Sea Ocean continuum Sea-atmosphere interface Connectivity and transport Biodiversity trends Ecosystem biogeochemical processes and interactions Carbon budget and CO2 system
Assessing the impacts of extreme events	Impacts of rare and extreme events Resolving climate change impacts
Unravelling and predicting the impacts of natural and anthropogenic changes	Resolving anthropogenic impacts Disentangling impacts/scales

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Related work:

- JERICO-DS -WP2
- EMB-Navigating the Future V
- EOOS- techno forum
- EuroSea
- Beyond Europe...

D1.4 - TOC

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Expected/emerging Scientific challenges – Knowledge needs

- Scientific challenges – Research axes
 - What observations for supporting both the Conservation/restoration Agenda and the Exploitation (food, energy) Agenda in coastal regions
 - Key processes/variables to be «better» observed/described by 2030++

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Technological opportunity for solving emerging needs

- Digital revolution**
 - IoT-enabled AI
 - How IoT and undersea communication can support coastal observation - Especially focus on biological and BGC observations
 - Robotics/automation
- Genomics/biotech revolution**
 - Molecular ecology & biodiversity (microbiome, e-DNA, metabarcoding, etc.)
 - Genosensors (detection/quantification of contaminants - DNA/protein-based, microbiome-based, etc.)
- Photonics**

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WP10 - JERICO-S3 Status update

Dissemination and Exploitation Plan

- Maximizing the impact of the project

https://docs.google.com/spreadsheets/d/1Qo7O9hoyP8m4Xy3r3XOI4P7nBuedFNfedit?usp=share_link&oid=11790027136907543760&fpof=true&sd=true

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Content

- 1) The JERICO brand
- 2) DEP status and plan 2023-2024
- 2) Recommendations and Implementation actions

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The JERICO brand

- JERICO – Joint European Research Infrastructure for Coastal Observatories
 - JOINT**: not good communication in the context of «from a network of RIs to a EU RI»
- JERICO: From an acronym to a brand
- JERICO:
 - Pan-European Research Infrastructure for Coastal Observation
 - The European Coastal Ocean Observing system
- Motto/slogan:
 - Marine Coastal Observatories, Facilities, Expertise and Data for Europe

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DEP structure

Dissemination targets	Exploitation structure
1 Strengthening JERICO-RI position in the European landscape (11)	1 Technological innovations (5)
2 Reinforcing European competitiveness thanks to JERICO-RI (5)	2 Best practices (3)
3 Scientific strategy & innovative monitoring strategies (3)	3 Cooperation Agreements (2)
4 Best practices (10)	4 Access (4)
5 Technological innovations (12)	
6 Virtual access (2)	
7 Trans-national access (2)	

45 Project outcomes (Results) 14 KERs

DEP-2023-v2

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KER - Tech Innovation

Project outcomes	Project Outcome identification name	WP	Owner(s) participating in the development of the KER (IPR aspect)	Who will benefit?	Potential exploitation form after the end of J-S3	Potential way of exploitation	Status M36
Technical innovations	KER 1.1: JERICO Interoperable Instrument Module (eGIM)	WP7	IFEMER, IFREMER, PISCAN, IUP, S2Nepi, CNR	To be confirmed: RTSYS company under license for the upgraded eGIM/7 module	product/patenting	Industrial partner for eGIM deployed for testing before demo in Bay of Seine Feb-May 2023	
Technical innovations	KER 1.2: JERICO Platform dynamics multi-sensor package (PMP)	WP7	IFEMER, CNRS, PISCAN, COV	Coastal observing community, consulting companies, blue growth activity operators	product	Industrial partner for Demo in Bay of Seine with eGIM and SMI2 buoy - April-June 2023	
Technical innovations	KER 1.3: Water sample filtering and preserving device (WASP)	WP7	NOVA, IRE, IFREMER	Coastal marine biologists	method	Industrial partner for production Scientific and potentially industrial partners for (re)production	Demo by NIVA in Spring 2023
Technical innovations	KER 1.4: Autonomous Coastal Observing Benthic Station (ACOBIS)	WP7	CNRS in collaboration with external actors	Coastal observing scientific community (benthic biologists and biogeochemists)	product	Demo by CNRS in autumn 2023	
Technical innovations	KER 1.5: JERICO-CORE e-infrastructure	WP7	SOCI@, IRE, MARIS	UN Decade - CoastProbed CNRS, Support JERICO services	JERICO RI digital infrastructure Front-end, back-end and linked resources. Maintenance team to be organised	JERICO-CORE handed over to WP11 (VNI) - endorsement by the UN supported CoastProbed program (COOP)	

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KER - Access & BPs

Project outcomes	Project Outcome identification name	WP	Owner(s) participating in the development of the KER (IPR aspect)	Who will benefit?	Potential exploitation form after the end of J-S3	Potential way of exploitation	Status M36
Access	KER 2.1: VA - JERICO-CORE/VRE	WP11	JERICO, IRE, MARIS, IFEMER, AZTI, ETI, BUI, COC, CNRS-FM, CNRS-IM, CNRS-DA, CNRS-SIVE	Users of coastal data and services	Online Service	Involvement via VLab in Blue-Cloud	From MoU/Coop. Agr. To MoU/Coop. Agr. with IRE and IRE
Access	KER 2.2: TA External international resolution	WP6/WP11	JERICO	all TA providers	Access Service	Feedback from TA users. INFRA-SERV call for further provision of TA	Joint TA with Aquarion, Dialogue with Euronav, EMGO, EMAC, GROOM
Access	KER 2.3: ROUJ results/lessons stories	WP6/WP10	JERICO, IFREMER	JERICO-ESFR - Service	Publication, communication material	Collection of Success Stories to be conducted following ARW3	MoU with EPIC (JERICO-CORE)
Best practices & innovative monitoring strategies	KER 3.1: JERICO-RI Best practices for coastal observation	WP5, WP3, WPA, WPS, WPG.6	JERICO	Platform Work Teams, WP12/24, Monitoring Authorities partners, TA and WP11 partners	Access Service publication within CBSP/ Within future EODS agreement?	Citing - publication	Dialogue engaging on common interest and ways for partnerships
Best practices & innovative monitoring strategies	KER 3.2: Best practices for Data Management	WP6	JERICO, MARIS, IRE, CNRS, CEAS	Coastal platform community	JERICO-ESFR - Implementation	publication	Success stories to be gathered after the ARW3

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KER - Agreements

Project outcomes	Project Outcome identification name	WP	Owner(s) participating in the development of the KER (IPR aspect)	Who will benefit?	Potential exploitation form after the end of J-S3	Potential way of exploitation	Status M36
Cooperation agreements	KER 4.1: MoU with key RIs	WP2	IFREMER on behalf of JERICO	WP 1/2/3/4 leads	JERICO-ESFR - Implementation	MoU, cooperation agreements	Joint MoU with Aquarion, Dialogue with Euronav, EMGO, EMAC, GROOM
Cooperation agreements	KER 4.2: Partnership with Copernicus marine service, ESA and EUMETSAT	WP2	IFREMER on behalf of JERICO	COV, ACRI-ST, Salsines, SOCIB, CNR, RWIS, NIVA, Helson	JERICO-ESFR - Service	RI-for-purpose products	Dialogue engaging on common interest and ways for partnerships
Cooperation agreements	KER 4.3: Roadmap for cooperation with industries	WP2	?	COVARTIC, ACRI-ST, Dardanis, SOCI@, CNR, RWIS, NIVA, Helson	JERICO-ESFR - Service		Success stories to be gathered after the ARW3
Cooperation agreements	KER 4.4: Nations' commitment	WP9	NC	Nation representatives	JERICO-ESFR - Governance	Governance body of JERICO-RI	Governance of the JERICO-RI to be established in the ESPR process JERICO-RI, as a premise of one of the (potentially) the ASSE: Science Executive Committee of the process tool

The JERICO-S3/DS projects are funded by the European Commission's H2020 Framework Programme under grant agreements No. 871153/951799. Project coordinators: Ifemer, France.

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Implementation

Dissemination

- Linking Dissemination actions to JERICO results and DP structure
 - Systematic dissemination of JERICO deliverables?
 - Quantifying actions (and type of actions) per type of Results (KPIs)

Exploitation

- Consolidating who will exploit KERs and how
 - Limiting to ESFR1? Or more long-term?

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JERICO-Week 2023

April 18-19-20, Rovinj, Croatia

WP 7 presentation - JERICO-S3 Status update

Simone Marini, Eric Delory, Andrés Cianca, Jérôme Blandin, Dominique Durand, Jay pearlman, Andrew Luke King, Miguel Charcos Llorens, Juan Gabriel Fernández, Antoine Gremare, Enoç Martinez, Simon Jirka, Emilie Poisson Caillaud, Michel Repecaud, Joaquin del Rio, Tanguy Bescond, Bertrand Moreau, Laurent Delauney

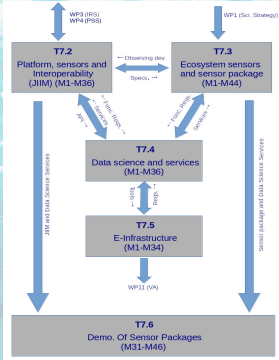
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WP 7: TECHNOLOGICAL INNOVATION

WP7 develops and integrate innovative technologies and methodologies, in tight collaboration with WPs 1, 3, 4, 5 and 11

- Duration: M1 – M46
- 5 tasks (3 tasks terminated)
- 8 deliverables (6 delivered)
- 9 milestones (6 due)



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T7.2: Innovations in platform, sensor and data interoperability (M1-M36)

Design, development and test of a interoperable instrument module (cEGIM)

- Based on the COSTOF2 module
- Hosting a core set of sensors <-- from Task 7.3 and WP1
- End-to-end compatibility with Sensor Web Enablement
- Onboard execution of data processing algorithms <-- from Task 7.4
- Self-adaptive behaviour depending on the mission specification and the data processing algorithms output
- Stand-alone/cabled operation mode

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T7.2: Innovations in platform, sensor and data interoperability (M1-M36)

Design, development and test of a interoperable instrument module (cEGIM)

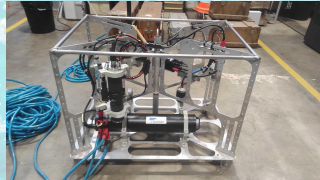

- D7.1 Prototype of JIIM, with core set of instruments for the measurement of cEOVs (M18)
- D7.2 Suite of Sensor Web components for the end-to-end integration of the JIIM into interoperable infrastructures (M30)
- D7.3 Test report of JIIM prototype in representative different coastal environments (M36 integrated after the demo)

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T7.2: Innovations in platform, sensor and data interoperability (M1-M36)

Sensor	Observed Variables
NKE MP6	Temperature, Conductivity, Depth, Dissolved Oxygen, Turbidity, Fluorescence
BBE Moldaenke Fluoroprobe	Chlorophyll, phytoplankton concentration classes/species
Hydroptic / LOV UVP6	Zooplankton images
SATLANTIC MBARI-ISUS	Nitrate concentration

Onboard CPU: Odroid HC4 board

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T7.3: Innovative ecosystem sensors and sensor package developments (M1-M44)

Development of smart multisensor packages for multidisciplinary observation of pelagic and benthic compartments and their interactions

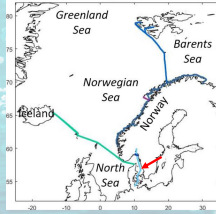

- Review of recent sensor developments
- Definition of the sensor package for the cEGIM
- Progressing on automation of sensors developed in JERICO-NEXT (M6 - M44)
- Development and test of innovative technologies for high frequency sampling for contaminants and biodiversity - WASP (Water Sample filtering and Preservation device)
- Autonomous Coastal Observing Benthic Station (ACOBS) - Multi-sensor package based on video camera, sediment microprofiler, Sediment Profile Imager, and physical measurements (CTD, turbidity, current)

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Subtask 7.3.3 Innovative technologies for high frequency sampling for contaminants and biodiversity (M3-M36)

- A modified Mclane PPS will be deployed in the eastern North Sea (KASKEN PPS) on NIVA's MS Color Line FerryBox
- Two sampling campaigns (August/September and October 2023) will be carried out with ~20 samples/campaign for DNA/RNA and nutrients; supporting environmental data from the FerryBox will also be available (S, T, chl, O₂, pCO₂, pH...)
- Eukaryotic phytoplankton DNA/RNA will be analysed at IRB and NIVA (metabarcoding, transcriptome, and RT-qPCR for select species)
- Will contribute to D7.4: Prototype sensor packages and WASP and D7.7: Report on the technological specifications and benchmarking of the technological innovations (from task 7.2), in terms of new biological sensors, science-question targeted sensor packages and WASP

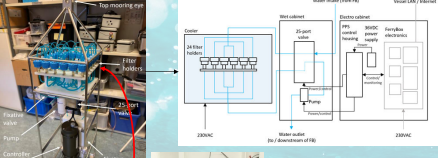



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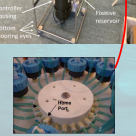

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Subtask 7.3.3 Innovative technologies for high frequency sampling for contaminants and biodiversity (M3-M36)

Deconstructed 24-filter Mclane PPS + ISCO refrigerated 24x1L autosampler



Dometic CFX3 100: +20 to -20 °C






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Subtask 7.3.4 Development of an Autonomous Coastal Observing Benthic Station (ACOBS) (M10-M36)

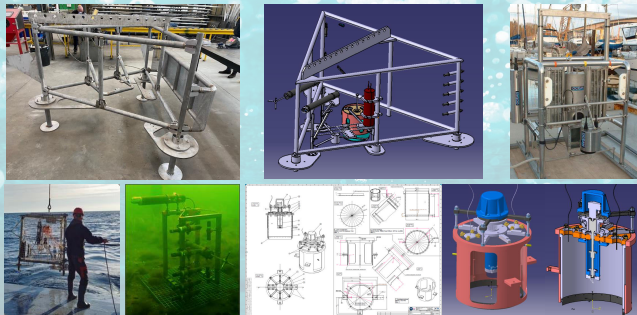
- ACOBS includes two modules.
- The first combines: (1) a microelectrode profiler (O₂, pH, sulfides, resistivity), (2) a benthic chamber (O₂ total fluxes), (3) Autonomous multiparameter loggers (T, S, pressure, O₂, pH, turbidity, PAR), (4) a video camera, and (5) a new BEATRIS tool for Benthic Exchanges by Autonomous Time-series Recording In-Situ System
- The second one is composed of a sediment profiler fitted with a Planview system (Ocean Imaging Systems)
- ACOBS is in its final phase of development (Benthic chamber for repeated measurements of O₂ total fluxes at the sediment-water interface).
- ACOBS will be first deployed in the NE Atlantic during Fall 2023 (several cruises in the Arcachon Lagoon)



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Subtask 7.3.4 Autonomous Coastal Observing Benthic Station



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Task 7.4 Enabling data science from innovative observation services and systems (M1-M36)

Definition and development of data science methodologies for the interpretation and modelling of relevant biological and ecological processes based on the data produced by the innovative sensors experimented within JERCO-S3

- Review on data science methodologies within the J-S3 consortium
- Definition and development of intelligent services for the cEGIM
- Integration of data science methodologies in the cEGIM and in the J-S3 e-infrastructure
- D 7.8 Intelligent services and data science methodologies for the JIIM and the VA e-infrastructure (M36)

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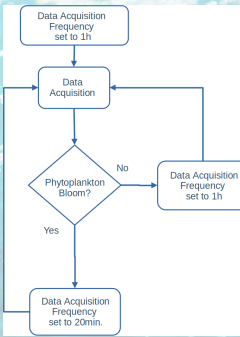
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Aim of Intelligent services:

- Activate/deactivate sensors
- Change the sensors configuration (e.g. sampling frequency, resolution)
- Send reports and/or raise warnings

Application context within the demo:

- Investigation of the phytoplankton bloom
- Before the begin of the bloom the sensors onboard the cEGIM acquire data every hour
- When the bloom is detected the sensors increase the acquisition frequency to one measurement every 20 minutes
- After the bloom the acquisition frequency of the sensors is set back to one measurement every hour



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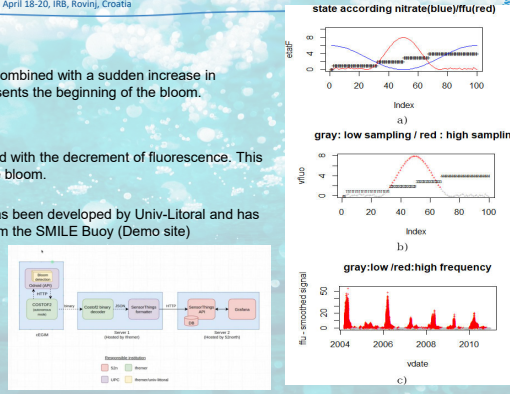
Start-Bloom Triggering Event:

- Sudden decrease in nutrients combined with a sudden increase in fluorescence. This event represents the beginning of the bloom.

End-Bloom Triggering Event:

- Increment of nutrients combined with the decrement of fluorescence. This event represents the end of the bloom.

The bloom detection algorithm has been developed by Univ-Litoral and has been tested on historical data from the SMILE Buoy (Demo site)



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Task 7.5 JERICO e-Infrastructure (M1-M34)

Subtask 7.5.1 VA Portal development

Subtask 7.5.2 Data to Products Thematic Services (D2PTS)

In principle, **the task 7.5 is completed.**

The 2 deliverables under this task have been shared with the coordination team for its revision.

- D7.5 Pilot D2PTS demonstration (Report):** Description and evolution of JERICO CORE. This is a comprehensive report by Miguel Charcos, et al. of the background information leading to design decisions and the final design of the Resource Environment
- D7.6 Documentation of JERICO-RI e-infrastructure and capabilities:** Summary of the Data to Products Thematic services done by Lohitzune Solabarrieta of ASTI which reviewed the four key areas and provided a status of the developments.

Regarding the JERICO-CORE platform, its operation and corrective maintenance activities are carried out under WP11. There has been a successful transition of JERICO CORE from WP 7 to WP 11

To end of the project: While the task has been completed, there may be, under the umbrella of WP7, some specific activities that may be requested, specifically to align all WP7 tasks' results that potentially affect the JERICO-CORE platform. This will be assessed on a case by case basis. In addition, the inclusion and update of the 4 D2PTS' related resources (e.g. data, software, VA services) within the JERICO-CORE Resource Catalog, will be assessed and may be addressed.

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Task 7.6 In situ demonstration of sensor packages (M31-M46)

Development of end-to-end field test and demonstration of the cEGIM

- Demo site selection
- cEGIM preparation for the pre-demo and demo activities
- Pre-demo test (Dec 2022 – Jan 2023)
- Demonstration activities (April 2023 – Jun 2023)

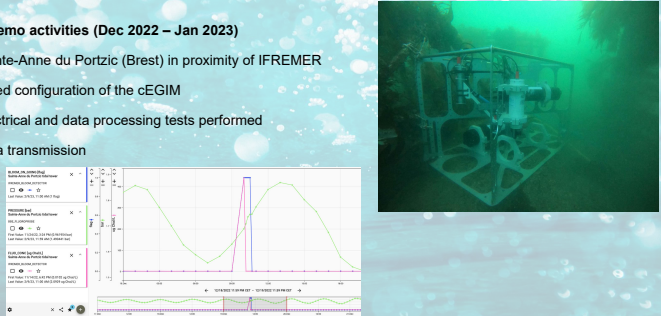
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Task 7.6 In situ demonstration of sensor packages (M31-M46)

Pre-demo activities (Dec 2022 – Jan 2023)

- Sainte-Anne du Portvic (Brest) in proximity of IFREMER
- Wired configuration of the cEGIM
- Electrical and data processing tests performed
- Data transmission



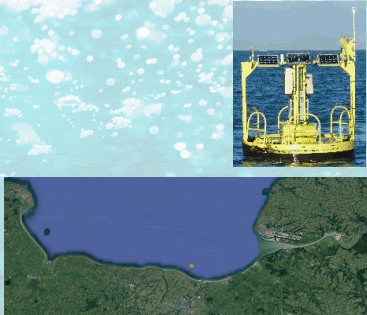
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Task 7.6 In situ demonstration of sensor packages (M31-M46)

Demo activity (April 2023 – Jun 2023)

- Luc sur Mer
- Deployment April 17 – April 21
- Stand-alone configuration of the cEGIM
- (Adaptive behavior) Data storage onboard



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WP 7 OUTCOME AS A TRANSFORMING BREAKTHROUGH FOR JERICO-RI STRUCTURING AND FUNCTIONALITY

- Major outcomes from WP 7 demonstrating that JERICO-RI goes beyond a NETWORK**
 - Technological innovation: cEGIM, J-CORE, WASP and ACOBS are a joint research effort that encompass and improve the observing capabilities of any J-RI observatory
- Major outcomes from WP 7 that are key points for the JERICO-RI users (e.g. SERVICES)**
 - Phytoplankton biodiversity, harmful algal blooms, and eDNA detection of invasive species is high on the agenda for environmental agencies
 - ACOBS and cEGIM could become part of the TNA component of JERICO-RI (i.e., with assistance provided to external users)
 - JERICO CORE is the information system that is the foundation for user access to JERICO products and services. It provides access to a broad range of services from data, best practice and documents to access to a virtual lab facility to produce advanced products.

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3) Major outcomes from WP 7 that are key points to build the operational GOVERNANCE

- Scientific-technical expertise demonstrated for a forward strategy in technological development at Europaena and global scale

4) Major outcomes from WP 7 that are a key point for the JERICO-RI IMPLEMENTATION

- Data processing capabilities of cEGIM should be improved and used in other J-RI sites
- Data processing capabilities could be extended to ACOBs
- ACOBs and cEGIM could become part of the TNA component of JERICO-RI
- JERICO CORE be evolved to be the "information" system for JERICO-RI
- AI capabilities of J-RI should be improved both on the instrumentation side (e.g. edge computing) and on the services side (e.g. VRE)
- New expertise on AI and software development should be included in the consortium
- The consortium should be open to new scientific and technological solutions

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HOORT -HFR Online Outage Reporting Tool

What is it and how does it work?

Emma Reyes, Miguel Charcos, Biel Frontera, Xisco Notario, Juan G. Fernández

18 April 2023 ■ Jerico-WEEK ■ Rovinj (Croatia)

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HFR Online Outage Reporting Tool

What is HOORT?

- An application to aid HFR O&M
- A tool to report outages
- A database of outages
- A forum for troubleshooting

What is HOORT for?

- Detect: the outage automatically
- Alert: the operator automatically
- Report: the outage manually

Targets?

- Primarily, HFR operators
- Managers, general public, users.

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HOORT: How does it work?

European HFR Node Web Form → Data sync → Eur HFR Node Data Base → metadata → 1.- Outage detection (reliability > 12 hours) → 2.- Alarm notification → Password Sign in → 3.- Outage reporting → HOORT online interface <https://hoort.hfrnode.eu>

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HOORT: Two types of access

Guest user (read-only access)

Registered user (all functionalities)

- Dashboard
- Welcome msg
- Edition, reporting, annotations

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HOORT: Portal login page

Collapsible menu, Menu, UTC Date and Time, Product User Manual, Sign in, User (Web Form), Password (Web Form), Terms and Conditions, Privacy Policy, Password Recovery, Sign Up, Hyperlink to the Web Form

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HOORT: Dashboard

What happened at GALF in 2017?

17/07/2017: Houston, we have a problem!
27/11/2017: Functional state re-establish!

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HOORT: Dashboard - 3 types of KPIs

% Uptime

58% (4988 hours)

- % of time in operation
- Goal: > 90%
- Meaning: continuous NRT measurements.

% Maintenance Stops

12% (2 hours)

- % closed outages due to O&M
- Goal: < 10% (ratio 1:1)
- Meaning: Cost-effective platform.

% Closed Outages

100% (17 reported)

- % total closed outages
- Goal: 100%
- Meaning: Operators are using HOORT for outage reporting.

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HOORT: Dashboard - 3 types of charts

Time Series

Histograms

Pie Charts

- 100 - Hardware
- 200 - Computer/Software
- 300 - Communications
- 400 - Site Operation and Maintenance
- 500 - Power
- 999 - Unknown
- 100 - Hardware
- 200 - Computer/Software
- 300 - Communications
- 400 - Site Operation and Maintenance
- 500 - Power
- 999 - Unknown
- 10 - Tx Chassis
- 20 - Rx Chassis
- 30 - Rx Antenna or TX/RX Combined
- 40 - Computer Hardware Failure
- 50 - Operating System Crash
- 60 - Software Program/Processing Failure
- 70 - Service Provider Outage
- 80 - Hardware Failure

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HOORT: Station Status

HOORT by HFRadar

Station Status

Radial delay

12h
12 < RD < 24 hours
> 24 hours
Future Stations
Historical Stations

Station	Network	CP (MHz)	Direction of Arrival	Calibration Type	Latitude	Longitude	Last File Date
CSAP	HFR-GALCOM	25	DIRECTION FINDING	AFM	45.4899	13.491	2022-11-18T22:55:02
CSDB	HFR-GALCOM	16.1	BEAM FORMING	FULL	37.4856	13.8175	2022-11-18T22:55:02
COTR	HFR-GAR	24.6	DIRECTION FINDING	AFM	45.9529	14.4643	2022-11-18T22:55:02
COWR	HFR-GALCOM	25	DIRECTION FINDING	AFM	45.2982	13.5891	2022-11-18T22:55:02
F02R	HFR-Ensemble	13.5	BEAM FORMING	FULL	39.8105	20.7379	2022-11-24T09:30:02
F07R	HFR-GAR	4.483	DIRECTION FINDING	AFM	42.488	-9.27	2022-11-18T22:55:02
F08R	HFR-GAR	15.5	DIRECTION FINDING	AFM	38.8662	13.8887	2022-11-18T22:55:02
F09R	HFR-Finavox	4.453	DIRECTION FINDING	AFM	71.294	23.982	2022-11-18T22:55:02
GALF	HFR-GAR	13.5	DIRECTION FINDING	AFM	38.9519	12.9193	2022-11-18T22:55:02
GAR	HFR-ROSE	12.37	BEAM FORMING	INTERNAL	48.2038	-4.7758	2022-08T19:20:02

Showing 21 of 120 items

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HOORT: Station Status

Station Details (side-by-side view)

HOORT by HFRadar

Station Status

Station Details

Station	Network	CP (MHz)	Direction of Arrival	Calibration Type	Latitude	Longitude	Last File Date
F02R	HFR-GALCOM	13.5	DIRECTION FINDING	AFM	45.503	8.218	2022-11-18T22:55:02
F07R	HFR-GALCOM	13.5	DIRECTION FINDING	AFM	36.7195	14.8294	2022-11-18T22:55:02
F08R	HFR-GAR	24.625	BEAM FORMING	FULL	45.31	13.566	2022-11-18T22:55:02
F09R	HFR-Finavox	13.5	DIRECTION FINDING	AFM	44.2987	9.2188	2022-11-18T22:55:02
F10R	HFR-GAR	12	BEAM FORMING	FULL	50.338	-5.17721	2022-11-18T22:55:02
F11R	HFR-GAR	10	BEAM FORMING	FULL	50.1435	-5.66994	2022-11-18T22:55:02
F12R	HFR-GAR	24.275	DIRECTION FINDING	AFM	44.1453	9.4893	2022-11-18T22:55:02
G00R	HFR-MATROUS	16.713	BEAM FORMING	INTERNAL	51.8203	3.8194	2022-11-18T22:55:02
G01R	HFR-GAR	13.5	BEAM FORMING	FULL	49.391	-7	2022-11-18T22:55:02
G02R	HFR-GAR	13.5	BEAM FORMING	FULL	53.539	0.0567	2022-11-18T22:55:02

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HOORT: Outages

HOORT by HFRadar

Outages

Outage Status

Station	Status	Reason	Start date	End date	Estimated date of repair	Downtime (hours)
HFR_Bus1_FORM1	CLOSED	300 - Communications	2022-11-18T14:53:14Z	2022-11-18T15:13:12Z	2022-11-18T15:34:02Z	1
HFR_Bus1_FORM1	CLOSED	300 - Computer/Software	2022-11-18T16:10:12Z	2022-11-18T16:09:49Z	2022-11-18T17:13:02Z	1
FORM1	CLOSED	300 - Computer/Software	2022-09-26T16:14:00Z	2022-09-24T13:02:00Z	-	-
FORM1	CLOSED	300 - Communications	2022-09-26T15:05:00Z	2022-09-24T13:02:00Z	-	7
GALF	CLOSED	300 - Communications	2022-09-24T22:00:00Z	2022-09-25T08:00:00Z	-	10
FORM1	CLOSED	300 - Computer/Software	2022-09-17T09:00:00Z	2022-09-17T09:00:00Z	-	2
GALF	CLOSED	300 - Computer/Software	2022-08-03T07:00:00Z	2022-08-03T07:00:00Z	-	8
FORM1	CLOSED	300 - Computer/Software	2022-07-29T16:00:00Z	2022-07-29T16:00:00Z	-	4
GALF	CLOSED	300 - Power	2022-06-14T08:00:00Z	2022-06-14T12:00:00Z	-	4
FORM1	CLOSED	400 - Site operation & Maintenance	2022-03-31T00:00:00Z	2022-03-21T00:00:00Z	-	-

Showing 17 of 178 items

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HOORT: Outage flow

HOORT by HFRadar

Outage flow

HOORT entries

Reporter entries

HOORT entries

Reporter entries

AUTOMATIC: Status = XXXX
Status = New
Start Date = YYYY-mm-DD HHMMSSZ
BY DEFAULT: Estimated Date of repair = Unknown
Resolution Date = Unknown
End Date = Unknown
Reason = Unknown
Tag = Unknown
Data Loss = Unknown
Downtime (hours) = Unknown

MANUAL: Estimated Date of repair = YYYY-mm-DD HHMMSSZ
AUTOMATIC: Status = In Progress

AUTOMATIC: Resolution Date = YYYY-mm-DD HHMMSSZ
Status = Resolved

MANUAL: Reason = SCOMPONENT_CODE
Tag=STAG
Data Loss = \$DATA
End Date = YYYY-mm-DD HHMMSSZ
Status = Closed
AUTOMATIC: Downtime=SHOURS (if Data Loss=Full)

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HOORT: Outage reporting - HFR operator's role

Before outage

During outage

After outage

Check HOORT occasionally to provide support.

Check your automatic notifications.

Verify that the data is updated.

Track performance in the Dashboard.

Set the Estimated Date of repair.

Report the outage.

Close the outage.

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HOORT: Outages

Outage Details (side-by-side view)

HOORT by HFRadar

Outages

Outage Details

Station	Status	Reason	Start date	End date	Estimated date of repair	Downtime (hours)
FORM1	CLOSED	999 - Unknown	197202212:42	197202212:42	2022-11-18T20:22:14Z	-
HFR_Bus1_FORM1	CLOSED	300 - Communications	2022-11-18T14:53:14Z	2022-11-18T15:13:12Z	2022-11-18T15:34:02Z	1
HFR_Bus1_FORM1	CLOSED	300 - Computer/Software	2022-11-18T16:10:12Z	2022-11-18T16:09:49Z	2022-11-18T17:13:02Z	1
FORM1	CLOSED	300 - Computer/Software	2022-09-26T16:14:00Z	2022-09-24T13:02:00Z	-	-
FORM1	CLOSED	300 - Communications	2022-09-26T15:05:00Z	2022-09-24T13:02:00Z	-	7
GALF	CLOSED	300 - Communications	2022-09-24T22:00:00Z	2022-09-25T08:00:00Z	-	10
FORM1	CLOSED	300 - Computer/Software	2022-09-17T09:00:00Z	2022-09-17T09:00:00Z	-	2
GALF	CLOSED	300 - Computer/Software	2022-08-03T07:00:00Z	2022-08-03T07:00:00Z	-	8
FORM1	CLOSED	300 - Computer/Software	2022-07-29T16:00:00Z	2022-07-29T16:00:00Z	-	4
GALF	CLOSED	300 - Power	2022-06-14T08:00:00Z	2022-06-14T12:00:00Z	-	4

Showing 17 of 178 items

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HOORT: Outage Code

Coding Scheme

6SX INFORMATIONAL

2SX SUCCESS

3SX REDIRECTION

4SX CLIENT ERROR

5SX SERVER ERROR

HFR OUTAGE CODING

100 Hardware [110 - 170]

200 Computer/Software [210 - 250]

300 Communications [310 - 340]

400 Site Operation & Maintenance [410 - 450]

500 Power [510 - 530]

Based on the HTTP Status Codes

HFR Outage Codes for: Failure and Components

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HOORT: Outage Codes - failure and components

FAILURE CODES	COMPONENT CODE
100 Hardware	110 Tx Chassis 120 Rx Chassis 130 Tx Antenna 140 Rx Antenna or TX/RX Combined 150 Cable and connectors 160 Enclosure/Climate Control 170 GPS Antenna or GPS Module 199 Other
200 Computer/Software	210 Computer Hardware Failure 220 Operating System Crash (Frozen, no programs working) 230 Software Program/Processing Failure 240 Communication to Receiver/Transmitter Lost 250 Disk Space Full 299 Other (HFR Toolbox processing failure)
300 Communications	310 Service Provider Outage 320 Hardware Failure (Modem,Router,...) 330 Local Network Configuration/Transfer Scripts 340 National Network Portal or Node 399 Other
400 Site Operation and Maintenance	410 Routine/Preventative Maintenance 420 Incorrect User-Defined Operational Settings 430 Incorrect Hardware/Cable Configuration 440 Radio Frequency 450 APM (as suggested by the Spanish Port System - HFR operator) 499 Other
500 Power	510 Service Provider Outage 520 Hardware Failure (UPS, Power Switch,...) 530 Breaker/ground fault tripped 599 Other
999 Unknown	Unknown (as suggested by the Spanish Port System - HFR operator)

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HOORT: Outages

HOORT by HFRadar

Outages

Settings for enable or disable notifications

Outage Audit

Comments

Automatic event: status change

Outage Audit

Comments

Automatic event: status change

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HOORT: Data Annotations - radials

HOORT by HFRadar

Radials Annotation

New Data Annotations

GALF Connection issues

New Data Annotation

From: No
Emilia Reyes Reyes - Public annotation: Closed thread

Connection issues during high tourist season (saturation of the mobile network)

Replies

From: No
Emilia Reyes Reyes - Public annotation: Open thread

Reply: Last from Emilia Reyes Reyes

Data annotation details

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HOORT: Data Annotations - totals

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HOORT: Alarm notification via email

Outage Reported

FORM - Site Outage Reported - 2022-06-07 16:00:00

Reason: 1999

FCIM: Automatic Change: Radials older than 12 hours. Operator should investigate.

- Station ID
- Standard text "Automatic Update: Radials older than 12 hours. Operator should investigate"
- Reason: '1999' + description (i.e. 'Unknown')
- Start Date of the incident [YYYY-mm-DD HH:MM:SSZ]
- Please, set the Estimated Date of repair (link to HOORT) to automatically change the outage status to "In Progress"

Outage Resolved

FORM - Site Outage Resolved - 2022-06-08 19:00:00

Reason: 1999

FCIM: Outage cleared automatically. Radial files have caught up since initial reporting.

- Station ID
- Standard text "Outage cleared automatically. Radial files have caught up since initial reporting"
- Reason: '1999' + description (i.e. 'Unknown')
- Start + End Date of the incident.
- Please, take 2 minutes to provide details of the outage and close it manually (link to HOORT)

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HOORT: Potential false alarms notification via email

Outages robot problem

HOORT outages robot problem - Ratio of delayed stations too high

Reason: High ratio of outages (i.e. radial delay) in HFR stations

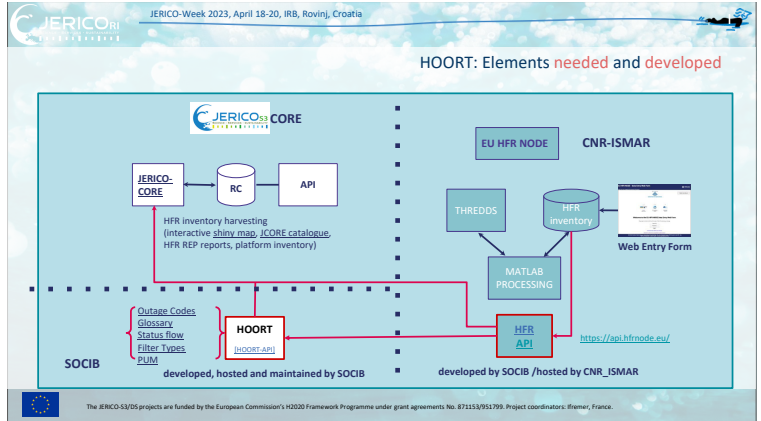
Stations considered: 51

Check potential issues:

- HFR data processing stopped during at least 12 hours.
- Radial delay table out-dated during at least 12 hours.

- An automatic robot detects and notifies massive outages:
 - The robot verifies HFR stations radial delays @ hourly.
 - > 50% HFR stations → the robot sends an email to the Node and stops the HOORT outage notifications.
 - < 50% HFR stations → the robot restarts the creation and resolution of the HOORT outages.

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HOORT: Training and beta testing

Beta testing questionnaire

What should be the next improvement? (9 responses)

Fixing bugs	5 (55.6%)
Addition of links to Best Practices	3 (33.3%)
Improved login page	0 (0%)
A better dashboard	1 (11.1%)
Additional guides and manual	2 (22.2%)
Automatic reporting	2 (22.2%)
Synchronize the HFR data that is:	1 (11.1%)
Fixing "My stations", it currently:	1 (11.1%)
Add a map with the HFR stations	1 (11.1%)

Request of improvements:

- Product User Manual
- Links to Best practices
- Automatic reporting
- Email outage alerts
- Mouse pointer coherence

Favourite Features:

- Dashboard
- Simplicity
- Clear and tidy design
- Clean aesthetics

What do you like the most about HOORT? (7 responses)

Clean aesthetics	1 (14.3%)
Complete and clear	1 (14.3%)
It is straightforward and simple	1 (14.3%)
Its clear and tidy design	1 (14.3%)
Simplicity	2 (28.6%)
all the Real Time	1 (14.3%)

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Interactive Map: EuroGOOS HFR networks

Map of locations of the HFR systems connected to the European HFR Node

What's next?

- Link the interactive map with HOORT.
- Display the station status in near real-time.
- Link the QulD reports with HOORT.
- Display the KPIs (radial delay) to support data quality.

Stations metadata: view & download

Interactive and dynamic map to view all stations and networks.

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Elements needed to scale HOORT for other mature platforms

- 1 A initial inventory of the network
- 2 A task team that boost the network collaboration
- 3 A focal point for data and metadata management
 - A DB is required, an API and a centralised login are recommended
- 4 A European common and standard data and metadata model
- 5 Guidelines and tools for implementing the standardization
- 6 A set of KPIs; common outaging code scheme; glossary

TRL 7: Integrated pilot system demonstrated

- Best Practice community
- Governance structure
- Open to all operators
- Data policy
- Sustained

FITNESS-FOR-PURPOSE

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Acknowledgements

- Co-authors: partners from the European HFR Node (AZTI and CNR-ISMAR)
- Collaborators: All European HFR operators that provide the data & metadata of their stations to the Eur HFR Node.
- Contributors: Teresa Updyke, Hugh Roarty, Michael Smith, for their guidance and feedback along the way.
- Beta testers: All colleagues (from SOCIB and from the Eur HFR Node) for testing the beta-version & for their feedback
- Jerico S3 project: for funding tasks 5.2 and 5.4, whose KPIs & functional tools are crucial for HOORT.
- Jerico CORE: for contributing to discover the Best Practices for HFR Operation and Maintenance.
- EuroSea project: for providing the funding to develop HOORT.
- Puertos del Estado: for providing the historical record of outages from the HFR-DeltaEbro.

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Thank you very much!

Emma Reyes
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JERICO-Week 2023

April 18-19-20, Rovinj, Croatia

Science and Technology Advisory Committee Summary

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STAC Summary Comments

JERICO-S3 has achieved many impressive and significant milestones, including:

- Broad technology, research and scientific demonstrations (TA, PSS, and IRS)
- Assembly of best practices, integrated multidisciplinary platforms, and lessons learned
- Mature community of users, operators, and technologies

However, there remain some key elements needing work before the RI submission:

- JERICO-CORE - the data portal must be functional, robust, and tested by real-world (external?) users.
- The huge list of S3 project elements (13 Workplans, 60+ Deliverables) is confusing and needs to be reconstituted into a list of simple language (no acronyms) topics: Transnational Access, Data Management, Innovation, Governance, Sustainability, etc.

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JERICO-S3 is very "science" oriented, and over time there will need to be societal use examples.

Other important user communities include resource managers, policy compliance officers, EU Marine Board, EU Regional Sea Convention managers, etc.

Can this be achieved, or the ground work mapped out before the RI phase, or during the preparation phase of RI?
May need to turn data into information for broader (non-research) use.

Societal needs will include being prepared and able to support emerging (hot) topics such as Marine Carbon Dioxide Removal (mCDR) and the associated Monitoring, Reporting, and Verification (MRV) needs. e.g. Is JERICO prepared to provide MRV services for Alkalinity Enhancement field trials?

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STAC Summary Comments

A Google document identified seven (so far) questions for the STAC to assess.

Q1: What are the three prime services JERICO-RI might deliver?

- 1) **Science**
Reliable FAIR access to high quality data to enable innovative interdisciplinary research and produce impactful science.
- 2) **Society**
Access to harmonised and integrated information to assess the state of the ocean for societal stakeholders at various scales in space and time.
- 3) **Scalability ? (Growth)**
Access to information for the addition of new coastal observing systems and technologies at various scales, from citizen science, to marinas, ports and harbours, to regions and countries. Compile the best practices, PSS experiences, and lessons learned. New partners/initiatives can leverage JERICO knowledge and have early success.

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STAC (Dewey) Thoughts: Evolution

- Mainframes (1970)
- Personal Computers (1980)
- The Internet (1990)
- Wiring the Abyss (2000)
- Downloading Data
- FAIR & TRUST (2010)
- CARE (2020)
- Interoperability, back to the Cloud (Mainframes)
- AI Ready (FAIR-2)
- AI - tell me what's happening

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Part of this work was supported by the JERICO-S3 and DS project. These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 871153/951799.

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JERICO-Week 2023 - General notes and questions/discussions

TUESDAY MORNING

WPS - Transnational Access
It would be good to have a repository for data.
Title: criteria repository in JERICO-Core ? BlueCloud 7 ? JERICO-RI Website

WPI - Techno and WPI1 - Virtual Access / JERICO-Core
Question 8: JERICO-Core can and will probably be the "backend" for JERICO-RI, we have to make sure of what we allow through the window.
Landscape: ... more about the Blue Cloud initiative ? Resolving user database
Jean-Michel: BlueCloud is one idea to support the development of JERICO-Core
Landscape: ... more about the Blue Cloud initiative ? Resolving user database
WPI1-P: can it be linked to the IRS, or existing regional data nodes ?
Landscape: ... is the idea behind JERICO-Core, there is a link to the big data aggregators

TUESDAY AFTERNOON

WPS - Harmonisation

Thursday morning

STAC: a simple service to society, could be to show "state of the ocean" type of plots (in climatologies based on observations). For ex: Temperature isothermials average.

JERICO WEEK 2023
JERICO-DS WP4

WP4 presentation - JERICO-S3 Status update

Jukka Seppälä SYKE
Costas Frangoulis HCMR
PSS leads
19/04/2023 Rovinj

Scope of the session:
Workshop provides a report of JERICO-DS Pilot Supervise (PSS) implementation during 2021-22. Key messages and achievements of various PSS Actions are provided. Each PSS provides contribution to Marine JERICO-RI. Supervise and integration. They continue in identifying main gaps, challenges and lessons learned during the PSS period.
State-of-the-art of PSS synthesis is provided with elements for other JERICO-S3 WPs, JERICO-DS, JERICO-ESFRS application and for overall Marine JERICO-RI. Issues to be reviewed include regional integration, pan-European integration, thematic integration, IR-RI collaboration, Data flow, Data consolidation, Harmonisation, Best Practices, Emerging Technologies, Socio-ecology, Classification.

Expected outcomes:

- Provide status of WP4 work done and ahead
- Discuss the links of WP4 work with other WPs and JERICO-DS
- Get feedback from community, how PSSs could contribute to the work of other WPs, what are the key topics to be highlighted from PSSs themselves
- ESFRS documentation and legislation for PSS dissemination and to receive other feedback

Targeted audience:
Whole JERICO-DS and JERICO-DS community

Type of session: Primary session (P)
Main reference persons: (Co)organisers/leaders:
Jukka Seppälä (SYKE), Costas Frangoulis (HCMR)

WHAT IS EXPECTED FROM PARTICIPANTS (if relevant):
FR in the questionnaire
[LINK to questionnaire](#)

JERICO-WW42023_SESSION WP4 - 1

JERICO WEEK 2023
JERICO-DS WP4

SHORT AGENDA

Time	Description	Leading person	Link
1.1	Update of the WPI1 time schedule	Jukka	Document
2.14.7	Report of the implementation phase - PSS Report	PSS Leads	
3.1	State-of-the-art of PSS synthesis	Jukka	
4.7	Immediate comments/discussion and filling out of questionnaire	All	

JERICO-WW42023_SESSION WP4 - 2

JERICO WEEK 2023
JERICO-DS WP4

NOTES AND MINUTES

[NOTES AND MINUTES](#)

SECRETARY/IES (responsible for notes and minutes):

Attendees:

JERICO-WW42023_SESSION WP4 - 3

JERICO WEEK 2023
Technology WIS

PART 1 - How will JERICO-RI look like, from technology perspective (multi-platforms, variables, integration, user needs) when we present it in ESFR!
Based on PSS results and JDS-WP2 technological design

Jukka Seppälä SYKE, Anouk Blouw DELTARES, Costas Frangoulis HCMR
19.4.2023 Rovinj

Scope of the session:
This session provides a report of developments in JERICO-DS WP2 Technical Design for an Operational JERICO-RI (physical part of the RI). It starts with a presentation of the check-list findings of Technology Gap analysis. Session continues by outlining the contents and steps of Technology Roadmap, including a discussion.

Expected outcomes:

- Deliver a status report of JDS WP2
- Share information on Technology Gap analysis
- Discuss the contents of Technology Roadmap

Targeted audience:
All project partners

Type of session: Primary session (P)
Main reference persons: (Co)organisers/leaders:
Jukka Seppälä SYKE, Anouk Blouw DELTARES, Costas Frangoulis (HCMR)

WHAT IS EXPECTED FROM PARTICIPANTS (if relevant):

SHORT AGENDA

Time	Description	Leading person	Link
1	JERICO-WW42023_SESSION		

JERICO-WW42023_SESSION WP4 - 4

1.	Introduction	Julia	Feedback
2. 10'	Technology Gap analysis (Annex B/Issue 10')	Annak	
3. 15'	Technology Roadmap (Julia Sepúlveda 15')	Julia	
4. 20'	Discussion (20')		

Minutes/summary:

- Following Annak's presentation on the gap analysis, a question was made: How do we get to the JERICO technical aspect? Followed up by Julia in roadmap plan presentation.
- Julia:**
 - Jan: where is modelling positioned in the roadmap plan. If you want to some industry modelling is needed (but also for research). Julia: modelling coming from the strategy part and data observation technology along the needs of the modelling. Need to be some discussion with modelling community. Jan followed up: we what need from the technical strategy.
 - Felix: Sometimes services can bring different data that modellers don't know they can include. Therefore, technical design can informative modelling community. Also, see technologies not yet in the national strategies.
 - Eric: Regional and national strategy, there are some European and global challenges as well. Going global through more interest from companies and engaging with them. Also, consider beyond marine - some freshwater technologies are applicable in marine systems.
 - Julia:**
 - Annak: Could try to improve to the best graphical illustration: big picture provided by Sector, but more detail could be provided. Julia: needs to be clearly supporting.
 - Annak: Sector should be updated in case something is missing.
 - Annak: Need to agree on the definition of platform. Sometimes it's very inclusive and sometimes it's exclusive.
 - Annak:**
 - Domènec: In terms of data, we see in a generation with JERICO. Consider 10 y horizon with regards to what we will like to see JERICO. Julia: Need not with but also that we don't lose the old data.
 - Felix: Look at the needs of engineers and technicians, and exchange technical expertise.
 - Annak: Summer schools for graduate students and postdocs will tackle the generation skills and knowledge transfer.
 - François L.: When JERICO becomes an ERIC, summer schools for training will need to be included.

2

- But not don't bring geographical boundaries, bring in other countries and representative countries.
- Felix: Training already done, but stress more that we will continue and we need people to be incentivized to do the. Also exchange.
- Domènec
- No comment

3

NOTES AND MINUTES

NOTES AND MINUTES

- SECRETARIES (responsible for notes and minutes):

Attendees

4

- 1) Access to high quality data integrating RBDs, coastal waters and open ocean allowing comparability amongst coastal regions and amongst regional seas.
- 2) Virtual (and open access) data and services.
- 3)

Q2: Emerging challenges in the coastal ocean that will be important for JERICO to address in term of observation (Dominique D.)

RD:
Two related observation objectives: collect sufficient data to assess both baseline conditions (process studies, climatology) and variations and trends related to extreme events and climate change (marine heat waves, ocean acidification/carbon system, hypoxia, fish stocks, contaminants, etc.) - KSC- 2 & 3

AIC:
Information and monitoring on riverine inputs and direct discharges, including source apportionment estimates, to define effective management actions;
Identification of effects at the local level (e.g. coastal waters, river plumes, etc) of input of concentrations of a range of metals, organic compounds and nutrients via atmospheric deposition.

Improve monitoring, data and services in large areas of the Wider Atlantic, the Arctic Waters, EU islands and archipelagos in Europe and in outermost regions.

Non-ERIC providers could be 1) associated partners to strengthen coordination and networking in neighbouring areas of the European Union (e.g. Arctic, Northern Africa, Macaronesia, East Mediterranean, Black Sea, Caribbean, Indian Ocean and West Pacific) representing an added value in the development of the EU Research Area overseas; 2) support the organisation of specific meetings and thematic workshops focusing on shared challenges in relevant fields and 3) participate in both stakeholder consultations and communication/dissemination actions led by JERICO.

Q3: How to build bridges, strong collaborations with others existing ERICs and ERICs to go towards EOOS? (Laurent C.)

RD: It would be good if JERICO could become indispensable to science and society users. If JERICO was GOOD compliant, then it can help establish EOOS.

FL:
<https://www.marineboard.eu/eoos/european-ocean-observing-system> and <https://www.eoos-ocean.eu/>

AIC:
GOOS 2030 Strategy: [Global Ocean Observing System - 2030 Strategy \(goos-ocean.eu\)](https://www.goos-ocean.eu/) and 2030 Strategy Report (available in EN, FR, ES, PT, CN, RU) [Global Ocean Observing System \(goos-ocean.eu\)](https://www.goos-ocean.eu/)

Q4: How should JERICO manage its relationship with manufacturers? Through technology workshops? A user committee? Agreement with professional associations? (Eulcie)

RD: JERICO should continue to monitor and be prepared to adopt new and improved technologies and to fill observation/sensor gaps.

RD: There should be an open call, but with periodic/scheduled (e.g. 6 months) reviews. In JERICO-RI, there will be a need to determine a sustainable economic level of the TA program.

General Comments

- Dewey:**
- For JERICO-RI we will need to collapse the WPs into functional groups. No more "numbering" (e.g. WP6 D6.4) to be replaced by non-acronym functional names: Transnational Access, Communications, Governance, Sustainability, etc.
 - Along these lines, we should drop project designations such as NEXT, S3, DS, CORE, PSS, INS, for example JERICO-CORE is really Data Access. No one outside of JERICO would know that they should go to JERICO-CORE to find data. PSS and INS were good (and) demonstrators of JERICO activities across super sites and regional sites. In the operational IR mode, there should be minimal need for further "trial" demonstrations. Regions should be defined by natural geographic marine/ecosystems. This would be more welcoming.
 - Need to re-think key metrics of success such as use, access, impacts, growth, including "units of access" for: 1) science, 2) society, 3) growth.
 - Consider an open call for submissions, with periodic (manageable) review based on capacity, resources, and funds.
 - Need strong links to modelling programs and resources, as models are the great integrator and connector for regions, processes, and over time.
 - Anticipate and plan that the need for Coastal Observatory Research Infrastructure will continue to grow and expand (and possibly shrink when resource levels vary) and JERICO should

MAJORS QUESTIONS TO THE STAC (not ranked for now)

Q1: What are the 3 prime services (incl. users/stakeholders) you would imagine from a coastal observation RI ? (Laurent D.)

- PF:**
Harmonisation, comprehension of the coastal dynamics
Virtual access to support science
Transnational access to support innovation
- RD:**
1) Science Services
Access to quality data to enable innovative research exploration and produce impactful science
- 2) Societal Services
Access to harmonised and integrated information to assess the state of the ocean for all societal stakeholders at various scales in space and time.
- 3) Scalability (TA) Services
Access to information for the growth of coastal observing systems and technology across all scales from citizen science, to ports and harbours, to provinces and countries. The collection of best practices, PSS experiences, and lessons learned. New partners can join and have early success with RI built to JERICO standards.

FL:
https://www.marineboard.eu/values/mainboard.eu/files/public-New-Website/Program/Coastal%20Obs%20RI_PRR_Sustainability_DOI.pdf

AIC

Q2: Should the implementation scheme of JERICO-RI be topic oriented or general? (Antoine G.)

PF: For JERICO-S3, the implementation of PSS is topic oriented and depends of the regional research thematic. In JERICO DS, they need to explain how and if each PSS will become SS (operational) or not, but able answering to an societal question, so be more general, even if they have operational services topic oriented.

RD: General. A general system should be able to address a range of thematic objectives. JERICO-PT, ANEX1 & S3/IS3 were efforts to build core capabilities with several demonstrations. RI needs to be more "operational", with an expectation of continuation-going improvements and growth. Ocean observing has no finish line, no end to innovation or expansion, even though resources will be limited and program elements will need to be prioritized.

AIC:
Although some aspects of the implementation scheme would be cross-cutting, the idea of implementing a topic-oriented scheme may help to provide better responses to any societal question.

Q4: How do you see the interactions between JERICO-RI and other non-ERIC data providers? (Antoine)

PF: It is necessary to explain how the future JERICO RI will be interfaced with the other RI, to the deep ocean (ARGO, EMISO ...) but also to the close coast providers, including those which are not in an organised RI. We can also ask the question of linking JERICO RI with atmospheric RI.

AIC

This will be a balance of monitoring industry as well as being receptive to working with industry to evaluate emerging technologies. Yes, all options should be considered, when necessary.

AIC:
The three options listed in the question above are compatible: 1) a first phase could easily organise dissemination workshops amongst national and transnational manufacturers to identify who is who and their level of commitment; 2) invite committed manufacturers from all countries to join the JERICO as providers; 3) JERICO providers as a group or community group may define the most effective ways to engage with professional associations at the local, national, transnational and international scale. The user community could also play a relevant role testing JERICO services.

Q7: How should JERICO-RI proceed with trans-national access (physical and virtual)? (Laurent C.)

PF: The links with the manufacturer is very important. JERICO RI has to provide services like access, not only transnational, and open the infrastructures to SME and sensors/systems providers. An economic model should be proposed (in JERICO DS ?). We can also ask the possibility of building an EURO-ACT with all the RI using marine technologies.

PF: For the virtual access, JERICO DS needs to define well what are the JERICO-CORE objectives for JERICO S3 (and have a test procedure to validate the access and the products before opening the tool to the users), what should be done in the future to provide Services and products to JERICO-RI (JERICO-D3). The long term future of JERICO-CORE need to be discussed and defined with the other RI.

- be a consistent framework and knowledge-base to grow and adapt efficiently.
- JERICO Data Access (broadly CORE) might require:
 - Use casebooks testing across demographics (students to experts) and stability
 - Assigning and managing dynamic DOI to track data sets and publications/documents. DOI also allows for appropriate acknowledgement and accreditation.
 - The growth of "cloud computing" type means of accessing data, for example Jupyter Notebooks. The "old" model of "downloading" data will become obsolete, with research and analysis being conducted on platforms without disk storage.
- Is JERICO ready for new and important societal demands? Such as the expectations for scientifically endorsed Monitoring, Reporting, and Verification (MRV) of anthropic Marine Carbon Dioxide Removal (mCDR) efforts? The EU green deal.

- Fairy:**
- JERICO-CORE
 - Open call for TA: Economic model of a open access to infrastructure
 - What PSS can become a super site? From my point of view, Gof and Green are not mature to become super site.

Lallier:

- Iglesias-Campos:**
- JERICO should continue promoting science integrative approaches to better observe the diversity and specificities of coastal ecosystem raising up the scientific excellence in support of an effective coastal governance.

- European and global observation products do not cover coastal areas accurately, the role of JERICO bridges science, knowledge and transfer of knowledge across river basins, coastal waters and the wider ocean.
- EU Regional Sea Conventions (OSPAR, AMAP, HELCOM, MED-MAP, Black Sea), in collaboration with Abidjan, Nairobi and Cartagena Conventions for EU outermost regions in other hemispheres, could play an important role supporting the implementation of future JERICO projects and facilitating the involvement of neighbouring observation systems. An innovative monitoring strategy and design of the Jerico system would benefit for the involvement of EU Regional Sea Conventions that are currently finalising their Quality Status Reports 2023 (OSPAR: <https://ospar-convention.org/en/quality-status-reports/quality-status-reports> ; HELCOM: <https://helcom.fi/baltic-sea-trends/helcom-assessments/> ; MED-MAP: <https://www.unep.org/med/medmap/quality-status-report-mediterranean-2017>) in support of Contracting Parties' MSFD reporting obligations.

On the role of JERICO-RI in structuring the development of future coastal observatories, OSSEs and modelling approaches are key (representativeness of individual measurements, characterization of variability and temporal-spatial correlations, connectivity), how do you envision modelling activities in JERICO-RI? (Anna & Marcello)



JERICO WEEK 2023
JIS WP3 status update and relation to ESFR

JIS WP3 STATUS UPDATE and RELATION TO ESFR

Andrew King, Martin Pfannkuchen, Helena Friggstad (for Bengt Karlson), Anna Rubio, Henning Welle, Fabio Brunetti, Jose Vilanova

Wednesday 19 April 2023 9:00-10:30

Scope of the session:

JIS STATUS UPDATE and RELATION TO ESFR

- 1) Where is your WP now? WPs and WP4
- 2) How close to the final goal of 2023? Where do you struggle/where do you need help?
- 3) Any major IS, or small that you would like to emphasize / present?
- 4) How do you IS, ISs and relate to key ESFR questions?

2 WP: 45 for each WP lead

A time for discussion or innovative participation mini-session is encouraged

Expected outcomes:

- Progress update from WPs
- Key points related to JERICO-RI and ESFR application

Targeted audience:

All members of JIS

Type of session: **Plenary session (P)**

Main reference persons: (Organizers/lecturers)

Andrew King, Martin Pfannkuchen

WHAT IS EXPECTED FROM PARTICIPANTS (if relevant):

SHORT AGENDA

#	Description	Leading person	Link
1-2	Introduction, general update	Andrew King	
2-3	IS update from WPs leads	Henning Welle, Anna Rubio, Jose	

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JERICO WEEK 2023
JIS WP3 status update and relation to ESFR

NOTES AND MINUTES

NOTES and MINUTES

SECRETARY/JIS (responsible for notes and minutes):

Attendees:

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JERICO-Week 2023 PROBLEM SOLVING SESSION

IDEA OF "PROBLEM #1" to solve: **DEFINITION vs CIRCUMSTANCES** - WHAT DO WE WANT PEOPLE TO SEE WHEN THEY LOOK AT JERICO-COLLECT THE WINDOW FOR JERICO-RI? **FAUCI, J. (2023-03)** ?

IDEA OF "PROBLEM #2" to solve: **SOLUTION SUGGESTIONS** - HOW TO SIMPLY AND HARMONISE THE COLLECTION OF METRICS AND INFORMATION FROM THE COMMUNITY (either compiling a presentation, or answering questionnaires, being into account the issue of limited time and resources that are all faced. **ANDREAS - CHRISTIAN, (2023)** ?

IDEA OF "PROBLEM #3" to solve: **CO-CREATION - CREATING AND DEFINING HOW TO IMPLEMENT BEST PRACTICES GUIDELINES FOR CONTINUOUS IMPROVEMENT?** **In the WFR example ? - CARLO (2023) - ANNA ?**

IDEA OF "PROBLEM #4" to solve: **SOLUTION SUGGESTIONS** - HOW TO MAKE THE LINK BETWEEN CONSERVATION ACTIONS AND THE 45 IDENTIFIED PROJECT OUTCOMES - **DOMENICO (2023) - LAURE (2023)** ?

IDEA OF "PROBLEM #5" to solve: **HOW TO MAKE JERICO KNOWN AS THE REFERENCE POINT TO SCIENTIFIC COMMUNITIES SO THAT THEY DO NOT "REINVENT THE WHEEL"** (students, researchers outside JERICO, industries, citizen science, diverse users ?) - **FELIPE ? - MARCO ?**

DETAILS OF THE SESSION

Introduction (intended) and frame of the session - 10min

Code in open forum format - a going into small groups

- 1) Brief presentation of the problem by the "problem owner" - 5 min
- 2) Clarification: time to ask questions, define the problem for everyone - 10 min
- 3) Brainstorming: identifying solutions and ideas - 10 min
- 4) Presentation of results: less "problem-owner" discussion, exchange on what was identified by the group - 10 min

Conclusion - 5 min



JERICO WEEK 2023
JIS WP3 status update and relation to ESFR

		Helena Friggstad, Helena Friggstad, Helena Friggstad (for Bengt Karlson)	
JIS	Bring up and interactive word cloud generated by respondents	Andrew King, Martin Pfannkuchen	

Minutes/notes

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