1st GENERAL ASSEMBLY REPORT

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EXECUTIVE SUMMARY

This report describes the activities carried out during the General Assembly (GA) from 3rd to 5th March 2020 in Paris, Sorbonne University Campus. Despite COVID-19 context, partners managed to participate to the GA, with some of them attending remotely. Work was organised between plenary sessions (WP review, future work for the reporting, communication updates and feedback from the advisory board) and breakout sessions (specific topics on impact assessment and users community). A news on Euro-Argo website summarised this important moment for the project :

https://www.euro-argo.eu/EU-Projects/Euro-Argo-RISE-2019-2022/News/Euro-Argo-RISE-General-Assembly

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1 Conduct of the General Assembly

1.1 Approach of the meeting

Beginning of January 2019, a first General Assembly was held during the kick off meeting of the project (9-11 January 2019, Plouzané, France). Despite being entitled 'First General Assembly report' as indicated in the Description of Actions (Annex 1, Part A), this General Assembly report is in fact the Second General Assembly report. To avoid any confusion, we kept the name indicated at the moment of the proposal, e.g First General Assembly report.

Initially planned month 18, this General Assembly was rescheduled to avoid overlapping with the preparation of the first periodic report. Dates were set up to the beginning of March with the Executive Board, moving forward the meeting by 3 months in advance to the planning. Considering the COVID-19 pandemy it was a good decision that allowed live discussions between participants that would have been impossible later in 2020.

The meeting was organised in a way to present main progress on activities carried out, but also let some time for discussions on non-technical topics, to allow partners to stand back and see further on the project and after.

The meeting was thus divided in WP review in plenary session, then brainstorming sessions in working groups and finally updates on the project as well as feedback from the ERIC Management Board in plenary session.

The COVID-19 context also impacted the attendees number. Some institutes issued travel restrictions early March and as a result, some people were not able to travel. Despite this unforeseen situation, the organising committee provided remote connexion for partners not allowed to travel. Finally, the number of members attending the General Assembly was high enough to make the proceedings of the meeting valid (more than 2/3 of the members were represented). Only GEOMAR and OGS were not represented. No vote nor amendment were on the agenda of this General Assembly.

1.2 WP review: progress and main achievements

The first day was dedicated to a **WP review** in plenary session. WP leaders presented their latest developments and discussions covered technological progress, data management, community enhancement and services to users.

1.2.1 WP1 - General overview and main achievements of the first year

The Euro-Argo RISE Project Coordinator, Sylvie Pouliquen (Euro-Argo ERIC), opened the meeting and presented the main achievements of the first year.

After a reminder on the ERIC research infrastructure, its objectives for the next 5 years and how the project will contribute to all of the 5 objectives defined in the ERIC 5-year workplan, the coordinator described the organisation of the work and the rationales behind it. Enhancing the different components (core, deep and BGC missions together with ice-covered regions and shallower waters) towards an operational and sustained implementation network is at the heart of the project. By improving several dimensions of the European network (float technology, fleet management, data system, services to users and interactions with manufacturers and stakeholders…), the project aims at enhancing and extending the capacity of the Argo network in Europe to provide essential ocean observations. Based on these major points, main work achieved by partners was presented.

Technological progress:

Partners worked on prototypes for core, deep and BGC floats to test alternative sensors (RBR Ltd, TriOS GmbH) (WP2, 3 and 4). Integration of the RBR sensor on Arvor floats (core), as well as intercomparison between RBR and Sea-Bird sensors (deep) are ongoing. Developments are also ongoing for BGC floats, for nitrate and irradiance sensors from TriOS.

In 2019, partners worked on deployments in Mediterranean Sea and Black Sea to aim at evaluating Argo possibilities in shallower water coastal areas (WP6). More deployments are planned in 2020 to move forward on this task.

Data management:

Ongoing and future initiatives for the project were presented.

For WP2 and WP3, a collaborative framework for Argo Quality Control was set up on GitHub to share practices, procedures and expertise (http://www.github.com/euroargodev). This framework is used not only for the project, but also at the European level to promote a sustainable and transparent Delayed Mode Quality Control (DMQC) process. A dedicated workshop on DMQC was planned mid-May 2020, together with Argo international. Due to COVID-19 situation, this workshop is postponed to May 2021.

For WP4, the work is on the way to develop BGC data processing in Europe from Real Time to Delayed Mode, in close interaction with Argo BGC international with a WP4 meeting organised in Villefranche side to the International Argo Data Management meeting in November 2019.

Community building:

Several actions in WP5 and WP6 were carried out to engage with new countries: float donation and help in deployment (Morocco), attendance to conferences and promotion of the project and the Argo network in various communities (Mediterranean, northern communities -Russia- Arctic and Baltic -).

Services to users:

Various activities are carried out in WP7 to better understand users requirements and propose them fit for purpose services. New tools on data access and display, questionnaire on services, data and products are ongoing. Specific event gathering Argo users as the Science Meeting was successfully held, reflecting the dynamism and engagement of the European Argo community.

To conclude, future steps and expected results, for the Argo array but also for the research infrastructure within European Ocean Observing System were presented to the partners.

1.2.2 WP2 status - Improvement of the core Argo mission

Guillaume Maze (Ifremer) provided a summary of activities related to the “improvement of the core Argo mission”.

Task 2.1, dedicated to increasing floats lifetime, reported on a study led by EA-ERIC that consisted in inventorying all floats technical parameters (and meta-data) and in trying to determine which combination of parameters choices would lead to increased floats lifetime. This study is rather complex because it requires to analyse the vast amount of possible combinations and to assess the reliability of statistics based on different sample sizes. An example of the many possible optimisations found for the ARVOR IRIDIUM fleet sample is the technical parameter controlling floats buoyancy at the surface during transmission: the more buoyant is the float, the higher above sea level is the satellite antenna. Optimizing this parameter (so that the antenna is not higher than required) may lead to saving energy and thus to increase float lifetime.

Task 2.2, dedicated to diversifying sensors for the core mission, reported on the technological development led by IFREMER that consisted in creating the design for the integration of the new Argo pilot RBR*argo*^{3} CTD on the ARVOR float. Instead of modifying the entire float end cap, it was chosen to create an adaptor that would take the new CTD on one side and fit on the existing CTD slot on the other side (end cap). This choice minimizes the float cost because it does not require a specific end cap: the same one can be used whatever the choice of CTD model (SBE or RBR), thus allowing for larger, cheaper, batch production. The design and associated technical files were delivered on time, and 4 float prototypes were manufactured. They are currently (May 2020) being tested at Ifremer facilities and are scheduled for deployments by FMI and IFREMER at the end of 2020.

Task 2.3, dedicated to improving observation of boundary current regions, reported on preliminary works from SOCIB, BSH and IFREMER with regard to the historical sampling of the regions of interest. For instance, BSH found for the West Spitsbergen Current and the East Greenland Current that 4 to 14 floats operate in the area per year and that floats following the 1000m isobath seem to get stable trajectories all along the current paths. IFREMER furthermore reported on the ongoing development of a "Argo Virtual Fleet" software that will allow partners to test different float configurations to optimize boundary current observation.

Task 2.4, dedicated to improving the Argo quality control overall procedure (DMQC), reported on: a tools and methods international survey by BODC, the creation of an online collaborative framework by IFREMER, new softwares for data analysis and calibration by BODC, INOGS and IFREMER, as well as the adaptation of existing methods and reference database to marginal seas by BSH, OGS, SOCIB, FMI and IOPAS. The international survey was extensive and revealed major needs (mostly addressed by EARISE) for: routinely DMQC training, free open-source softwares and improved reference database. The collaborative framework is available online at: www.github.com/euroargodev, a complete presentation of all services available was done and tutorials were given. Update on new softwares developments were given: all on track and some already available for testing and contributions on the online collaborative framework. Activities on marginal seas have been important and led to a large increase of available reference profiles for quality control and modified procedures to add flexibility in assembling these reference databases.

1.2.3 WP3 status - Extension to deep ocean

Pedro Velez-Belchi (IEO) presented the progress made so far for WP3. The work is divided in two main tasks.

Task 3.1: Sensors: addressing SBE61 accuracy and stability & testing RBR

The 3-head float has been produced by NKE with the following characteristics: probes aligned on the SBE41CP, with all the T and C sensors close to each other and only 50 cm gap for the P sensors.

During the first trials at sea it was found that S_{SBE41} was 0.002 fresher than S_{SBE61} and S_{RBR} was 0.02 saltier than S_{SBE41}. Based on that, Ifremer proposed RBR to revise the conductivity algorithm. During these trials there was also a major failure of the RBR sensor. After the sensor was sent to RBR, they have notified a delay in its reparation due to problems with the material that builds up the housing of the conductivity sensor, and it is expected to be at the Ifremer premises by June 2020. If this schedule is maintained, qualifications could be done before the IEO's cruise in November 2020 so the deployment could be done during this cruise. Martin Amice (Ifremer) plans to be part of the cruise.

The tests of the 2-head float with the RBR*argo*^{3} CTD took place at Ifremer's seawater pool in early March 2020, and it was expected to have the test in the hyperbaric tank ready by the end April 2020, according to the initial plans.

Overall, the milestone MS7 *Deployment of the 3-head and 2-head deep floats*, planned for August 2020 is going to be delayed, since it is very difficult to match deployment opportunities with the state of development of the floats. However, the deployments will be done in November 2020.

In the meantime, the recently Ifremer's hired postdoc (Eva Prieto Bravo) is investigating the seasonal to interannual variability of Irminger Sea abyssal waters with Deep Argo floats ; and analysis of more than 1500 deep profiles that is planned will contribute to assess the behavior of deep SBE41-CP and its accuracy.

Task 3.2: Organisation of Delayed Mode Quality Control for deep ocean data

The main focus in this task is the quality of the database and the correction method for the deep observations, and with that objective it has been set up an "argo-deep-damt" distribution list to interact with the Argo Steering Team, and an "argo-deep" for all general deep issues.

In order to establish the current methods used for DMQC in the deep Argo community, a questionnaire of the DMQC methods and tools has been sent to the whole community. The questionnaire has been well accepted and the review of its output is currently being done by the NOC.

As planned, an International DMQC workshop is being organized on May 2020 in Liverpool, and it will include a session about Deep-Argo QC procedures. Since the meeting, due to COVID-19 the workshop has been postponed to May 2021 side to a Deep steering meeting in Brest.

Additionally, NOC is working with several international partners in a global report on the suitability of the actual reference datasets for deep Argo DMQC; and it is investigating the issues of freshening data from SBE41 and rapid drifts in salinity from SBE61 sensor.

1.2.4 WP4 status - Extension to biogeochemical parameters

The General Assembly was an important moment for WP4 because it made it possible to review progress and identify the hardest points for WP4 challenging activities. Catherine Schmechtig (SU) presented the results on behalf of Fabrizio D'Ortenzio (SU) who was at-sea at the time of the GA.

Task 4.1: **New biogeochemical sensors**

The deliverable D4.1, planned for month 24, is constituted by two prototypes of dual-sensor floats (for nitrate and Irradiance). The specifications for the Trios radiometer seem suitable for float deployment (regarding energy and sensitivity) and deployment is planned in early 2020. For nitrate, two sensors (SUNA and Trios) were tested in short deployment in 2019. The results presented indicated that nitrate data from Trios are very noisy compared to SUNA. More iterations with the manufacturer are planned to solve this issue if possible, in particular to assure that the timing will be respected. Any delay or modifications will be reported as soon as possible, as the deliverable D4.13 (lead beneficiary FMI) depends on the realization and of the functioning as expected of the two prototypes.

Task 4.2: Biogeochemical data management organisation

<u>Subtask 4.2.1</u>

Following international Argo Data Management Team recommendations, a strong effort has been made to produce quality controlled data in Delayed Mode, for dissolved oxygen concentration and particulate backscattering. This result is particularly encouraging as pH and nitrate parameters need a qualified oxygen dataset.

Some efforts are still needed to follow 1) the method decided at the beginning of the project; 2) the instructions for the deliverables redaction of task 4.2.1; 3) the work organization.

The work of deliverable 4.10 (lead beneficiary ACRI) is interesting regarding the estimation of Chlorophyll-A errors, using floats, modeling and satellite products, but the impact on floats Data Management should be strengthened. Partners suggested to interact with the CMEMS Regional Modelers to progress on this work.

Subtask 4.2.2

During the PML presentation, it was highlighted that DACs, BODC and CORIOLIS, and the responsible of each variable should foster their collaborations to build a European strategy to provide QCed files. The development of the Euro-Argo github platform is very promising regarding the sharing of the codes and the future European organization.

Task 4.3: New products development

The deliverables for task 4.3 (D4.8 and D4.9, lead beneficiary GEOMAR) are planned for month 36. There is still enough time. However, very little information about the advancements of the work have been done and this point has to be corrected for the next months. If any delay or change on the proposed work occurs, it should be rapidly announced.

1.2.5 WP5 status - Extension to high latitude regions

Laura Tuomi (FMI), WP5 leader, presented the work organised around 3 tasks.

Task 5.1: New technologies for under ice-measurements

First version of the reference dataset for ISA has been collected. The dataset has been updated with Polish data from the Arctic Ocean. FMI is collecting the Baltic Sea dataset, which should be ready by the end of April. The first version of the ISA document was completed by the end of 2019 (Best ice avoidance practices). It contains present knowledge of the methods for ice avoidance, and experiences from the Baltic Sea, the Barents Sea, the Baffin Bay and the Antarctic Argo deployments. It is a living document, which will be updated during 2020 with new information from the experiments ongoing in the Baltic Sea and the Barents Sea and also data collected from experiments from other than European Argo programmes.

Task 5.2: Cooperation with high latitudes countries

Preparations for the Arctic and Baltic Sea workshop are in progress. 'Save the date' information was distributed in late 2019. The workshop is planned to be held on 23-25.09.2020 in Sopot, Poland. The workshop starts with a half day dedicated to the Baltic Sea, then a full day dedicated to general Argo

information and hands on training. The third day (half day) is dedicated to Arctic Ocean activities. Potential participants have been informed about the workshop in several conferences (ASSW, BOOS AM, BSSC) and personal contacts during visits and project meetings.

Task 5.3: Southern Ocean regional data quality assessments

This topic has mostly been advanced by the work done in the MOCCA project related to the Southern Ocean. CTD data for the reference dataset has been collected and is available for the DMQC. A review of the methods and data used in work by Reeve et al. 2016 has been made and AWI has been contacted to start more detailed discussion of the possibilities and restrictions to use and enhance their work.

1.2.6 WP6 status - Extension to marginal seas

Dimitris Kassis (HCMR), for Giulio Notarstefano (OGS), reminded the objectives of WP6:

1) investigate the potential of Argo profiling floats in shelf areas to close the gap between open-ocean and shallow waters and see the feasibility from different points of view: instrumental, mission configuration, human resources. Alternate configuration settings are tested. Partners are also working on the improvement of float operations and the increase/improve of life expectancy and sampling efficiency in shallow coastal areas (strong links with WP2);

2) expand the regional Argo community with the aim of involving new scientists, countries, organizations, regional networks, RIs in the Argo world throughout different modalities (workshops, political events, participations in activities, instrument donations). The objectives of the approach are: promotion of Argo data, cooperation at sea, collaboration in technical activities, sharing best practice, knowledge and expertise. These two thematic fields are common for the three tasks of the WP6 that represent the European Marginal Seas: Mediterranean, Black and Baltic Seas.

Then, he presented the progress for the 3 tasks.

Task 6.1 (Mediterranean Sea)

1. Expand the regional Argo community

SOCIB, HCMR, OGS, IEO contacted the majority of countries around the Mediterranean Sea. Collaborations have been established and they have been invited at the Med&BS workshop that will be organized in Greece in October 2020. 14 positive replies have been received after contacting 17 people from 15 countries, additionally EMSO RI, LifeWatch RI, Ocean Gliders Working Group have been contacted. However, taking into account the current situation regarding COVID-19 pandemic, the workshop has not yet been confirmed. Regarding the establishment of links with MSFD, HCMR has initiated activities in order to include Argo data reference in the Greek legislation for the MSFD.

2. Regional extensions and implementation of the Argo array

Legal issues regarding float operations in territorial waters and EEZs will be arisen (link with WP8, HCMR). The shallow coastal float operations are the following:

- **SOCIB:** south of Bay of Palma (Balearic archipelago), deployed the 12th of March 2020
- **SU:** Gulf of Lions (DYFAMED station) in Dec 2019
- **OGS:** North Adriatic, probably in spring/summer 2020. Italian float tested in Central Adriatic Pit (200 m).
- **HCMR:** An APEX-11 float (WMO 6903288) has been deployed on the 9th of February 2020 at a coastal area in the north Aegean Sea
- **IEO**: float was donated from the IEO (Argo Spain) to the INRH (Argo Morocco). It is the first float in the Argo Morocco program. It was deployed on Nov 14th 2019 south of Fuerteventura (Canary Island)

Task 6.2 (Black Sea)

1. Expand the regional Argo community

IO-BAS and OGS contacted the Black Sea riparian countries (they have also been invited to the Med&BS workshop) and the DANUBIUS RI. The Black Sea Commission and Black Sea GOOS will be approached. The political event will be organized during the IOC assembly 2021 in Paris with the aim of attracting politicians, decision-makers and stakeholders and show the role of Argo in addressing environmental policies (MSFD, national ecosystems, etc.) and operational monitoring for the society (forecasts, sea-state, sea transport, etc.).

2. Regional extensions and implementation of the Argo array

The western shelf of the Black Sea is a crucial area for ecological reasons and pollution. One float was deployed in October 2019 off the Danube River delta, close to shelf break in collaboration with Romania (GeoEcoMar) and active support of Bulgaria (IO-BAS). Different configurations have been tested (mainly parking depth and cycling period). The float is now parked at the sea bottom (strong currents in the top 200 meters), with a 4-day cycle, and it's still on the shelf. **OGS** has developed an email alert system that sends the float position on Google-Earth and Maps that allows a

continuous monitoring of the float and the operator can quickly act on changing the mission parameters. The second float will be deployed in the Bulgarian Black Sea shelf, probably in spring/summer 2020.

Task 6.3 (Baltic Sea)

1. Expand the regional Argo community

FMI and IO PAN are engaging the Baltic Sea community into using Argo data and for new partnership in Euro-Argo and already approached Russia, Germany and Sweden for collaboration. BOOS, HELOCOM, CMEMS, BAL MFC, Baltic Earth have been contacted. The Baltic user-workshop will be organised (together with the Arctic workshop) in Sopot, Poland, on Sep 23-25 2020 by IO PAN for scientists and technicians.

2. Regional extensions and implementation of the Argo array

FMI will deploy 1 Arvor and 1 Apex (Finland float) float in Northern Baltic proper (spring/summer 2020). IOPAN will deploy one float in the Gdansk Bay in spring/summer 2020. Tests for improving and optimizing the sampling in areas of high density gradient in the bottom zone (linked with WP5) will be performed. They will try to increase the automatization process of float monitoring and controlling activities.

Note: These were the elements presented during the General Assembly, i.e latest information at the beginning of March. Nevertheless, since then and given the COVID-19 context, all at-sea campaigns related to subtask 'Regional extensions and implementation of the Argo array' were postponed to an undetermined date. Deployments will be rescheduled when situation comes back to normal.

1.2.7 WP7 status - Euro-Argo RISE visibility: communication and dissemination towards user's community

WP7 overview and progress was presented by Claire Gourcuff (Euro-Argo ERIC).

As the development of Euro-Argo extensions gives access to new types of data and potential users, the goals of this WP are to propose fit for purpose services to existing Euro-Argo users, but also to attract new users as well as to enhance the visibility of Euro-Argo towards the general public. This WP is

divided in 5 main tasks and an additional task (non official) was created for the Euro-Argo Science Meetings.

Task 7.1: Assessment of users' needs. To this purpose, a questionnaire covering various aspects of Argo (data, services and products…) was drafted by MI to get users feedback. A first version was distributed during the Science Meeting in October 2019 and after some updates, the final version is now online, ready to be distributed in May 2020.

Task 7.2: Promotion and improvement of data access and usage, split into 4 subtasks.

- The first subtask is about access to data, and work focuses on (1) improving the existing data portal and (2) the promotion of the use of Argo data through an Argo online school.
  Regarding the **data portal**, specifications and first tests were done by Ifremer, and a new version is planned for summer 2020. This version will allow selection/display and data download in a more responsive way. It will also come with a Python library for easier data access by scientists (http://www.github.com/euroargodev/argopy). The specifications and outline of the **Argo online school** were set by IEO in February 2020. The school will be divided in 3 classes, each one including around 7 lessons, for a total duration of about 1:30 hour. Some discussions are planned with WP7 partners regarding technical points (host platform, involvement of other partners, etc.).

- The second subtask deals with **Argo data discovery tool**, developed by JCOMMOPS. This tool, available through JCOMMOPS website, is a web application to promote Argo for the general public enabling 3D visualisation of Argo profiles on the globe. It is continuously developed and the latest developments have been presented during OceanObs19 (September 2019, Hawaii) and the 7th Euro-Argo Science Meeting (October 2019, Athens).

- The third subtask is about "**use cases**", led by Euro-Argo ERIC and shows the importance of Argo data for research and societal benefits. The idea is to draw on CMEMS use cases and a list of 10 use cases (with 7 as priorities) were presented. This work is ongoing and next steps include a discussion with the ERIC Management Board (number, proposed template and classification, etc.).

- The fourth subtask handles the **importance of Argo for the MSFD**. HCMR participated in MSFD-events where Euro-Argo ability to address monitoring challenges of MSFD implementation were highlighted. In parallel, HCMR managed to include official reference of Argo contribution and specifically Euro-Argo network in the Greek MSFD implementation programme.

Task 7.3: Enhanced services for CMEMS, C3S & EMODnet, led by Ifremer. This action is progressing and each of the 3 entities responded favorably to the first contacts to improve synergies and move forward on MoUs.

Task 7.4: Educational activities through Ocean Observers initiative, conjointly led by JCOMMOPS and Euro-Argo ERIC. The 2017 workshop initiated the Ocean Observers Working Group (WG), and WG Terms of Reference were agreed in December 2019. Next step for the WG is to work on the organisation of the 2nd Ocean Observers workshop. It will be held on 17-19 November 2020, hosted by SOCIB in the Balearic Islands.

Task 7.5: Communication towards the general public, led by Euro-Argo ERIC. Project topics tackled so far as well as tools and channels for communication were presented. The need for inputs from partners was highlighted, and a reminder was made to use the #EARISE & #H2020 hashtags for Twitter (see §1.4.2 on project communication updates for more details).

A non-official **task 7.6 related to the** two Euro-Argo **Science Meetings (=user workshop)** to be organised during the project's duration was created, to keep track of it. The 7th Science Meeting organised in Athens in October 2019 welcomed 70 participants and new features were proposed for this edition, including "Live Demonstrations" in poster sessions, an online tool to stimulate interaction during sessions and to get feedback from participants, awards to value young scientists, and introduction of each speaker with an Argo float photo. Positive and constructive comments were received from the participants, to be taken into account for the next workshop. More details are included in the deliverable 7.3, available on Euro-Argo website.

1.2.8 WP8 status - Integration of Euro-Argo activities in the general context of global ocean observations

The general objective of this work package is to build and develop links and synergies with other RIs, increasing efficiency and long-term sustainability of ERICs in general & integration in the network of global ocean observations.

In general, good progress has been made on the respective tasks, and Alan Berry (MI) described the specific task updates.

Task 8.1: Collaboration with other ERICs, networks & research communities on a strategy for shelf open ocean boundaries

Discussions with EMSO ERIC are at a mature stage and there is an agreement to move at high level to a formal declaration of collaboration on specific activities. Additional conversations were held with EuroGOOS & MOON. Discussion on Argo contribution to MSFD at Copernicus Marine was carried out in October 2019 and use of Argo data in the framework of Marine Mammal Conference with UNEP during December 2019.

Landmark Statement from marine ERICs to boost cooperation towards UN ocean sustainability goals have been published in January 2020 and are available at:

http://emso.eu/wp-content/uploads/2020/02/EMSO-ERIC-Conference-Statement_FINAL-1.pdf

Task 8.2: Legal aspects of float deployments & operations in EEZ (float deployment and operating)

Discussions are ongoing with international organizations to clarify deployment procedures in EEZs. Lobby activities were undertaken with WMO and IOC/UNESCO Member States to encourage and grant access authorizations in EEZs. Several WMO and IOC/UNESCO workshops were attended on ocean observations in areas under National Jurisdiction to contribute to the regulations evolution and facilitate operational activities for ocean observing implementers. Lobbying activities were carried out with some specific countries, such as France, asking for access authorizations in their EEZs.

Task 8.3: Links with the industry

There are ongoing discussions with manufacturers Teledyne & SBE. During the Deep Argo workshop held in May 2019, manufacturers committed to be transparent on the technology and developments (eg. changes in firmware or monitoring of hardware changes). Arvor/Provor float technical workshop in January 2020 was organised by Argo France and Argo Canada. Four RBR Concerto 6000 metre CTDs were evaluated (P,T,S) for use on Deep floats during a campaign in February/March 2020. There were plans for Vendors Liaison Day side event at Oceanology in March 2020 – this event has been postponed and this plan has to be confirmed with reference to COVID-19. There is a proposal for a major technical workshop to be held at Ocean Business in April 2021.

Task 8.4: Long term sustainability plan, implementation plan & revised Euro-Argo strategy

According to Work Package schedule, Task 8.4 is not due to commence until M30 of the project.

Task 8.5: Coordination with the Argo international bodies

Euro-Argo RISE has been presented at the Argo Steering Team (AST) meeting in March 2019 and the Argo Data Management meeting (ADMT) in October 2019. The planned activities were well received by the Argo international community for the core, the Deep and the BGC missions. Euro-Argo RISE progress on technological, education and data management will be reported in 2020 to the AST and ADMT meetings.

1.3 Brainstorming sessions

The agenda also included **brainstorming sessions** (day 2) and two main topics were selected: 1) impact assessment of the project and 2) user's community. This was a first try to think in a collaborative way on non-technical topics and also an opportunity to (1) start working on the impact assessment of the project and (2) to give insights in the definition of Euro-Argo community to move forward on some of the WP5, WP6 & WP7 activities.

1.3.1 Impact assessment of the project

1.3.1.1 Goals and methodology

The goal of this session was to encourage partners to think at an early stage of Euro-Argo RISE impacts.

It was an approach to (1) link the results to the fulfilment of the objectives identified within the project, and (2) start finding a way to measure the impact of these activities and progress towards the defined objectives.

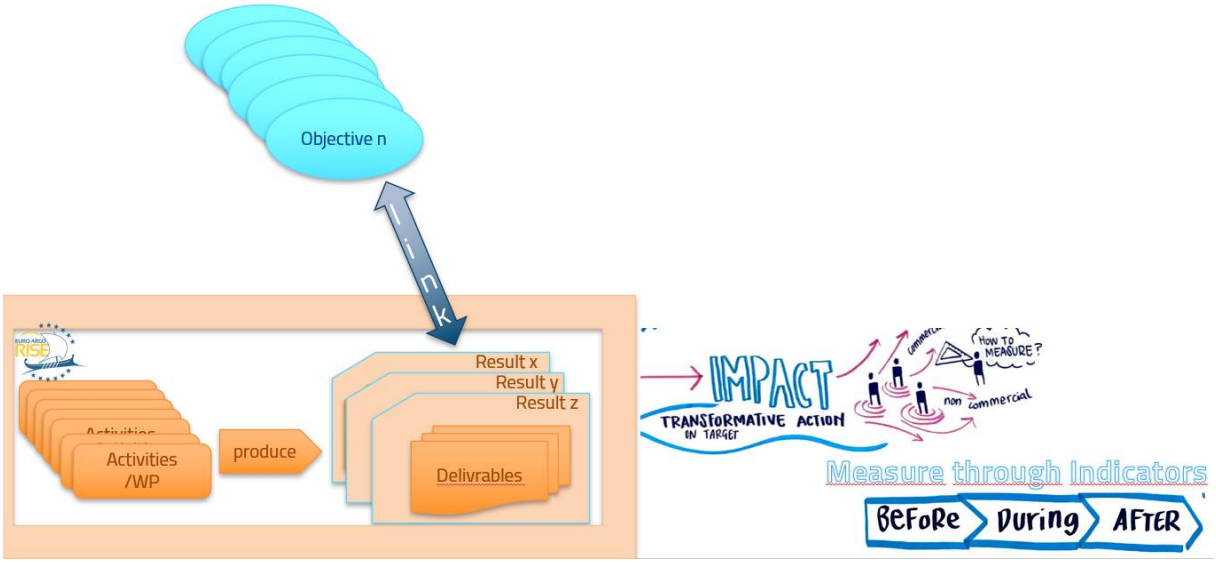

Figure 1: Concept of the impact assessment session

To this purpose, Euro-Argo-RISE Project Office proposed a session based and adapted from the OECD methodology. This methodology, published in 2019, defined 21 core impact indicators for Research Infrastructures across 5 themes (scientific, technological, economic, education and training, social and societal impacts). This methodology was adapted for European projects by Marine Institute (MI) and successfully experienced for another European H2020 project meeting (EuroSea).

A preparatory work was done by the coordination, with the help of MI, to avoid partners to work on a classification step that would have taken too much time during the session. This preliminary work

allowed the coordination to group project deliverables (63 in total) into 16 key results for Euro-Argo RISE. 2 key results were selected for this breakout session: one technology oriented (Diversify sensors for T/S parameters), the other one more user oriented (Argo community enhancement).

Participants, divided into 2 groups, were asked to define indicators (quantitative and/or qualitative) for their key result. Their tool was an empty matrix linking the ten project objectives to the 5 impacts defined by OECD. The idea was also to demonstrate that the delivery of results doesn't guarantee impact.

	For each result, one matrix objectives/impacts				
	Impacts (OECD)				
Specific objectives of Euro-Argo RISE (from 1 to 10):	Scientific impact	Technological impact	Training and Education impact	Economic impact	Social and Societal Impact
1. Improve accuracy of the EOV measured by Argo (T, S, O2, Chl, BBP, Ed, NO3, pH) (WP2-3-4-5)					
2. Guarantee the long-term technological sustainability of the European contribution to Argo by qualifying new sensors for some EOVs and diversifying providers to secure sensor provision at a competitive cost (providing opportunities to new European SMEs to enter the Argo float market) (WP2-3-4-8)					
3. Develop and sustain the Biogeochemical-Argo extension from data acquisition to data management, qualification and products for users consolidating the Argo contribution to biogeochemical and ecosystem ocean research (WP4)					
4. Develop and sustain the extension of Argo towards the deep ocean (WP3)					
5. Increase usability and lifetime of Argo in partially ice-covered areas (WP5)					
6. Investigate the potential of Argo profiling floats in shelf areas to close the gap between open-ocean and shallow waters (WP6)					
7. Increase Euro-Argo integration within EOOS in particular by fostering the links with other ESFRI Marine Research Infrastructures					
8. Enhance services to Argo users (research, regulatory and operational systems), in particular Copernicus Services and EMODnet (WP7)					
9. Promote the importance of Argo to different types of stackeholders, including youth, the general public and also develop awareness to new Argo data users (WP7-8)					
10. Improve the technological and financial sustainability of Argo implementation through the development of Argo innovation potential by fostering relations between researchers and the private sector (SMEs and industry) (WP2-3-8)					

Figure 2: Working matrix for each selected key result

1.3.1.2 Preliminary conclusions for 2 chosen key results

- **FIRST KEY RESULT: 'DIVERSIFY SENSORS FOR T&S'**

The conclusions were presented by the rapporteur (Sylvie Pouliquen, Euro-Argo ERIC). On behalf of partners, she underlined that it was difficult to speak only for T&S and thus proposed to address all variables at the same time (WP2/3/4) and make the link with WP5 and 6.

Thus, results of the working group addressed the diversification of sensors for core and deep T&S, but also diversification of sensors for BGC as well as shallow floats. Results will be extended to under-ice technology improvement.

- ✓ Regarding **scientific impact**, partners indicated that this result will open new fields of research and applications, namely for near surface and coastal (not pumped so less biofouling), for ocean state monitoring (IPCC, CMEMS, OSR), or for BGC and water mass characterisation.

- ✓ Regarding **technological impact**, partners argued that this result will lead to new float configurations available, potential of new floats for new fields (coastal & BGC for MSFD) and a closer collaboration with manufacturers. The Argo experience can also

benefit other networks (ie gliders, EMSO, ICOS), making an economy of scale in development costs.

- ✓ Regarding **training and education impact**, partners acknowledged that new technology will need to be accompanied with training of the team that will want to use them.

- ✓ As for **economic impact**, partners underlined that with new sensors, the market will be open to new companies, developing competition between manufacturers. New fields of applications can also support raising funds to extend the network.

- ✓ For **societal and social impact,** this result will support or extend the field of societal applications: Climate Change (link with Core and DEEP Argo), MSFD, support/improve weather forecast though better provision of near surface measurement (RBR) or global O_2.

Table 1: Summary of proposed indicators for Diversify Argo sensors

Types of impacts	Scientific	Technological	Training and education	Economic	Societal and social
Proposed Indicators	- Number of publications, citations, best practices that will be elaborated and shared with the community; - Tools for fleet operation and monitoring (including failure alerts and reports).	- Number or % of floats deployed with new sensors compared to traditional ones; - Number of recommendations for operating floats in the different environment; - Responsiveness of manufacturer to address issues or cope with evolving needs.	- Number of participants to training on technological issues; - Number of best practices, tools and guidelines for beginners that will be issued; - Number of participants to the training events.	- Number of companies in the Argo market; - Evolution of float and sensor prices; - Evolution of the money needed to fund the Euro-Argo RI.	- Number of IPCC scenarios mentioning Argo - Number of countries considering Argo for MSFD - Number of countries considering Argo as essential for their operational activities (oceanography and weather forecast) - Number of mention of Argo/Euro-Argo/Euro-Argo RISE in newspapers/blogs/ tweets

- **FIRST KEY RESULT: 'ARGO COMMUNITY ENHANCEMENT'**

The conclusions of this group were presented by the rapporteur (Alan Berry, MI). He underlined that even if a link was clear with WP5, 6 & 7 in terms of deliverables, a link also exists with WP4 and WP8 and the brainstorming also included these 2 work packages.

- ✓ Regarding **scientific impact**, partners indicated that the increase in spatial coverage (Arctic, shallow waters…) will lead to new 'regional' data and users. This geographical extension will steer as well new knowledge to fill scientific gaps.

- ✓ For **technological impact**, partners underlined that even if some countries may have other requirements that need technological developments, the link with technology was not so obvious.

- ✓ Regarding **training and education impact**, partners separated the two topics:

  Regarding **training**, they underlined that newcomers will need to be accompanied. An improvement of the knowledge and qualification of new users/operators for all Argo 'fields' will be needed (in terms of deployments, decoding, methodologies to be used for data analysis…).

  As for **education**, partners underlined that new junior and high schools could be reached through outreach activities. Some activities carried out in WP7 and especially the Ocean Observers initiative matches this kind of impact.

- ✓ For **economic impact,** there was a clear trend: more people and more countries involved imply more funds to come for floats and sensors, especially for BGC. This will help to sustain and enhance the network.

- ✓ For **societal and social** impact, this result will help reaching and informing policy makers and stakeholders, enhancing environmental monitoring (Good Environmental Status – GES-, MSFD), but also developing public 'games' related to climate change (as existing 'Adopt a float', Wesstiti…).

Table 2: Summary of proposed indicators for Argo community enhancement

Types of impacts	Scientific	Technological	Training and education	Economic	Societal and social
Proposed Indicators	- Number of used profiles (DM/BGC); - Number of publications /presentations/conferences.	No indicator was found nor discussed.	**Training indicators**: - Number of guidelines published; - Number of trained personal and operators (QC/DM…); - Number of PhD students using data. --- **Education indicators**: - Number of OceanObservers courses delivered; - Number of school teachers attending OceanObservers workshop.	Indicators are qualitative and addressed: - Internally speaking, more money will come in. - Externally speaking, enhancing the community will help to save other people money on research equipment. There should be a reduction of operational costs through cooperation between the community (new and existing actors) for deployments, recovery…	- Number of profiles used for every national MSFD report - Number of website visits/users for public games.

1.3.2 User's community

1.3.2.1 Main goals

The second brainstorming session tackled the user's community topic. Euro-Argo RISE project covers many different aspects related to the Euro-Argo Research Infrastructure, not only the scientific and technological aspects but also the links with a large range of stakeholders.

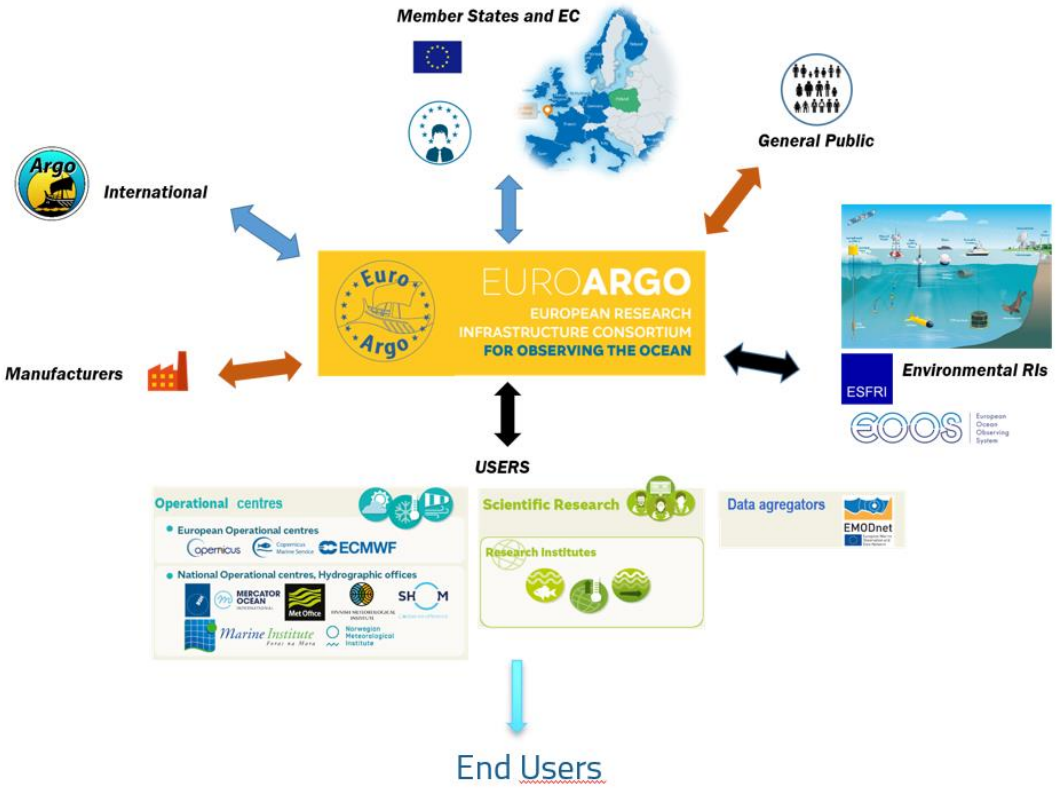

Figure 3: Euro-Argo interaction with all the different categories of stakeholders

This session focused on what Euro-Argo call “users” (at the bottom of figure 3). The goal of this session was (1) to work on users definition to have a clear picture of the whole landscape around Euro-Argo but also (2) to take better advantage of activities carried out within Euro-Argo RISE to reach new users and so to maximize the impact of these activities.

Partners were split into two groups and asked to work on:

- The existing users. Are we exhaustive? Do you forget any categories of users?
- New users. Which communities to engage with? Through which kind of actions, within and beyond the project?

1.3.2.2 First insights

- **GROUP 1:**

In the first group, two major questions were raised:

1. Who are the users – we know the user groups, but not necessarily the individual users within them.
2. It is important to find out what our users want and need.

The first insights of this group are presented by categories of users (existing and potential) linked to proposed actions related to these users' needs.

Scientists - existing users

The present communication and data extraction services target scientists, our main public. By improving outreach to this group and focusing on them first, Euro-Argo should indirectly improve its services to other users.

Modellers - potential users

We need to target modellers – both operational forecasting and climate services. This community of users is important and however, it is still unclear who are using Argo data and who have potential/interest to use Argo data in this community. Moreover, we don't know what modellers need.

Activities in WP7, through the assessment of users need (Task 7.1) and the work with ECMWF and C3S on a Memorandum of Understanding, will help to better understand and target this community.

Focus on BGC Argo – existing users

BGC Argo is a rapidly evolving field. There already exists data that can be used and through the Euro-Argo RISE project, more qualified data will be available. We need to promote the DMQC work done within Euro-Argo RISE, and we need to promote the added value of such data for modelling activities (data assimilation, model development…) and also for MSFD work (CIESM, HELCOM, OSPAR).

Other RIs – potential users

We need to connect with the other RIs, and inviting them to our meetings (planned in the project) was seen as a first step.

Private users – potential users

Ocean Business (together with other ERICs) would be a good opportunity to reach private users.

Regional Operational Oceanographic Systems (ROOS) – existing and potential users

We need to promote the work done for the marginal seas to the ROOSes who are not presently engaged with Argo. These are Ireland-Biscay-Iberia ROOS (IBI-ROOS), North-West Shelf ROOS (NOOS) and Arctic ROOS. The EuroGOOS conference has been identified as a good opportunity to promote Argo work done within BOOS and MONGOOS.

Fisheries – potential users

Euro-Argo community can provide them with environmental information. Euro-Argo community is already providing data and products to the "International Council for the Exploration of the Sea" (ICES). It was suggested to circulate the information already available in the ICES reports, to be able to define a common approach for national representatives to promote the possibilities of Argo data.

Indirect users through downstream services and associated products – unknown users

Indirect users of Argo via downstream services are numerous and it's important to know them and to understand why they use downstream services instead of Argo services directly: easier access for them, simplified products that fit their needs… Some products exist at Member State and it would be

interesting to provide access in dedicated portals (together with custom-made Argo-School portals) and monitor their usage.

- **GROUP 2**

In this group, the brainstorming mainly tackled the definition of Argo users, i.e better define existing users and new users.

Regarding the existing users, difficulties for characterizing them were shared. There was a consensus about the absence of a single point of entry for Argo data, which makes it difficult to know and monitor the users. Moreover, Argo policy, as an open and free data policy, has some inconvenience as there are most probably some users whom we don't know. At the national level, it is also difficult to know the users: once outside of an immediate circle of contacts, users are much unknown.

Students

A remark arose regarding attendance of user meetings: it is mainly high level people and few students attend. We need to attract more students that work with Argo data was mentioned.

Regarding Argo bibliography (bibliography of papers published on profiling floats), it does not include BSc, Msc levels due to publication in journals.

Primary users – operational centers

From another side, in the case of a GTS data stream outrage, it could help to know who uses this portal to access Argo data (already noticed once). Nevertheless, the issue would be who to contact to get support in this case.

Secondary users

The difficulties are to know who are behind these secondary users. Thoughts were about the general public that access Argo via websites. Also the media/press dissemination (interviews, articles…) cannot be tracked, although advertising the Argo programme.

There was a clear separation between direct and indirect users by this group. The results for existing users are summarised in the table below.

Table3: Summary of existing users for group 2. Note that there is no relation between the two columns, except for Copernicus example.

DIRECT USERS	INDIRECT USERS
<u>Scientists:</u> - Physics - BGC Scientific community includes: - University Grade, post-doc, PhD, Principal Investigators… - Remote sensing (physics) - Regional bodies: ICES (climatologies), CIESM (Mediterranean)… Data aggregators <u>Operational services:</u> - Copernicus ⟶ - Met - Navy Oceanographic modellers Web developers/freeware	Argo Information Center (AIC) National info pages/web hits/analytics IPCC reports Commercial companies (services/manufacturers/fishing) International Councils (ex: ICCAT – International Commission for the Conservation of Atlantic Tunas) Product/service users

Regarding the new/future users, a list of potential 'targets' was made. It was raised that new/other users would also depend on future Argo development tools. Partners agreed on a step by step approach, i.e. contact first people to introduce them to Argo. This approach could be done at two levels: the ERIC level and the national level (Ex: UNEP level *vs* UNEP-MAP level). The summary of new/future users is presented in table 4.

Due to a lack of time, only a few actions were proposed to promote Argo to new users (products and data).

For products users, the current difficulty is to make them realise they are using Argo data (Argo is not mentioned in the products). One proposal was to use metadata to list where the data come from.

→ See with other RIs (ICOS…) how they deal with the traceability of the data.

For data users, there was a suggestion to improve services directly at the GDAC level.

Table 4: Summary of new/future users

NEW / FUTURE USERS
Ocean Colour remote sensing community : Need download verified data for Chlorophyll.
Environmental science, ecosystem functioning
Biologists community (very large – need to better define who they are)
Environmental research infrastructures: ICOS + other ERICs /RIs / OceanSites / OOS / GOSHIP / etc…
Commercial companies
INTAROS community (Arctic community)
Environment Agencies (GES, etc…) – These targets would need products and not data (see Copernicus example in table 3)
Regional bodies: HELCOM, OSPAR…
Fishing communities (International councils…)
Ship routing/vessel operation modelling (Arctic passage)
UNEP Conventions

This session allowed to define existing users and potential ones. It will provide some keys for WP7 activities, especially for the spread of questionnaire on assessment of user needs (Task 7.1). WP5 and WP6 activities will also help to reach some of them with the planned workshops to expand Euro-Argo community. It is worth underlining that despite being separated in two groups, partners have common thoughts on future users. These are modellers, BGC users, regional bodies (HELCOM, OSPAR…), other environmental Research Infrastructures (RIs), Operational Oceanographic Systems (Regional ones) as well as fisheries and private companies.

1.4 Update on the project: reporting, general communication and feedback from the Management Board

1.4.1 Guidelines and deadlines proposal for 1st reporting period

An overview of the work accomplished so far and to be completed by the end of the first reporting period was introduced by Estérine Evrard (Euro-Argo ERIC). A reminder on the validation process defined for milestones and deliverables was also done to all partners.

Rules of the first periodic report and actions to be carried out by partners were described. The two parts composing the technical report (part A and part B) were explained and associated deadlines were exposed. Involvement of each partner was requested to keep the proposed schedule.

Agreement on deadlines for technical report Part A (end of May 2020), and technical report Part B (mid-July 2020) was reached.

A reminder on financial reporting was also done, with an associated deadline to end of July to allow coordination to cross-check with the technical report. This proposal will allow for a submission of the whole report by mid-August.

1.4.2 Communication issues: update on actions carried out

Communication activities undertaken during this first year were presented by Estérine Evrard (Euro-Argo ERIC), including a few reminders on the internal communication (within the project's consortium). External communication actions in Euro-Argo RISE were defined at the beginning of the project through the communication strategy (Deliverable 7.1, project communication plan). The implementation of this strategy was made through 3 steps. First, creating a visual identity available to all partners, then sharing project outcomes to all Euro-Argo stakeholders (main channels used: website, Twitter, newsletter) and finally enhancing the visibility of Euro-Argo ERIC via mainstream media and events (attended and organised).

Key Performance Indicators for the selected channels were exposed to the partners as well as future plans for the coming months.

Partners were encouraged to use the available materials (pictograms, roll-up, graphic charter) to make the project dynamic, as well as share any information with the project office to communicate on.

1.4.3 Feedback from the Management Board (Advisory Structure) on the Project

As Chair of the Euro-Argo ERIC Management Board, Birgit Klein (BSH) presented the feedback from one of the advisory structures of the project. She displayed how the achievements of Euro-Argo RISE will contribute to the Euro-Argo ERIC 5-year work-plan for the 2019-2023 period. Indeed, the Euro-Argo RISE project is organized in 8 work packages that allow the project to progress along Euro-Argo 5-Year plan objectives, contributing to all five objectives of the plan.

Moreover, an important issue raised was to focus not only on the mature parts of the observing system and infrastructure (namely T&S 0-2000m from 60N to 60S as well as in Marginal Seas), but also on the part that is in pilot phase (BGC, deep Argo missions) or concept testing (under-ice regions and shallow waters). The project will allow key players to start work on these topics.

Finally, Birgit Klein underlined that the project will allow the development and sustainability of the infrastructure and observing system through various types of innovation, such as technological innovation, data management or community innovation.

1.5 Conclusion of the GA

This General Assembly was an opportunity to gather partners after more than one year of progress. Conclusions are that the project was on track, many activities progressed well. Work to be done in the future periodic report was exposed and all partners are aware of their duties for the reporting (technical and financial).

Some WP leaders took advantage of the Euro-Argo RISE week to extend the work during WP meetings (WP2 / Github tutorial and WP8 / updates). An Executive Board also closed the week for WP leaders and was the opportunity to discuss remaining issues and organisation for the reporting.

2 Annexes

2.1 Agenda

1st GENERAL ASSEMBLY
FINAL AGENDA

Date: 03-05 March 2020

Paris – Sorbonne University

Euro-Argo Research Infrastructure Sustainability and Enhancement Project (EA RISE Project) - 824131

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 824131.
Call INFRADEV-03-2018-2019: Individual support to ESFRI and other world-class research infrastructures

DAY 1 - Tuesday 03 March 2020

13:30	Registration	
14:00	Welcome and overview on Euro-Argo RISE	**Sylvie Pouliquen *(Euro-Argo ERIC)***
1. Project review: Progress and main achievements by WP. Duration: 02h30 – Room 107 - CICSU		
14:20	WP2	**Guillaume Maze *(Ifremer)*** *Partners involved: EA ERIC, BSH, FMI, IEO, IO PAN, IPMA, NOC, OGS, SOCIB, SU, JCOMMOPS*
14:40	WP3	**Pedro Velez-Belchi *(IEO)*** *Partners involved: Ifremer, NOC, OGS*
15:00	WP4	**Catherine Schmechtig on behalf of Fabrizio D'Ortenzio *(SU)*** *Partners involved: ACRI-ST, BSH, FMI, GEOMAR, Ifremer, NOC, PML*
15:20	WP5	**Laura Tuomi *(FMI)*** *Partners involved: BSH, IMR, IO PAN, NOC, SU*
15:40	Coffee Break – Room 102	**20 min**
16:00	WP6	**Dimitris Kassis *(HCMR)* on behalf of Giulio Notarstefano *(OGS)*** *Partners involved: FMI, HCMR, IEO, IO BAS, IO PAN, SOCIB, SU*
16:20	WP7	**Claire Gourcuff *(E-A ERIC)*** *Partners involved: FMI, HCMR, IEO, Ifremer, MI, SOCIB, SU, JCOMMOPS*
16:40	WP8	**Alan Berry/Deirdre Fitzhenry *(MI)*** *Partners involved: EA ERIC, BSH, HCMR, IEO, IPMA, NOC, SOCIB, SU, JCOMMOPS*
17:00 - End of Day 1		

SOCIAL EVENT: Meet at **19:00** at La Machinerie (bar/restaurant) to share a glass of wine and some food (suitable for vegans).

DAY 2 - Wednesday 04 March 2020

Wednesday morning - Breakout sessions Rooms 107 and 116 - CICSU		
Note: Some documentation has been gathered in an online repository, so partners can start thinking about the session ahead, and be able to contribute to the discussion.		
09:00-11:00	**2. Impact assessment session or 'How to evaluate the impacts of Euro-Argo RISE project?' Duration: 02h00**	
09:00	**First part: ALL PARTNERS. 30 min – Room 107** • Session objectives - why evaluating the impacts of the project? *5 min* • Methodology introduction. *15 min* • Working on some examples extracted from Euro-Argo RISE. *10 min*	**Sylvie Pouliquen *(EA ERIC)*** **and** **Kieran Reilly *(MI)***
	Preparatory work: Have a look in the dedicated folder on Google Drive	
09:30	**Second part: 2 working groups in parallel. 90 min – Rooms 107 and 116** **1 "rapporteur" per group to be defined.** Each group should work on: • Step 1: characterisation (Linking results and impacts), • Step 2: quantification and indicators follow-up (defining indicators and their follow-up)	**Chairs** **Group 1: K. Reilly *(MI)*** **Group 2: S. Pouliquen *(EA ERIC)***
11:00	Coffee Break – Room 102	**30 min**
11:30-12:30	**3. User's community or 'Users: who are they?' Duration: 01h00**	
	First part: Introduction. ALL partners. 15 min – Room 107 • Euro-Argo community: overview • What is done in Euro-Argo RISE to reinforce and enlarge Euro-Argo community?	**Claire Gourcuff *(EA ERIC)***

	<u>Second part: 2 working groups in parallel. 45 min – Rooms 107 and 116</u> **Define 1 "rapporteur" per group.** Each group should work on: • Who are Euro-Argo users? • Which new communities to engage with? • Through which kind of actions?	**Group 1: Alan Berry *(MI)*** **Group 2 : Laura Tuomi *(FMI)***
12:30	Lunch – brasserie l'Ardoise – Sorbonne University	**90 min**
Wednesday afternoon – Plenary session. **4. Feedbacks and future work in the coming months.** **Duration: 02h30 – Room 107 - CICSU**		
14:00	Presentation of the group discussion outcomes: 15 min per working group	**Designated "rapporteurs" from each group**
15:00	WP1 Project management: project progress and 1st reporting period	**Estérine Evrard *(EA ERIC)***
15:30	Coffee break – Room 102	**30 min**
16:00	Euro-Argo RISE communication updates and future plans	**Estérine Evrard / Claire Gourcuff *(EA ERIC)***
16:20	Feedback from the ERIC Management Board: How achievements from Euro-Argo RISE project will contribute to the Euro-Argo ERIC work plan for the next 5 years	**Birgit Klein *(BSH)***
16:40	Concluding remarks	**Sylvie Pouliquen *(EA ERIC)***
17:00 - End of Day 2 **End of the General Assembly**		

DAY 3 - Thursday 05 March 2020

Thursday Morning - WP meetings **Conference room – UFR TEB** **Block 46/56 – 2nd floor**		
09 :00	**WP2 Meeting**: Update and tutorials on the QC collaborative framework https://github.com/euroargodev **Note**: This session is open to all project members, in particular for WP3 and WP4 in order for the Deep and BGC community to be informed and incitated in adopting the QC collaborative framework.	**Open to ALL partners**
10:45	Coffee break – Conference room – UFR TEB	**15 min**
11:00	**WP8 Meeting:** Update and plans for progressing the tasks in 2020	**WP8 partners** *MI (Lead), EA ERIC, BSH, HCMR, IEO, IPMA, NOC, SOCIB, SU, JCOMMOPS.*
12:00	Lunch	**60 min**
Thursday afternoon – EB meeting **Room 116 – CICSU**		
13:00	Executive Board Meeting	**Restricted to WP leaders and Project Coordinator only**.
14:30 – End of Euro-Argo RISE meetings		

2.2 List of participants

First Name	Surname	Organisation
ALLEN	John	SOCIB
ANDRE	Xavier	Ifremer (remote - day 1)
ANGEL BENAVIDES	Ingrid	BSH
BERGER	Agnès	Euro-Argo ERIC
BERRY	Alan	Marine Institute
BOLLARD	Marine	Euro-Argo ERIC
BRETAGNON	Marine	ACRI-ST (remote)
CABANES	Cécile	CNRS
CANCOUET	Romain	Euro-Argo ERIC
COATANOAN	Christine	Ifremer
DALL'OLMO	Giorgio	PML (remote)

DESBRUYERES	Damien	Ifremer
DIAZ	Lara	SOCIB
DONNELLY	Matthew	NOC-BODC
EVRARD	Estérine	Euro-Argo ERIC
FITZHENRY	Deirdre	Marine Institute (remote)
GARCIA JUAN	Andrea	Euro-Argo ERIC
GOURCUFF	Claire	Euro-Argo ERIC (remote)
JUTARD	Quentin	SU/ECCE-TERRA
KASSIS	Dimitris	HCMR
KLEIN	Birgit	BSH
LEYMARIE	Edouard	SU/LOV (remote - day 1)
MANGIN	Antoine	ACRI-ST (remote)
MAZE	Guillaume	Ifremer / LOPS

MERCHEL	Małgorzata	IOPAN
MORK	Kjell-Arne	IMR
POFFA	Noé	Ifremer (remote - day 1)
POULIQUEN	Sylvie	Euro-Argo ERIC
POTEAU	Antoine	SU/LOV
PRIETO	Eva	Ifremer
REILLY	Kieran	Marine Institute (remote - day 2)
RUIZ PARRADO	Maria Inmaculada	SOCIB (remote)
RUSCIANO	Emanuela	JCOMMOPS
SANTOS	Antonio Miguel	IPMA
SCHMECHTIG	Catherine	SU/ECCE-TERRA
SIIRIA	Simo-Matti	FMI
SLABAKOVA	Violeta	IO-BAS

TINTORE	Joaquin	SOCIB (remote)
TUOMI	Laura	FMI
VELEZ-BELCHI	Pedro	IEO
WALICKA	Kamila	NOC-BODC