

EMBRC HQ Update - N.03

15th October 2016 – 15th Jan 2017

Prepared by: *Ilaria Nardello, EMBRC-ERIC Executive Director*

Background: *The EIB requested the ED to regularly prepare an update on the work progress, with a monthly-bimonthly frequency.*

Scope: *to Update the EIB on progress of main items of the work activity at the Headquarters.*

ERIC application

- The final version of the EMBRC-ERIC **Statutes** and **Technical and Scientific Description** were unanimously approved by the EIB on the 20th of January 2017. A grammar revision is being carried out by Simon Berkowitz – with thanks. As soon as this is finished, the Statutes will be sent for translation (2-4 days of work).
- **Letters of support by Members** are required to support the final application. From the previous discussions at the XIV EIB meeting, in Madrid, various Members requested **other documents to be presented** and evaluated, before submitting a letter of support:
 - **Business Model (including Service Offer)**
The EMBRC-ERIC Business Model was presented to the CoN, during the meeting in Oostende, on 08th December 2016. The discussion substantially validated the model proposed, including the service offer description. With this support and taking into account the comments received, the business model was offered in a MS Word version to the EIB for evaluation, on the 19th of December. EIB comments have been received until the 21st of January; the Belgian delegation requested more time for the assessment. A presentation of the Business model is on the agenda for the EIB XV meeting.
 - **Service Level Agreements template**
An SLA template was initially submitted for discussion during the EIB XIV meeting, in Madrid, however the item was not discussed. The same document was presented to the CoN, 08th December 2016, also at the presence of our Legal Counselor Oskar Ozun. The CoN responded positively to this initial

document and provided some input for modifications.
A revised draft will be presented at EIB XV, in Paris.

Towards the EMBRC-ERIC Operational Phase

- **Rules of Operation (RoOs)**

- A draft RoO (V2.1) was submitted for the first time to the EIB for the 14th meeting, in November; the item was not discussed and no feedback was received in any other form. The item is quite mature and is only required for the operational phase of EMBRC. The item is not on the EIB XV agenda.

- **External Expert advice**

- The Secretariat is procuring the legal and technical advice to define relevant EMBRC policies: Intellectual Property, Data Management, Employment and general contracting needs.
- The Secretariat is also procuring business and administration advice, to complete the business plan and to prepare the operational phase of the Secretariat.

- **EMBRC-ERIC retro-planning**

- The Secretariat is investigating and describing the various steps to transition our consortium into the legal entity “EMBRC-ERIC”. The process to transfer our Consortium assets, from UPMC towards EMBRC, is being fully detailed as part of this exercise.

EMBRC Development

- **E-Infrastructure**

- **WG E-Infrastructure** – A third meeting, among only EMBRC representatives, was held on October 26th-27th to implement the suggestions received by the expert group in the previous meeting (September) and detail the needs of the EMBRC community, from multiple perspectives: the EMBRC-ERIC Consortium, the users, the cognate RIs. A fourth meeting was held on the 14th-15th December 2017, with invited experts from other RIs and relevant initiatives, who commented: **“WGEI is on the right track: the approach is thorough and we are confident that the current process will**

generate a sensible output.” The agendas and minutes of both reports are available in Appendix 1 and Appendix 2, respectively.

- **Access Portal** – A two-day workshop was be organized in December to demonstrate and perfect this component, delivered by VLIZ through EMBRC_PP2. The target audience was the CoN Members (primary and secondary) and the Liaison Officers. Two main issues were identified with the current instance of the Portal:
 - The impossibility for the user to log a “general request” onto the Portal: this is essential for the various cases where a clear entry cannot be envisaged and especially to allow the user to make contact with EMBRC without the need, at least initially, to launch into a complex project description;
 - The need to adjust the categorization of the service offer, at the high level; and to harmonise the description of the items in the various sub-categories.

A small **Working Group** was set up to propose how to approach these issues, and will report to the ED at the end of January.

A real-life **Test Case** for the access portal was identified in a request for services by a team of Researchers at U.Vigo. The service request entails the collection of live bivalves from the environment from various EU places. It will therefore request a coordinated effort among EMBRC Partners. The effort is coordinated by EMBRC headquarters through the Spanish Liaison Officer (A. Villanueva), who is close to the project.

Recruitment/Personnel

- **IT officer (0.5 FTE)**

Given the urgency to deal with the issues of the EMBRC website, and given the fact this is being hosted by VLIZ, we are looking for a solution with VLIZ to provide appropriate support and rapidly revamp the EMBRC website. Negotiations are on going with VLIZ for a service agreement (hiring or secondment of a person were not feasible options).

- **Scientific and Technical Communication Officer (0.5 FTE)**

This post will be advertised shortly. If this was of interest to any member, secondment or service agreement could be discussed. Please note that these options may, or not, be provided “in kind”, according to the EIB discretion. The selection procedure will in any case apply.

- **Financial Officer (1.0 FTE)**

EU relations

- **EU Lobbying**
 - Meeting with Mrs. Sigi Gruber, Head of the Marine Unit of the DG Research and Innovation planned on February 09th, 2016.
 - Attended the Commission's Workshop on RI sustainability, 25th of November 2016.
 - Attended the ESFRI "Roadmap 2018 Info Day" and the "Exchange of Experience Workshop", on 17th -18th of January, in Malaga (ES).
 - 5th "ERIC network" meeting, 08 Nov. 2016, Paris

Projects

- **EMBRIC**

Following exchanges with Bernard Kloareg, the EMBRIC coordinator, more frequent and formal exchanges between EMBRC ED and the project coordinator are being planned: the first, in November 2016, in Paris, to discuss the EMBRIC position paper, was very useful to remap the respective positions of the project and EMBRC. These agreed positions were reported into the CoN meeting, in Oostende, in December 2016, where Bernard Kloareg clearly referred to EMBRC as an EMBRC-led project. A third meeting is scheduled for the 31st of January 2017, to discuss the Transnational Access call of the project, which has provided an opportunity to test the interactions between Headquarters and Nodes, as well as among RIs. The ED has also agreed to participate in the EMBRIC Advisory Board, either directly or through an alternate. The first meeting of this board is planned on the 15th of March 2017. The EMBRC representatives on the EMBRC advisory Board (either the ED or a substitute) will also be part of the project's User Selection Panel.

- **ENVRI Plus**

The ENVRIPlus General Assembly was held in November in Prague. The Executive Director nominated Nicolas Pade to represent her on the Executive Committee.

- **AssemblePlus**

A final formal response on the outcome of the AssemblePlus proposal is expected imminently. The Head of the RI Unit with DG Research and Innovation confirmed to the ED that 19 projects will be funded, out of the total call budget. As we ranked 17th, a positive communication should reach us soon.

State of the Union

- **Financial Agreements among current consortium Members**

Belgium, Norway and Israel have not signed the financial agreements to support the EMBRC Implementation Phase for the year 2017. Except Israel, all members have signed the financial agreements to support the EMBRC Implementation Phase for the year 2016.

From conversations with the Delegations of these countries, it is expected that Israel will shortly be in a position to conclude the signature of the contract, whereas the position is less clear for Belgium and Norway: the first depending on administrative matters; the second on their ability to position EMBRC Norway on the national RI infrastructure roadmap.

The EIB may want to clarify the position of those Members who could not sign the EMBRC-IP financial agreements for 2017, with respect to voting procedures for 2017.

- **Potential New Members**

- Finland approached us requesting information to be submitted to their agencies for a final evaluation of their interest in joining the EMBRC.

Appendix 1

EMBRC e-infrastructure working group (WGEI) meeting, III

October 26th-27th 2016

EMBRC Headquarters, 4 Place Jussieu, Paris. UPMC Campus, Tour 46/00, 1er étage

Meeting Report

Present members

- Klaas Deneudt (WGEI Chair; VLIZ, EMBRC-BE);
- Ilaria Nardello (EMBRC HQ);
- Marco Borra (SZN, EMBRC-IT);
- Erwan Corre (SBR, EMBRC-FR);
- Mark Hoebeke (SBR, EMBRC-FR),
- Lennert Tyberghein (VLIZ, EMBRC-BE);
- Dan Lear (EMBRC-UK) (through Skype);
- Stefanie Dekeyzer – rapporteur (VLIZ, EMBRC- BE)

Excused Members

- Claire Gachon (EMBRC-UK), Georgios Kotoulas (HCMR, EMBRC-GR), Michel Groc.

The report of the previous meeting was adopted; no further remarks were made on the report.

First order of business was to **wrap up the use cases and e-infrastructure requirements**. During a summary presentation, an overview was given about the topics discussed during the previous WGEI meetings: the definition of the term e-infrastructure, the European e-infrastructure landscape, the EMBRC WGEI process, the EMBRC use cases, the required e-infrastructure components, and the e-infrastructures architecture.

When the slide with the EMBRC WGEI process came up, some discussion arose about the

presented scheme: the order of and the link between the building blocks E-infrastructure architecture, Implementation scenarios, Prioritization, and Development & Cost implications, should be discussed further.

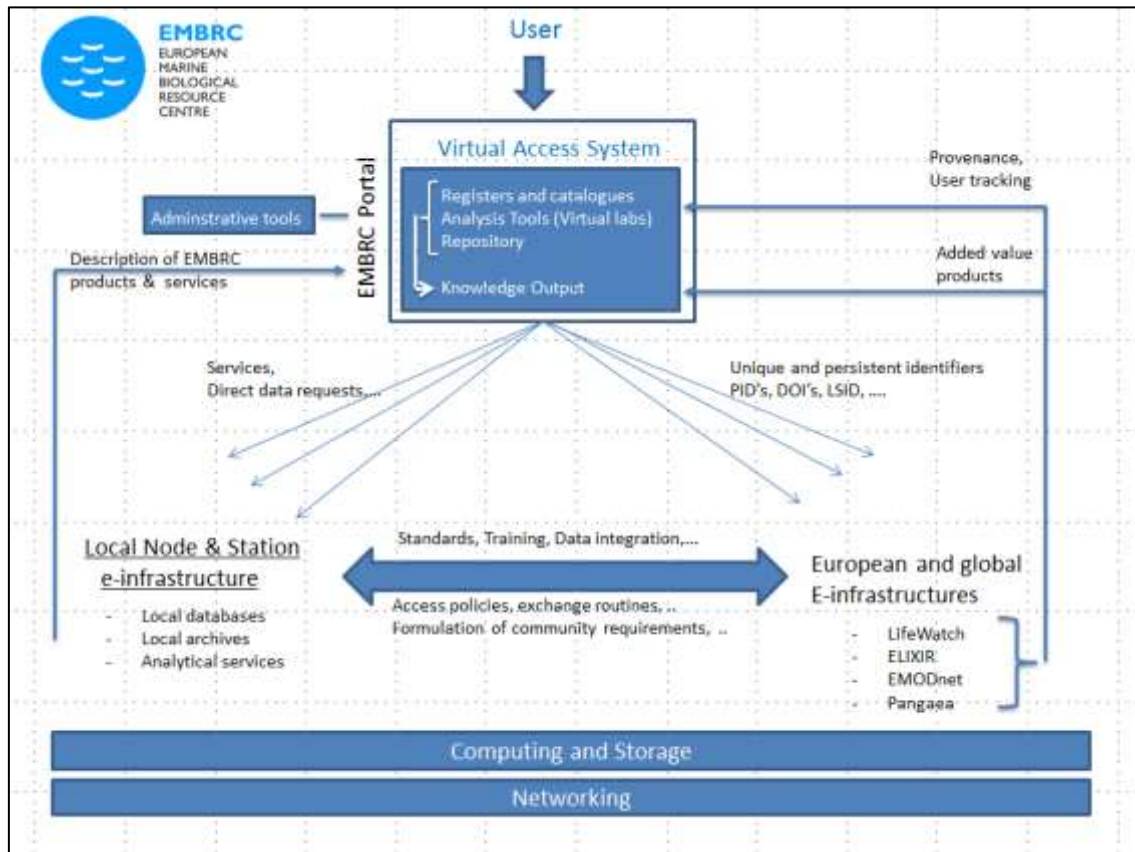
From the spreadsheet with e-infrastructure requirements, a list of unique required components was distilled. During the meeting, this list was slightly adapted. It was also remarked that some other requirements are probably still missing from this list (e.g. a centralized user register, email system [own system is preferred, so then also security is needed], virtual conference system; etc.). From the EMBRC management point of view, all e-infrastructure requirements need to be identified and listed in order to assess required resources for the development or implementation. The list of required components was during the meeting referred to as the “shopping list”:

- Administrative tools
 - Service request system
 - Booking system
 - Financial administration system
 - Project management system
 - Document management system
 - Event management system
 - User registry
- Registers and catalogues
 - Central Service register
 - Sample
 - Literature
 - Expert
 - Culture
 - Analysis methods
 - Dataset
 - Training
- Knowledge output module
- Repositories
 - Dataset and raw data file repository
- Integrated thematic databases
 - Sequence data database
 - Reference molecular data
- Taxon observation data database
- Ecological and environmental data database
- Analysis tools
 - Sequence data processing tools
 - Virtual analysis platform
- Human resources
 - BioInformaticians
 - Data scientists
 - IT staff
 - Liaison officers
- Local databases
 - Local monitoring databases
 - Lab or Field Information System
- Data storage and computing capacity
 - Local
 - Shared
- Networking and connectivity
 - Local
 - Central
- Training
 - Online training platform
 - Trainers



It was discussed that the list of administrative tools might not be complete and should be checked. Some discussion arose about the raw data storage, whether the data should be stored locally and/or in an EMBRC shared repository. One suggestion was for EMBRC to have a dedicated repository for data which fits in no other already existing repository. Whether or not EMBRC should have other dedicated repositories, is a strategic choice. The required central and local components were also presented schematically. It was agreed the scheme should be slightly adapted: websites and registers & catalogues should also be available at the local level.

The last slide in the presentation showed a first draft towards a possible approach for the EMBRC e-infrastructure architecture:



This architecture scheme suggests a two-way interaction between EMBRC and related e-infrastructures such as LifeWatch and ELIXIR. EMBRC nodes receive the necessary training to comply to standards and make use of European e-infrastructures and their components. These e-infrastructures should take into account the specific requirements of the EMBRC community and provide visibility to EMBRC output.

At the same time EMBRC needs direct user access to its knowledge output. This can be realized by setting up a virtual access system that has a number of central services and has a register that keeps track (making use of persistent identifiers) of resources that have been contributed to external systems in the framework of EMBRC. It should be possible to keep track of the provenance and the use of these resources. Added value products could be created in the framework of EMBRC as part of the knowledge output.

A question arose about the ownership of the data, and how EMBRC can enforce the researchers who pay for the EMBRC services to make their resulting data available through EMBRC.

Consensus of the meeting was that as a general rule the data should be open eventually, but that there could be different modalities for different user groups and a moratorium period could be proposed (with an option of prolongation for specific cases). It was agreed a data policy document is needed to explain data authorship, intellectual property rights and moratorium for public data. Such document should be prepared in collaboration with a lawyer.

After coffee break, the **architecture options and prioritization** were discussed further. The EMBRC shopping list was transformed into a spreadsheet and the importance of the service components was prioritized at four community levels: (1) the EMBRC management (including the liaison officers), (2) the operators (including the EMBRC nodes where the services reside), (3) the EMBRC users, and (4) other RI's. Four priority categories were used: Must (priority score = 3), Should (priority score = 2), Could (priority score = 1) and Won't (priority score = 0). An additional column will contain the final priority score, which will be calculated either by adding up or weighing the individual scores.

The spreadsheet should be interpreted in the following way: *"In the framework of EMBRC good operation, X (Management, Operators, Users) would state that EMBRC should have component Y (develop, co-develop component Y or link up to existing component)".* It was agreed some explanations need to be added to make the spreadsheet more understandable for outsiders.

Some discussion arose about the service component "financial administration system", whether or not this is also a must for operators and users. Also the service component "knowledge output module" needs some further discussion (should be a showroom for the EMBRC projects and their output). It was discussed that the related e-infrastructures should be consulted about how and what they can offer for each service component.

On day two of the WGEI meeting, the required **SWOT analysis** was planned and discussed. The initial goal of this analysis was to guide the (1) integration, (2) co-development, and (3) independent development of the EMBRC e-infrastructure; or in other words to decide whether or not EMBRC will build and develop everything from scratch. A draft SWOT analysis for each level was presented. It was agreed the definitions for strengths-weaknesses-opportunities-threats should contain the term "e-infrastructure". Some discussion arose about the term "integration". "Integration" implies building something new and operating this from within EMBRC, whereas "interoperation" implies linking to

already existing systems and use them. Therefore it was suggested to perform a SWOT analysis at the following four levels (as opposed to the original three levels): (1) individual development, (2) development, (3) integration, and (4) interoperation. It was further suggested to perform these four SWOT analyses for each service component, and to add a time and cost assessment (based on expert input) and final priority score for each of these. With 30+ components, this would make for 120+ SWOT analyses. The WGEI made a commitment to have these 120+ SWOT analyses ready by the December meeting (meeting with invited experts).

Next on the agenda was the **inventory of and mapping to components of related e-infrastructures**. Instead of immediately sending out a survey to each related RI, the WGEI will start the exercise to compile this list of available components. This should be quite straightforward, since for many of these RI's, the status of the components will be well-developed. For components the WGEI needs consultation or clarification, the RI's will be contacted.

Regarding the **questionnaire for expert consultation**, it was agreed such questionnaire can only be sent out, when the above is finished.

During the December WGEI meeting (14th-15th), one full day will be reserved for expert interaction (experts invited during July meeting + additional experts), and at least half a day for WGEI members only. It was agreed the experts should be invited as soon as possible.

As the last order of business, Dan Lear (who participated through Skype), requested some information describing some EMBRC data products that could be exposed through the ENVRI+ catalogue. It was explained this information on EMBRC services is already available through <http://www.corbel-project.eu/participants/embrc.html>. Dan Lear will translate this information into a PowerPoint presentation.

EMBRC e-infrastructure working group (WGEI) meeting

December 14th-15th 2016

EMBRC Headquarters, 4 Place Jussieu, Paris. UPMC Campus, Tour 46/00, 1er étage

Report December 14th: Second consultation meeting, with invited experts

Present members and invited experts

- Klaas Deneudt (WGEI Chair; VLIZ, EMBRC-BE); Ilaria Nardello (EMBRC HQ); Arnaud Delimoges (EMBRC HQ); Marco Borra (SZN, EMBRC-IT); Mark Hoebeke (SBR, EMBRC-FR), Lennert Tyberghein (VLIZ, EMBRC-BE); Dan Lear (EMBRC-UK); Stefanie Dekeyser - rapporteur (VLIZ, EMBRC-BE) ; Simon Claus (VLIZ, EMODNet biology); Christos Arvanitidis (HCMR, EMBRC-GR, Lifewatch); Jesus Marco de Lucas (IFCA, EGI)

Excused members and invited experts

- Erwan Corre (SBR, EMBRC-FR); Claire Gachon (SAMS, EMBRC-UK); Georgios Kotoulas (HCMR, EMBRC-GR); Michel Groc (OOB, EMBRC-FR); Petra ten Hoopen (EBI, Elixir); Renzo Kottmann (MPI Bremen)

The invited experts and EMBRC WGEI members are welcomed and a **status report** is presented about the e-infrastructure working group process. The following topics are touched upon during this introductory presentation: definition and goals of the EMBRC e-infrastructure (adapted from pp1), the European e-infrastructure landscape, the EMBRC WGEI process, the EMBRC use cases, the required e-infrastructure components (a.k.a. the EMBRC shopping list), priorities defined by the user communities and the architecture of the EMBRC e-infrastructure.

The goal of this expert consultation meeting is to answer the following questions:

- Reality check: do the invited experts think the WGEI is on the right track?
- What components are available in the related e-infrastructures?
- What are the costs related to those components?
- Where is collaboration possible?
- What activities are needed to get the components implemented in a EMBRC context?

During the remainder of the meeting the invited experts provided input and feedback on each individual e-infrastructure component in the EMBRC shopping list.

1) ADMINISTRATIVE TOOLS

General remarks:

- Since the administrative tools are specific to the central management of EMBRC, co-development does not seem an option for most of these components.
- Each component needs dedicated analysis and listing of specific requirements before making educated selection.

User registry

- Preferred approach: Individual development or Interoperation.
- Some very useful examples were mentioned: ORCID, MarineID, OpenID.
- ORCID might have some persistent identifier issues (no control about the user in a legal way)
- MarineID could be an alternative, but a multidisciplinary environment is preferred instead of a thematic one.
- It was also remarked that time is key and these developments on central authentication have been going on for several years. Therefore the following strategy was suggested: on the short term a system that fulfills the EMBRC requirements should be set up, and on the long term, this system can be made compatible and linked with existing systems such as ORCID and OpenID for authentication.
- MBA will attend an ORCID workshop in FMI Helsinki (30-31 March 2017) and will report back.

Event management system

- Preferred approach: Individual development or integration.
- It was mentioned that the events systems currently used could be integrated into the EMBRC website.

- Some other useful examples were mentioned: Eventbrite (where you can integrate an API into your website), Indico (free tool by CERN), Google Calendar, OpenERP content-project management, Productive.

Project management system

- Preferred approach: Integration
- There is a series of useful already existing systems: JIRA, OpenERP, Productive, BaseCamp, Wiki part of "OpenProject", etc.
- Need to make a distinction between internal and external management. (External management = collecting and presenting information.)

Document management system

- Preferred approach: Integration
- Dropbox is used currently, but there might be issues related to versioning.
- Some very useful examples were mentioned: Dropbox, Google Docs, Basecamp, Confluence (free for non-profits).
- Dropbox seems to be more useful as a repository and less as a collaborative platform. Google Docs was mentioned as a collaborative platform solution. Another option could be to work with a Wiki system, which also gives version tracking, but has not the same level of control as a docs based system. This needs further investigation.

Financial administration system

- Preferred approach: Integration.
- One very useful existing system was mentioned: Sage, which can have various modules (such as e.g. event planning) plugged in. The system is however quite expensive.
- It was mentioned some technical limitations (Mac use, firewalls at UPMC..) need to be taken into account. Ilaria will check the possibilities of using this system.

2) DATA STORAGE AND COMPUTING CAPACITY and

3) NETWORKING AND CONNECTIVITY

- Data storage, computing capacity, networking and connectivity is in general an issue for the nodes, except for some central services that might be developed.
- It was mentioned that Roscoff has set up their own systems for data storage and computing.
- It was remarked that each user needs only one single stop-over point. This indeed supports the idea of the EMRBC Virtual Access System.
- Jesus Marco de Lucas gives a presentation about the INDIGO-DataCloud project.
- Although it was recommended to set up a cloud, some issues with mapping between different clouds and security remain.
- It was suggested to identify some test services that could run on the cloud in a first phase, and then in a later phase to go more into specifics.

- It was recognized it would be useful to set up a pilot to connect; for example on INDIGO HPC Cloud for shared Roscoff bioinformatics pipelines.

4) REPOSITORIES

- Repositories will be needed to keep track of the raw and processed data by the users of EMBRC services. These repositories need to be certified and comply with specific requirements regarding long term preservation.
- Some discussion arose about who the EMBRC user community is and what their demands are (versus what list of services EMBRC is actually offering).
- Another discussion arose about keeping track of used selection of data from databases, and the problem of reproducibility. It was explained GBIF is doing some experiments with DOIs labeled storage of data exports. Also in ENVRI+ some work is done on provenance of RIs.

5) REGISTERS AND CATALOGUES

General remarks:

- All proposed components were considered as valuable by the invited experts.
- The preferred approach for the service related components is individual development since these are linked to specific EMBRC objectives.
- Unique identifiers are recognized as very important. Interoperability is very important.

Sample register

- Preferred approach: Co-development, Integration or Interoperation.
- EMBRC should analyze what Elixir is doing regarding their Biosample database.
- It's very important to register the origin of the sample, especially in terms of the Nagoya protocol. LIMS systems are good to track the samples but not for registering their origin. For this it was recommended to set up a persistent identifier at the sample level.

Literature register

- Preferred approach: Integration.
- The users of the EMBRC e-infrastructure should be stimulated to provide their publications, there should be guidelines for the users on how to refer to the EMBRC services (at what level?), there could be a terms of agreement or the users could be incentivized through factor.
- The literature register should be used to track and assess the impact of EMBRC on science.
- The literature register should harvest the main publication platforms to see if the publications mentioning and acknowledging EMBRC are already in the EMBRC literature register.
- The literature register should be OpenAire compliant.

Expert register

- Preferred approach: Co-development or Integration.
- The experts register needs to be focused towards specific EMBRC expertise and closely linked with the service register.
- The expert register should also link to existing systems such as OrcID, LinkedIn, ResearchGate, etc. A link with a publication list can be seen as a validation of the expert.
- The ROR module previously developed for MarBEF was mentioned as a useful approach, although this system might need some new labels/tags and update of information.
- The expert register should both be at the level of persons and institutes.
- It was suggested to identify some categories of expertise (e.g. scientific diving).

Analysis methods register

- Preferred approach: Interoperation.
- Such register also needs to refer to publications.
- Analysis methods registers exist in certain specific communities; a general register is lacking however due to challenges such as high level management.
- Therefore such register is seen as valuable but challenging. It could be very innovative to have such register, but it would be very ambitious to set up.
- Not seen as priority.

Dataset register

- Preferred approach: Integration or Interoperation
- Two very useful examples were mentioned: the EMODnet biology dataset catalogue and the ENVRI+ catalogue that focusses on data products.
- Both catalogues are very general and are able to accommodate all datasets listed in the EMBRC inventory.
- Dedicated entry point needed from the EMBRC portal.
- A limiting factor could be the standards EMBRC wants to be compatible with (INSPIRE, GCMD, SeaDataNet, etc.).

Training register

- Preferred approach: Integration.
- Interoperation with marinetraining.eu required.
- Dedicated entry point needed from EMBRC portal.

6) KNOWLEDGE OUTPUT MODULE

- Preferred approach: Co-development or Integration.
- This module needs to be a kind of showroom for the EMBRC realizations.

- Statements on realized output need close links to literature, dataset and expert registers.
- EMBRC should identify who the specific users are and translate the knowledge output to different levels. In assembleplus EMBRC will work with AquaTT on these issues.

7) INTEGRATED THEMATIC DATABASES

General remarks

- Very strong existing initiatives have operational components and few specific requirements are expected for EMBRC. Therefore the invited experts agreed that interoperability is the correct approach.
- To make sure the EMBRC nodes and marine stations get connected to the thematic databases, training is needed, as well as a data policy, and the right tools to connect. A more detailed work plan is needed.

Sequence data database and Reference molecular data database

- These thematic databases relate to Elixir and it should be discussed with Petra ten Hoopen how to set up interaction.
- It is known there is still a lot of information lacking for many model species.
- Here it would be interesting to look at co-development.

Taxon observation data database

- A question was raised if OBIS can handle video fragments or images with time stamped observations. There is progress on capturing these types of data in the framework of the OBIS-ENV project
- There are also ongoing initiatives from France within Oceanomics, where the images are semi-automatically processed, and experts can access to validate or discard the identification (EcoTaxa, <http://ecotaxa.sb-roscoff.fr>).

Ecological and environmental data database

- Useful examples: EMODnet, Copernicus.
- It was remarked there is a grey zone between the taxon observation data databases and the ecological and environmental data database. E.g. where does habitat fit in?

8) ANALYSIS TOOLS

Sequence data processing tools

- Preferred approach: Integration.
- Useful example: Galaxy platform (Roscoff).

- Pipelines from different institutes are not standardized and can be very different.
- Suggestion to have a connection of predefined pipelines (e.g. Roscoff) in the Cloud (see pilot use case mentioned earlier with “Networking and connectivity”).)

Virtual analysis platform

- Preferred approach: Co-development.
- This is a development scheduled for Assemble+ based on developments at HCMR and VLIZ building on already existing initiatives with operational components. These might need to be reorganized for fitting in the EMBRC context.

9) LOCAL DATABASES

Local monitoring databases

- A question was raised if EMBRC should set up activities from a central perspective to help local data storage. EMBRC could either provide guidelines on how to structure your data, or could actually set up a data storage system. It was also remarked there is a difference between data sharing standards and data storage standards.

10) TRAINING

- Should be linked with human resources.
- A question was raised if EMBRC has any plans regarding citizen science. Apart from Ocean Sampling Day (if this will be taken under the EMBRC umbrella), no real activities are planned.