



**Project Title:** AQUACOSM: Network of Leading European AQUATIC MesoCOSM Facilities  
Connecting Mountains to Oceans from the Arctic to the Mediterranean

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Connecting Mountains to Oceans from the Arctic to the Mediterranean

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## Deliverable No D1.1: First Feedback from AB to Project Progress

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Comments: Jens Nejstgaard



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<b>Project ref. number</b>	<b>731065</b>
<b>Project title</b>	<b>AQUACOSM: NETWORK OF LEADING EUROPEAN AQUATIC MESOCOSM FACILITIES</b>

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<b>Commented &amp; uploaded by</b>	Jens Nejstgaard & Katharina Makower - the AQUACOSM Project Coordination
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<b>Abstract</b>	This deliverable reflects the recommendations and the report on the current status and progress of the project AQUACOSM given by the scientific and technology advisory board (STAB). It comprises the written conclusions and suggestions of the advisory board. Additionally, measures to address current challenges and to build on previous achievements are outlined.
<b>Keywords</b>	Progress, STAB, Advisory Board, AQUACOSM



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## Table of Contents

1. Background and aim of the independent STAB report .....	5
2. Feedback Report from Advisory Board (AB) .....	6
3. Measures to be taken addressing STAB recommendations.....	9



## 1. Background and aim of the independent STAB report

Within the management plan for the project AQUACOSM there are several control instances installed. The Scientific and Technology Advisory Board (STAB) is invited as an independent and external advisory body. In that capacity, the STAB is acting as an external review consortium, advising independently with both quality control and risk management. The views and advice of the advisory board on the general progress, single work-packages, and concluding recommendations at the current stage of AQUACOSM are provided in this report. The subsequent report is based on the interaction between STAB members during the first 15 months of the AQUACOSM project and the General Assembly meeting 12-16 March 2018. The report was provided to the project coordination by Dr. Abad Chabbi, who was elected as chair for the current first report of the STAB by its members. Further contributors to the report are Dr. Heidrun Feuchtmayr, Dr. Michael Mirtl, Dr. Ari Asmi, Dr. Silke Langenheder, and Prof. Dr. Jochen Koop. STAB member Prof. Dr. Kitack Lee Postech Pohang University of Science and Technology, School of Environmental Science and Technology, South Korea, could not be reached and was therefore excused from the meeting and report writing.



## 2. Feedback Report from Advisory Board (AB)

### AQUACOSM STAB meeting report

#### **STAB members:**

*Abad Chabbi, (INRA, France - Chair), Heidrun Feuchtmayr (Centre for Ecology & Hydrology, UK), Silke Langenheder (Uppsala University, Sweden), Ari Asmi, (University of Helsinki, Finland), Michael Mirtl (Umweltbundesamt, Austria) & Jochen Koop (Federal Institute of Hydrology, Koblenz, Germany -Excuse).*

#### **General comments**

The STAB thanks the project coordinator for the smooth coordination of this strategic project, gathering two different communities that have worked independently in the past. We were very impressed by the high professionalism and the great enthusiasm of the partners of the project. We acknowledge also the very good and open communication within and among the work packages and in general a very open and collaborative atmosphere.

The complementary high level of expertise of the consortium result in scientific impacts at various levels: directly through the Joint Research Activities and the research projects gaining Trans National Access awards and indirectly through the expanded portfolio of monitoring variables at sites, improved inter-comparability of measurements, increased visibility of the AQUACOSM project and expected increase in activities.

The project coordination implemented sound communication strategy and well defines objectives that make the users fully understand what is being offered to them and what they can get out of using the AQUACOSM services. This is particularly important for the stakeholders and/or private sector that might be unfamiliar with the infrastructure services.

All in all, we were pleased to see the excellent progress of the project that has fully achieved its objectives and technical goals for the period or has even exceeded expectations.

#### **Overall recommendations (e.g. on overall modifications, corrective actions at WP level)**

The coordination is well aware of the challenges that still lie ahead of the project and has a good plan and well developed strategy on how to do it. However, the AQUACOSM activities focus tends to be ambitious despite limited resources. We understand that ambitious objectives provide motivation for those involved to improve performance, and help justify proposed projects at an early stage. The dilemma is that high ambitions tend to reduce the probability of success, since success is determined by performance relative to ambition. Although this is a perfectly rational approach at the project level, there is a risk of a mismatch between objectives and resources for some of the work packages.

For the success of this project, we recommend strongly and specifically to clarify the overall vision of the AQUACOSM infrastructure. Although the aims of the project are



somehow stressed e.g. *“enhance and facilitate ecosystem-level research employing mesocosm facilities throughout different climate zones and ecosystem types”, “promoting innovation regarding mesocosm technologies and facilities as well as establishing standard operating procedures that will enable common standards and comparability in research evaluation”,* there is scope for adaptation of outcomes towards the public taxpayer as well as fostering the exchange with companies and the private sector, as well as to wider multidisciplinary research communities.

We specifically recommend that AQUACOSM develops a clearer vision of overarching key science or societal questions that the infrastructure could address and the exact role of AQUACOSM within the International Community. For example, what kind of users is AQUACOSM seeking for? Does it seek to develop a unique standardized infrastructure covering both planktonic and littoral aquatic ecosystem? How does it plan to expand the activities for each of these systems in the long run to open up the infrastructure to new users and a wider diversity of research areas? What kind of interactions does it seek to gain among experimental sites? What are the planned services for different user groups and how will they be sustained?

Clarification and refinement of the overall vision would give an unambiguous identity to AQUACOSM infrastructure and a clear signal to other initiatives on how to interact with AQUACOSM. The diversity of AQUACOSM structure and approaches will be an asset only if all tools and activities are tightly integrated: otherwise, the diversity could lead to an incoherent big picture and later hinder the entry to ESFRI roadmap.

Regarding the work packages (WP), the STAB acknowledges that the work in most WPs has progressed well and according to schedule.

- WP2 makes good progress but would benefit in addressing the questions raised above. Some clarification regarding responsibilities in connection to the planned book is needed.
- WP3 (Standard operating procedures) makes good progress but would benefit from better communication, e.g. with WP4, and increased organizational efforts regarding the summer school.
- WP4 (data management) is progressing well in our opinion. The WP makes use of already existing metadata and data visualization portals (GeoNetwork). We are aware that data management is a complex and difficult task. We recommend that the WP should (1) educate the partners to overcome the data related working culture which seems to be the “old style” (e.g. readiness to share) and (2) set a clear path (roadmap) about what shall be achieved as end goal and HOW? Further, WP4 could benefit by collaboration with other infrastructure projects: co-develop and co-design.
- WP5 (communication) and WP6 (transnational access) in particular have been very successful. However, for WP5 there seems to be no strategy yet as to how to target and communicate with industry. We recommend the management board to develop a strategy that attracts the private sector and allowing them TA (WP6) to test e.g. prototypes of new sensors. Implementing such a strategy will be a win – win situation for both parties.



- WPs 7-9: WPs 7 develops a wave- winter and fouling proof mesocosm prototype and has made good progress. WP 8 sensor (Autonomous measurements) focuses on further develop and testing of two pre-existing system (Aquabox and Lamp system) with the potential for broader usage in Aquacosm and in particular related to WPs 7 and 9. However, WP 8 lacks the added value of an integrated, distributed research infrastructure; it is currently not clear what shall happen with the standardized sensors at the distributed sites or the end of the project: data transmission (sensor observation service (SOS) standard) and role of IT is unclear. Further, no information on affordability or market need was given. In short, we recommend to spend more time planning and focus on questions such as: What shall the end product look like? What will it cost? Etc.
- WP 9 is the integrative work package that applies technology developed in WPs 7 and 8 for coordinated standardized infrastructure across sites. Due to time and budget limits the mesocosm prototype and sensor systems will only be operated in a few trial experiments, but not across a wider range of sites. The ultimate goals of this WP seem rather confused currently, and are in need of discussion with the management team. We recommend more explanation regarding the concrete overall line of this WP and specifically more details about the exact role of a/the show case(s) towards sharpening the overall scientific profile.
- In general, there is the potential for collaboration and harmonization beyond the current AQUACOSM network in the future and we are impressed with the identification and communication with other existing mesocosm infrastructures by the management team and understand this effort to be intensified in the future.

### **Specific comments and recommendations**

- Collaborate more with other RIs than re-inventing the wheel (in all respects) i.e. CO-DESIGN and CO-DEVELOP after a broad consultation with the peers.
- Think more on AQUACOSM added value and develop an early aggressive strategy on how to attract private sectors activities (Small and Medium Enterprises (SMEs)). We encourage all the coordination and the partners to take these matters into consideration in every stage of the AQUACOSM development.
- Increase the effort into establishing links to stakeholders such as environmental agencies, fish farming and conservation communities.





### **3. Measures to be taken addressing STAB recommendations**

The STAB report, which is pointing out recommendations, questions and challenges of the AQUACOMS project was distributed among the members of the project consortium immediately.

The AQUACOSM consortium has recently increased, and will continue to, substantially increase the efforts to focus on intensifying collaboration with SMEs as well as other research infrastructures.

An action plan addressing specific recommendations and comments of the advisory board will be elaborated by the project coordination within the next two months and comprehensive responses will be compiled in the M18 report August 2018. Further progress and long-term development of addressed issues will subsequently be reported on the midterm review early 2019.