



## MAY THE SIX FORCES BE WITH YOU (TO BUILD THE ENVRI-HUB)

*Read an interview with Angeliki Adamaki about the actual process of harmonizing the ENVRI Research Infrastructures to achieve the ENVRI-hub.*

*Angeliki, I think we can all imagine that harmonizing the diverse research infrastructure services to offer them through ENVRI-hub is not a trivial task. Can you tell us a bit more about the challenges the ENVRI-FAIR project team is facing?*

Angeliki: One of the first tasks of ENVRI-FAIR was to define the common gaps among all environmental research infrastructures in the project by reference to the FAIR Principles. This gap analysis helped us identify the common development targets for all environmental subdomains. The following steps organized our work to bridge these gaps and reach harmonization in the cluster.

Because the project works at different levels, the approach to such a task cannot be linear. A big part of the technical work is, for example, carried at the research infrastructure data centres. Such work is then reflected at the cluster level. However, while we try to

figure out how to reach the harmonization at the cluster level, we give our recommendations back to the research infrastructures. And the process goes on. The idea of forming cross-domain working groups came very naturally in this process. We prioritized the topics of common interest and suggested forming one group per topic, with representation from all subdomains (and ideally all research infrastructures). We named these groups Task Forces. Besides the subdomain work packages, the task forces eventually added another dimension to our work. Most importantly, they enhance the collaboration between our partners.

*So, ENVRI-FAIR established six Task forces to successfully implement the vision and put all the pieces of the ENVRI-hub together. Can you tell us a bit more about each of them?*

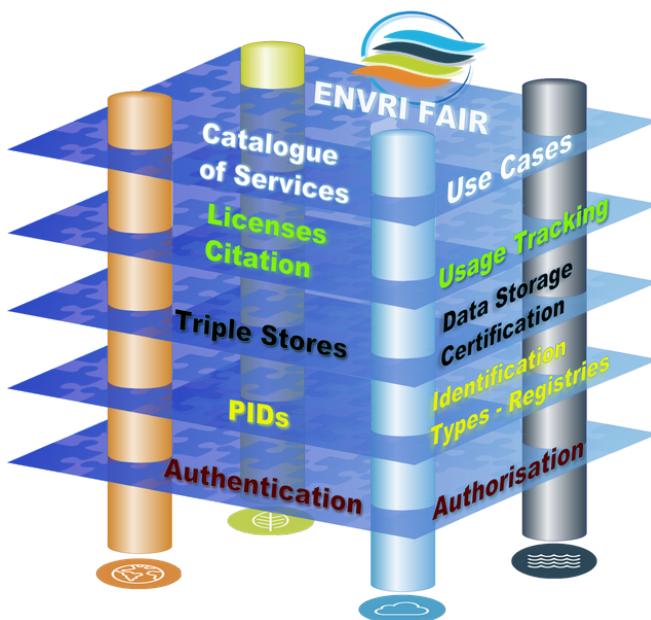
Angeliki: We used an illustration to present the Task Forces in one of our deliverables, so I will try to describe the groups and the purpose they serve using that example. **Assume that we are building a structure that represents the ENVRI community.** At first, we need to find the bedrock, meaning the layer that supports our structure to build a strong foundation. The knowledge and experience gained from the previous ENVRI cluster projects contribute to this desired bedrock, while the firm foundation is built on the FAIR Principles. In the structure, we also have four main pillars, the four subdomains of the ENVRI community: Atmosphere, Marine, Solid Earth, Biodiversity and Ecosystem. We can picture the Task Forces as different layers built to form and strengthen the structure that represents the ENVRI community.

We dedicate each of the Task Forces to a thematic umbrella. People with a long experience within the ENVRI community and expertise in the Task Force topics lead each group. Within the task forces, colleagues from different research infrastructures can exchange experiences from the already existing technical solutions and collaborate on recommendations that are later brought to the ENVRI.

# ENVRI-FAIR NEWSLETTER

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Starting with the ENVRI catalogue of services in Task Force 1, then the authentication and authorisation services in Task Force 2, the role of the persistent identifiers in Task Force 3, the triple stores and data storage certifications in Task Force 4 and the technical aspects of licenses, data citation and usage tracking in Task Force 5.



Last but certainly not least comes Task Force 6. Our biggest working group aims to orchestrate the work done in all other Task Forces and eventually prepare the design of the ENVRI-hub. The ENVRI-hub aims to be the central gateway to the ENVRI community services and use case demonstrators. Task Force 6 brings all the pieces of this puzzle together.

## *So, should we imagine the ENVRI-hub as a puzzle?*

Angeliki: I would use the example of a jigsaw puzzle. A common technique to solve it is to assemble the borders first. To build the ENVRI-hub, we first defined the framework. We identified the main components, and now we are designing the prototype! Finally, Work Package 5 is providing the glue for all the puzzle pieces!

**If only our challenges were limited to their two dimensions! The level of complexity is much higher. Nevertheless, I dare to say it's intriguing!**

*This indeed seems like a very complex process. How do you ensure the information exchange among the task forces and the eventual harmonization of all the developments?*

Angeliki: The 6 Task Forces were formed just before the ENVRI week in 2020 in Dresden, where they presented their charters and draft work plans. Ironically, that was one of the last face-to-face meetings we had before the pandemic! Since their "birth", the groups came together on two more virtual occasions. In WP5, we are responsible for the information flow between the research infrastructures and the Task Forces, which must be bidirectional. We report the progress of the Task Forces both internally and in our publicly available deliverables.

*How do you personally feel about all the work achieved and the one that is still ahead?*

Angeliki: **When I first read the description of the ENVRI-FAIR, I pictured the challenges of the project as strings with different lengths and elasticities. The project should then stretch those strings, so they reach the same target point.** Of course, it is extremely challenging considering the heterogeneity of this big group of research infrastructures. Moreover, technology constantly evolves, and our targets are anything but static. But the progress we have made since the beginning of the project is impressive, and the results so far are very promising. The 2.5 years of hard work from all our partners, all the milestones we have achieved, and the gaps we have bridged brought us closer to realizing the ENVRI-hub. A hub of environmental services open to everyone - scientists, teachers, students, and other citizens, and one of the building blocks of the European Open Science Cloud.

Halfway there!