



E 4.3.1. Thematic seminar exchange of experiences to define the training programme of the Transnational Business School (Murcia)

Report on GT 4

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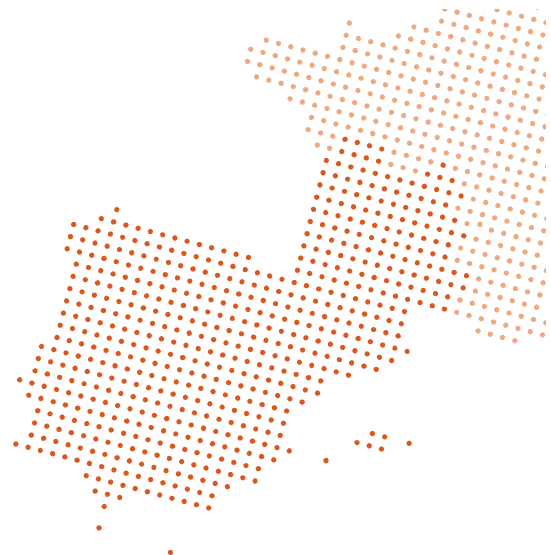
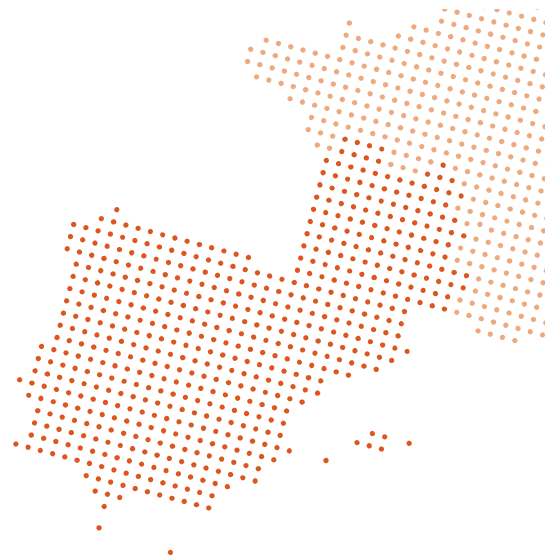


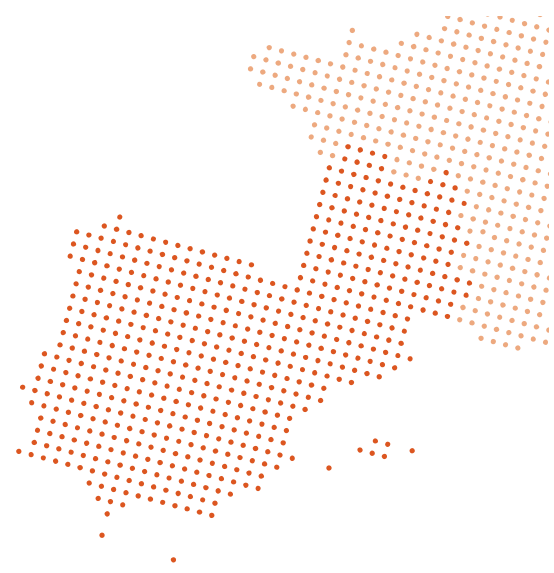
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1. Introduction

The Fundación Universidad Empresa of the Region of Murcia as a partner in the project and responsible for the activity 4.3 Creation of a Transnational Business School on the water sector, to be developed within the project TWIST (Transnational Water Innovation Strategy), leads the realization of an International Business School for the Water Sector, for the training of PYMES, start-ups and entrepreneurs.

The Transnational Business School on the water sector is one of the products of the TWIST project, funded under the framework of the Interreg Sudoe programme.

During the day of October 9, 2019, took place a seminar for the presentation of the proposal of the International Business School for the Water Sector, at the Regional Ministry of Water, Agriculture, Livestock, Fisheries and Environment. The event was attended by the Director General of Water in Murcia, Mr. Sebastián Delgado Amaro, the Euro-Mediterranean Water Institute Foundation (Mr. Antonio Martínez Nieto) and the Director General of ENAE, Mr. Miguel López González de León, among others.



2. List of project partners attendant to the seminar

The next project partners attended the seminar:

- CENTA, Fundación Centro de las Nuevas Tecnologías del Agua, Spain (Coordinador)
 - Pilar Flores Sáenz
 - Arantxa Aguirre Sierra
 - Juan Ramón Pidre Bocardo
- FUERM, Fundación Universidad Empresa de la Región de Murcia, Spain
 - M^a Dolores Belmonte Díaz
 - Jesús Gambín López
 - Nieves Ibáñez Carprena
- AAC, Agencia Andaluza del Conocimiento, Spain
 - M^a José Romero
- IST, Instituto Superior Técnico, Portugal
 - Ana Galvao (representing also ISA)
- ADRAL, Agência de Desenvolvimento Regional do Alentejo, Portugal
 - Ana Rita Valido
- ADTA, Águas do Tejo Atlantico, S.A., Portugal
 - Rita Pires
 - Ana García Luis
- PPA, Associação Parceria Portuguesa para a Água, Portugal
 - Ana Carlos
- OIEAU, Office International de l'Eau, France
 - Jean-Marc Berland
 - Natasha
- IFTS, Institut de la Filtration et des Techniques Séparatives, France
 - René Peinador
- GRESE-UNILIM, Université de Limoges, France
 - Veronique Deluchat Antony
 - Stephen Midgley
 - Ronan Barbier

3. Training methodology

ENAE, together with the Foundation Euro-Mediterranean Water Institute as experts in the field, presented in this day the initial proposal of the training program that includes a group of courses that can be taught online and / or in person in Spain, France and Portugal, in their respective official languages.

The methodology of the training program will be eminently on-line so that the maximum dissemination and scope of the training foreseen at the Transnational Water School can be given. Being aware of the importance of the experience and networking in any activity of continuous or executive training, the proposal includes that some of the courses will form training programs of a higher level Certificates / Executive Programs / Specialist Programs that will consist of 2 or more courses. These higher level programs may optionally contain a face-to-face training period in any of the locations proposed by the Transnational Water School and its trainers (generally partner institutions of the project). This aspect is especially relevant given that part of the experience of the Living Labs and the spirit of the project lies precisely in sharing and disseminating these experiences and knowledge in an experiential and applied way.

The Transnational Water Business School will establish a common system of academic credits for each course that will comply with the guidelines of the European Higher Education Area, credits (ECTS).

Water is a cross-cutting issue, “perhaps one of the more cross-cutting issues ever”, it is not only an industry/sector, but is also related to a wealth of other economic sectors and environmental topics that rely on its existence in quantity and quality enough to satisfy the needs.

Three are the action points of the school:

1. **Form:** this action must be based on the courses experiences, the needs of training and the expertise of the partners and professors. These must be categorized in the courses through a common framework and the specialization of the partners.
2. **Platform:** online courses with living experiences depending on the courses. Materials for online training will be prepared and will include pdf

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documents, videos, conferences in real time and offline, chats with professors, etc. The realization of classes by streaming is not contemplated,

3. Real success cases: the courses will include the possibility of having in-person live experiences.

4. Established objectives

This training is aimed at promoting collaboration and private investment in R&D&I activities in the water sector, contributing to the generation of employment and increasing the capacities of the recipients to work on the objectives of EU water policy through a circular economy model.

The initial programme of the proposed courses focuses on desalination, reuse, water governance, aquifer management, and integrated resource management for agriculture. The scope of the courses is the whole water cycle and innovation procurement procedures in the water sector.

The partners considered it appropriate that each of them should specialize in their areas of strength or expertise so that the launch of the Transnational School would have a sufficient series of courses to make itself known as a training tool due to its quality and updating as well as its flexibility and openness when it comes to accessing training. The partners considered that the primary objective was to establish some initial areas of knowledge and training in which these courses would be framed in a structured way.

FUERM considered it convenient to show some examples of courses that, in collaboration with partner entities such as the Euro-Mediterranean Water Institute, could be used to guide, at the level of learning objectives, methodology, contents and teachers' profile, the activity of creating courses for all partners so that the day could establish guidelines with practical examples in this respect.

Target students are employees of the public sector, who are in great need of training in innovation procurement processes, and employees of companies and entrepreneurs, those who can generate innovation in the sector. The first type of students will come from public institutions, public entities, agricultural irrigation associations, water utilities companies, etc. The last kind of students can be identified through the agreements between the universities or research centers and companies that can provide students.

5. Proposed training offer for pilot program

FUERM proposed an offer of at least 5 courses, expandable, that could serve as initial content for the training offer of the Transnational Water School, the courses would be the following:

5.1 Desalination course

The first of the Pilot Program courses consists of a Desalination Course that addresses technological, environmental, legal and economic aspects. This course contains seven modules and three field visits. The modules examine the applicable technologies according to the state of the art. The online part would be designed for 100 hours and the shortened version could be carried out in 4 days, including visits to pre-determined facilities. Without a doubt, this course is an integral part of any approach to innovation in the water sector. There is a large professional sector involved in the desalination sector for both agricultural uses and the provision of drinking water, recovery of aquifers, brine management, and a large number of activities connected to international partnerships.

5.2 Water reuse course

The second course of the Pilot Program of the Transnational Business School for the Water Sector is the Reuse Course that analyzes the current issues and future challenges of this non-conventional water resource. This course contains seven modules and 22 teaching units where the legal framework for wastewater reuse, models for management and financing, technologies for treatment and sanitation, tertiary treatments, plant maintenance and operation, and sludge treatment are analyzed. The course is accompanied by case studies and field visits. Duration online 100 hours, abbreviated version 12 days. The teaching staff comes from different centers of the research system in the region of Murcia and other regions in Spain and abroad.

5.3 Water governance course

The Water Governance Course is the third proposed by the IEA Foundation for a Transnational Business School pilot program. The course consists of 11 modules that outline the key issues for good water governance in the context of the circular economy and integrated water management. Key issues of governance and cooperation are analyzed such as inter-basin transfers, conflict resolution, public participation in planning and decision-making processes, user communities, regulations at different levels, environmental law applied to aquatic ecosystems, ecological flows and international and community water law. Finally, it contains a reference to innovative public procurement applied to the water sector, since in this sector public procurement policies can promote innovative practices with great force due to the important participation of public water works and technologies for the modernization of infrastructures in this sector. The online course is 50 hours long and the shortened version is 5 days long.

5.4 Aquifer management course

The fourth possible course of the Pilot Program of the Transnational School of Business is the Aquifer Management Course which is proposed with a practical approach. The course has a structure of 11 modules that review the importance of groundwater management in areas of scarcity, management alternatives, the legal framework, allocation of groundwater resources, participation of stakeholders and other fundamental issues for the correct understanding of this management modality and the innovations implemented. The online part is 50 hours, and the face-to-face part is 4 days. It contains field views and in situ experimentation. The course has a specialized tutorial coming from several hydrogeology centers relevant to the research system.

5.5 Integrated management of agricultural resources course

Finally, the Pilot Program of the Transnational Business School for the Water Sector can take advantage of the potential of the living laboratory on a real scale that is the region of Murcia, in coordination with the other Living Labs of the TWIST project, creating an innovative system of practices in which field knowledge in water management is put to good use. This is a course on Integrated Resource

Management for Agriculture. This course focuses on the different sources for irrigation that are used in an integrated way in the Cartagena countryside: groundwater, Tagus-Segura transfer, reclaimed water, seawater desalination, brackish water desalination, and surface water. A set changing up to six different sources of supply for agricultural use that results in one of the most productive and technologically advanced areas in Spain, with a very profitable, non-subsidized and export-oriented crop. Without a doubt, a course of these characteristics is a product in great demand for the implementation of innovative solutions for market application with the capacity to generate jobs and encourage the emergence of private investment in technological developments of great impact for the circular economy.

6. Partners contributions to the FUERM-ENAE proposal

The partners had a good reception to the initial proposal of ENAE, regarding the methodology and the courses proposals, considering that they can serve as a "template" model as well as the offer in particular of courses in which FUERM due to its location in Murcia and the knowledge of certain matters of water management is available in this location.

The partners also contributed ideas to propose an open format as regards the design of the courses themselves on-line, so that the learning tools used are not restrictive, but adapted to the subject matter being taught. Consequently, there would be courses or programs that would involve virtual and face-to-face training, strictly virtual training activities and within the "virtuality" different learning tools can be used whose training effectiveness has been proven by the partners in previous experiences.

All the partners concluded that the best way to contribute to generating the contents and the training experience of the Transnational Water School was for each partner to make contributions within their area of expertise and specialization, so that the complementarity of the partners themselves would enrich the offer of the Transnational Water School. In this sense, the quality and operational standards on which the Transnational Water School will be based will be structured during 2020 so that the courses will be provided by each partner as soon as possible.

The partners discussed how to integrate innovative public procurement on the water sector into the training offering. It is a very complex and specialized subject that could be integrated as a module in all courses or could be treated as an individual course oriented to the private sector. Within the framework of the project, the Andalusian Knowledge Agency is preparing training materials on this subject that could be included as a module.

The partners proposed networking between the platform and the Living Labs, in order to show what Living Labs are doing.

The partners discussed and agreed about offering a common pool of courses for the European framework (at least for the three countries of project partners).



7. Conclusions

The meeting on October 9 was very useful for all the partners to define and expand on the methodology that the Transnational Water Business School would have, the way in which the courses would be generated, their contents, and the way in which the learning experience would be produced as well as the criteria with which the contents would be generated from the specialty areas of each partner.

It was decided that ENAE will send to the partners the draft idea of the School and the proposed offer of courses. The partners will make their contributions to the courses offer based on their expertise.

FUERM will be called upon to send the outline of the school's proposal and the contents of the courses and their approach to the TWIST partners.

Below some images of the presentation of the Transnational Water Business School, at the Regional Ministry of Water, Agriculture, Livestock, Fisheries and Environment in Murcia.



Figure 7.1 Mr. Antonio Martínez Nieto (Fundación IEA), Mr. Sebastián Delgado Amaro (Manager Director Water Council), Mr. Miguel López González de León (Manager FUERM-ENAE)



Figure 7.2 Image of the meeting



Figure 7.3 Mr. Jesus Gambín presenting the School (FUERM-ENAE)



Figure 7.4 Mrs. Arantxa Aguirre (CENTA) introducing the TWIST project to the attendants