

# AdSWiM

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## EVENTS ORGANISATION AND PARTECIPATION

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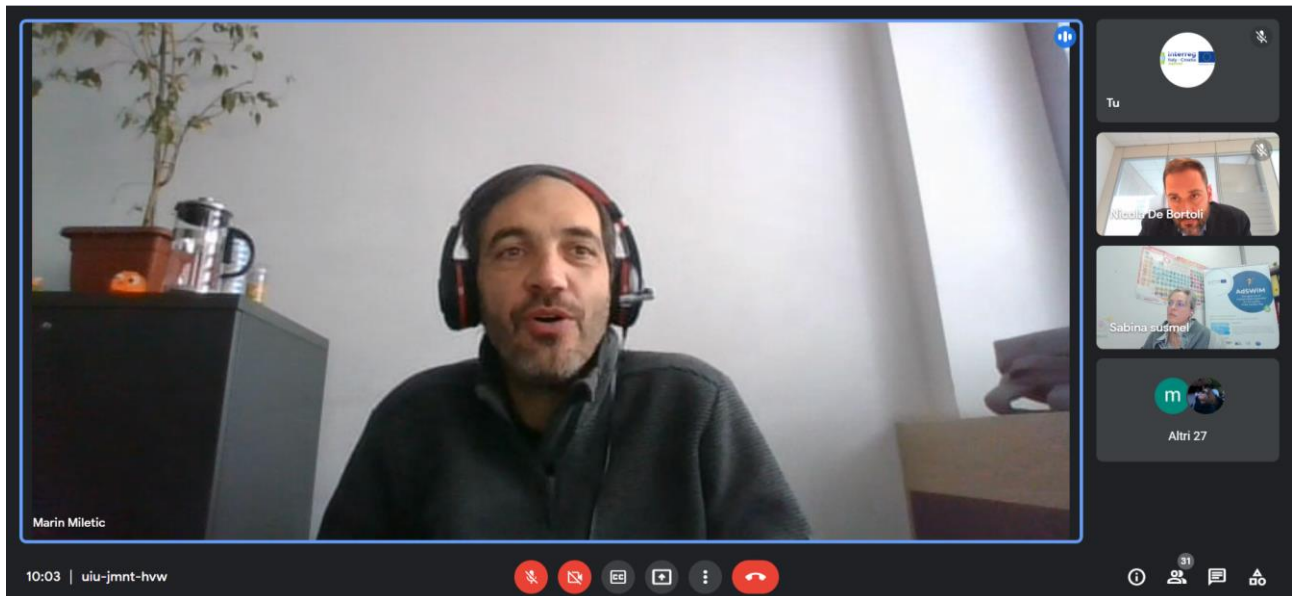
Deliverables 2.4.6  
FINAL EVENT



Project events were organized to support the dissemination of the WP objectives, results.

### Deliverable 2.4.6 Final Event

Due to COVID-19, the **Final conference** was held in a blended edition (online and Udine, Italy) on December 14, 2021 in order to reach as many stakeholders as possible. 88 participants followed the event online. Agenda, minutes, a press release, presentations and participation list were done and shared. All the materials have been uploaded on the project website, section communication and the photos are uploaded in the multimedia galleries section.



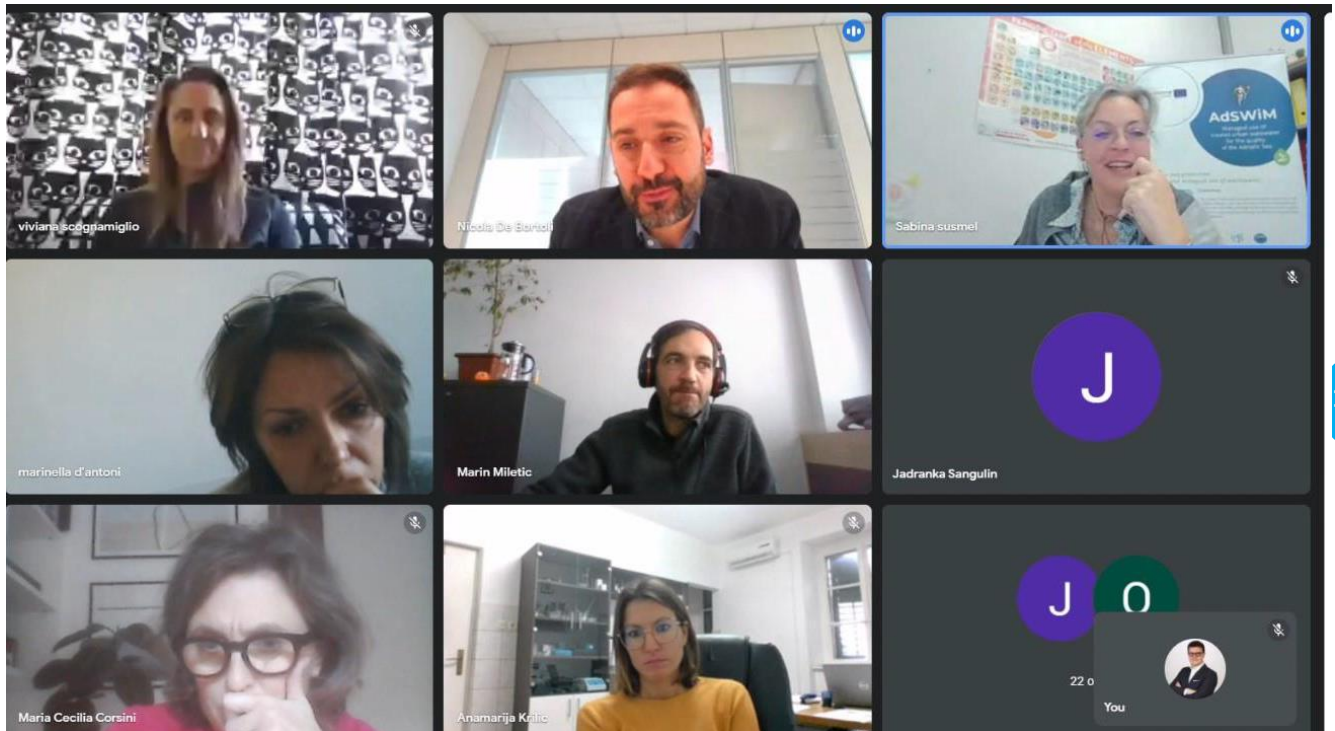


Figure 4: Sabina Susmel, PM of the LP, UNIUD and Marin Miletic, PM of the JS/MA Interreg Italy – Croatia Programme and some of the PPs attending to the final event

The conference opened by the local and regional authorities: Marin Miletić, Project Manager, Italy – Croatia Programme, Veneto Region, Giulia Manzan, Udine Council member, Municipality of Udine and Sabina Susmel, Project coordinator, University of Udine.

In the morning, during the two technical sessions, the administrative aspects related to the management of the project and the duties for the project closure were summarised to the partnership. Then the results of the research (WP4) were presented by each PP responsible of each task, part of this rich WP. The results of the work package dedicated to guidelines and administrative models on water purification (WP5) were also presented together with those related to the communication activities and 2 new videos (WP2) were released.

From **WP 4** activities emerged that the innovative treatments tested to reduce the microbial load coming from the wastewater before its discharge in sea water were effective despite the fact that the readiness level of the photodisinfection methodology was not high enough to be tested out of the lab condition. While, the aerobic granular biomasses are ready and applicable to the depuration plant previous implementation of the plant facilities and considering the waste characteristics which are of paramount importance to maintain the vitality of the biomasses and their efficacy.

The analysis on the microbial community performed both on samples of wastewater treated and seawater collected cross-border at the pilot plants showed that these communities are selected in relation to the waste characteristics feeding the plant. Still, their persistence is not confirmed in seawater. Basically, the change of chemical-physical characteristics of waters together with (probably) dilution effect have bactericidal effects.

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Water collected near the coastline during the bathing season showed a higher concentration of faecal bacteria.

It emerged that nowadays the spread of antibiotic-resistant bacteria (bearing antibiotic-resistance genes) is of utmost concern and although the problem is well known and its threat globally recognized, dedicated environmental monitoring programs are generally lacking. The detection and quantification of specific genes are carried out by quantitative PCR, where the target DNA sequence is detected through several cycles of amplification. So, OGS characterised the antibiotic-resistance genes in our samples suggesting the importance of introducing this parameter to test and PCR as the approach of analysis to monitor the diffusion of the “foreign” biological materials in the environment. A data set for prepared and published in the web site of OGS. Data are freely available for the scientific community interested on this topic.

UnivPM and PHI monitored the same samples for their contents in nutrients and metal ions. During the experimentation differences emerged among the distribution crossborder of the parameters analysed. Some seasonal trends emerged for nutrients and for some parameters in respect of the waste features locally and crossborder. During this task it has been possible to optimise the instrumental procedure of analysis and this activity was performed in coordination between UnivPM and PP7. The results were statistically analysed by UnivPM and share of the methodological aspect in data treatments was carried out. Among the conclusions, it emerged that each site needs a proper monitoring plan because the coastline characteristics are effective in the seawater characteristics. About nutrients, it is confirmed the poor presence of phosphorous (measured as phosphate as well) on both side of the Adriatic sea, which was close to the instrumental detection limit or lower. A data set was prepared and published in the web site of UnivPM. Data are freely available for the scientific community interested on this topic. The E-sensor optimised to measure it, it was effective, the analytical performances were fitting the needs of an oligotrophic environment, and it was possible to measure in wastewater as well. All the issues coming from the samples characteristics optimised. The level of readiness of this e-sensor was between 3 and 4 meaning that the device was proof of concept demonstrated analytically and experimentally and laboratory validated because the results were compared with those offered by colleagues of UnivPM. The way to obtain a commercial product seems more feasible for IC-CNR. The biosensor algae-based, optimised during these years, was applied to assess the total toxicity of the samples of waters collected at the depuration plants with reliable results performed in-filed. Several scientific papers, participation to congresses and degree and PhD thesis were the outputs of the activities performed by PPs involved in this WP.

The leader of **WP5**, prof Andricevic summarised the results of the activities foreseen in this WP that are going to be organised as reports. The survey about the existing technologies and management of wastewater treatment plants in Italian and Croatian sites, the general comparison between two countries showing the differences and similarities in management strategies, which relates to the monitoring approach, as well as removal rate of wastewater load and sludge management were performed and presented. The Republic of Croatia became a full member of the European Union on the 1st of July, 2013. It should be emphasized that in the process of accession to the European Union, the Republic of Croatia had to harmonize its national legislation with the legislation of the European Union in the field of environmental protection and water management. Many efforts are now put in place to satisfy that point and the aims of the project Adswim are fitting with these efforts of environment protection. The ultimate goal is to create an effective system for ecosystem conservation and environmental protection.

Mutual cooperation of all subjects of environmental protection and the inclusion of environmental issues in everyday life and business activities as well as policy of sectoral development and development in general, is necessary for sustainable development of each agglomeration. Only in this way is the preservation of the environment achieved.

The survey and comparison of the legislative framework highlights that the stipulation of a series of agreements between the agencies responsible for integrated water management, on Italy's part, and water

purification on Croatia's part could represent the starting point for a coordinated cooperation. The content of these agreements should include, first and foremost, the exchange and sharing of the information on the purification operation and the techniques used, the quality of the marine waters, and the sharing of best practices. This constant exchange of information can lead to the drafting of targeted strategies, which bring to light common elements and differences in approach. The way suggested: as for the Italian side, the main point of contact is constituted by the OTAMB (Optimal Territorial Ambient Management Body) - "Ausir" for FVG - precisely because it is representative of the entire area involved and the hub between the regional authority and the integrated water managers and, in any case, in a privileged position to be able to dialogue with both. On the other hand, the OTAMB must also have capabilities on a district basin conference level, because this government body coexists with the state administration, in other words, the subject able to interact with its counterpart on the Croatian side and, at the same time, on the level of the community that must be interacted with in order to definitively determine, if necessary, exemption arrangements and the contents thereof.

Therefore, during the institutional conference, the best solutions can be drafted to bring to the attention of the European Commission, following discussion with the Croatian (state) partner.

The operational structure can summarily be traced as follows:

- the OTAMBs dialogue with the Croatian bodies that carry out the same functions (perhaps a "permanent round table" or something similar can be proposed?);
- each OTAMB interprets requests from the integrated water system managers and returns the results drafted by the "permanent round table" to them;
- the OTAMBs are invited to participate in the permanent institutional conference, partly for the purpose of contributing what has come out during the "permanent round table" to the discussion;
- the permanent institutional conference invites the relevant Minister (State representative, in Italy the Minister of environment) to be the spokesperson (with their Croatian counterpart) at the EU Commission.

It is a difficult course but, if followed steadfastly, it may produce some significant results over time.

During the final event session dedicated to communication activities, a coral intervention was prepared by several project partners and coordinated by Municipality of Udine (**WP2** responsible).

Through a powerpoint presentation, project partners explained the different approaches used to narrate and disseminate project activities and results.

Municipality of Udine introduced how they the communication plan were organized in coordination with the communication agency LetteraB and linked to the production of communication tools (the communication campaign, the media kits, the promotional items, the creation and management of social media). In particular it was explained the preparation of the two animated infographics which show the general framework of the project (1) and the reached results (2). the final brochure was presented as well. A recap in terms of different types of audience reached, number of international and local events organized, didactic trainings and study visits were presented.

After that a focus on the different communication approaches have been done by project partners. UNIVPM (Anna Annibaldi) presented their activities done investing in the territory and especially in young people.

Boris Bulovic from VIK explained the involvement of experts and citizens in the organization of international events. Metris explained the Open Doors formula as they promoted during all the project time span the visit

of their labs by students, citizens and local authorities. Mariangele di Giosia (Mirus communication agency) explained how Municipality of Pescara organized digital laboratories in schools and virtual study visits to the local DP.

The WP 2 final event section has been concluded by the projections of all the video produced by the project from VIK (virtual visit to the DP in Stupe), Cafo (Reef Balls installation) and Municipality of Udine infographics 1 and 2).

The event was in English, it was open and free for all interested parties and for the general public, upon registration online. An invitation and a detailed agenda were shared and promoted through AdSWiM channels and media.

**CONCLUSION:** Numerous activities were carried out in this period despite the pandemic event of COVID-19 slowing down the activities making some of them difficult or not feasible. The ideas went in many directions, concerning various research activities, some technical aspects of the state of the purification plants were investigated, the legislative aspects, remediation action was implemented with the laying of submerged "reef balls" structures for the repopulation of sandy submerged areas. Two subsequent dives confirmed the colonization by algae and mussels and the presence of various fish species. Numerous activities have been carried out to connect specialised public and general public but in particular the young public following the objective of increasing awareness. Many activities continue even after the completion of the project thanks to which positive working synergies have been created. LP thanks the large working group made up of always very active, professional and collaborative partners as well as all the members of the external companies involved to implement some of the project activities that have always confirmed their seriousness and competence. In one sentence: a great experience of a job not more important than a remarkable human opportunity.

