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Knowledge, creativity, and collaboration drive Aqualia's R&D+i

Innovation and Technology

From your field and experience, how do the projects of the Innovation and Technology Department help Aqualia's technological capacity and service quality? And its contribution to sustainable development?

The Innovation and Technology Department is essential for enhancing technological capacity and developing improvements in any organisation. Based on this premise, at Aqualia, our role is to support the work of teams focused on meeting service objectives and who, precisely for this reason, value an additional external perspective. Our function requires time and creativity; we identify needs and opportunities from within and observe from outside with an objective perspective to provide ideas that help improve service quality and the company's competitiveness.

In many cases, we work with European projects aligned with the SDGs, where we present proposals aimed at sustainability on the one hand, and capacity building to ensure water quality on the other. Thanks to this prior knowledge work, we can propose innovative solutions to the problems posed by the teams.

All this, being aware that the sustainability requirement is a great challenge. We have to do a lot of research to help our colleagues in the development of Aqualia's activities. We currently have solutions implemented in our services, others are ready for market transfer, and we are developing studies that provide the necessary knowledge to continue improving in the future.

New R&D+i Centre

The WAVE R&D+i centre, which will open in 2025 in Adeje (Tenerife), is one of the outstanding projects in which you have collaborated with other Aqualia departments. What development lines are you working on?

We are very proud of this centre, the first innovation centre of a private company in the Canary Islands, which is a world reference for its type and research lines, mainly associated with sustainable desalination, obtaining water, energy, and high-value resources. It is designed from a practical point of view and with the aim of being multipurpose, prepared for the implementation of various pilot plants. This is very relevant as in the future universities, research centres, and companies that want to research or validate innovative solutions in a relevant environment will be able to take advantage of WAVE through agreements or collaborative arrangements.

The centre is already working on several projects: some within the European H2020 framework (Rewaise and Sea4value), activities such as the recovery of market-interest salts, remineralisation with micronised calcite, nanofiltration, etc. Recently, we have started the MAC IDIWATER project, in collaboration with the Canary Islands Technological Institute, where we are working on desalination systems with lower energy consumption, advanced sensors, and brine conditioning. It should be noted that the Canary Islands have the highest density of desalination plants



"In a time of water crisis, brine valorisation allows us to turn a waste into a valuable resource in water remineralisation"

in Spain and climatic conditions to make the most of these solutions sustainably using renewable energies.

Another line of work with great potential is brine valorisation, an area aligned with the circular economy and zero waste. Evaporation ponds further concentrate the salts to obtain high-purity gourmet salt registered as 'Alma de Mar'. We are also working on obtaining calcium carbonate, a compound used in remineralisation and currently brought from the mainland. Due to the water crisis in the Canary Islands, desalination is increasing, and with it, brine rejection, a valuable resource that we can continue to use thanks to innovative solutions like this.

Internal and External Collaboration

One of the fundamental pillars of Aqualia's R&D+i strategy is the collaborative approach, both internally and externally with other stakeholders. What advantages does this vision bring? How does it impact the projects you develop?

The collaborative approach both within Aqualia and with other partners is essential, as it allows us to increase our information and knowledge. We can cite several real cases where it has had a clear impact. For example, in Tenerife, we have collaborated with the administration to provide a solution for treating gallery (underground) water with a high aluminium concentration thanks to an innovative solution based on novel membranes.

In the municipality of La Caleta, Tenerife, we carried out another collaborative action to provide a solution that guarantees water hardness, a parameter closely monitored in the service. Another good example is the regenerated water project in La Orotava, where collaboration has been a new success that will allow the supply of regenerated water for agricultural irrigation using a novel membrane train that guarantees high-quality product water and minimises energy consumption. It will be an important reference for Aqualia.

These and many other actions illustrate Aqualia's R&D+i approach: we think of an idea, analyse the results, and together look for ways to apply this knowledge to improve the service we offer.

Professional Development

From a more personal perspective, as someone who has been able to develop professionally in a department where creativity has a clear practical application, what aspects do you highlight about your role at Aqualia?

I believe the starting point is the willingness to help, and when we are all there and this is perceived by the organisation, it is much easier to involve colleagues from different teams and collaborate on projects.

Together we have built a collaborative and open environment where communication and knowledge flow. From this personal perspective, I undoubtedly highlight this: the curiosity of all the teams, the feedback culture between R&D+i and production, and above all, the desire to contribute to improving the service we provide at Aqualia.