


# Water sector professional - skills and competence gap Malta



- talent for mechanical problem solving
- multi-skilled

Skills and competences that future Water sector professionals currently lack but desperately need in Malta

## Progression routes for Regional CoVE Water Malta

 <b>Key Issues</b>	 <b>Business Model Canvas or Activities</b>	 <b>Outcomes</b>
<p>Water Scarcity.</p>	<p>Water Services Cooperation to continue and fine tune its measures to counteract water scarcity to safeguard Malta's natural resources.</p> <p>Increase Urban Wastewater Treatment Plant water production.</p> <p>Decrease water losses in the delivery of water.</p> <p>Long term target to achieve a 'net zero-impact' on the natural water cycle, whereby groundwater being abstracted will be replaced directly or indirectly, by means of a number of measures, including the production and subsequent delivery of new water.</p>	<p>Natural aquifers and water resources have been protected by the following measures:</p> <ul style="list-style-type: none"> <li>• Reduction in abstraction by increasing RO water provision.</li> <li>• Provision of new water to farmers to reduce abstraction, controlling of wastewater infiltration by rehabilitating networks</li> <li>• Increased metering of private boreholes to have data and facilitate abstraction control by regulators.</li> </ul>

Student Engagement. Current and prospective students in water related studies.

MCAST to work on innovative teaching and learning solutions to address problems related to student engagement.

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MCAST to pilot innovative educational technologies. The measures that have taken place to ensure that students are better engaged within their learning trajectory include:

- The introduction of blended learning within the Master of Science in Integrated Water Resource Management and Master of Science in Environmental Engineering.
- Purchase of Virtual Reality hardware  
*[12 x Oculus Go and desktop computer with high computational capacity].*
- Issue of tender to purchase EdTech equipment.  
*[Ct2345/2020 Tender for the Supply and Delivery of Energy Efficient Educational Technologies (Ai, Xr, Robotics) for the Malta College of Arts, Science and Technology]*
- Development of a water virtual learning platform  
[Website](#)
- Development of Virtual Reality content for water professionals within the PoVE project and for students following the MSc in Integrated Water Resource Management.  
[Website](#)
- Scenario based training through the introduction of tool that allows lecturers to produce virtual and immersive content.
- Launch of an EdTech framework to harness the adoption of new technologies within the classroom.  
[PDF](#)

<p>Climate change effects impacting negatively on Malta's limited fresh-water stocks.</p>	<p>Technological advancements in local water production and distribution systems to control negative impacts these may have directly or indirectly on climate change. Additionally counteract support the negative pressures by climate change on Malta's limited freshwater stocks by controlling the water production to natural resources more effectively.</p>	<p>Here a lot of effort was implemented by WSC on network and leakage management. From a high 4000m<sup>3</sup> per hour leakage, this has been reduced to 380m<sup>3</sup>/hr. The network has been modified to become more resilient without continuously bursting and leaking water. Huge team always on the go to ascertain that leakage is kept in check all the time.</p> <p>Water Services Corporation produces recycled water to reach 35% of the current total water demand of the agricultural sector. This measure supports the reduction of abstraction of ground water by farmers to enable the achievement of good groundwater quantitative status .</p>
<p>Use of high energy consuming mechanisms to generate water.</p>	<p>Introduce more advanced Energy saving methods in RO water production.</p>	<p>Energy hungry RO's have been upgraded with latest energy recovery equipment that reduces specific costs and energy requirements of producing water by over 50%. Today RO water is being looked at as a sustainable way of producing water. Other pumps, boosters and motors that are used 24x7 to produce/ distribute water have also been replaced by newer efficient models and where applicable run through speed drive inverters to control energy consumption.</p>
<p>Future proofing the work force and avoiding a brain drain</p>	<p>Review ongoing water related programmes.</p> <p>Understand current and future industry needs - Knowledge, skills and competences.</p>	<p>The following activities have been conducted:</p> <ul style="list-style-type: none"> <li>• Programme cyclical reviews for EQF 3 and 4 in applied science, environment and water related studies are currently taking place</li> <li>• Vocational excellence scan as part of pilot PoVE-Water.</li> <li>• Formal and informal with WSC and other stakeholders to better understand industry needs.</li> <li>• Attend local water related gatherings (such as SQUARES stakeholder meeting) to consolidate and foster good</li> </ul>

relationships with key water industry stakeholders.

Reaching out to young students during the STEM careers expo to highlight the [Esplora](#)

- MCAST R & I Expo 2021  
[Website](#)