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SPACE TECHNOLOGY FOR WATER RESOURCE MANAGEMENT – COMMUNITY BUILDING  
AND STAKEHOLDER ENGAGEMENT: THE SPACE4WATER PORTAL**Abstract**

Water conservation and resource management represent some of the most critical environmental challenges facing humankind. Innovative scientific solutions are needed to help solve the water crisis, and space technology applications provide tools for effective water resources management. Some areas of water resource management heavily depend on Earth observation data, but many more actors could benefit from space-based technologies.

The United Nations Office for Outer Space Affairs Space4Water project is implemented in partnership with the Prince Sultan Bin Abdulaziz International Prize for Water. The Space4Water project consists of a conference series, a web portal and a community to foster knowledge exchange between actors in the space and the water sectors. The conference series on space technologies for water resource management has been a key opportunity for knowledge exchange since 2008. The Space4Water Portal serves as a multi-stakeholder web platform for interdisciplinary knowledge exchange. Actors from the respective sectors share information on projects, initiatives, satellite missions, software, data and community portals, capacity building and training material, conferences, workshops, and publications. The Portal aims to point users to appropriate solutions, allowing to transfer learning and form new collaborations.

Rising user access and increasing interaction between stakeholders coming from various sectors (intergovernmental, governmental, academia, private sector, and industry, as well as non-governmental organisations, and civil society) and from countries all over the world provides a positive impetus for the future.

Collected feedback about the Space4Water Portal shows that users are keen to collaborate and enter partnerships. Exploring ways to form new partnerships within the community of practice is of utmost importance to achieve Sustainable Development Goal 6 (Clean water and sanitation), but also all the other water-related SDGs. Stakeholder meetings on a regular basis will allow the community to meet in person and exchange views and insights on the gaps and what space-based solutions are already available for sustainable water management.

The portal showcases potential vertical integration of space-based solutions and provides possibilities to find future collaborators. The Space4Water project aims to allow users to find existing solutions to gaps, and to identify what needs could be met by space applications, notably by accessing earth observation data.

This paper presents key features of the Space4Water Portal and lessons learned from three years of community building efforts, understanding challenges, user needs and organisational limitations.