



## Cross border cooperation for innovative resource efficiency services in the Mediterranean

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The Mediterranean basin is expected to become a climate change hot spot in the future as the region will experience increasing temperatures and declining precipitation leading to water shortages, loss of biodiversity and risks to food production (Med ECC Network, 2019; Tuel, 2020). In this respect, the need for innovation is urgent in the field of resource efficiency services (RE), which is becoming progressively a new economic paradigm that is expected to drive development in the EU and internationally.

However, despite the fact that in the Southern Mediterranean countries there is a growing need for RE services (consulting, engineering and operations) to deal with the pressure on the environment, the RE supply persists at low levels (Volles, 2020; Euromesco Policy Study, 2021). This is essentially due to the lack of a proper innovation process that would be able to identify the needs, structure the creative solutions and commercialize them.

Indeed, competitiveness, innovation and research present consistently low values in the Southern Mediterranean countries (in Lebanon, Egypt and Jordan R&D/GDP is between 0.2 and 0.71%) (UNESCO Institute for Statistics (UIS), 2021; Beirut Research and Innovation Center, 2016). When innovation is not available locally it becomes necessary to activate an external source. However, while the EU countries have access to an internal market of half a billion of consumers with dynamics and advanced technology, the SMEs from MED countries face a higher degree of isolation. Linking both economic systems in the field of RE might

be an opportunity to match a growing demand and need with a dynamic supply.

MAIA-TAQA project (Mobilizing new Areas of Investment And Together Aiming to increase Quality of life for All) funded by the ENI Cross Border Cooperation Med Programme, will contribute to fill-the-gap by developing the right North-South Mediterranean networks and promoting in the MED markets: innovative RE services supplied by local SMEs; new institutional regulation and systems that support innovation (i.e. voucher); long-lasting commercial framework and reinforcement of local capacities.

As we are entering the 3rd and final year of MAIA-TAQA project implementation, the scene has been set, despite the big difficulties caused by Covid-19 pandemic and local political and economic crisis in Lebanon. Four innovative pilot projects are being constructed in Alexandria, Beirut, Aqaba and Amman and operation is expected till February 2022: A solar microgrid for a local wholesale market and a wastewater treatment plant, a solar cooling system and a building integrated photovoltaic system for three tertiary sector buildings, respectively.

Apart from project partners, several stakeholders actively participated in pilots definition and development, including Ministries, RTOs and regional, local and regulatory authorities. In parallel, a 60-hour training course per pilot area was created that covers vertical technology and resource relevant topics as well as horizontal topics like legal frameworks and finance

opportunities. An innovation ecosystem is being set up that will be animated throughout MAIA-TAQA's final year through the establishment of three innovation one stop shops to act as incubator nodes in Alexandria, Aqaba and Beirut. Their operation will be piloted through the function of a voucher system. Company missions of local SMEs to EU enterprises and b2b events will further empower EU - South MED business networks.

As mentioned before, innovation is a necessary element to develop the new business in the field of RE and sustainability. The peripherality of the MED area has further contributed to a lack of opportunities in this regard. Cross Border Cooperation can help to establish connections and create networks among, from one side, a more developed business environment (EU) where, innovation and research are more popular and

already introduced as a normal practice, towards, on the other side, an environment in which the innovation linkage needs to be developed.

In this context, international logistics will play an increasingly important role in the development and animation of the Euro-Mediterranean innovation and business ecosystem, as transport of goods and people can be a catalyst or a barrier to further development. For example, a researcher in Lebanon may be hosted at an EU industry manufacturing PV panels or a Spanish SME may collaborate with a research institute in Egypt for developing a novel wastewater treatment method. In MAIA-TAQA pilot in Aqaba, a Jordanian company collaborates with a Greek one for installing a solar cooling system at the local Chamber of Commerce, while the equipment is manufactured in Germany and other countries and raw materials may come from China.

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## Biography

*Dr. Perakis acquired his PhD in chemical engineering from the National Technical University of Athens in 2007. Since then he has worked for 2 years for a private Greek company in the study and development of renewable energy investment projects and afterwards in the Development Programs Division of CRES as a project manager and energy expert. He has more than 10 years of experience in managing projects supporting the development of renewable energy technologies funded by the EU and other international organizations. His geographical focus, besides Greece and other EU countries, includes South East Europe and the Mediterranean basin.*