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Citizen science and crowdsourcing in the field of marine scientific research – the MaDCrow project

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The Oceans cover 70% of the surface of our planet and contain 99% of the living space on the planet. Surveying the blue planet is a very demanding and expensive activity since requires large infrastructures and trained personnels. Research institutions, on the contrary, have very limited funding to perform their studies so that the seas remain, still, mostly unexplored. This urges for a bold step towards a new paradigm for marine data acquisition. MaDCrow (Marine Data Crowdsourcing) is a marine technology research and development project co-funded by the European Regional Development Fund (ERDF), aiming to create an innovative technological infrastructure for the acquisition, integration and dissemination of data on the marine ecosystem. This is coupled with the goal to increase public awareness of environmental issues and in particular of climate changes as drawn within goal 13.1 of the UN Sustainable Development Goals. MaDCrow sensors acquire Temperature, Salinity, pH and Oxygen data in real time. These are placed in ad hoc housing that can be installed on citizen's vessels. Data acquired are transmitted onshore, stored, processed and integrated with other information sources in order to provide end-users with an App- or web-site-based clear picture of the status of the marine environment to address relevant social questions (e.g.: where is a good place to swim?; is there an oil spill?; are the seawater conditions good for aquaculture and fishery?) The main idea behind the project is to bridge the gaps among three actors who are mutually interdependent, namely: (I) Researchers, (II) Policy makers and (III) and the Citizens.

From the point of view of the scientific community, data acquisition by volunteers is a mechanism that has many advantages. It keeps costs low while at the same time generates large quantities of information. We will discuss the pros and the cons of MaDCrow approach and the future development of this multi-stakeholder initiative.