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EGO: Towards a global glider infrastructure for the benefit of marine research and operational oceanography

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In the 1990 s, while gliders were being developed and successfully passing first tests, their potential use for ocean research started to be discussed in international conferences because they could help us improve the cost-effectiveness, sampling, and distribution of the ocean observations (see OceanObs'99 Conference Statement – UNESCO). After the prototype phase, in the 2000 s, one could only witness the growing glider activity throughout the world. The first glider experiments in Europe brought together several teams that were interested in the technology and a consortium formed naturally from these informal collaborations. Since 2006, Everyone's Gliding Observatories (EGO - http://www.ego-network.org) Workshops and Glider Schools have been organized, whilst becoming the international forum for glider activities.

Some key challenges have emerged from the expansion of the glider system and require now setting up a sustainable European as well as a global system to operate glider and to ensure a smooth and sustained link to the Global Ocean Observing System (GOOS). Glider technology faces many scientific, technological and logistical issues. In particular, it approaches the challenge of controlling many steerable probes in a variable environment for better sampling. It also needs the development of new formats and procedures in order to build glider observatories at a global level. Several geographically distributed teams of oceanographers now operate gliders, and there is a risk of fragmentation.

We will here present results from our consortium who intends to solve most of these issues through scienti[U+FB01]c and technological coordination and networking. This approach is supported by the ESF through Cooperation in the field of Scientific and Technical Research (COST). The COST Action ES0904 "EGO" started in July 2010 aiming to build international cooperation and capacities at the scientific, technological, and organizational levels, for sustained observations of the oceans with gliders. A major impact of this Action was the elaboration of the EU Collaborative Project GROOM, Gliders for Research, Ocean Observation and Management for the FP7 call "Capacities – Research Infrastructures", which addresses the topic "design studies for research infrastructures in all S&T fields" (see http://www.groom-fp.eu).