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## Infrastructure for Sustainable Development of Marine Research, Including the Participation of Bulgaria in the European Infrastructure Euro-Argo

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MASRI – Infrastructure for Sustainable Development of Marine Research Including the Participation of Bulgaria in the European Infrastructure Euro-Argo is a project of the National roadmap for scientific Infrastructure (2017-2023) of Bulgaria. The mission of MASRI is to build and utilize a modern research infrastructure which will provide the basis for highly efficient marine and maritime research to expand our knowledge of the marine environment and to support blue growth and implementation of marine policy and maritime spatial planning in order to achieve UN Sustainable Development Goal 14: Conservation and sustainable use of oceans, seas and marine resources for sustainable development.

MASRI activities include the modernization of existing unique resources and equipment and the establishment of new facilities. The research infrastructure consists of four main modules: Research fleet; National Operational Marine Observing System – NOMOS; Data and information center and Research laboratory complex, each representing a distinct on functional basis part of the scientific infrastructure, and consists of separate components distributed physically in different scientific organizations, in the city of Varna. Thus, MASRI is intended to be a large-scale, interdisciplinary multifunctional (physics, chemistry, biology, geology, aquacultures, medicine, energy, underwater, and offshore technologies) marine research infrastructure of scientific significance and will provide unique facilities (including databases and computer network) which will be widely accessible on national, regional and international level for multidisciplinary researches.

Research vessels are intended to provide access to the investigated medium – the sea and they are providing a working platform for conducting research. NOMOS is a system of systems to

measure in situ parameters of the marine environment and the surrounding atmosphere. It is designed to provide information on the state of the marine environment for scientific research, forecasting and marine industry. Data and information center provide a computing environment, communication environment and environment for quality control and reliable storage of data and information within the scientific infrastructure. Research laboratory Complex represents a system of research laboratories for chemical, biological and geological analyzes and for relevant research on marine medicine as well as of laboratories for marine resources and technologies research.

As an important module of MASRI, NOMOS includes several components: BulArgo – a system of profiling floats to measure the profiles of the characteristics of the marine environment in the depth up to 2000m; waves and currents monitoring system; national sea level observing system; moorings network; coast research bases and metrological control laboratory.

MASRI is also intended to support the participation of Bulgaria in European research infrastructure consortia Euro-Argo ERIC. At least three floats are provided and launched in the Black sea every year in the frame of the BulArgo project. Thus, BulArgo gives an important contribution to the Argo program in particular in the Black sea, providing a significant volume of very important in-situ data both for climatic research, for assimilation into the models and verification of the forecasts.