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NGIC: turning concepts into reality

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The National Geo-Information Center (NGIC) is a distributed research infrastructure funded by the National road map for scientific infrastructure (2017-2023) of Bulgaria. It operates in a variety of disciplines such as geophysics, geology, seismology, geodesy, oceanology, climatology, soil science, etc. providing data products and services. Created as a partnership between four institutes working in the field of Earth observation: the National Institute of Geophysics, Geodesy and Geography (NIGGG), the National Institute of Meteorology and Hydrology (NIMH), the Institute of Oceanology (IO), the Geological Institute (GI), and two institutes competent in ICT: the Institute of Mathematics and Informatics (IMI) and the Institute of Information and Communication Technologies (IICT), NGIC consortium serve as primary community of data collectors for national geoscience research. Besides the science, NGIC aims to support decision makers during the process of prevention and protection of the population from natural and anthropogenic risks and disasters.

Individual NGIC partners originated independently and differ from one another in management and disciplinary scope. Thus, the conceptual model of the NGIC system architecture is based on a federated model structure in which the partners retain their independence and contribute to the development of the common infrastructure through the data and research they carry out. The basic conceptual model of architecture uses both service and microservice concepts and may be altered according to the specifics of the organization environment and development goals of the NGIC information system. It consists of three layers: "Sources" layer containing the providers of Data, Data products, Services and Soft-ware (DDSS), "Interoperability"- regulating the access, automation of discovery and selection of DDSS and data collection from the sources, and "Integration" layer which produces integrated data products.

The diversity of NGIC's data, data products, and services is a major strength and of high value to its users like governmental institutions and agencies, research organizations and universities, private sector enterprises, media and the public. NGIC will pursue collaboration with initiatives, projects and research infrastructures for Earth observation to enhance access to an integrated global data

resource.