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Towards a GEOSS Digital Ecosystem: the GEOSS Platform Plus Vision

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The GEOSS Platform Plus (GPP) project, funded by the European Union's Horizon 2020 Framework Programme, aims to contribute to the implementation of the Global Earth Observation System of Systems (GEOSS) by evolving the European GEOSS Platform components to allow access to tailor-made information and actionable knowledge.

In this context, the GPP project is defining a vision for evolving GEOSS based on the concept of Digital Ecosystem (DE). Designing GEOSS as a Digital Ecosystem (DE) requires, first, the identification of its ecosystem service(s). As advocated in several documents, including the "Concept Paper for the Next Phase of the GEOSS Infrastructure" released by GEOSS Infrastructure Development Task Team (GIDTT) and concept of Earth Intelligence as introduced in the GEO Post 2025 Strategy, GEOSS should shift from the traditional data sharing paradigm to a model where knowledge generation and sharing is facilitated.

Therefore, we can identify, but not limiting to, the GEOSS Ecosystem Service as the Provisioning of trusted EO-based knowledge for decision-making. Considering the GEO mission and users basin, if such an ecosystem service is provided by GEOSS, a virtuous cycle can be initiated. End-users will utilize tools and services of the GEOSS DE because they find what they need and can use the desired information to obtain actionable knowledge; intermediate users (e.g., developers, scientists, data intermediaries, etc.) will build new tools on top of (and contributing to) the DE to attract new end users and contribute to the GEO communities benefits; providers will have more interest in participating (belonging) to the DE to spread the use of their resources and enlarge their users basin.

Such a framework enables a more flexible environment, which facilitates (and encourages) the extension of GEOSS capabilities through new components, and strengthen the involvement and contribution of GEO communities at large. To demonstrate this concept with practical examples, in this presentation we will introduce some of the use cases developed by the GPP project: (i) the SDG 15.3.1 for the Land Degradation use case, and (ii) the Nutrient Pollution in European Inland

and Coastal Waters use case. Such use cases use (and extend) the current GEOSS Platform for the generation of actionable knowledge (and beyond, towards Earth Intelligence).