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ESA Exploitation Platforms and Beyond

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The ESA operations concept for the PDGS and consequent support to EO data exploitation has evolved in support of the exploitation of satellite data from the traditional provision of data directly at the user premises to a new and complementary operations concept, based on the availability of a set of virtual workspaces, named Exploitation Platforms, where users are able to access togheter remote data and computing resources.

An Exploitation Platform is a virtual workspace, providing the user community with access to (i) large volume of data (EO/non-space data), (ii) algorithm development and integration environment, (iii) processing software and services (e.g. toolboxes, retrieval baselines, visualization routines), (iv) computing resources (e.g. hybrid cloud/grid), (v) collaboration tools (e.g. forums, wiki, knowledge base, open publications, social networking ⋯), (vi) general operation capabilities (e.g. user management and access control, accounting, etc⋯).

The platforms thus provides a complete work environment for its'users, enabling them to easily and effectively perform data-intensive research. The platform permits the execution of dedicated processing software close to the data, thereby avoiding moving large volumes of data through the network and spending time on developing tools for sourcing data, basic data manipulation, etc. Moreover, the platforms offers a collaboration environment, where the scientist can share their algorithm with the community, publish results and perform development.

Platforms concept acquired a strong success in the last years in Earth Observation, supporting a rising number of users and disciplines and building a huge and variegated set of capabilities and services for many scientific disciplines. ESA's current effort, focused on the paradigm to "bring users to the data", are trying to foster and direct this growth and interconnect the various platform services within a network of resources, which can provide cooperative services for both commercial and scientific EO data exploitation.

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