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GreenDIGIT: Project and Initiative to Lower Environmental Impact of Future Digital Research Infrastructures

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In order to keep Research Infrastructures (RIs) at the highest level of excellence in science, new technologies and solutions must be developed to steer toward a reduced environmental footprint, as it is the case for all domains of our societies. Lowering the environmental impact of digital services and technologies has to become a priority for both the operation of existing digital services and the design of future digital infrastructures. GreenDIGIT brings together 4 major distributed Digital Infrastructures at different lifecycle stages, EGI, SLICES, SoBigData, EBRAINS, to tackle the challenge of environmental impact reduction with the ambition to provide solutions that are reusable across the whole spectrum of digital services on the ESFRI landscape, and play a role model. GreenDIGIT will capture good practices and existing solutions and will develop new technologies and solutions for all aspects of the digital continuum: from service provisioning to monitoring, job scheduling, resources allocation, architecture, workload and Open Science practices, task execution, storage, and use of green energy. GreenDIGIT will deliver these solutions as building blocks, with a reference architecture and guidelines for RIs to lower their environmental footprint. User-side tools and Virtual Research Environments will also be expanded with energy usage reporting and reproducibility capabilities to motivate users to apply low-energy practices. The new solutions will be validated through reference scientific use cases from diverse disciplines and will be promoted to providers and users to prepare the next generation of Digital RIs with a low environmental footprint.

Topic

Environmental informatics: Green Computing

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