Perspectives in understanding open access to research data – infrastructure and technology challenges

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The Policy RECommendations for Open Access to Research Data in Europe (RECODE) project, started in February 2013 with a duration of two years, has the objective to identify a series of targeted and over-arching policy recommendations for Open Access to European research data, based on existing good practice and addressing such hindering factors as stakeholder fragmentation, technical and infrastructural issues, ethical and legal issues, and financial and institutional policies.

In this work we focus on the technical and infrastructural aspect, where by "infrastructure" we mean the technological assets (hardware and software), the human resources, and all the policies, processes, procedures and training for managing and supporting its continuous operation and evolution.

The context targeted by RECODE includes heterogeneous networks, initiatives, projects and communities that are fragmented by discipline, geography, stakeholder category (publishers, academics, repositories, etc.) as well as other boundaries.

Many of these organizations are already addressing key technical and infrastructural barriers to Open Access to research data. Such barriers may include: lack of automatic mechanisms for policy enforcement, lack of metadata and data models supporting open access, obsolescence of infrastructures, scarce awareness about new technological solutions, lack of training and/or expertise on IT and semantics aspects.

However, these organizations are often heterogeneous and fragmented by discipline, geography, stakeholder category (publishers, academics, repositories, etc.) as well as other boundaries, and often work in isolation, or with limited contact with one another.

RECODE has addressed these challenges, and the possible solutions to mitigate them, engaging all the identified stakeholders in a number of ways, including an online questionnaire, case studies interviews, literature review, a workshop. The conclusions have been validated by the RECODE Advisory Board and will contribute to shape the RECODE policy guidelines for Open Access to Research Data.

In the work, we report on the identified technological and infrastructural issues, classified according to the barriers of heterogeneity, sustainability, volume, quality, and security.