Best Practice:

Central Research Data Management in large Projects

Good research data management is a challenging task in research projects and is especially complex in interdisciplinary projects with partners from different institutions. Differences in the requirements and resources of the involved groups have to be taken in to account. In particular, the storage and exchange of data is usually organized in different ways, based on the existing infrastructures. Thus, the findability and accessibility of data within the projects is not or not sufficiently ensured. In addition, there are only few disciplines where well-defined standards are available to ensure an adequate and comparable documentation of the results.

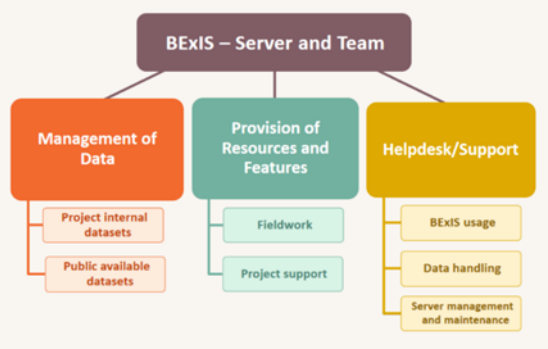
To face these problems, many research projects encompass central projects for data management. The extend and the tasks of these projects differ between projects and depend on the requirements of the researchers and the aims of the project.

Data Management in the "Biodiversity Exploratories"

A successful example for the implementation of central data management is the DFG infrastructure priority programme "Exploratories for large-scale and long-term functional biodiversity research" (SPP 1374) which encompasses a core project for the research data management.

The tasks include the "classical" data management like the management and quality assurance of project-specific and publicly available data but also the provision of resources and functionalities. In addition, the data management team supports the researchers in the different projects and offers advice regarding data-related topics.

"The project is essential for the exchange of data and information between the projects in the priority programme (SPP)", says Andreas Ostrowski, the head of the data management team. A main task of the four-person team (3 full time equivalents) is the deployment and development of the central data storage platform (BEXIS) and the support of the users.



Tasks of the central data management.

The researchers are supported regarding the quality assurance and standardization of their data. In addition, the data management team develops new modules for BEXIS, e.g. an administration system with interactive maps for the management of test areas, a calendar for the reservation of resources (e.g. devices, instruments, accommodation) and a module for the management of publications.

The central data management enables a continuous and personal support of the researchers by data managers with a longstanding experience in the field. Andreas Ostrowski explains that the availability of central contact persons and a central platform for the data storage help scientists to implement the requirements of good data management efficiently (see also survey: 10.22032/dbt.40313). This contributes to the long-term storage and accessibility of the data. Besides the personal connections between researchers and the developers also the data policy of the priority programme, which requires the central and transparent storage of the produced data, leads to a high number of users of the central data management.

An important factor for the successful implementation is that the executive committee of the project is aware of the importance of data management and supports the necessary arrangements. The required resources for the data management should be planned early on during the development of the research project.

BEXIS as a central platform for data management

A core element of the management of the research data is the platform BEXIS that is maintained and developed by the central research data management team.

The first generation of BEXIS (formerly BExIS: Biodiversity Exploratories Information System) was developed based on the specific needs of the project as part of the priority programme. Since 2011, the software is developed as an open source project by a developer community that is coordinated by the Heinz Nixdorf Chair for Distributed Information Systems at the Friedrich Schiller University Jena. By now, BEXIS is a generic platform for data management that can be further extended by modules and is used in research projects from different disciplines.

The Biodiversity Exploratories

The infrastructure priority programme 1374 "Biodiversity Exploratories" is funded by the Deutsche Forschungsgemeinschaft (DFG) since 2008. Since then several hundred researchers were active in the projects.

The project aims to improve the insights into the connection between the use of land areas and the changes in the biological diversity based on three so called exploratories (Baden-Württemberg, Brandenburg, Thüringen) with a total of 300 study areas.

Do you have any questions about this Best Practice or would you like to suggest another one?

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