



DiSSCo: The physical and data infrastructure for Europe's Natural Science Collections

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DiSSCo, a Distributed System of Scientific Collections, is a Research Infrastructure aiming at providing physical and digital (data) access to the approximately 1.5 billion biological and geological specimens in collections distributed across Europe. It is a facility to generate and aggregate data derived from the collections as a linked data cloud to enable science and underpin FAIR data principles. The collections represent primary reference material supporting biodiversity and geodiversity discovery span 4.5 billion years of natural history, from the formation of the solar system to the present day and are constantly curated and updated through new scientific expeditions and research projects.

In the European landscape of environmental Research Infrastructures, the effectiveness of services that aim at aggregating, monitoring, analysing and modelling geo-diversity information relies on the primary description of that diversity. It also relies on the availability of this primary reference data that today is scattered and disconnected.

In this presentation we will explain the DiSSCo approach to enable multi-disciplinary science through connections with other RIs, synergies with existing initiatives and infrastructures like Catalogue of Life, GBIF and industrial actors. We will also explain how DiSSCo will enable unified access to the collections and we will discuss technical barriers for interoperability and possible action lines to overcome these. Practices and technologies to underpin the FAIR data principles will also be discussed.

DiSSCo provides the required bio-geographical, taxonomic and species trait data at the level of precision and accuracy required to enable and speed up research for the rapidly growing seven grand societal challenges that are priorities of the Europe 2020 strategy. This is achieved by providing access through a unified loans and visits system to the collections from the 114 DiSSCo partners in Europe (natural history museums, universities, research institutes and other collection-holding organisations) and providing access to the data as a linked, interoperable and open data cloud. DiSSCo API services provide data suitable for thematic services in environmental Research Infrastructures like LifeWatch, eLTER as well as RIs in other domains such as E-RIHS in the field of social sciences. The services enable better connections between collection data and observations in biodiversity observation networks, such as EU BON and GEOBON. Standards and practices developed in the CETAF network, TDWG Biodiversity Information Standards Organisation and RDA are used to achieve interoperability with research areas like long term ecological research.