

Distributed System of Scientific Collections DiSSCo

Scientific area:	Life Sciences (Natural Science Collections)
Host country:	The Netherlands
Infrastructure type:	Distributed
Dutch node or similar:	DiSSCo-NL
Legal entity:	ERIC (to be established)
Established:	n/a
The Netherlands member since:	n/a
Phase:	Preparatory

Duration of agreement

n/a

Terms of withdrawal

n/a

Access to facilities

n/a

Access to data

Open access (to be established)

User definition

The DiSSCo RI recognizes 7 major user/stakeholder groups including:

1. Research (academic, non-academic incl. Citizen Science);
2. Collection management;
3. Technical support (IT & IM);
4. Policy (institutional, national & international);
5. Education (academic & non-academic);
6. Industry
7. External (media & empowerment initiatives)

Description

The Distributed System of Scientific Collections (DiSSCo) aims to enable the community of Natural Science Collections (NSCs) to overcome its current limitations and thrive in this new, ever-evolving environment of opportunities. DiSSCo RI works for the digital unification of all European natural science assets under common curation and access policies and practices that aim to make the data easily Findable, more Accessible, Interoperable and Reusable (FAIR). The development phase runs from 2019-2023 and operations are expected to begin in 2026. Currently, the DiSSCo consortium consists of 22 national taskforces (21 countries and CETAF).

Financial details

Mean Dutch membership over 5 year period (k€): n/a*

Mean Dutch share of contribution over 5 year period (%): n/a

*The preparatory phase of DiSSCo is funded by European grants.

Employee statistics

	Female	Male	Other	Total
Total*	*	*	*	*
Of which Dutch**	1	2		3

Table 1. Employee statistics for 2019 in Full Time Equivalent (FTE)

*DiSSCo is presently in its preparatory phase and is not operational yet. The DiSSCo consortium added two more national consortia from Switzerland and Israel and presently represents >130 partners from 23 countries. Some partners are very large like Naturalis, the Natural History Museums of London and Paris, many others are much smaller. **During the DiSSCo Preparatory phase the Dutch contribution is

delivered by the Coordination and Support Office facilitated by Naturalis Biodiversity Center. From the 13 CSO members only 3 have the Dutch nationality (www.dissco.eu/about-us/)

Use of the infrastructure

User, application, sample request and data request information

User information

n/a

Comments by the RI:

DiSSCo is currently in its preparatory phase and is not yet operational. DiSSCo will be a technical RI build on a FAIR Digital Object infrastructure. The Digital Objects relate to digitised natural science specimen information. The number of users will be determined by the level of digitisation of the European Natural Science collections which is presently estimated to be 10% of the estimated 1.5 billion objects. Mass digitisation is a key factor of the success for DiSSCo, next to capacity building and e-Services that operate on the RI. DiSSCo is in its preparatory phase and has no direct users yet. DiSSCo is designed to serve the needs of Natural Science Collection curators, researchers, policy makers and society at large with an interest in taxonomy and biodiversity research in all its dimensions. DiSSCo aims to become an important hub in the wider European Natural Sciences RI landscape. The target audience is diverse but the main stakeholders include collection curators and technical staff, the scientific community and policy makers.

Application information

Year	Number of applications/requests		Number of approved applications/requests		Percentage of approved applications/requests to use (%)	
	NL	Other countries	NL	Other Countries	NL	Other Countries
2016	657	n/a	246	n/a	37.5	n/a
2017	695	n/a	314	n/a	45.2	n/a
2018	n/a	n/a	n/a	n/a	0	n/a
2019	586	n/a	173	n/a	29.5	n/a
2020	n/a	n/a	n/a	n/a	n/a	n/a

Comment by the RI:

Through the DiSSCo linked Synthesys⁺ project the DiSSCo facilities have received transnational access applications over the period between 2016-2019 as mentioned in the table above. Despite the early phase of DiSSCo transnational access services have been offered (through EC-funded projects) to European collections. The numbers above provide a summary of unique users of collections based on the data from the Synthesys⁺ project and refer to users fully funded for transnational access to collections. These numbers indicate the number of requests based on the SYNTHESYS+ project (one of the DiSSCo linked projects, that facilitates transnational (TA) and Virtual Access (VA) to European Natural Science Collections).

Sample and data request information

Number of sample requests to the RI

n/a

Number of requests for data to the RI

n/a

Comments by the RI:

DiSSCo is currently in its preparatory phase.

Contributions provided by organisations or companies in the participating countries

n/a

Comments by the RI:

DiSSCo is in its preparatory phase. As part of DiSSCo Prepare WP4 the DiSSCo Cost Book is being prepared which should provide a first indication of the operational costs of the RI.

Income from user fees

n/a

Comments by the RI:

DiSSCo will be an open science RI without user fees.

Additional questions to the RI (2020)

What is the Dutch contribution to the RI?

At present DiSSCo represents more than 130 European partners from 23 countries that have signed the MoU.

Currently, are there any RI's that provide similar kinds of research infrastructure and services as yours in the world?

No, but DiSSCo is part of the '[Alliance for Biodiversity Knowledge](#)' together with the Global Biodiversity Information Facility (GBIF), LifeWatch, Catalogue of Life (COL), ELIXIR and many others. A recent landscape analysis for the DiSSCo RI identified the following RIs with connections to DiSSCo; 1) Biodiversity Heritage Library, 2) Catalogue of Life, 3) ELIXIR, 4) eLTER, 5) GBIF, 6) GeoCASE, 7) iBOL, 8) iNaturalist, and 9) LifeWatch.

What are the overlaps and what are the main differences? To which extent do you cooperate or compete?

A recent landscape analysis for DiSSCo identified the following RIs with connections to DiSSCo:

- Biodiversity Heritage Library - mobilizes scientific literature that include the specimen data from the DiSSCo RI. These publications will be linked to the respective specimen records.
- Catalogue of Life - DiSSCo will make use of the taxonomic and nomenclatural names infrastructure of COL. COL in turn will link names to the digital type specimens in DiSSCo.
- ELIXIR - ELIXIR coordinates and develops life science resources in the realm of DNA and RNA sequence data across Europe. Many of the sequence data records are derived from specimens in DiSSCo and will be linked to the specimens records.
- eLTER - Both eLTER and DiSSCo operate in the field of biodiversity, where DiSSCo provides information at the species and specimen level eLTER operates at the community level which is determined by species interaction and species traits derived from DiSSCo
- GBIF - GBIF has a main focus on the wider biodiversity data landscape determined by What-Where-When including 90% observational data, where DiSSCo provides much deeper information derived from physical specimens (evidence) curated in the European Natural History Museum including trait measurements, DNA sequence data, taxonomic literature, physical characteristics, etc. Furthermore, DiSSCo is a RI that allows users to annotate and curate the digital specimens through its open digital specimens (ods) architecture.
- GeoCASE - GeoCASE provides digital access to digitised paleontological and geological specimen records, but lacks the biological specimens represented by DiSSCo. DiSSCo covers the specimen level information shared by GeoCASE and GBIF in an infrastructure that allows curation and annotation of the specimen records.
- iBOL - All reference DNA barcode sequences served by iBOL require a voucher specimen as physical evidence that is deposited in a Natural History Museum. The sequence records in iBOL from European collection are linked in the DiSSCo open digital specimen records.
- iNaturalist - iNaturalist is a citizen science portal engaged with documenting biodiversity through observations. Both iNaturalist and DiSSCo document biodiversity, but DiSSCo builds on the physical evidence of specimens.
- LifeWatch - Digital specimen information served by the DiSSCo infrastructure has manifold applications. LifeWatch is an infrastructure that develops e-Services on top of data served by DiSSCo among others.

What are the RI's major educational and outreach activities?

DiSSCo is already delivering training courses through its linked project MOBILISE COST Action. The MOBILISE Action is running annually courses aiming at capacity enhancement around data mobilisation and digitisation of collections. The emphasis is given mostly to small and medium sized collections.