

# **ENTERPRISE ARCHITECTURE FOR THE NATIONAL DIGITAL LIBRARY**

v3.0

EXTENDED ABSTRACT



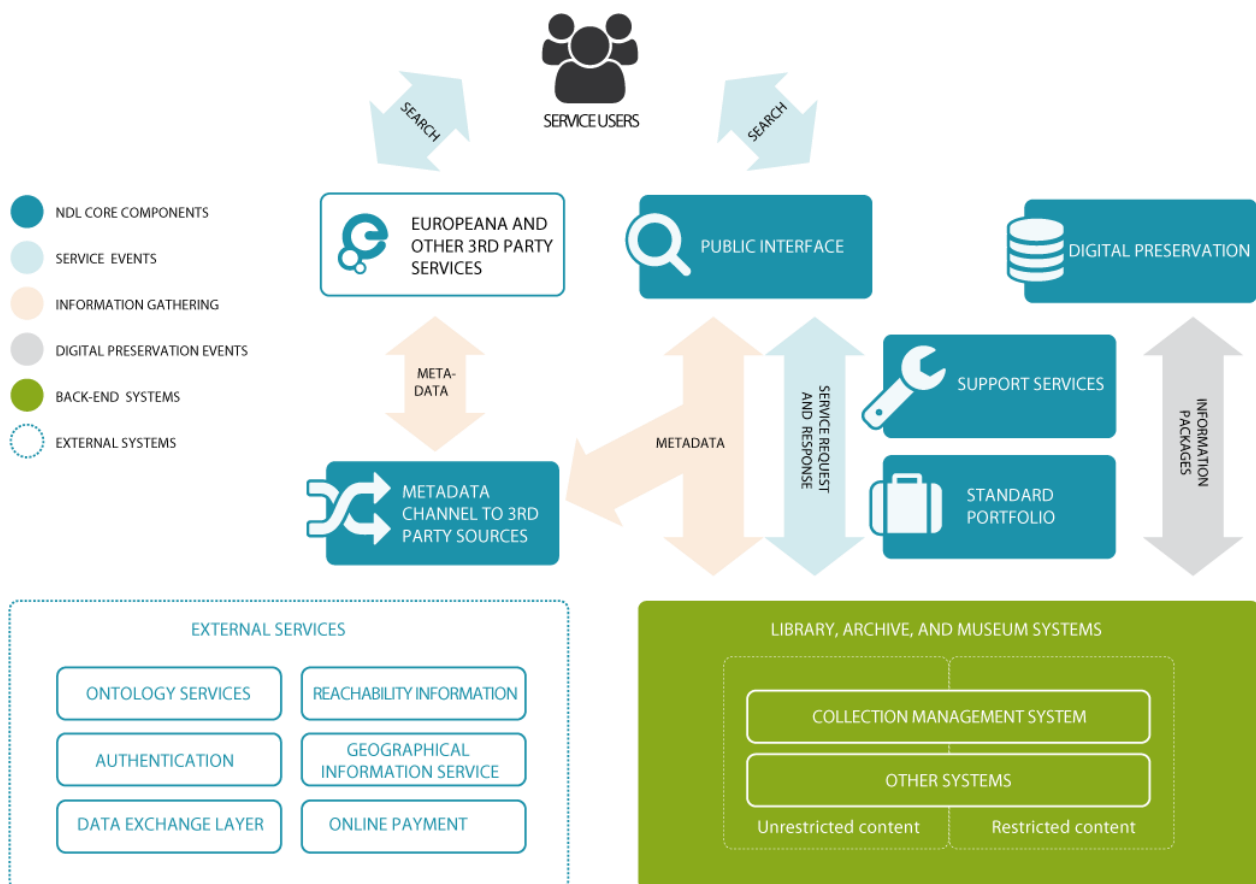
The National  
Digital  
Library

The National Digital Library (NDL) is one of the Ministry of Education and Culture's sector-level content and service packages. It is based around libraries, archives, museums and other organisations that preserve cultural heritage content, as well as the actors responsible for providing their technical solutions. The NDL project's focal areas are:

- maintaining and developing the NDL's Digital Preservation (DP) service and Finna public interface; and identifying developmental requirements for other significant digital services in the library, archive and museum sectors;
- promoting interoperability between IT systems and information architectures in the library, archive and museum sectors by, for example, utilising the National Architecture for Digital Services;
- developing operating models and tools for the creation, administration, utilisation and preservation of digital cultural heritage reserves, and strengthening expertise in this area.

The NDL project's services enable actors and their stakeholders in the library, archive and museum sectors to efficiently and reliably produce, distribute, utilise and preserve their cultural heritage content in digital format. The specifications produced by the NDL facilitate the introduction of NDL services, the design of ancillary services, and mutual interoperability.

The NDL project steers development of information management of cultural heritage sectors via enterprise architecture work. The NDL's enterprise architecture is a descriptive process with the key objective to provide sufficient guidance for enabling interoperability between architectures and ensuring the effectiveness of architectural steering. The NDL's enterprise architecture editorialise what kind of services the owners and holders can use to enable and improve usability of their content. The figure below depicts the NDL in its operating environment.



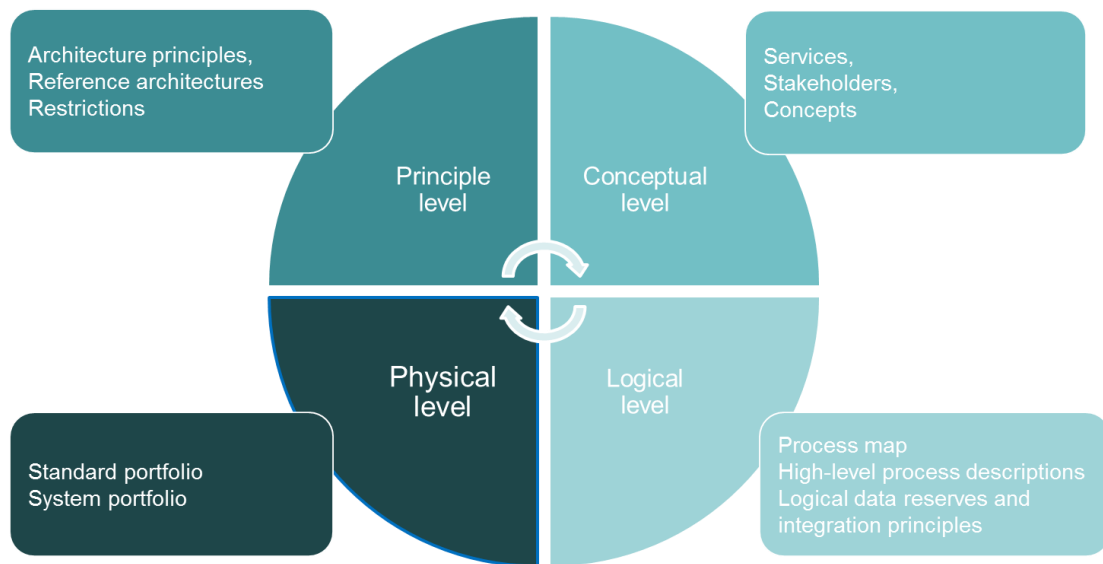
The NDL offers to libraries, archives, and museums:

- Support services for managing content and their descriptions

- Guidelines for technology choices based on Standard Portfolio
- A channel to deliver descriptions to 3rd party sources
- Public interface to content, and
- Digital preservation service with support services

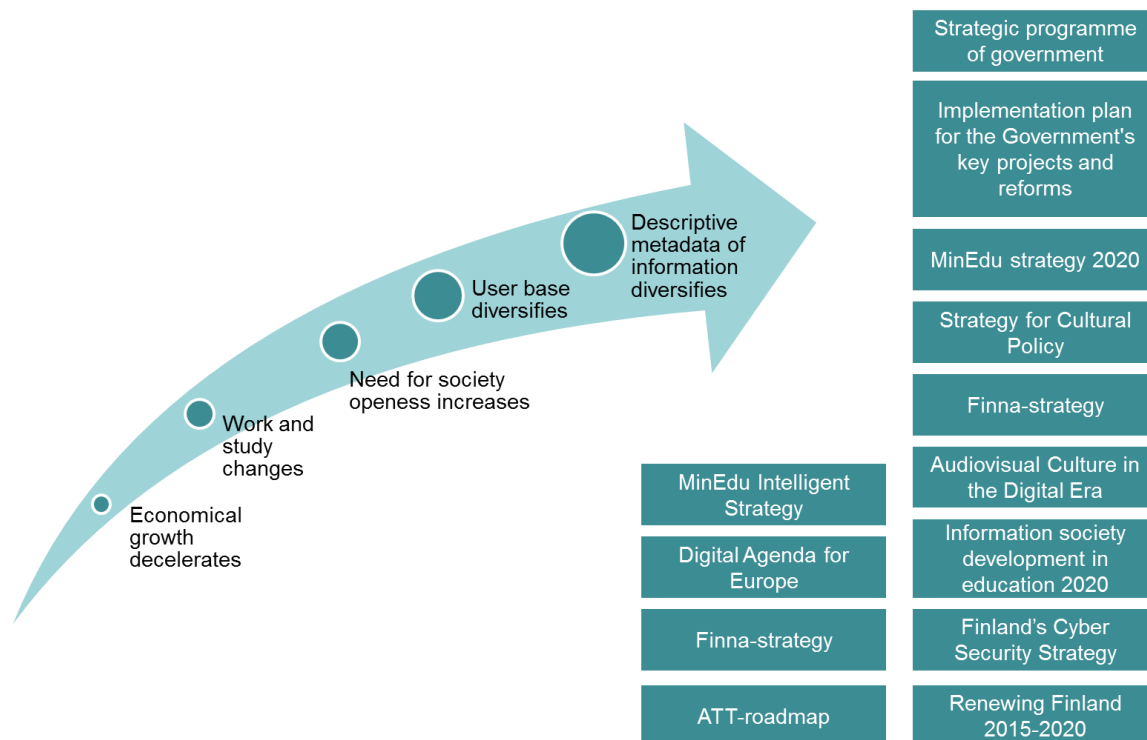
The key theme of the enterprise architecture's third version is to identify any changes resulting from developments among stakeholders and stakeholder architectures within the NDL's scope, and include them in the project's perspectives. When included in the enterprise architecture, these identifiable changes will also be reflected as requirements in the specifications of services requiring interoperability.

Another key theme is the integration model for digital services enabled by the National Architecture for Digital Services enabling and promoting interoperability. The third key theme is developing operating models and tools for the creation, administration, utilisation and preservation of digital cultural heritage reserves, and strengthening expertise in this area.



The NDL's enterprise architecture work is based on the Kartturi model. The key sections of the model and the descriptions produced in those are presented in the figure above.

At the principle level, it is essential to identify the changes at the operating environment of the NDL. This poses expectations to cultural heritage sector development based on several identified factors.



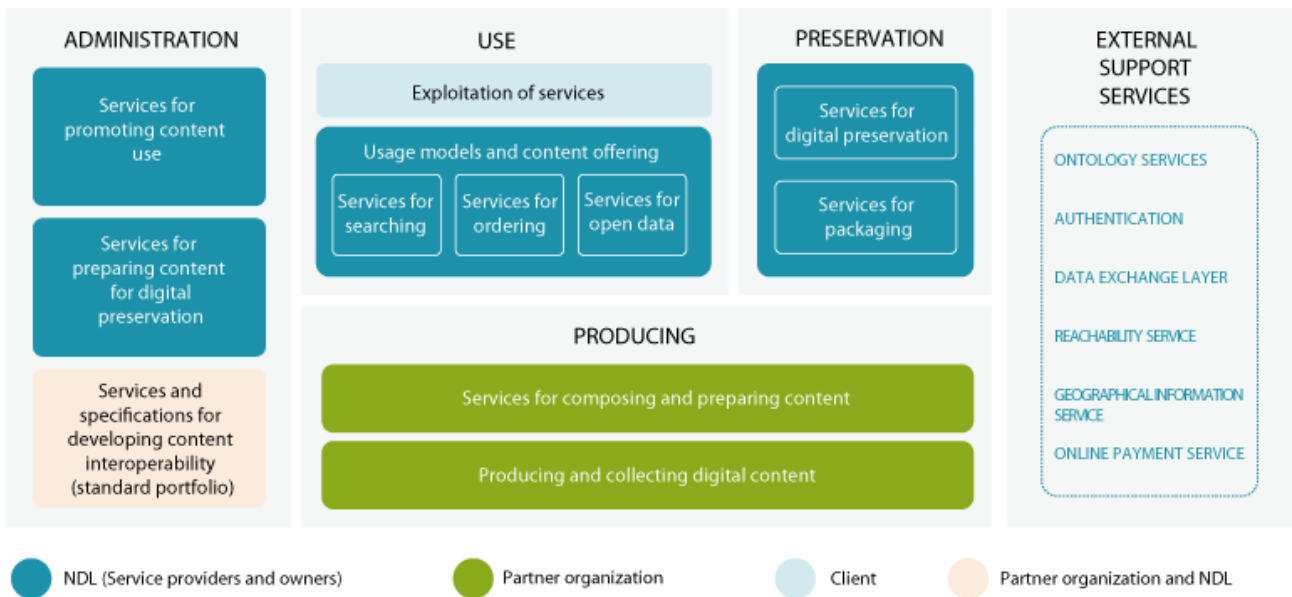
The NDL's enterprise architecture work has identified essential policies with which the cultural heritage sector responds to the ongoing change. These policies have guided the NDL's enterprise architecture work.

At the conceptual level of the enterprise architecture, it is essential to identify services offered by the NDL. A service could be a traditional IT service, an advisory or support service dependant on human resources, or a technical description or specification arising from the NDL that steers partner organisations.

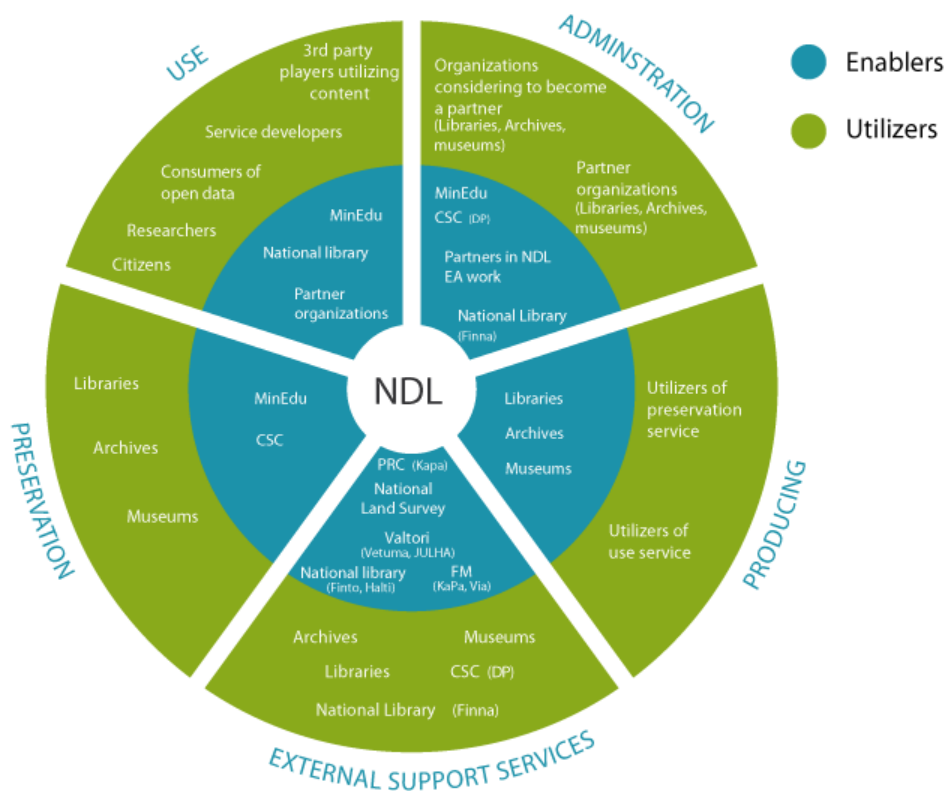
The NDL service map is divided into service groups, which seeks to clarify the service system as a whole:

- **Producing:** services that are required to produce, collect, collate and prepare the data that must fed into the NDL. Sector organisations within the NDL's scope are themselves responsible for collating and preparing this data.
- **Administration:** services that are required to enable the production, use and digital preservation of the NDL. These services are by nature core functions of the NDL.
- **Use:** services that facilitate the provision of NDL data to users.
- **Preservation:** services that are required to guarantee the digital preservation of digital content.
- **External support services:** services that are used to enable the services provided by the NDL yet are provided 'as such'.

The figure below depicts essential content of service groups.



For each service group described in the NDL's enterprise architecture, enablers and utilisers have been identified. The term 'enabler' denotes a producer, provider or administrator of services in the service group, whilst the term 'user' refers to those who use the said services. In the figure below, the NDL's stakeholders are depicted based on this division.

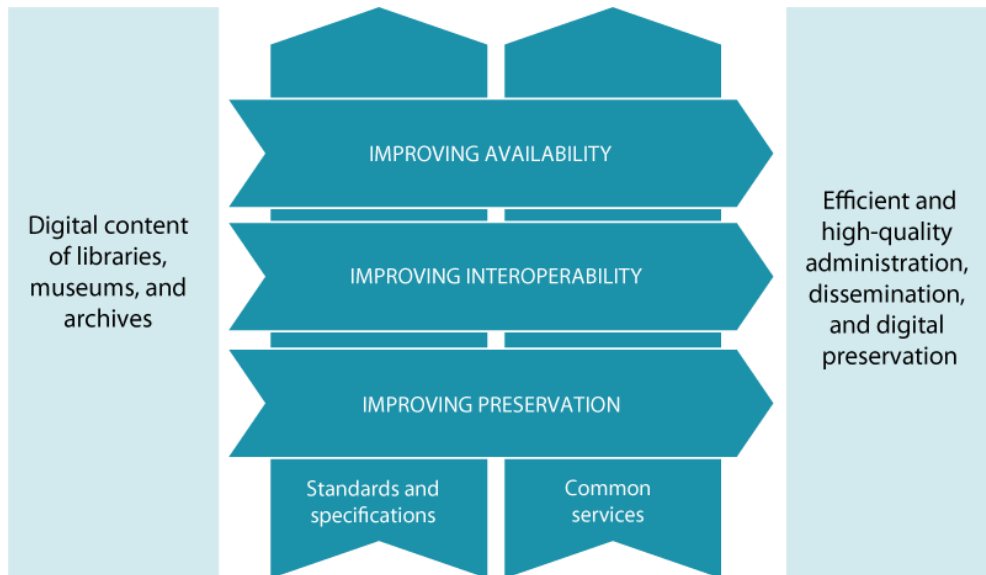


In the stakeholder diagram above, the partner organisation in general can be either library, archive or museum sector actors, which can utilise use- or preservation service groups

In the NDL enterprise architecture, the logical data reserves, integration principles and key processes of the DP service and the public interface are described at a logical level. Based on this, the NDL core processes are:

- Improving availability
- Improving interoperability and
- Improving preservation.

The main function of this enterprise architecture occurs in these processes. Specifications, standards and Common Services support all of the NDL's core processes (cf. figure below).



From the NDL's perspective, the process objective is to provide digital cultural heritage content in a manner and format that enables digital data reserves for culture and science to be efficiently and effectively harnessed over the long term according to policies and strategic assumptions identified by the enterprise architecture work.

The description of NDL's logical data reserves collates the key data collections in different sectors. The NDL project seeks to improve and promote the interoperability and semantic commensurability of these identified logical data reserves. Identifying these shared entities will enable the specification of detailed, concrete requirements for interoperability and development. This will also help partner organisations to identify developmental requirements in their own operations.

The key logical data reserves are:

- **Content:** Digital content, to be provided via NDL for efficient utilisation
- **Descriptive metadata:** Descriptive metadata for digital content
- **Administrative and technical metadata:** Metadata for improving content administration, processing and joint use
- **Metadata for customers and end-users:** Metadata, which can be used to optimise user experience of offered services to customers and end-users
- **Data reserves for access rights:** Access rights data reserves related to digital content
- **Data reserves for service requests:** Data reserves for service requests targeted at digital content

The physical level of the NDL's enterprise architecture combines specifications and design to provide a description of the actual concrete implementation. In current NDL's enterprise architecture, no attempt has been made to describe the implementation of the NDL's enterprise architecture at a physical level – only the system portfolio and the NDL's standard portfolio, which guides sector-specific architecture work, has been described at the physical level.



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