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# Case Study

## RIHA semantic asset repository

# RIHA Semantic Asset Repository

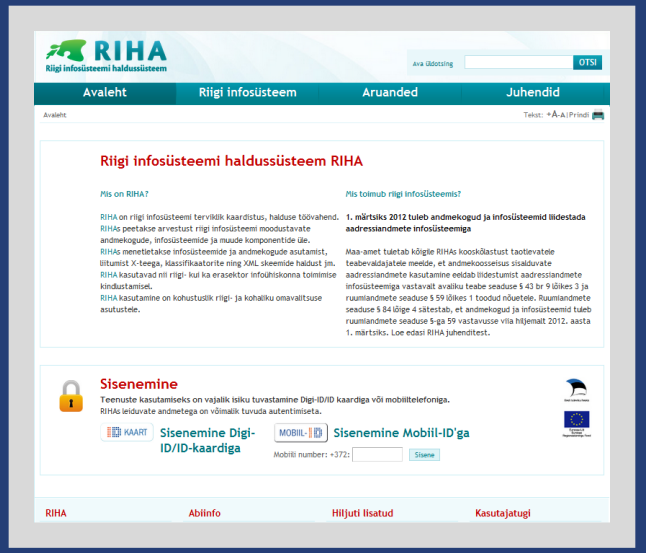
This **case study** presents the main figures and characteristics of RIHA as a semantic asset repository.

RIHA is an example of a semantic asset repository and infrastructure for Metadata Management operated by the Estonian Information System's Authority.

Metadata Management refers to the good practice of adopting policies, processes, and systems to plan, perform, evaluate, and improve the use and re-use of semantic assets. It ensures that reference models and reference data are treated as valuable assets, stored or documented, easily retrievable, and accessible in a reusable format under an open license.

Currently, other EU Members States as Germany (XRepository), Finland (Yhteentoimivuus.fi) and Denmark (Digitalisér.dk) have also implemented best practices in this area. Different EU Member States have different approaches implementing Metadata Management and semantic asset repositories.

The European Commission through the ISA Programme developed a series of Case Studies to present different approaches on Metadata Management in Europe. These Case Studies aim at promoting the awareness of proper Metadata Management as an instrument to facilitate semantic interoperability amongst the EU Member States.




## Other Case Studies

| | |
|---|---|
| XRepository | DE |
| Digitalisér.dk | DK |
| Yhteentoimivuus.fi | FI |

RIHA is a complete and up-to-date source of metadata of Estonian public sector IS

## Main Goal

The main goal of RIHA is to guarantee the transparent, optimal balanced and efficient management of public sector information systems.

## Owners

Estonian Information System's Authority

Riigi Infosüsteemi Amet - http://www.ria.ee

## Target Audience

- **National public administrations**
- **European public administrations**
- **Private sector**
- **IT practitioners**

RIHA, short for Riigi Infosüsteemi Halduse Infosüsteem, is the Estonian catalogue of public sector information systems. It serves as the national registry of systems, components, services, data models, semantic assets, etc. RIHA facilitates the Estonian information system planning and operation activities.

The main goal of RIHA it to guarantee the transparent, optimal balance and efficient management of public sector information systems. RIHA supports interoperability of databases, the life-cycle management of information systems and the re-use of data by providing complete and up-to-date metadata of Estonian public sector information systems.

# RIHA according to the EIF*

RIHA is a top-down implementation of a semantic asset repository. It is supported by the Estonian Public Information Act which makes the production and sharing of metadata a legal requirement for Public Information Systems in Estonia.
However, bottom-up actions are essential to make RIHA a complete and up-to-date platform. Among others, these actions include the development of mutual trust and co-operation with public administrations and the integration of metadata management with information systems planning and operation processes.

The EIF defines the following "Interoperability levels" which cover the different interoperability aspects to be addressed when designing a European Public Service and provides a common vocabulary for discussing issues encountered when establishing such a service:

- **Legal Interoperability** : Aligned legislation so that exchanged data is accorded proper legal weight.
- **Organisational Interoperability**: Coordinated processes in which different organisations achieve a previously agreed and mutually beneficial goal.
- **Semantic Interoperability**: Precise meaning of exchanged information which is preserved and understood by all parties.
- **Technical Interoperability**: Planning of technical issues involved in linking computer systems and services.

## Legal Architecture

- Share and re-use of metadata is required and enforced by law.
- The Estonian Public Information Act ensures free access to RIHA content.
- The use, distribution and modification of RIHA's content is not yet explicitly regulated.

## Organisational Architecture

- National level with no policy domain restriction.
- Documenting and sharing public databases and information systems metadata is mandatory and enforced by law.

## Semantic Architecture

- RIHA stores metadata of Estonian public sector databases, registers and information systems
- Assets available in:
  - human- and machine readable format (XML, OWL);
  - human-readable only format (PDF) and
  - machine-readable only format (CSV, WSDL).

## Technical Architecture

- Server: Apache web server.
- Programming language: Java within the Java Server Pages 2.1 framework.
- Authentication and authorisation: SSL/HTTPS.
- Interfacing: No API is available for exchange of metadata information.
- Metadata: OWL and XSD.

*EIF: European Interoperability Framework

# RIHA in figures

**750** public institutions registered and using the platform

**10+** ontologies and XML schemas

**600** information systems descriptions

**170** Information systems' owners

**40.000** data objects

**1400** contact persons

**650** code lists

**2500** service descriptions

"RIHA is a complete national information system mapping and management tool. RIHA hosts descriptions of the state information databases, information systems and other components. RIHA services include the establishment of information systems and databases, access to the national public sector data exchange layer (X-Road), classifications and management of XML and other schemes. RIHA is used by both the public and the private sector to ensure the functioning of the information society. RIHA is mandatory to state and local government agencies."

*What is RIHA?* By RIHA website
https://riha.eesti.ee/riha/main

**Services provided**

- Estonian Information Systems Metadata Catalogue
- Extensive, ongoing programme of workshops and informational events
- User guides
- Training material

# Strategic view on RIHA and next steps towards the ADMS-based Federation

**Opportunities for improvement**

- Multilingualism
- Licensing Framework
- API for information exchange

## What is ADMS?

The Asset Description Metadata Schema (ADMS) is a metadata vocabulary and a common way to describe semantic interoperability assets including metadata schemas, controlled vocabularies and code lists. Better documenting semantic assets can help to improve interoperability of e-Government initiatives across Europe, and possibly beyond. The ADMS is considered to be a key element of the federation of semantic asset repositories in Europe.

**ADMS Added Value**

- Discoverability of RIHA's content
- Increase re-use of RIHA's semantic assets
- Increase interoperability of public and private IS
- Common description of RIHA's content

**Onboarding the Federation**

- Map RIHA internal data model to ADMS data model.
- Articulate technical plan for interfacing with the federation infrastructure
- Describe RIHA's content using ADMS
- Make semantic assets retrievable through a central repository (Joinup)

# To know more

## Contact us

https://joinup.ec.europa.eu/contact

This Case Study was prepared for the ISA programme by

PwC EU Services EESV

## References

RIHA webpage
https://riha.eesti.ee/riha/main

ADMS Brochure
http://goo.gl/JJCPC

ADMS-enabled Federation Brochure
http://goo.gl/4nszN

Metadata Management Survey Results
http://goo.gl/Mm62G

Towards Open Government Metadata
http://goo.gl/gWSw4

Report on the existing semantic assets repositories
http://goo.gl/QSRC6

ADMS ASSET DESCRIPTION METADATA SCHEMA
http://goo.gl/sLHlU

CESAR COMMUNITY OF EUROPEAN SEMANTIC ASSETS REPOSITORIES
http://goo.gl/3VCZU

eGOVERNMENT CORE VOCABULARIES
http://goo.gl/tY9ty

CORE PERSON VOCABULARY
http://goo.gl/q2RQx

CORE BUSINESS VOCABULARY
http://goo.gl/VODFF

CORE LOCATION VOCABULARY
http://goo.gl/dqOnm

ADMS F/OSS
http://goo.gl/03xkP

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