DATAMITE

The Architecture to Reach Monetization

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- What is DATAMITE from a technical perspective?
- Is it another data market?
- DATAMITE is a data-sharing enabler designed to meet the needs of multi-domain data origins and integrated with various data destinations, including IDSA DataSpaces and EU Portals

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Objectives

- What are the DATAMITE Framework objectives?
  - Develop a multi-domain modular open-source framework to enhance how companies manage and share their data, aiming to boost monetization
  - Create a Data Sharing module including a collection of tools to share and trade data, focused on data interoperability and sovereignty
- Why should I trust my data to DATAMITE Framework?
  - Provide guidance, support, user manual for a client-side framework
  - Ensure security, privacy and fine-grained access

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Fair Principles

- Findability: enhance the findability of data and metadata by registering metadata representations within the metadata registry
- Accessibility: define a precise set of access permissions and policies by ensuring the data is exclusive to authorized users
- Interoperability: provide data and metadata translating plugins by incorporating common models and schemas
- Reusability: ensure well-described metadata in order to republish data to different data destination

DATAMITE Architecture

Module components

- **Data Governance:** efficient management, access and enriching data. Including a metadata repository, data catalogue, glossary and data lineage capabilities
- **Data Quality:** provide essential tools for assessing the quality of the datasets by providing versatile approaches.
- **Data Security:** Encompasses functionalities such as data sovereignty, access control, and comprehensive security measures
- **Data Sharing:** Facilitate secure data publication to a series of IDSA DataSpaces & EU portals
- **Data Support tools:** boast a wide range of capabilities, including interoperability, security, data quality and data harmonization
- **Frontend:** Provide the user interfaces for DATAMITE modules or the point of connection between them

Data Sharing Mechanisms and Data Sovereignty

DATAMITE - Data Sharing Mechanisms

- **Publish metadata to different categories of data destinations**
  - DataSpaces
    - IDSA & Gaia-X Components
  - EU portals
    - Representational State Transfer Application Programming Interface (REST API)
    - Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH)

Data Sharing Mechanisms and Data Sovereignty

DATAMITE - Data Sovereignty tools

- **Ensure data sovereignty and enhance transparency**
  - **Rulebook:** a set of rules written in a human-readable format and may cover a wide range of topics, including legal, regulatory or organizational rules
  - **Policy Engine:** evaluate and enforce policies in a dynamic manner
  - **Logging**: monitor and store the data-sharing transactions. Generate statistics based on the stored information
  - **Payment:** support various accounting functionalities and charging methods

Translating Plugins

Interoperability

- The need
  - Multi-domain Data Origins: In a diverse data landscape, originating data from various domains necessitates a standardized approach for seamless communication.
  - A Variety of Data Destinations: Sending data to different destinations requires adaptability to various formats and structures.
- The goal
  - Automated Data Sharing Processes
- The benefit
  - Promoting data and metadata exchange across diverse systems
  - Enhanced Interoperability

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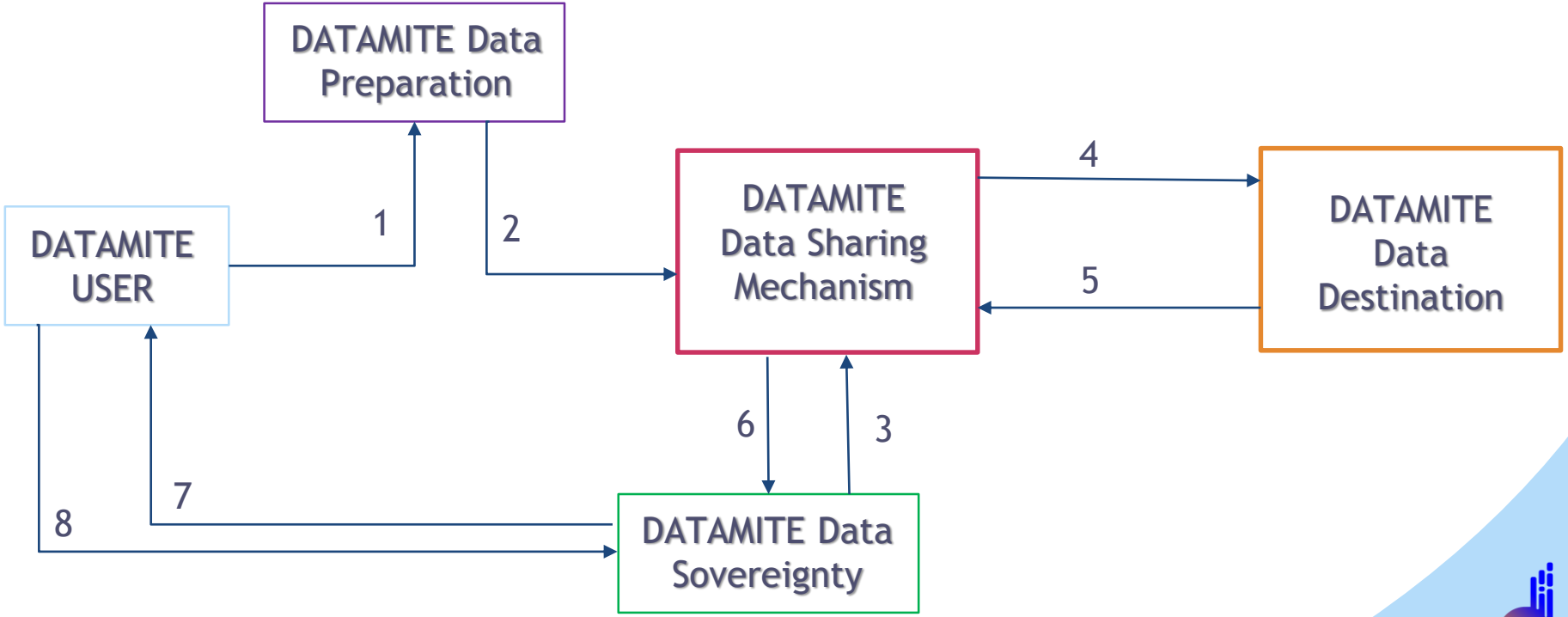
From a dataset to a data product

- DATAMITE metadata model
  - Manually added & auto extracted fields
- Data Quality
- Data Anonymization
- Data Harmonization
- Fairness & Data Biases

DATAMITE Data Sharing

Simplified flow



Any questions?

Thanks!

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Keep in touch!

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