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STELAR

Spatio-TEmporal Linked data tools for the AgRi-food data space

Project Introduction

MobiSpaces Webinar: Novels from data management universe - different applications, from EU Green Deal, Water, Food and Mobility
29/5/2023

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Project Factsheet

Title:	STELAR: Spatio-TEmporal Linked data tools for the AgRi-food data space
Topic:	HORIZON-CL4-2021-DATA-01-03: Technologies for data management
Type of action:	HORIZON Innovation Actions
Project starting date:	1 September 2022
Project duration:	36 months
Grant number:	101070122

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https://stelar-project.eu/

Objectives

Provide tools to improve data discovery, data integration and AI-readiness of data.

Integrate these tools into an innovative Knowledge Lake Management System (KLMS).

Evaluate the KLMS in real-world data management challenges in the agrifood sector.

Motivation

Data Lakes

- ➕ Large amounts of heterogeneous data in their original form, allowing data scientists to perform ad hoc, self-service analytics.
- ➖ Difficult to discover relevant data, to integrate data from different sources, and to ensure that data is of high quality.

Agrifood Data Space

- ☑ One of the main data spaces according to the European Strategy for Data due to its high importance for health, the economy, and the environment.
- ⚠ The agri-food sector is witnessing increasing digitalization and reformation, however it is still lagging behind.

Approach

STELAR will develop a **Knowledge Lake Management System (KLMS)** to support **FAIR** and **AI-ready** data, (semi-)automatically turning a raw data lake into a knowledge lake. This is achieved by:

Enhancing the data lake with a **knowledge layer**:

- a Data Catalog offering automatically enhanced metadata for the data assets in the lake
- a Knowledge Graph that semantically describes and interlinks these data assets using suitable domain ontologies and vocabularies

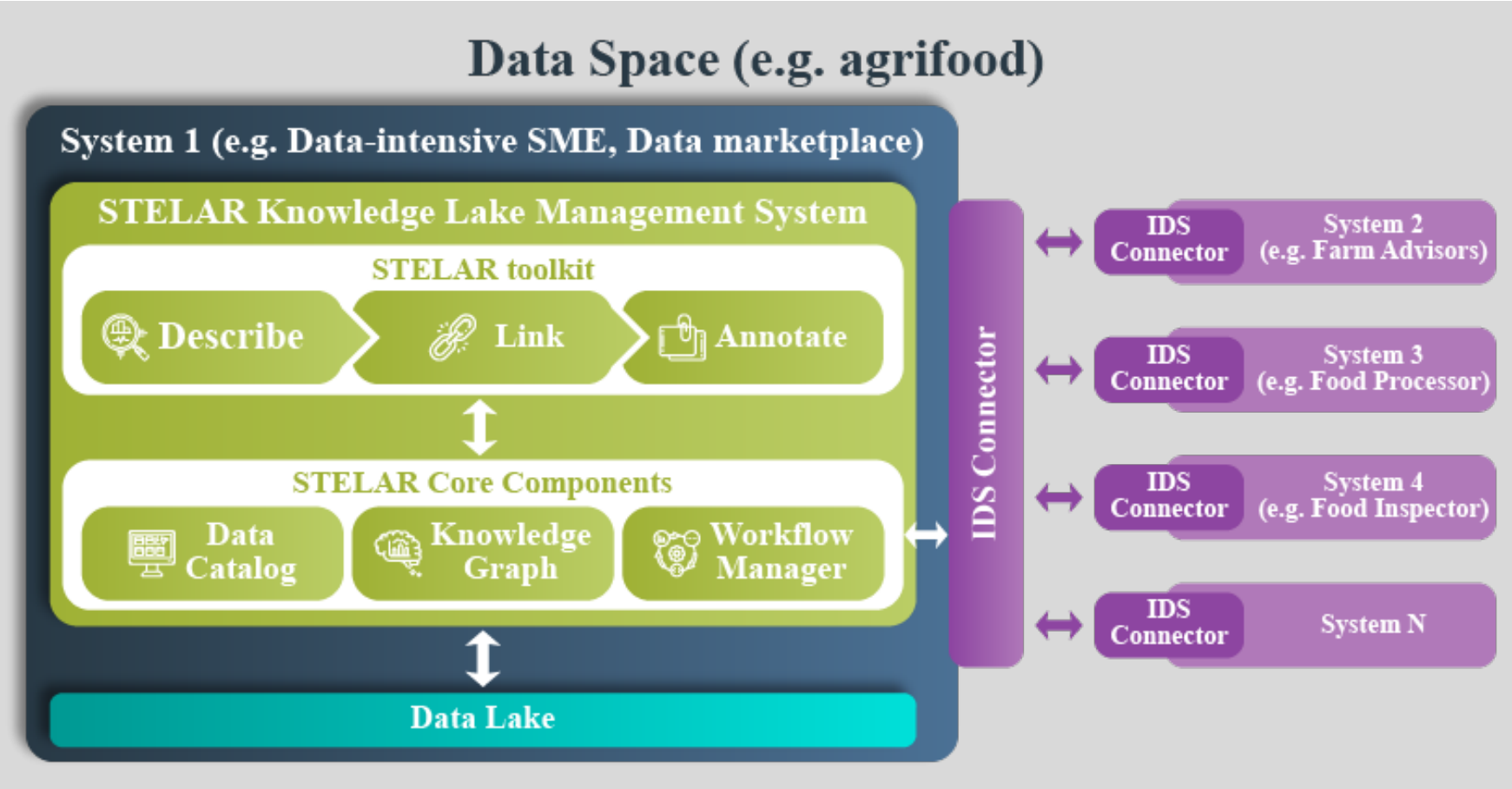
A set of **data management tools and workflows** for:

- data profiling, search and exploration
- textual, spatial and temporal data linking and alignment
- data labeling, data augmentation, bias detection

The **KLMS** will:

- enable finding and selecting relevant data assets
- facilitate configuring and tuning the data management tools
- support designing, executing and monitoring end-to-end data processing workflows

The STELAR KLMS

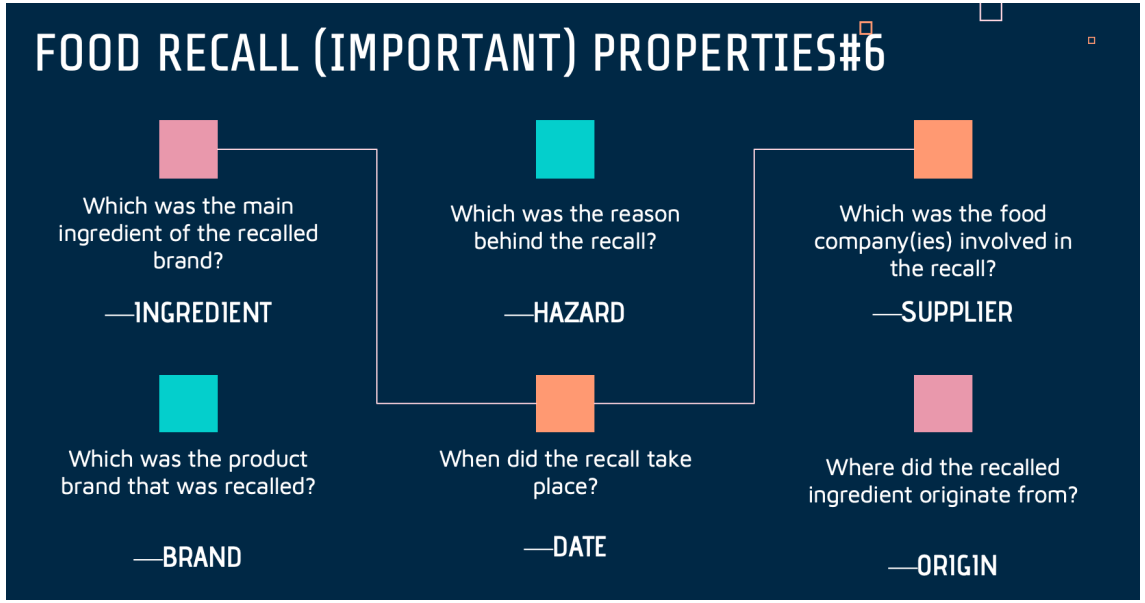


Use Cases and Pilots

Pilot A:
Risk Prevention in Food Supply Lines

Pilot B:
Early Crop Growth Predictions

Pilot C:
Timely Precision Farming Interventions



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Thank you for your attention

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