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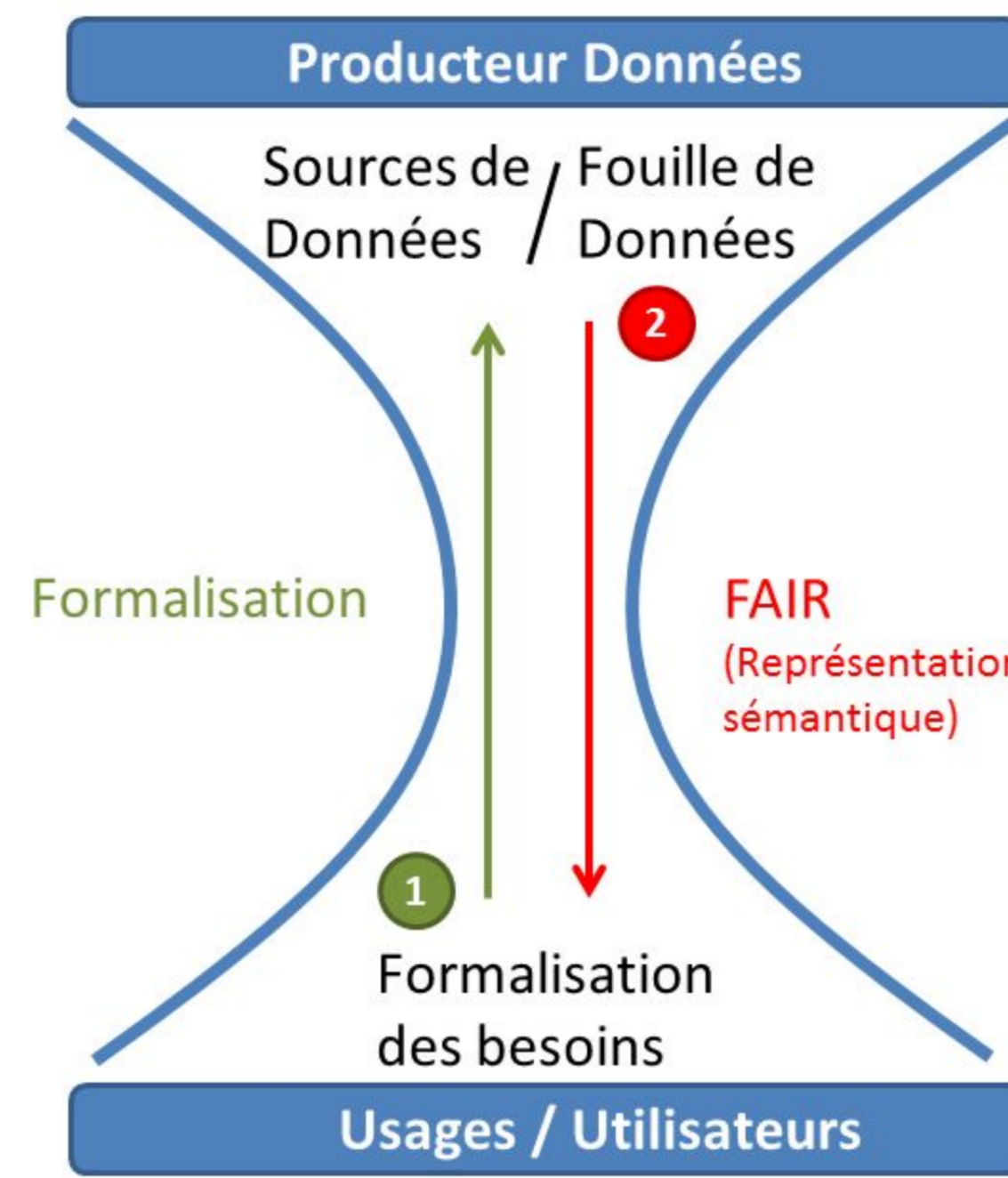


# An ontology-based approach for FAIR meteorological datasets

A. Annane, N. Aussenac-Gilles, C Comparot, C. Trojahn, P. Dayre (IRIT), C. Baehr (CNRM), P. Gaillard (MSHS-T), Y. Auda (OMP)

## FAIRNESS of METEOFRACTANCE DATASETS

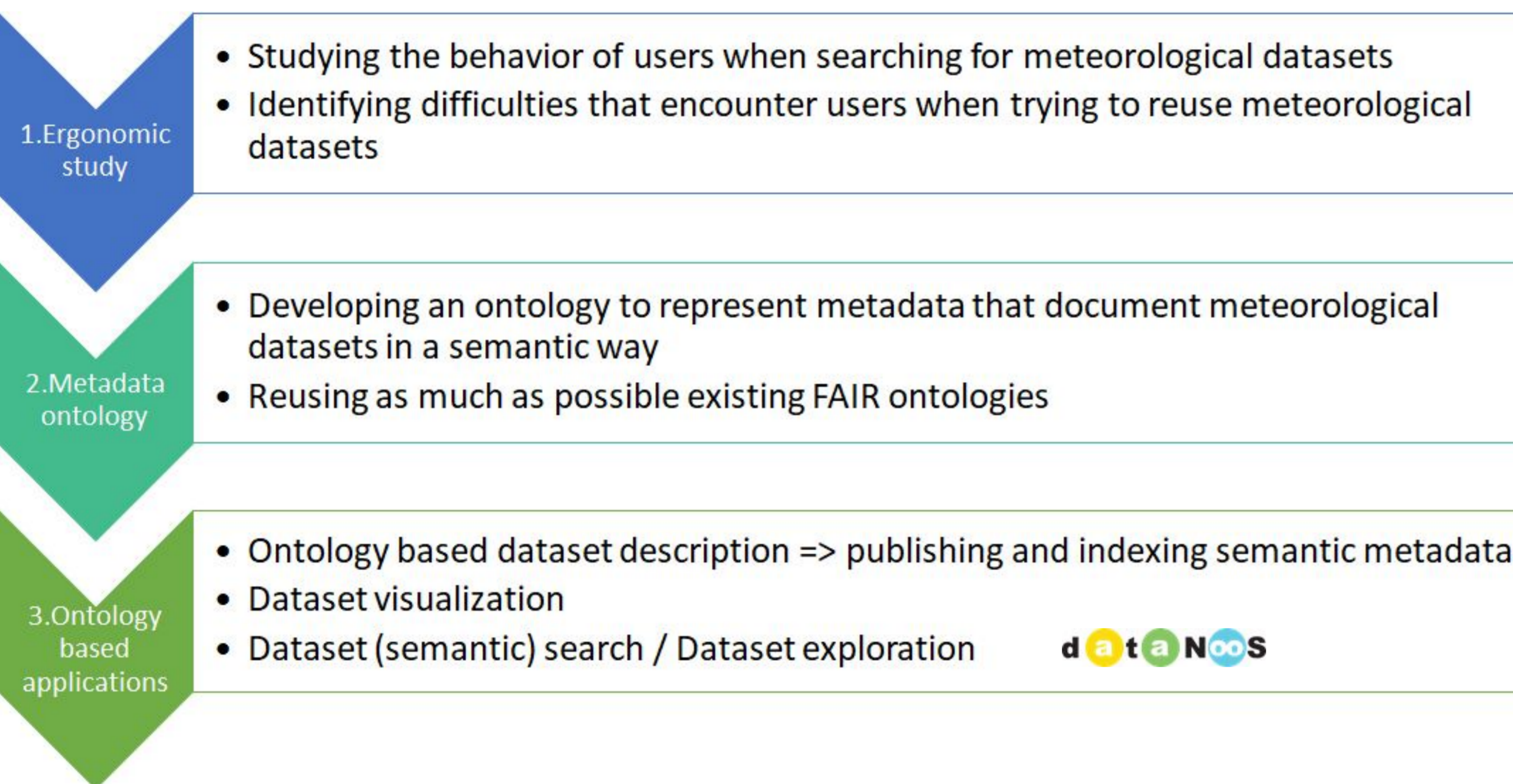
- A **multidisciplinary** project (i.e., ergonomics, computer science, biology, and meteorology domains)
- Goal: to **improve** the FAIRness of meteorological datasets using ontologies.
- Use-case: Météo-France datasets are open, published on the web, but users **are not able to exploit them**
- **Gap between two domain conceptualizations:** by data producers and data users



## REDUCE THE GAP USING ONTOLOGIES

- Provide definitions, documentation, semantic relations about domain concepts -> use a domain ontology
- Give the ability to explore the datasets
- Make datasets more visible, reachable through requests on the web -> formal metadata

## Process Methodology and main options



## Reuse of RDA WG and results



- Research Data Repository Interoperability WG + we adopt FAIR principles and standards [FAIRsharing portal](#) + we propose an integrated platform connected to the Open Science eco-system
- FAIR Data Maturity Model WG : [FAIR maturity model](#) + we propose a generic platform for domain and community specializations + it includes data quality checking.
- RDA for interdisciplinary research + a generic platform to manage cross-disciplinary datasets
- Metadata Standards Catalog WG + the generic part of our ontology reuses metadata standards
- Research Metadata Schemas WG + we propose ontology-based templates for research metadata description

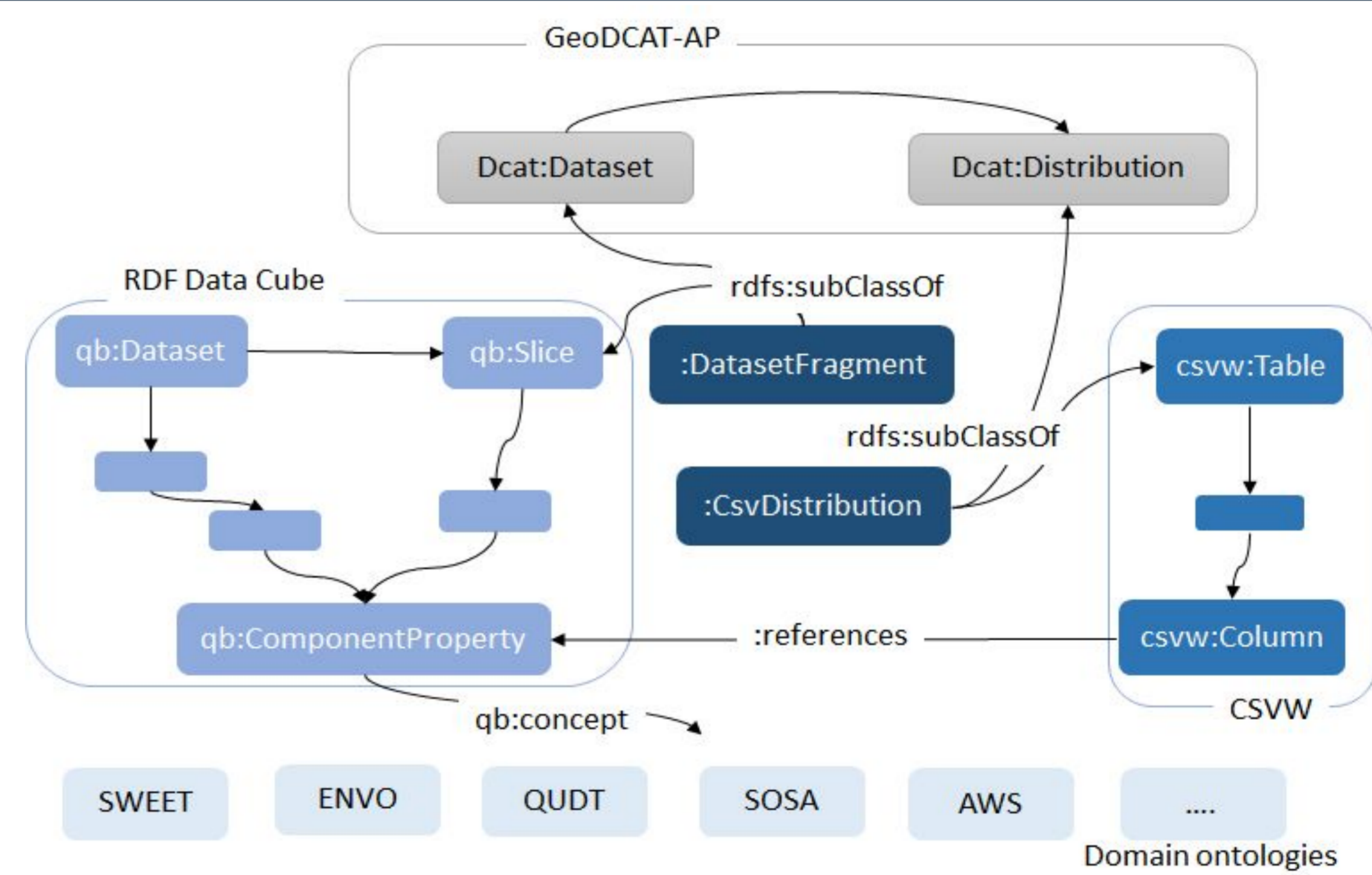
## MDO4FAIR: A METADATA ONTOLOGY FOR FAIR DATASETS

I. Represent general metadata of meteorological datasets

II. Represent the content of meteorological datasets without transforming data into RDF

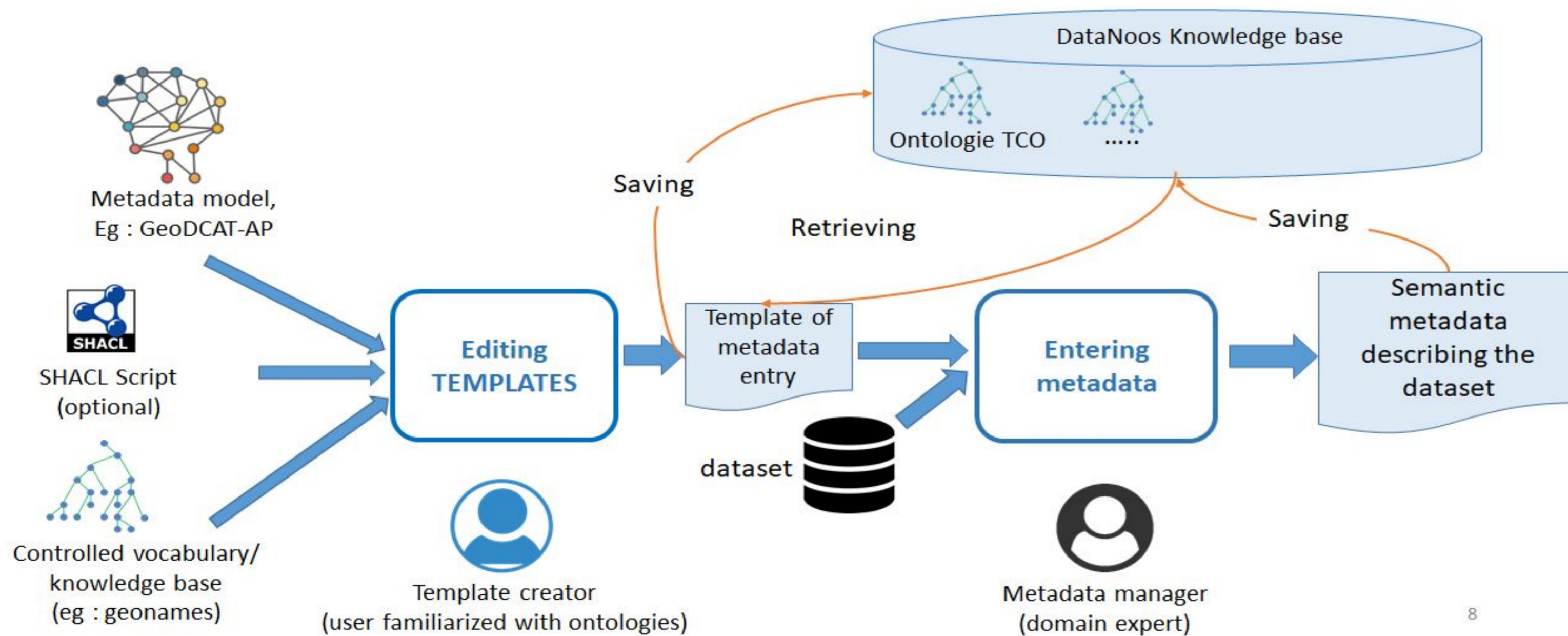
- Represent data schema and coded values
- Represent semantic entities included in datasets and providing definitions for these entities for non meteorologist users

III. Represent the schema of dataset distributions



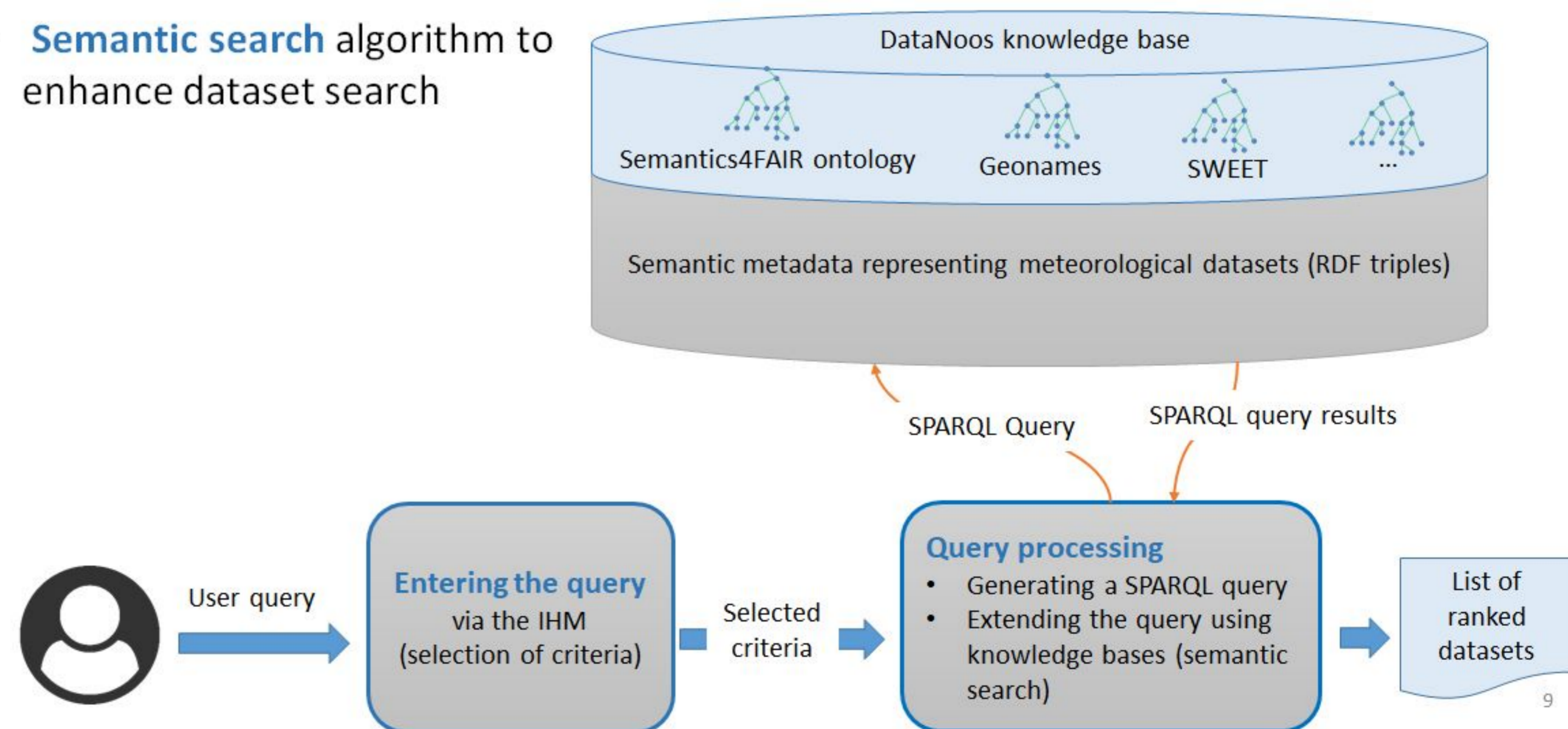
## DOMAIN SPECIFIC METADATA TEMPLATES

- A generic framework for **ontology-based dataset description**



## DATASET SEARCH

- **Semantic search** algorithm to enhance dataset search



## PARTNERS



visit our web site <https://www.irit.fr/semantics4fair/>

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