



Scientific Knowledge Graphs
in the heart of Open Science



Supporting **knowledge discovery** and **research assessment**

SciLake will transform the **OpenAIRE Graph** into a **Scientific Data Lake**, by enriching it with domain-specific knowledge and providing tools to manage heterogeneous scholarly content.

1 Provide a scalable platform to extract information from unstructured scholarly content and transform it into Scientific Knowledge Graphs (SKGs).

2 Develop standards, guidelines and tools to assist developers in creating domain-specific SKGs and make them interoperable with the OpenAIRE Graph.

3 Develop a unified API to enable easy access to the contents of Scientific Data Lake and facilitate the creation of added-value services.

4 Develop customisable services to facilitate domain-specific scientific knowledge discovery and reproducibility.

Driven by the requirements of **4** scientific communities: **Neurosciences, Cancer, Transport, Energy**

Harness the power of Big Data techniques to deliver customisable components to advance the exploration of scholarly material and facilitate reproducibility building upon the Scientific Data Lake:

- **Advanced research impact indicators:** Analyse 1.5bi citations to deliver impact indicators to support innovating research assessment.
- **Fields of Science Classifications:** Enhance categorisation of scientific material, tailored to specific research domains derived from the 4 pilots.
- **Missing links:** Develop tools to automatically identify latent relationships among research objects exploiting mentions in scientific texts and the graph structures.
- **Impact Indicators beyond publications:** Leverage the connections of software & data to publications and derive new impact indicators.
- **Research trends:** Develop tools for monitoring topic evolution to track research trends and identify emerging topics of science.
- **Machine Translation:** Deliver fit-for-purpose tools to translate scientific content reliably.

● Smart impact analysis service

Smart reproducibility assistant service ●



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