Smart Control of the Climate Resilience in European Coastal Cities

Research data management: let's do it FAIR!

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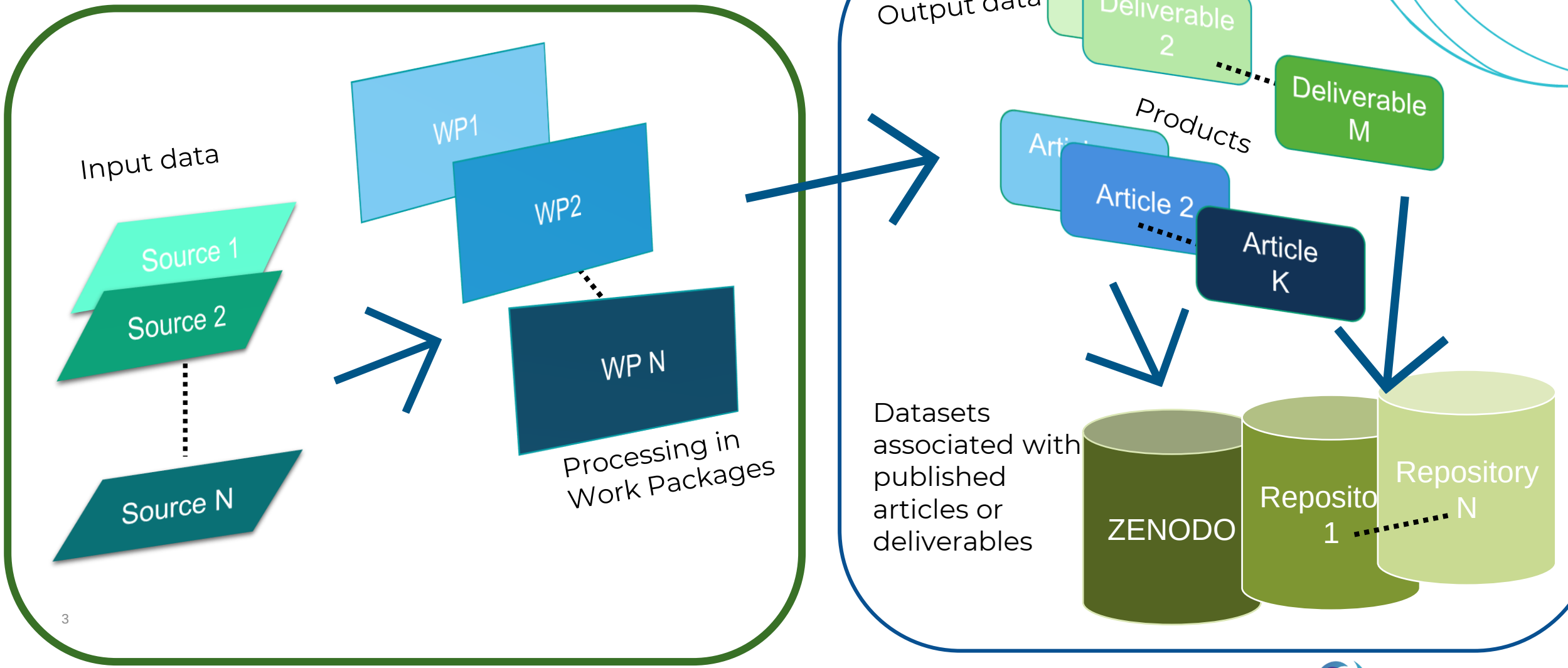
Data Management Plan

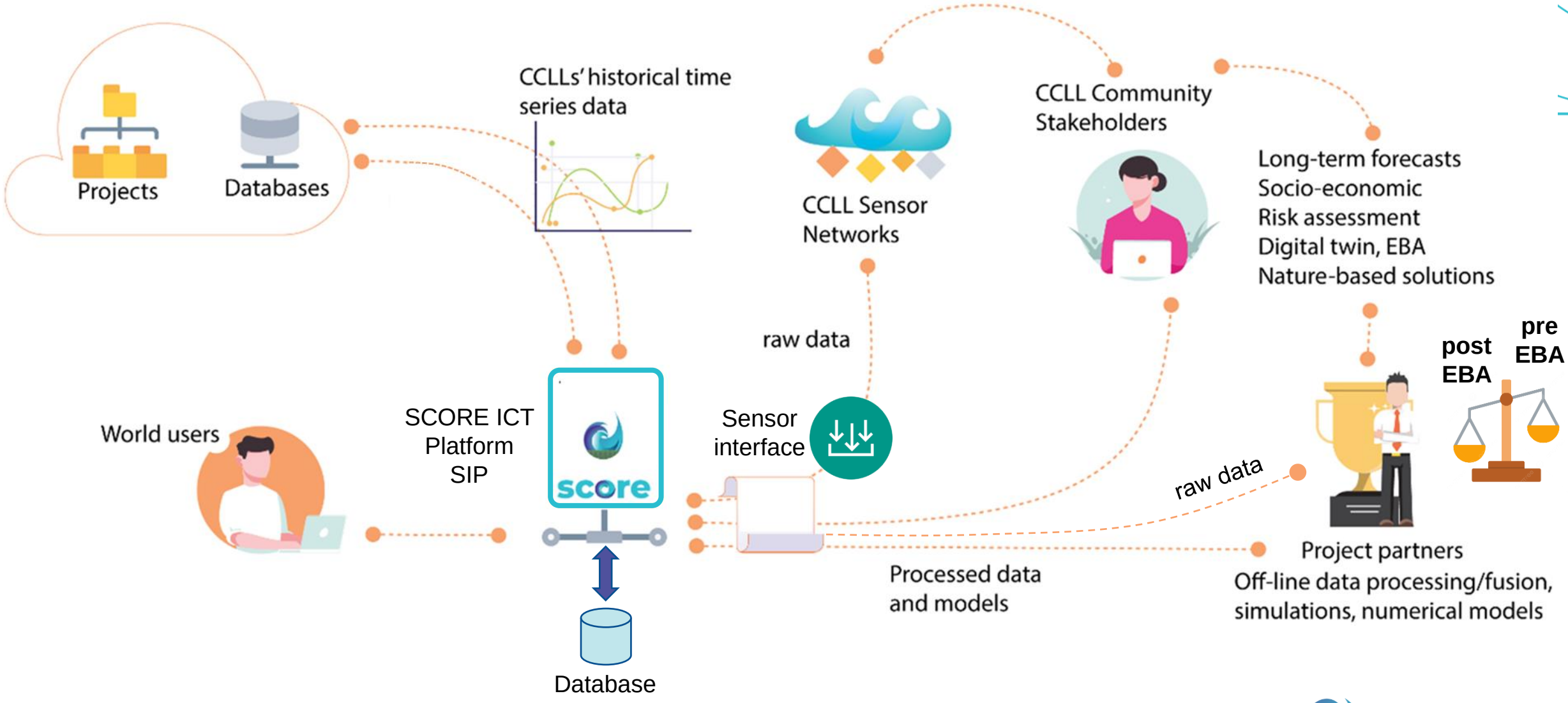
- Horizon 2020 projects are requested to draft a Data Management Plan (**DMP**) describing how data are managed according to the **FAIR** principles: **F**indable, **A**ccessible, **I**nteroperable, **R**e-usable).
- The **FAIR principles** emphasize machine-actionability (i.e., computers dealing with data with none or minimal user intervention) since computational support to deal with huge amount of data is increasingly needed in research.
- **FAIR is different from OPEN**, but data should be “as open as possible and as closed as necessary”
- There are specific guidelines and resources for drafting H2020 DMP documents that are contractual deliverables at month 6, mid-project and end of the project.
- The **earliest release of DMP should be part of the project proposal**.
- The **DMP is a living document**. In SCORE is updated every 6 months
- DMP was designed to be used by the SCORE partners as a reference for FAIR data handling
  - during the project **(through SIP)**
  - after the end of the project **(through permanent repositories)**.

See https://score-eu-project.eu/deliverables/ for public deliverables

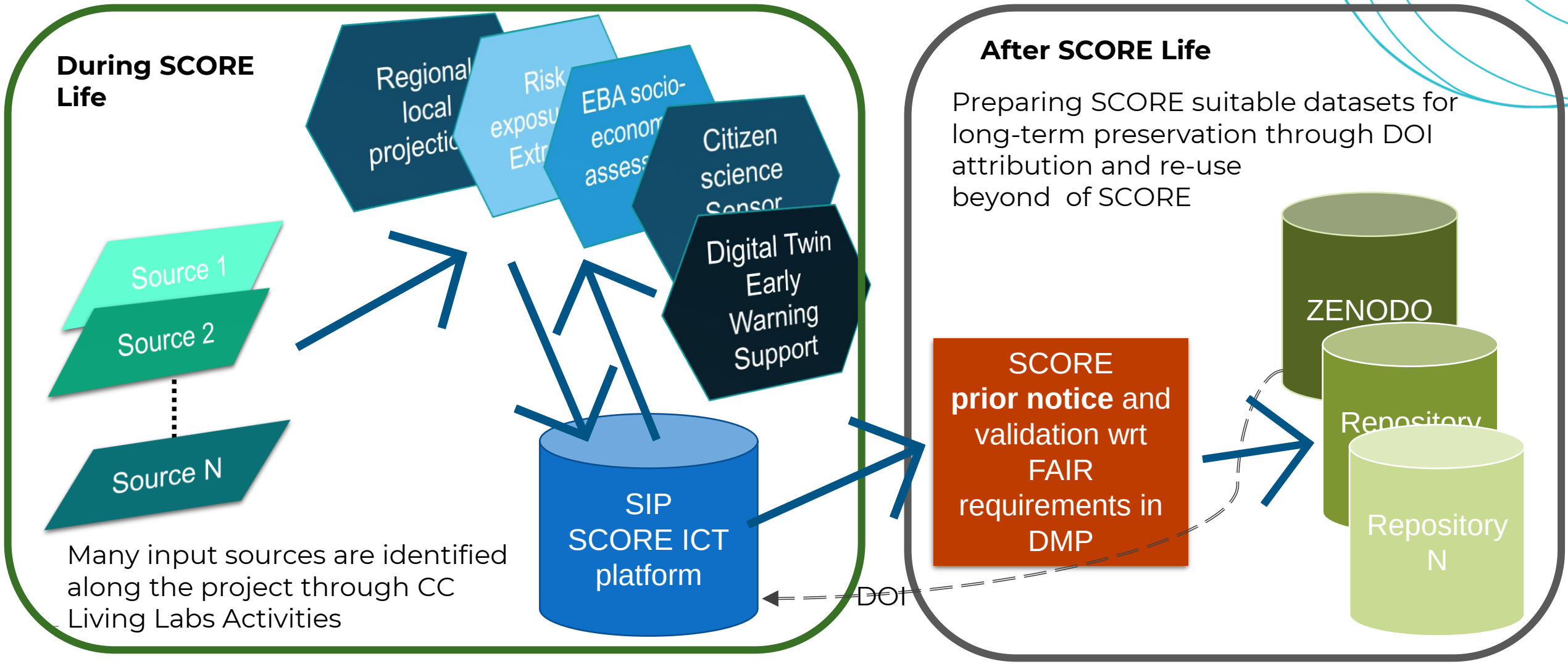
A “minimal” DMP approach



Introducing SCORE WP 5: Project's Data Flow



SCORE DMP view of data (with SIP and datasets as products)



Both SIP and selected repositories implement FAIR principles.
SIP requires a DOI from an external provider

SCORE DMP: Some a few key aspects in FAIR implementation

- **Findable:**

  Data discoverable with metadata, identifiable and locatable by means of a standard identification mechanism (e.g. DOI)

  Valid and machine readable DOIs (Digital Object Identifiers) allow other repositories to find and identify the datasets deposited. Using ZENODO satisfies most of findability requirements and issuing a DOI and is a convenient solution for records that are less than 50GB.

- **Accessible:**

  Data should be always available and obtainable: if the data are restricted, the metadata should be open

  - obtaining explicit copyright permissions from third party data owners also through specific agreements: *In case of copyright on raw data derived, collected, or elaborated from pre-existing databases or from other original, datasets will be made available if reproduction and sharing are allowed by expressed permission of the right holders or by applicable copyright exceptions and exemptions.*
  - *Restrictions*: Data belongs to third party which denies permission for sharing for confidentiality and proprietary issues;
  - *Restrictions:* Protection of personal data as drafted in ***D11.1- Ethics requirement: Standard Ethical Protocol***

SCORE DMP: Some a few key aspects in FAIR implementation

- **Interoperable:**

  Data interoperability refers to the ways in which data is formatted that allow diverse data to be parseable, to be merged or aggregated

  For geographic data, INSPIRE directive and related standards are adopted. Otherwise, datasets will be described using other metadata standard or general-purpose descriptive metadata.

- **Re-usable:**

  Data should be shared with the least restrictive licences, well described (eventually resorting to associated papers or at least a read.txt), allowing the widest reuse possible and facilitating the integration and joint processing with other data sources

  Datasets available under Creative Commons **CC BY 4.0** and **Open Data Commons ODC-BY** .

  Metadata should include comprehensive data descriptions.

  Relevant documentation about processing, data collection procedures, and even software should be provided

Please refer to www.openaire.eu for a general description of FAIR principles

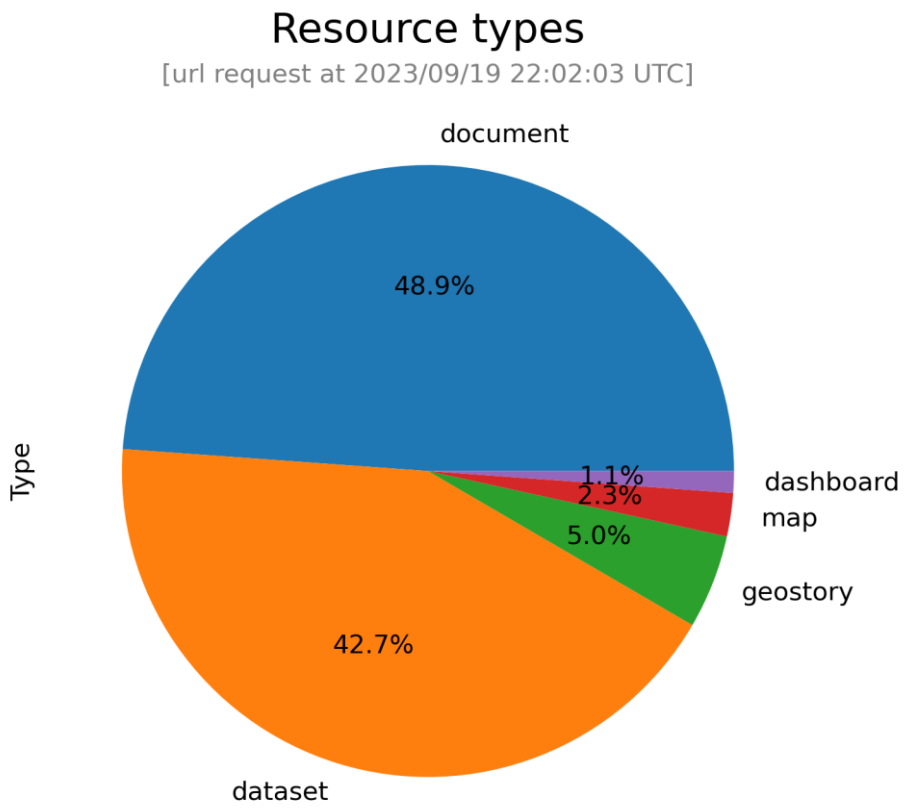
Implementation of SCORE Data Management Plan
Monitoring of compliancy with the DMP

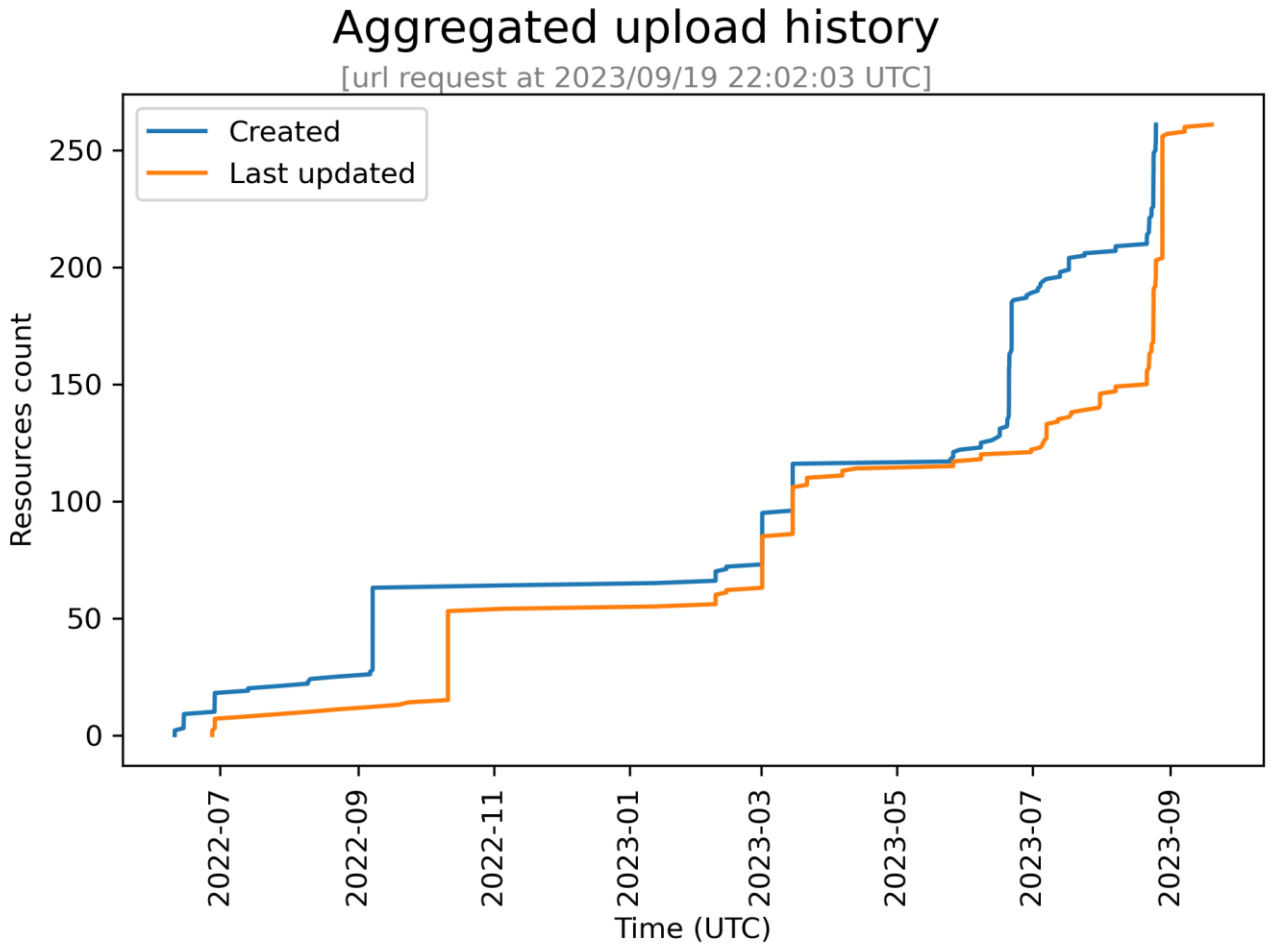
- **Verification of descriptions** of data sources feeding SIP
- **Prior notice** for deposited datasets

1. Notify publication dataset to SCORE partners
2. Partners can notify justified objections if
   - It adversely affects protection of results/background of the objecting party
   - Legitimate interests of the objecting party would be significantly harmed
   - **Not compliant with DMP rules**

- Keep track of datasets and their characteristics in releases of the DMP

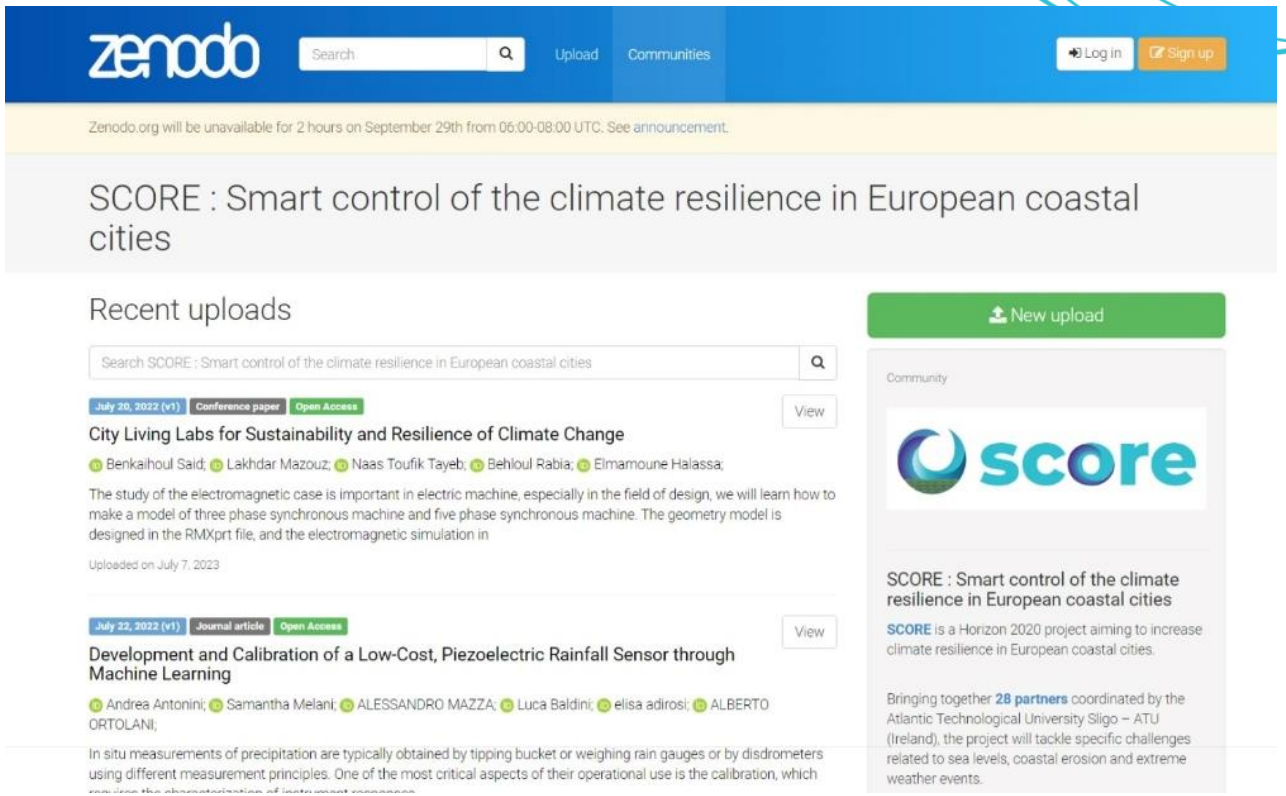
Implementation of SCORE Data Management Plan
Monitoring usage of SIP





Implementation of SCORE Data Management Plan
Specific actions to ensure dissemination of SCORE datasets

- publishing SCORE data in an open repository following the rules for increasing the findability and reuse set in the DMP . To improve the SCORE identity in Zenodo, a specific SCORE community has been set.
- Identify datasets worth to be published in a data journal (es. Earth System Science Data (ESSD)), Scientific Data (from Nature Publishing Group), the GeoScience Data Journal (Royal Meteorological Society)
- Publish journal papers based on SCORE datasets and cite them
- Include citation of SCORE datasets also in dissemination material and in material used for citizen and stakeholder involvement at CCLLs



https://zenodo.org/communities/score-eu-project/

score

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Thank you!

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