Analysis of e-shape showcases: a JRC perspective on leveraging e-shape results

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Learn more here:

Introduction and context

Leveraging European data-sharing and exploitation practices within GEOSS

- Identification and prioritisation of policy use cases on Earth Observation

- Elicitation of concrete user requirements, in terms of data, tools, services, digital infrastructures

- Definition of new technical and governance approaches and architectures for modernising data sharing ecosystems

Analysis of e-shape pilots

- natural candidates for identification of requirements

- potential development within the Knowledge Centre on Earth Observation (KCEO).

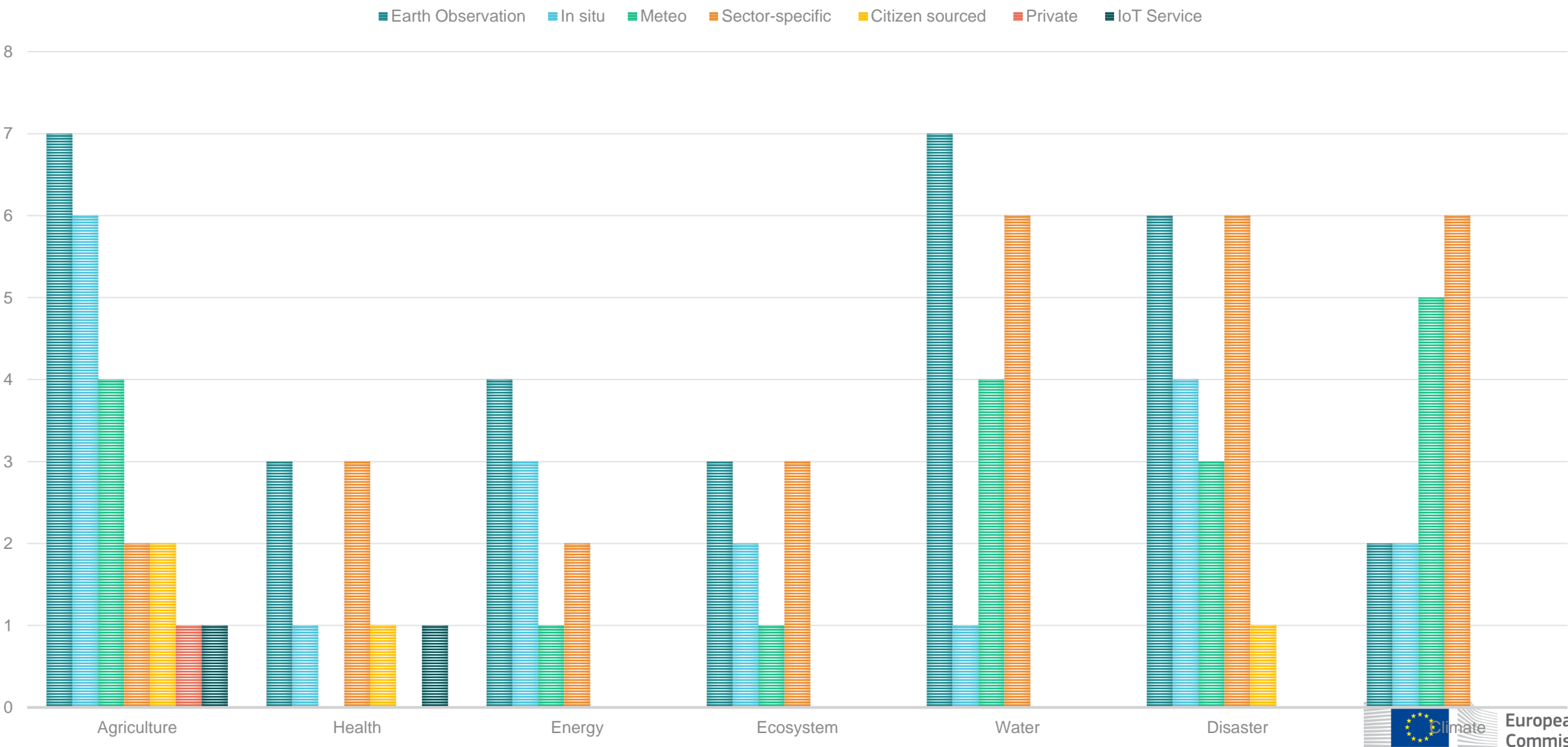# Illustration: dataset utilisation in e-shape pilots by domain

SOURCE DATASETS

Illustration: digital infrastructures utilisation in e-shape pilots

PLATFORM USAGE

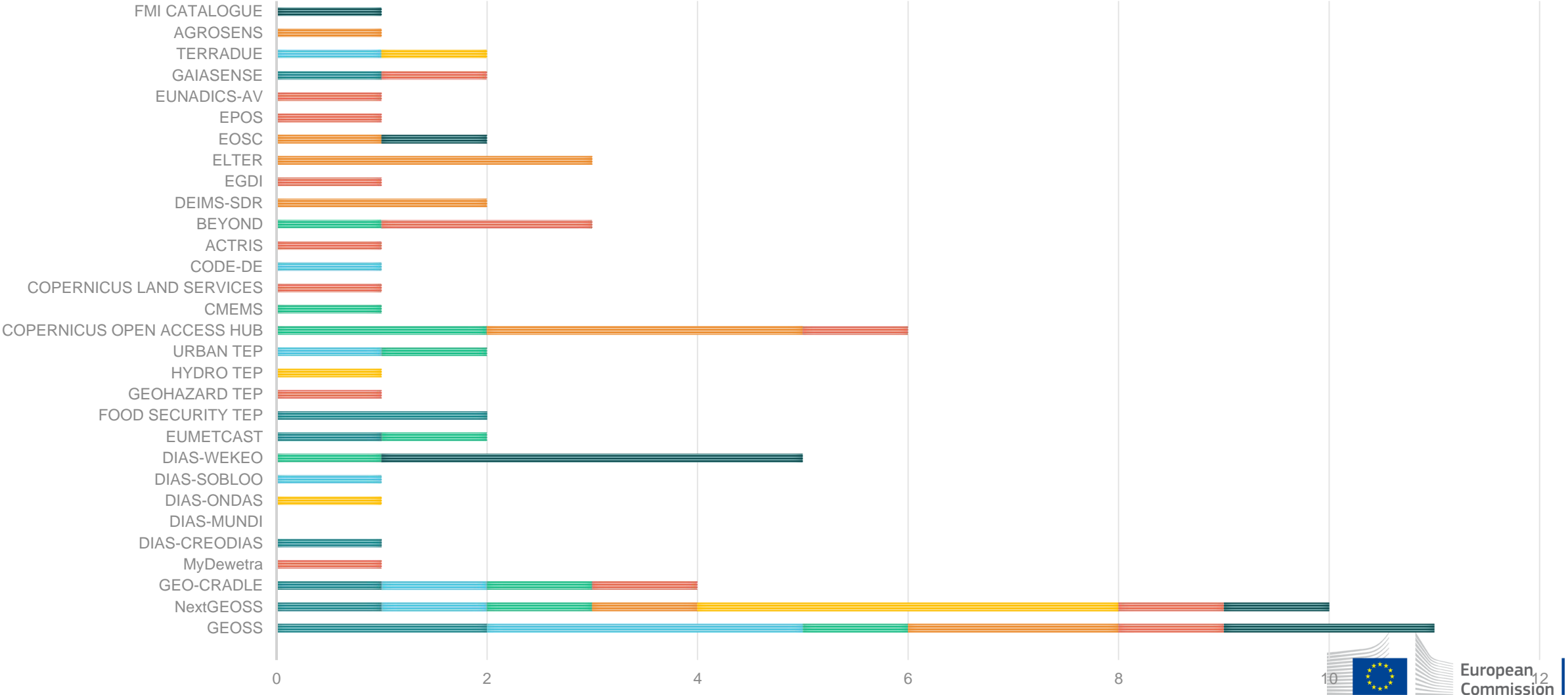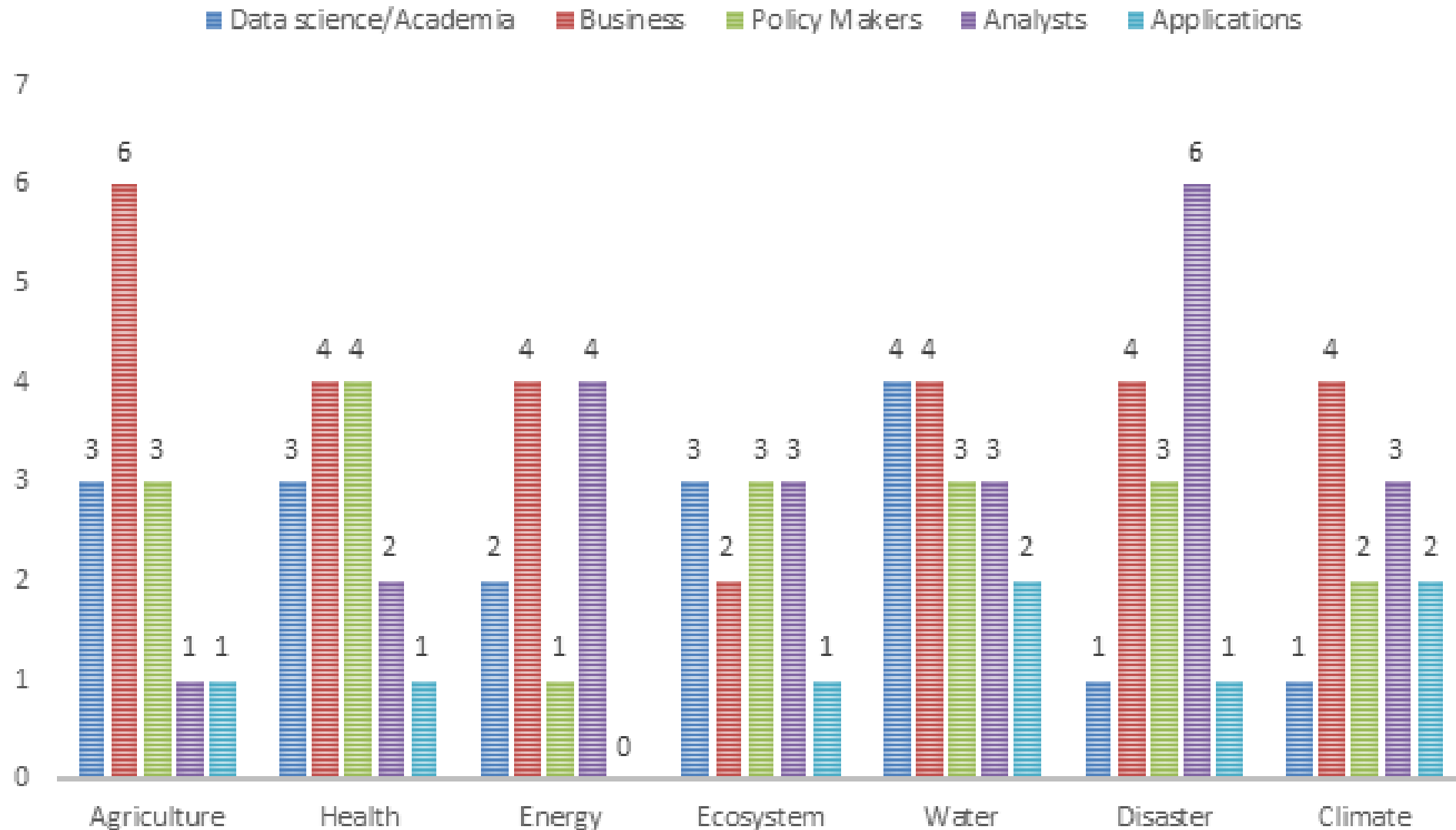# Illustration: main intended audience

Analysis process

1. Information collection from e-shape website and webinars, pilots' own website if present, scientific papers

2. Information organization under multiple topics: EU policy themes, SDGs, international relevance, goals, data sources, processing, outcomes, scientific publications, means of access, openness, web technologies, partners, users

3. Analysis with respect to a list of 12 specific criteria

Some caveats:

- In the public resources descriptive of a pilot, the whole procedure may not be shared.
- Some pilots were work in progress, multiple e-shape deliverables since time of analysis.
- Determining technical requirements accurately may require a deeper technical discussion with the pilot partners.
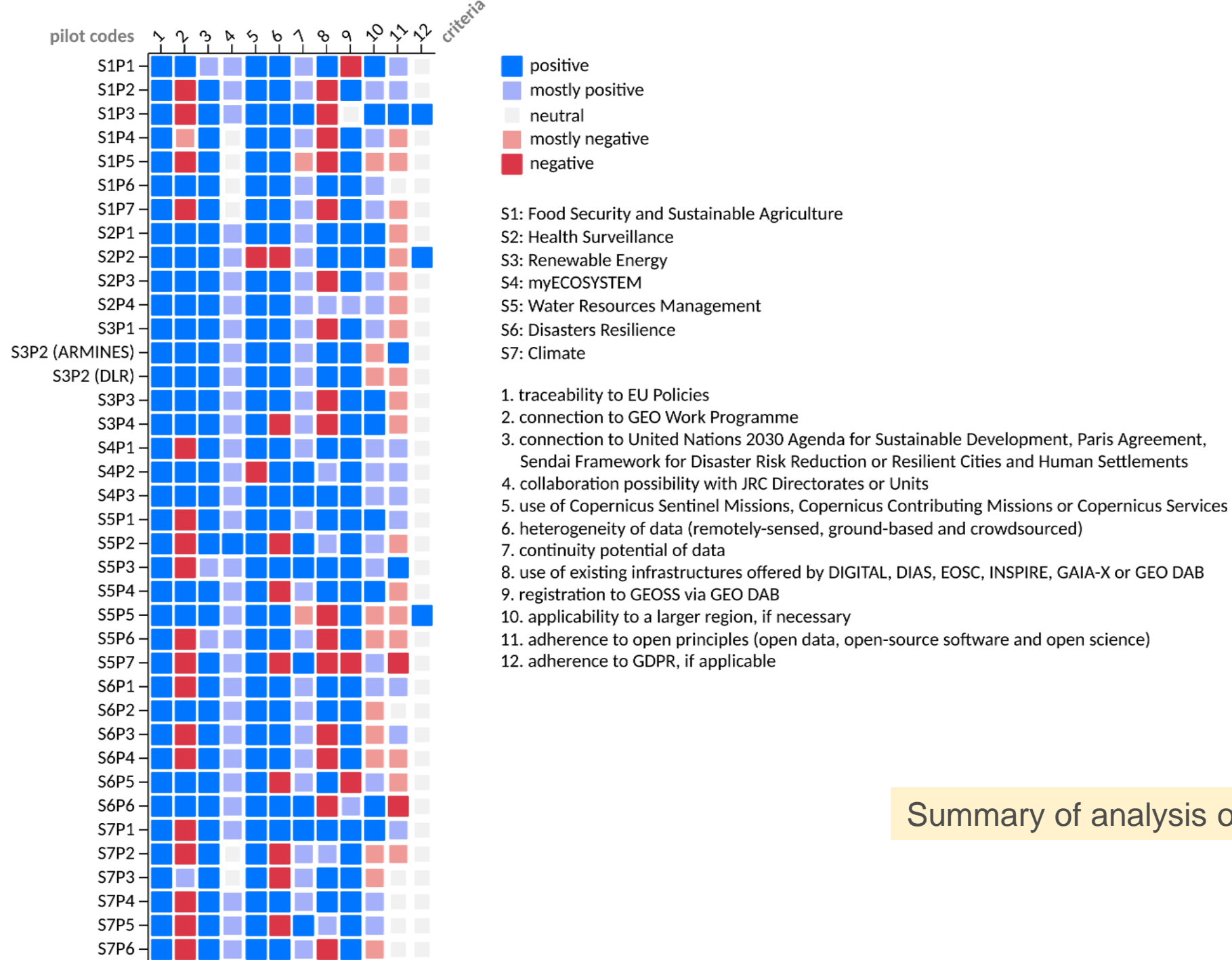
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Criteria for analysis of e-shape pilots

1. traceability to EU policies

2. connection to GEO Work Programme

3. connection to United Nations 2030 Agenda for Sustainable Development, Paris Agreement, Sendai Framework for Disaster Risk Reduction or GEO's fourth engagement priority Resilient Cities and Human Settlements

4. collaboration possibility with JRC Directorates or Units

domain

5. use of data from Copernicus Sentinel Missions, Copernicus Contributing Missions or Copernicus Services

6. heterogeneity of data (remotely-sensed, ground-based and crowdsourced)

7. continuity potential of data

8. use of existing infrastructures offered by DIGITAL, DIAS, EOSC, INSPIRE, Gaia-X or GEO DAB

9. registration to GEOSS via GEO DAB

10. applicability to a larger region, if necessary

data and infrastructures

11. adherence to open principles (open data, open-source software and open science)

12. adherence to GDPR, if applicable

adherence

Summary of analysis of all the e-shape pilots

Legend:
- positive
- mostly positive
- neutral
- mostly negative
- negative

Thematic areas:

S1: Food Security and Sustainable Agriculture
S2: Health Surveillance
S3: Renewable Energy
S4: myECOSYSTEM
S5: Water Resources Management
S6: Disasters Resilience
S7: Climate

Criteria:

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2. connection to GEO Work Programme
3. connection to United Nations 2030 Agenda for Sustainable Development, Paris Agreement, Sendai Framework for Disaster Risk Reduction or Resilient Cities and Human Settlements
4. collaboration possibility with JRC Directorates or Units
5. use of Copernicus Sentinel Missions, Copernicus Contributing Missions or Copernicus Services
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11. adherence to open principles (open data, open-source software and open science)
12. adherence to GDPR, if applicable

Future European digital EO ecosystem

- **Identify and operationalize best practices and principles,** e.g. cloud-based development, data quality and interoperability, openness, portability, modularity and reusability, DevOps & CI/CD, infrastructure as code (IaC), continuous testing and monitoring, MLOps.

- **Provide user guidance**: on digital platform capabilities, availability of tools, datasets and standards, covering the entire development lifecycle.

- **Streamline EO development**, through key technological enablers and governance approaches, e.g. from European Strategy for Data, reduce complexity and lower skill barrier to develop state-of-the-art applications.

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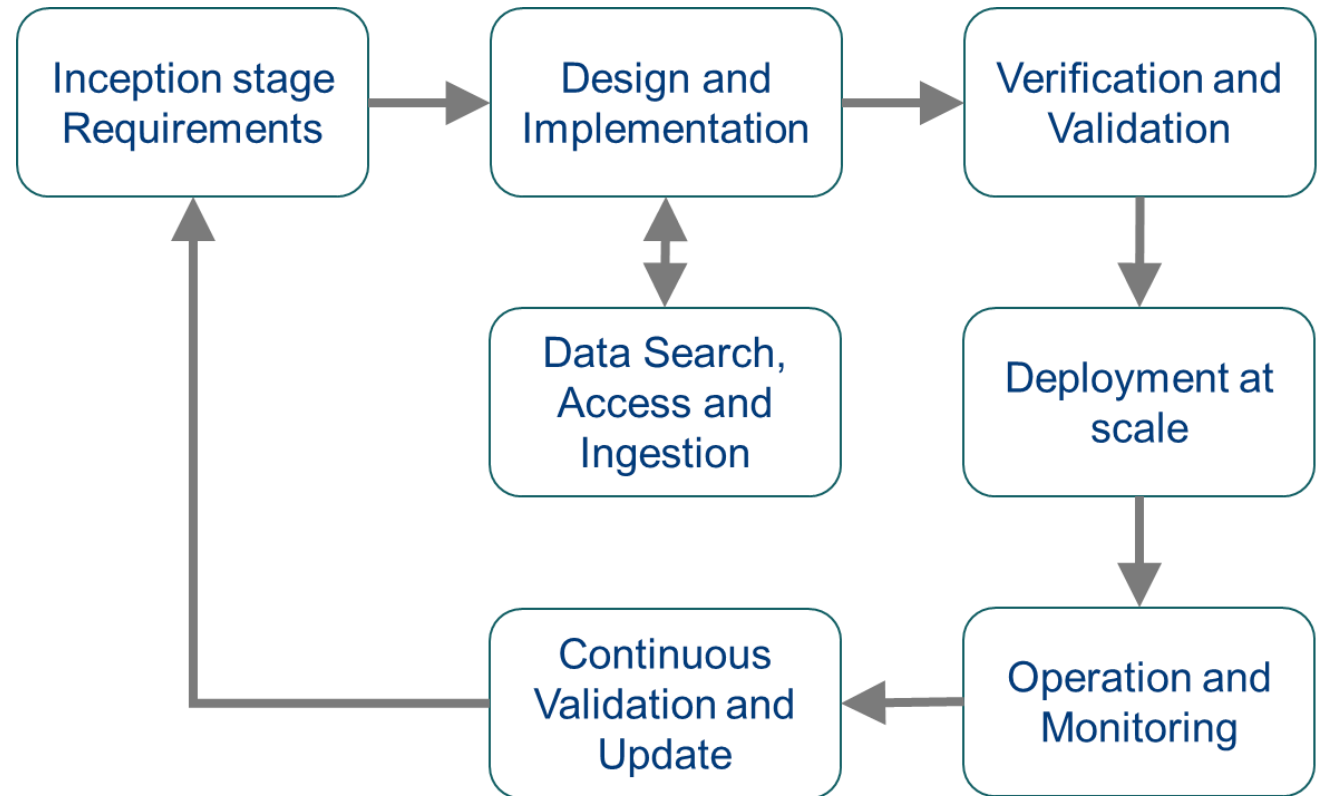
Summary and next steps

- Systematic analysis of e-shape pilots according to policy priorities

- e-shape is a valuable source to identify EO development approaches and user needs in terms of digital infrastructures, tools, datasets…

- Input towards a future digital ecosystem leveraging existing and future digital platforms and data sharing approaches

- Next steps being considered:

  - Deeper investigation of selected pilots, e.g. those closer to KCEO activities and policy priorities

  - Further development / implementation in communication with the pilot partners

  - Definition of technical requirements for a future European EO digital ecosystem, including prototyping

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Thank you

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