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Enabling FAIR Publishing of Community-defined Grey Research Outputs: The D4Science Catalogue

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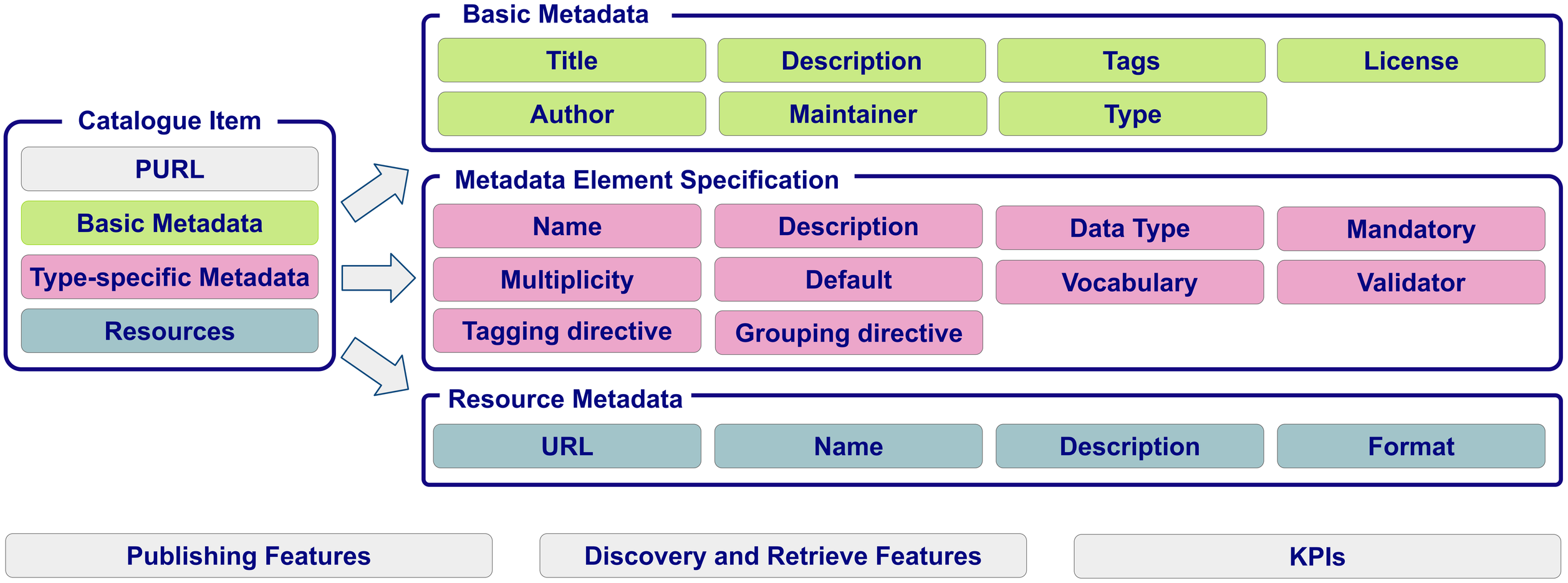
The Challenge

In the evolving landscape of scholarly communication, communities of practice engaged in scientific research are increasingly **generating and sharing a wide variety of non-traditional outputs**—forms of grey literature that fall outside conventional publication channels. These include datasets, software, executable workflows, computational notebooks, protocols, and other intermediate or supplementary research objects. Such materials are crucial for ensuring transparency, reproducibility, and collaboration in open science, yet they often lack standardized frameworks for publication, discoverability, and long-term preservation.

The D4Science Catalogue

A service fully integrated into a Virtual Research Environment that manages and provides access to metadata about **community-defined resources** enabling users and applications to **collaboratively publish and curate** information about resources and to **discover**, **browse** and **retrieve** information about published resources

Configurable Information Model



Publishing Features

- Web-based wizard GUI
- Web-based API
- Publish-Review-Curate and Peer-review publishing models
- Fine-grained role-based AuthZ
- Post-based and Email-based Notification on item publishing
- Deposit on Zenodo and interlink

Discovery and Retrieve Features

- Standardised web-based GUI for search, browse and faceted-search
- Standard access protocols (DCAT, REST API, OAI-PMH)
- Collaboratively curate and augment information on publis hed items by social networking comments and replies

KPIs

- 150+ diverse catalogue item types defined (eg dataset, deliverable, training material, lesson, record, method, experiment, service, research object, codelist, VRE)
- 640K+ items published by 25+ diverse communities (agri-food, earth science, health science, humanities)

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