



The PITHIA-NRF e-Science Centre

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Objectives of the PITHIA e-Science Centre

- central **integration** tool for data, models and scientific services
- **integration** and **more efficient** utilisation of currently existing, heterogeneous and non-interoperable tools and services
- accessible via high-level adaptable **graphical user interfaces**
- supports the **learning process**
- exploits the power of **cloud-based** computational and data resources

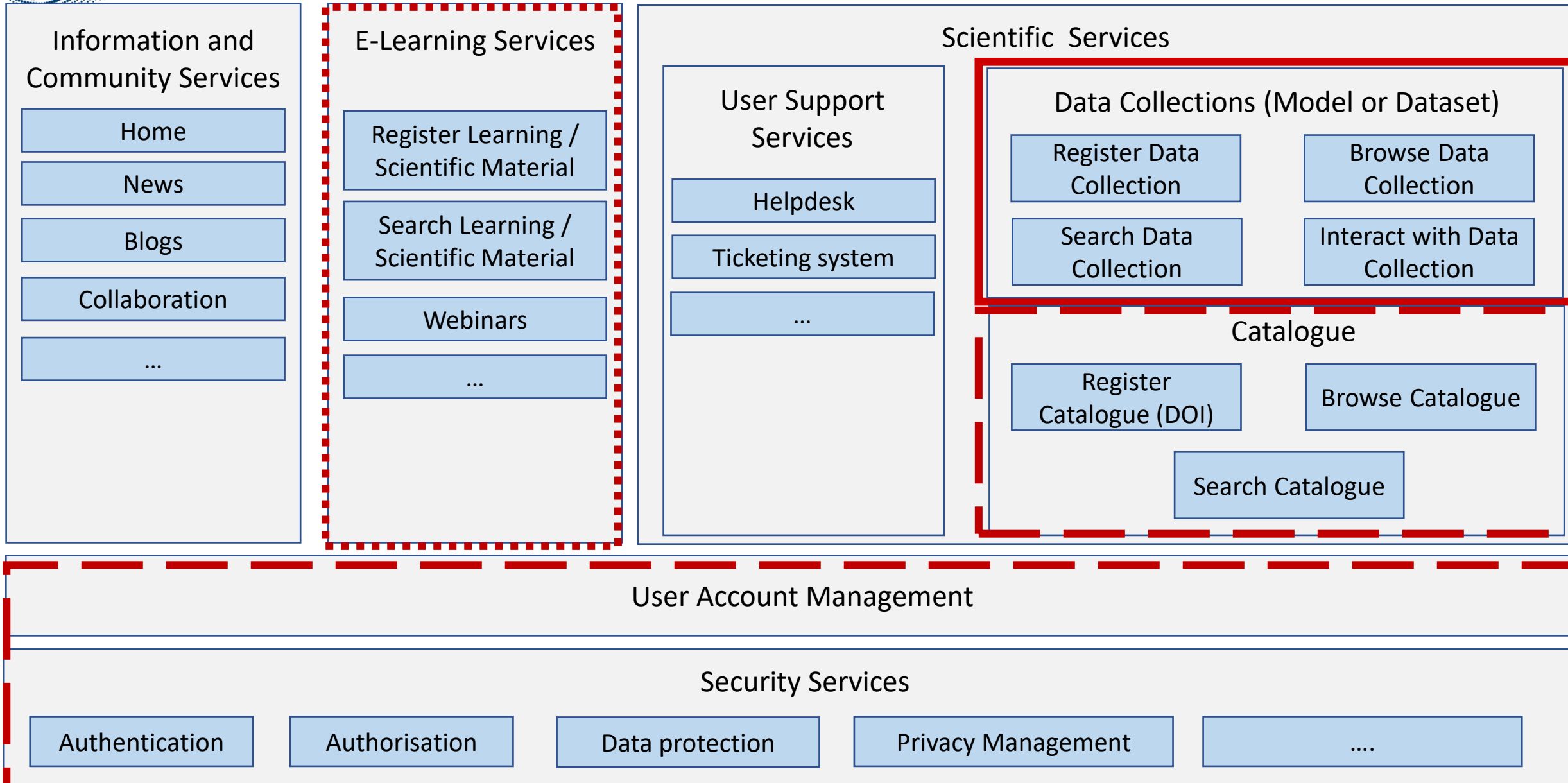


PITHIA e-Science Centre roadmap

- **Requirements collection** started in April 2021
 - 56 questionnaires with up to 166 questions each completed and analysed by the PITHIA community
 - Thorough technology investigation
 - Metadata and ontology design
- **Proof of Concept** and technology trials throughout 2021
- **Implementation** started in January 2022
- **First working versions** by Summer 2022
- **First public release** at the end of March 2023
- **Continuous** function development throughout the project's lifetime

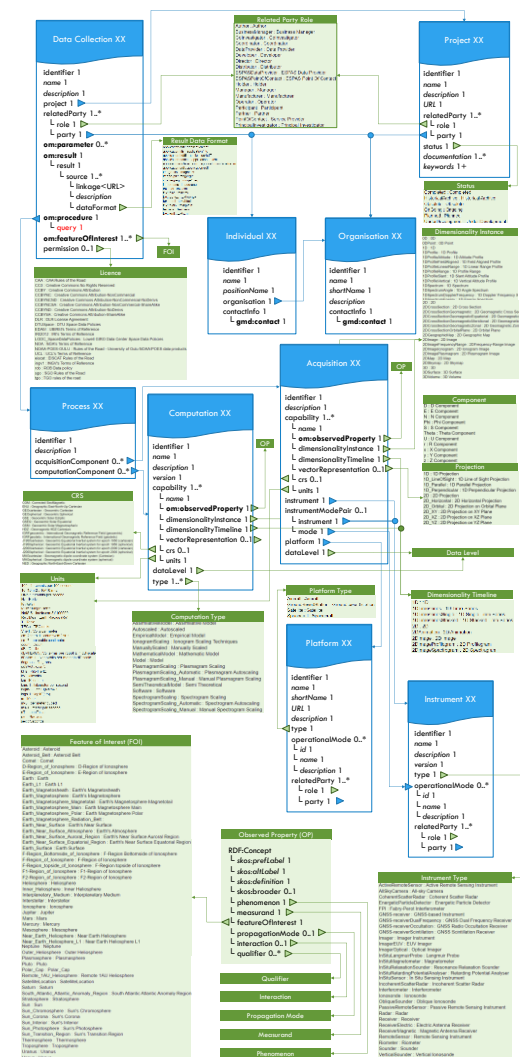


e-Science Centre Services





Yes, it looks complicated, BUT



➤ **Complication is for the provider**

- Needs to describe its assets in XML format – only once
- Templates, manuals help and (later) tools are provided for support

➤ **Gain is for the scientist (user)**

- Gets very detailed and precise information about the assets
- Can utilise very sophisticated ontology based search



How to interact with a Data Collection (Model or Dataset)

1. Get a link once the Data Collection is found

- Search/Browse returns detailed information about the Data Collection, including external link
- Click on the link and get redirected to the external site of the Data Collection
- **Advantage:** centralised search, detailed information captured in the metadata

2. Execute Model within the e-Science Centre

- Search/Browse returns detailed information about the Data Collection, including link to API
- Click on the link and interact with Data Collection within the e-Science Centre
- **Advantage:** never leave e-Science Centre, all Data Collection interactions look similar

3. Dynamically deploy Data Collection (Model) in the Cloud

- Search/Browse returns detailed information about the Model, including a link
- Click on the link and get the Model deployed in the cloud, just for you
- **Advantage:** model is only yours, scalable, cost effective (destroyed after interaction)

4. Download and install Data Collection on local computer

- Search/Browse returns detailed information about the Data Collection, including a link
- Click on the link and download Data Collection to your local machine
- **Advantage:** good for simple Models or smaller Datasets



Who can access the e-Science Centre

- Currently anyone who has the link (not publicised yet)
- After official release (from April 2023)
 - Anyone can browse, search and interact with Data Collections (unless Data Collection requires specific account or registration)
 - Data Collection provides need to register



PITHIA e-Science Centre live demo...



PITHIA-NRF
e-Science Centre

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Home

PITHIA-NRF e-Science Centre

Search & Browse



Search Data Collections



Browse Metadata

Admin Functionalities



Register & Manage
Metadata



Metadata Models



Space Physics Ontology



Thank you for your attention!

WEB: <https://www.pithia-nrf.eu>

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