



Data sharing tools for Biodiversity Observation Networks

Larissa Smirnova, Kim Jacobsen

Royal Museum for Central Africa, Tervuren, Belgium

Biodiversity data are collected for all sorts of reasons, but may be repurposed to answer a variety of questions. Data collectors are willing to share their data with others, however, sharing data is not as easy as it may sound. To share data successfully you need to address **standardization, licensing, preservation** and **accessibility** issues. If these data are not shared it is likely that they will be lost to science, which wastes the investment in time and resources that have been spent in their generation. For these reasons **informatics tools** have been built to make data sharing as easy as possible and at the same time incentivizing data sharing by enabling the citation of data.

It has been the policy of the **EU BON project** that it is better to promote and continue development of pre-existing tools, rather than creating new ones. This approach limits the fragmentation of the infrastructural environment and leverages former investments in software and training.

The recent study done by the EU BON project on available data sharing and data publishing tools used in the natural history domain, resulted in a comprehensive report which was published in RIO journal (*Smirnova et al., 2016, doi: 10.3897/rio.2.e9390*). About 30 data sharing tools have been evaluated and the results of these assessments are presented in the report, which is also available online: <http://eubon.cybertaxonomy.africamuseum.be/data-sharing-tools-repository>

This is done from the perspective of the **needs of the biodiversity observation community** with an eye on the development of a unified user interface to these data - the **European Biodiversity Portal** (EBP, www.eubon.eu).

PORTALS

The Integrated Publishing Toolkit (IPT):

To publish and share biodiversity data sets and metadata through the GBIF network. It allows publication of three types of biodiversity data:

- primary occurrence data (specimens and observations);
- species checklists and taxonomies;
- sample-based data from monitoring programs.

Logo	Name	Organisation	Type	Subtype	Records	Last modified	Last publication	Next publication
	Collection of brackish fishes from the VLB	Not registered	Occurrence	Specimen	6	2016-03-22	2016-03-22	--
	Dutch Vegetation Database (Sample Export from TV3)	Not registered	Sampling event	--	1,000	2016-05-18	2016-05-18	--
	Environmental impact assessment of oil pollution accident in Gialova lagoon and Navarino Bay	Not registered	Sampling event	--	168	2016-05-11	2016-05-11	--
	Managing open habitats for species conservation: the role of wild ungulate grazing, small-scale disturbances, and scale - <i>Coronoporus canescens</i> dominated grassland	Not registered	Sampling event	--	108	2016-05-24	2016-05-24	--

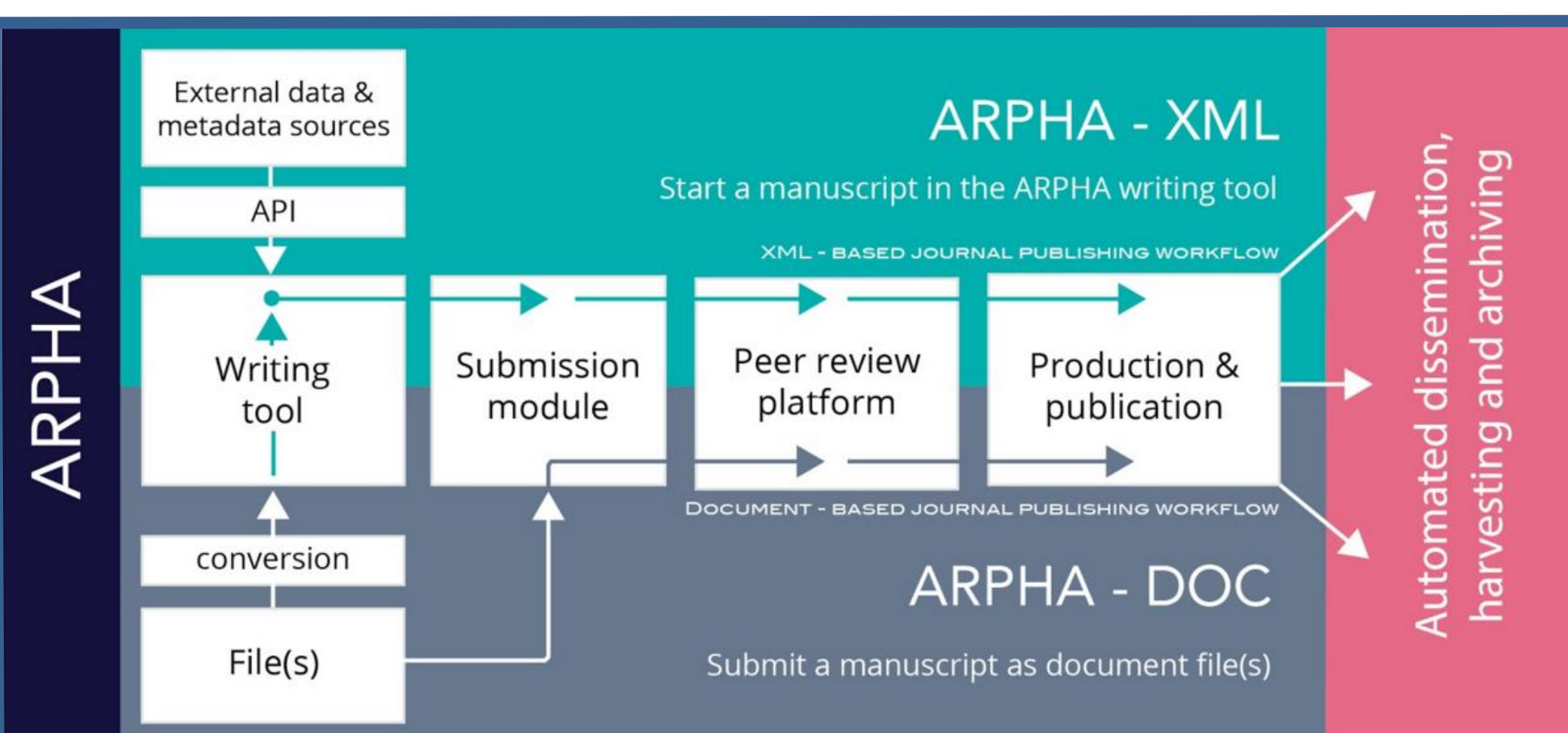
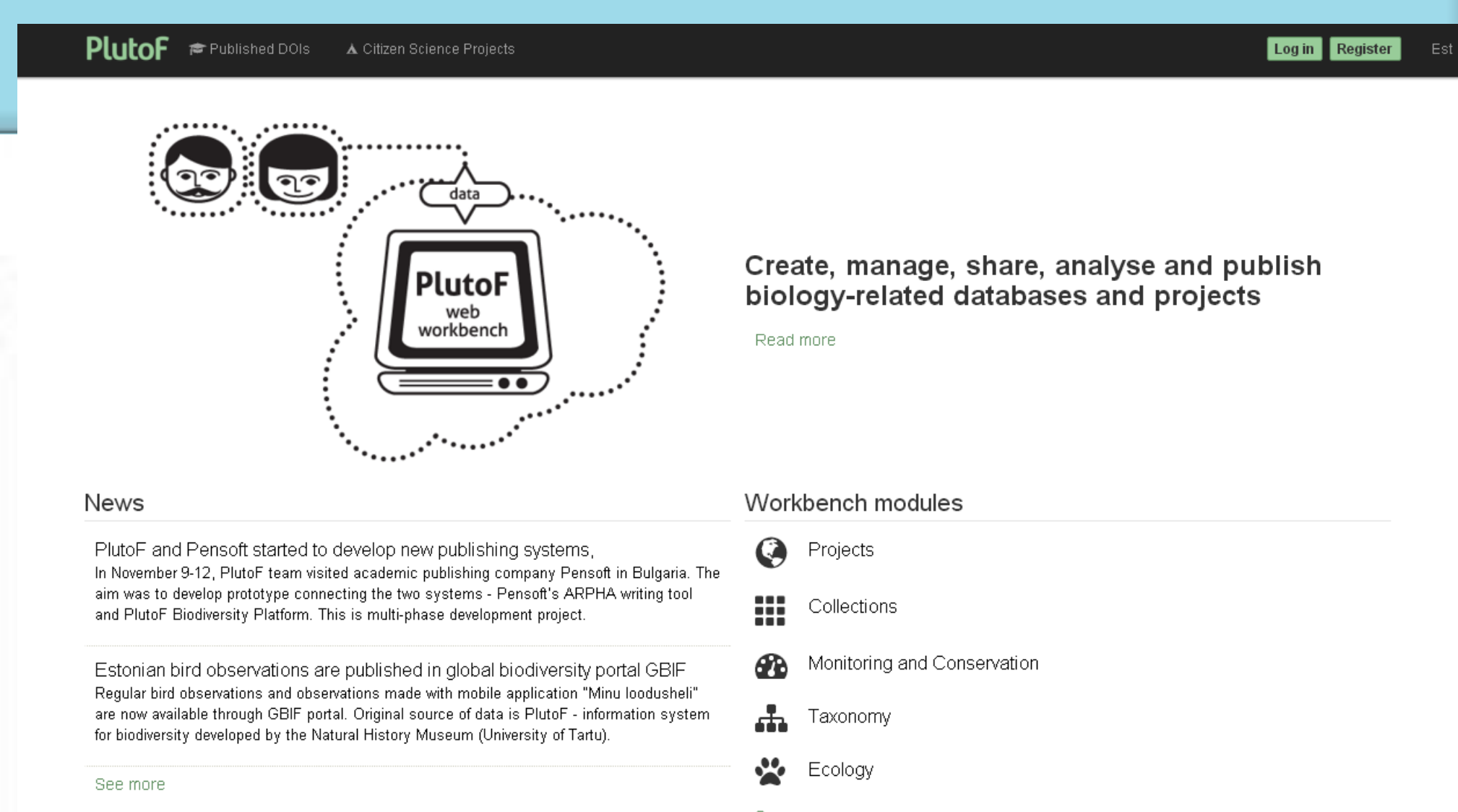
gbif.org/ipt

PlutoF API:

An online service to create, record, manage, share, analyze and mobilize biodiversity data.

Data types include ecology, taxonomy, metagenomics, nature conservation and natural history collections including citizen science projects.

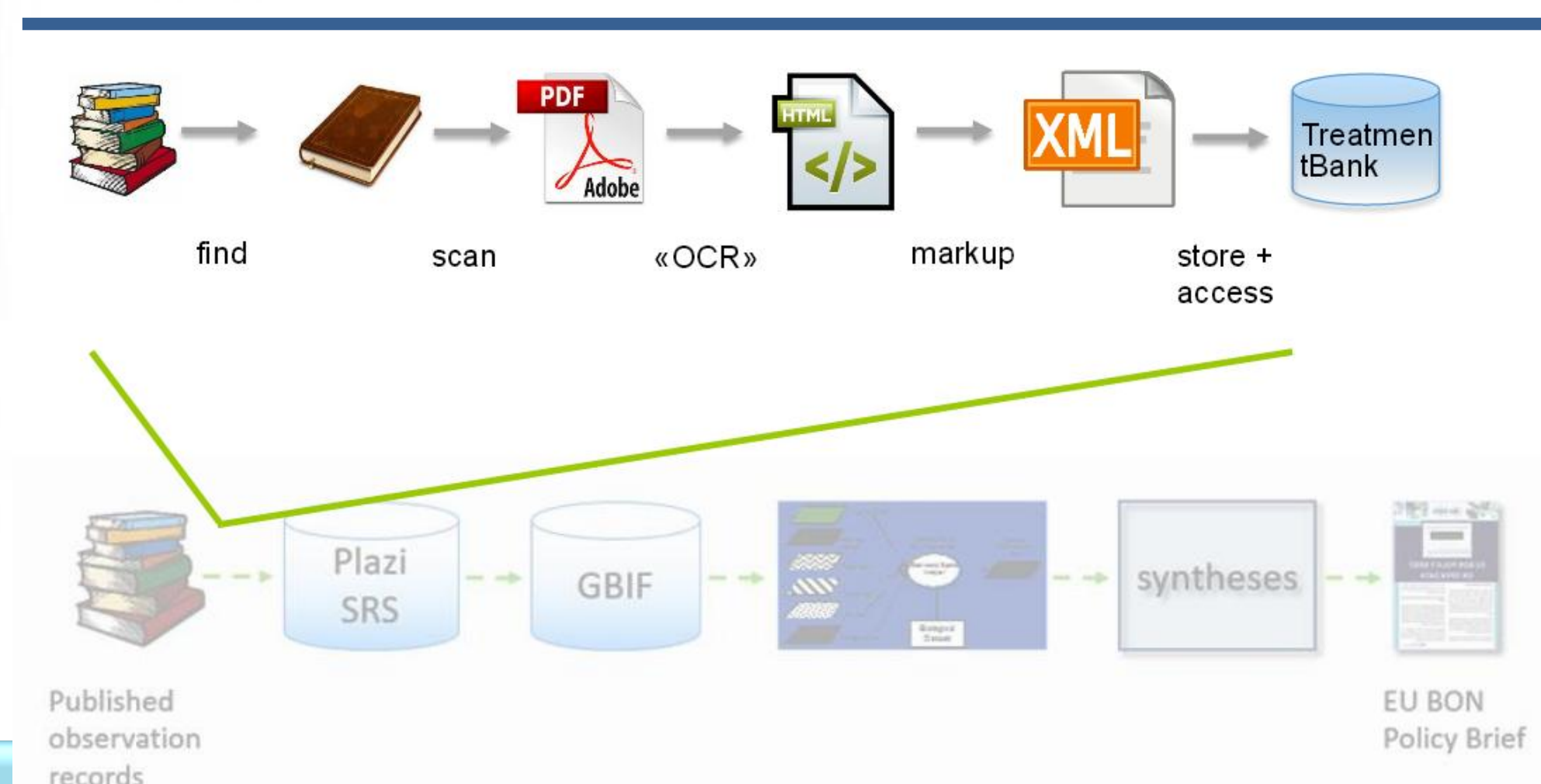
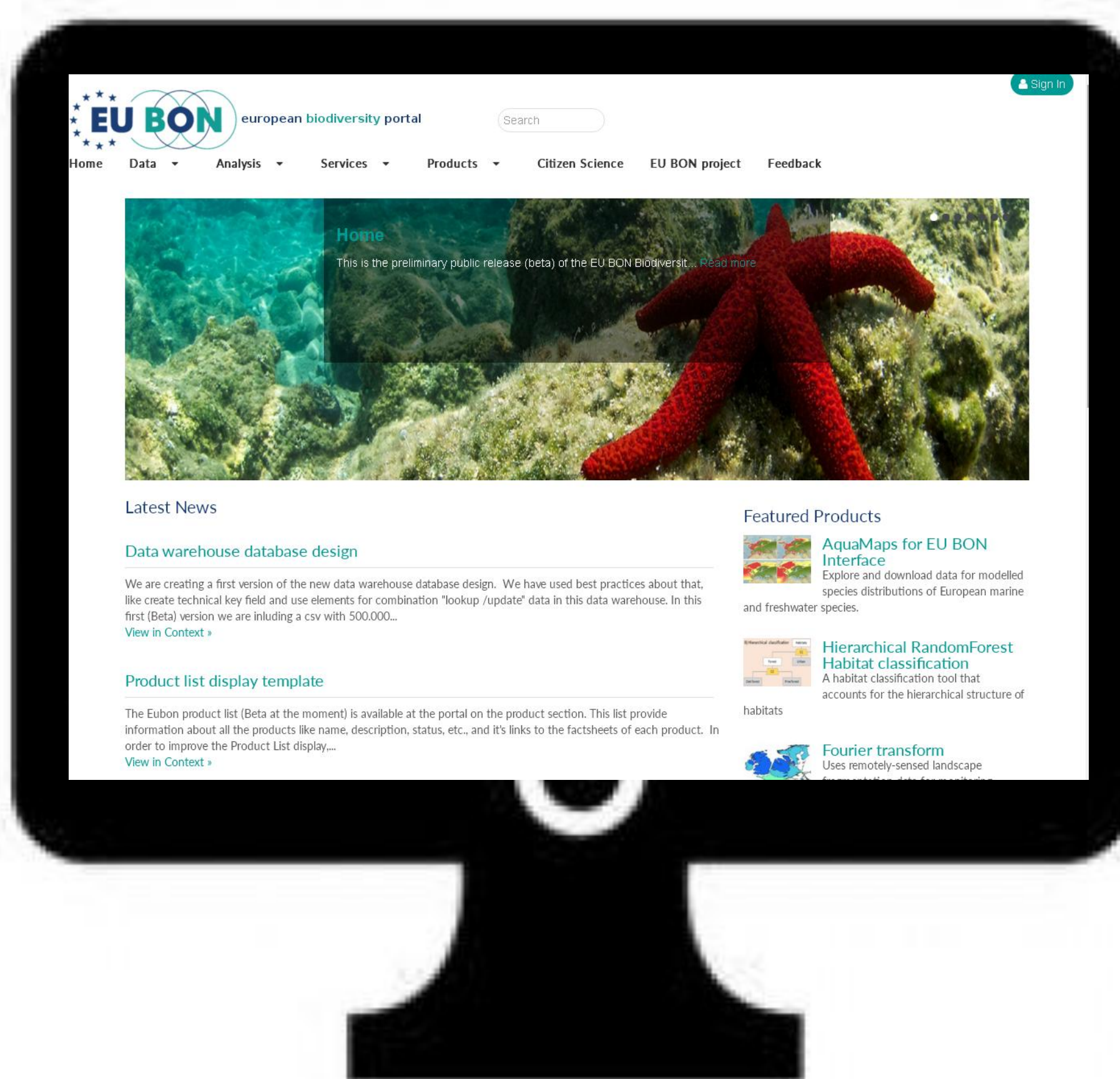
plutof.ut.ee/



ARPHA publishing platform:

An integrated system for writing, collaborating, reviewing and publishing data and their descriptions. Unlike traditional scientific publishing workflows this system integrates the whole process from the beginning to the end.

arphahub.com/



TreatmentBank:

A platform to store, annotate, access and distribute taxonomic treatments and the data objects within them. It works with GoldenGate and XML schemas TaxonX and TaxPub, which are tools to convert unstructured text into semantically enhanced documents with an emphasis on taxonomic data such as treatments, scientific names, material observation, traits and bibliographic references.

plazi.org/resources/treatmentbank/