# Idra

Open Data Federation Platform

March 2023

ENGINEERING

Fragmentation and interoperability

–   One of the most relevant problems, that limits the adoption and usage of open data, is related to technology and standard **fragmentation**: every entity that wants to provide open data (e.g. Public Administration) uses different platforms and formats for their publication. This issue represents a **barrier for the user** that wants to search for open data, and for third-party applications that are not able to simply access and reuse it.

–   **Idra is an open source platform** that provides a **unique access point** to open datasets coming from heterogeneous Open Data management systems, such as portals provided by Municipalities and PAs. The datasets remain in the original portals, **the platform imports and manages the metadata**, updating it periodically in order to assure that the information provided is up to date

–   Idra, allowing a unique and standard access to the open data, is in line with **Freedom of Information** laws, to foster and simplify the access to data held by national governments.
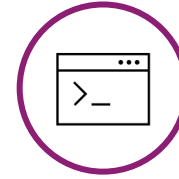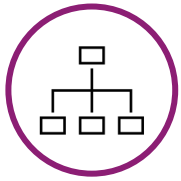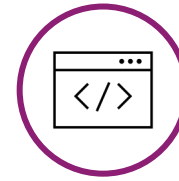
Source: Idra documentation
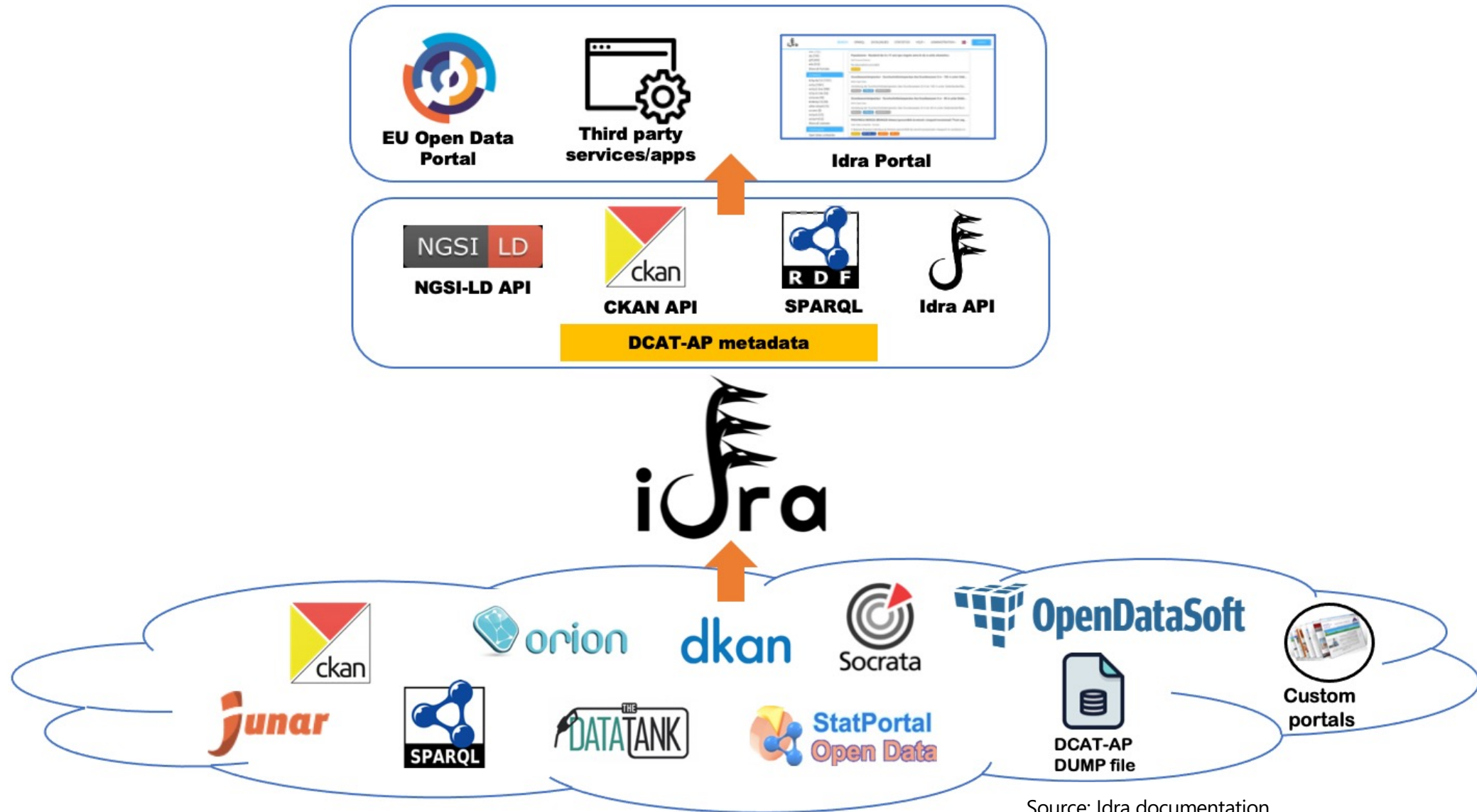
Main features

Web interface to search for open data in a federated and multi-language way

Unique access to open data regardless the **heterogeneity** of the underlying technologies

Ease of performing **SPARQL queries** on 5 stars RDF linked open data

Integration of third party applications for the open data visualisation and federation

Public and open APIs to build smart and innovative applications

Compliance to **DCAT-AP** standard and **data.europa.eu** portal specifications

Web scraping technology to federate open data portals that do not provide APIs
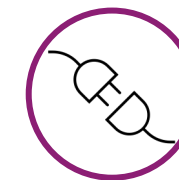
Connectors to simplify the federation of new portals reducing effort to the minimum

Idra portal overview
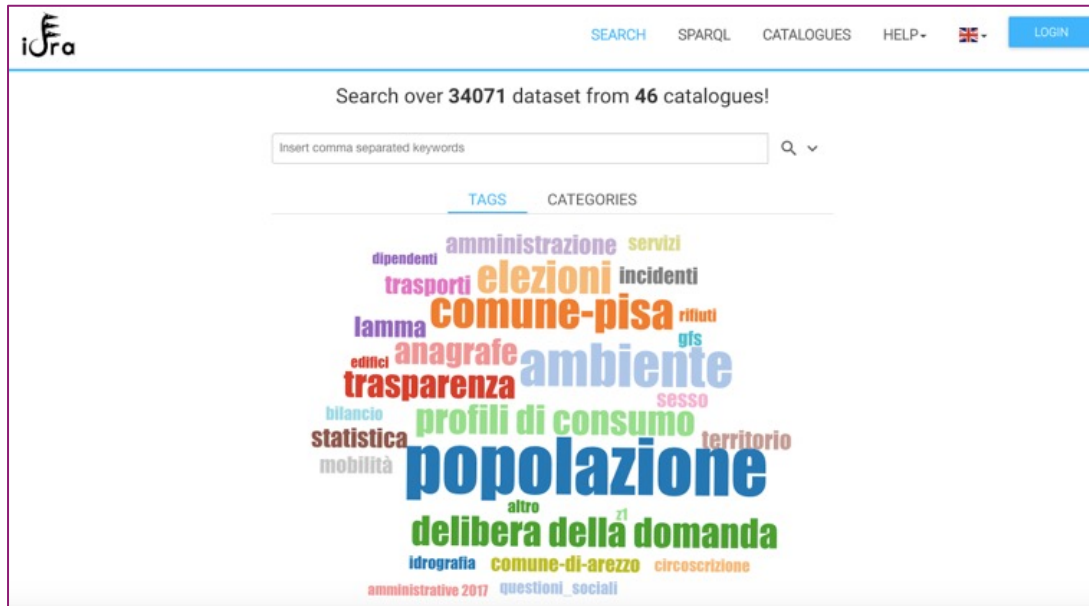
Idra provides a web portal to access to the federated open datasets in a uniform way independently from the the original catalogue
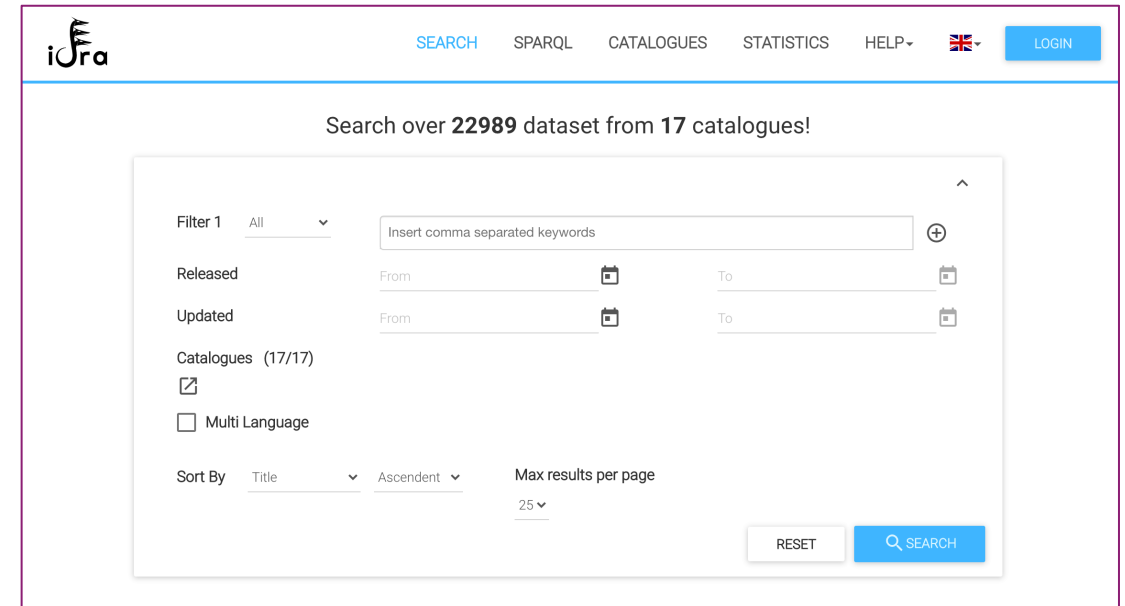
Filters and ordering : it is possible to search and order open data by keywords related to title, description, tags, data of creation and of modification etc.

Idra portal overview

Idra allow to browse open datasets filtering them by facets (e.g. type of licenses, distribution etc.)
Idra provides a SPARQL editor to perform queries on Linked Open Data

Idra portal overview
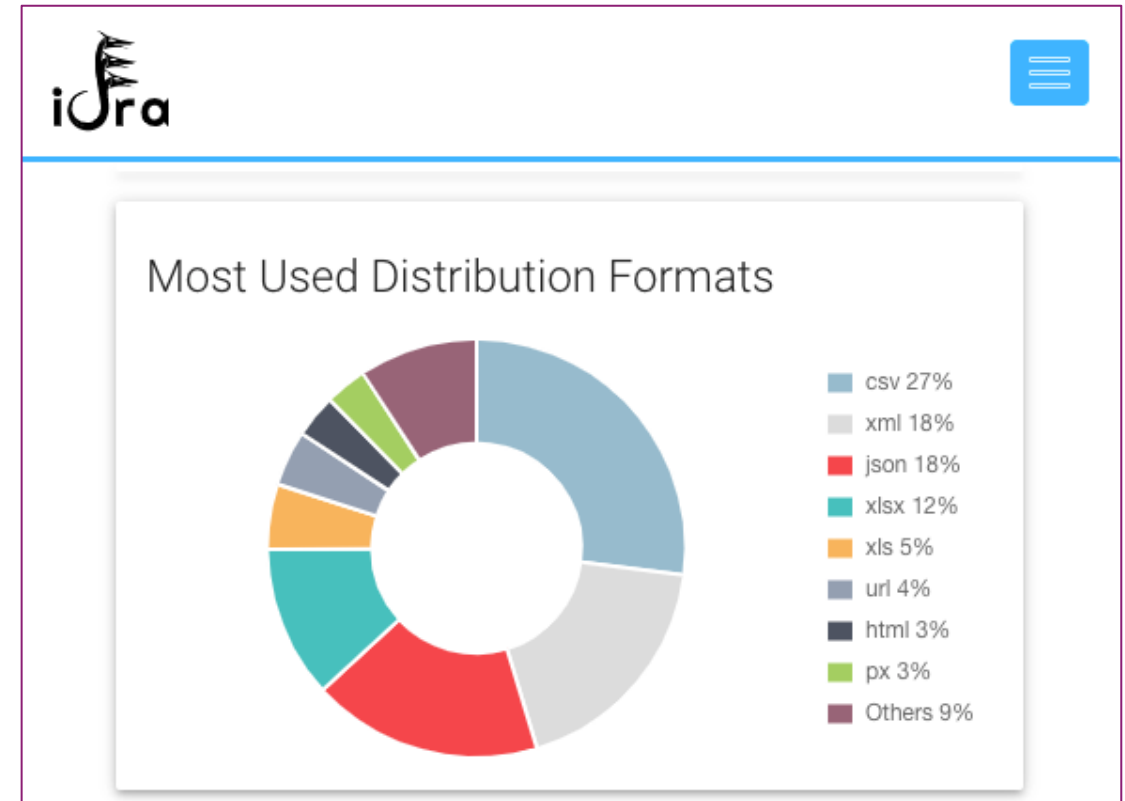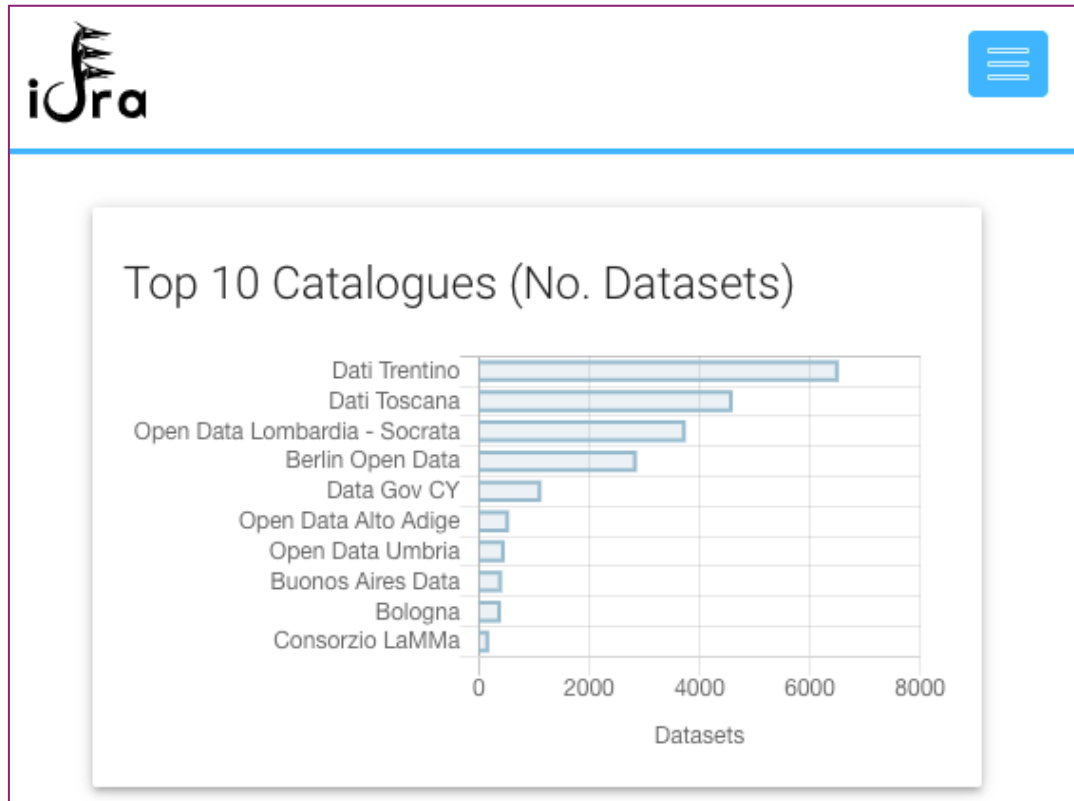
Idra shows comparative statistics about federated catalogues: number of datasets, distribution format types, most active catalogues etc.

Idra portal overview

The platform is integrated with an external component (Datalet creator[1]) able to generate "on the fly" charts from open data files

Further external components can be integrated to add specific visualisation and data analysis functionalities

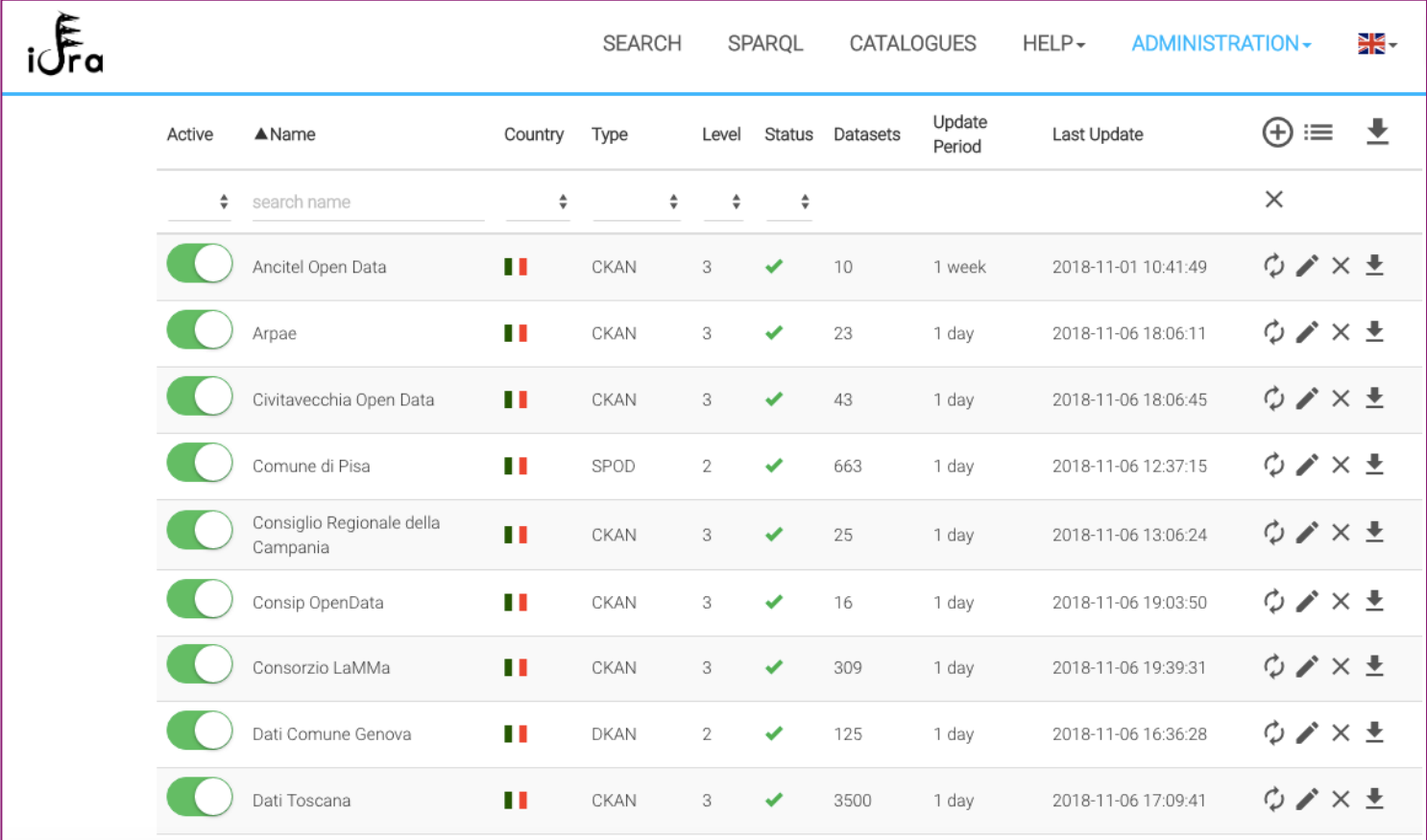[1]developed by Route2PA project

Idra portal overview

Idra provides administration functionalities to manage federated open data catalogues and platform configuration

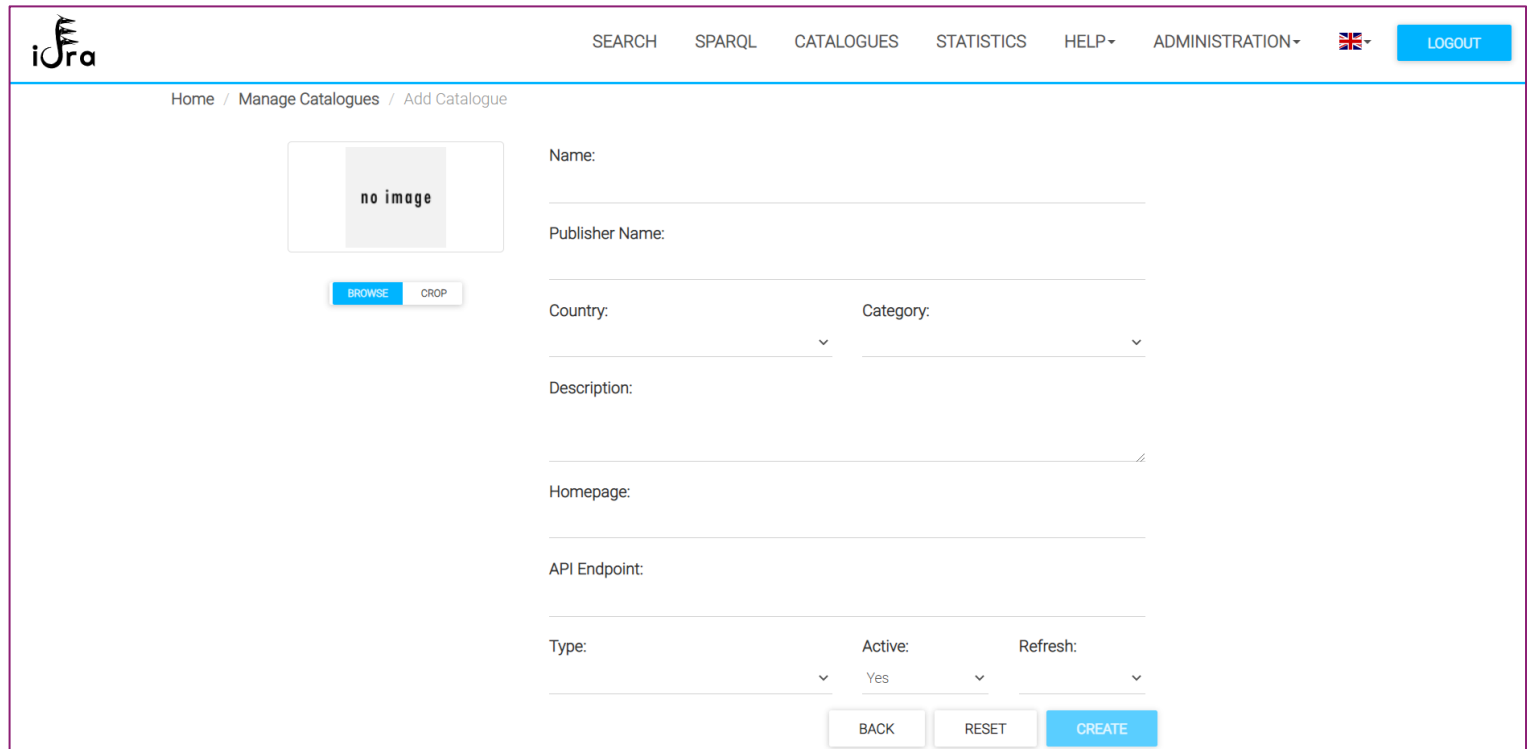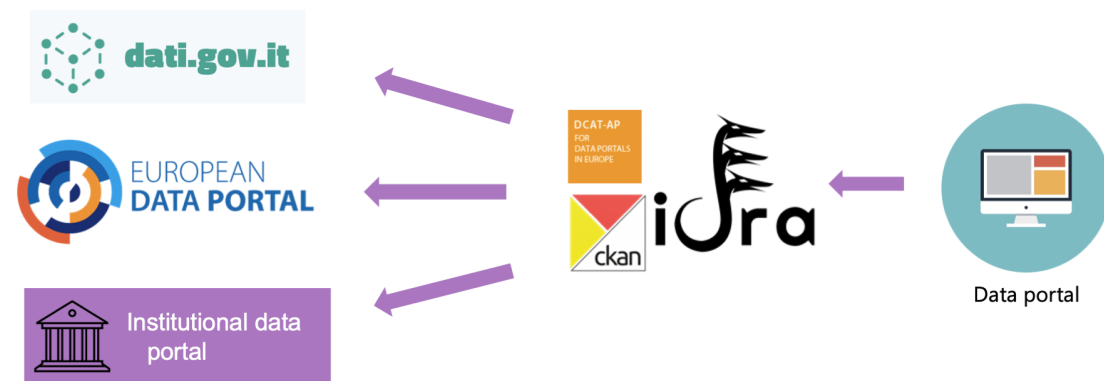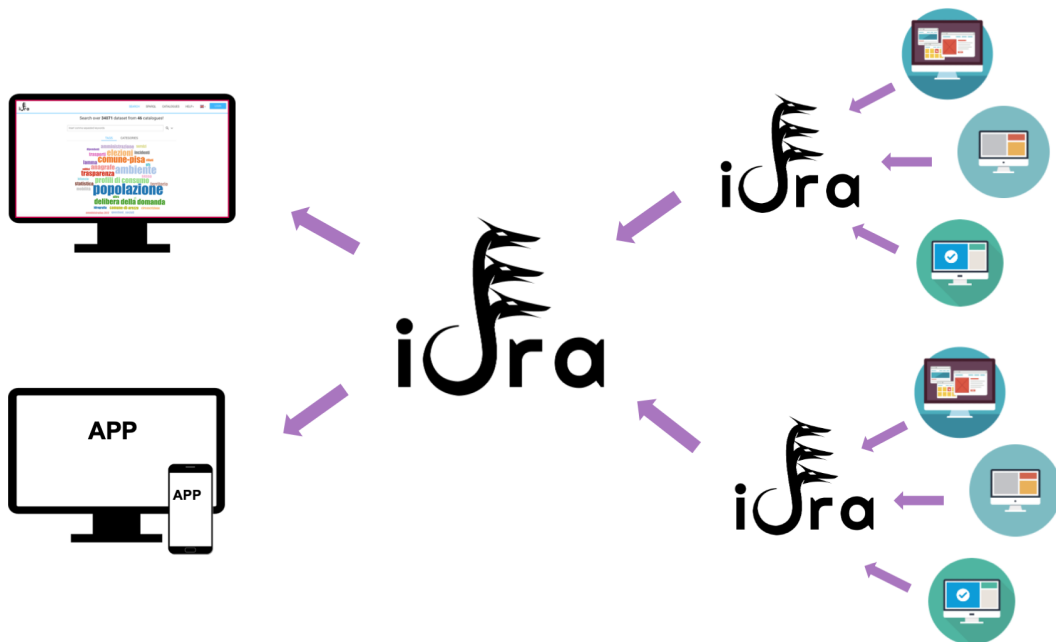# Idra portal overview

Idra provides administration functionalities to manage federated open data catalogues and platform configuration

Idra connectors

Connector	Supported version	Description
CKAN	API v3	Connector for CKAN portals
DCATDUMP	DCAT-AP v1.1	Connector to import metadata via dump file compliant with DCAT-AP or DCAT-AP_IT
DKAN	DCAT Catalogue endpoint	Connector for DKAN portals
Junar	API v2.0	Connector for Junar portals
NATIVE	API v1.0	Connector for Idra Federation API
OpenDataSoft	Seacrh API v2	Connector for OpenDataSoft portals
ORION	NGSI v2, NGSI-LD	Connector that allows to create datasets with NGSIv2/NGSI-LD query-based distributions
SOCRATA	DCAT Catalogue endpoint	Connector for Socrata portals
SPARQL	V1.1	Connector that allows to create datasets with SPAQRL query-based distributions
SPOD	CKAN API v1 & v2	Connector for Stat Portal Open Data (SPOD)
WEB	v1.0	Connector to import sitemaps in order to scrape and federate custom websites

Single entry point to all datasets through Idra portal

External apps can use a single API to access to uniform metadata

Data portals

APP

dati.gov.it

EUROPEAN DATA PORTAL

Institutional data portal

Data portal
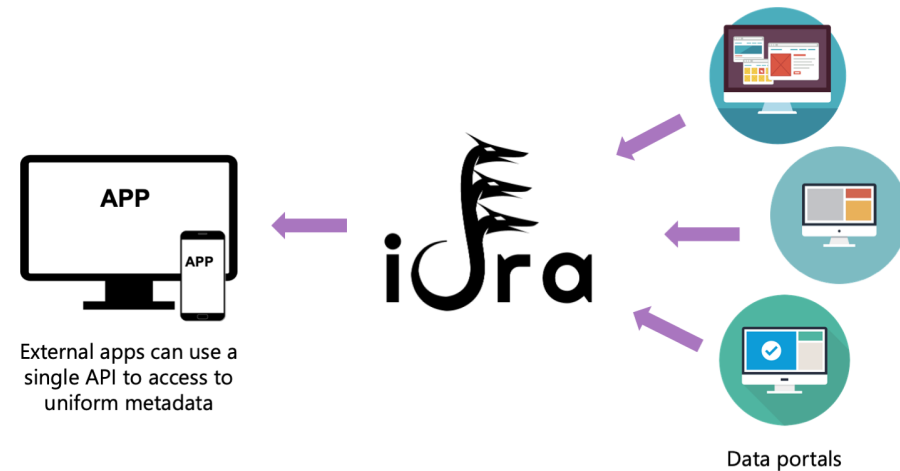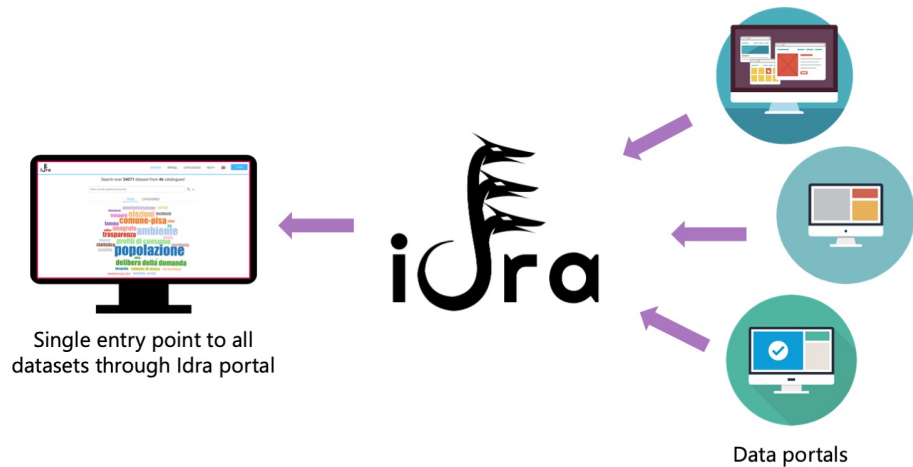
Idra: an open source project

- Idra has been created inside EU funded projects and it is **currently improved and maintained by Engineering**

- Idra is an open source project released under the **AGPLv3 license**

- Idra is part (Generic Enabler) of the European open platform **FIWARE**, a suite of open source components to support different applicative domains, in particular **IoT** e **Smart City**

Developer resources

– GitHub repository : https://github.com/OPSILab/Idra

– DockerHub: https://hub.docker.com/u/idraopendata/

– API documentation: https://idraopendata.docs.apiary.io/

– User manual: http://idra.readthedocs.io/

– Information and support: idra@eng.it

Grazie per l'attenzione.

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