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Core Components Supporting a FAIR EOSC

EOSC PID Meta Resolver

Universal identifier resolver

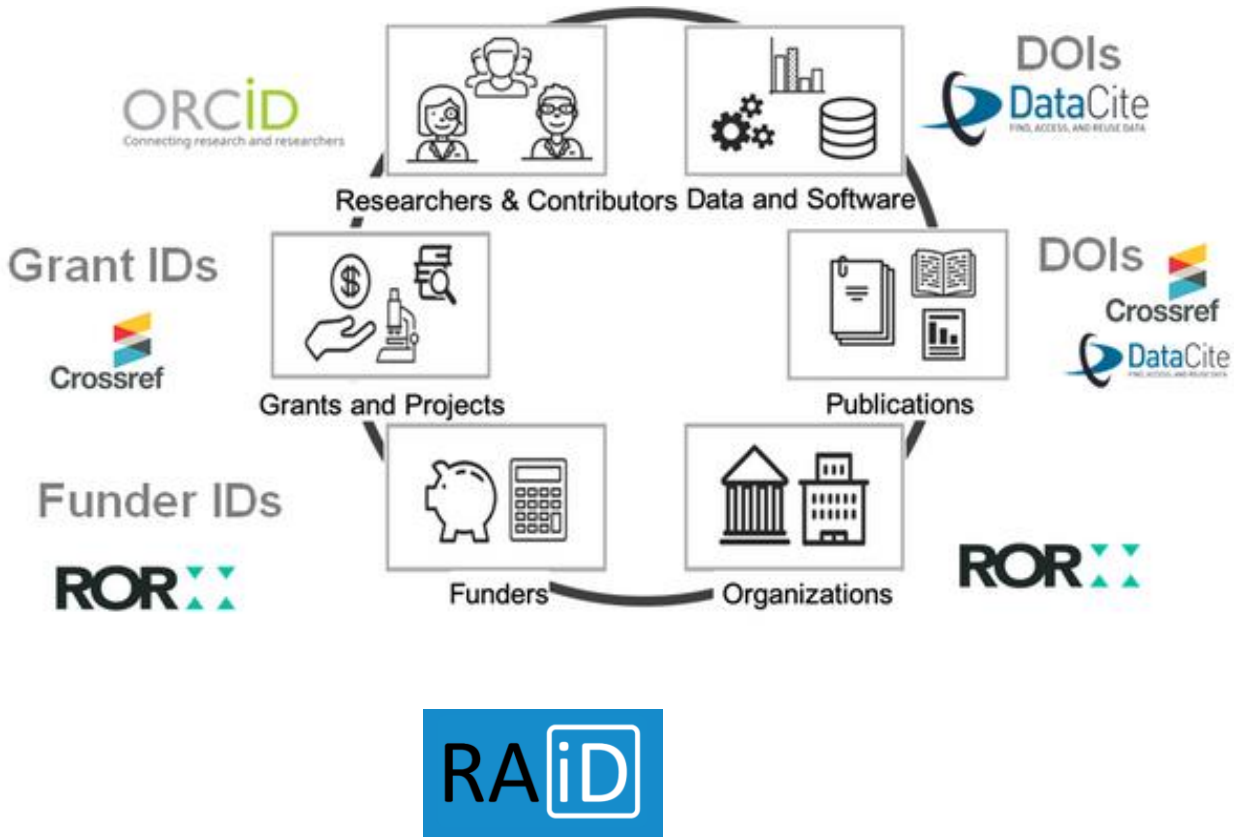
Themis Zamani, Kostas Kaggelidis , Fotios Basios, Kyriakos Gkinis (GRNET)
Ali Reza Sajedi, Hans Lienhop, Sven Bingert

Funded by
the European Union

One Place to Resolve all Persistent Identifiers

WHAT ?

- metadata
- resource
- landing page
- and more



Multiple systems used to create and maintain PIDs.

PID Metaresolver - The case

Increasing use of PIDs to reference all types of research results is a major step forward in meeting future requirements for the FAIRness of (research) data.

<u>Challenges arise</u>

- in processing PIDs
- in integrating PIDs into different research processes

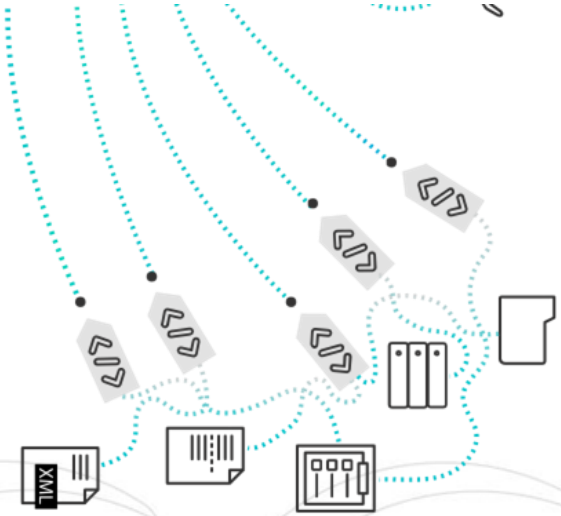
SRIA

PID 'meta resolver'. Each PID provider provides its own resolver, while a meta resolver could form a single service which can recognise different PID types and redirect to the appropriate resolver, regardless of issuer.

Multiple systems used to create and maintain PIDs.

- to know which system is responsible for the resolution process
- the process that provides the referenced metadata for a PID
- to understand each specific resolution mechanism.

A uniform interface that allows PIDs from different systems to be resolved (“one place to resolve PIDs”)



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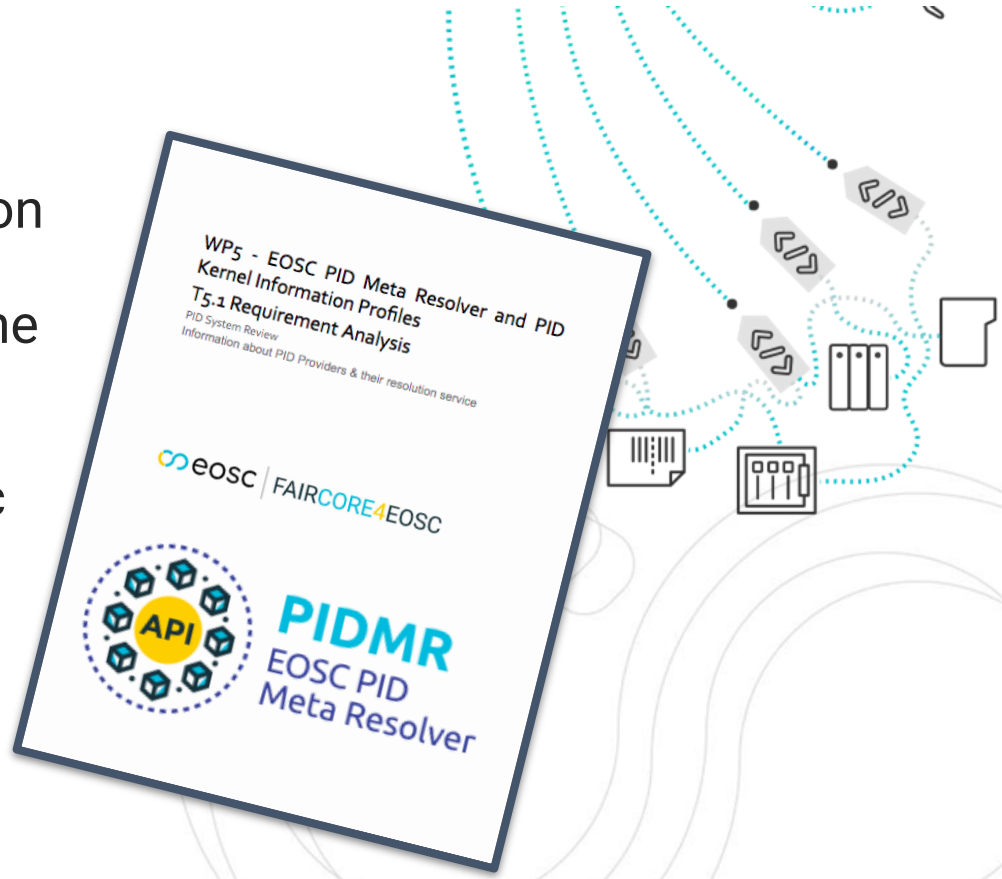
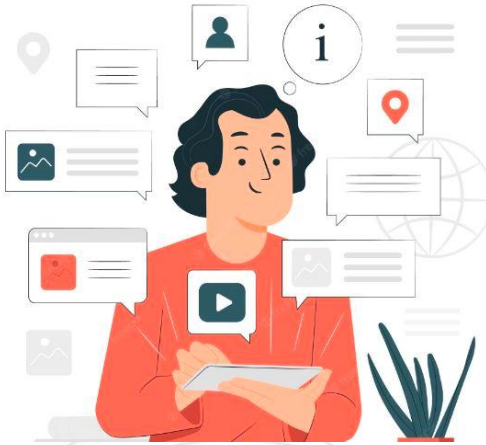


The PID Metaresolver

Why we need it ?



One service to resolve PIDs from various Providers

Allow retrieval of URLs , Metadata and Resources

Information about PID Provider

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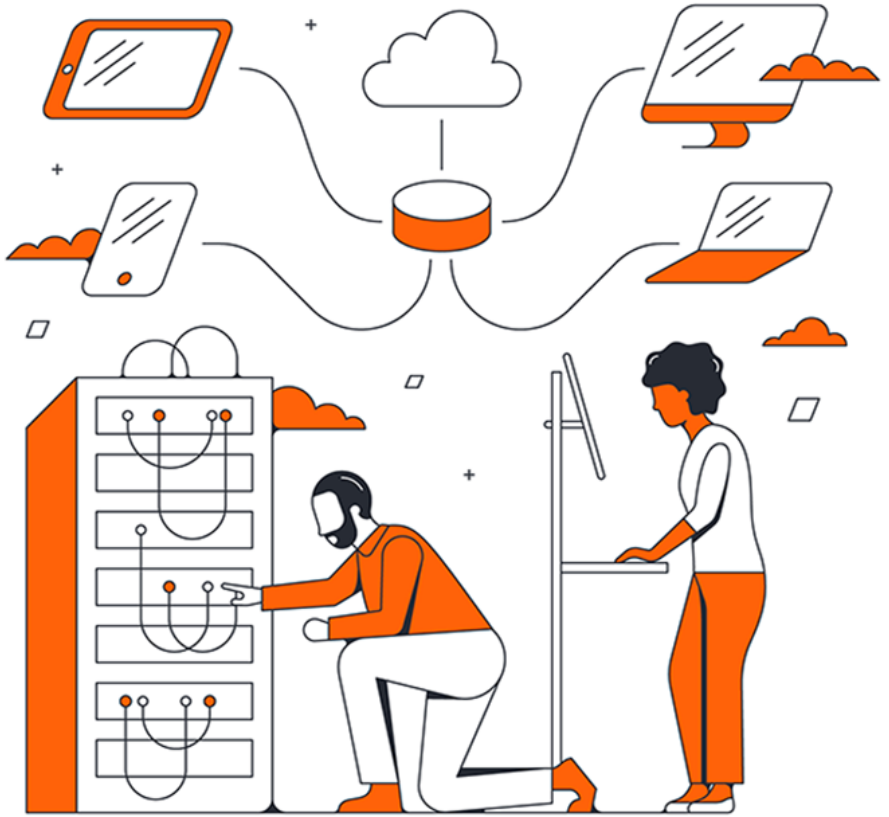
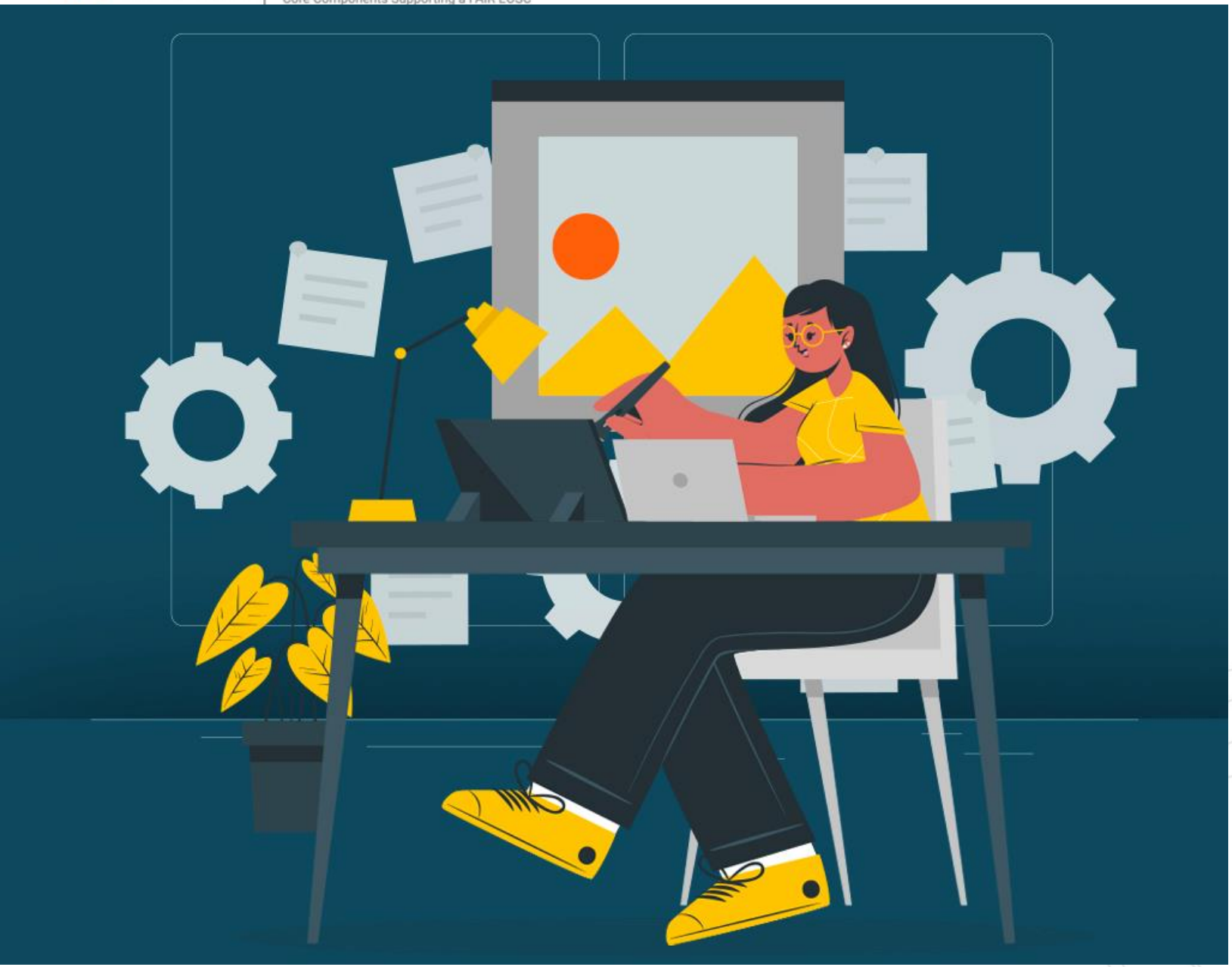
PID Metaresolver

1. helps the researcher get PID information without in-depth knowledge of the resolution mechanism of different PID systems
2. improves machine based data processing
3. knows where to route different types of identifiers (eg DOI, URN)

PID Meta Resolver is

- A scalable Metaresolver
- Based on reliable and mature software. Backend based on the Handle System.
- Human and machine interaction
- User friendly UI
- API and backend for high performance machine processing
- Easy to integrate with AI and data science applications
- Simple onboarding process for new providers



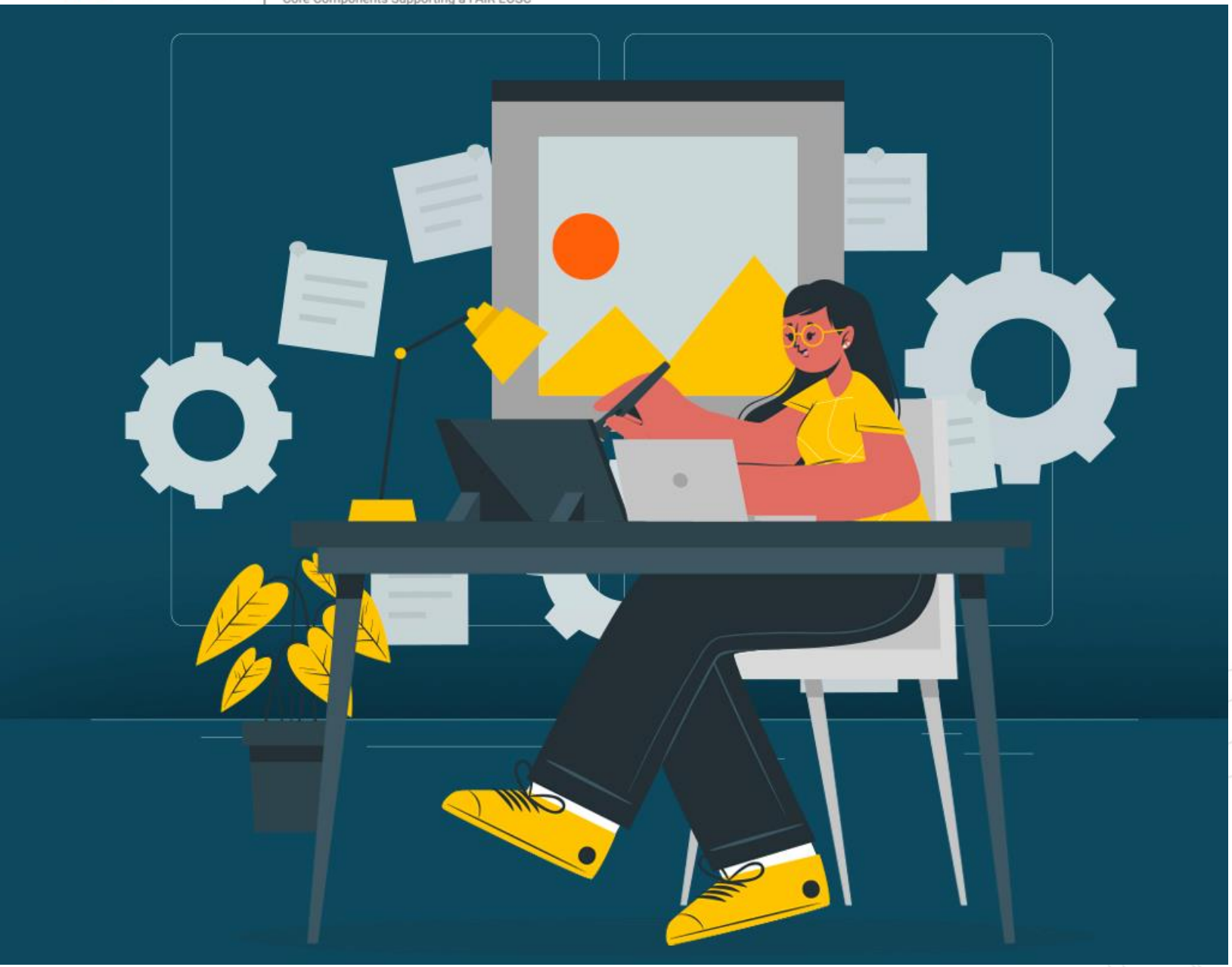


Use Case 1

I am a researcher and i don't know anything about persistent identifiers . I am new

Solution

Use the UI wizard to learn more



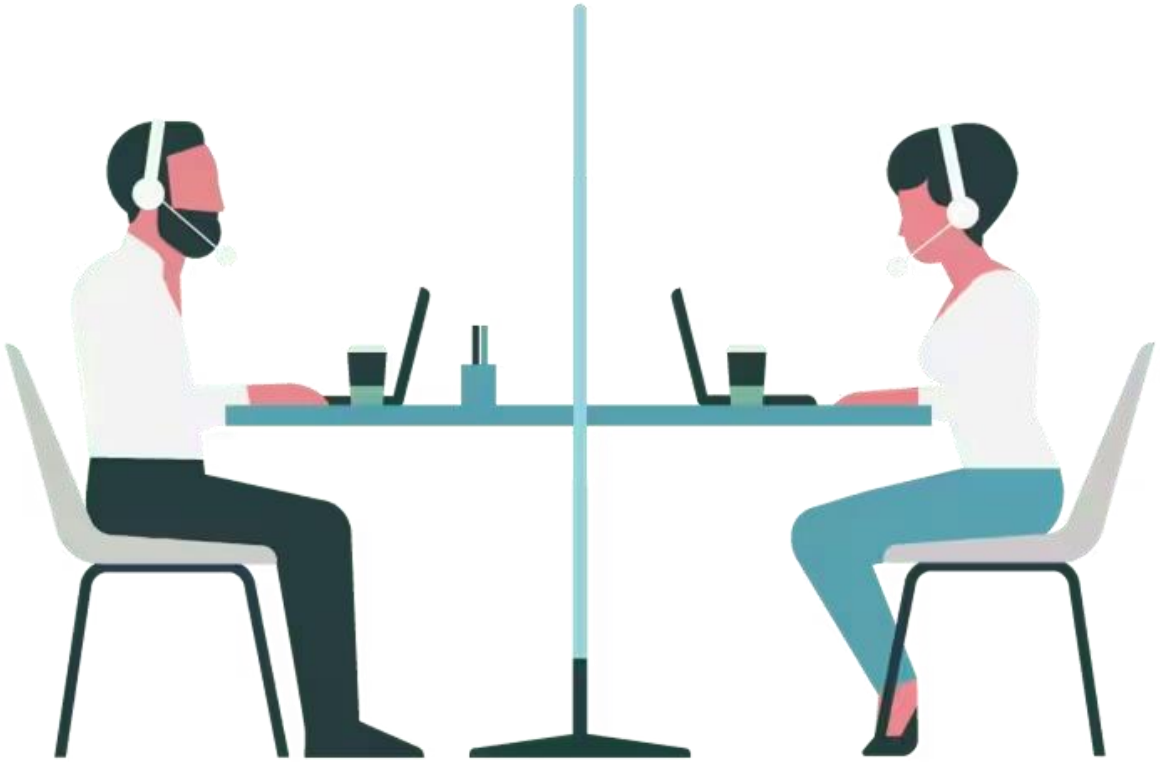
Use Case 2

I am a researcher and i want to use some PIDs in my simulations, by integrating sources from PIDs.

Solution

Use the API to start using the functionalities of the Meta Resolver

PID Provider



Use Case 3

I am a PID Provider and and i want my PIDs to be resolved via the Meta Resolver .

Solution

Use the UI to add your descriptive data.

Behind the scenes

The Architecture

The PID Meta Resolver Backend

The PID Meta Resolver API

The PID Meta Resolver Web UI

Behind the scenes

Technologies used

The PID Meta Resolver Backend

hdlenabled

The Handle system

RESPONSIBLE

- Resolve logic
- handle API
- retrieve meta data
- process meta data

Behind the scenes

Technologies used

The PID Meta Resolver API

QUARKUS

FULL QUARKUS LOGO

RESPONSIBLE

- Resolve PID
- Check the status of PID
- Provide more info
- Give access to providers
- Identity the type of PID
- Resolve batch of PIDs

Behind the scenes

Technologies used

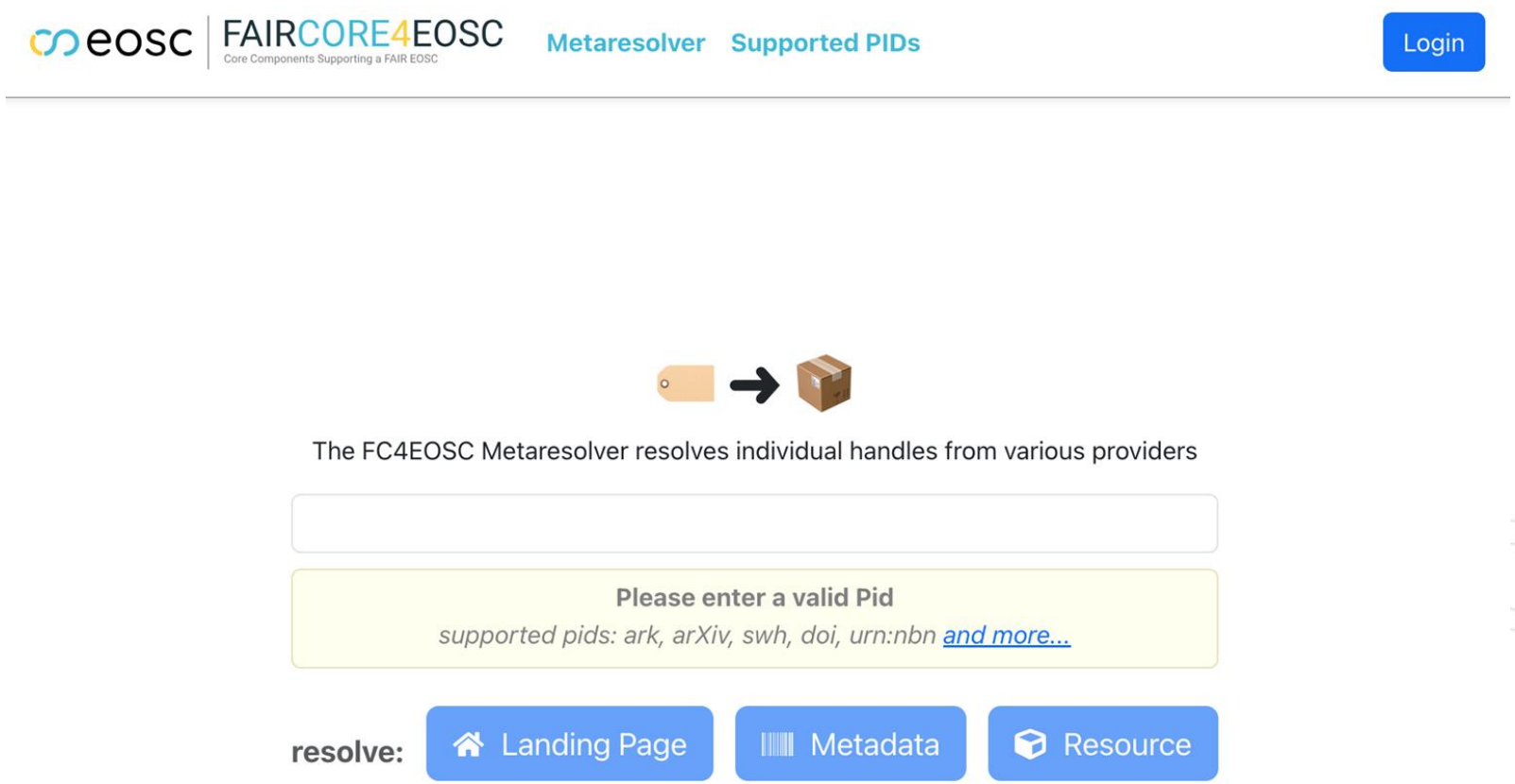
The PID Meta Resolver UI

RESPONSIBLE

- Library of PID
- Resolve PIDs
- Provide more info

The UI in a glance

https://pidmr.argo.grnet.gr



Single-Page-Application (SPA) User Interface (UI)

REACT app

Friendly to the end user

1st User of the API

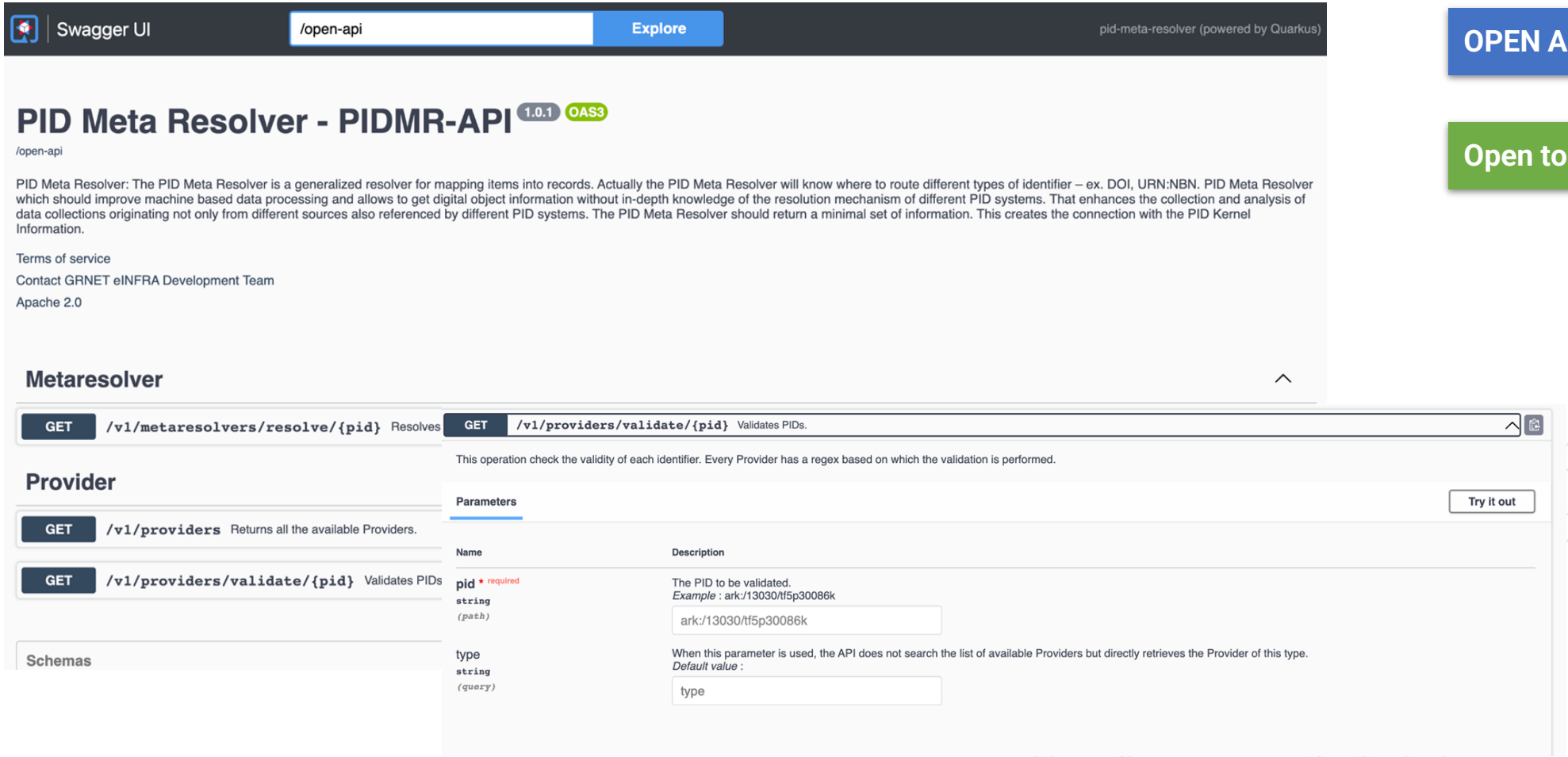
The API in a glance

https://api.pidmr.argo.grnet.gr

API based on Quarkus

OPEN APi v 3

Open to Users



Providers Currently supported

Support

URN-NBN-DE URN-NBN-FI

zbMATH
the first resource for mathematics

More to come …

Please select an identifier example for testing:

- ○ ARK: ark:/67531/metapth346793
- ○ arXiv: arXiv:2302.00338

DOI

- ○ DOI ID: 10.15167/tomasi-federico_phd2019-03-14
- ○ DOI Canonical: https://doi.org/10.15167/tomasi-federico_phd2019-03-14
- ○ Handle: 21.T11148/7317d72eb37156ced029
- ○ ISLRN: 261-537-224-628-2

ORCID

- ○ ORCID ID: 0000-0001-9547-1582
- ○ ORCID Canonical: https://orcid.org/0000-0001-9547-1582
- ○ ROR: 00cd95c65
- ○ SWHID: swh:1:cnt:94a9ed024d3859793618152ea559a168bbcbb5e2
- ○ DE-URN: urn:nbn:de:hbz:6-85659524771
- ○ FI-URN: urn:nbn:fi-fe2021080942632

zbMATH

- ○ Author ID: bingert.sven
- ○ swMATH ID: 32212
- ○ Publication ID: 7800006

Zenodo

With single-part resource

- ○ zenodo PID: 10.5281/zenodo.8056361

With multi-part resource

- ○ zenodo PID: 10.5281/zenodo.8246990

Hands On and Live Demo

Join us during the Market Place Session 11-12 o’clock !

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faircore4eosc.eu
Twitter: @FAIRCORE4EOSC
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Youtube: FAIRCORE4EOSC

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Market Place Live Demo

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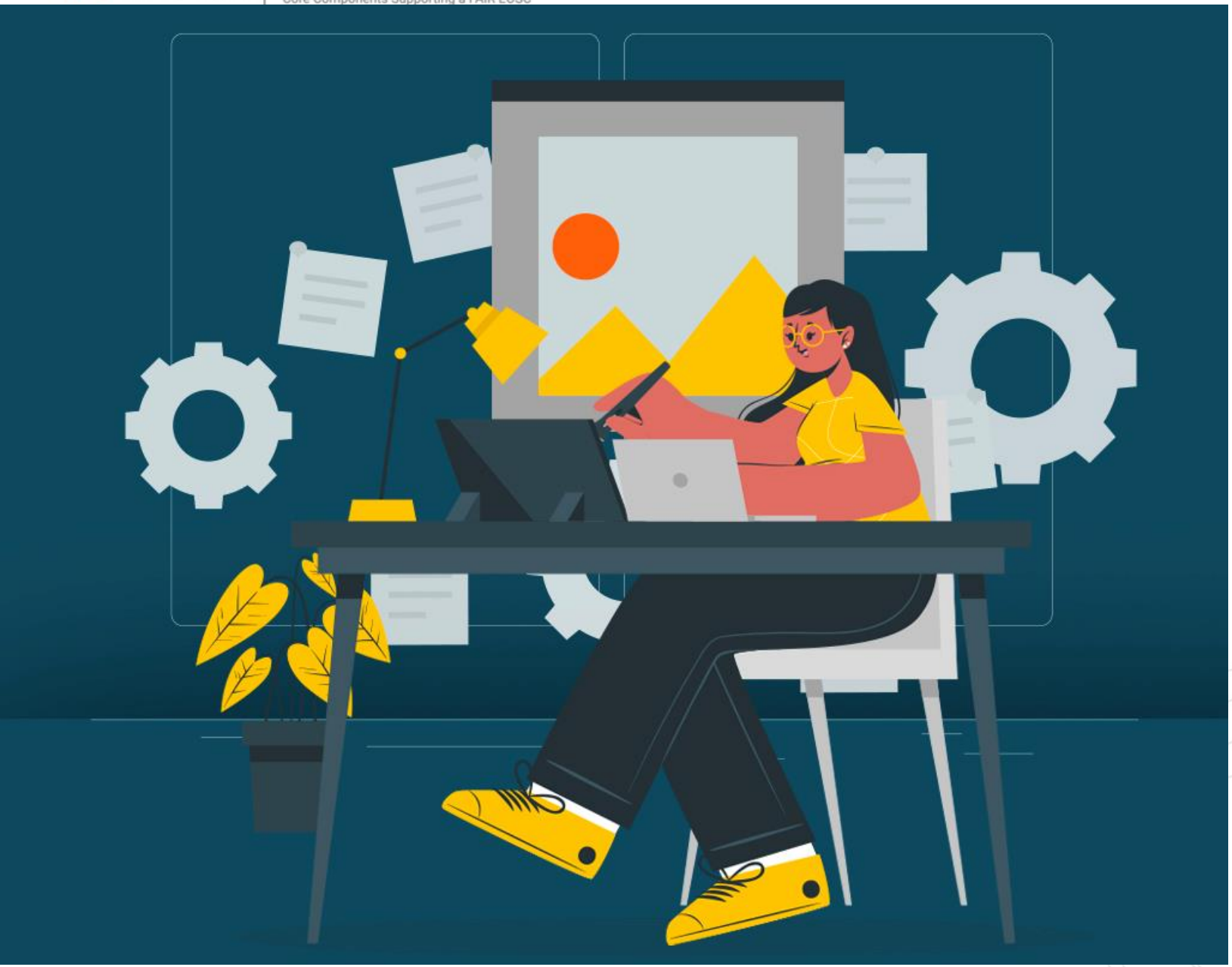

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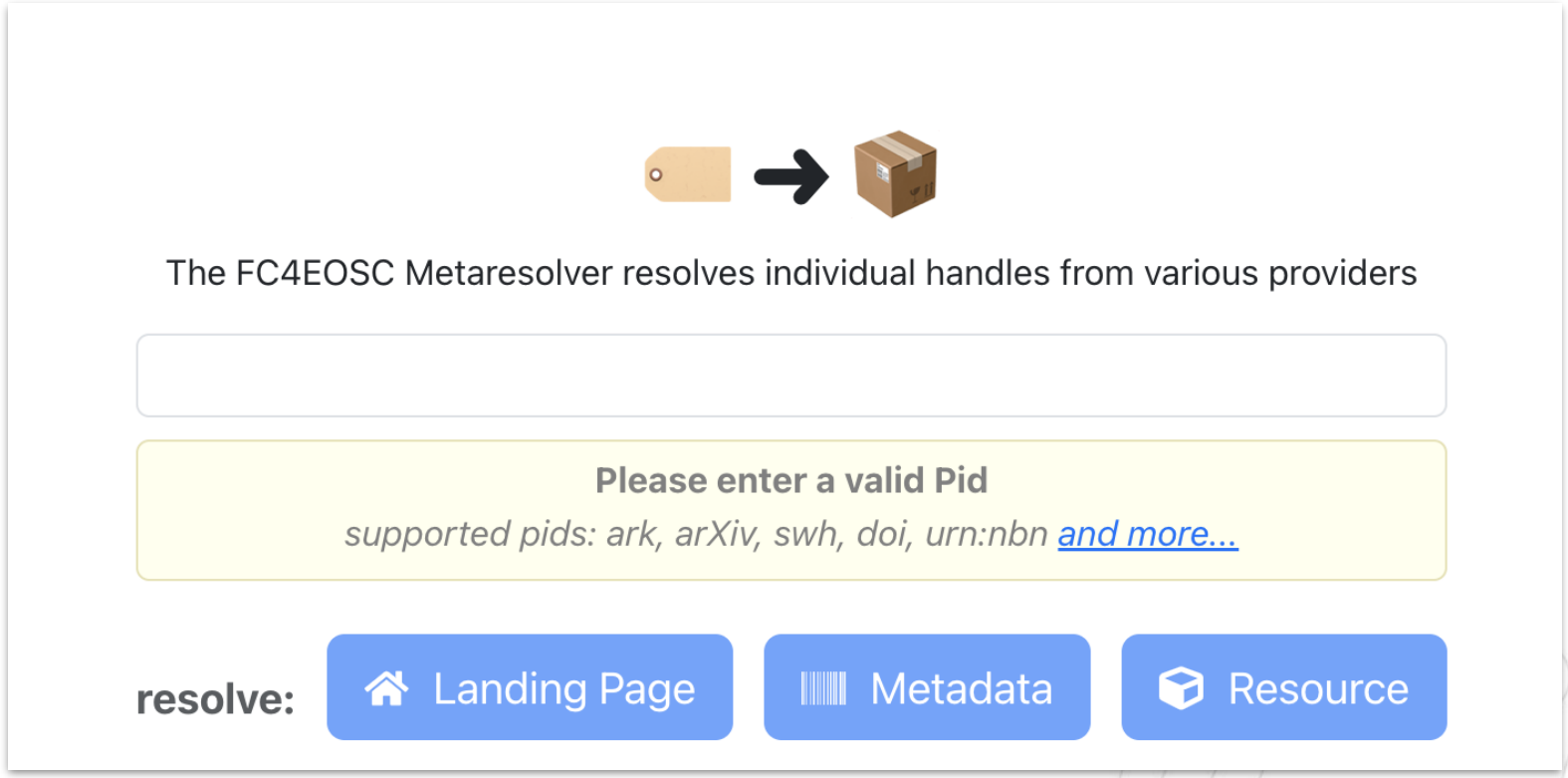

React

TS

SINGLE-PAGE APPLICATION

PID Meta Resolver UI

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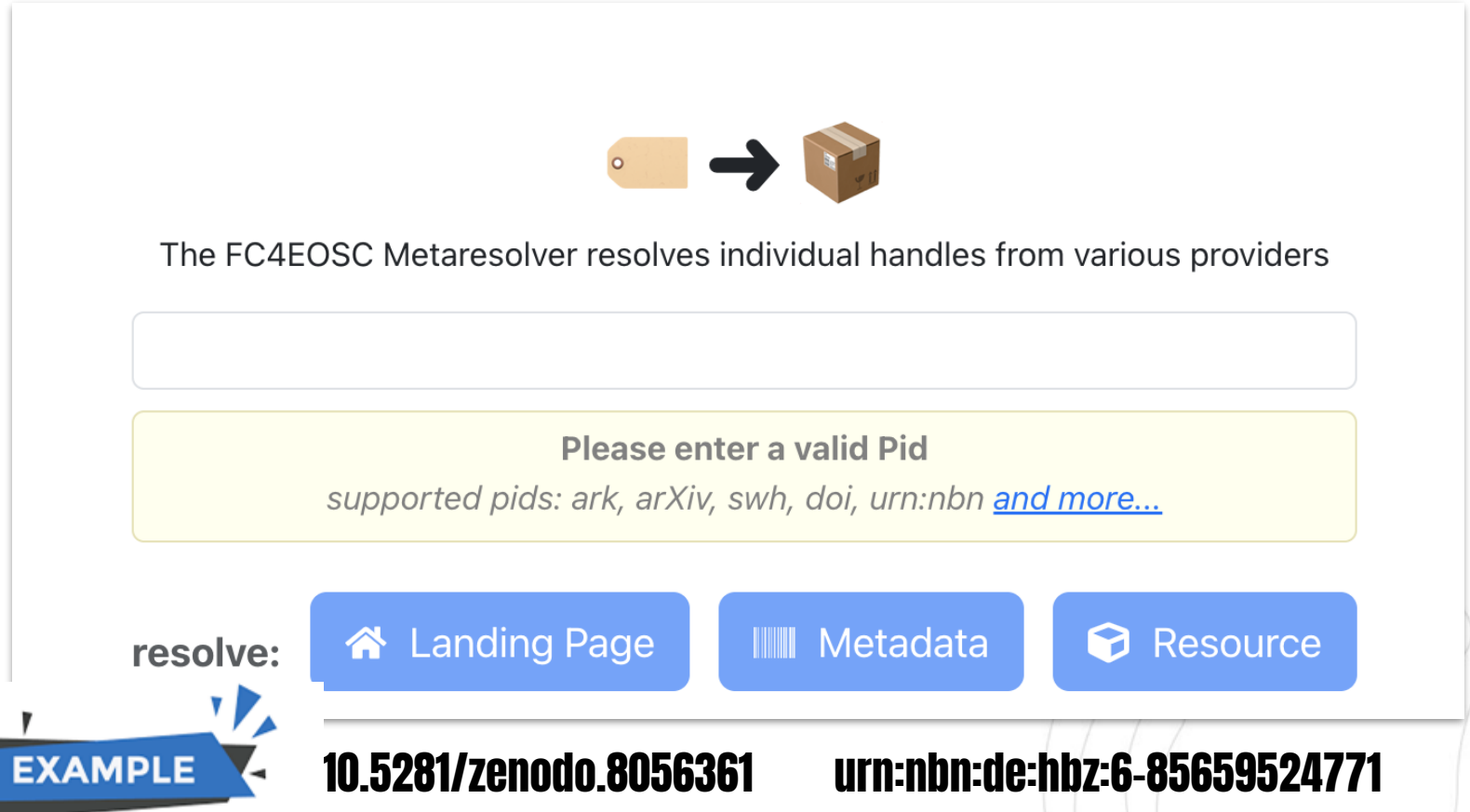

EXAMPLE

10.5281/zenodo.8056361 urn:nbn:de:hbz:6-85659524771

PID Meta Resolver UI

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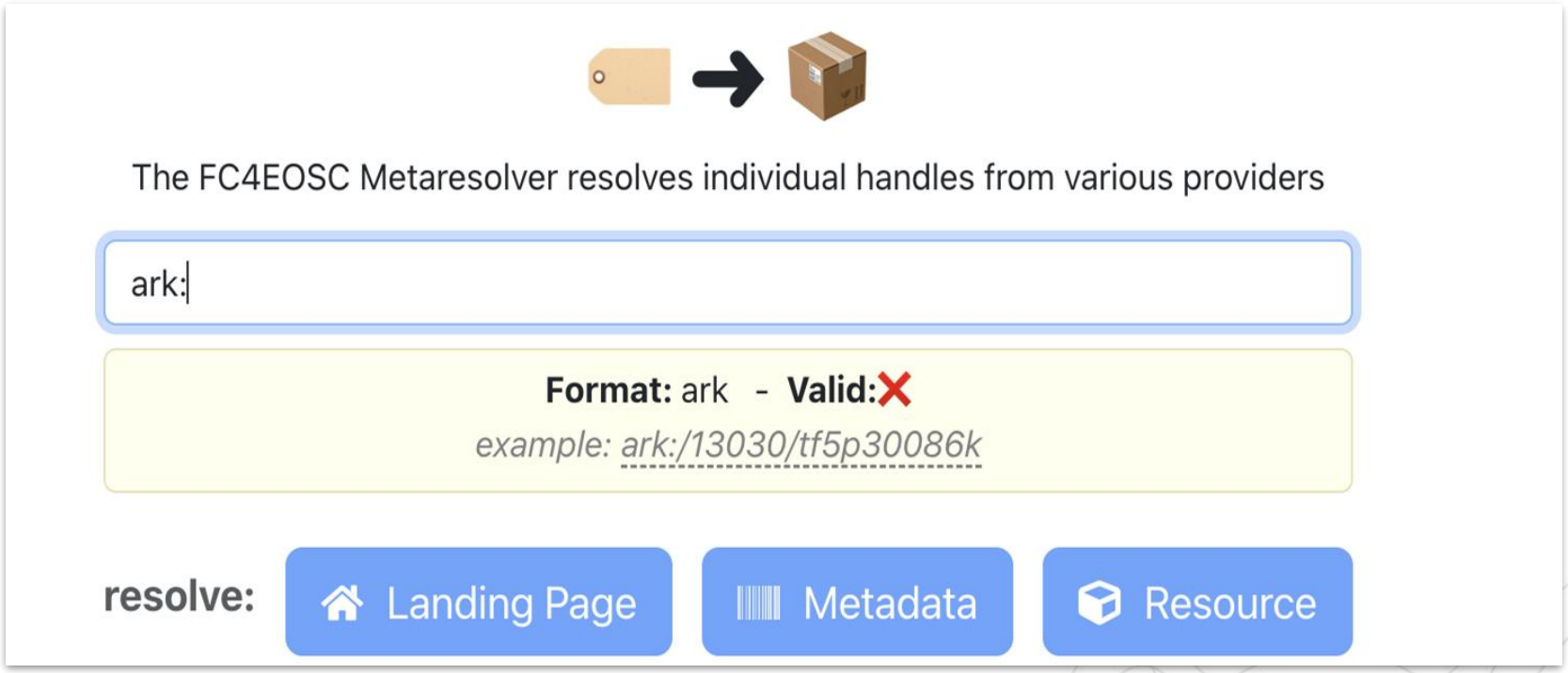

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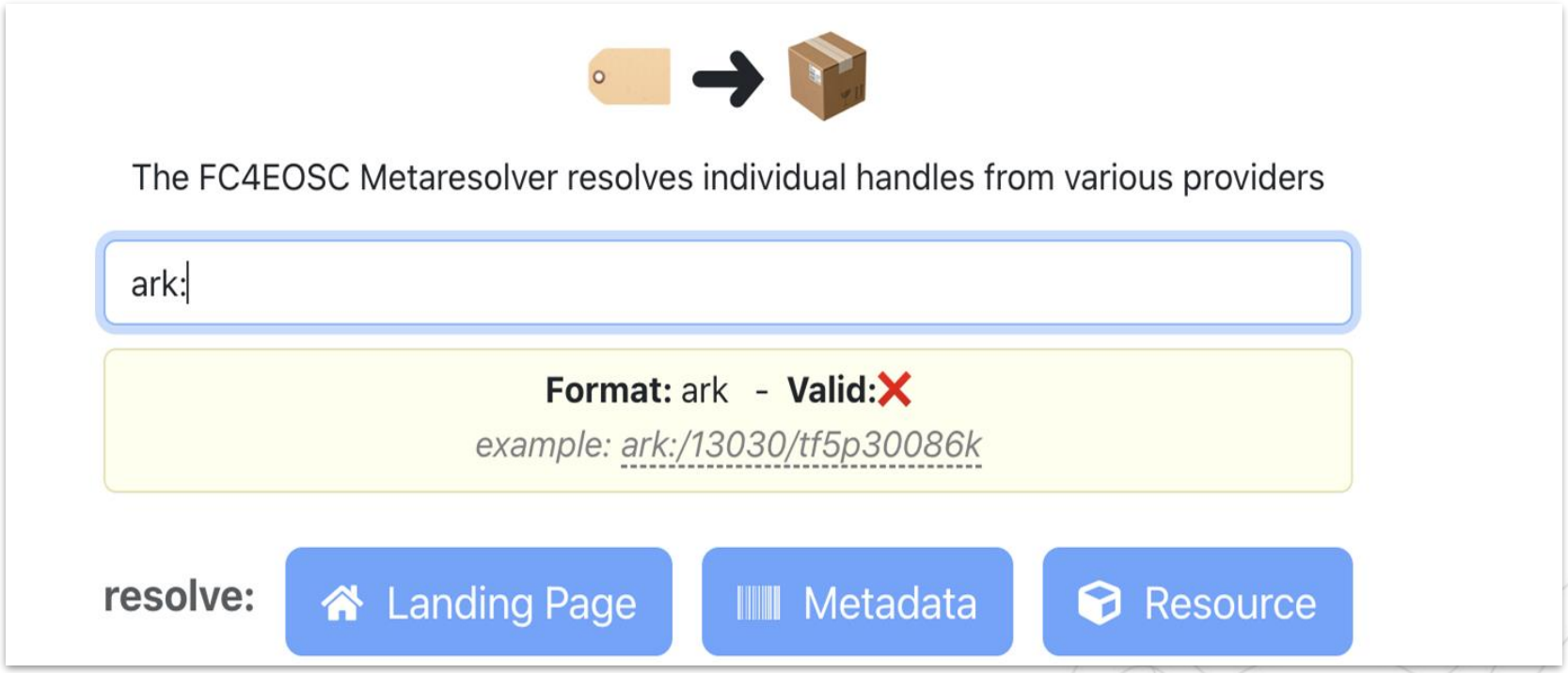

ark:/13030/tf5p30086k

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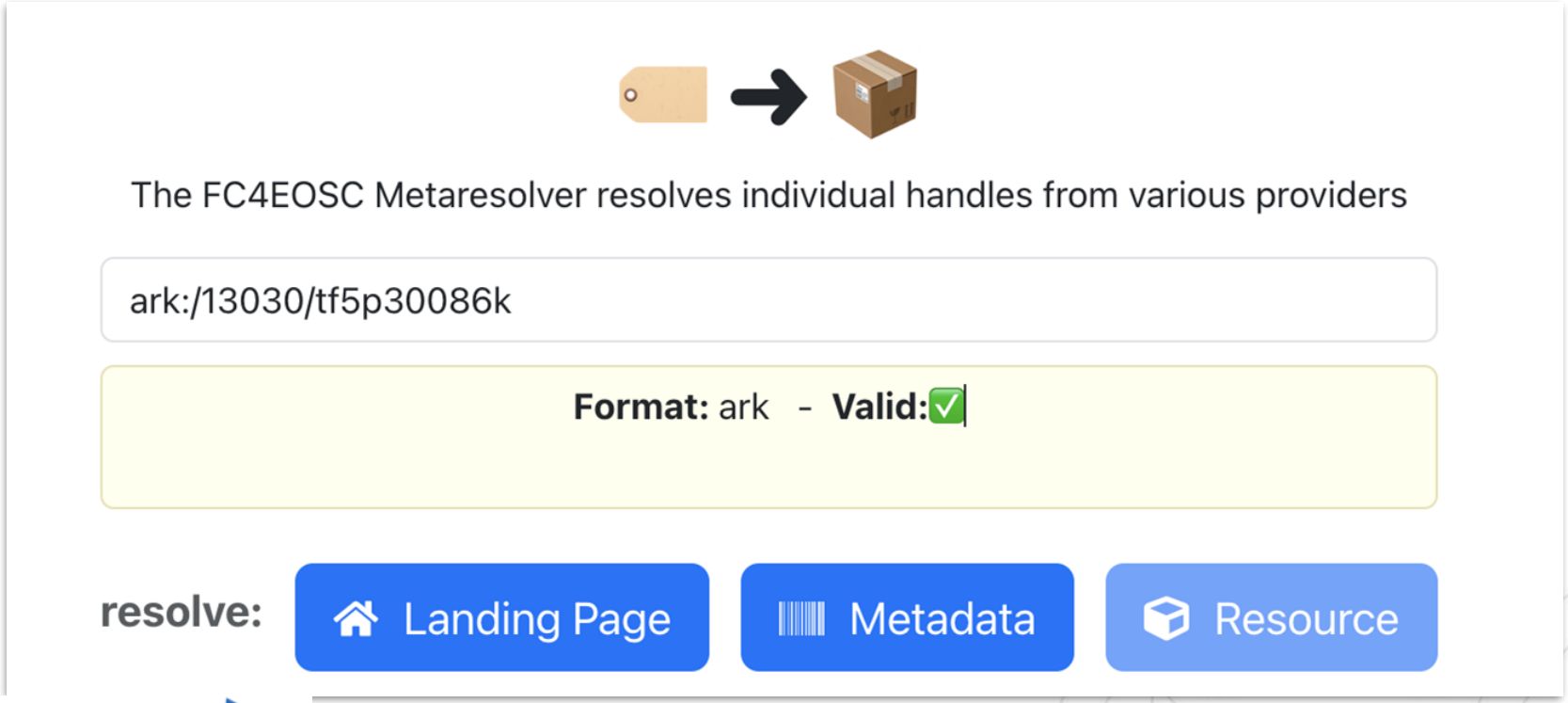

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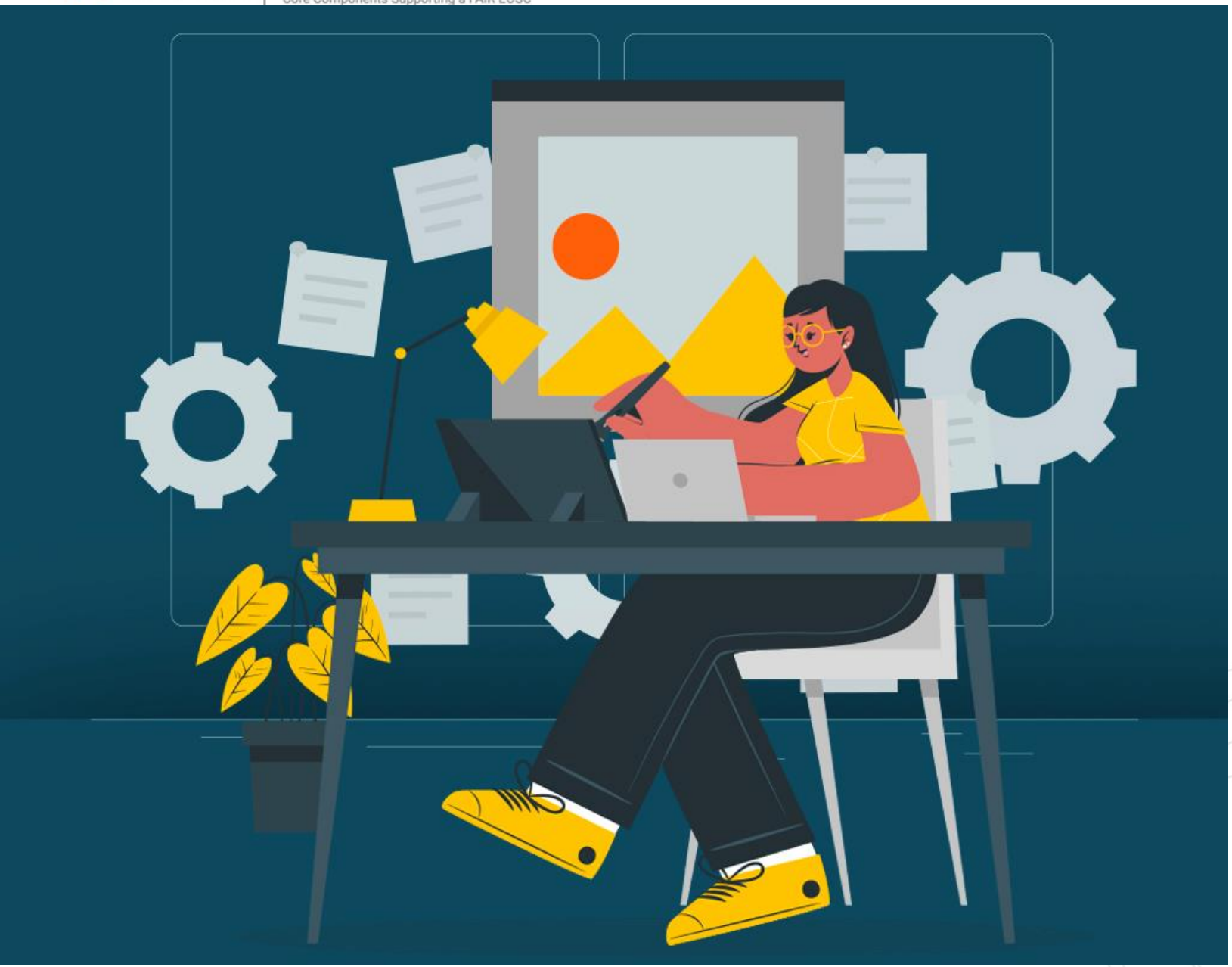
LIVE DEMO



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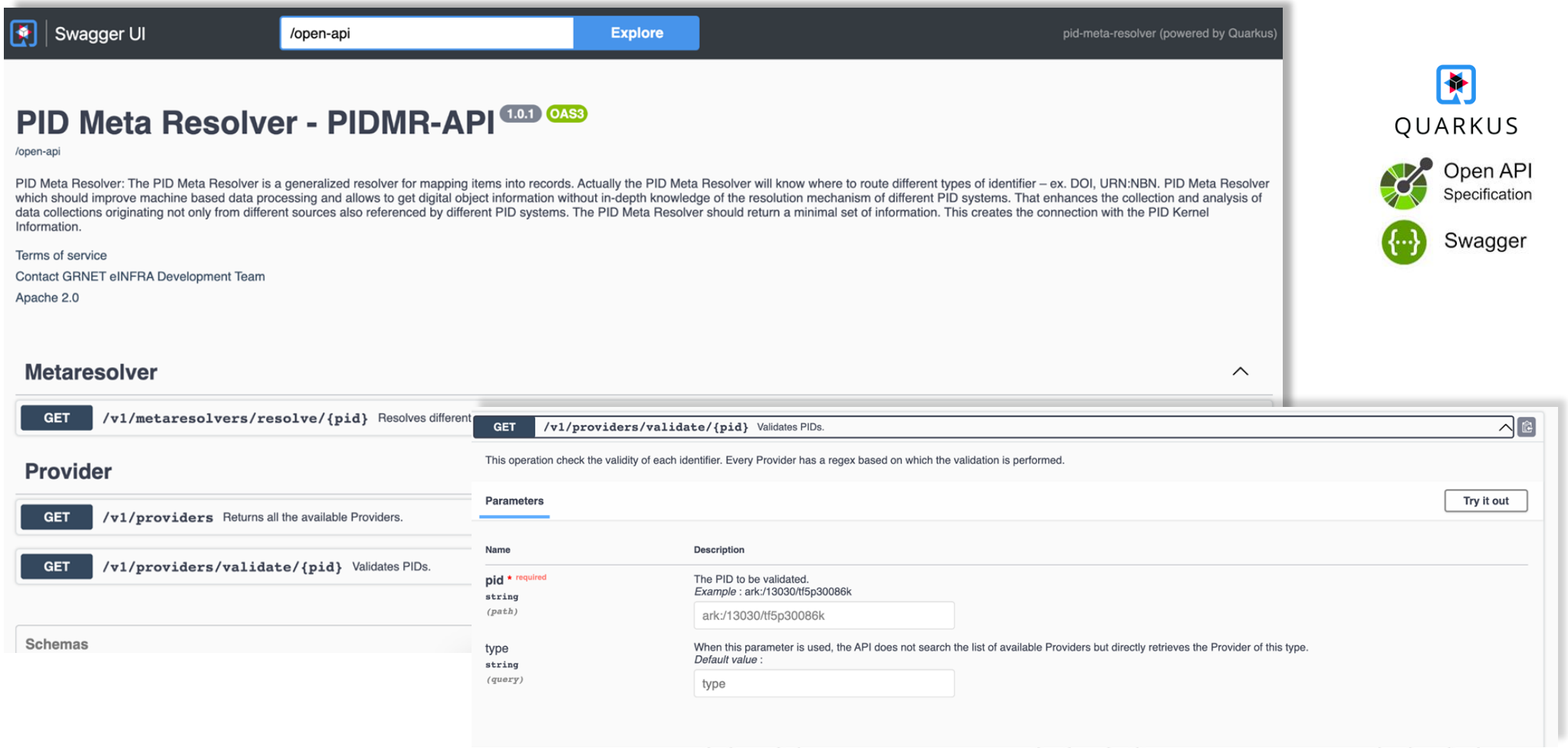


QUARKUS
Open API Specification
Swagger

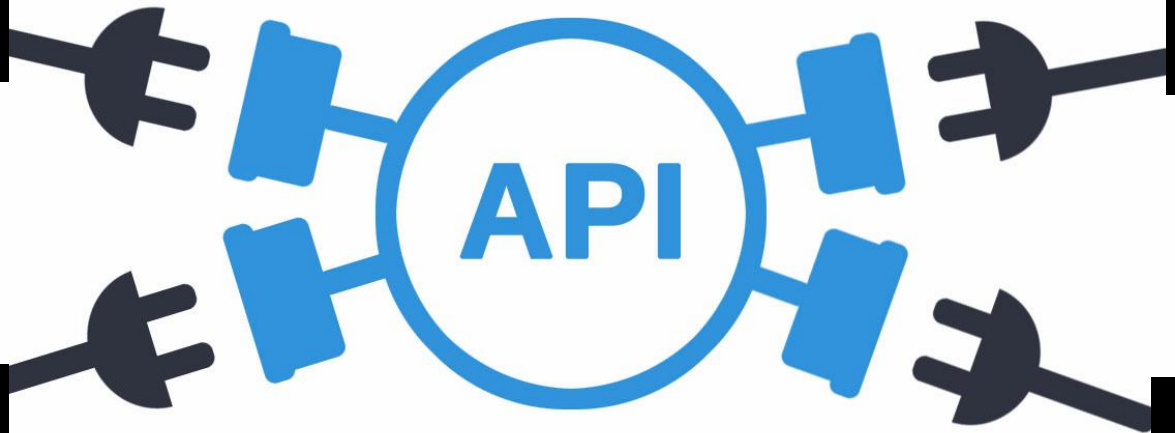
How you can use Meta Resolver

/v1/providers/identify

Identify the type of Persistent Identifier

/v1/metaresolvers/resolve

Resolve the PID to the selected PID mode (metadata, resource, landing page).
The 'redirect' parameter redirects you to the resolving page.



PIDMR
EOSC PID
Meta Resolver

/v1/providers/validate

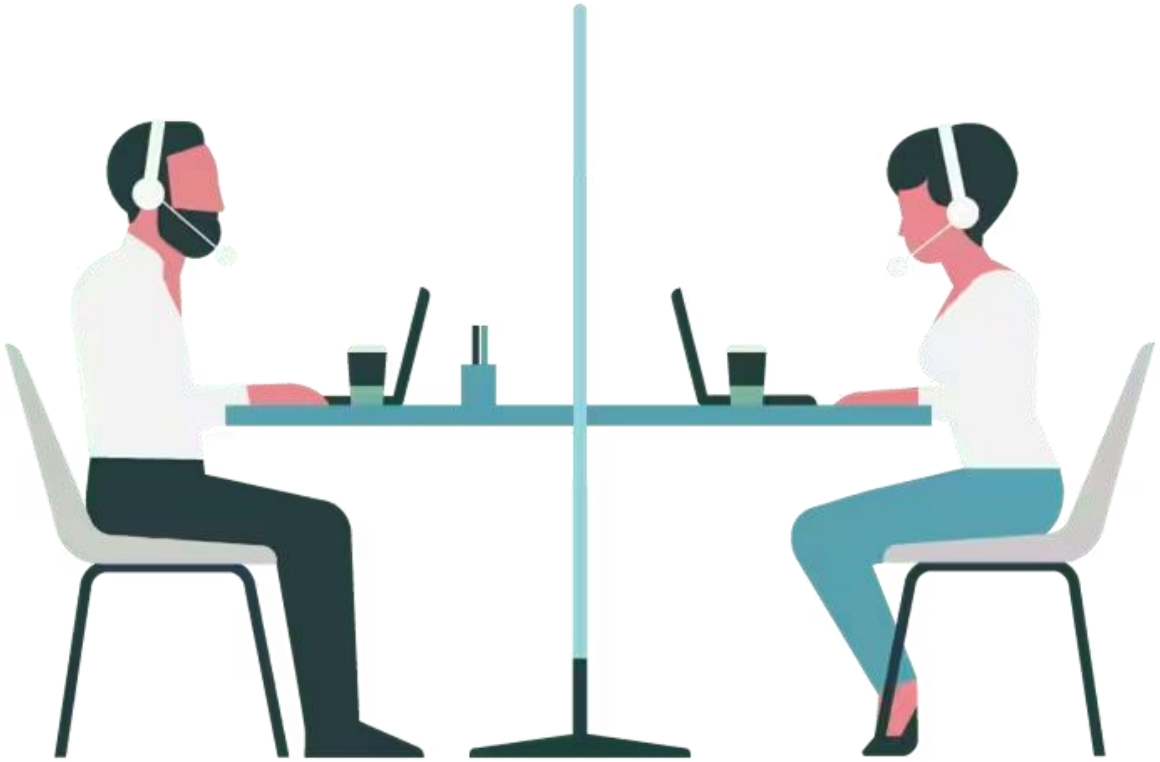
Validate the Persistent Identifier

/v1/providers

This operation returns the list of Providers that the API supports and the modes supported by each provider (metadata, resource, landing page).


LIVE DEMO

PID Provider



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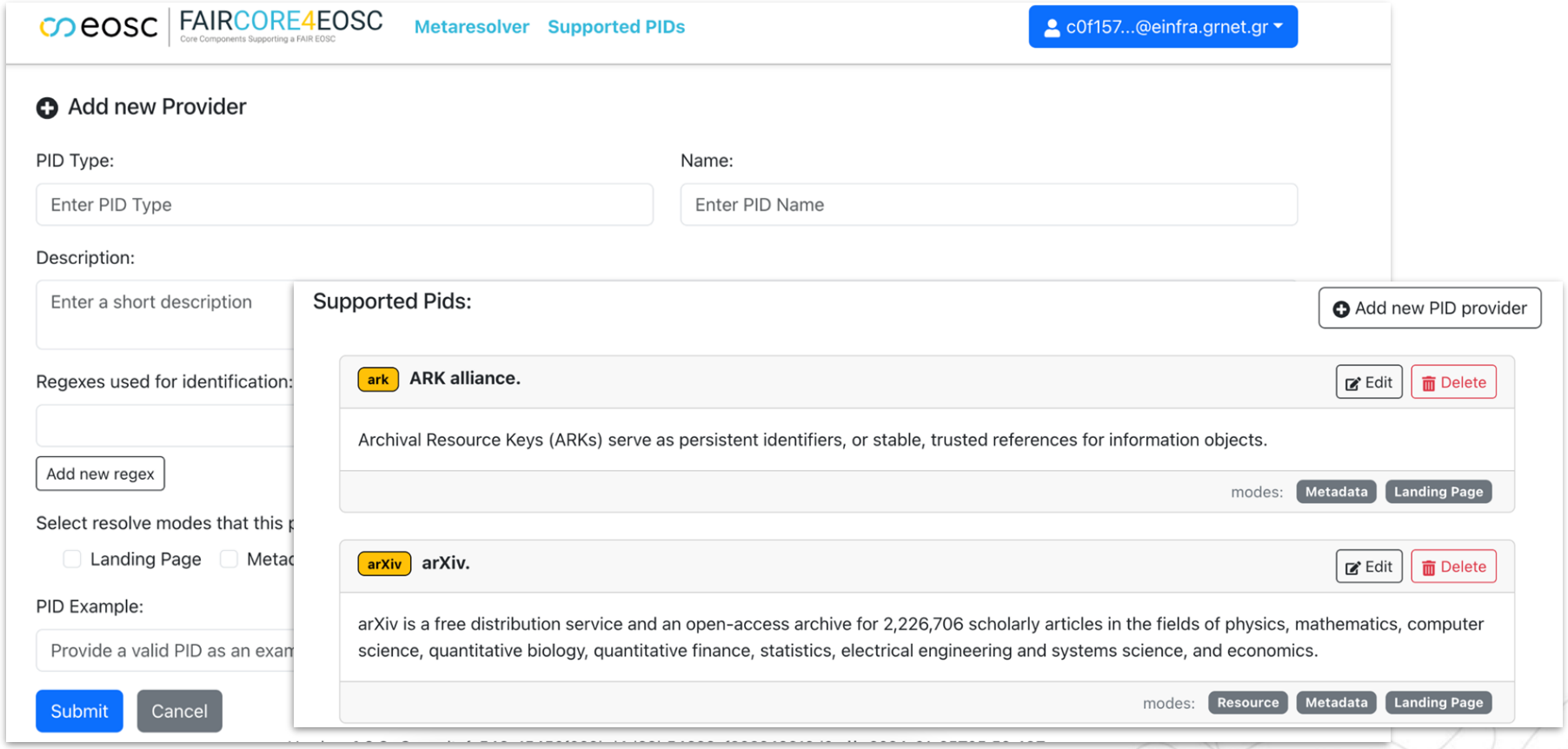
eosc FAIRCORE4EOSC
Core Components Supporting a FAIR EOSC
Metaresolver
Supported PIDs
c0f157...@einfra.grnet.gr
Add new Provider
PID Type:
Enter PID Type
Name:
Enter PID Name
Description:
Enter a short description
Regexes used for identification:
Add new regex
Select resolve modes that this p
Landing Page
Metac
PID Example:
Provide a valid PID as an exam
Submit
Cancel
Supported Pids:
Add new PID provider
ark
ARK alliance.
Edit
Delete
Archival Resource Keys (ARKs) serve as persistent identifiers, or stable, trusted references for information objects.
modes:
Metadata
Landing Page
arXiv
arXiv.
Edit
Delete
arXiv is a free distribution service and an open-access archive for 2,226,706 scholarly articles in the fields of physics, mathematics, computer science, quantitative biology, quantitative finance, statistics, electrical engineering and systems science, and economics.
modes:
Resource
Metadata
Landing Page


LIVE DEMO

Test and send us your feedback

Test the service

https://pidmr.argo.grnet.gr

Send Feedback

https://forms.gle/2X8J7dBy1EBjUhJe9

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LinkedIn: company/faircore4eosc
Youtube: FAIRCORE4EOSC

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Behind the scenes

Performance

All different components support

- **High availability**
- **Scalability**

DONE

Performance tests to backend

DONE

Performance tests to API