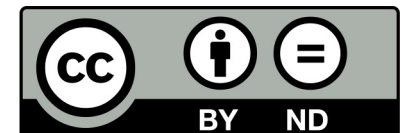


EOSC Accounting for Research Products

Dimitris Pierrakos, OpenAIRE AMKE

The EOSC Future project is co-funded by the
European Union Horizon Programme call
INFRAEOSC-03-2020, Grant Agreement 101017536





Overview

- Introduction to Usage Statistics
- EOSC Research Product Accounting
- OpenAIRE UsageCounts Service
- Future Developments



What are Usage Statistics

- Usage statistics are based on the processing of usage events.
- Usage events are triggered by accessing digital objects in content providers like repositories, e-journals and CRISs.
- A usage event could be:
 - A metadata **view** of the digital object
 - A full text **download**



Why Usage Statistics

- Usage Statistics are important not only to content providers but also to publishers, aggregators and funders.
- Usage Statistics could be used for reporting to funding and accreditation agencies.
- Usage statistics can play a role in driving bibliographic instruction, internal marketing and the development of the provider's website.



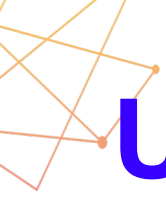
Why Usage Statistics (cont)

- A logical choice to supplement citation counts.
- Digital readership information can be easily and routinely collected.
- Bibliometric indicators do not show the usage of a published work by non-authors.
- Usage-based statistics for academic publications give a better understating of the usage patterns of documents and can be more recent than other bibliometric indicators.



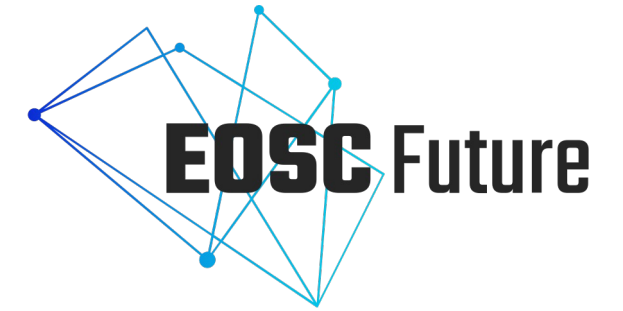
Why Usage Statistics (cont)

- On the data-provider level, it can serve repository managers and hosting institutions as a tool to evaluate the success of the publication platform.
- On the individual item level, it can demonstrate popular publications to authors and readers. In addition to other traditional (e.g. citation counts) and alternative metrics (e.g. mentions, recommendations) it can inform funding authorities in research evaluation processes.
- Usage statistics on the item level can reflect relevance of a particular research output, of topics, of data sources over the course of time and up to the present, e.g. they are an important indicator to analyze trends.



Usage Statistics Standards

- COUNTER (*Counting Online Usage of Networked Electronic Resources*).
- COUNTER is a non-profit organization supported by a global community of library, publisher and vendor members, who contribute to the development of the Code of Practice through working groups and outreach.
- COUNTER CoP is the international standard used by librarians, publishers, and other content providers for reporting usage statistics for electronic resources in a standardized way.
- COUNTER's standardized usage reports allow providers to:
 - Compare usage easily across different publisher platforms & vendors and reports/formats are standard
 - Assess user activity, in relationship to their content & improve user experience
 - Inform renewal and new purchasing decisions
 - Justify budget spend to their stakeholders
 - Inform faculty/power-users about the value & use of current library resources
 - Derive “cost-per-use” for content



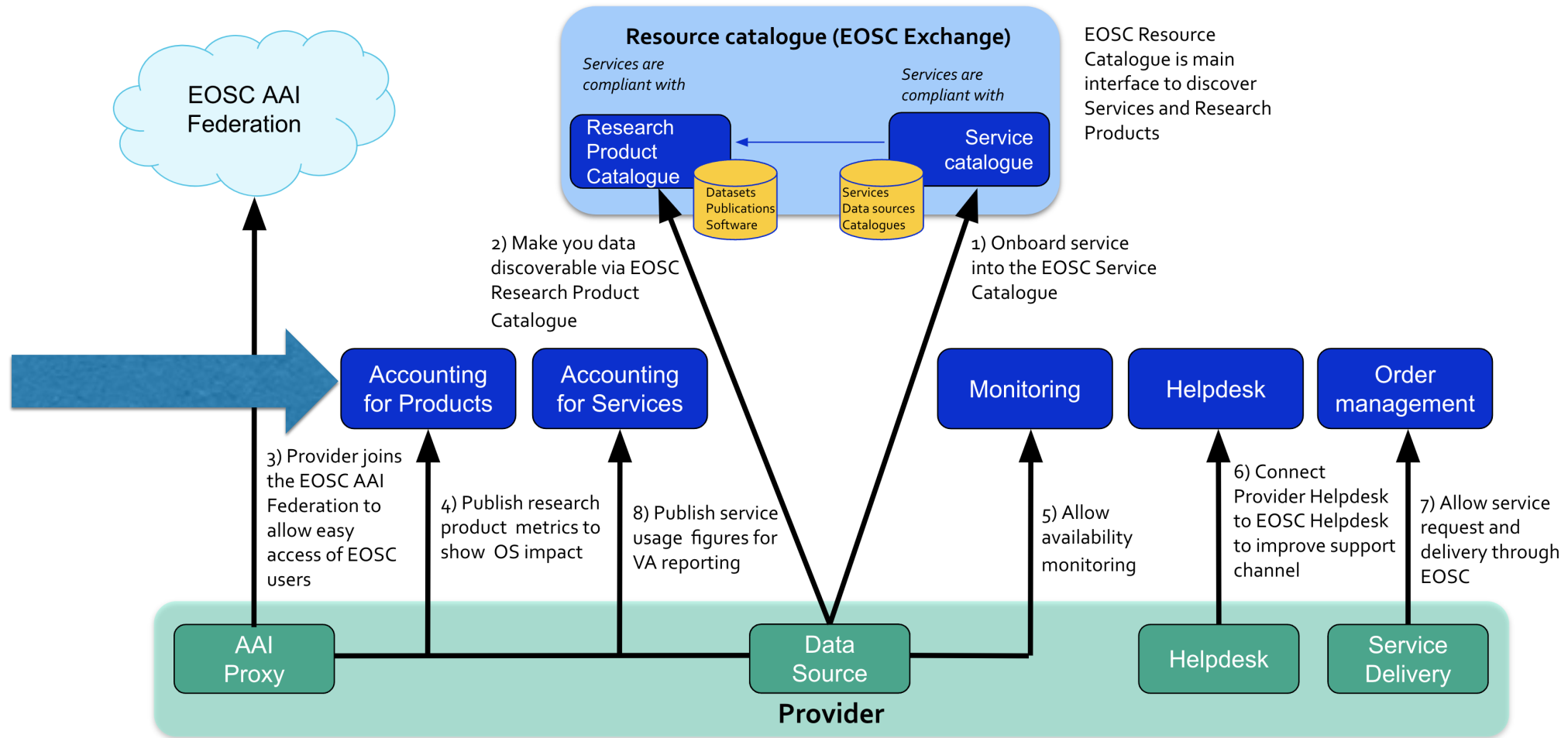
EOSC Accounting for Research Products



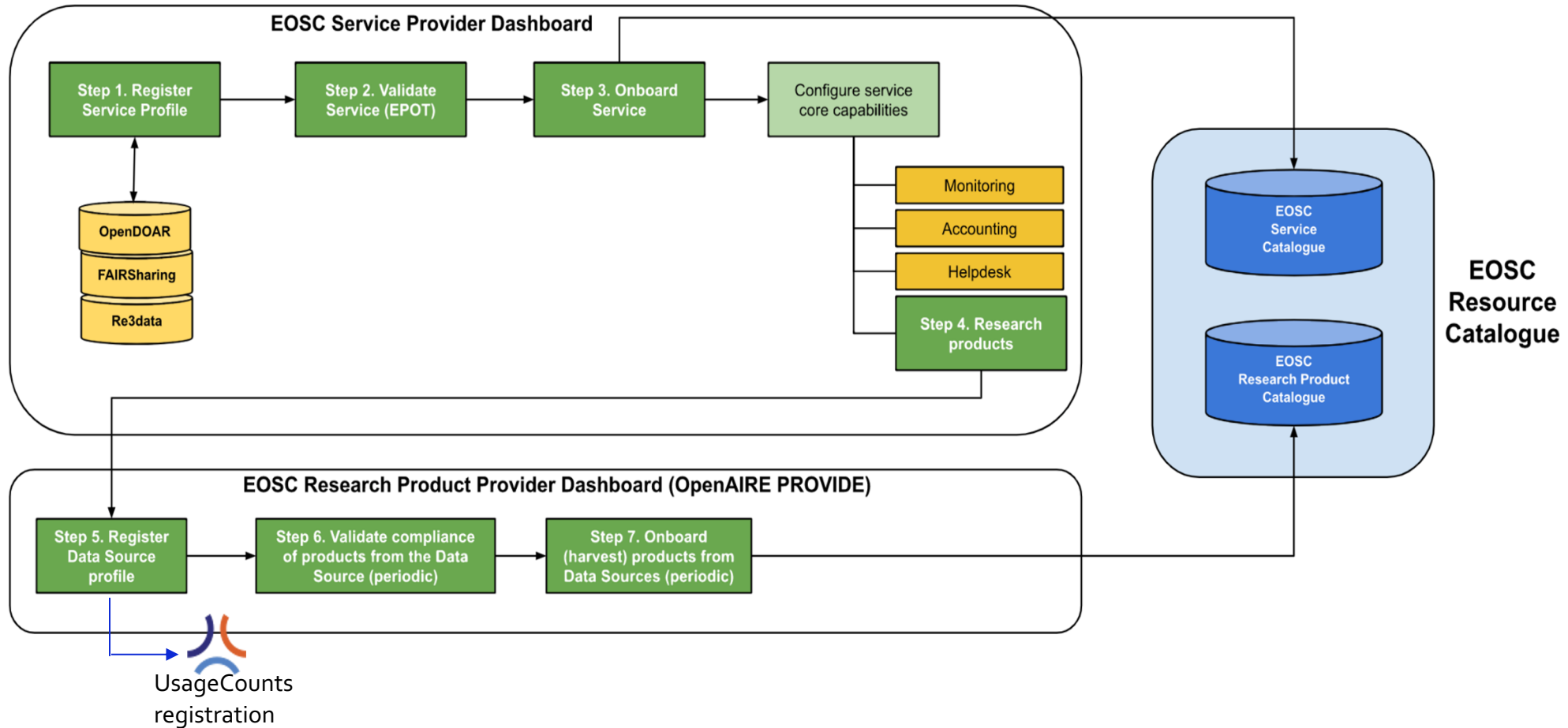
EOSC Accounting for Research Products

- The Usage Statistics service for EOSC
- The service aggregates **usage indicators** for different types of EOSC **research products**, like datasets, articles, books, etc.

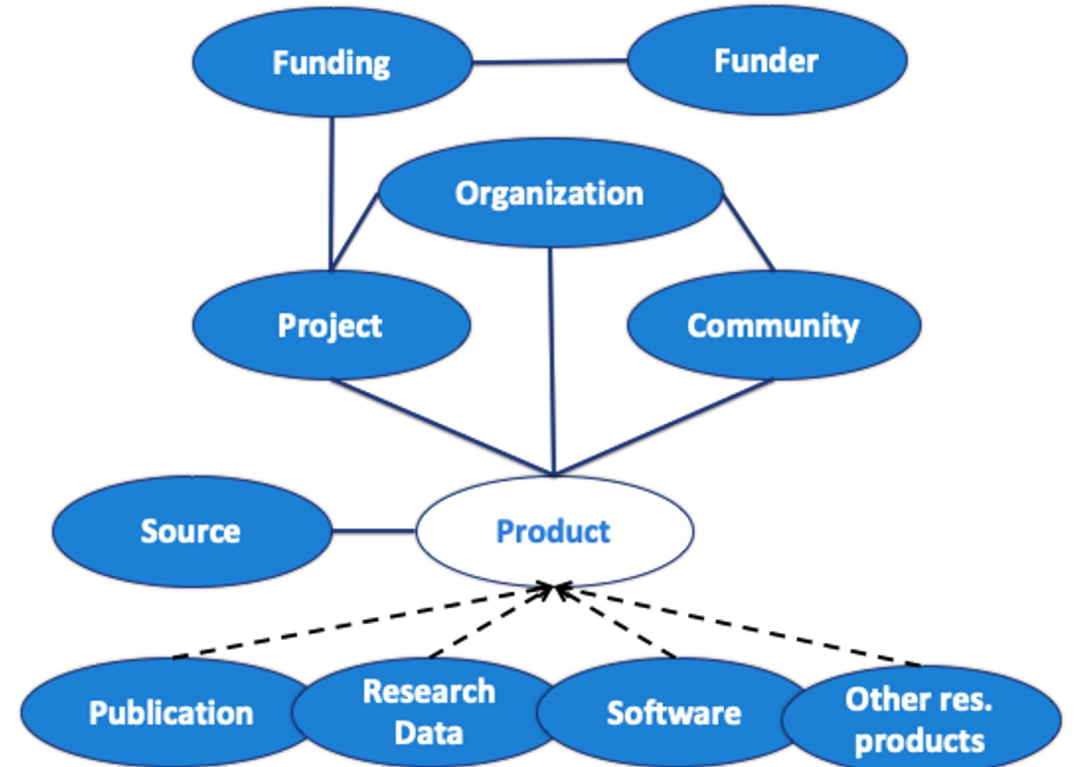
The Service as a part of EOSC



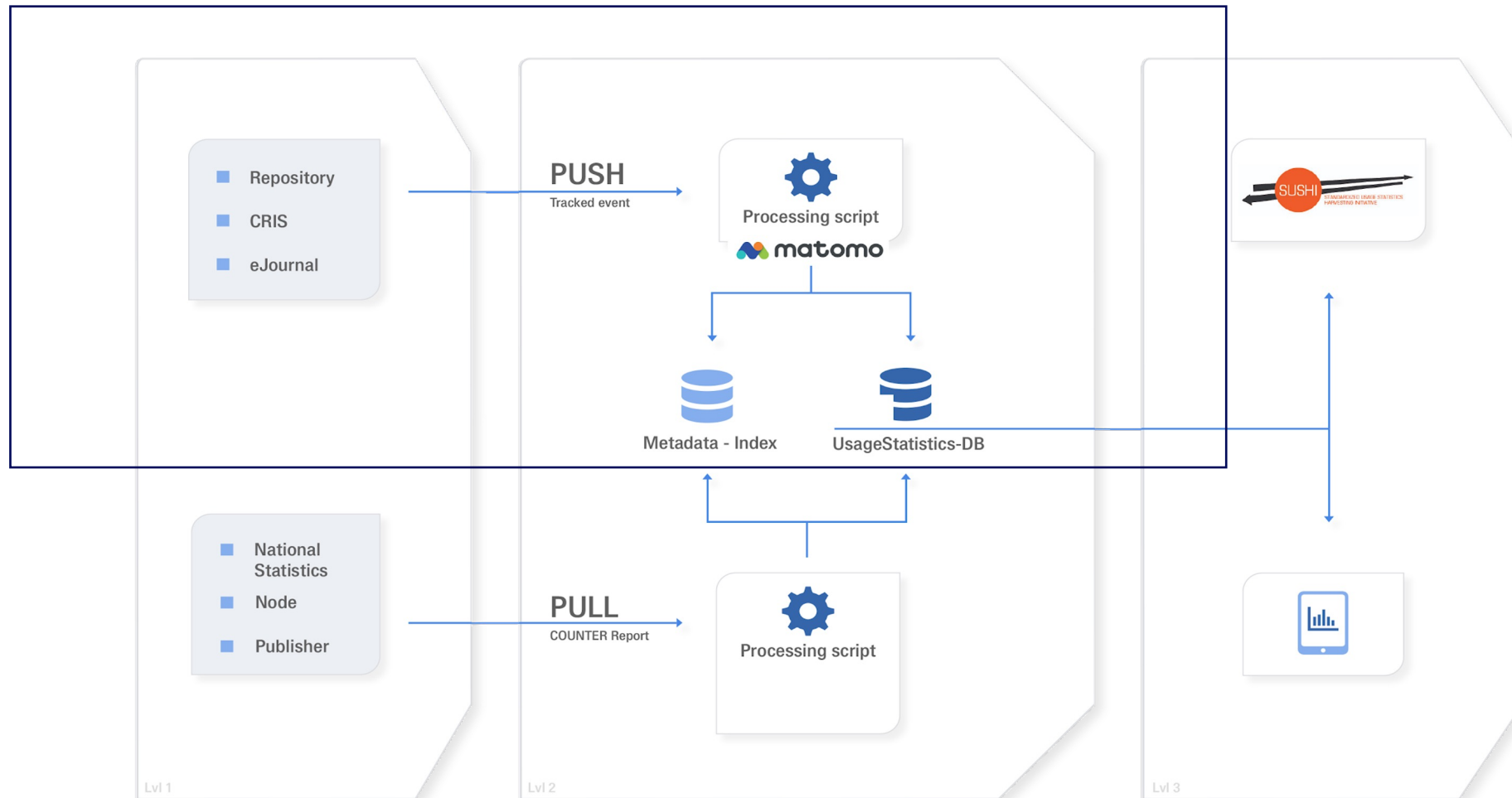
UsageCounts in EOSC onboarding process



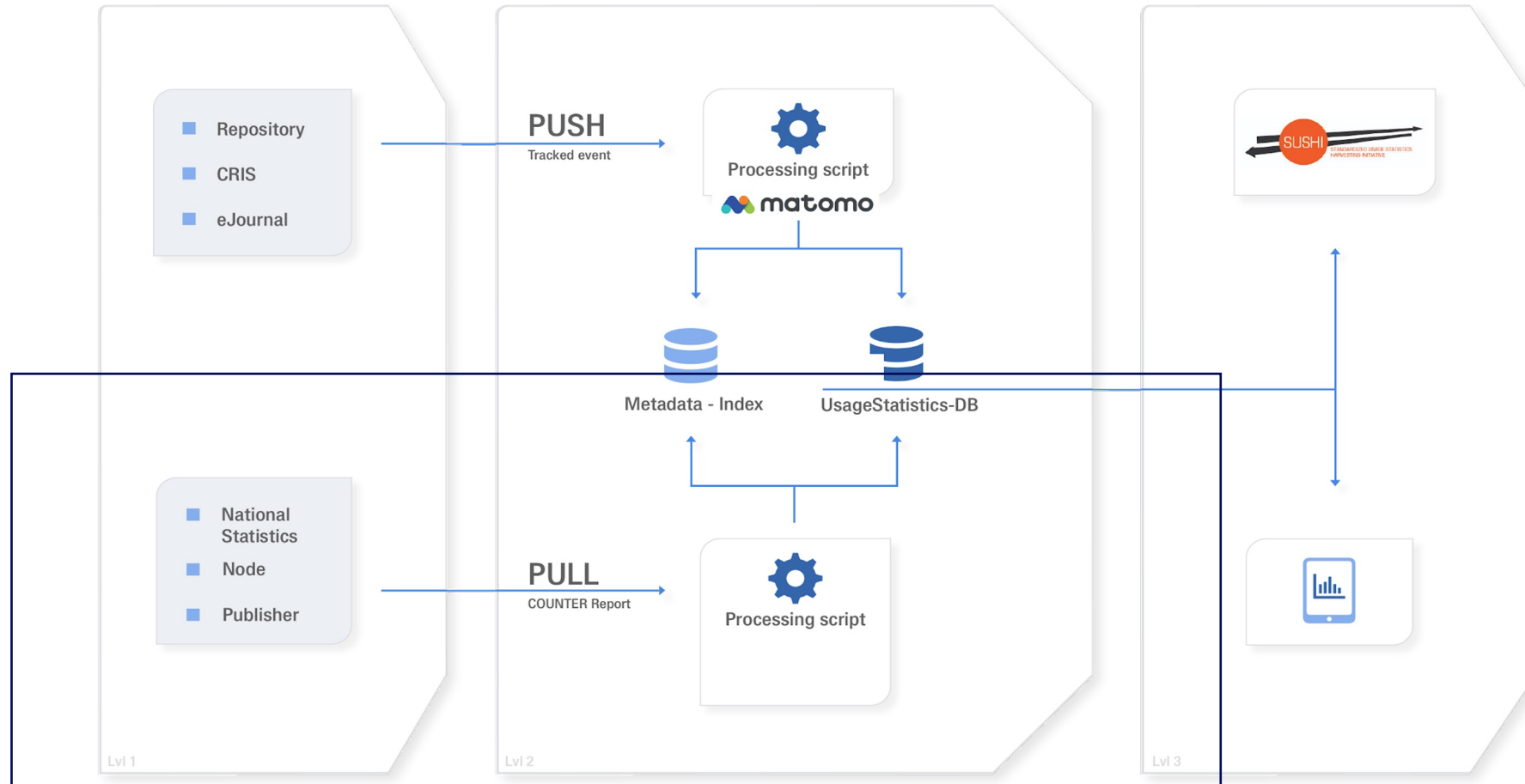
An **open metadata** research graph of interlinked **scientific products**, with **access rights information**, linked to **funding information** and **research communities**



Architecture and Workflows for UsageCounts



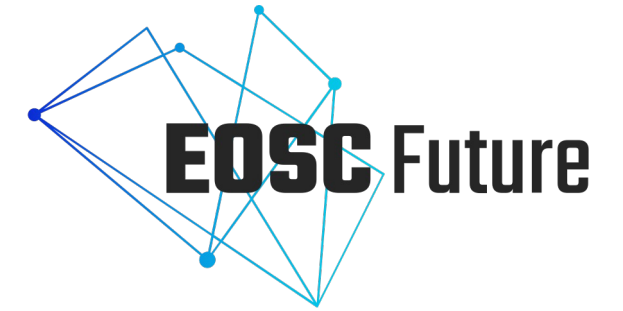
Architecture and Workflows for UsageCounts





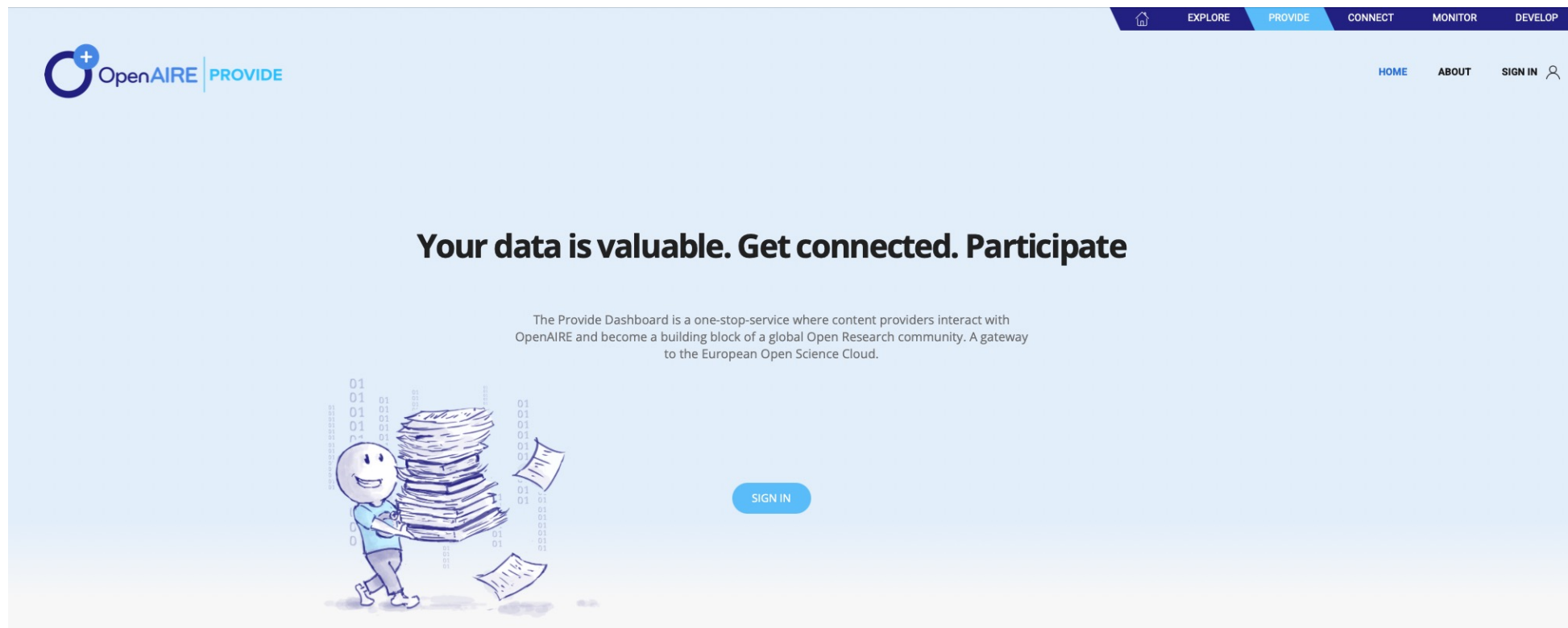
UsageCounts Service Features

- Tracking of usage (PUSH)/ collecting COUNTER reports (Pull).
- Anonymization of IPs.
- Metadata de-duplication enables accumulation of usage for same research outputs.
- COUNTER Code of Practice compatibility to provide standard based usage statistics.
- Indicators that complements other (traditional and alternative) bibliometric indicators to provide a comprehensive and recent view of the impact of academic resources.

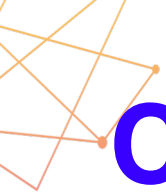


EOSC Accounting for Research Products Engagement

Content Provider Dashboard - Start Page







The screenshot shows the OpenAIRE PROVIDE dashboard start page. At the top right, there is a navigation bar with links for HOME, ABOUT, SIGN IN, and a user profile icon. The main header features the OpenAIRE PROVIDE logo. The central message reads: "Your data is valuable. Get connected. Participate". Below this, a paragraph explains: "The Provide Dashboard is a one-stop-service where content providers interact with OpenAIRE and become a building block of a global Open Research community. A gateway to the European Open Science Cloud." To the left of this text is an illustration of a smiling character carrying a large stack of papers, with binary code (0s and 1s) floating around. A blue "SIGN IN" button is positioned to the right of the illustration.






Content Provider Dashboard - Start Page

Register your datasource

 Literature repository	 Data repository	 Journal
 Aggregator		

Coming soon

		
---	---	---

Enable Metrics for selected Datasource

AHEAD

DASHBOARD UPDATE AGREGGATION HISTORY ENRICHMENTS USAGE STATISTICS

Metrics for AHEAD

You don't have metrics enabled for this repository yet. Would you like to enable them?

Usage stats enable workflow

Once you select to enable metrics for your repository, the following steps need to be performed:

On your side

1. Download the tracking code for your repository platform
2. Configure the tracking code according to the instructions
3. Deploy the tracking code in your repository platform

On the OpenAIRE's side

4. Validate the installation of the tracking code and inform the repository manager accordingly

For more details about the workflows and tools please consult the ["Guidelines for Collecting Usage Events and Provision of Usage Statistics"](#).

Enable Metrics

Configure Metrics for selected Datasource



ACMAC

DASHBOARD

UPDATE

AGREGGATION HISTORY

ENRICHMENTS

USAGE STATISTICS

Usage Statistics Configuration & Software Details for ACMAC

OpenAIRE's usage statistic service uses the *Matomo Open Source Analytics platform* (matomo.org) to track usage activity. When *metrics* are enabled for a repository, two unique identifiers are generated - a matomo-ID that associates the repository with its usage events in Matomo and an authentication-ID that allows to track usage activity on the Matomo platform. Metadata views and item downloads are tracked and automatically sent to Matomo. Statistics are generated using the COUNTER Code of practice directives.

OpenAIRE's usage statistics service tracking code exploits Matomo's API. In order to make the tracking of usage events from repositories more robust, it was necessary to implement repository platform specific patches and plugins starting with DSpace and EPrints. The code is maintained on Github:

- as a patch for various versions of DSpace (<https://github.com/openaire/OpenAIRE-Piwik-DSpace>)
- as an Eprints plugin for version 3 (<https://github.com/openaire/EPrints-OAPiwik>)
- as a python script for all other cases (<https://github.com/openaire/Generic-Matomo-Tracker>)

To configure your repository to allow tracking in Matomo platform, please change the configuration files with the following parameters and values, generated for your site:

MATOMOID
229

AUTHENTICATIONTOKEN
12345

Details for the configuration files are given in the README of the tracking code.

NOTE - You will be informed by e-mail that the installation of the tracking code has been validated and when the usage statistics will be available.



eoscfuture.eu



@EOSCFuture

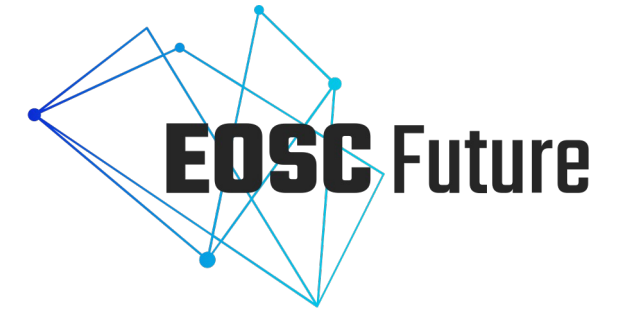


EOSCFuture



Collecting (Raw) Usage Events

UMINHO PILOT	2022-07-12	ALL VISITS	NEW UPDATE: MATOMO 4.10.1
Visits Log			
Tuesday, July 12, 2022 - 18:20:00 IP: 186.195.100.9 Jaraguá do Sul Google Scholar Provider: Gigabytetelecom		5 Actions - 23 min 42s Universidade do Minho: A prevalência da Diabetes Mellitus e obesidade na população adulta da Guiné-Bissau: um estudo piloto repositorium.sdum.uminho.pt/handle/1822/58035 repositorium.sdum.uminho.pt/bitstream/1822/58035/1/Carvalho AC. A prevalência da Diabetes Mellitus.pdf Universidade do Minho: A prevalência da Diabetes Mellitus e obesidade na população adulta da Guiné-Bissau: um estudo piloto repositorium.sdum.uminho.pt/handle/1822/58035	View visitor profile
Tuesday, July 12, 2022 - 18:43:33 IP: 207.188.170.2 Lleida Website: dialnet.unirioja.es Provider: Unknown		3 Actions - 6s Universidade do Minho: Livro de atas do III Congresso Internacional sobre Culturas: Interfaces da Lusofonia repositorium.sdum.uminho.pt/handle/1822/60677 /bitstream/1822/60677/4/2019_Martins_Macedo_LivroDeAtas-InterfacesDaLusofonia.pdf	View visitor profile
Tuesday, July 12, 2022 - 18:16:27 IP: 85.139.126.104 Lisbon Direct Entry Provider: Netcabo		6 Actions - 27 min 5s Universidade do Minho: As ciências físicas e as actividades laboratoriais na educação pré-escolar : diagnóstico e avaliação do impacto de um pro... /handle/1822/6268 Universidade do Minho: Pensar a educação de Infância e os seus contextos repositorium.sdum.uminho.pt/handle/1822/39778	View visitor profile
Tuesday, July 12, 2022 - 18:43:29 IP: 62.28.111.104 Lisbon Google Provider: Unknown		2 Actions - 2s Universidade do Minho: Insuficiência patrimonial, insolvência e obrigações tributárias /handle/1822/44466	View visitor profile



EOSC Accounting for Research Products Usage

Data Source Research Product Accounting



[About EOSC](#) [Browse Marketplace](#) [Providers Hub](#) [Monitoring](#) [Status](#)

[← Go to Search](#)



Data Repository
B2SHARE

COLLECTED FROM A COMPATIBLE AGGREGATOR

EUROPEAN UNION

Web page: <https://b2share.eudat.eu/> →

DOI: [10.25504/FAIRsharing.da9307](https://doi.org/10.25504/FAIRsharing.da9307) re3data: [r3d100011394](https://re3data.org/r3d100011394)

Summary [Publications \(5\)](#) [Research data \(26\)](#) [Research software \(5\)](#) [Related Data sources](#)

Description

B2SHARE is a user-friendly, reliable and trustworthy way for researchers, scientific communities and citizen scientists to store and share small-scale research data from diverse contexts.

Countries

European Union

Subjects

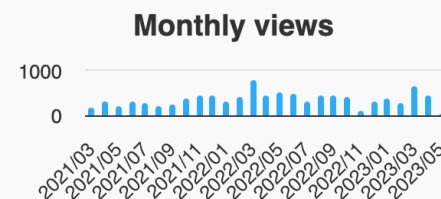


16,898

6K
Downloads

20
OpenAIRE
views

11K
Total views



Powered by OpenAIRE
UsageCounts

ACTIONS



Research Product Accounting



[About EOSC](#) [Browse Marketplace](#) [Providers Hub](#) [Monitoring](#)

[← Go to Search](#)



[View all 2 versions](#)

Research Data . Image . 2018

Figs 1–6 in Taxonomic revision of Pygodiscodon (Coleoptera: Cantharidae)

Biffi, Gabriel; Constantin, Robert;

OPEN ACCESS

DOI: [10.5281/zenodo.3676783](https://doi.org/10.5281/zenodo.3676783), [10.5281/zenodo.3676784](https://doi.org/10.5281/zenodo.3676784)

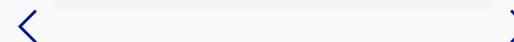
Published: 25 Apr 2018

Publisher: Zenodo



31 Downloads
- OpenAIRE views
16 Total views

FROM	VIEWS	DOWNLOADS
ZENODO	16	31



Powered by OpenAIRE UsageCounts

ACTIONS



COUNTER CoP R4 Reports

Supported Reports

AR1

Article Report 1, number of successful article download requests by month and repository.

IR1

Item Report 1, number of successful item download requests by month and repository.

RR1

Repository Report 1, number of successful item downloads for all repositories participating in the usage statistics service.

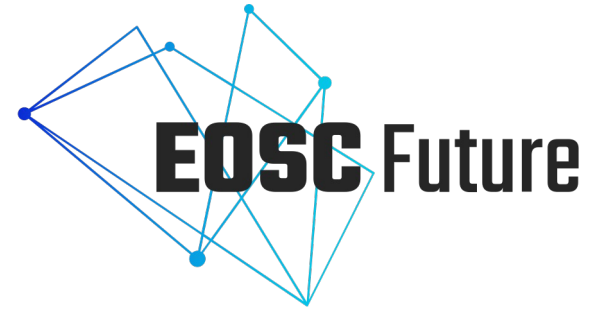
BR1

Book Report 1, number of successful title requests by month and title.

BR2

Book Report 2, number of successful section requests by month and title.





Upcoming Updates



UsageCounts: Upcoming Updates

From COUNTER Code of Practice R4 to R5

- Metric Types
- Other Concepts
- Reports



COUNTER CoP R5 Metric_Types



- An **investigation** is tracked when a user performs any action in relation to a content item or title
- A **request** is specifically related to viewing or downloading the full content item
- COUNTER R4: ~~Views/Downloads~~

COUNTER CoP R5 Updates: Metric Types

- **Unique_Item_Investigations:** Counts unique article investigations and requests in a user-session.
- **Total_Item_Investigations:** Counts total number of times information related to an article viewed (including all article full-content views).
- **Unique_Item_Requests:** Counts unique article full-content views in a given session regardless of format. If a user views an article PDF and HTML in the same session this would only count as 1.
- **Total_Item_Requests:** Counts all article full-content views across all formats like HTML and PDF. This is **equivalent** to the Release 4 downloads count.

COUNTER CoP R5: Example Scenario

Susan is researching the history of Porto in UMINHO repository. From a list of search results, she opens three article abstracts. The counts are:

- total_item_investigations: 3
- unique_item_investigations: 3

After reading the abstracts, Susan downloads the PDFs for two of the articles. The counts change to:

- total_item_investigations: 5 (3 as "views" + 2 as "downloads")
- unique_item_investigations: 3 (3 unique "views")
- total_item_requests: 2
- unique_item_requests: 2



CoP R5 Metric Types Features

- **Total Item Requests**
 - Important for providers that have full-text content.
 - Reports the number of full-text downloads or views.
- **Total Item Investigations**
 - Provides a big picture perspective of the total number of investigations.
- **Unique Investigations and Requests**
 - Powerful metrics for identifying activities with unique items and titles.
 - Most accurate for cost per use analysis.





R5 Data_Types (R4 Items)

Data_Type identifies the general type of content being accessed or for which usage is being reported.

Data Type
• Article
• Book
• Book Segment
• Collection
• Database
• Dataset
• Journal
• Multimedia
• Platform
• Repository Item





CoP R5 Access_Type

Access_Type describes the nature of access control that was in place when the content item was accessed.

This attribute appears in Journal Title Report 1 and allows usage of open access content to be separated from content that requires a license.

Data Type

- Controlled
 - OA_Delayed
 - OA_Gold_APC
 - OA_Gold_Non_APC
 - Other_Free_to_Read
-





CoP R5 Access_Method

Access_Method is an attribute indicating whether the usage related to investigations and requests was generated by a human user browsing and searching a website (“regular”) or by Text and Data Mining processes (TDM).

This attribute appears as an optional parameter in the Expanded Title Report.

TDM usage is excluded from the standard Journal and Book reports.

Access_Method
• Regular
• TDM





CoP R5 Year of Publication

YOP is the year of publication for the content item accessed. If content is available in print and online format and the publication dates of these two formats differ, the year of publication of the print will be used.

This attribute appears as an attribute in Journal Title Report 2 as well as both Book Reports and as an optional parameter in the Expanded Title Report.

Access_Method

- *yyyy*
 - *0001 (unknown)*
 - *9999 (articles in press)*
-





COUNTER CoP R5 Reports

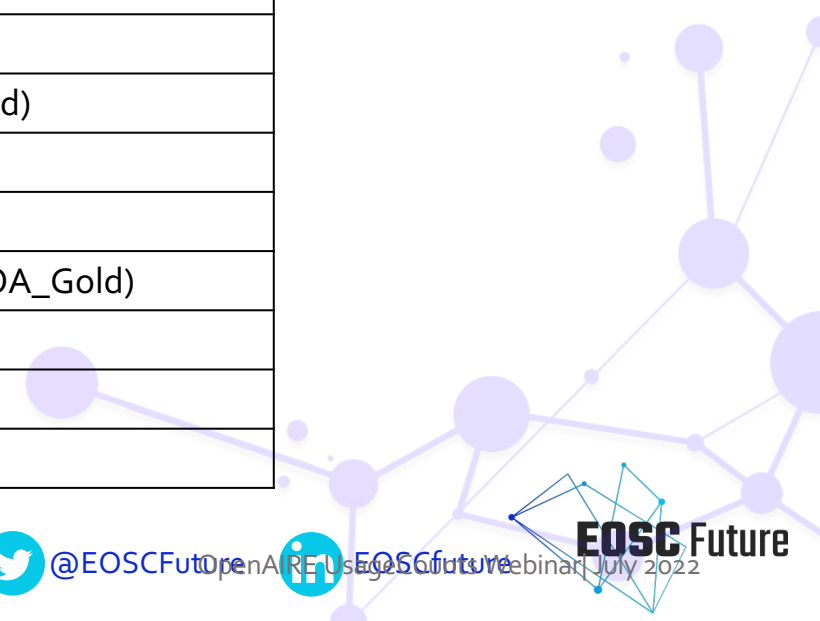
- Reduced number of reports (4 Master, 16 Total vs 24).
- Many of the special-purpose reports that are seldom used are replaced with a small number of flexible generic reports.
- All COUNTER R4 reports have either been renamed or eliminated in favour of other COUNTER R5 report options.
- Filter to show selected:
 - Dates
 - Content/Data types
 - Metric types
 - Year of Publication
 - License types
 - and more in various combinations





COUNTER CoP R5 Reports

Report_ID	Report_Name
PR	Platform Master Report
PR_P1	Platform Usage
DR	Database Master Report
DR_D1	Database Search and Item Usage
DR_D2	Database Access Denied
TR	Title Master Report
TR_B1	Book Requests (Excluding OA_Gold)
TR_B2	Book Access Denied
TR_B3	Book Usage by Access Type
TR_J1	Journal Requests (Excluding OA_Gold)
TR_J2	Journal Access Denied
TR_J3	Journal Usage by Access Type
TR_J4	Journal Request by YOP (Excluding OA_Gold)
IR	Item Master Report
IR_A1	Journal Article Requests
IR_M1	Multimedia Item Requests





COUNTER CoP R5 Reports

Report Name	Short Description	Description
PR	Platform Master Report	A report summarizing usage activity for the repository by month, metric type and item type
PR_1	Platform Usage Report	A report summarizing usage activity for the repository by month, broken down by metric type
IR	Platform Master Item Report	A report for items requests by month metric_type, item type and repository
DSR	Datasets Report	A report for datasets requests by month metric_type and repository





COUNTER CoP R5 Reports: PR Master

1. Set Report Filters

Date Range *

From: Until next:

Item Identifier *

(Valid namespace: "openaire, doi or oid")

2. Metric Type

- Total_Item_Requests
- Unique_Item_Requests
- Total_Item_Investigations
- Unique_Item_Investigations

Report Request

Report Name: PR
Release: 5
Requestor: repositorium@sdum.uminho.pt

Report Filters

Date Range: 2022/03 - 2022/05
Repository Identifier: openoar:307
Item Identifier: openaire:od_:fb90de6f20d79...

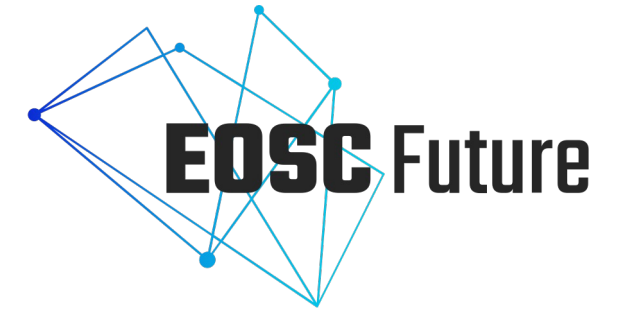
Metric Type

Total_Item_Requests, Total_Item_Investigations,
Unique_Item_Requests, Unique_Item_Investigations

GET REPORT →

COUNTER CoP R5: PR Report

Platform	Data_Type	Access_Method	Metric_Type	Reporting_Period_Total
Universidade do Minho: RepositoriUM	Article	Regular	Total_Item_Investigations	10
Universidade do Minho: RepositoriUM	Article	Regular	Unique_Item_Investigations	6
Universidade do Minho: RepositoriUM	Book	Regular	Unique_Item_Requests	3
Universidade do Minho: RepositoriUM	Book	Regular	Total_Item_Requests	2
Universidade do Minho: RepositoriUM	Book	Regular	Total_Item_Investigations	5
Universidade do Minho: RepositoriUM	Book	Regular	Unique_Item_Investigations	3



EOSC Accounting for Research Products Recap

EOSC Accounting for Research Products

- An easily configurable, robust service.
- Follows COUNTER CoP standards (R4 and R5)
- For **providers**: an “umbrella system”, similar to EOSC, provides information on the impact of your repository.
- For **research products**: allows aggregated usage statistics of the research products from repositories all over the world.



Thank you!!

