ISTI Open Portal Activity Report 2022

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Abstract
ISTI Open Portal is the gateway to the scientific production of the Institute of Information Science and Technologies of the National Research Council of Italy. It was designed and developed to promote the dissemination of the institute's scientific production and availability according to open access practices. This brief report documents the activities performed in 2022 and gives usage indicators about the service.

Keywords
Science Gateway — Open Access — Institutional Repository

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1. Introduction

ISTI Open Portal[1] is the gateway to the scientific production of the Institute of Information Science and Technologies (ISTI) of the National Research Council of Italy (CNR). It is an instance of the RepOSGate technology [1] hosted and operated on premises. It was designed and implemented

- to systematically collect the ISTI scientific production from the CNR Institutional Repository;
- to make available the *open access* (self archived) version(s) of ISTI products;
- to enrich the ISTI products metadata by using information from OpenAIRE[2] and Scholexplorer[3];
- to provide per-product indicators by collecting them from third-party services including Altmetric[3], Dimensions[4], Plum Analytics[5], and scite[6].

The gateway has been operational since 2018 when it was launched concurrently with establishing the institute's open access policy[7]. Since then, the availability of open-access versions of the research outputs of the institute has largely grown.

This brief report documents the activities performed in 2022 (Sec. 2), usage indicators (Sec. 3), and planned activities for 2023 (Sec. 4).

2. Activities

The activities conducted in 2022 to develop the service include contents curation, enrichment of the functionalities, and monitoring and maintenance of the IT infrastructure.

Concerning contents curation, more than 500 new products (146 Conference articles, 141 Journal articles, 104 Reports, 38 Contributions to conferences, 18 Contributions to books, 23 Software, 6 Contributions to journals, 10 Datasets, 4 Theses and 20 other products, 73% open access) were managed according to the following workflow:

- one of the CNR-ISTI authors of a product submits it to People, the CNR platform concurring to realize the Institutional Repository. The author must insert the metadata and the digital version of the work suitable for open access as requested by the institute policy.
- the Institute Library staff carefully checks the correctness and completeness of the metadata as well as the suitability of the accompanying open access version before officially approving it to become an official item of the ISTI collection in the CNR Institutional Repository;
- the Institute Library staff also deposits the open access version of the product in the storage area exploited by

[1] ISTI Open Portal https://openportal.isti.cnr.it
[2] OpenAIRE website www.openaire.eu
[3] Altmetric website https://www.altmetric.com
[4] Dimensions website https://www.dimensions.ai/
[5] Plum Analytics website https://plumanalytics.com/
[6] scite website https://scite.ai/
[7] ISTI Open Access Policy https://openportal.isti.cnr.it/isti-guidelines/policy-open-access-dell-isti

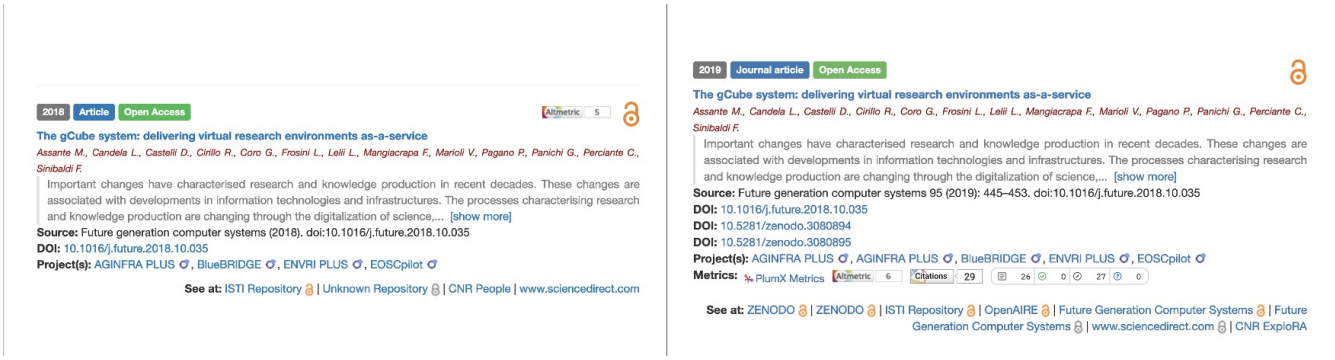

Figure 1. ISTI Open Portal result set item: old version vs new version

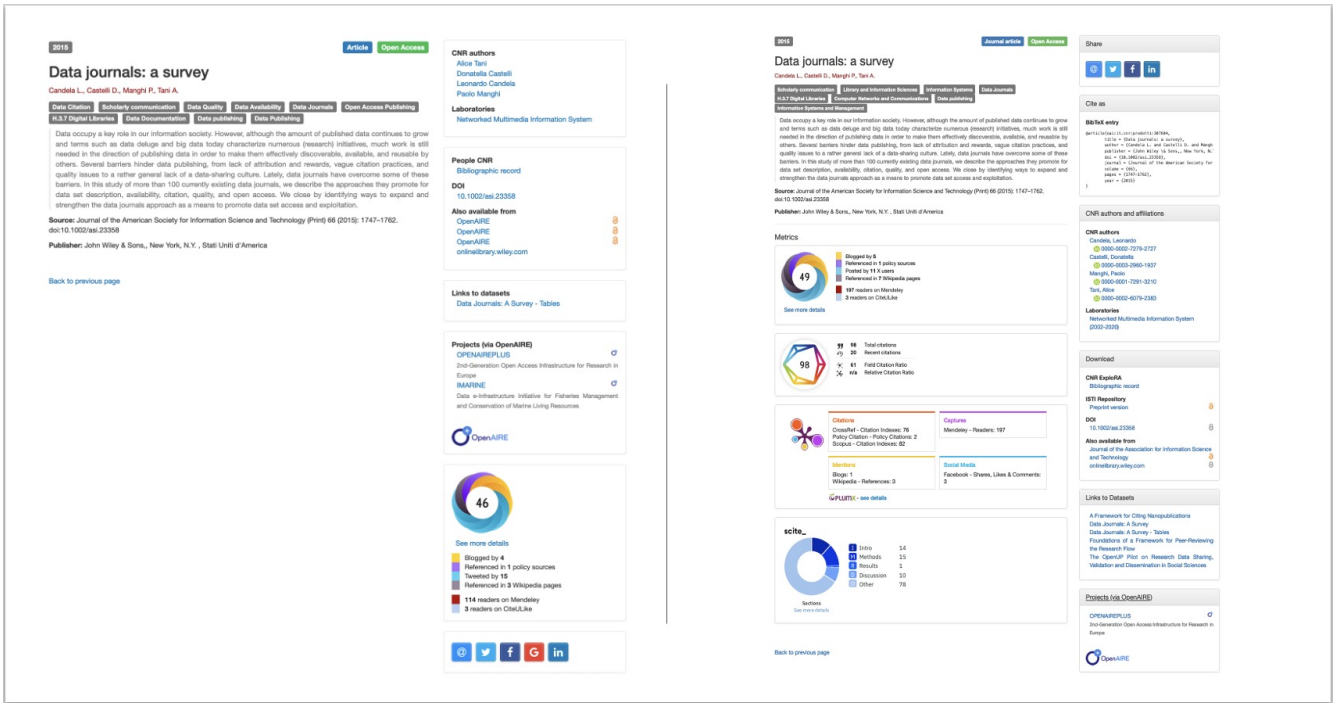

Figure 2. ISTI Open Portal splash pages: old version vs new version

ISTI Open Portal to offer open access to its scientific production.

On a daily basis, ISTI Open Portal harvests the metadata of the items belonging to the ISTI Collection, feeds its own data structures, and displays the up to dated scientific prodution of the institute.

Concerning the enrichment of the functionalities offered by ISTI Open Portal, the two major activities performed in 2022 consisted in redesigning the splash page of the items to enhance the access to the information and enlarging the set of metric providers thus to include Dimensions, Plum Analytics, and scite. In particular, the result set item visualization (cf. Fig. 1) was reconsidered thus to have a specific row to display all the per item badges of the metric providers. The splash page of each item (cf. Fig. 2) was redesigned thus to have in the left column the basic information of the item plus the metrics produced by each provider and in the right column an actionable menu with facilities for sharing or citing the item, accessing the list of items of each author and ISTI laboratory, accessing the known manifestations of the item from various repositories and systems, accessing any dataset associated with the item; accessing project related information for each project supporting the specific item. The integration of three new metric providers reinforces the understanding of the impact each item is having. *Dimensions* [4] is a research insights platform that brings together information about funding, publications, policy, patents, and grants. The Dimensions Badge provides a free and easy way to showcase the number of citations that a publication is receiving while the Dimensions details page provides more in-depth information about the publication, including a summary of available metrics, a list of citing works, a visualization of citing re-

search categories. *PlumX Metrics* [5] provides insights into the ways people interact with individual pieces of research output in the online environment. Metrics are divided into five categories to help make sense of the huge amounts of data involved: (*i*) Citations, it contains both traditional citation indexes such as Scopus, as well as citations that help indicate societal impact such as Clinical or Policy Citations; (*ii*) Usage, it is a way to signal if anyone is reading the articles or otherwise using the research including clicks, downloads, and views; (*iii*) Captures, it indicates that someone wants to come back to the work and can be an lindicator of future citations including events like bookmarks, code forks, favorites, readers, and watchers; (*iv*) Mentions, menasure activities such as news articles or blog posts about research, it is a way to tell that people are truly engaging with the research by including blog posts, comments, reviews, Wikipedia references, and news media; (*v*) Social Media, it includes the shares, likes, etc. that reference the research and can help measure "buzz" and attention as well as it can also be a good measure of how well a particular piece of research has been promoted. *scite* [6] is a citation index and tool that takes advantage of recent advances in artificial intelligence to produce "smart citations" by providing the context of the citation and a classification system describing whether it provides supporting or contrasting evidence for the cited claim, or if it just mentions it. All in all, ISTI Open Portal offers a rich array of metrics on its scientific production.

Concerning monitoring and maintenance of the service, ISTI Open Portal was managed thus to guarantee its seamless operation and reliability. In particular, this was based on a continuous observation of various aspects of the IT service, such as performance, availability, and security as well as on strategies for regular upkeep, updates, and optimization encompassing tasks like software updates, hardware maintenance, and security patches. During 2022 the service was moved on servers equipped with Ubuntu 18.04 distribution and several technologies was updated, including Joomla and PHP.

The ISTI Open Portal experience raised a lot of interest among CNR Institutes, in particular the Institute of Heritage Science (ISPC) and the National Institute of Optics (INO) expressed their interest in replicating this experience. In addition to this, the overall solution and experience was presented at the GenOA week 2022 [2], an yearly event organised in the context of the International Open Access week.

3. Usage Indicators

In 2022, the gateway had at least[8]

- 2,782 users with 2,715 first-time users in the period,
- 3,886 sessions with an average session duration of 1m 44s,
- 9,305 page views with an average of 2.39 pages per session.

Fig. 3 displays the 2022 user distribution across countries. It indicates a significant distributiong of accesses across countries and regions.

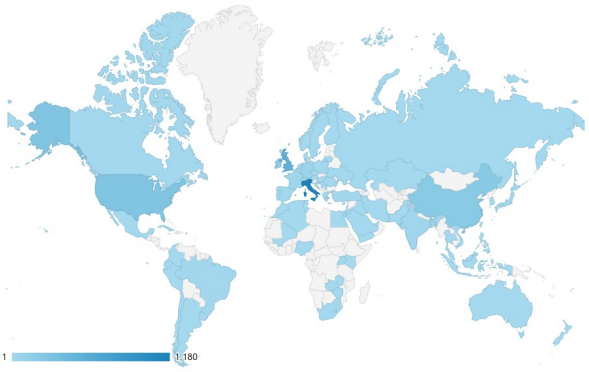

Figure 3. ISTI Open Portal 2022 Users geographic distribution

Fig. 4 reports the product landing page views by month, i.e., the number of times a landing page of a product was viewed. In particular, a total of 16,657 page views with an average of 1,388 pages per month.

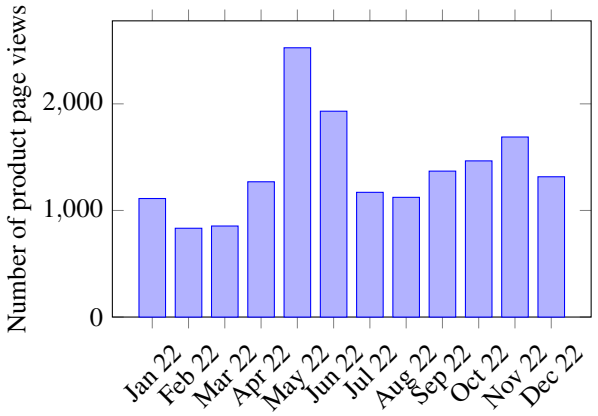

Figure 4. ISTI Open Portal 2022 monthly product landing page views.

Fig. 5 reports the downloads by month. ISTI products had a total of more than 7,950 downloads with an average of more that 650 downloads per month.

4. Conclusion and Future Works

This report documented the activities performed in 2022 to develop the ISTI Open Portal, the gateway to the scientific production of the Institute of Information Science and Technologies (ISTI) of the National Research Council of Italy. After four years since the launch we can affirm that the pro-

[8] These figures were collected by using Google Analytics. The usage of Google Analytics was stopped on November 2022.

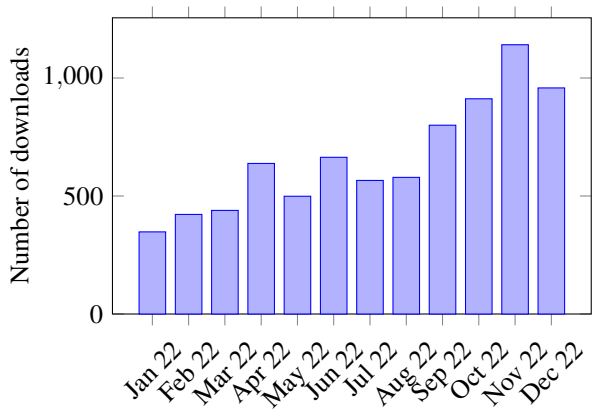

Figure 5. ISTI Open Portal 2022 monthly downloads.

posed approach proved to be effective to support the implementation of an open access policy in the settings ISTI is working. In fact, it is nicely integrated with the CNR Institutional Repository as well as it contributes to bring the scientific products of ISTI into the OpenAIRE infrastructure[9].

Among others, two istitutes of the National Research Council of Italy, namely the Institute of Heritage Science (ISPC) and the National Institute of Optics (INO) expressed their interest in replicating the ISTI Open Portal experience in their context. ISTI Open Portal team started liaising with the personnel of these two insitutes to provide them with their own instances of the overall solution during 2023.

Future works include the enhancement of the integration of ISTI Open Portal contents into search engines (namely, Google Scholar), the exploitation of ORCID, the creation of per author pages, the exploitation of open web analytics platform (namely Matomo).

[9] ISTI Open Portal contents in OpenAIRE `https://explore.openaire.eu/search/dataprovider?datasourceId=opendoar____::81930c54e08b6d26d9638dd2e4656dc1`

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