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and Use of Research Resources**  
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## D5.9 Final Outreach Report

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**Abstract** This deliverable summarizes the outreach and engagement activities performed as part of the FREYA project.  
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# FREYA project summary

The FREYA project iteratively extends a robust environment for Persistent Identifiers (PIDs) into a core component of European and global research e-infrastructures. The resulting FREYA services will cover a wide range of resources in the research and innovation landscape and enhance the links between them so that they can be exploited in many disciplines and research processes. This will provide an essential building block of the European Open Science Cloud (EOSC). Moreover, the FREYA project will establish an open, sustainable, and trusted framework for collaborative self-governance of PIDs and services built on them.

The vision of FREYA is built on three key ideas: the **PID Graph**, **PID Forum** and **PID Commons**. The PID Graph connects and integrates PID systems to create an information map of relationships across PIDs that provides a basis for new services. The PID Forum is a stakeholder community, whose members collectively oversee the development and deployment of new PID types; it will be strongly linked to the Research Data Alliance (RDA). The sustainability of the PID infrastructure resulting from FREYA beyond the lifetime of the project itself is the concern of the PID Commons, defining the roles, responsibilities and structures for good self-governance based on consensual decision-making.

The FREYA project builds on the success of the preceding THOR project and involves twelve partner organisations from across the globe, representing PID infrastructure providers and developers, users of PIDs in a wide range of research fields, and publishers.

For more information, visit [www.project-freya.eu](http://www.project-freya.eu) or email [info@project-freya.eu](mailto:info@project-freya.eu).

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## Executive summary

This deliverable summarizes the outreach and engagement activities conducted throughout the FREYA project. Outreach and engagement was the task of Work Package 5 (WP5) and its primary aim was to ensure a high visibility of the project and uptake of its results. This deliverable reports on the communication and engagement activities that were conducted during the FREYA project to fulfil the tasks that were defined for WP5, including the development and execution of the project communication plan, the establishment of the PID Forum, as well as training and ambassador activities.

At the beginning of the project, we defined the stakeholder categories and the communication approach suitable for each given stakeholder. FREYA distinguished three communication approaches—engagement, training and dissemination—which were followed throughout the project. For each of these approaches, this deliverable provides an overview of the activities FREYA conducted and the achievements that were made. By actively interacting with all the defined stakeholders, FREYA managed to achieve all key performance indicators (KPIs) that were identified for the outreach and engagement work. FREYA participated in more than 75 events and 21 webinars, in particular engaging with the RDA and key EOSC projects, including EOSC-Hub and OpenAIRE. The PID Forum, one of the three pillars of FREYA, received an online space at *pidforum.org* which became a large community platform for PID enthusiasts. The forum kept growing steadily throughout the project, reaching more than 500 members in November 2020. Importantly, while the work of FREYA has come to an end, the PID Forum will be sustained after the project has finished under the coordination of NISO, the National Information Standards Organization. Next to organising events and engaging through the PID Forum, FREYA established an ambassador programme with 37 members from 21 countries who promoted the project's work within their own communities. To foster PID adoption, FREYA organized dedicated training events for various groups, and produced a range of training materials made available through the project's Knowledge Hub that was integrated into the PID Forum.

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# 1 Introduction

## 1.1 Objectives

Work Package 5 (WP5) coordinated the engagement and communication activities of the FREYA project with the goal to ensure a high visibility of the PID infrastructure that FREYA has been building. We followed a community-centered approach, ensuring that the PID Graph services developed in FREYA were facilitated by iterative engagement with the stakeholders. The PID Forum, one of the three pillars of FREYA, was central to the work of WP5 and our engagement with the PID community. The activities of WP5 were divided into five tasks:

- T5.1 Develop and execute the project communication plan
- T5.2 Establish the PID Forum
- T5.3 Community Consensus and Co-Design.
- T5.4 Supporting PID adoption
- T5.5 Ambassador programme

This deliverable summarizes the communication and engagement activities that were performed over the course of the project. Importantly, several other deliverables contain information related to these five tasks and the results that were achieved as well. Where relevant, a reference to these deliverables is provided. In particular, while this deliverable outlines the outreach activities of the project, Deliverable 5.10 (internal document)<sup>1</sup> provides a more elaborate overview of the project's results and how they are disseminated and exploited beyond the lifetime of the project.

The **communication plan** (T5.1) was established in Deliverable D5.2 (internal document) and included a description of the major stakeholders which we will revisit in section 1.2 of this deliverable. D5.2 further outlined the communication and dissemination approach that was followed in the FREYA project which is summarized in section 1.3.

A central part of WP5 was the establishment of the **PID Forum** (T5.2) which served as a means to engage with the wider community and the different stakeholders in FREYA. While we held many different PID Forum events for our various stakeholders, we also established an online platform - [pidforum.org](http://pidforum.org) - to fulfill the facilitating role that was envisioned for the PID Forum. A summary of the PID Forum activities is described in section 2.1 and a detailed description of all PID Forum activities provided in Deliverable 5.3<sup>2</sup> for the first year, D5.5 for the second year<sup>3</sup>, and D5.7<sup>4</sup> for the third year of the project.

To achieve **community consensus and co-design** (T5.3), we utilized the PID Forum and attended and organized various events which are outlined in section 2.2 of this deliverable. Community consensus and co-design is further reflected in various outcomes of the project and work from other Work Packages that involved iterative engagement with the community supported by WP5. This includes, for instance, our analysis of the PID landscape<sup>5</sup>, the user stories<sup>6</sup> we assessed, as well as the PID Graph services developed by WP2 and WP4 which were improved through community feedback.

WP5 developed a dedicated training programme to **support PID adoption** (T5.4), holding training events and establishing a Knowledge Hub with training materials. Training activities are summarized in section 3

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<sup>1</sup> Deliverable D5.10 will be submitted at the same time as this deliverable and will be confidential and not publicly available.

<sup>2</sup> Deliverable D5.3 First Report on the PID Forum <https://doi.org/10.5281/zenodo.2414527>

<sup>3</sup> Deliverable D5.5 Second Report on the PID Forum <https://doi.org/10.5281/zenodo.3832068>

<sup>4</sup> Deliverable D5.7 will be submitted at the same time as this deliverable and will be made publicly available on the FREYA Zenodo Community page <https://zenodo.org/communities/freyaproject/>

<sup>5</sup> Deliverable D3.1 Survey of the PID Landscape: <https://doi.org/10.5281/zenodo.3554254>

<sup>6</sup> Deliverable D3.2 Requirements for Selected New PID Services: <https://doi.org/10.5281/zenodo.2649229>

and a detailed description is available in Deliverable 5.6.<sup>7</sup> As with T5.3, achievements of T5.4 are also reflected in various outcomes of the project and span multiple Work Packages, including our work on sustainability in WP6, as well as the integration of the PID Graph with EOSC described in Deliverable D4.5<sup>8</sup>

Last but not least, an important aspect of our outreach activities was the establishment of an **ambassador programme** (T5.5) through which we engaged with specific communities. A summary of the ambassador programme is given in section 2.3 and a detailed description is available in Deliverable 5.8.<sup>9</sup>

## 1.2 Stakeholders

The FREYA project engaged with different stakeholders throughout the project which were identified at the beginning of the project and evaluated throughout. The work of the project was performed in close collaboration with the Research Data Alliance (RDA) and other projects involved in the European Open Science Cloud (EOSC), including in particular EOSC-hub<sup>10</sup> and OpenAIRE-Advance<sup>11</sup>, but also for instance the EOSC cluster projects<sup>12</sup>.

An overview of the different stakeholder groups was originally defined in D5.2 (internal document) and revised during the time of the project in the dissemination plan presented in the interim version of D5.10 (internal document). Table 1 gives an overview of the FREYA stakeholders. Stakeholders were grouped into five overall categories, namely Service Providers, Research, User, Structural, and Commercial stakeholders. For each of these categories, sub-groups were identified based on the communication approach that we found most suitable for that given stakeholder.

Stakeholder categories and groups		Examples of stakeholders	Main communication approach
Service Provider	(PID) Service providers	<ul style="list-style-type: none"> <li>● ORCID members</li> <li>● DataCite members</li> <li>● National PID providers</li> </ul>	Engagement Training
	EOSC Projects, E-infrastructures	<ul style="list-style-type: none"> <li>● EOSC-hub</li> <li>● EOSC Secretariat</li> <li>● OpenAIRE-Advance</li> <li>● FAIRsFAIR</li> </ul>	Engagement Training

<sup>7</sup> Deliverable D5.6 Final Training Materials will be made available in the FREYA Zenodo Community page <https://zenodo.org/communities/freyaproject/>

<sup>8</sup> Deliverable D4.5 will be submitted at the same time as this deliverable and will be made publicly available on the FREYA Zenodo Community page <https://zenodo.org/communities/freyaproject/>

<sup>9</sup> Deliverable D5.8 Report on Ambassador Programme will be submitted at the same time as this deliverable and will be made publicly available on the FREYA Zenodo Community page <https://zenodo.org/communities/freyaproject/>

<sup>10</sup> EOSC-Hub: <https://www.eosc-hub.eu/>

<sup>11</sup> OpenAIRE-Advance: <https://www.openaire.eu/openaire-advance-wps-tasks-deliverables>

<sup>12</sup> Five ESRI cluster projects representing different disciplines within the EOSC: ENVRI-FAIR, PaNOSC, ESCAPE, SSHOC and EOSC\_Life : <https://www.eosc-portal.eu/news/five-new-esfri-cluster-projects-eosc-panorama>

		<ul style="list-style-type: none"> <li>● RDA Europe 4.0</li> </ul>	
	EOSC Working Groups	<ul style="list-style-type: none"> <li>● WG Landscape</li> <li>● WG Sustainability</li> <li>● WG Architecture</li> <li>● WG FAIR</li> <li>● WG Rules of Participation</li> </ul>	Engagement
Research	Research data communities	<ul style="list-style-type: none"> <li>● RDA</li> <li>● WDS</li> <li>● National communities</li> </ul>	Engagement Training
	Research infrastructures	<ul style="list-style-type: none"> <li>● CESSDA</li> <li>● DARIAH</li> <li>● FORCE</li> </ul>	Engagement
User	Research institutions and academic organizations	<ul style="list-style-type: none"> <li>● Universities</li> <li>● University libraries</li> <li>● National organizations</li> </ul>	Dissemination Training
	Researcher communities	<ul style="list-style-type: none"> <li>● Researchers</li> <li>● Specific disciplines</li> <li>● Citizen Scientists</li> </ul>	Dissemination
Structural	EOSC	<ul style="list-style-type: none"> <li>● EOSC governance board</li> <li>● EOSC executive board</li> </ul>	Engagement
	National, regional or local government agencies	<ul style="list-style-type: none"> <li>● Federal agencies</li> <li>● National libraries</li> </ul>	Dissemination
	Research funding bodies	<ul style="list-style-type: none"> <li>● EC</li> <li>● National funders</li> </ul>	Dissemination

Commercial	Publishing industry, enterprises, vendor systems	<ul style="list-style-type: none"> <li>● F1000Research</li> <li>● Mendeley data</li> <li>● Elsevier</li> </ul>	Dissemination
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*Table 1 Overview of stakeholder groups and the main way of communication that FREYA employed for each stakeholder group*

As described in D5.2 and D5.10, FREYA distinguished three strands of communication activities: *Engagement, Training and Dissemination*. Table 1 shows the main communication approach that was taken for each of the identified groups. Some stakeholders, such as PID service providers, EOSC-projects and the RDA needed to be directly involved in the co-creation of FREYA activities and outcomes and therefore were targeted through iterative engagement. We also identified the stakeholder groups that we wanted to reach with our training activities to foster adoption. These included communities who already use PIDs, as well as those for whom PIDs are an emerging technology, and those that need basic training and practical guidance. Finally, there are stakeholders - including for instance some funding bodies and commercial stakeholders - which we mainly addressed through dissemination of the project results. The project’s activities undertaken for engagement, training and dissemination are described in detail in section 2, 3 and 4 respectively.

For all events FREYA participated in (see Appendix 1), we determined the main stakeholder groups that were present to assess which stakeholder groups we have reached with our events throughout the project. For each event up to two stakeholder groups could be indicated as the main audience. Two events - the FREYA midterm webinar and the FREYA final event were classified as addressing all stakeholders whereas for all other events a maximum of two groups were selected as the main audience. Figure 1 gives an overview of the distribution of defined stakeholder groups across the (online) events FREYA participated in. Service providers (blue shades, 39%) and research stakeholders (red shades, 37%) formed the majority of the audiences. This is in line with our goal to target these stakeholder groups with our engagement activities in particular. Users (green shades) formed about 20% of the audiences and were in particular targeted by our training activities. As we planned to reach structural (grey shades) and commercial (yellow) stakeholders mainly through our dissemination activities, these stakeholders represent a smaller part of the audiences of the events FREYA participated in. Importantly, it should be noted that all of the stakeholders identified in our communication plan have been reached by our events throughout the project.





Figure 1 Overview of the distribution of types of stakeholders targeted at FREYA events. For each event, we defined up to two stakeholder groups that were mostly targeted at that given event and this graph provides an overview of the resulting distribution

### 1.3 Approach and structure of the deliverable

The communication approach from FREYA followed three strands—engagement, training and dissemination—which are described in the following three sections below. Engagement (section 2) was realized through the PID Forum (section 2.1), as well as through organising and attending events (section 2.2), and through our ambassador programme (section 2.3). Our training activities (section 3) focused on the creation of training materials which were made available through the Knowledge Hub (section 3.1), as well as on organising dedicated training events (section 3.2). Finally, we used various communication and social media channels to disseminate the project progress and results (section 4). Section 5 of the deliverable describes the impact of the COVID-19 pandemic on our outreach activities. As the pandemic limited us to participate in local events during the majority of the last year of the project, we increased the number of digital events that we attended and organized, and switched to an online-based engagement and dissemination strategy. As outlined in section 6 of this deliverable, despite the pandemic, all of our Key Performance Indicators (KPIs) were achieved and our outreach activities can be considered successful.

Table 2 gives an overview of the FREYA communication channels that we utilized during the project. Next to the FREYA website, we were active on twitter and published various materials on our YouTube channel. pidforum.org was established at the beginning of 2019 as an online community for engagement and exchange and included the Knowledge Hub collecting the FREYA training materials. The project outputs are collected in a Zenodo community page where they received persistent identifiers themselves allowing us to monitor the impact of the project’s outputs as we will describe in more detail in section 6 below.

Project website	<a href="http://project-freya.eu">project-freya.eu</a>
Twitter channel   hashtag	@freya_eu   #FREYAprojectEU
YouTube channel	<a href="https://www.youtube.com/channel/UCQ5Jp19cvtVLPxUB2WVO5CA">https://www.youtube.com/channel/UCQ5Jp19cvtVLPxUB2WVO5CA</a>
PID Forum	<a href="https://www.pidforum.org">https://www.pidforum.org</a>
Knowledge Hub	<a href="https://www.pidforum.org/c/knowledge-hub/">https://www.pidforum.org/c/knowledge-hub/</a>
Zenodo Community page	<a href="https://zenodo.org/communities/freyaproject/">https://zenodo.org/communities/freyaproject/</a>

*Table 2 Overview of communication details*

## 2 Engagement

FREYA engaged with the community through the PID Forum, one of the three pillars of the FREYA project. FREYA partners attended more than 75 events (see Appendix 1) during which they presented the project and its results and gathered feedback from the stakeholders. Many events were closely linked to the EOSC and the RDA which were two of the most important stakeholders FREYA wanted to involve in the co-creation of the PID Graph and PID services. In the following, we discuss the engagement through the PID Forum (section 2.1), review key events (section 2.2) and outline our engagement through the FREYA ambassador programme (section 2.3).

### 2.1 PID Forum

The PID Forum is one of the three pillars of the FREYA project, together with the PID Graph and the PID Commons. The PID Forum is FREYA's platform for engagement, interaction and discussion between the project and its stakeholders within the broader PID community. The PID Forum involves [pidforum.org](https://pidforum.org) as an online platform but also includes the activities and events FREYA organized throughout the project for the PID community and FREYA stakeholders. This section describes the main PID Forum achievements in the three years of the project.

In the first year of the project, PID Forum activities were focused on creating awareness about the project and its goals. We also started to gather input from the community for the work to be conducted in FREYA, in particular on the PID use cases and the landscaping report produced by WP3. The PID Forum was used to gather user stories, and feedback on the new and emerging PID types. A full summary of our PID Forum activities of year 1 is available in D5.3 "First report on the PID Forum".<sup>13</sup>

The main achievement of the second year of the project was the establishment of the online platform [pidforum.org](https://pidforum.org) which to date continues to be a valuable means of engagement and exchange for the PID community. Over the course of the project, [pidforum.org](https://pidforum.org) continued to grow, counting more than 500 members in November 2020 (see Figure 2).

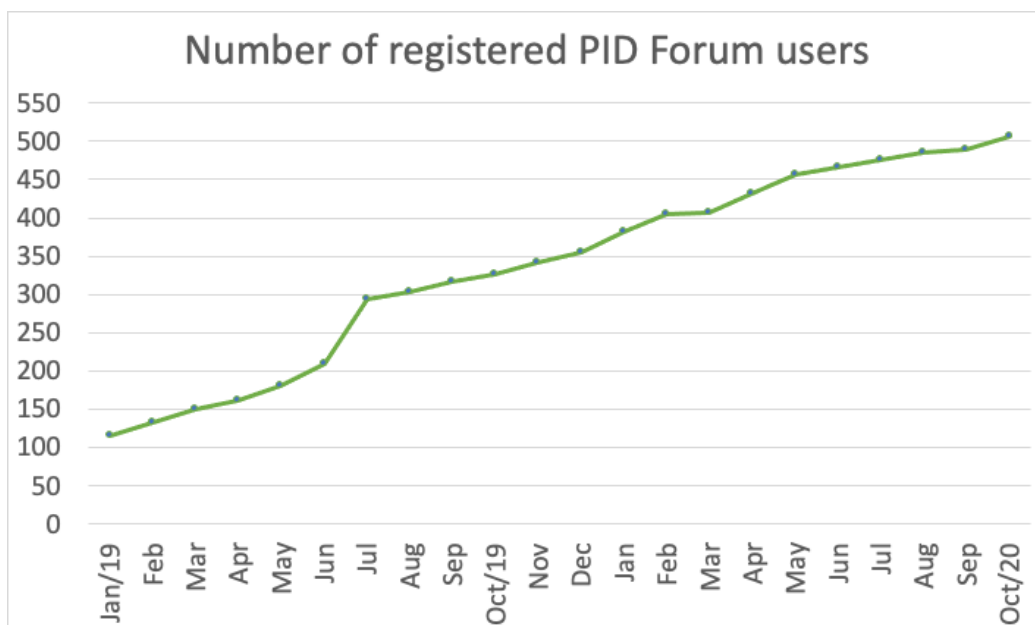


Figure 2 Overview of the number of PID Forum users throughout the project

<sup>13</sup> D5.3 'First report on the PID Forum' <https://doi.org/10.5281/zenodo.2414527>

In the second year of FREYA, our focus shifted from raising awareness for the project to more active collaboration and co-creating of the PID Graph services. We established deeper connections with related EOSC projects, such as OpenAIRE, with whom we established a new RDA Interest Group (IG) on Open Science Graphs for FAIR Data<sup>14</sup>. This IG formed an important part of our community engagement around the PID Graph that FREYA was developing. WP5 also engaged with the PID Forum to gather feedback on the work conducted on new PID types (WP3) and to discuss the first results on the PID Graph (WP2,4). A full summary of our PID Forum activities of year 2 is available in D5.5 “Second report on the PID Forum”.<sup>15</sup>

The third year of the project largely focused on the outcomes of FREYA. We promoted the FREYA services, including the GraphQL API, the PID Services Registry, and the Common DOI Search (launched as DataCite Commons). Throughout the year, we collected feedback from the community on these services before finalizing the services at the end of 2020. FREYA organized dedicated online (training) events and webinars to showcase the services and promote their use in the PID community. The online platform pidforum.org continued to grow (see Figure 2) and was utilized to foster discussions with the community, for instance regarding the EOSC PID policy<sup>16</sup>. We continued our work with the RDA actively participating in the established Open Science Graphs for FAIR Data IG, the PID IG and several (PID) working groups. We also deepened our collaboration with related EOSC projects, for instance through establishing a Memorandum of Understanding with EOSC-Hub.<sup>17</sup> Another important task in the last year of the project was the establishment of the FREYA sustainability plans and the PID Commons (WP6). FREYA initiated an assessment of the need for a PID Federation<sup>18</sup> and WP5 helped to facilitate the discussion and coordinated the analysis of the community views around a PID Federation. This work is described in more detail in Deliverable D6.5.<sup>19</sup> A full summary of our PID Forum activities of year 3 is available in D5.7 “Third report on the PID Forum”.<sup>20</sup>

## 2.2 Key events

An important way of engaging with the wider community was to organize and attend events. Throughout the project, FREYA has participated in more than 75 different (online and face-to-face) events (see Appendix 1 for a full list) and organized or participated in 21 webinars. This section provides a brief summary of key events we held throughout the project for the PID community (section 2.2.1), EOSC-related stakeholders (section 2.2.2), and the RDA (section 2.2.3) as well as providing an overview of our webinars (section 2.2.4). Please note that PID Forum events have also been described in more detail our reports on the PID Forum (D5.3<sup>21</sup>,D5.5<sup>22</sup>,D5.7<sup>23</sup>) and training events have been described in detail in deliverable D5.4 and D5.6.<sup>24</sup>

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<sup>14</sup> <https://www.rd-alliance.org/groups/open-science-graphs-fair-data-ig>

<sup>15</sup> D5.5. Second report on the PID Forum DOI: <https://doi.org/10.5281/zenodo.3832069>

<sup>16</sup> EOSC PID policy on the PID Forum: <https://www.pidforum.org/c/pid-policy-for-eosc/40>

<sup>17</sup> News item on the MoU with EOSC-Hub <https://www.project-freya.eu/en/news/newsitems/eosc-hub-and-freya-sign-memorandum-of-understanding-mou>

<sup>18</sup> Report on the PID federation assessment: <https://doi.org/10.5281/zenodo.4059557>

<sup>19</sup> Deliverable D6.5 Final Report on PID Commons and Sustainability will be submitted at the same time as this deliverable and will be made publicly available on the FREYA Zenodo Community page <https://zenodo.org/communities/freyaproject/>

<sup>20</sup> Deliverable D5.7 will be submitted at the same time as this deliverable and will be made publicly available on the FREYA Zenodo Community page <https://zenodo.org/communities/freyaproject/>

<sup>21</sup> D5.3 ‘First report on the PID Forum’ <https://doi.org/10.5281/zenodo.2414527>

<sup>22</sup> D5.5. Second report on the PID Forum DOI: <https://doi.org/10.5281/zenodo.3832069>

<sup>23</sup> Deliverable D5.7 will be submitted at the same time as this deliverable and will be made publicly available on the FREYA Zenodo Community page <https://zenodo.org/communities/freyaproject/>

<sup>24</sup> Deliverable D5.6 Final Training Materials will be made available in the FREYA Zenodo Community page <https://zenodo.org/communities/freyaproject/>

Many of the key events were reported on by FREYA partners through our project blog<sup>25</sup> ensuring that we communicate our engagement activities and the results achieved at the meetings and conferences to a wider audience.

### 2.2.1 PID events

Table 3 gives a brief overview of the key PID events that FREYA participated in. One annual event that played an important role for the FREYA project was PIDapalooza. FREYA participated in PIDapalooza each year organizing various sessions. PIDapalooza 2018 took place at the beginning of the project and was a way to engage with the community and promote the project ensuring project visibility.<sup>26</sup> At PIDapalooza 2019, FREYA organized several sessions promoting our work on new PID types, like ROR and the PID Graph, as well as gathering feedback, for instance on the establishment of the PID Forum.<sup>27</sup> The last PIDapalooza in 2020 was used, amongst others, to discuss the EOSC PID policy and shape the sustainability work FREYA was establishing within the PID Commons which had a more prominent role in the last phase of the project.<sup>28</sup> In addition to PIDapalooza, FREYA partners participated in other PID events including a series of PID workshops<sup>29</sup> where different stakeholders came together in Singapore, the UK and the USA. Towards the end of the project, FREYA organized an online PID workshop specifically dedicated to the EOSC cluster projects to exchange about the work being done on PIDs in the different disciplinary contexts of the EOSC.



*Figure 3 Torsten Reimer (British Library) leads the discussion on the PID federation at the PIDapalooza 2020 side meeting*

<sup>25</sup> FREYA blog: <https://www.project-freya.eu/en/news/blog>

<sup>26</sup> Blog on PIDapalooza 2018: <https://www.project-freya.eu/en/blogs/blogs/pidalooza-2018>

<sup>27</sup> Blog on PIDapalooza 2019: <https://www.project-freya.eu/en/blogs/blogs/pidalooza-2019-building-a-global-pid-community>

<sup>28</sup> Blog Post on PIDapalooza 2020: <https://www.project-freya.eu/en/blogs/blogs/pidalooza-2020-in-lisbon>

<sup>29</sup> Results of the first two workshops were presented at PIDapalooza in 2019:

<https://doi.org/10.5281/zenodo.2548714> and a workshop report from the London workshop is available at:

<https://www.project-freya.eu/en/deliverables/pid-strategy-workshop-nov-2018-summary-websiteversion.pdf>

Date	Event	Description	Links
2018			
Jan 2018	PIDapaalooza - Spain	Annual conference festival on persistent identifiers.	<a href="#">Event</a> <a href="#">Materials</a>
Jun 2018	EuroCRIS - Sweden	International Conference on Current Research Information where FREYA presented a paper on CRISs and persistent identifiers.	<a href="#">Event</a> <a href="#">Materials</a>
Oct 2018	DI4R - Portugal	Digital Infrastructures for Research (DI4R) conference. FREYA organized a workshop Persistent Identifiers in use: Exchanging ideas about new developments in the field of PID services.	<a href="#">Event</a>
Nov 2018	PID Workshop EU - UK	This workshop followed the International workshop on persistent identifiers (PIDs) for research in Singapore in August 2018 and preceded a PID US workshop in 2019. A summary presentation of the two workshops was given at PIDapalooza 2019.	<a href="#">Event Report</a> <a href="#">Summary presentation</a>
2019			
Jan 2019	PIDapalooza - Ireland	Annual conference festival on persistent identifiers.	<a href="#">Event</a> <a href="#">Materials</a>
May 2019	PID Workshop USA - USA	This workshop followed the International workshop on persistent identifiers (PIDs) for research in Singapore and London.	<a href="#">Event</a>
May 2019	Software citation workshop - UK	FREYA participated in this workshop as a panel member and contributed a presentation on the importance of PIDs in software citation.	<a href="#">Event</a>
Sep 2019	Open Science Fair - Portugal	Open Science Fair, where FREYA contributed to three sessions.	<a href="#">Event</a> <a href="#">Materials</a> <a href="#">Materials</a> <a href="#">Materials</a>

Dec 2019	Software graph hackathon - UK	FREYA and Software Sustainability Institute held a day long hackathon to help us understand how persistent identifiers are used with software.	<a href="#">Event</a>
2020			
Jan 2020	PIDapalooza - Portugal	Annual conference festival on persistent identifiers.	<a href="#">Event</a> <a href="#">Materials</a>
Feb 2020	IDCC - Ireland	15th International Digital Curation Conference in which FREYA participated with a paper and a demo.	<a href="#">Event</a> <a href="#">Materials (paper)</a> <a href="#">Materials (demo)</a>
Mar 2020	CW20 - Online	Collaborations Workshop (CW20) in which FREYA gave a demo on “Using GraphQL to connect software with authors, publications and other scholarly resources”.	<a href="#">Event</a> <a href="#">Materials</a>
Aug 2020	FREYA and EOSC - Online	FREYA and EOSC: Persistent Identifiers in Research Disciplines Workshop which was held to engage with the EOSC Cluster projects on their work and vision on PIDs.	<a href="#">Event</a>
Nov 2020	FREYA Final event - online	The FREYA final event was co-organized with EOSC-Hub and SSHOC and entitled Realising the European Open Science Cloud- Towards a FAIR research data landscape for the social sciences, humanities and beyond.	<a href="#">Event</a> <a href="#">Materials</a>

*Table 3 Overview of key PID events (a list of all events is available in Appendix 1)*

### 2.2.2 EOSC events

The EOSC played a crucial role for FREYA and our work was shaped by the EOSC and its projects. FREYA actively sought the interaction with EOSC initiatives throughout the lifetime of the project and Table 4 gives an overview of key EOSC-related events (for all events see Appendix 1). FREYA participated in EOSC Stakeholder Forums and EOSC Symposiums, as well as conferences organized by our fellow EOSC-projects including, for instance, the final EUDat conference and the annual EOSC-Hub weeks. We organized a series of workshops on services to support FAIR Data together with OpenAIRE, FAIRsFAIR, EOSC-hub and RDA-Europe which resulted in a publication published in Patterns.<sup>30</sup> Last but not least, the final event of FREYA held in November 2020 was a co-organized event, established together with EOSC-Hub and the SSHOC project.

<sup>30</sup> Publication “Recommendations for services in a FAIR data ecosystem”:  
<https://doi.org/10.1016/j.patter.2020.100058>



Figure 4 Martin Fenner (DataCite) and Simon Lambert (STFC) representing FREYA at the ICT conference in Vienna in January 2018

Date	Event	Description	Links
2018			
Jan 2018	<a href="#">ICT exhibition</a> - Austria	FREYA participated in a joint booth in the European Commission Village together with other EC-funded projects working on advancing Open Science; the EOSC-hub, OpenAIRE and RDA Europe.	<a href="#">Event</a>
Nov 2018	EOSC stakeholder forum - Belgium	Stakeholder forum for EOSC stakeholders and EOSC projects.	<a href="#">Event</a> <a href="#">Materials</a>
Dec 2018	<a href="#">EUDAT conference</a> - Portugal	Final conference of the EUDAT project.	<a href="#">Event</a> <a href="#">Materials</a>



2019			
Jan 2019	ESFRI-EOSC Liaison Workshop - UK	FREYA attended the ESFRI-EOSC workshop which was an invite-only event held with EOSC stakeholders and related projects.	<a href="#">Event</a>
Apr 2019	EOSC Hub week - Czech Republic	FREYA attended the EOSC Hub Week and was specifically involved in a session on Services to support FAIR data.	<a href="#">Event Materials</a>
Apr 2019	Services to support FAIR data workshop - Austria	FREYA attended this workshop as part of a series of workshops that were jointly organized by OpenAIRE, FAIRsFAIR, EOSC hub and RDA-Europe in collaboration with FREYA. The results of the workshop resulted in a publication.	<a href="#">Event Publication</a>
Sep 2019	EOSC event - Belgium	The EOSC event <i>Building EOSC through the H2020 projects current status and future directions</i> aimed to increase the visibility of the EOSC-related projects funded by the DGs CNECT and RTD, explore their current state of achievement and discuss issues and potential regarding the next steps towards building the EOSC.	<a href="#">Event</a>
Nov 2019	EOSC symposium - Hungary	FREYA was represented during the EOSC Symposium and was invited to participate in the EOSC coordination day taking place just after the symposium.	<a href="#">Event Materials</a>
2020			
Feb 2020	Workshop on EOSC training - Netherlands	The goal of this invitation-only workshop was to collaboratively work on the Rules of Participation for training in EOSC.	<a href="#">Event Workshop report</a>
May 2020	EOSC-Hub week 2020 - online	FREYA participated in the EOSC-Hub week providing a demonstration on the PID Graph.	<a href="#">Event Materials (Poster)</a> <a href="#">Materials (Poster)</a> <a href="#">Materials (Demo)</a>
Nov 2020	FREYA Final event - online	The FREYA final event was co-organized with EOSC-Hub and SSHOC and entitled Realising the European Open Science Cloud- Towards a FAIR research data landscape for the social sciences, humanities and beyond.	<a href="#">Event Materials</a>

*Table 4 Overview of key EOSC events (a list of all events is available in Appendix 1)*

### 2.2.3 RDA events

The Research Data Alliance played an important role for FREYA and we actively engaged with the RDA and its working and interest groups throughout the project. Table 5 gives an overview of key RDA events (for a list of all events see Appendix 1). FREYA was present at all RDA Plenary meetings in 2018, 2019 and 2020 and actively contributed to several RDA groups throughout the project. In particular, FREYA contributed to several sessions of the PID IG and was part of the team that established the Open Science Graph for FAIR Data Interest Group which brings together scholars interested in PIDs and PID Graphs.



1:32 PM · Oct 21, 2019 · Twitter Web App

Figure 5 Tweet on the FREYA session held at the 14th RDA Plenary in October 2019

Date	Event	Description	Links
2018			
Mar 2018	11th RDA Plenary - Germany	FREYA organized a birds of a feather (Bof) on "EOSC-related European Projects getting Global: Engaging with the RDA" and was involved in a co-located events on the "European Open Science Cloud-Related Projects: Liaison With RDA And New Contributions". FREYA also participated in the collocated event by CESSDA "The use of Persistent Identifiers in the CESSDA ERIC" and in the PID IG session.	<a href="#">Event</a> <a href="#">Materials IG meeting</a>

Nov 2018	12th RDA Plenary - Botswana	FREYA partners were present at this RDA in Africa and reported on the FREYA work in a presentation during a joint Joint Meeting of the IG PID, WG PID Kernel Information and the IG Physical Samples and Collections in the Research Data Ecosystem	<a href="#">Event</a> <a href="#">BoF</a> <a href="#">Event EOSC</a> <a href="#">Event CEESDA</a>
2019			
Mar 2019	13th RDA Plenary - USA	FREYA partners were involved in the BoF on Open Science Graphs for FAIR data which after this plenary became an Interest Group for everyone interested in PID Graphs. FREYA also held a presentation during the PID IG session informing about the FREYA progress.	<a href="#">Event</a> <a href="#">Materials (BoF)</a> <a href="#">Materials (PID IG)</a>
Jul 2019	RDA UK Workshop - UK	FREYA and the RDA UK Node teamed up for a workshop on persistent identifiers, welcoming more than 70 attendees.	<a href="#">Event</a> <a href="#">Materials</a>
Oct 2019	14th RDA Plenary - Finland	FREYA partners chaired the Open Science Graphs for FAIR Data IG session. FREYA partners also gave a presentation during the PIDs for instruments session. In addition, FREYA organized a collocated event “Connecting Open Knowledge in the European Open Science Cloud”.	<a href="#">Event</a> <a href="#">Co-located event</a> <a href="#">Materials (Graph IG)</a> <a href="#">Materials (Inst IG)</a>
Nov 2019	PID NL Workshop - The Netherlands	RDA-NL in collaboration with 4TU, DataCite, Freya, ORCID, and SURF organized this local workshop focused on Persistent Identifiers (PIDs).	<a href="#">Event</a> <a href="#">Materials</a>
2020			
Apr 2020	16th RDA Plenary - online	FREYA participated in several of the online sessions, including the PID IG session during which representatives from ROR and DataCite gave updates about their work.	<a href="#">Event</a>
Nov 2020	15th RDA Plenary - online	FREYA participated in several of the online sessions of the 15th RDA plenary.	<a href="#">Event</a>

*Table 5 Overview of key RDA events (a list of all events is available in Appendix 1)*

## 2.2.4 FREYA Webinars

Next to the conferences and workshops described in the previous sections and listed in Appendix 1, FREYA also organized webinars to distribute information about the project and to gather feedback from the community. In particular in the last year of the project, webinars were an important tool for FREYA to engage with the community as live meetings were not possible due to the global COVID-19 pandemic. In total, FREYA organized or participated in 21 webinars (see Table 6) of which seven were specifically dedicated to the FREYA ambassadors (see section 2.3). Webinars are listed on the FREYA website and recordings are available on the FREYA Youtube channel.<sup>31</sup> Webinars were used to communicate the progress of the project and, in particular in the third year of the project, to showcase the PID Graph services FREYA has been developing. We organized dedicated webinars for all the major services FREYA released, including the GraphQL PID Graph implementation and the Common DOI search<sup>32</sup>, the computational notebooks FREYA developed<sup>33</sup>, and the PID Services Registry<sup>34</sup>.

Time	Audience	Webinar Title	Views (Nov 2020)
2018			
May 2020	Ambassadors	<a href="#">An Introduction to FREYA for our Ambassadors</a>	169
Oct 2020	General	<a href="#">FREYA webinar on PIDs in use: collecting user stories</a>	29
Oct 2020	Ambassadors	<a href="#">FREYA Ambassadors programme webinar</a>	82
2019			
Jan 2019	General	<a href="#">Joint webinar with OpenAIRE on new developments in the fields of PIDs</a>	105
Jan 2019	General	<a href="#">Crossref and DataCite joint data citation webinar</a>	385
Mar 2019	Ambassadors	<a href="#">FREYA Ambassadors webinar on new PID services</a>	61
May 2019	General	<a href="#">FREYA midway webinar</a>	112

<sup>31</sup> FREYA webinar playlist on Youtube: <https://www.youtube.com/playlist?list=PL1qeJ1JuHlxAzrEntj1cNhxq-7P9wT2-5>

<sup>32</sup> PID Graph webinar: <http://doi.org/10.5281/zenodo.3859925>

<sup>33</sup> Jupyter notebooks webinar: <https://doi.org/10.14454/fqq6-w751>

<sup>34</sup> PID Services Registry webinar recording: <https://youtu.be/MTM8d0YbfnY>

Sep 2019	Ambassadors	<a href="#">FREYA ambassador webinar - updates from the ambassadors</a>	67
2020			
Jan 2020	General	<a href="#">DataCite Winter Webinar</a>	unknown
Feb 2020	General	<a href="#">Invited webinar from RDC on the potential of the PID Graph</a>	119
Mar 2020	Ambassadors	<a href="#">FREYA Ambassador webinar on PIDs for facilities</a>	unknown
Apr 2020	General	<a href="#">FREYA webinar on the NARCIS PID Graph</a>	44
May 2020	Ambassadors	<a href="#">FREYA PID services: Graph QL and Common DOI Search</a>	86
May 2020	General	<a href="#">British Library webinar on Project FREYA: How PIDs can connect research together</a>	unknown
Jul 2020	General	<a href="#">FREYA webinar on the PID Services Registry</a>	56
Aug 2020	General	<a href="#">FREYA webinar on the PID Graph in practice- Jupyter notebook demonstration</a>	101
Sep 2020	General	<a href="#">FREYA guest webinar on the CoronaWhy Knowledge Graph</a>	218
Sep 2020	General	<a href="#">Webinar: DataCite Commons – Discovering PIDs and the PID Graph</a>	54
Oct 2020	General	<a href="#">Webinar: A PID Federation – what it could be and what could it do?</a>	16
Nov 2020	General	<a href="#">PIDs for Instrument RDA webinar</a> <sup>35</sup>	-
Nov 2020	Ambassador	<a href="#">Final ambassador webinar</a>	15

*Table 6 Overview of FREYA webinars*

<sup>35</sup> The report was prepared before the link to the webinar recording was available but we aim to make all recordings available on the FREYA YouTube channel.

## 2.3 Ambassadors

The FREYA Ambassador programme was a continuation of the ambassador programme within THOR, the predecessor of FREYA. 37 ambassadors were recruited to the programme between December 2017 and March 2020. Ambassadors were initially viewed as providing a dissemination mechanism for the project, especially to promote the project beyond what the project team could do alone. Table 7 illustrates the broad regional, professional and research discipline spread and Figure 6 illustrates the geographical spread of the FREYA ambassadors. During the course of the project, in recognition of the iterative engagement approach of FREYA, the ambassadors provided a bi-directional relationship. They contributed to project outputs, for instance by providing user stories to inform new PID services, giving feedback on training materials, new PID services and helping with translations of resources into multiple languages.

Through frequent (minimum monthly) mailings, webinars and discussion spaces, the ambassadors were provided with early access to FREYA outputs and a chance to influence them. Moreover, we gave the ambassadors a platform to publicise their work relating to PIDs, including a blog and a competition to present at PIDapalooza in 2019 and 2020 and at our final event in november 2020. In return the FREYA project was promoted more widely than it would otherwise have been. Full details of the programme are described in D5.8 *Report on the Ambassador Programme*.<sup>36</sup>

By Continent		By Function		By Subject	
Africa	2	Data repository	5	Computer Science	1
Australasia	2	Developer	6	Earth Science	1
Europe	23	Library	10	Humanities	5
North America	5	Publishing	1	Life Science	4
South America	1	Research Infrastructure	3	Mathematics	1
Asia	2	Research support	4	Physics	1
Middle East	2	Researcher	8	Social Science	3
		Funder	0		

*Table 7 Breakdown of FREYA Ambassadors by continent, function and discipline. Subject is only included for those who work in a subject specific area e.g. for a research infrastructure or as a researcher.*

<sup>36</sup> Deliverable D5.8 will be submitted at the same time as this deliverable and will be made publicly available on the FREYA Zenodo Community page <https://zenodo.org/communities/freyaproject/>

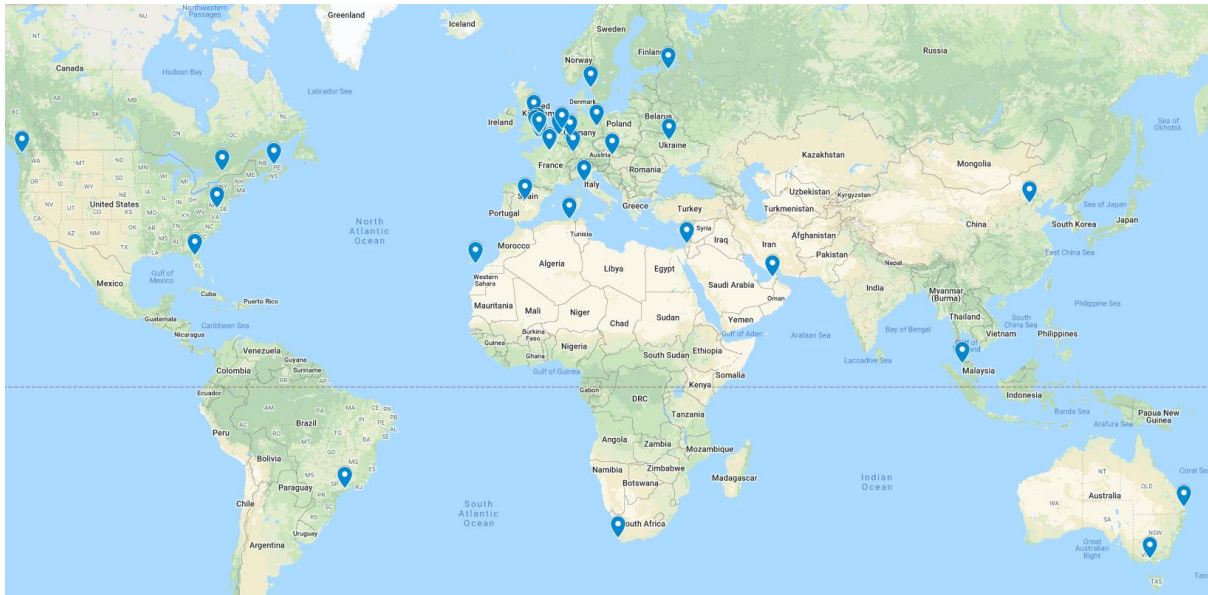


Figure 6 World map showing the home countries of the 37 FREYA Ambassadors

## 3 Training

The project adopted a flexible approach to training in order to meet the broad range of needs for training relating to persistent identifiers both in respect of the level of the materials and the communities engaging with them. Through the Knowledge Hub, events, the Power of PIDs video, the website and Jupyter notebooks, we produced a suite of training materials designed to address a wide range of needs and knowledge levels of PIDs across disciplines. Full details of all the training materials and events are reported in D5.6 “Final Training Materials”.<sup>37</sup>

### 3.1 Knowledge Hub

One of the core components of training materials within FREYA is the Knowledge Hub. This was created in THOR and back then hosted on a readme.io site. Despite initial plans to extend it, once the pidforum.org site was launched it was agreed to migrate the Knowledge Hub to become part of the PID Forum. An analysis of the content of the Knowledge Hub also showed that much of it had become outdated so therefore it was completely rewritten but focusing on the same community groups. Following feedback on the initial suite of content, new sections on *New Types of Persistent Identifiers* and *Why Use Persistent Identifiers* were added. FREYA ambassadors contributed translations of the *Why use Persistent Identifiers?* page making parts of our training materials available for other communities. To date the Knowledge Hub has 10,902 views in total and we expect its materials to be of value to the PID community as part of the PID Forum which is sustained beyond the FREYA project.

### 3.2 Training events

Training events were recognised by FREYA as being core to disseminating information about the project and persistent identifiers more generally. In addition, training events also provided an opportunity for creating materials which can be reused by others. Throughout the project 12 training events took place, excluding webinars organised by the project or other parties (see section 2.2.4), and all have either a recording or materials available online. An overview of all events is given in Appendix 1 and the training events FREYA organized are described in more detail in deliverable D5.6 Final Training Materials.<sup>38</sup> The recordings or materials from our training events and webinars have had 1,799 views and 961 downloads combined from Zenodo and 1,059 views on Youtube. After the submission of D5.4 Initial Training Materials<sup>39</sup> in August 2019, the project committed to evaluating all training events which took place after this date. The evaluated training events had generally positive feedback. A sample of results is included in Table 8.

Event Title	Question	Agree or Strongly Agree
Project FREYA: Connecting Knowledge in the EOSC	I understood the information presented today	94%
	I was engaged during the session	88%

<sup>37</sup> Deliverable D5.6 Final Training Materials will be made available in the FREYA Zenodo Community page <https://zenodo.org/communities/freyaproject/>

<sup>38</sup> Deliverable D5.6 Final Training Materials will be made available in the FREYA Zenodo Community page <https://zenodo.org/communities/freyaproject/>

<sup>39</sup> Deliverable D5.4 Initial training materials: <https://doi.org/10.5281/zenodo.3462140>



(Effectively) Communicating your Research Online	I understood the information presented today	100%
	I was engaged during the session	100%
DESIR Winter School	I understood the information presented today	90%
	I was engaged during the session	80%
		<b>Yes or somewhat</b>
How identifiers can help you in Open Science?	Did you find this session useful?	100%

*Table 8 Sample of training event evaluation results*

## 4 Dissemination

The third strand of our outreach approach focused on dissemination of the project's progress and results to our stakeholders. It is important to note that FREYA has developed a variety of services throughout the project which are disseminated and exploited beyond the lifetime of the project. These include the FREYA PID Graph services, the disciplinary applications and other results FREYA has produced (e.g. the PID Forum). While this deliverable focuses on the general dissemination strategy of the FREYA project that was implemented to inform our stakeholders about the project results, a detailed overview of the dissemination and exploitation of the services is described in Deliverable 5.10<sup>40</sup>.

Dissemination of FREYA project progress and outputs was mainly achieved through the project's website (section 4.1) and our blog (section 4.2), pidforum.org (section 4.3) and our social media channels, including Twitter (section 4.4) and YouTube (section 4.5). We also created other communication materials (section 4.6) and ensured that our publications and deliverables were disseminated to reach a wide audience (section 4.7).

### 4.1 Project website

The FREYA website<sup>41</sup> has been the central place where stakeholders could find and access all relevant information about the project. It includes news updates about the project, the FREYA blog as well as an overview of events and relevant project outputs.

Figure 7 shows a screenshot of the homepage of our website. We established dedicated pages on the different PID services that FREYA has been developing, including the PID Graph<sup>42</sup>, PID Services Registry<sup>43</sup>, The DataCite Commons Common DOI Search service<sup>44</sup>, the PID Forum<sup>45</sup> and the Knowledge Hub<sup>46</sup>. Project outputs including deliverables and publications are listed under the Resource tab. To ease the distribution and accessibility of our outputs, we in addition established a Zenodo community page where FREYA-related resources could be uploaded and received a PID.<sup>47</sup>

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<sup>40</sup> Deliverable D5.10 will be submitted at the same time as this deliverable and will be confidential and not publicly available.

<sup>41</sup> <https://www.project-freya.eu>

<sup>42</sup> <https://www.project-freya.eu/en/pid-graph/the-pid-graph>

<sup>43</sup> <https://www.project-freya.eu/en/pid-graph/pid-services-registry>

<sup>44</sup> <https://www.project-freya.eu/en/pid-graph/datacite-commons>

<sup>45</sup> <https://www.project-freya.eu/en/engagement/pid-forum>

<sup>46</sup> <https://www.project-freya.eu/en/resources/knowledge-hub>

<sup>47</sup> <https://zenodo.org/communities/freyaproject>

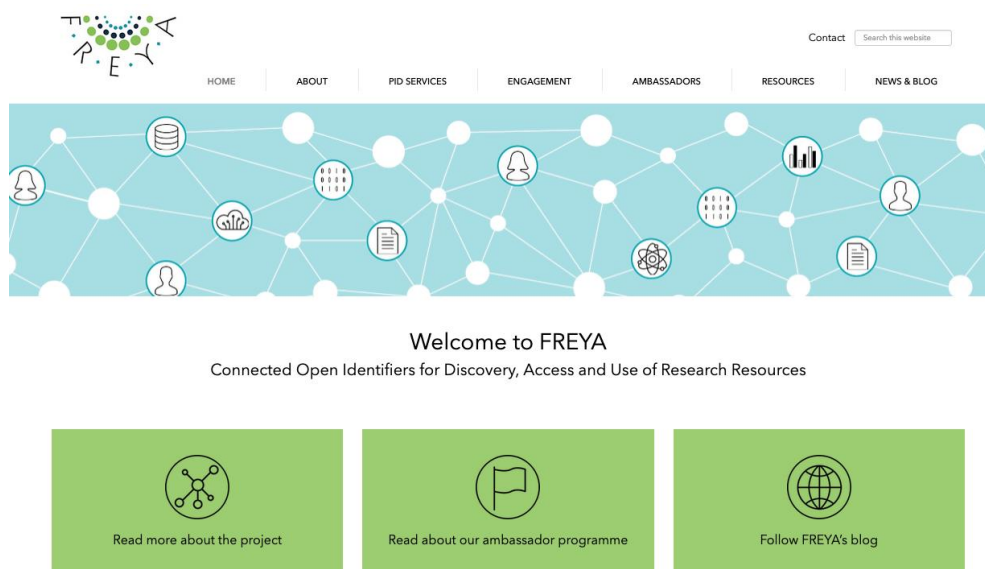


Figure 7 Screenshot of the homepage of the FREYA website

## 4.2 FREYA blog

The FREYA blog hosted on our website formed a central part of our dissemination activities. Throughout the project, we have published a new blog post approximately every two weeks informing our community about the work FREYA has been doing as well as the events we attended or organized. We also used the blog to facilitate guest posts from our ambassadors, FREYA partners, sister projects like EOSC-Hub and OpenAIRE-Advance, or just of general PID interest.<sup>48</sup> Throughout the project, we established two blog post series, one introducing the FREYA partners<sup>49</sup> and one where ambassadors<sup>50</sup> could share their experiences and discuss their role in FREYA. In the last phase of the project, several blogs were dedicated to the services FREYA released including, for instance, the GraphQL API<sup>51</sup> and the Jupyter notebooks<sup>52</sup>. By regularly publishing blog posts we achieved the KPI of 23 blogs per year (see section 6.1).

## 4.3 The online PID Forum (*pidforum.org*)

While the main function of the online forum, *pidforum.org* was to engage and interact with the PID community, *pidforum.org* also played an important role in disseminating our results and news about the project. Partners were encouraged to actively use the PID Forum to promote their work and disseminate information about FREYA and PIDs in general.

<sup>48</sup> Example: <https://www.project-freya.eu/en/blogs/blogs/repost-report-on-recommendations-for-services-in-a-fair-data-ecosystem>

<sup>49</sup> Example: <https://www.project-freya.eu/en/blogs/blogs/australian-research-data-commons-ardc>

<sup>50</sup> Example: <https://www.project-freya.eu/en/blogs/blogs/meet-the-freya-ambassadors-dr-or-berger>

<sup>51</sup> <https://www.project-freya.eu/en/blogs/blogs/repost-powering-the-pid-graph-announcing-the-datacite-graphql-api>

<sup>52</sup> <https://www.project-freya.eu/en/blogs/blogs/using-jupyter-notebooks-with-graphql-and-the-pid-graph>

## Guides to Choosing Persistent Identifiers - your feedback wanted!

PID News & Blogs



maddenfc FREYA

May 29

The FREYA Project team is pleased to announce the publication of our initial [guides](#) <sup>62</sup> on choosing persistent identifiers for different entities and we would like your feedback.

Published on Zenodo, these short guides were created to help with choosing persistent identifiers for various types of entities.

While not intended to be fully comprehensive, they are designed to provide a starting point for anyone thinking about using persistent identifiers in their systems. We created guides for the following entities:

- Publications
- Datasets
- People
- Organizations
- Software

A table summarising all of the guides is also available.

We would value feedback and comments on these first versions throughout June 2020. You can provide feedback in the comments below or via email through [info@project-freya.eu](mailto:info@project-freya.eu). Revised versions will be developed in July 2020.

*Figure 8 Screenshot from a post on the PID Forum asking the community for feedback on our training materials*

## 4.4 Social media: Twitter

FREYA has used Twitter consistently throughout the project and has established a wide reach with more than 1500 followers on our account (@freya\_eu). We had taken over the Twitter account from the THOR project, the predecessor of FREYA, enabling us to communicate with the community that THOR had established. The number of followers grew continuously over the course of the project which is outlined in more detail in section 6 covering the KPIs of the WP5. Twitter was used to provide short, real-time updates about the project and our activities. Twitter was further utilized to disseminate project results, newly released deliverables, and to promote events to the wider community. We also used Twitter to follow the work of our sister projects, including RDA Europe and EOSC-related projects, and promote relevant work of these and other initiatives to our community and stakeholders.

## 4.5 Social media: Youtube

In order to provide our stakeholders with video materials on PIDs, as well as with video recordings of our webinars, we continued and rebranded the YouTube channel<sup>53</sup> that had been established by the THOR project, the predecessor of FREYA.

Over the course of the project, 17 videos have been uploaded to our YouTube channel, including recordings of our webinars (see Table 6 in section 2.2.4) and demonstrations. FREYA has also developed an animated video to promote the importance of PIDs as part of our training materials. This video entitled “the Power of PIDs” (see Figure 9) was well received and at the time of writing has attracted 729 views. The FREYA YouTube channel has reached 83 subscribers as of November 2020.

<sup>53</sup> FREYA YouTube Channel: [https://www.youtube.com/channel/UCQ5Jp19cvtVLPxUB2WVO5CA?view\\_as=subscriber](https://www.youtube.com/channel/UCQ5Jp19cvtVLPxUB2WVO5CA?view_as=subscriber)

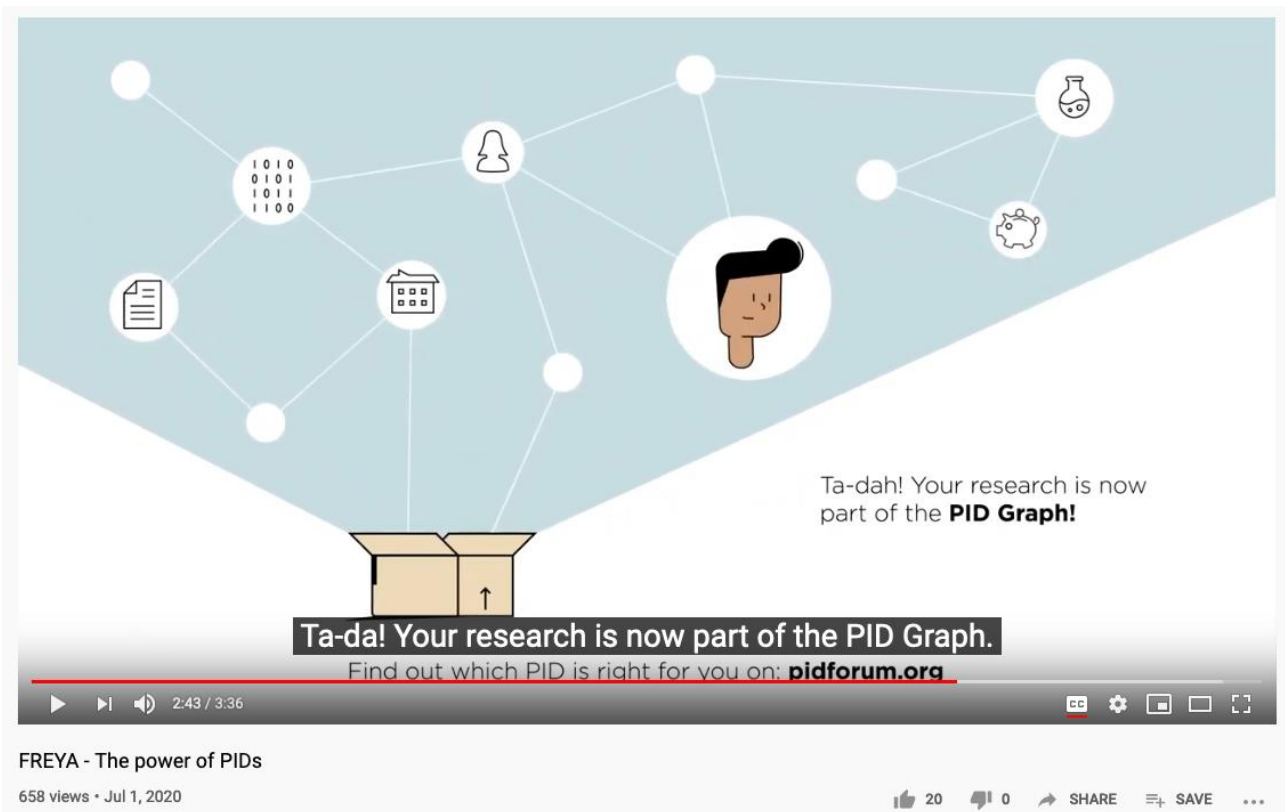


Figure 9 Still image from the Power of PIDs video

## 4.6 Other instruments of communication

Other instruments of communication that FREYA employed to disseminate information about the project included the use of online survey tools like Mentimeter which proved efficient to gather input from the community and foster interaction during in-person as well as online meetings. In addition, we created different promotional materials such as flyers and buttons (see Figure 10) promoting FREYA and the PID Forum which we distributed at conferences, meetings and events.



Figure 10 I love PIDs - PID Forum buttons FREYA distributed at PIDapalooza 2020

## 4.7 Dissemination of publications and deliverables

An overview of FREYA-related publications and deliverables is available on a designated page on the FREYA website<sup>54</sup> from which all our public deliverables can be downloaded. To disseminate our work in the wider community, newly released FREYA publications were promoted through the FREYA website as well as using our Twitter account. Throughout the project, FREYA has contributed to several peer-reviewed publications, such as for instance the Recommendations for Services in a FAIR Data Ecosystem, published in Patterns.<sup>55</sup> FREYA's publications are listed on the project website together with the deliverables. A separate page on the FREYA website<sup>56</sup> provides links to materials of the key events FREYA participated in and organized. FREYA also established a dedicated Zenodo community page<sup>57</sup> for the project where project outputs including our deliverables were uploaded and received a DOI. This page was established in order to allow all FREYA resources to receive a PID which can be used for persistent reference to our outputs beyond the lifetime of the project. Importantly, in this way, the FREYA outputs become part of the PID Graph, making our work available to be found and assessed through the services FREYA has been developing over the past three years (see also section 6.2).

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<sup>54</sup> <https://www.project-freya.eu/en/resources/project-output>

<sup>55</sup> Koers, H., Bangert, D., Hermans, E., Horik, R. van, Jong, M. de, & Mokrane, M. (2020). Recommendations for Services in a FAIR Data Ecosystem. Patterns, <https://doi.org/10.1016/j.patter.2020.100058>

<sup>56</sup> <https://www.project-freya.eu/en/resources/key-events>

<sup>57</sup> FREYA Zenodo Page: <https://zenodo.org/communities/freyaproject/>

## 5 COVID-19 impact and mitigation

The third year of the project was marked by the global COVID-19 pandemic which drastically affected the way in which FREYA was able to engage and communicate with its stakeholders. After the first two months of 2020, travelling to events was not possible for the project members. Several events were cancelled or postponed and other events were moved online. While this did limit the number of face-to-face opportunities for the project, we nevertheless managed to continue the project's work and communication with our community. We intensified our online presence by hosting more webinars which were also made available to the broader community. In 2020, FREYA organized 13 webinars which is more than twice the number we had organized in the previous year. We organized our planned workshops and events digitally, including our final event for which we joined forces with SSHOC and EOSC-Hub. We continued to participate in events organized by others remotely, achieving the KPIs set for conference visits for our project (see section 6). Moreover, we invested in the creation of online materials, including for instance our "Power of PIDs" video (see Figure 9) which we distributed through our social media channels making it available for the broader PID audience.

It has to be acknowledged that the COVID-19 crisis has impacted our engagement opportunities in particular limiting our opportunities for frequent face-to-face contact and fruitful informal discussions. In particular, our engagement with the EOSC, which is under constant development and involves various stakeholders, would have benefitted from face-to-face interactions and opportunities to connect live with the various parties to discuss in formal and informal settings. However, we believe that we mitigated as best as we could looking for opportunities to engage through the digital means available to us during a global crisis. Importantly, it should be noted that the project has not suffered from any major delays and that all the KPIs set for the engagement and outreach activities, as discussed in the next section, were achieved.

## 6 Outreach and engagement achievements

### 6.1 Key Performance Indicators

There were a number of Key Performance Indicators (KPIs) for the communication and outreach activities that were set at the beginning of the project. Table 9 provides an overview of the KPIs and the targets as well as the achievements for each of the KPIs.

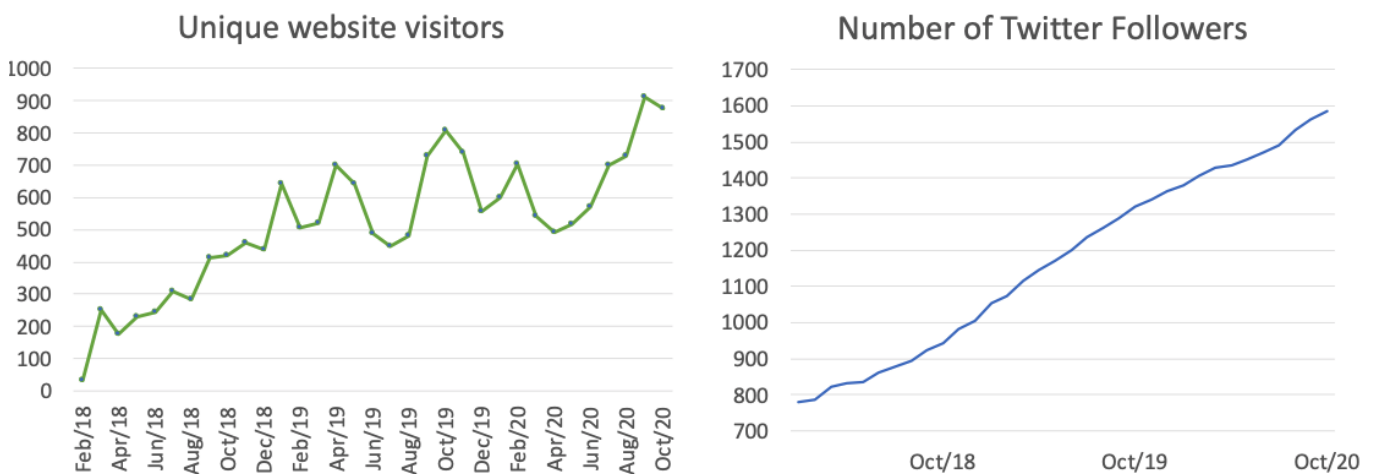
KPI	Target	Achievements	
<b>Number and distribution of participants in the PID Forum</b>	<p>Steady increase throughout the project.</p> <p>Representation of all defined stakeholder groups.</p> <p>Active participation by FREYA partners in six RDA Working Groups/Interest Groups.</p>	<p><b>pidforum.org members:</b> 506 registered users and on average 10.534 page visits per month.</p> <p>Participation in 19 RDA groups.</p> <p><b>PID IG members:</b> 181</p> <p><b>Distribution of participants:</b> On average 520 unique website visitors from 42 different countries each month.</p>	+
<b>PID Forum organization</b>	<p>Workshops and presentations at 10+ events per year, three of which are PID-related events and four service provider events per year.</p> <p>At least one session on each RDA Plenary and continuous offline activity.</p> <p>At least half of the RDA sessions will be jointly organized with other EOSC-building projects or e-infrastructures.</p>	<p>FREYA participated in more than 75 events in total and more than 25 each year. Key PID-related events are listed in section 2.2.1 and key EOSC-related events are listed in section 2.2.2.</p> <p>FREYA engaged in 16 RDA groups and contributed to sessions in each RDA plenary. Key RDA-related events are listed in section 2.2.3.</p> <p>FREYA organized co-located RDA events with EOSC-Hub and OpenAIRE. FREYA and OpenAIRE initiated the establishment of the RDA Open Science Graphs for FAIR Data Interest Group.</p>	+
<b>Number of FREYA Ambassadors</b>	30 ambassadors from 15 different countries.	37 ambassadors from 21 countries.	+
<b>Quality of training activities</b>	Training activities receive positive evaluation from the participants.	The training events we evaluated generally received positive feedback (see section 3.2)	+



	Knowledge Hub content will be extended, revised and updated throughout the project.	The knowledge hub was extended over the project and integrated into pidforum.org (see section 3.1)	
<b>Blog Posts</b>	70 [23 per year]	72 [24 on average per year]	+
<b>Twitter Followers</b>	1000 [in total]	1586	+
<b>Tweets</b>	500 [167 per year]	670 [223 on average per year]	+
<b>YouTube videos</b>	10 [3-4 per year]	17 [6 on average per year]	+

*Table 9 Key Performance Indicators (KPIs) and achievements in FREYA*

The first KPI is related to the number and distribution of participants in the PID Forum. The PID Forum in this context refers to the broader community that FREYA has engaged with through events and other means of interaction. We aimed for a steady increase in the number of people we would reach throughout the project.

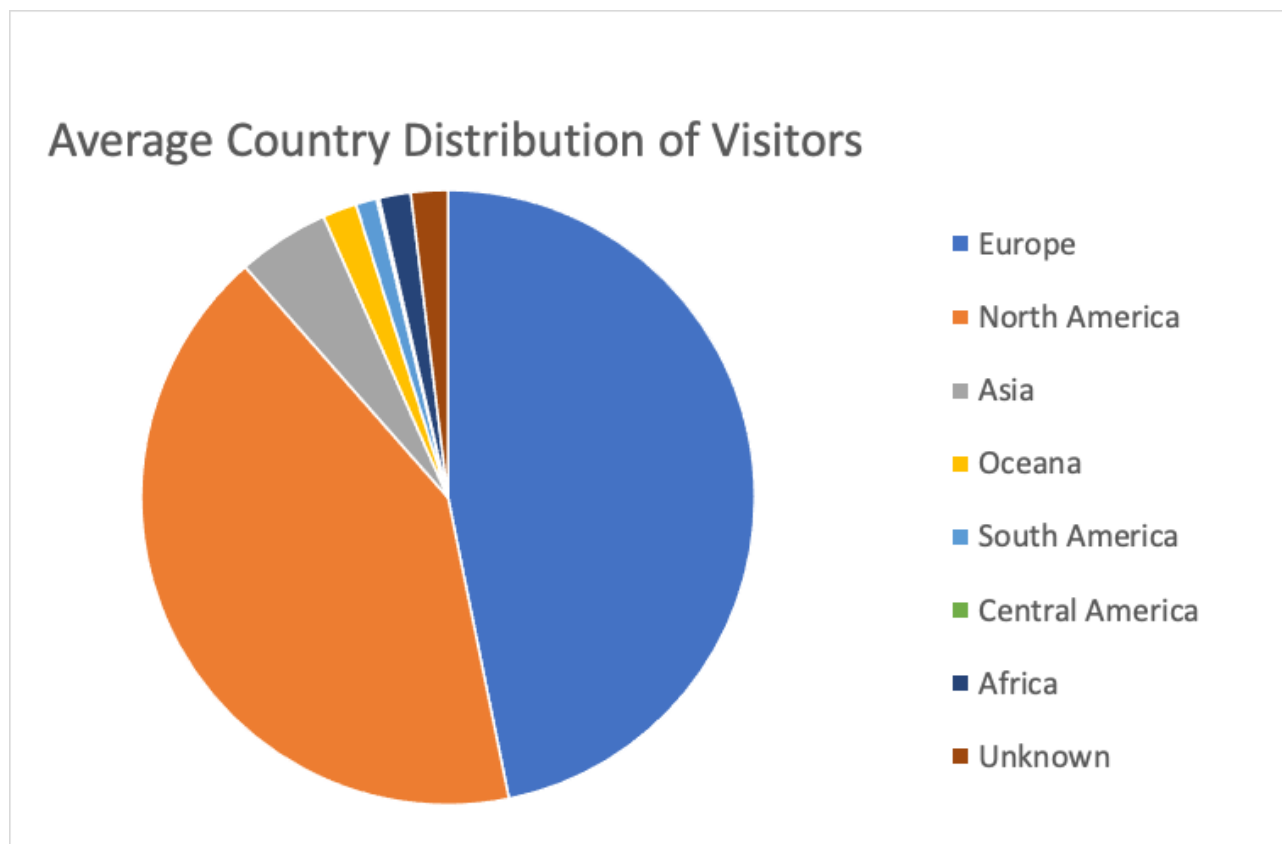


*Figure 11 Number of unique website visitors (average per month) and twitter followers over the course of the FREYA project*

As was illustrated in Figure 2 in section 2.1, the number of users for pidforum.org increased over the course of the project, having reached more than 500 in November 2020. The project website and our Twitter feed also attracted more and more visitors and subscribers throughout the project as can be seen in Figure 11.

With respect to the distribution of the participants, FREYA has engaged with all of the various stakeholders that we identified at the beginning of the project. As can be seen in Figure 1 in section 1.2 and is described in the first section of this deliverable, we reached different stakeholders in our events with a particular focus on engaging with Service Providers and Research stakeholders. Through our ambassadors and through the disciplinary partners in FREYA, we in addition encouraged uptake of our results in various scientific disciplines. With respect to the geographical distribution, our engagement has mainly been

focused on Europe and the US. However, both our ambassador programme and our website and social media had a global coverage. The map in Figure 6 in section 2.3 shows the location of our 37 ambassadors which came from 21 different countries. As is shown in Figure 12, our website, on average, attracts visitors from 42 different countries each month, a majority coming from Europe and North America.



*Figure 12 Summary of the monthly-average geographical distribution of FREYA website visitors*

The second KPI was concerned with the number of events we organized to engage with our community and in particular the EOSC and the RDA. As is described in more detail in section 2.2, FREYA has been involved in more than 75 events over the course of the project. As planned, we have been active in the RDA, attending the plenaries, being involved in working and interest groups as well as organizing co-located events and birds of a feather meetings. We engaged with the EOSC throughout the project, attending relevant events and collaborating closely with our sister projects EOSC-Hub and OpenAIRE. A detailed overview of our interaction with the RDA and the EOSC is reported in our PID Forum reports and summarized above.<sup>58</sup>

The third KPI reflected our engagement with the FREYA ambassadors which is described in section 2.3. We had set out to replicate the success of the ambassador programme that was established in our predecessor project, THOR, and we built on their experiences to set up a diverse group of 37 ambassadors that was actively involved with FREYA, promoting the results in various disciplinary contexts and across 21 different countries.

The fourth KPI concerned the quality of our training materials. As discussed in section 3 and shown in Table 8, the training activities we evaluated generally received positive feedback. The Knowledge Hub containing FREYA's training materials was continuously updated and improved throughout the project and we sought feedback from the community on the displayed materials in various ways. A more detailed report of our training activities is described in deliverable D5.6.

<sup>58</sup> D5.3 <https://doi.org/10.5281/zenodo.2414527> ; D5.5 and D5.7 which will be made available on our FREYA Zenodo community page: <https://zenodo.org/communities/freyaproject/>

The last KPIs that we identified was related to the number of communication activities to be achieved throughout the project. As can be seen in Table 9 all the indicators were achieved and the project results were distributed consistently over the course of the project through our FREYA blog, twitter and YouTube.

## 6.2 Measuring output: The FREYA PID Graph

In this section, we would like to present additional ways of showcasing the results of the project using the PID Graph services FREYA has been developing. As mentioned earlier, FREYA has established a Zenodo community page where outputs of the project, such as our project deliverables and presentations can be uploaded and receive a DOI. All of the DOIs that are linked to the FREYA project will be included in the project's PID Graph and can therefore be queried through the PID Graph services FREYA has developed.

One of the use cases that were identified in FREYA through the work of WP3 was to collect outputs related to a specific grant, like FREYA, in order to assess a project's results. WP2 has taken this and nine other use cases and developed a set of computational notebooks that query the PID Graph in order to collect the relevant information and provide visualisations. FREYA has published these notebooks on GitHub<sup>59</sup> and they have been made available for the general audience through pidnotebooks.org. The use case on grant outputs is illustrated taking the FREYA project as an example<sup>60</sup> showing visualizations related to FREYA and providing the example code, see Figure 13. The work FREYA has done on the notebooks is described in more detail in Deliverable 4.7 "Using the PID Graph: Community Workflows and Discoverability Services".



FREYA WP2  
User Story 10

As a funder, we want to be able to find all the outputs related to our awarded grants, including block grants such as doctoral training grants, for management info and looking at impact.

Funders are interested in monitoring the output of grants they award - while the grant is active as well as retrospectively. The quality, quantity and types of the grant's outputs are useful proxies for the value obtained as a result of the funder's investment.

This notebook uses the [DataCite GraphQL API](#) to retrieve all outputs of [FREYA grant award](#) from [European Union](#) to date.

**Goal:** By the end of this notebook you should be able to:

- Retrieve all outputs of a grant award from a specific funder;
- Plot number of outputs per year-quarter of the grant award duration;
- Display de-duplicated outputs in tabular format, including the number of their citations, views and downloads;
- Plot a pie chart of the number of outputs per resource type;
- Display an interactive chord plot of co-authorship relationships across all outputs, e.g.

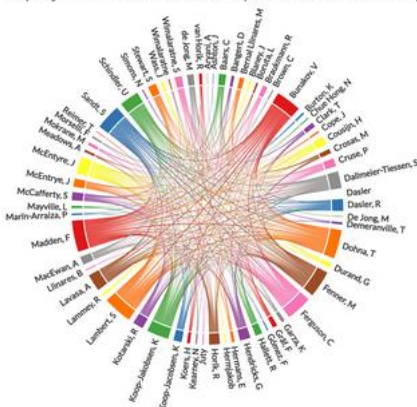


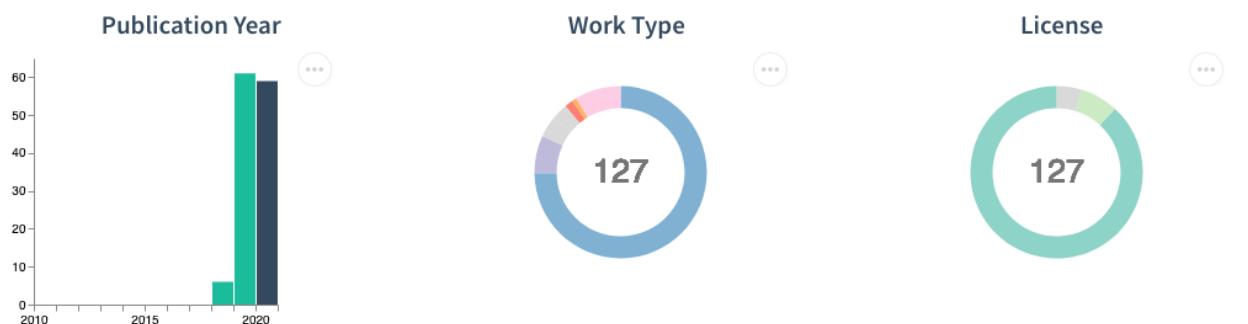
Figure 13 Screenshot from the pidnotebooks.org page on grant outputs, taking FREYA as an example

<sup>59</sup> <https://doi.org/10.14454/fqq6-w751>

<sup>60</sup> <https://pidnotebooks.org/pages/pidgraph-notebooks-python/user-story-10-grant-outputs/>

Similarly, information about outputs for a particular grant can also be found in the DataCite Commons service<sup>61</sup> which is based on the same GraphQL implementation that the notebooks query. The DataCite Commons service (for more details on the service see deliverable D2.4<sup>62</sup>) provides a nice summary of the outputs associated with FREYA and gives a couple of different visualizations of the project outputs. It should be noted that more information is added to the service continuously and that therefore, numbers about the outputs related to FREYA may change over time.

## 127 Works



*Figure 14 Overview of FREYA Outputs listed in the DataCite Commons service. Work Type distinguishes text (blue), software (purple), service (grey) datasets (orange), collection (yellow) and audiovisual (pink). License distinguishes CCBY4.0 (green), no license (grey) and MIT (light green).*

At the time of writing<sup>63</sup>, the DataCite Commons service shows 127 outputs related to the FREYA project, of which most were published in 2019 (61) and 2020 (59) (see Figure 14). Our outputs mainly consist of text documents, including deliverables, reports and presentations, followed by audiovisual outputs, software and services. As shown in Figure 14, FREYA has published the vast majority of outputs with an open license with 112 outputs having a CC-BY 4.0 license and 9 outputs being licensed MIT which is in line with our project's mission to make our results available and reusable for a wide audience.

In addition to these metrics summarizing the project results, the DataCite Commons service also shows an aggregation of views and downloads showing that our outputs have currently attracted 3K views and 168 downloads.

While these numbers indicate that our outputs are widely viewed and re-used, we expect that reuse will continue to grow much more beyond the end of the project. Many of our services and deliverables are finalized in the last months of the project and will likely reach full impact at a later stage. Importantly, the PID Graph services allow anyone to find and assess FREYA-related outputs beyond the project's lifetime ensuring that while the project itself is coming to an end, our services and outputs will remain available for others to build upon.

<sup>61</sup> <https://commons.datacite.org/>

<sup>62</sup> Deliverable 2.4 will be made available through the FREYA Zenodo community page: <https://zenodo.org/communities/freyaproject/>

<sup>63</sup> Information was retrieved from <https://commons.datacite.org/ror.org/00k4n6c32?query=fundingReferences.awardNumber%3A777523> on November 5th 2020.

## Annex A: Overview of events

The table below shows an overview of the events FREYA attended and organized throughout the project. Events that we considered dedicated training events are marked in green.

Date	Event	Location	Type of participation	Approximate audience	Stakeholders	Stakeholders
<b>2020</b>						
28/01/2020	ROR community meeting	Lisbon, Portugal	Presentation	20-100	(PID) Service providers	Research data communities
29/01/2020	PIDapalooza	Lisbon, Portugal	Presentation	100+	(PID) Service providers	Research data communities
29/01/2020	PIDapalooza	Lisbon, Portugal	Session	100+	(PID) Service providers	Research data communities
29/01/2020	PIDapalooza	Lisbon, Portugal	Session	100+	(PID) Service providers	Research data communities
29/01/2020	PIDapalooza	Lisbon, Portugal	Session	100+	(PID) Service providers	Research data communities
29/01/2020	PIDapalooza	Lisbon, Portugal	Session	100+	(PID) Service providers	Research data communities
29/01/2020	PIDapalooza	Lisbon, Portugal	Session	100+	(PID) Service providers	Research data communities
06/02/2020	NWO Social Science and Humanities Synergy meeting	Hilversu, Netherlands	Talk	20-100	Research institutions and academic organizations	Research funding bodies
17/02/2020	IDCC	Dublin, Ireland	Demo	20-100	Research data communities	Researcher communities
26/02/2020	EOSC Training Workshop	The Hague, Netherlands	Workshop	20-100	EOSC Projects or E-infrastructures	EOSC Working Groups
18/03/2020	15th RDA Plenary	Online	Session	100+	Research data communities	Research institutions and academic organizations
31/03/2020	SSI Collaborations Workshop	Online	Workshop	0-20	Researcher communities	Research institutions and academic organizations
27/04/2020	EOSC Validation Workshop	Online	Participation	0-20	EOSC Working Groups	EOSC governance or executive board
04/05/2020	SwePub user Forum 2020	Online	Presentation	100+	Research institutions and academic organizations	

18/05/2020	EOSC Hub Week	Online	Demo	20-100	EOSC Projects or E-infrastructures	EOSC Working Groups
18/05/2020	EOSC Hub Week	Online	Poster	20-100	EOSC Projects or E-infrastructures	EOSC Working Groups
18/05/2020	EOSC Hub Week	Online	Poster	20-100	EOSC Projects or E-infrastructures	EOSC Working Groups
10/06/2020	EOSC PID Policy online consultation	Online	Participation	20-100	EOSC Working Groups	EOSC governance or executive board
25/08/2020	1st Workshop on Scientific Knowledge Graphs -SKG2020	Online	Session	20-100	Research data communities	Researcher communities
10/09/2020	Reproducibility-Replicability-and-Trust-in-Science-2020	Online	Poster presentation	100+	Research institutions and academic organizations	Research funding bodies
10/09/2020	Dutch National Workshop on research information	Online	Attend as panel member	20-100	Research institutions and academic organizations	National or regional or local government agencies
23/09/2020	OASPA	Online	Poster presentation	100+	Publishing industry or enterprises or vendor systems	
06/10/2020	2nd ESFRI RIs- EOSC Workshop - "Research Infrastructures shaping EOSC"	Online	Invite Only	0-20	EOSC Projects or E-infrastructures	EOSC Working Groups
19/10/2020	EOSC Symposium 2020	Online	Participation	100+	EOSC Working Groups	EOSC governance or executive board
22/10/2020	Celebrate Open Access Week with a PIDs Quiz	Online	Quiz and Presentation	20-100	Researcher communities	
28/10/2020	Japan Science & Technology (JST) Seminar	Online	Presentation	100+	Research data communities	Research institutions and academic organizations
09/11/2020	16th RDA Plenary	Online	Sessions	100+	Research data communities	Research infrastructures
09/11/2020	16th RDA Plenary	Online	Poster Presentation on PID Forum (not confirmed)	100+	Research data communities	(PID) Service providers
26/11/2020	FREYA Final Event	Online	Collaborative event with EOSC-Hub and SSHOC	100+	All	

25/11/2020	ORCID Tech Workshop	Online	Rescheduled online workshop organised by Austrian ORCID consortium	20-100	Research institutions and academic organizations	Research funding bodies
<b>2019</b>						
16/01/2019	ESIP Winter Meeting	Online	Remote Presentation	20-100	(PID) Service providers	
23/01/2019	PIDapalooza 2019	Dublin	Presentation	100+	(PID) Service providers	Research data communities
23/01/2019	PIDapalooza 2019	Dublin	Presentation	100+	(PID) Service providers	Research data communities
23/01/2019	PIDapalooza 2019	Dublin	Presentation	100+	(PID) Service providers	Research data communities
23/01/2019	PIDapalooza 2019	Dublin	Presentation	100+	(PID) Service providers	Research data communities
23/01/2019	PIDapalooza 2019	Dublin	Presentation	100+	(PID) Service providers	Research data communities
30/01/2019	ESFRI-EOSC Liaison Workshop [invite only]	London	Presentation	20-100	EOSC Projects or E-infrastructures	EOSC Working Groups
02/04/2019	RDA 13th plenary meeting	Philadelphia , US	Presentation in PID IG	20-100	Research data communities	Research institutions and academic organizations
02/04/2019	RDA 13th plenary meeting	Philadelphia , US	BoF	20-100	Research data communities	Research infrastructures
07/04/2019	Biocuration2019	Cambridge, UK	Poster presentation	20-100	Research data communities	Research infrastructures
09/04/2019	EOSC-hub week	Prague	Workshop	20-100	EOSC Projects or E-infrastructures	EOSC Working Groups
24/04/2019	OpenAIRE FAIR RDM workshop	Vienna, Austria	Workshop	20-100	EOSC Projects or E-infrastructures	Research data communities
30/04/2019	HUBSconference 2019	Hinxton, UK	Poster presentation	20-100	Research institutions and academic organizations	
06/05/2019	PID workshop in Portland, Oregon	Portland, Oregon	Workshop	0-20	(PID) Service providers	
13/05/2019	Software Citation Workshop	London,UK	Workshop	20-100	Research institutions and academic organizations	Researcher communities

20/05/2019	JATS-Con 2019	Hinxton, UK	Poster presentation	20-100	Research institutions and academic organizations	Research data communities
27/05/2019	Research policy monitoring in the era of Open Science and Big Data - OpenAIRE	Ghent, Belgium	Presentation	20-100	Research infrastructures	EOSC Projects or E-infrastructures
13/06/2019	OpenRepositories 2019	Hamburg, Germany	Presentation	100+	Research institutions and academic organizations	Research infrastructures
21/06/2019	Dataverse Community Meeting 2019 at Harvard University	Cambridge, Boston, MA, USA	Presentation	20-100	Research infrastructures	Research data communities
24/06/2019	CarpentryConnect	Manchester	Presentation	20-100	Research data communities	Researcher communities
10/07/2019	Creating platform-driven eInfrastructure innovation on EOSC: EU e-infrastructures clustering workshop	Athens, Greece	Presentation	20-100	EOSC Projects or E-infrastructures	
16/07/2019	RDA UK & FREYA PID workshop	London, UK	workshop	20-100	Research institutions and academic organizations	Research data communities
16/09/2019	IPres	Amsterdam, NL	Presentation	100+	Research infrastructures	
16/09/2019	IPres	Amsterdam, NL	Presentation	100+	Research infrastructures	
17/09/2019	Open Science Fair	Porto, Portugal	Training OpenAIRE/FAIRsFAIR/FREYA	20-100	EOSC Projects or E-infrastructures	Research data communities
17/09/2019	Open Science Fair	Porto, Portugal	Workshop FAIRsFAIR/FREYA	20-100	Research data communities	Research infrastructures
17/09/2019	Open Science Fair	Porto, Portugal	Workshop	20-100	Research infrastructures	Research institutions and academic organizations
16/10/2019	Force2019	Edinburgh, UK	Presentation	20-100	Research data communities	
15/10/2019	DAMDID 2019 and DACOMSIN workshop	Moscow, Russia	Presentation	20-100	Researcher communities	



21/10/2019	RDA P14 Helsinki	Helsinki, Finland	co-located event	20-100	EOSC Projects or E-infrastructures	Research data communities
22/10/2019	RDA P14 Helsinki	Helsinki, Finland	Session	20-100	Research infrastructures	Research data communities
24/10/2019	RDA P14 Helsinki	Helsinki, Finland	Presentation	20-100	Research data communities	Research infrastructures
28/10/2019	MTSR 2019	Rome, Italy	Presentation	20-100	Research data communities	
06/11/2019	ETD2019	Porto, Portugal	Presentation	20-100	Research institutions and academic organizations	Researcher communities
20/11/2019	Challenges in the Scholarly Publishing Cycle 2019	London, UK	Presentation	20-100	Publishing industry or enterprises or vendor systems	
20/11/2019	FREYA - RDA-NL Workshop	Den Haag, NL	workshop	20-100	Research data communities	(PID) Service providers
26/11/2019	EOSC Symposium 2019	Budapest, Hungary	EOSC event	100+	EOSC Working Groups	EOSC Projects or E-infrastructures
28/11/2019	EOSC Coordination Day - Invitation Only event	Budapest, Hungary	Invitation only EOSC event	20-100	EOSC governance or executive board	EOSC Working Groups
04/12/2019	(Effectively) Communicating your research online	London, UK	workshop	20-100	Researcher communities	
04/12/2019	Software Graph Hackathon	London, UK	workshop	20-100	Researcher communities	
11/12/2019	DESIR Winter School - Data and Software Citation	Lisbon, Portugal	workshop	20-100	Researcher communities	
<b>2018</b>						
24/01/2018	EUDAT conference Porto	Porto	Presentation	0-20	Research infrastructures	
20/02/2018	CESSDA PID Workshop (RDA collocated event)	Berlin	Presentation / workshop	0-20	Research infrastructures	
21/03/2018	RDA Plenary	Berlin	Presentation / discussion	20-100	Research infrastructures	Research data communities
21/03/2018	RDA Plenary	Berlin	Presentation/ workshop	20-100	Research data communities	Research infrastructures

23/03/2018	RDA Plenary	Berlin	Presentation / discussion	20-100	Research infrastructures	Research data communities
23/03/2018	RDA Plenary	Berlin	Presentation/ workshop	20-100	(PID) Service providers	Research infrastructures
16/04/2018	EARMA	Brussels	Presentation	20-100	Research institutions and academic organizations	
29/05/2018	ORCID Nordic workshop	Helsinki	Presentation/ workshop	20-100	(PID) Service providers	Research funding bodies
04/06/2018	INORMS	Edinburgh	Workshop	20-100	Research institutions and academic organizations	
11/06/2018	EOSC Summit	Brussels	Presentation	20-100	EOSC Projects or E-infrastructures	Research infrastructures
13/06/2018	EuroCRIS 2018 conference	Umeå, Sweden	2 presentations	20-100	Research institutions and academic organizations	
25/06/2018	RECONNECT 2018	Glasgow	Presentation	20-100	Research institutions and academic organizations	
04/07/2018	LIBER pre-conference workshop	Lille	Workshop	20-100	Research institutions and academic organizations	
27/08/2018	International workshop on persistent identifiers (PIDs) for research	Singapore	Presentations	20-100	(PID) Service providers	Research data communities
03/09/2018	Workshop on Open Citation	Bologna	Presentations	20-100	Researcher communities	Publishing industry or enterprises or vendor systems
06/09/2018	Australian National ORCID Forum	Canberra	2 Presentations	20-100	(PID) Service providers	Research funding bodies
11/09/2018	Working with national bibliographic databases for research output	Antwerpen	Presentation	20-100	Research institutions and academic organizations	
11/09/2018	ICSTI Annual meeting	London	Presentation	20-100	(PID) Service providers	Publishing industry or enterprises or vendor systems
17/09/2018	COASP 2018 Conference on OA scholarly publishing	Vienna	Presentation	20-100	Publishing industry or enterprises or vendor systems	

18/09/2018	PresQT Workshop	Notre Dame US (we connected remotely)	Presentation	20-100	Research institutions and academic organizations	
26/09/2018	GEDE Workshop on digital objects	Brussels	Flyers and participation	20-100	Research institutions and academic organizations	
09/10/2018	Digital Infrastructures for Research (DI4R)	Lisbon	Workshop	20-100	Research institutions and academic organizations	Researcher communities
09/10/2018	DAMDID 2018 (Data Analytics and Management in Data Intensive Domains conference)	Moscow	Presentation	20-100	Researcher communities	Research institutions and academic organizations
12/11/2019	London PID workshop	London	Participation	0-20	(PID) Service providers	
11/10/2018	FORCE2018	Montreal	Poster	20-100	Research data communities	Researcher communities
19/10/2018	eResearch Australasia Conference	Melbourne	Presentation	20-100	EOSC Projects or E-infrastructures	
26/10/2018	MTR 2018 (Metadata and Semantic Research conference)	Limasol	Presentation	20-100	Research data communities	
05/11/2018	RDA 12th Plenary	Gaborone	Presentation in the PID IG	20-100	Research data communities	All
14/11/2018	Crossref LIVE18		Presentation	100+	Publishing industry or enterprises or vendor systems	(PID) Service providers
22/11/2018	EOSC-Pilot event	Vienna	Presentation	20-100	EOSC Projects or E-infrastructures	Research infrastructures
04/12/2018	ICT 2018 conference	Vienna	Exhibition	100+	Research data communities	Research infrastructures