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## **Deliverable DNA2.3:**

# **Summary Report on Training, Communication and Outreach Activities**

### **Deliverable DNA2.3**

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### **Abstract**

This document reports on the training, outreach and promotional activities carried out in the AARC2 project, with a particular emphasis on the work done in the second year of the project (Y2).

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## Executive Summary

The main objectives of the NA2 'Training and Outreach' work package have been to address knowledge gaps in the user communities via training; to support communication among communities and between communities and e-infrastructures in order to facilitate collaboration; and to undertake outreach and dissemination in order to maximise the impact of the project.

In light of the project strategy, the NA2 work package had a special focus on the research communities' and infrastructures' requirements, aiming to identify the common basic training and support needed by these targeted groups with low or no knowledge of AAI, as well as a more tailored approach towards communities with advanced knowledge and experience. In the area of outreach and communications, the final project year saw an intensification of the 'business as usual' production of news and web updates – in line with the increasing maturity of the results being developed and delivered by the other work packages – and preparation to support the longer-term legacy of the project.

The outreach activity [AARC-Outreach] mainly focused on promoting AARC activities and achievements through the production and dissemination of news, materials and web content; and to facilitate interaction and communication among the communities and between the communities and the infrastructures. More information about the various outreach activities is provided in chapter 5.1.

The training activities [AARC-Training], as indicated in the technical annex, started in year two with a broader force on federated access management (FIM) aspects, particularly to support research collaborations to better understand how to design an Authentication and Authorisation Infrastructure (AAI) to support their needs. During the first year of the project it had become clearer that the training during Y2 would focus on offering different levels of training as appropriate to enable research communities to deploy and adopt AARC/AARC2 results, mostly the AARC Blueprint Architecture (BPA), as well as to address sustainability aspects. For these reasons, during the second year of the project the team focused on producing toolkits, producing online materials and delivering very specific training events focused on the AARC Blueprint Architecture. More information on the training are provided in chapter 5.2.

The AARC/AARC2 projects - simply referred to as AARC - have had a tremendous impact for the research communities: the AARC project via the BPA, the policy framework and the guidelines provided a clear path to streamline the deployment of AAI that champion federated access and allow for interoperability. The training and the outreach activities on the one hand passed on expertise and on the other hand maximised reach and impact.

The project website is being restructured to ensure that AARC results can still be accessible and useful beyond the project lifetime; the training materials where possible have been converted to online tools, whilst the guidelines will remain available and further work on them is planned to continue in other forums (mostly [AEGIS]).

AARC concluding at the end of April 2019 will create a gap, as the neutral forum where research and e-infrastructures gather to discuss key interoperability aspects will no longer exist. More considerations about this aspect are provided in the conclusions.

## 1 Introduction

The dissemination, outreach, training and exploitation activity aimed to create a network that goes beyond the AARC project partners and involves as many research communities and libraries as possible, to inform them about the project results and to ensure that results are deployed. Based on the project participants' close ties with target communities, AARC2 engaged with those communities to understand their needs, get their inputs on project activities at key stages, and to deliver appropriate solutions. The main objectives of this work package in AARC2 were to address knowledge gaps in the user communities via training; to support communication among communities and between communities and e-infrastructures in order to facilitate collaboration; and to undertake outreach and dissemination in order to maximise the impact of the project.

This work package had a special focus on the research communities' and infrastructures' requirements, aiming to identify the common basic training and support needed by users with low or no knowledge of AAI, as well as a more tailored approach towards communities with advanced knowledge and experience.

The work package was organised in two sub-tasks: outreach and communication (T1) led by GÉANT, and training (T2) led by Reti.

The objectives of outreach and communication (T1) were threefold:

- to reach out to targeted research communities and libraries to promote the use of federated access and the results from AARC/AARC2;
- to more generally promote AARC activities and achievements through the production and dissemination of news, materials and web content;
- and to facilitate interaction and communication among the communities and between the communities and the infrastructures by means of two delivery platforms: the Community Engagement Forum and AEGIS, the AARC Engagement Group for Infrastructures.

In the area of outreach and communications, the final project year saw an intensification of the 'business as usual' production of news and web updates – in line with the increasing maturity of the results being developed and delivered by the other work packages – and preparation to support the longer-term legacy of the project. The goal was to ensure that the project's objectives, community-building activities and results were widely disseminated in a timely way to the appropriate target communities, via appropriate methods. Using project and partner channels, AARC tried to reach out to individuals and communities that could contribute to the development, evaluation, uptake and exploitation of the results.

The training work package had a special focus on the research communities' and infrastructures' requirements, aiming to identify the common basic training and support needed by users with low or no knowledge of AAI, as well as a more tailored approach towards communities with advanced knowledge and experience.

The initial objective of this Task was to reach out to targeted user communities and promote the use of federated access via training. Later the training task focused on supporting research collaboration to better understand how the benefits of FIM and most importantly to understand how to benefit from the AARC/AARC2 BPA and related policy frameworks. The Task offered different types of training focusing on the needs of the end-user communities:

- Basic training – The Task provided use cases and scenarios to fill the knowledge gaps of user communities in respect to what they could or should do within AAI.
- Advanced training – The Task supported communities in developing knowledge about how to deploy technical components of the BPA and related policy frameworks.
- Training on AARC/AARC2 results – Training on the final results of AARC and the AARC2 pilots and policy activities were organised in AARC2 in collaboration with SA1 and NA3.

## 2 Activities and achievements

This section explains the work carried out during the final year of AARC2 for both the outreach and the training activities.

### 2.1 T1 - Outreach

#### 2.1.1 Audiences for the Outreach Activities

There have been a variety of target audiences for AARC's dissemination outreach, training and exploitation activities.

Based on the project participants' close ties with different research communities and libraries, AARC has used those connections to engage with those communities to understand their needs, get their inputs on project activities at key stages, and deliver appropriate solutions. The target audiences can be divided in the following groups:

- **Project partners** – AARC's size is big enough to make it harder for all partners to follow everything. It is therefore important to ensure that everybody in the project remains informed about progress and achievements. This has been achieved through project mailing lists and shared use of the project Slack channels and Wiki workspace.
- **Service providers in research/e-infrastructures, research and e-infrastructures and federation operators not directly involved in AARC** – Many of the AARC results are very useful to research infrastructures and international research collaborations beyond those directly involved in the project. To ensure wide visibility of the AARC results, AARC organised presentations at major events (such as TNC, DI4R, Internet2, EGI Conferences, and others), arranged dedicated meetings with relevant parties (such as with the representatives of the eleven biomedical research collaborations that cluster in CORBEL, with PRACE representatives, EUDAT representatives, HEP projects representatives, with representatives of various astrophysics projects, etc.). AARC results were promoted via newsletters, social media, and periodic infoshares (open webinars where AARC participants reported on specific topics). Equally, as feedback from research collaborations not involved in AARC was very important to achieve the end results, AARC also used its open mailing list to collect feedback at large.
- **Libraries** – The libraries were a strategic target community in the first AARC project. Although AARC2 no longer had libraries as a focus of its technical work, the community was still represented among the

project partners and work continued in NA2 to disseminate useful information to this community, chiefly through presentations at library community events.

- Other EC-funded projects – AARC2 used EC platforms and events to share results to reach out to other EC-funded projects. Among all the projects, AARC2 engaged most closely with EUDAT (via common partners to discuss pilot opportunities), GN4 (mostly in relation to how AARC2 results could be deployed within eduGAIN) and PRACE (via common partners, to discuss pilot opportunities). AARC2 also engaged with EOSC projects via common partners, and with most of the ESFRI projects via FIM4R and through the research collaborations that participated in the AARC pilots.
- Policy makers – This group includes WISE, European Commission and other international relevant entities.

## 2.1.2 Dissemination Tools and Channels

To successfully convey messages in line with the goals identified in section 1, the project consortium used three main approaches: online and interactive tools and channels, paper tools in the form of leaflets and posters, and face-to-face tools. The table below reports on the tools and channels used and whether they were used to disseminate project results internally and externally.

Dissemination tools & channels	Internal	External
Project website	✓	✓
Project wiki	✓	
Webinars	✓	✓
Other websites (partners, EC etc.)		✓
Blogs	✓	✓
Social media (Twitter, Facebook, LinkedIn)	✓	✓
Project events	✓	
Other events		✓
Leaflet / targeted publications		✓
Project mailing lists	✓	
Other mailing lists		✓
Newsletters		✓
Training events		✓
Project Slack	✓	

Table 1: Dissemination tools and channels

## 2.1.3 Detailed list of activities

The list of activities this Task focused on is summarised below and detailed further on in this chapter.

- Coordinated the activities of the Community Engagement forum and virtual Competence Centre
- Coordinated collaboration, communication and training among communities via the Community Engagement forum.



- Continued the outreach campaign started in AARC to raise awareness about federated identity.
- Continued the promotion started in AARC towards user groups such as libraries and arts and humanities groups to facilitate their adoption of federated identity management.
- Disseminated the results of AARC and AARC2.
- Implemented a campaign to raise visibility of the Trust & Identity work area and to show the diverse backgrounds of people working in this area. The campaign was promoted in the context of women in STEM and took place in the month between Women & Girls in Science Day and International Women's Day (11 feb - 8 March).

## OUTREACH

The Task continued the outreach campaign started in AARC to optimise the uptake of federation access, reaching out to communities that had not been previously approached. To expand the reach and maximise the impact, this Task leveraged liaisons with other projects and initiatives and existing relationships. The Task also facilitated interaction and communication among the communities and between the communities and the infrastructures by means of two delivery platforms:

- The Community Engagement Forum – AARC2 recognised the need to engage with research communities outside the AARC2 project. The FIM4Rforum existed already; AARC2 not only used that forum as a vehicle for communication but also contributed effort to bring new energy into the group. FIM4R offered a good forum for presenting and receiving feedback on the progress of the AARC pilots as well as on key policy and technical results.
- The AARC Engagement Group for Infrastructures (AEGIS) – AEGIS brings together representatives from research and e-infrastructures, operators of AAI services and the AARC team to bridge communication gaps and make the most of common synergies. Participation in AEGIS is limited to those research collaborations and e-infrastructures that are already operating or piloting an AARC-compliant BPA. The goal of AEGIS is to create a communication channel with research and e-infrastructures to ensure that they are aware of and can adopt AARC2 results in their production environments. AEGIS also enabled the AARC2 team to consult AEGIS participants to get feedback on AARC2 guidelines or any other relevant result. AEGIS meets monthly and during the virtual meetings, AEGIS members are asked to review relevant guidelines and to endorse them.

Between May 2018 and April 2019, AEGIS endorsed the following guidelines:

- [\[AARC-G002\] Guidelines on expressing group membership and role information](#)
- [\[AARC-G021\] Exchange of specific assurance information between Infrastructure](#)
- [\[AARC-G031\] Guidelines for evaluating the combined assurance of linked identities](#)
- [\[AARC-G027\] Guidelines for scalable and consistent authorisation across multi-SP environments](#)

The role of NA2 is to further promote AEGIS-endorsed documents to a wider audience and to support the visibility of the Community Engagement Forum / FIM4R.

The outreach and communication team supported the other work packages in producing the necessary materials to promote the work done, managed the AARC online presence (website, blogs, social media, AARC in action, etc.) and coordinated AARC2 inputs for publications and blog posts beyond the AARC boundaries.

## NEWS

Within the final year of the project, from May 2018 to early April 2019, 13 news blogs were published on the AARC project website and disseminated across the project and GÉANT channels:

- 2 Apr **AARC cruising towards a sweet end**  
<https://aarc-project.eu/aarc-cruising-towards-a-sweet-end/>
- 1 Apr **Library community to build on AARC outputs with new FIM4L initiative**  
<https://aarc-project.eu/library-community-to-build-on-aarc-outputs-with-new-fim4l-initiative/>
- 26 March **Registration open for IAM Online webinar on the AARC Blueprint Architecture**  
<https://aarc-project.eu/registration-open-for-iam-online-webinar-aarc-blueprint-architecture/>
- 26 Feb **AARC research communities share experiences at FIM4R**  
<https://aarc-project.eu/aarc-research-communities-share-experiences-at-fim4r/>
- 14 Jan **AARC launches Policy Development Kit for Research Infrastructures**  
<https://aarc-project.eu/aarc-launches-policy-development-kit-for-research-infrastructures/>
- 17 Dec **Register for FIM4R: trust & identity updates for research communities by AARC, REFEDS, WISE and more**  
<https://aarc-project.eu/register-for-fim4r-trust-identity-updates-for-research-communities-by-aarc-refeds-wise-and-more/>
- 11 Dec **Webinar on AARC & REFEDS assurance suite – 13 Dec 2-3pm CET**  
<https://aarc-project.eu/webinar-on-aarc-refeds-assurance-suite-13-dec-2-3pm-cet/>
- 3 Dec **AARC gears up for final months, with a view to long-term legacy**  
<https://aarc-project.eu/aarc-gears-up-for-final-months-with-a-view-to-long-term-legacy/>
- 19 Nov **Enabling single sign-on across EOSC-hub and OpenAIRE services**  
<https://aarc-project.eu/enabling-single-sign-on-across-eosc-hub-and-openaire-services/>
- 9 Nov **Research communities ‘plug in’ to AARC expertise to benefit their users**  
<https://aarc-project.eu/research-communities-plug-in-to-aarc-expertise-to-benefit-their-users/>
- 12 Jun **FIM4R releases 2nd white paper on federated identity management for research**  
<https://aarc-project.eu/fim4r-releases-2nd-white-paper/>
- 8 Jun **AARC reviews achievements and goals for final year**  
<https://aarc-project.eu/aarc-reviews-achievements-goals-final-year/>
- 28 May **AARC training for life sciences improves understanding of authentication and authorisation infrastructures**  
<https://aarc-project.eu/aarc-training-for-life-sciences-improves-understanding-of-aai/>

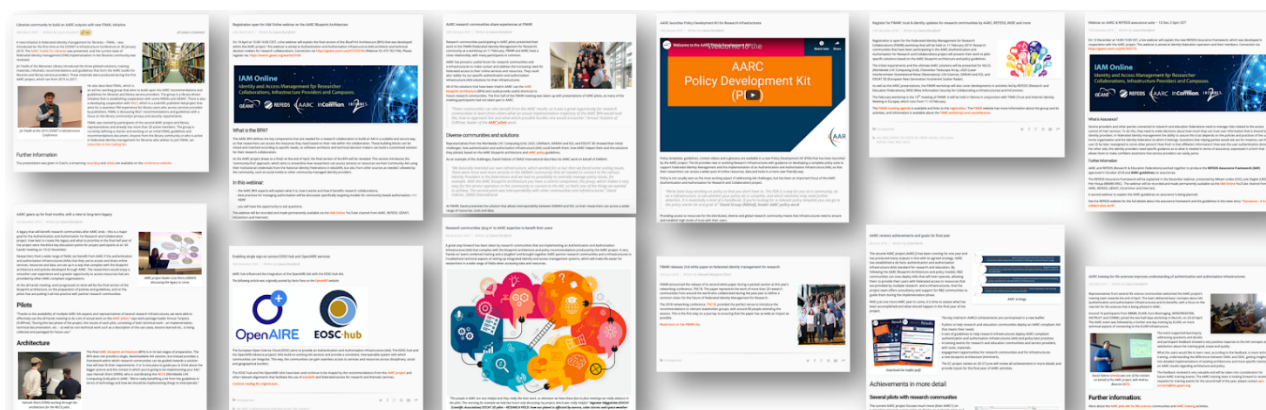


Figure 1 - Screenshots of some of the produced news

There were also 9 pages of content published in the GÉANT CONNECT magazine about / mentioning AARC:

- Edition 31 (published in March 2019)
  - Follow in our footsteps: AARC communities share experiences at FIM4R
  - AARC achievements benefit research collaborations  
<https://bit.ly/2HQSZjF>
  - GÉANT e-Academy hosts new learning content for research communities  
<https://bit.ly/2WvuCLy>
  - Life at GÉANT - Licia Florio, Senior Trust & Identity Manager  
<https://bit.ly/2V0lvCj>
  - \*Women in Trust & Identity
  - Trust & Identity programme going strong in 2019  
<https://bit.ly/2FxgoCP>
- Edition 29 (published in June 2018)
  - The AARC Blueprint Architecture to support research collaborations
  - AARC gives federated identity training to research communities  
<https://bit.ly/2uvsebD>



Figure 2: Screenshot of the Connect articles

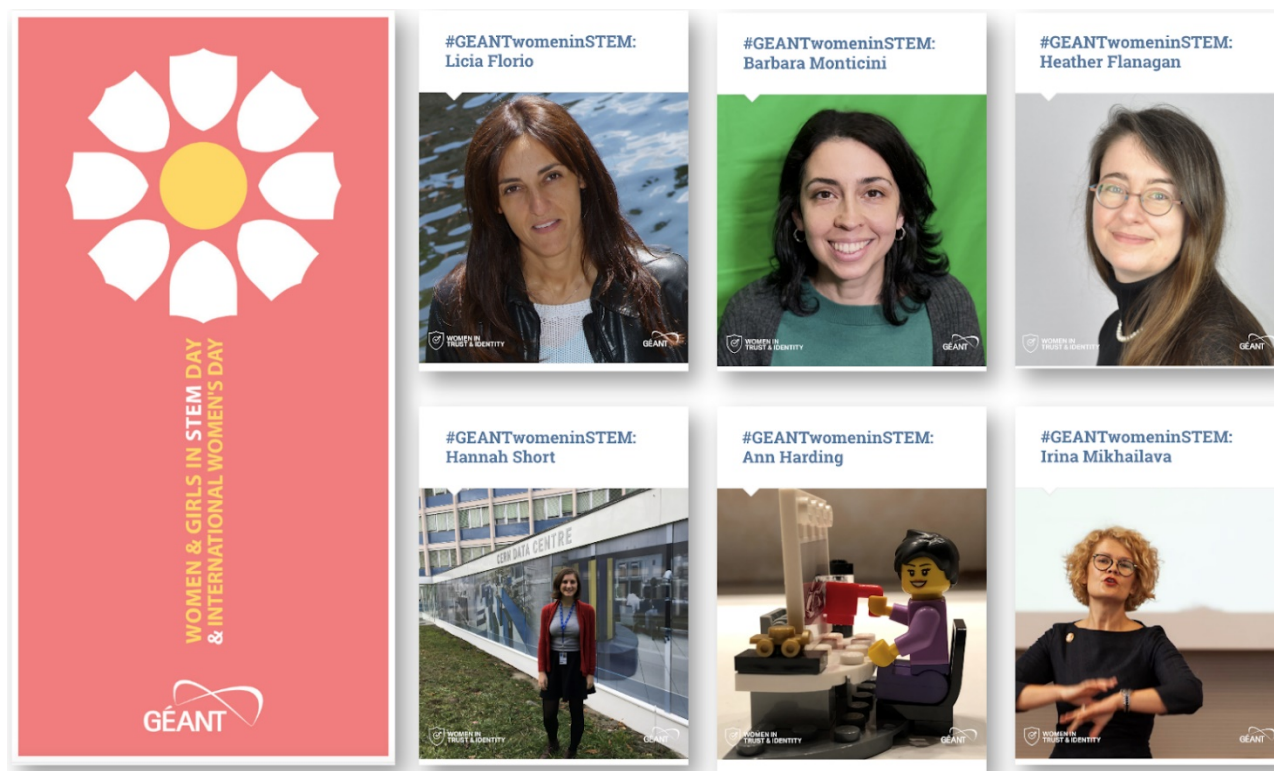
\* The GÉANT 'Women in Trust & Identity' social media campaign was originated by the AARC project. Starting on Women & Girls in Science Day (11 February) and ending around International Women's Day (8 March), this campaign not only highlighted the role of women in STEM (Science, Technology, Engineering, Mathematics), it highlighted Trust & identity as a significant work area within the wider GÉANT community and also revealed a diverse range of backgrounds and roles of those taking part. This campaign was intended as a general visibility raiser for the Trust & Identity area, and an opportunity for AARC to explain ties to the project and to provide links to relevant parts of the project website.

In total, 11 organisations contributed stories about 16 women, 5 of whom have an integral relationship with AARC and 3 of whom have contributed to AARC work through their involvement with REFEDS (Research & Education Federations) and / or the GÉANT project. An initial announcement, a gif and a closing collage were also posted.

On the GÉANT social media channels, this campaign generated a total of:

- Impressions / Reach
  - 69,829 on Twitter
  - 11,273 on Facebook
  - 9,203 on LinkedIn
- Link clicks
  - 201 on Twitter
  - 171 on Facebook
  - 224 on LinkedIn
- Engagement
  - 1,462 on Twitter
  - 3,242 on Facebook

- 400 on LinkedIn



*Figure 3 - Women and Girls in STEM day*

These news stories and other content such as photos were disseminated via the AARC social media channels in the final year of the project: Efforts were made to increase the use and effectiveness of these channels, supported by likes and shares by participants and on partner channels. By the end of March 2019, the number of followers had grown to 229 on [Twitter](#), 28 on [LinkedIn](#) and 89 on [Facebook](#).

In the 11 months between the start of project year two and the end of March 2019:

- 111 posts were published on Twitter (58 Tweets & 53 Retweets)
  - Average engagement 0.59% (top posts were about the EOSC Hub portal AAI is AARC compliant (5.1%), an update on the LifeWatch pilot (3.2%), thanking the host partner for the final All Hands meeting (3.1%).
  - Impressions - 109,014 total, 9,910 average monthly. Top posts were about the final plugfest (6439), RAF webinar (5811), and the FIM4R whitepaper (4228)
- 35 posts were published on Facebook
  - Impressions - total 11412, average per post 326 (top posts were about the REFEDS Assurance Framework webinar (1.1k), the EOSC Hub portal AAI is AARC compliant (1.1k), the BPA webinar (949)
  - Reach - total 7575, average per post 216.4 (top posts were about the EOSC portal (813), the RAF webinar (785) and the BPA webinar (656)



- Average engagement rate 11.8% (top posts were about the start of the final All Hands meeting (32%), a photo album from the final plugfest (29%) and a report on the November All Hands meeting (28%).
- 16 on LinkedIn
  - Impressions - total 1237, average per post 77.3 (top posts were about Licia Florio winning the Vietsch Award (258), training for life sciences (179), launch of the Policy Development Kit (168).
  - Average engagement 6.95% (top posts were about Licia Florio's Women in STEM blog (14.29%), blog about the project gearing up for the final months and legacy (17.39%), the RAF webinar (17.24%).

In the final month of the project after this report is published, it is expected that around more news blogs will be produced, as well as at least one more CONNECT article (to be published in time for TNC19) and an EGI newsletter article. We also plan to run a social media campaign ("Start with AARC") to draw visitors to various specific project products and results, with the idea that the AARC legacy will help to give future users a head start in setting up an AAI that works for them, even after the project has ended.

## EXTERNAL COVERAGE

AARC results and activities were reported upon or otherwise mentioned in some partner channels and by external entities. Here is a sample selection:

- June 2018 – EGI Newsletter article  
Making GDPR easier for research collaborations: David Groep introduces the guidelines published by the AARC project  
<https://www.egi.eu/about/newsletters/making-gdpr-easier-for-research-collaborations/>
- EGI web page  
<https://www.egi.eu/about/projects/>
- February 2019 – Cyberwatching.eu – Project of the week  
webpage at <https://www.egi.eu/about/newsletters/making-gdpr-easier-for-research-collaborations/>  
plus multiple social media posts
- GARR web page about digital identity  
<https://www.garr.it/it/ricerca-e-formazione/ricerca/identita-digitali>
- DAASI International reports / mentions about AARC:  
<https://daasi.de/de/2018/11/21/viertes-aarc2-meeting-in-mailand/>  
<https://daasi.de/de/2018/11/19/peter-gietz-bei-der-tagung-digital-humanities-austria-2018/>  
<https://daasi.de/de/2018/06/12/gemeinsam-fuer-die-zukunft-der-forschung-fim4r-stellt-ihre-neuen-visionen-vor/>  
<https://daasi.de/de/2018/02/12/from-data-to-knowledge-das-rda-plenum-erstmal-in-deutschland-daasi-international-ist-sponsor/>
- DAASI International-hosted website for FIM4L  
<https://daasi.de/de/fim4l/>
- EC Infocentre Article  
A blueprint for accelerating research collaborations  
[http://ec.europa.eu/research/infocentre/article\\_en.cfm?artid=49879](http://ec.europa.eu/research/infocentre/article_en.cfm?artid=49879)

- Jülich Supercomputing Centre web page  
[http://www.fz-juelich.de/ias/jsc/EN/Research/Projects/\\_projects/aarc2.html](http://www.fz-juelich.de/ias/jsc/EN/Research/Projects/_projects/aarc2.html)
- LIBER web page  
<https://libereurope.eu/our-activities/projects/aarc/>
- EPOS news link  
<https://www.epos-ip.org/news-press/news/epos-pilot-aarc-plugfest-2018>
- Cyfronet web page  
[http://www.cyfronet.krakow.pl/en/projects/13515,artykul,current\\_international\\_projects.html](http://www.cyfronet.krakow.pl/en/projects/13515,artykul,current_international_projects.html)
- SURFnet Wiki page  
<https://wiki.surfnet.nl/display/SCZ/Science+Collaboration+Zone+Home>
- FIM4R news  
<https://fim4r.org/2019/02/26/research-communities-share-experiences-at-fim4rs-13th-workshop/>
- EOSC-hub news  
<https://www.eosc-hub.eu/news/progress-thematic-services>
- EOSC-hub AAI page  
<https://www.slideshare.net/TheEOSChubproject/curious-about-eosc-federated-aai-130894046>
- OpenAIRE blog  
<https://www.openaire.eu/blogs/enabling-single-sign-on-across-eosc-hub-and-openaire-services-1-1>

## MATERIALS

New print materials were produced in the course of the final project year: a poster about federated single-sign-on for libraries was made in collaboration with partner LIBER and was presented at the 2018 TNC and LIBER conferences; a double-sided leaflet explained the relationship between AARC and eduGAIN; a double-sided leaflet was produced to highlight the project's achievements at the start of the final year. These were all made available online at: <https://aarc-project.eu/outreach/>.

The eduGAIN-AARC leaflet was made in response to a recommendation that was given during the year 1 review.



Figure 4 - Leaflets produced to disseminate project's results

On the project YouTube playlist [[AARC-YouTube](#)] 6 videos were uploaded: 5 were the interviews that formed part of the Policy Development Kit moodle content and the 6<sup>th</sup> was a promotional video for the whole kit. These clocked up 384 views between publication on 14 January and reporting at the end of March.

Before the end of the project more materials will also be produced and disseminated including:

- 3 social-media-friendly short videos to promote the BPA, the PDK and AARC in Action
- stills from the above videos that can be used in other contexts
- branded bags as giveaways for project participants
- two webinars – on the BPA, and on the AARC extensions and implementations of the RAF – and videos

All leaflets, posters and videos carry the EU flag logo and the project funding statement.



## WEBSITE & BRANDING

At the start of the second AARC project, the decision was made to continue using the original project website and logo, rather than changing branding and URLs part way through the total 4-year AARC lifespan. This provided continuity in brand recognition and allowed us to re-package the main AARC outputs in a way that provides the most sustainable legacy for the project. Therefore, in addition to ongoing website updates such as adding new content as it was created, the NA2 T1 team have also / are in the process of:

- Restructuring the homepage so that it becomes a 'shop window' that showcases all the most useful products from both project phases in way that allows future visitors to easily find what they need.

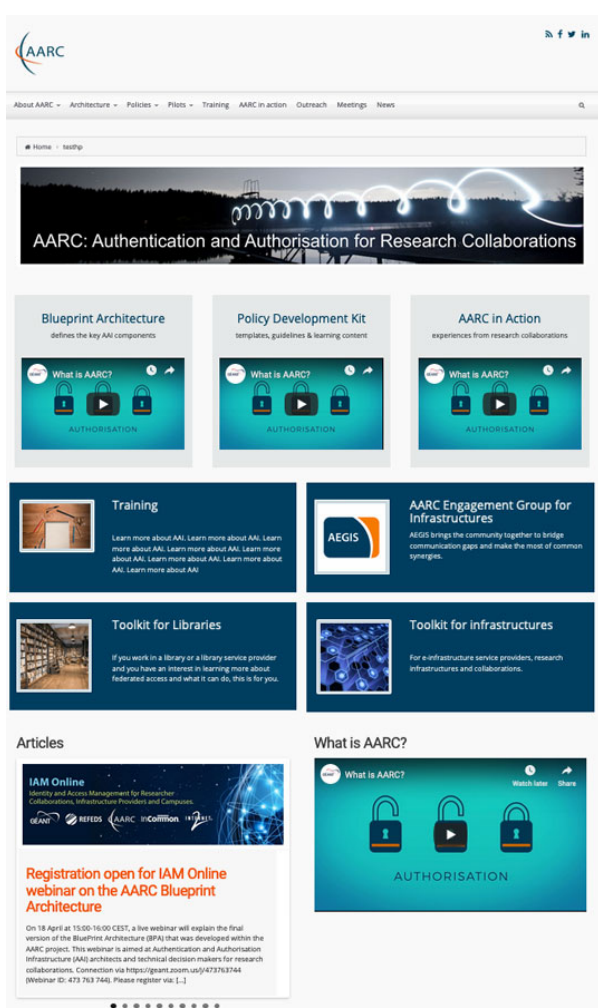
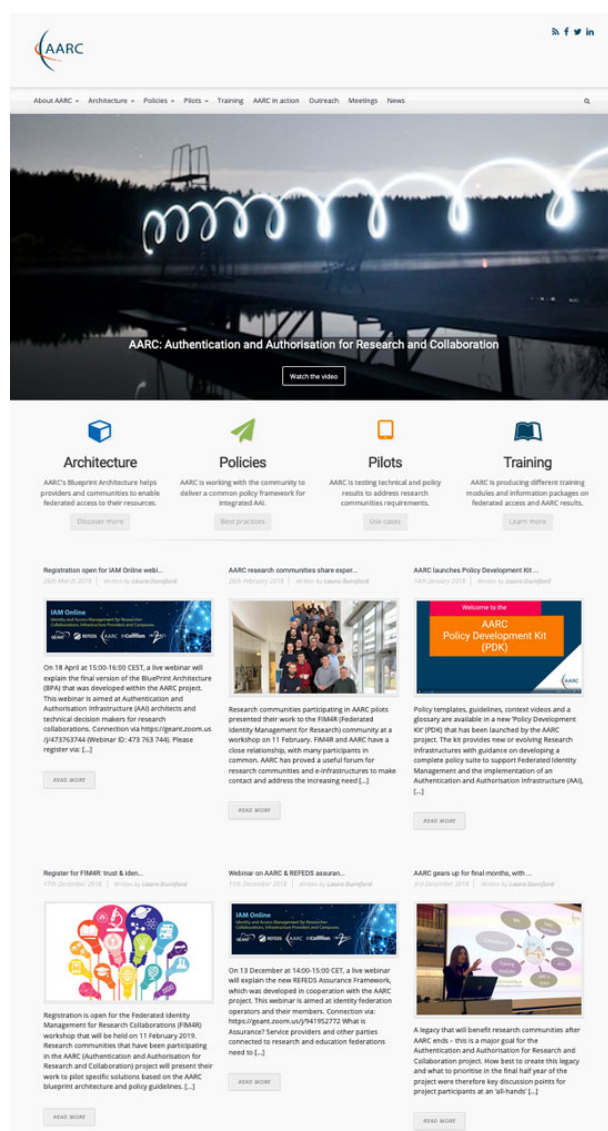


Figure 5 - The homepage layout in March 2019 and as planned for the end of the project

- Creating, building up and restructuring case study pages to showcase the AARC2 pilot partner user stories, relevant documentation, training materials, policies and guidelines and technical solutions in one place, in cooperation with the Pilots team. This should give future visitors the opportunity to

compare their AAI requirements with those of the pilot partners and see which AARC solutions may best help them. These are promoted as the 'AARC in Action' package.

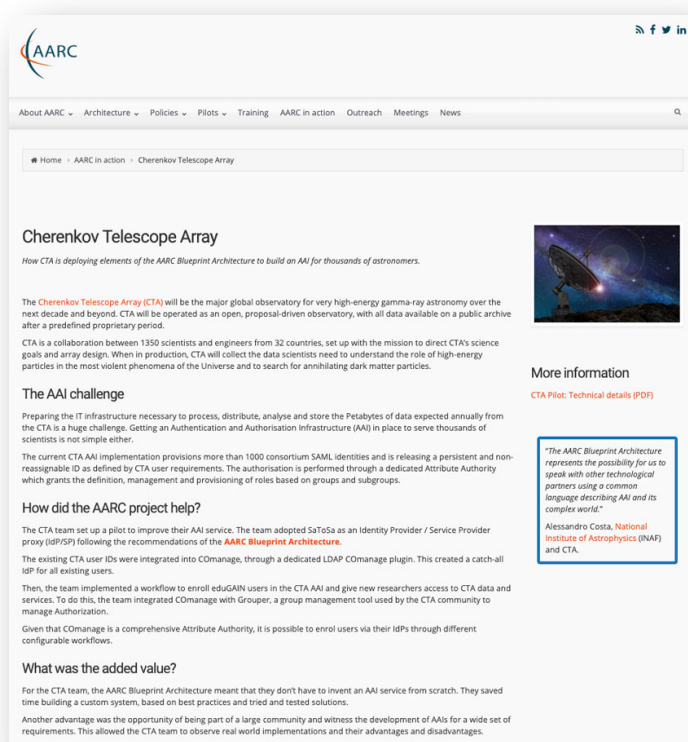


Figure 6 - Example case study page

- Restructuring layer 2 pages about the Architecture, Policy Development Kit and AARC in Action so that they align with the content and structure of the homepage and the case studies, and with the messaging that will be used to promote all the key results.

The project website carries the EU flag logo and the project funding statement.

## 2.2 Task 2 - Training

Within the final year of the project, from May 2018 to early April 2019, the work carried out by the training Task has been the following:

- Identified knowledge gaps and designed and executed training solutions to help research communities with low or no experience to overcome obstacles in the uptake of federated access.
- This training phase followed a structured process to identify and analyse actual training needs and to design initiatives to achieve actual learning goals:

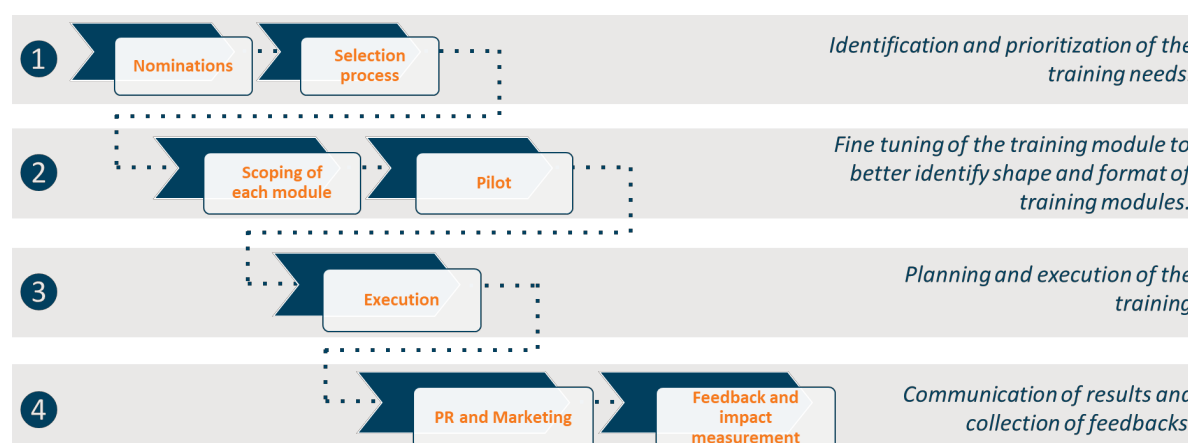


Figure 7 - Training process formalisation

### 2.2.1 Audience and training channels

The training was designed to support different needs from different target audiences. The training activities developed within AARC2, in fact, were designed to support the different needs of these groups:

- Some training was designed to support specifically technically involved people in the different communities with introductory information. These trainings provided a general overview of AAI systems and of the different technical components that need to be installed and configured to implement an AAI system.
- Other trainings were designed to address the needs of technical people at a deeper level. These trainings provided more in-depth knowledge about some technological components to be configured in complex environments. In general, these trainings also covered more advanced topics about the architecture of an AAI system in line with the BPA produced within the AARC2 project.
- The last trainings provided within AARC2 were more focused on aspects about policy implementation and governance of the AAI systems. These training were aimed at non-technical experts who had different interests and perform different activities in the operation of AAI systems after their implementation to support the research communities.

Of course, different trainings had different channels for their execution. Within AARC2, different media and settings were used to execute training and to provide educational materials. Here are the most significant:

- Some training events were organised during the project as face-to-face sessions.
- For the more general and widespread content, short training videos were diffused through live and recorded infoshare sessions.
- Some training was translated into Moodle courses on the GÉANT e-learning platform.
- All the produced training material was released, for further use, online as static material or as examples of code on the GitHub public platform.

## 2.2.2 Detailed list of activities

- Developed the **AARC Policy Development Kit (PDK)**. The kit provides new or evolving Research Infrastructures with guidance on developing a complete policy suite to support Federated Identity Management and the implementation of an AAI that follows the AARC BPA. The PDK offers a wider pool of online resources, templates and tools in a more user-friendly way to ensure that AARC policy frameworks and best practices can be properly supported by research infrastructures. The kit also offers guidance on GDPR related aspects for those operating services and AAI infrastructures in research and e-infrastructures. ([link](#)).

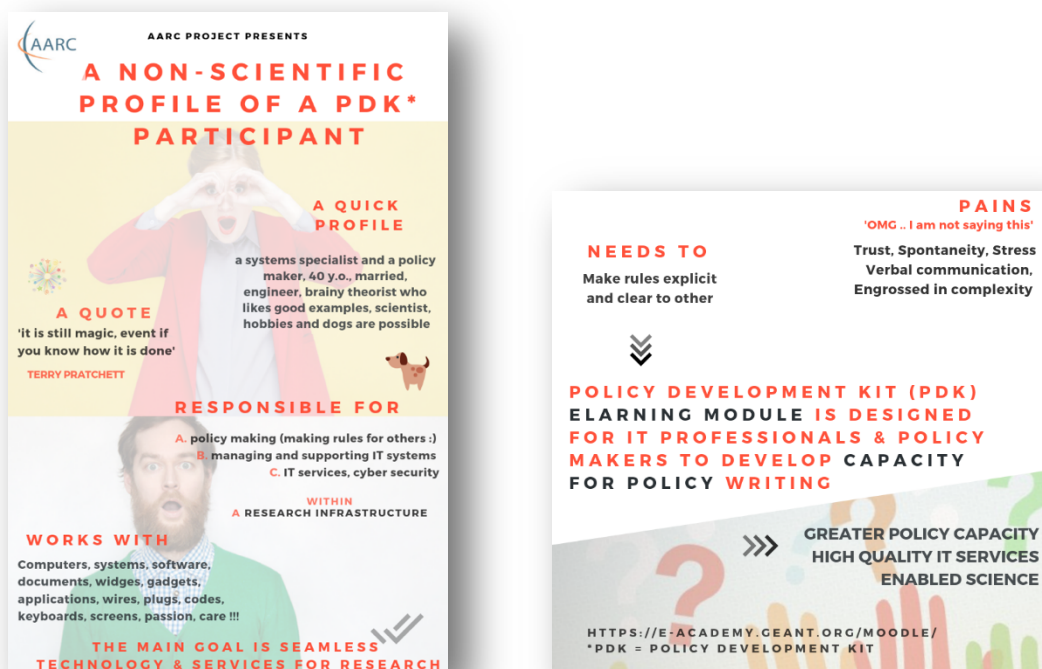


Figure 8 - Diffusion material for the PDK

- Supported the main AARC community meetings with specific new training activities. These trainings helped create an awareness about AARC2 project results and also provided technical background information to sustain the pilots' activities:

- Training on how to set up Service Providers ("How to SP")
- Three training events on SaToSa proxy with a hands-on session

Given the core role of the proxy in the AARC BPA and the usage of SaToSa proxy, several AARC participant requested a training event on this aspect. The [first training event](#) was delivered in Sep 2018 and was attended by 23 people representing various research collaboration in the AARC2 project.

A [second training](#) was delivered during the AARC All Hands meeting in Nov 2018; about 15 people attending this training.

The [third and last training](#) was delivered in April 2019 and it addresses both research collaboration as well NRENs GN4 project participants. About 15 have registered for this event.

The feedback on this hands-on training were extremely positive. Attendees found the training very clear and were able at the end to write simple microservices.

- Engaged with trained communities to gather a measure of the impact achieved by the training activities:

- EPOS: introductory training on T&I and on SAML

The training was held in Lisbon on March 14<sup>th</sup> 2018 ([link](#)) with around 25 participants.

The impact measured was very positive. Many participants expressed a complete satisfaction about the insights into the basic concepts / technologies behind AAI.

- LifeScience: introductory training on T&I and on SAML

The training was held in Munich on April 23<sup>th</sup> and 24<sup>th</sup> 2018 ([link](#)) with around 15 participants coming from the different communities involved in research on the life sciences.

The impact measured was very positive. Many participants expressed a complete satisfaction and indicated that the training helped to decide on how to move the AAI forward in their communities.

- Re-organised the training material available on the website to leave all the training material as a legacy to survive project end:

- Made strategic decision on focusing only on Training website
- Decided to make available to the general public the material made for the specific communities after having removed community-specific information where present
- Added general description of modules as reference for potential interested readers
- Created PDFs of all materials for executed trainings

Following the organisation of this work package, the training was organised on the website around 6 different sections:

1. Introductory materials

- a. Federation 101 ([link](#))
- b. Authentication and Authorisation 101 ([link](#))

2. The AARC Blueprint Architecture
  - a. Introduction to the Blueprint Architecture ([link](#))
  - b. What is SaToSa? ([link](#))
3. Advanced Technical Components
  - a. Introduction to advanced components ([link](#))
4. Technical material for Service Providers
  - a. Introduction to federated management ([link](#))
  - b. Turning web-based services into Service Providers of Identity Federations ([link](#))
  - c. SAML and Shibboleth Introduction ([link](#))
  - d. Integrating your service with OpenID Connect ([link](#))
5. Policy-related materials
  - a. Improving incident response through collaboration: SIRTfI ([link](#))
  - b. Policy Development Kit ([link](#))
6. For specific communities
  - a. Earth Sciences ([link](#))
  - b. Life Sciences ([link](#))

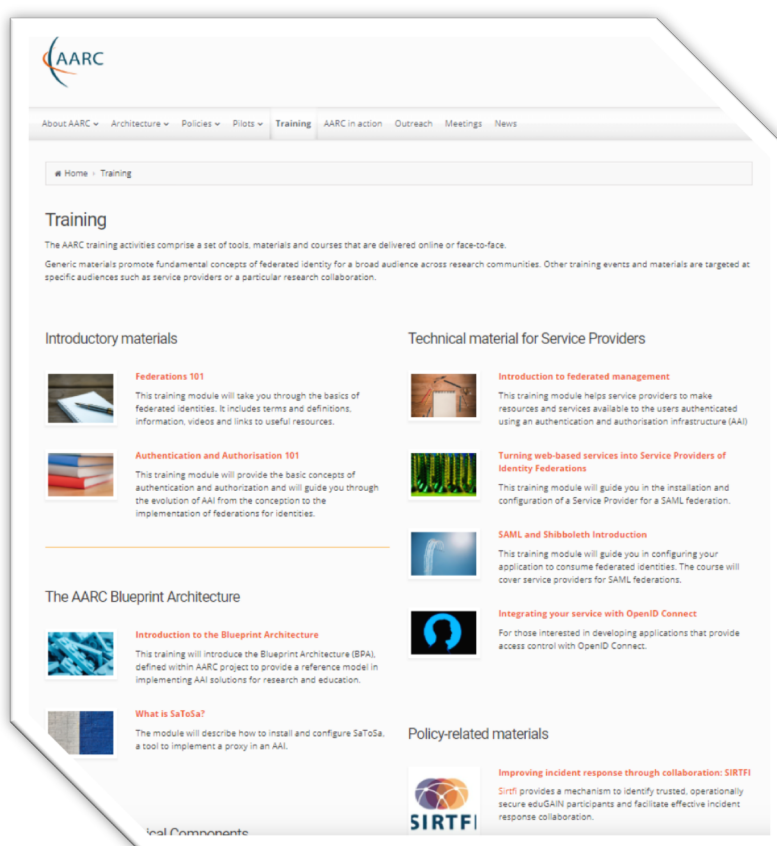


Figure 9 - Training page of the AARC2 website



### 3 Conclusions and Review Recommendations

In the last year, AARC2 continued to produce results according to plan. AARC2 also focused on leaving a positive legacy after the project ends. In this respect, all activities regarding training material sharing and communication initiatives must be considered for the results they produced.

As can be seen from the above report, there was significant effort in AARC2 to promote the work done via training and dissemination and to position AARC as the neutral place for research- and e-infrastructures to get together and collaborate. The AARC BPA has been taken up as the foundation for major AAI deployments in Europe and beyond, for example by EOSC-hub, cluster research collaborations, and the European Space Agency. This indicates that we succeeded in reaching key target audiences, our messages succeeded and the effort was well invested. Clearly with AARC coming to an end there will be a gap; however, the website, web content, project brand and social media accounts will persist, as well as the AARC Engagement Group for Infrastructures (AEGIS), and GÉANT as project coordinator commits to continue using these channels to promote AARC outcomes and other relevant AAI content.

All training materials have been released under a Creative Commons licence and so can be translated, re-used and re-purposed as needed. Online training materials and templates are also available as a way to ensure that the AARC legacy lasts as long as possible.

## Appendix A Summary tables

This appendix will contain tables with all the activities and results achieved by this work package.

### A.1 Deliverables

The deliverables produced by the Activity are reported in the following table:

Del. No.	Deliverable name	Lead beneficiary	Type	Format	Dissemination Level	Planned delivery date	Actual delivery date
DNA2.1	Initial Information Package on AARC2 and Website Update	RETI	DEC	<a href="#">Website</a>	PU	M1	31/05/2017
DNA2.2	First Advanced Training Material Content	GARR	DEC	<a href="#">Training module</a>	PU	M14	01/07/2017
DNA2.3	Summary Report on Training, Communication and Outreach Activities	RETI	R	<a href="#">Report</a>	PU	M23	31/03/2019

Table 2 - List of deliverables

### A.2 Milestones

The milestones achieved by the Activity are reported in the following table:

Mil. No.	Milestone title	Planned delivery date	Actual delivery date	Means of verification	Achieved
MNA2.1	Kick start the Community Engagement forum	M2	01/07/2017	<a href="#">News item</a>	YES
MNA2.2	Kick start the Competence Centre	M3	01/08/2017	<a href="#">News item</a>	YES
MNA2.3	Review the content of the basic training material and plan new modules as needed	M4	20/09/2017	<a href="#">Google doc</a>	YES
MNA2.4a	Periodical review for new training requirements, community outreach and PR material	M6	30/11/2017	<a href="#">Internal report</a>	YES



Mil. No.	Milestone title	Planned delivery date	Actual delivery date	Means of verification	Achieved
MNA2.4b	Periodical review for new training requirements, community outreach and PR material	M12	30/04/2018	<a href="#">Internal report</a>	YES
MNA2.4c	Periodical review for new training requirements, community outreach and PR material	M18	30/11/2018	<a href="#">Internal report</a>	YES
MNA2.5	Identify topics for the first advanced training	M7	30/11/2017	<a href="#">General plan</a>	YES

Table 3 - List of Milestones

### A.3 Dissemination and Training Events

The list of dissemination and training events performed by the Activity is presented in the table below:

Main external event	Name of the event	Date(s)	Location	Target Audience	#participants
Meeting	REFEDS	10 Jun 2018	TNC18, Trondheim, NO	R&E Federations	86
Conference	TNC18	11-13 Jun 2018	Trondheim, NO	FIM4R, R&E networking community	~750
Workshop	UKRI AAI workshop	24-25 Jun 2018	Oxford, UK	UK (proposed) national e-infra	50
Conference	LIBER conference	26-28 Jun 2018	Dublin, IE	Libraries	
Meeting	Instruct / DLS / STFC AAI meeting	29 Aug 2018	Oxford, UK	Structural biology	10
Training	SATOSA training	26 Sep 2018	Busto Arsizio, Italy	AARC involved communities	15
Training	How to SP (SAML & OIDC)	27 Sep 2018	Busto Arsizio, Italy	AARC involved communities	7
Conference	TechEX 2018	15-18 Oct 2018	Orlando, FL, USA	Technologists, scientists, engineers, architects, operators & students	
Training	SATOSA hands-on	19 Nov 2018	Busto Arsizio, Italy	AARC involved communities	10
Webinar	AARC & REFEDS Assurance Suite	13 Dec 2018	(IAM) Online	Identity federations	86+
Meeting	UKRI cross-council federated AAI	30 Jan 2019	Oxford, UK	All research council research areas	15
Conference	CESNET e-Infrastructure Conference	30 Jan 2019	Prague, Czech Republic	Czech academic, scientific & research communities	200
Conference	FIM4R	11 Feb 2019	Vienna, Austria	Research communities	60

Main external event	Name of the event	Date(s)	Location	Target Audience	#participants
Meeting	UKRI cross-council federated AAI	8 Mar 2019	Oxford, UK	All research council research areas	15
Conference	DEI conference / Federated Identity Management for Research	2 Apr 2019	Zagreb, Croatia	Technical public	200
Webinar	AARC BPA	18 Apr 2019	(IAM) Online	Research communities' AAI architects & technical decision makers	Expected 40 people mostly from EU
Webinar	AARC extensions & implementations of RAF	13 May 2019	(IAM) Online	Research communities' AAI architects & technical decision makers	Expected about 40 people from EU and US mostly
Conference	TNC19 – Talk on AARC and AEGIS	16-19 Jun 2019	Tallinn, Estonia	R&E networking community	Expected about 50 people at the session

Table 4 - List of events

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