

AARC Pilots

To enable federated access to shared resources of research communities and to enable the integrated use e-infrastructure services, the pilots activity in AARC will run a large number of pilots as a step-up to concrete AAI services. The requirements of research communities and e-infrastructures will drive the design of either missing AAI components or new services. To put this into action the AARC pilots activity consists of 4 tasks:

- [Task1: Pilots with research communities based on use cases provided \(lead by GARR and GRNET\)](#)
- [Task2: Support and pilots for e-infrastructures interoperability and integration \(lead by EGI\)](#)
- [Task3: Piloting advanced use cases, new solutions and approaches based on the outcomes of JRA1 and NA3 \(Lead by GRNET\)](#)
- [Task4: Creation of showcases, deployment scenarios and documentation based on successful pilots in AARC2 \(Lead by RETI\)](#)

Below you find a more detailed description of the activities to be performed for each task

Task1: Pilots with research communities based on use cases provided (lead by GARR and GRNET)

A total of eight use-cases from research communities have been selected to pilot with AAI solutions. A support team will be created to work with the research communities to match the best solutions and architecture with those use cases. Intermediate results will be shared with the relevant communities and feedback will be used to advance the further work.

Community	Links	Topics/Focus	Status
		Connecting services & Brokering Leverage the work done by AARC on policies and architectural blueprints Implementing Sirtfi Using eduGAIN	CONCLUDED
	EISCAT_3D AAI	Move away from IP based access towards federated AAI according to the AARC BPA	CONCLUDED
	EPOS European Plate Observing System	Evolve current AAI towards one that is fully compliant with AARC BPA; support cross infra use cases with EGI/EUDAT/PRACE and delegated federated access (non-interactive) workflows	CONCLUDED
	CTA Cherenkov Telescope Array	Initial implementation of Community IdP/SP proxy, Group/Role based access to resources, SIRTFI and CoCo/GDPR compliance	CONCLUDED
	LifeWatch AAI	Implementation of AAI according to the AARC BPA; access for citizen scientists	CONCLUDED
	CORBEL LifeSciences AAI	Inter compatibility, share a common AAI shaping according to the ideas in Elixir. Also focus on sustainability and operational aspects    	CONCLUDED
	WLCG Worldwide LHC Computing Grid	Implementation of IdP/SP Proxy, mainly to provide Token Translation Services to allow end users to login without the need of manually managing X.509 certificates	CONCLUDED

	LSC Ligo Scientific Collaboration	Implement AAI according to AARC BPA	CONCLUDED
	DARIAH AAI	Implementing an AAI according BPA to allow communication between DARIAH and other infrastructures	CONCLUDED

Task2: Support and pilots for e-infrastructures interoperability and integration (lead by EGI)

This task will focus on piloting AAI components and frameworks to enable transparent interoperability between infrastructures in terms of authentication and authorisation and will build on the state of the art of the AAI services provided by the infrastructures.

This task's work will be driven by the requirements and use cases of both e-infrastructures and research infrastructures and the results of the JRA1 activity.

e-Infrastructure	Links	Topics/Focus	Status
	EUDAT-EGI pilot for cross-infrastructure access to resources	The technical integration of the EGI and EUDAT AAls has started but we recognize that additional effort is needed to harmonise attributes and Level of Assurance (LoA) definitions. The team therefore continues to work on an earlier started joint proposal by AARC, EGI and EUDAT to harmonise the LoA of their identities for consumption by their internal services.	This pilot has been absorbed by the LS AAI pilot
	EUDAT-PRACE pilot for cross-infrastructure access to resources	The high-level goal of this pilot is to achieve AAI interoperability between EUDAT and PRACE and to examine how Unity technology may be used to accomplish this task. The solution consists of two components. The first one is the automatic provisioning of accounts for selected PRACE users who authenticate with x.509 certificates. EUDAT accepts these certificates and PRACE users become registered users in the EUDAT authentication and authorisation service. This gives PRACE users access to non-x.509-based EUDAT services. The second component needs to synchronise these accounts with EUDAT data services using certificate credentials.	CONCLUDED
	DARIAH AAI	Implementing a Proxy-Element according to the AARC BPA in the DARIAH AAI and enabling integration with EGI There are two consecutive and related pilots: 1. The DARIAH AAI will be extended with a proxy according to the AARC BPA. This proxy will be based on Shibboleth and enable further interoperability endeavors. 2. Based on the work from the first pilot, the goal of this pilot is to achieve interoperability between the DARIAH AAI and EGI. This will include harmonization of LoA and group membership expressions, according to the AARC recommendations.	CONCLUDED
		Two pilots: 1. eduTEAMS + EUDAT B2ACCESS 2. eduTEAMS + EGI CheckIn service	This pilot has been absorbed by the LS AAI pilot

Task3: Piloting advanced use cases, new solutions and approaches based on the outcomes of JRA1 and NA3 (Lead by GRNET)

This task will pilot solutions that complement the eight AAI use cases provided by the selected research communities (piloted within Task 1) and the cross e-infrastructure integration issues addressed by Task 2. As such, the task will investigate advanced AAI scenarios by taking into consideration the results of AARC1 and by building a feedback loop with JRA1 and NA3.

These advanced scenarios include scalable and highly available authorisation schemes in multi-SP environments. In addition, emerging and new technologies (e.g. OpenID Connect for establishing federations, beyond password solutions, integration approaches for multi-protocol cross-sector identity federations) will be assessed and piloted in this task to confirm their feasibility in real-life scenarios.

In addition, this task will deal with cross community use cases. In Q4 2017, Task3 started the Life Sciences & Health pilot for the CORBEL community. This was triggered by a formal request by CORBEL to come up with an overarching AAI infrastructure. Since AAI is not the 'core business' of CORBEL, they prefer having that part sustained by the e-Infrastructures. Therefore, CORBEL wrote a document with their AAI requirements (See: <https://goo.gl/zvTQmB>) and requested the 3 e-Infrastructures in AARC2 (EGI, EUDAT & GÉANT) to respond with a proposal. It quickly became clear that the best way to approach this response was to submit a combined proposal, where each e-Infrastructure provides a part of the final solution. A first phase of a pilot has been finalised early February. A recording of the demo is available here: <https://geant.app.box.com/v/ls-aa-i-phase-1-demo>. The second phase of the life science pilot commenced in February, results will follow soon.

Task4: Creation of showcases, deployment scenarios and documentation based on successful pilots in AARC2 (Lead by RETI)

The pilots in AARC and AARC2 will produce a lot of experience, documentation and interesting showcases. In collaboration with the NA2 activity, these results will be combined with technical training material and offered as one package to the community.

This material in combination with the relevant sustainability plans, will be fed to the Competence Centre to ensure that a home for the results is found. The results for this SA will be rooted via the for federating communities forum. AARC2 showcases will be used to demonstrate how the proposed AARC blueprint architecture will help simplify the daily work for researchers collaborating in several different communities and using different infrastructures.

Previous results of the pilot activity in the first edition of the AARC project (first edition of AARC 2015-2017) which ended in May 2017, are available [here](#).