



GÉANT Project (GN4-3) T&I Enabling Communities

45th EUGridPMA and AARC2 NA3 meeting
January 2019, Geneva

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GÉANT – supporting European NRENs

GÉANT Research Engagement (researchengagement@geant.org):

Dedicated single point-of-contact for NRENs

Dedicated single point-of-contact for large international collaborations and organisations

Providing a one-stop-shop include policy and technical consultancy

Welcome to the Case for NRENs portal

A pool of resources to assist national and regional R&E networks (NRENs and RRENs) 'make a case' towards their users, funders and partners.

A toolkit of guidance materials to support in particular new and emerging NRENs.

[Find out how to use and contribute to this portal](#)



Users we work with



**Social Sciences,
Arts and
Humanities**



**Life
Sciences**



**High-Energy
Physics and
Astronomy**



**Earth
Sciences and
Observations**



**Future
Internet
Projects**



E-Infrastructures



Scientific user groups we liaise with

Physics sciences
High-energy physics (LHC, BELLE II, CERN, etc.)
Neutrino observation (KM3NET)



E-Infrastructures (EGI, EUDAT, PRACE, HelixNebula)



Life sciences
Genomics (Elixir, EBI, EMBL)
Biolmaging



Astronomy and Earth observation
Earth observation (EUMETSAT, COPERNICUS)
Radio-astronomy (eVLBI, SKA, etc.)
Satellite operations (ESOC)



Future Internet projects (XiFi, Confine, SmartFire, etc.)



The 'long tail'

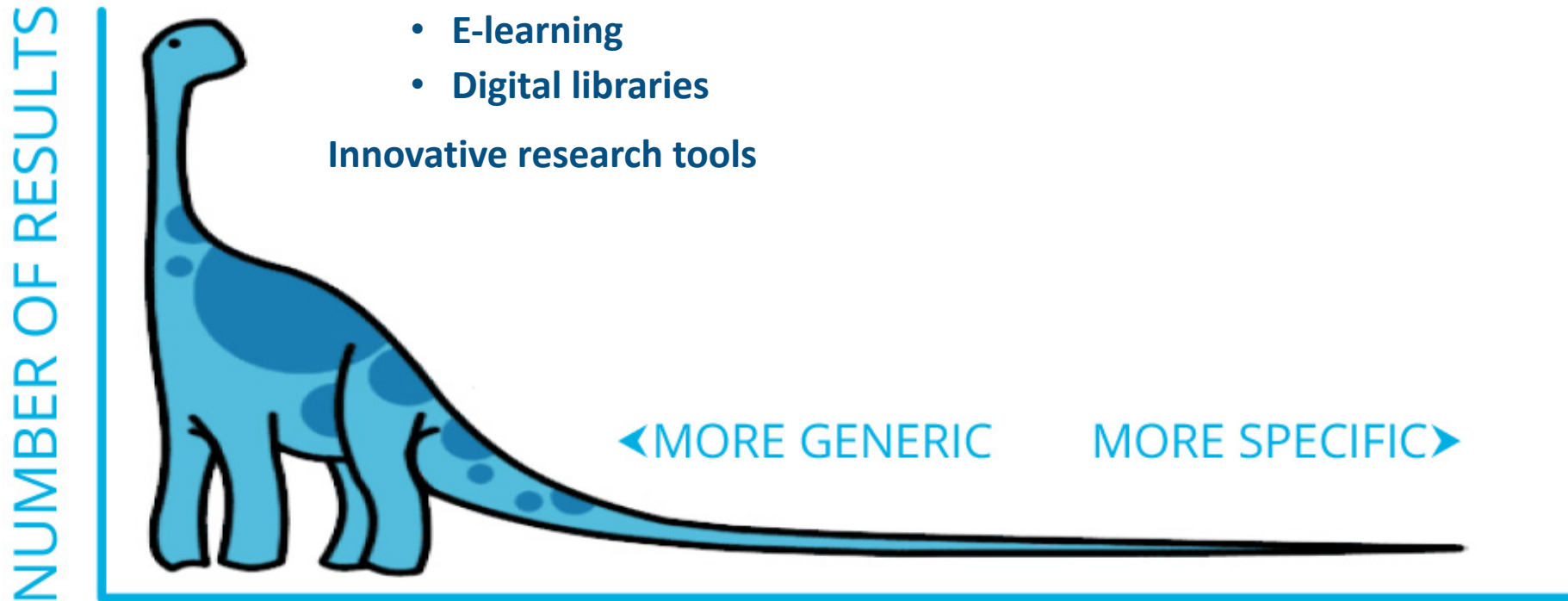
New-comers

Switching from local/individual to distributed research models

New ways of sharing knowledge

- **E-learning**
- **Digital libraries**

Innovative research tools





Specialist Services

GÉANT develops the specialist services members need to support researchers, educators and innovators – at national, European and international levels.

GÉANT's portfolio of advanced services covers:



Network centric
services



Trust identity
and security



Storage
and clouds



Real-time
communications



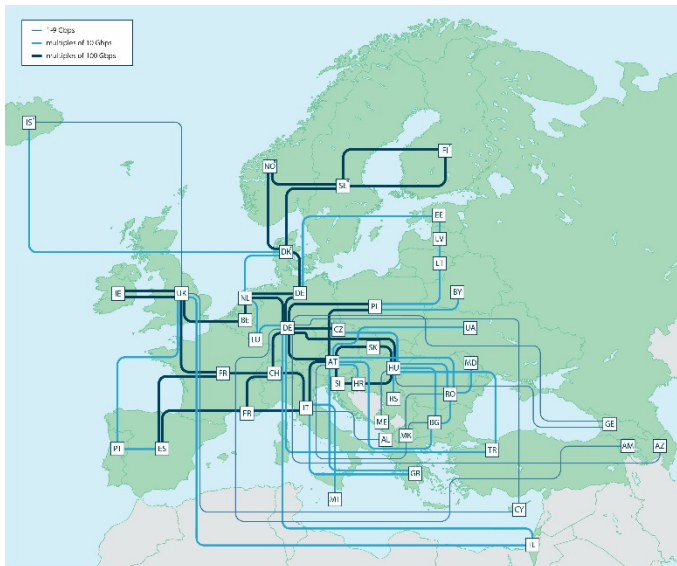
Professional
services



Network

The GÉANT network interconnects research, education and innovation communities worldwide, with secure, high-capacity networks.

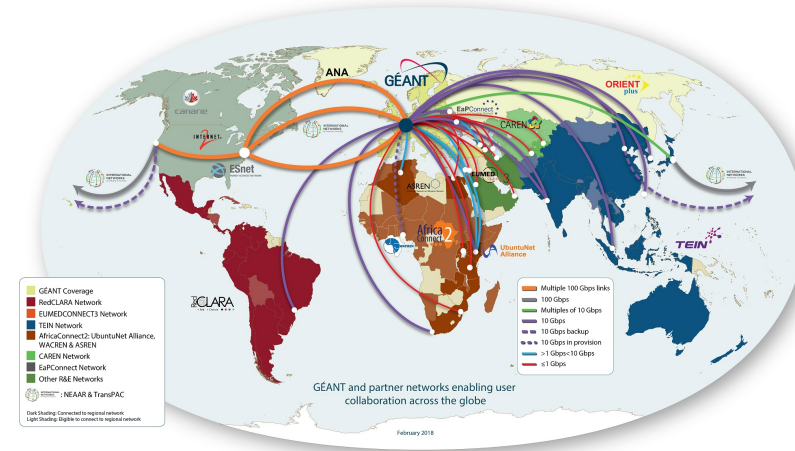
We design, plan, build and operate the large-scale, high-performance GÉANT network that connects European NRENs to each other and the rest of the world for sharing, accessing and processing the high data volumes generated by research and education communities and for testing innovative technologies and concepts.



Interconnecting Europe's NRENs over a 500Gb highly-resilient pan-European backbone. NRENs serve 50 million users at 10,000 institutions across Europe.

Network services: IP, Point-to-Point Services, VPN, Testbeds, performance monitoring

 At the Heart of Global Research and Education Networking





Network

A separate ultra-high-speed internet, only for research & education

Robustness

Over 1,000 terabytes of data are transferred every day via the GÉANT IP backbone.

Total reliability

100% average monthly access availability.



“Today it would not be possible to work without the network that GÉANT and the NRENs have provided.”
CMS experiment, Large Hadron Collider (LHC)

Efficient operations

The dedicated GÉANT Operations Centre ensures 99% of cases are reported within 15 minutes of any outage being detected, leading to rapid resolution.

Services

A wide range of services including IP and dedicated circuits, testbeds and virtualised resources, authentication and roaming, monitoring and troubleshooting, advisory and support services.



Trust, Identity & Security

Supporting users and enabling secure access to services



eduroam - secure global roaming access service *250+ million authentications per month* in 89 territories



eduGAIN - interconnects identity federations around the world, simplifying access to content, services and resources ~ 3500 identity providers accessing services



AARC project – collaborating with e-infrastructures, research collaborations, libraries & federations to share policies, architectures, training materials & pilots that avoid re-inventing the authentication & authorisation wheel



REFEDs – supporting identity federations worldwide



Trusted Introducer – services for security and incident response teams

Certificate Service – delivering cost-effective digital certificates.
In partnership with 



eduroam

Linking students to the global community

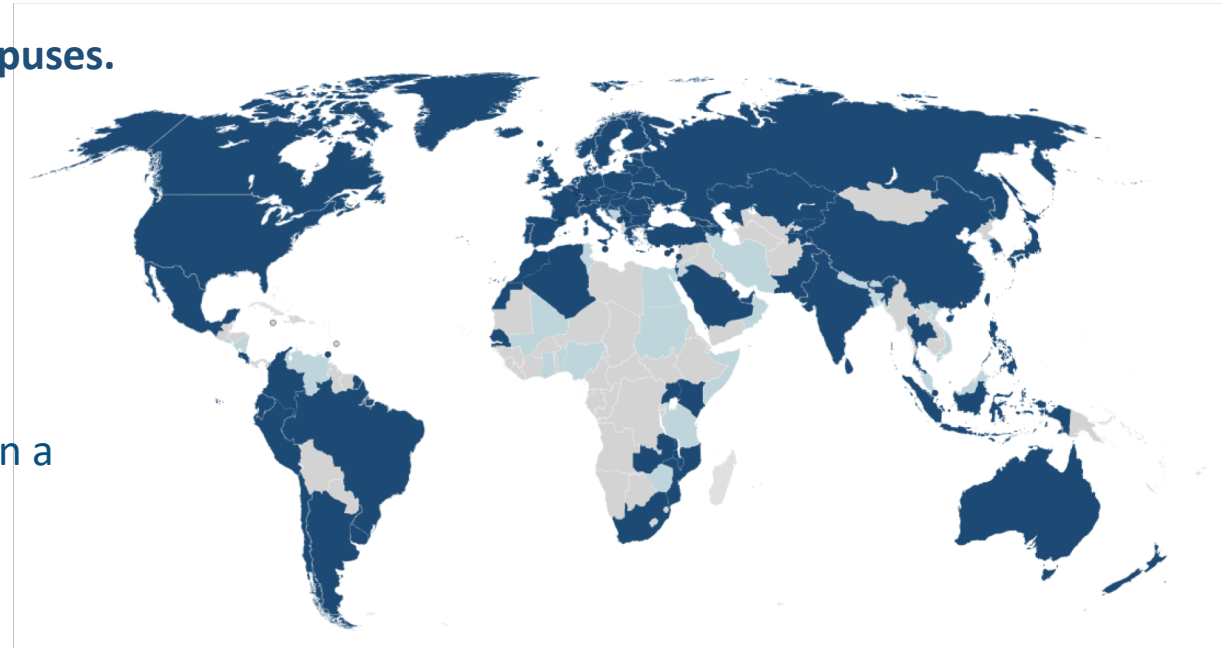


Free secure Wifi provided by NRENs between campuses.

**A global network of users across 89 territories.
More than 2 billion international authentications
and counting**

A worldwide success story

From its early beginnings as a joint venture between a few European universities to today – with millions of users in more than 80 territories worldwide, eduroam has been an amazing success story and an example of research and education collaboration.



www.eduroam.org



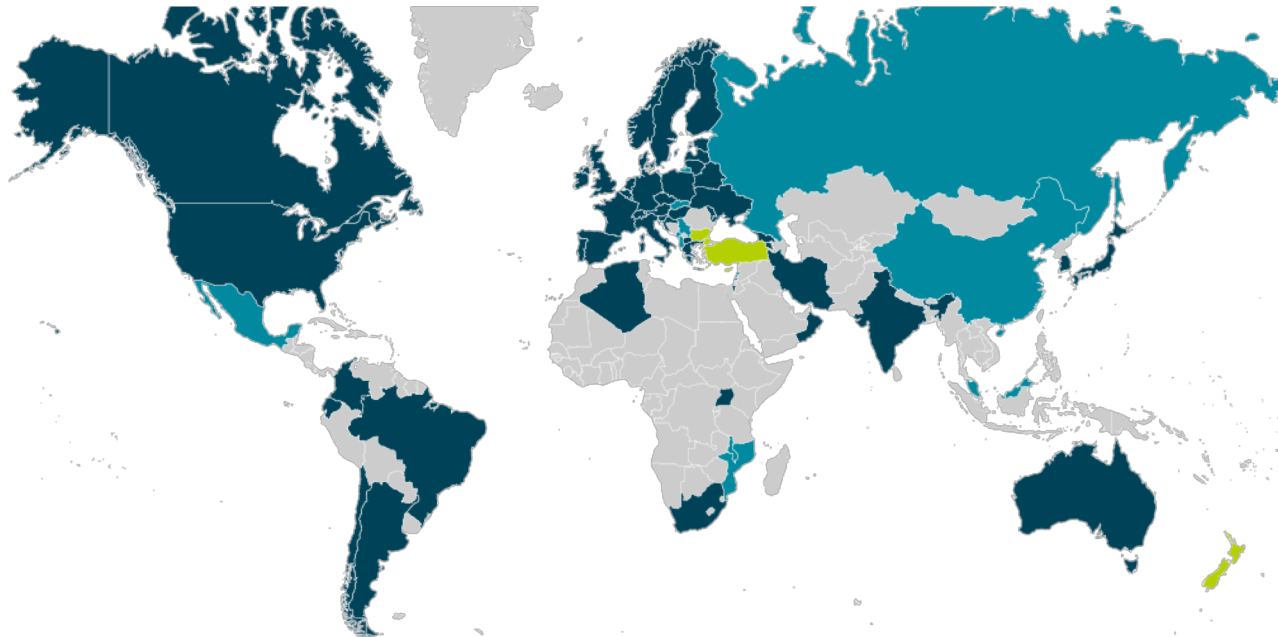
eduGAIN



Enabling secure Single Sign On services to global research and educational resources

Federated identities enable users to access a wide range of services using a single account sign-on managed by their 'home' institution

- Improves access
- Improves security
- Reduces management overhead and costs.

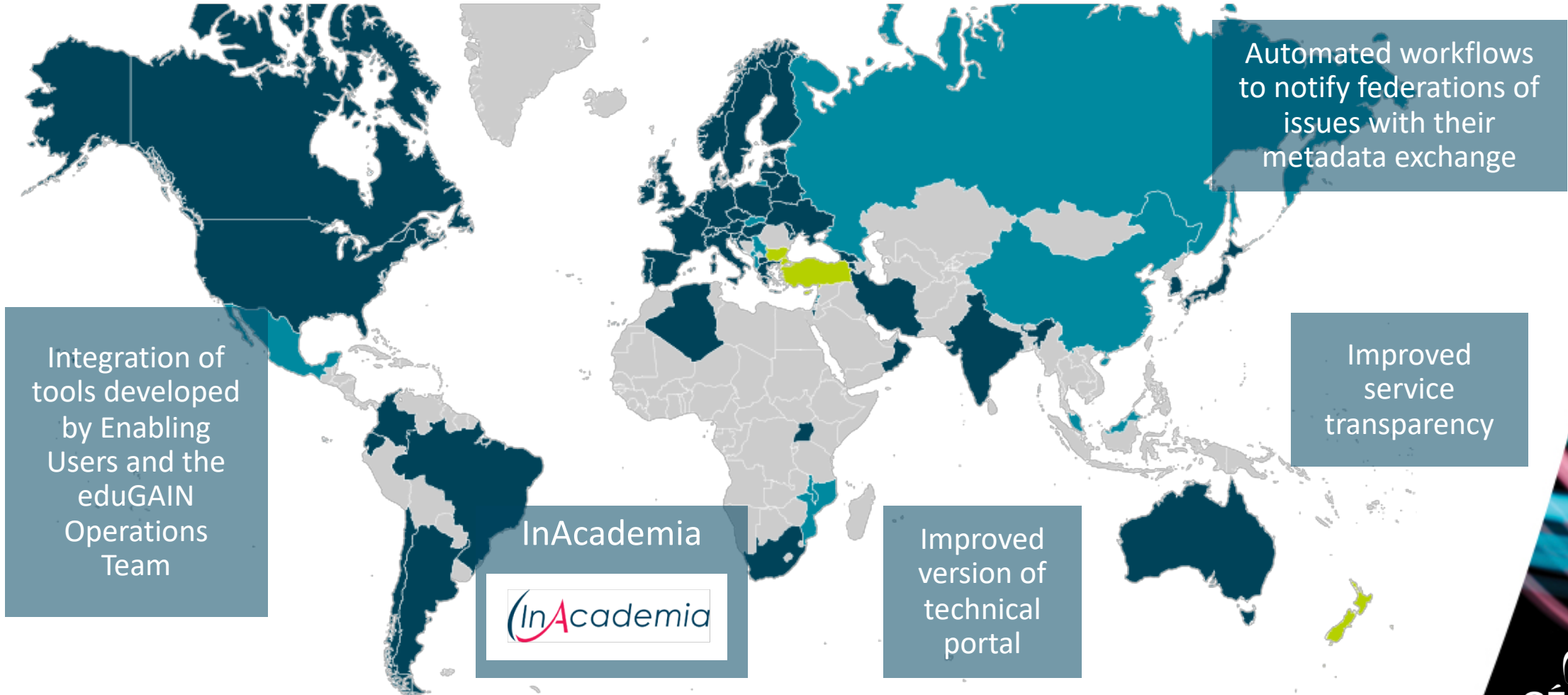


April 2018:
50 Federations active
5 Federations with voting rights in process of joining
4588 entities



eduGAIN

Recent developments





InAcademia

Online student validation



InAcademia is a service being developed that simply validates to other services that the user is a student or staff member of the academic community. Helps service providers offer academic discounts online and in real time.

**A lightweight federated identity process with minimal attribute release (essentially a simple yes/no).
Easy for Service Providers to implement.**

Removes need for scans of ID cards or primitive e-mail address-based 'authentication'.





AARC and eduGAIN

eduGAIN has helped many collaboration communities

to interconnect and access / share resources
but many collaborations don't have an AAI solution,
or theirs can't interconnect through eduGAIN

AARC is creating a common AAI framework for
research and collaboration communities that
should work for everyone:

- One blueprint architecture
- One set of policies
- One set of training resources
- Working *with* research collaborations to pilot and improve technical and policy aspects



Relationship between the AARC
blueprint architecture,
eduGAIN and the GÉANT network.



GN4-3 in summary

48-month
project

1 Jan 2019 -
31 December 2021

T&I Work
package



GN4-3 T&I in summary



eduGAIN

eduroam

inAcademia

eduTEAMS





Enabling Communities

eScience
global
engagement

T&I Business
Development

Improve
interoperability of
research and
e-infrastructures



Enabling Communities

eScience
global
engagement

Engagement with and contribution to external projects and initiatives such as EOSC related projects, FIM4R, IGTF REFEDS, WISE, etc.

Cover continuous promotion for Sirtfi, Snctfi, CoCo and GDPR among eScience collaborations.

Contribute effort on policy work towards the various bodies (IGTF, REFEDS, WISE)



Enabling Communities

T&I Business Development

Cover the engagement with different communities, will identify leads and pilots opportunities and will provide consulting support to the communities that need that.

Business development eduTEAMS and eduGAIN

Liaise with (new) relevant eScience communities:
Requirement gathering, Roadmap presentations, relevant information to and from T&I services and the incubator

Community requirements validation for T&I services



Enabling Communities

Improve
interoperability of
research and
e-infrastructures

Leading the AEGIS group
(**AARC Engagement Group** for
Infra**Structures**)

Maintaining the Blueprint Architecture
(BPA) and relevant guidelines produced
by the AARC/AARC2 project.



Enabling Communities

Y1

- Define an Enabling Communities Engagement Plan (Milestone, April 2019)
- Prepare for handover of AARC2 results (April 2019)
- Identify relevant work items in REFEDS, WISE, IGTF, etc. for 2019 that would benefit from GN4-3 involvement
- Participate and contribute to EOSC AAls activities (ongoing activity in Y1)



Enabling Communities

Enabling Communities

- Input appreciated
- What has priority for you
- Things missing
- Best way to keep you updated



Thank you

Any questions?

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© GÉANT Association on behalf of the GN4 Phase 2 project (GN4-2).
The research leading to these results has received funding from
the European Union's Horizon 2020 research and innovation
programme under Grant Agreement No. 731122 (GN4-2).