160+
FTEs
500+ contributors

50M
users

tnc TNC18 had over
700
participants
from 73 countries

eduroam
4.3 BILLION
NATIONAL
AUTHENTICATIONS
Now in 101 countries

eduGAIN
AVAILABLE IN
59 COUNTRIES

eduTEAMS

INTRODUCING THE GÉANT GN4-3 AND GN4-3N PROJECTS

1 January 2019 saw the start of the GN4-3 and GN4-3N projects, the final stage in the existing Framework Partnership Agreement that began with GN4-1 in May 2015.

The new projects follow on from successful GN4-2 (May 2016 to December 2018) and GN4-1 projects, and share the ongoing vision to ensure all researchers across Europe have equal high performance network access to the research infrastructures and e-infrastructure resources available to them.

What is GN4-3?

GN4-3's vision is to become the unified European Communications Commons – driving knowledge creation as the global hub for research networking excellence. Its mission is to deliver world-class services with the highest levels of operational excellence.

Throughout GN4-3:

- GÉANT will maintain the operational excellence of the established GÉANT services, while still achieving economies on the costs of the backbone network. The reliable, secure and state-of-the-art, high-speed network services offered to researchers and other network users across Europe will remain exceptional.

- Massive data transfer capacities required by extreme-scale instruments, both existing (e.g. Large Hadron Collider (LHC) and under development (e.g. Square Kilometre Array (SKA), and by the penetration of big data in many areas of science will be prototyped with due consideration to specific security and deployment challenges.
- Exascale computing will be installed in some countries and accessed from most, making user requirements for very high network speeds with the guarantee of no packet loss even more important.
- GN4-3's developments are guided by the vision of a future where a set of coherent and integrated European e-infrastructure services will offer convenient, seamless access for the end users.
- Trust & Identity is key to the security, privacy and trust of the end users of e-infrastructure services. Federated access and national identity federations have enabled NRENs to explore new models for service delivery. The services in this area of GN4-3 are operated and developed in accordance with user requirements as they need to adapt to the increasingly integrated
- e-infrastructure environment necessary for supporting the European research community.

What has changed from GN4-2?

GN4-3 has introduced several changes, some administrative and some more substantial.

The whole lifecycle of a service is now within one Work Package. This integrated approach ensures service developments are closely matched to operational support.

Other new areas include a new Work Package for Security (WP8), recognising the vital nature of this area in ICT; consensus building in Network Technologies and Services (WP6), to discover new network infrastructures and network services innovation; and an Incubator Task in the Trust & Identity Work Package (WP5) to support new ideas or potentially disruptive technologies that are considered sufficiently mature for the project environment. WP5 will not only consider technical ideas, but also policy, business and trust model aspects that may have an impact on the existing Trust and Identity service models or that may lead to new services.

What is GN4-3N?

GÉANT is undertaking the most significant refresh of the GÉANT network in a decade, with a major project designed to support the needs of Europe's research and education community for the next 15 years.
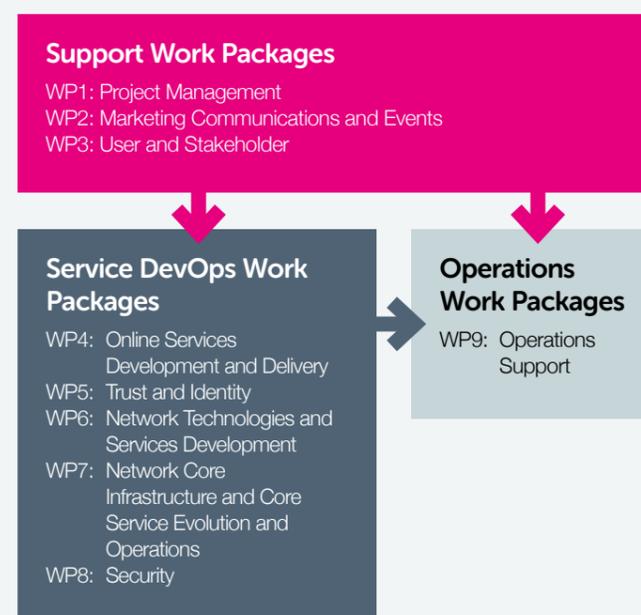
The GN4-3N project will greatly improve the underlying infrastructure of the fibre and optical system, with the fibre network extended well beyond its current reach. This will involve restructuring the GÉANT backbone network through exploration and procurement of long-term Indefeasible Rights of Use (IRUs), leased lines and associated equipment, serving the GÉANT partner NRENs and providing interconnectivity to the global research and education community.

GN4-3N's mission is to deliver unconstrained access at higher minimum capacity thresholds, highest levels of security across the network, and equal access to clouds and other services in the European research area and beyond. It will also increase network footprint, future proof connection speeds and stimulate the market in cross-border communications infrastructure while decreasing the digital divide.

CONNECT will provide regular insight into the progress of both GN4-3 and GN4-3N, with focus on the key people and partners involved.

GN4-3 Project Structure

There are three sets of Work Packages in GN4-3:

Support Work Packages
WP1: Project Management
WP2: Marketing Communications and Events
WP3: User and Stakeholder

Service DevOps Work Packages
WP4: Online Services Development and Delivery
WP5: Trust and Identity
WP6: Network Technologies and Services Development
WP7: Network Core Infrastructure and Core Service Evolution and Operations
WP8: Security

Operations Work Packages
WP9: Operations Support

GN4-3N Project Structure

WP1: Project Management

WP2: Infrastructure Implementation

Start date	1 January 2019
Duration	48 months
Total budget	€119M
EC contribution	€77.5M
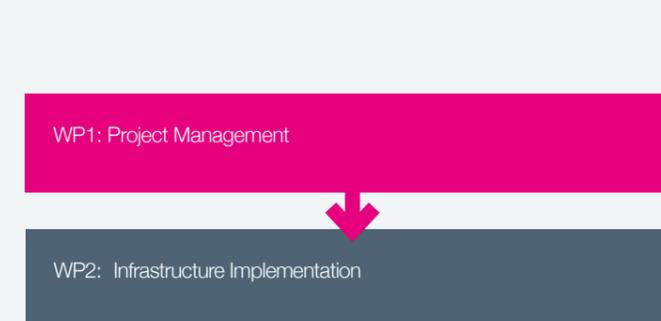
Start date	1 January
Duration	48 months
Total budget	€63.125M
EC contribution	€50.5M

GN4-3 and GN4-3N have over 500 participants and 39 Project Partners, 37 NRENs, NORDUnet (representing 5 Nordic countries) and GÉANT Association

In both projects, the Project Management Board (PMB), comprising the Work Package Leaders and relevant subject matter expert (SME) coordinators, meets monthly with the Project Management Office to exchange information, coordinate common work and ensure that interdependencies are maintained between Work Packages, and any issues resolved in a timely fashion. The GÉANT GA, the GÉANT Board and the Oversight Committee oversee the implementation of the projects.