OCRE

Open Clouds for Research Environments

#OCREwebinar

https://www.ocre-project.eu

OCRE receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 824079.

OCRE | Open Clouds for Research Environments

Will stimulate the adoption of commercial cloud and Earth Observation (EO) services by the European research community.

As part of the European Open Science Cloud.

Through a tender resulting in framework agreements with suppliers, which research institutions can use to buy resources.

By making available 9.5 million EURO in cloud adoption funds from the EC, for the research community to use.

Why OCRE?

- Cloud and Earth Observation (EO) based services offer the European Research community a wealth of powerful tools.
- But for many researchers, these are currently out of reach.
  - It is difficult to find and select suitable services.
  - Establishing agreements with providers and ensuring legal and technical compliance requires specialist skills and takes an inordinate amount of time.
- Equally, service providers have difficulty reaching and meeting the needs of the research community in
  - technical,
  - financial and legal areas.

RESEARCHERS

Easy adoption

Incorporate commercial digital services into their activities

Service discovery and acquisition

SERVICE PROVIDERS

Easy delivery

Reach and meet the needs of the research community

Meet legal, financial and technical requirements

OCRE will drive adoption of digital services
and close the gap between the supply and demand sides

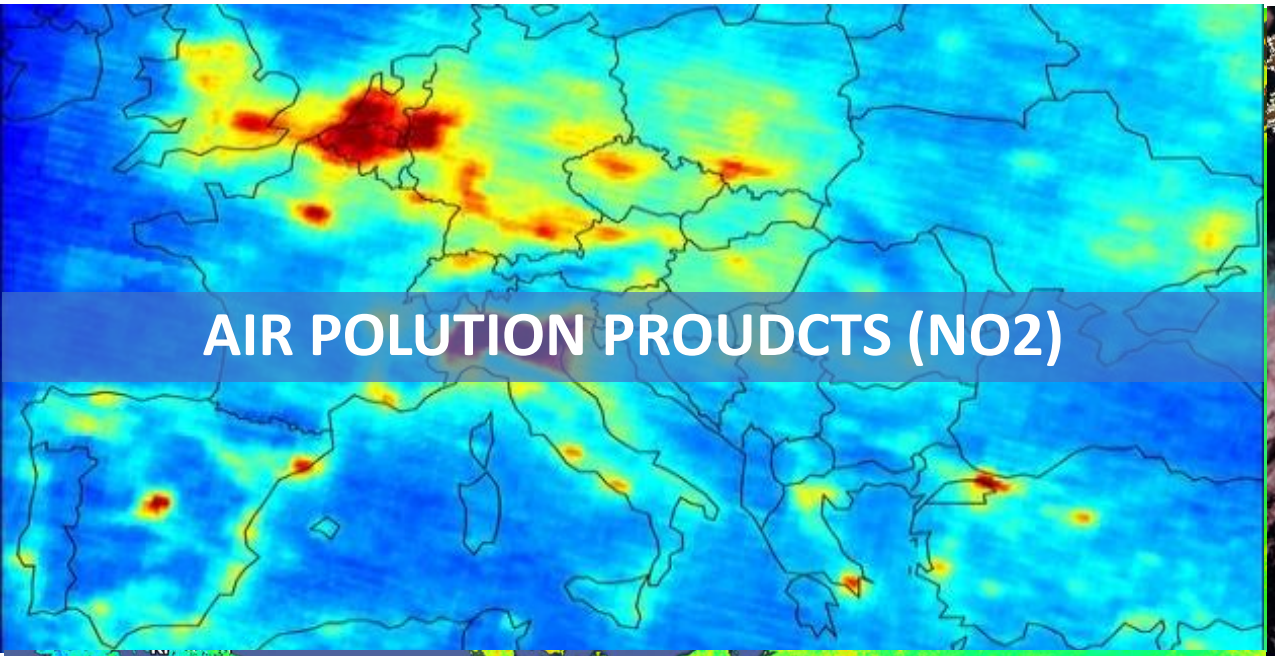
Scope

- IaaS, PaaS and SaaS cloud offerings.

- Earth Observation services, which leverage EU DIAS platforms (Data and Information Access Services), where the Copernicus sentinel data is stored.

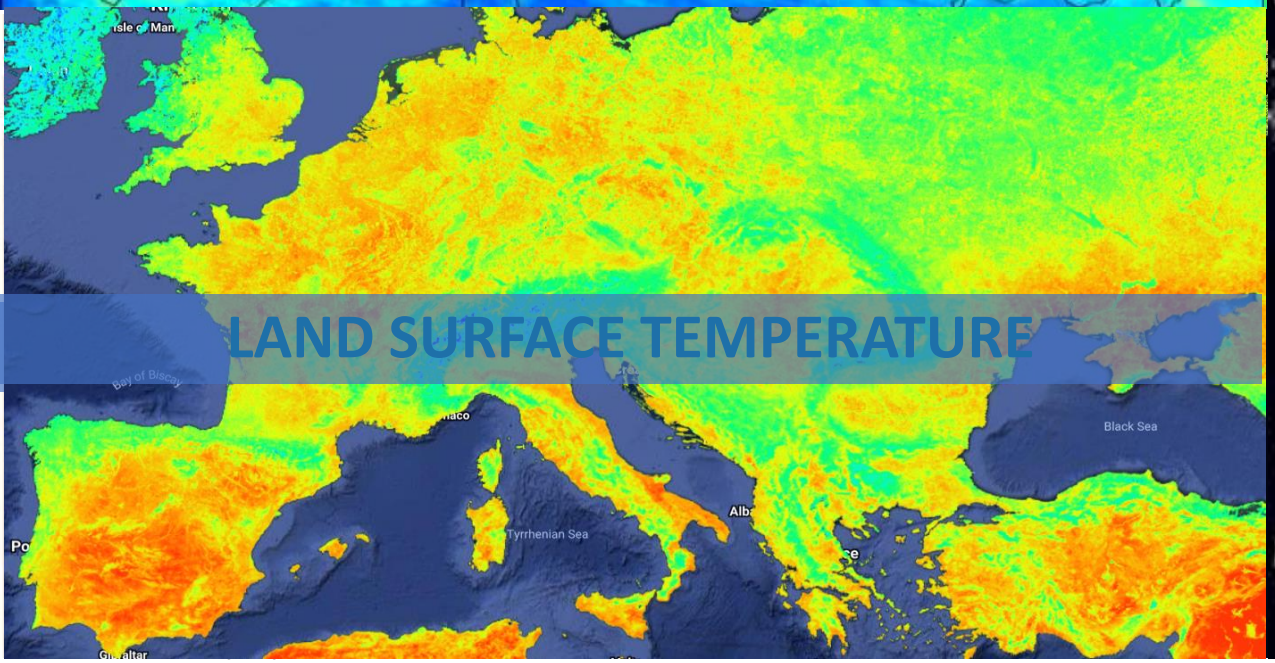
EO applications domain

- Agriculture
- Air pollution
- Atmosphere
- Biosphere
- Climate Change
- Coastal management
- Cryosphere
- Forestry
- Food Security
- Geo Hazard
- Health
- Hydrology
- Land
- Oceanography
- Water management
- Urban



AIR POLUTION PROUDCTS (NO2)

METEOROLOGICAL PRODUCTS

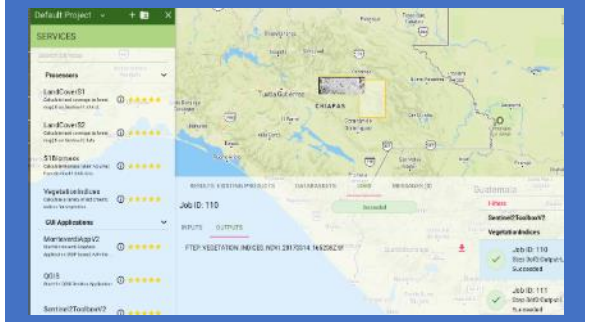


LAND SURFACE TEMPERATURE

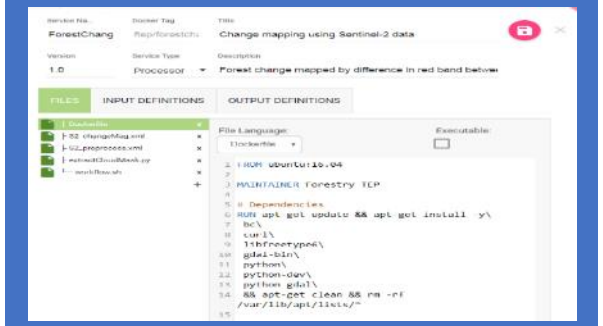
NIGHT LIGHTS

Summary of foreseen services

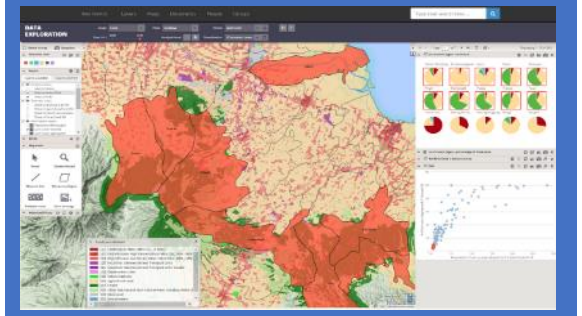
Data Processing Services



User Algorithms Hosting

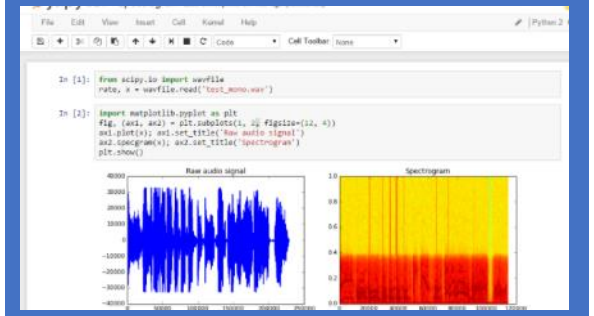


Data Analytics



Data Sharing/Publication

Interactive development



Powered by a scalable collocated processing environment - DIAS

Why it's interesting to move EO services into DIAS

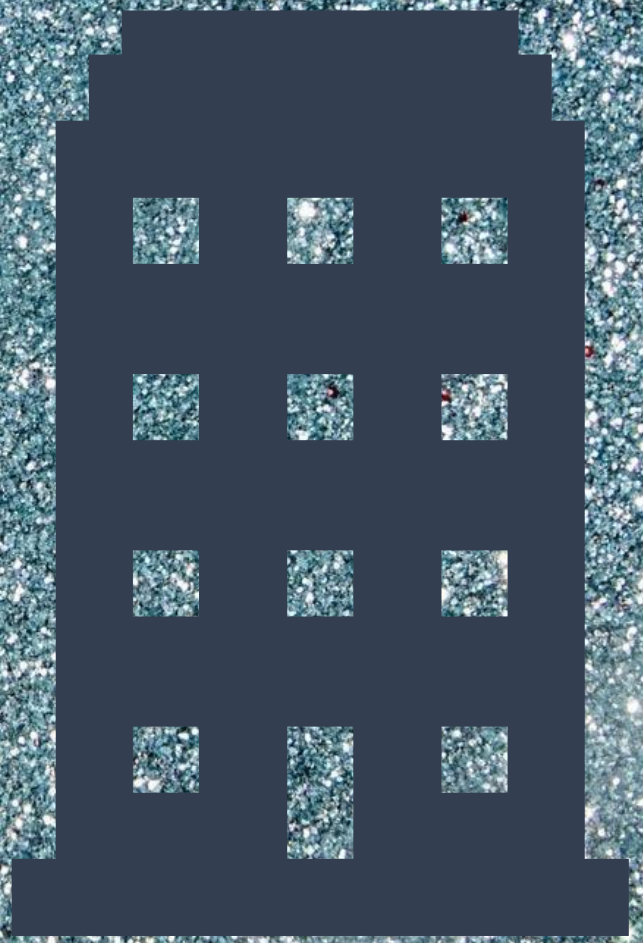
- No need to update and maintain Copernicus Satellite data catalogue.
- Fast data access as data is locally accessible.
- Virtually unlimited computing resources available (CPUs, GPUs, virtualized environments, bare metal services)
  - Parallelise several requests
  - Optimisation on resources
  - Scale resources as needed

Benefits for suppliers

Efficient route to market

Respond to 1 tender

Reach 10,000 institutions



Adoption funds: 9.5 million euro

4.75M€ for IaaS, PaaS and SaaS & **4.75M€ for Earth Observation**

First batch of **500 KEURO**
Expected **f**rom July 2019 onwards
for researchers (users)
who want to use the IaaS offerings
available in the GÉANT IaaS framework.

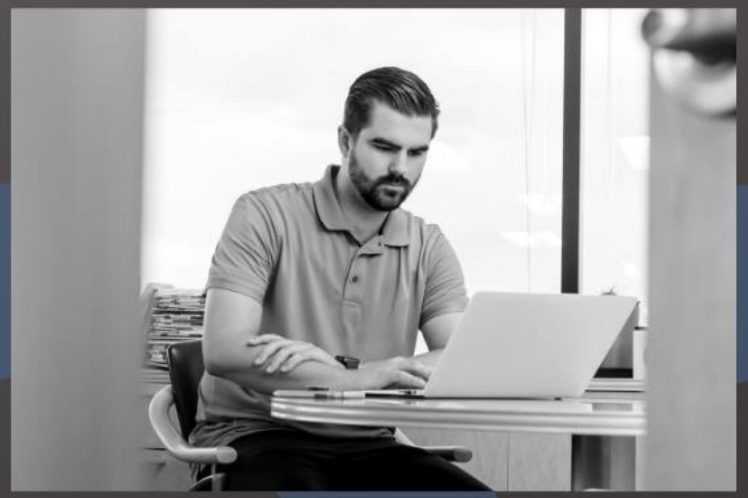
Through vouchers

Vouchers distributed via organisations
who represent or have access to researchers.
First participating organisation is Eurodoc:
The European Council for Doctoral Candidates and Junior Researchers,

9 MEUR in 2020 – 2021
to be used at suppliers
who have been awarded
a framework agreement
in the OCRE tender.

Multi-tier approach: vouchers for researchers, institutions & buyer groups.

OCRE USER CATEGORIES



INDIVIDUAL RESEARCHERS

INDIVIDUAL INSTITUTIONS

GROUP OF INSTITUTIONS (BUYER GROUPS)

Funding waves

		EC adpt funds Type A services	EC adpt funds Type B services	Total for each wave	
WAVE 1	INDIVIDUAL RESEARCHERS	1.475M	0.975M	2.45M	
WAVE 2	INDIVIDUAL INSTITUTIONS BROAD RANGE BUYER GROUPS	1M	1.5M	2.5M	
WAVE 3	COMMITTED BUYER GROUPS	2.25M	2.25M	4.5M	

Vouchers model

Separates:

- **payments** for cloud resources
OCRE, as custodian of the adoption fund, will buy the cloud resources from providers.

- **usage** of these cloud resources
Researchers will use the services at the providers, with the providers reporting to OCRE about usage.

Creates a situation where:

a. cloud and Earth Observation services are free-at-the-point-of-the-user;

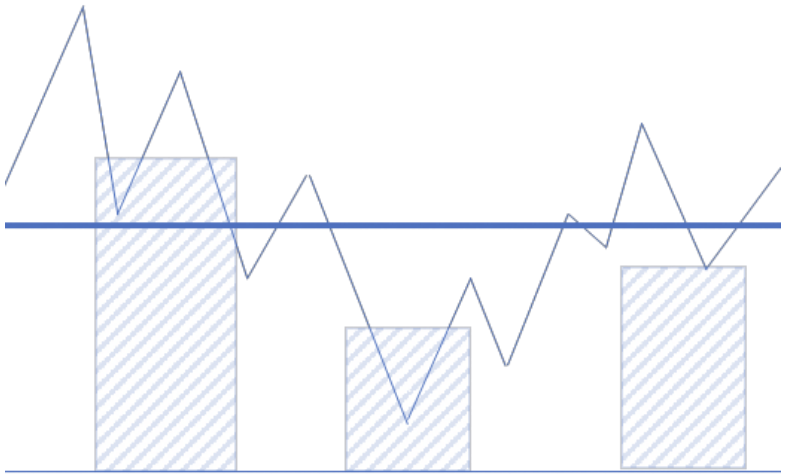
b. 'the long-tail-of-science', individual researchers, are enabled to use cloud services.

Hence, the use of commercial cloud services by the European research community is increased.

Vouchers management

- Technical platform to provide vouchers and track uptake and usages
- Simple web API to collect information from providers

Explore different usage models



- On-demand
- Basic discount levels available to all institutions
- Test Suite, packaging several scientific applications
- Reserved instances
- Volume discounts for buyer groups committing to certain spending levels
- Spot instances / Pre-emptible instances
- Vouchers/Credits

Expected tender requirements

- Compliance with EU data protection law, including GDPR.
- Ready-to-use agreements, which include purchasing and payment models that match the financial structures and funding in research institutions, such as: acquiring services with a purchase order, postpaid billing and accommodating capital expenditure through upfront commitments.
- Reduction of network traffic charges, through suppliers' connections to the GÉANT network.
- Identity management, single sign-on capabilities
- (ISO) certifications: cloud specific features, security, interoperability, exit support, environmental, financial and service level agreements, IT service management.
- Report resource usage to OCRE.
- Customer adoption support.
- License management and migration. Transfer of existing licenses to the cloud.
- Data portability, interoperability and open standards.

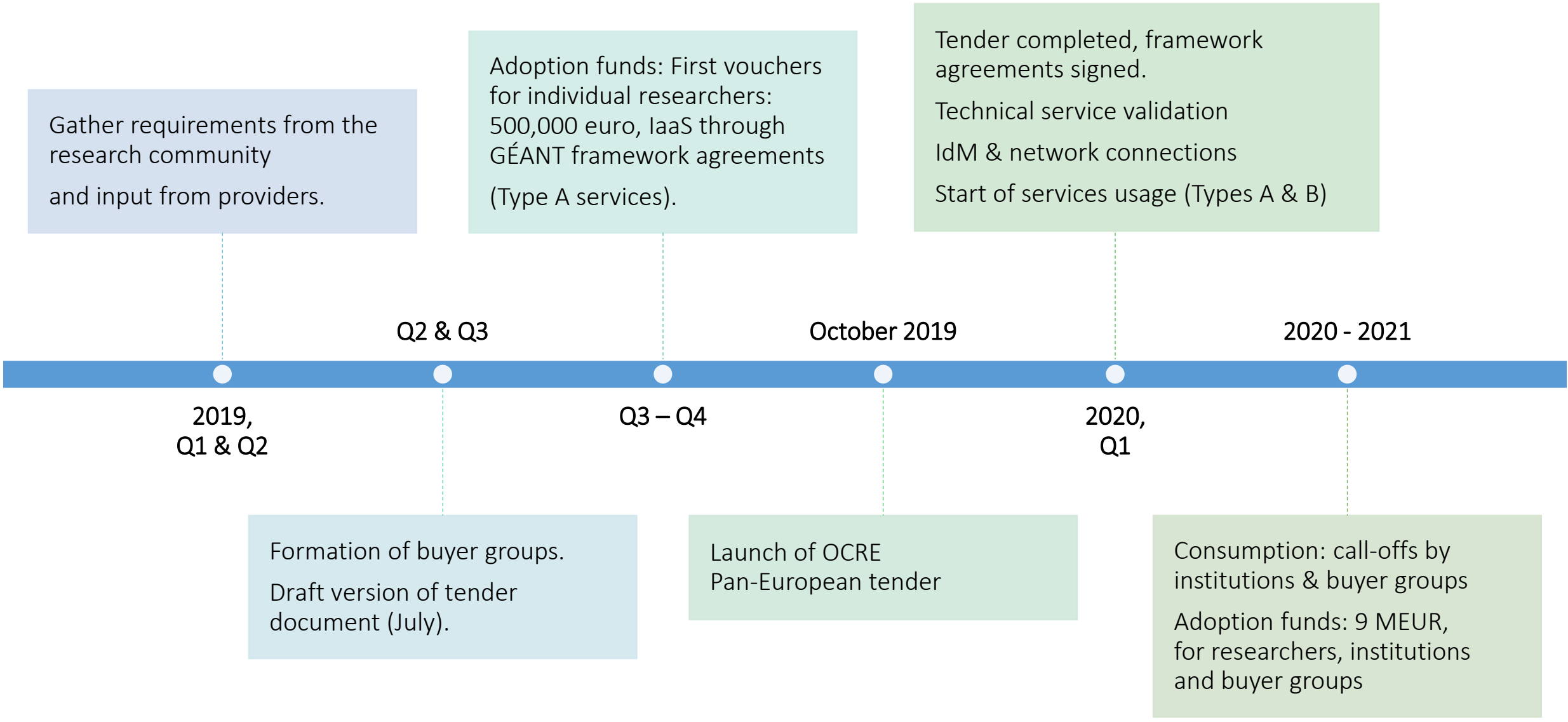
Tender input

- Research community
- European Open Science Cloud (EOSC-Hub WP12)
- Research Data Alliance
- FAIR data principles,
  to make data findable, accessible, interoperable and reusable
- Identity management and single sign-on: AARC2 project
- OpenEO and the ESA EO Exploitation Platform Common Architecture projects
- GÉANT IaaS and HNSciCloud tenders
- Specific context of 2 service types under procurement

Tender results

Tender results in **framework agreements** with suppliers who meet the tender requirements. Not 1 winner takes all. Portfolio of services. GÉANT will sign the framework agreements with the suppliers, valid for 4 years.

Entities identified in the tender are eligible to use these framework agreements: to buy resources, via call-off agreements. This can involve a mini-competition procedure.


Gather requirements from the research community
and input from providers.
2019, Q1 & Q2
Formation of buyer groups.
Draft version of tender document (July).
Q2 & Q3
Adoption funds: First vouchers for individual researchers: 500,000 euro, IaaS through GÉANT framework agreements
(Type A services).
Q3 – Q4
Launch of OCRE Pan-European tender
October 2019
Tender completed, framework agreements signed.
Technical service validation
IdM & network connections
Start of services usage (Types A & B)
2020, Q1
Consumption: call-offs by institutions & buyer groups
Adoption funds: 9 MEUR, for researchers, institutions and buyer groups
2020 - 2021

Requirements and input

- Requirements from researchers and institutes
- Input from suppliers
- Webinars, meetings

EO Requirements gathering from the research community and input from suppliers

- Dedicated Webinars
- Participating in conferences and user consultations, including
  - EGU, Wien, Austria, 1-5 April
  - Living Planet Symposium 19, Milan, Italy, 13-17 May
  - EXPANDEO, Bruxelles, Belgium, 20 June
  - EARSel, Salzburg, Austria, 1-4 July
  - Phi Week, Frascati, Italy, 9-13 September
  - ISDE 11, Florence, Italy 24-27 September
- EARSC community:
  European Association of
  Remote Sensing Companies
- Champion users interviews
- Online Surveys

Questionnaires

Researcher

https://www.ocre-project.eu/researchers

Service Provider

https://www.ocre-project.eu/suppliers

Open Clouds for Research Environments

Next steps

Slides, Questionnaire, input

Webinar
July 5th, 11:00 CET

Events
20 June – EXPANDEO, Bruxelles
3rd July, EARSeL, Salzburg
24-27 Sept, ISDE11, Florence

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