



OCRE

Open Clouds for Research
Environments

Stimulating the uptake of commercial
digital services in European research

@ EOSC-hub week
April 11, Prague

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

<https://www.ocre-project.eu>

Stimulate the adoption of commercial digital services by the European Research community



IaaS, PaaS and SaaS
commercial cloud offerings.



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



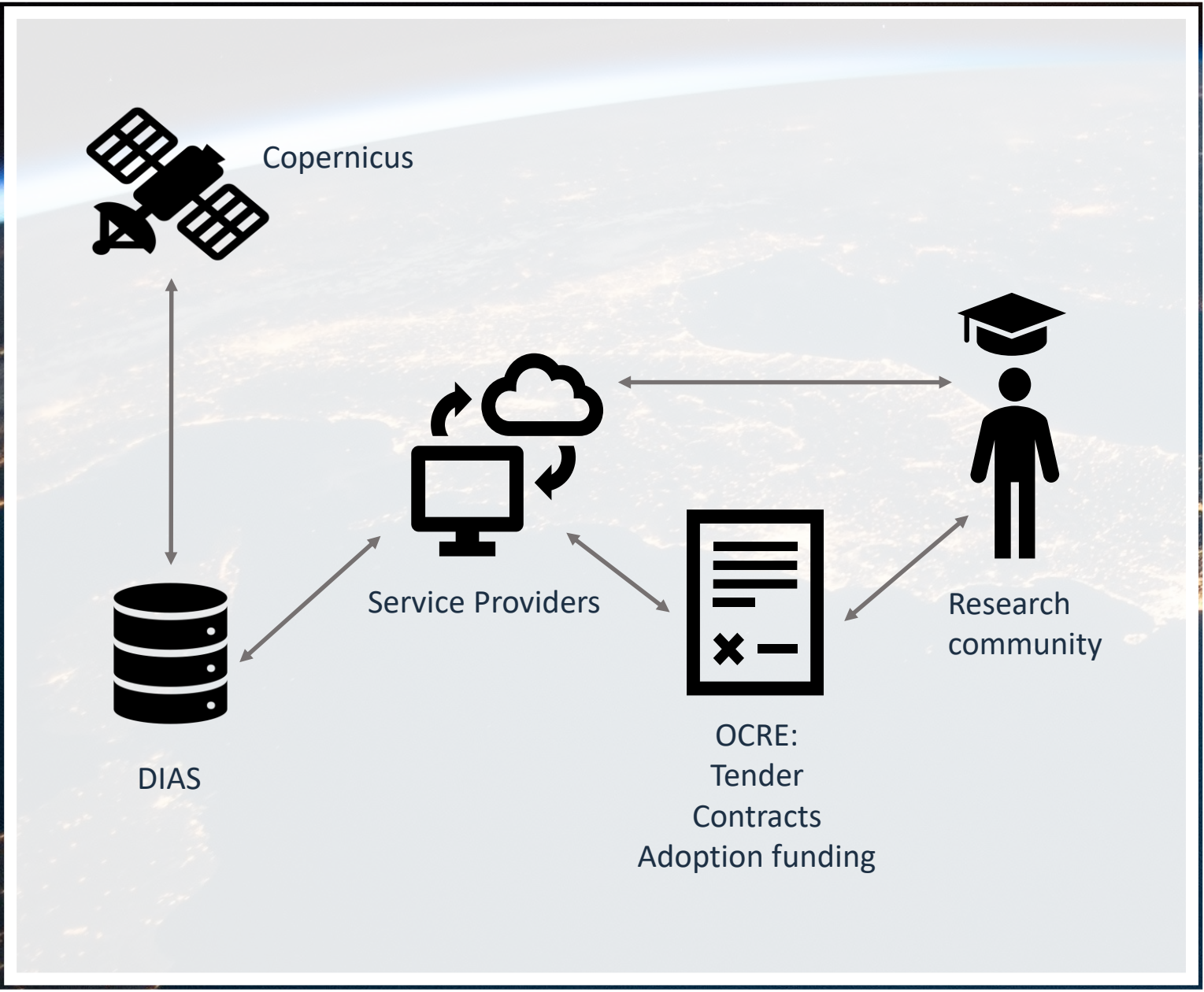
Aggregate requirements and demand
of the research community

into a public procurement / tender,
to establish ready-to-use agreements with capable cloud
and earth observation suppliers

Stimulate adoption of those selected services:

(1) Support individual institutions and buyer groups to
buy cloud resources

(2) Make available €9.5 million in EC adoption funding to
the research community
to use cloud resources at these selected suppliers





OCRE

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

European Open Science Cloud

- Europe is the largest producer of research data in the world.
- The EC wants to increase the use of this data and interconnect research IT infrastructures through the European Open Science Cloud.
- OCRE is part of the European Open Science Cloud and receives funding from the EC under grant agreement no. 824079.



A **tender** (public procurement)

Using 2014/24/EU directive.

Procure with a group of entities

Cross-border

Centralised Purchasing Body

Launch tender in October

IaaS, PaaS, SaaS and Earth Observation services

Different lots.

Requirements input from research community

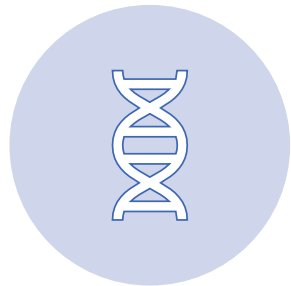
Input from suppliers

Demand aggregation in buyer groups:

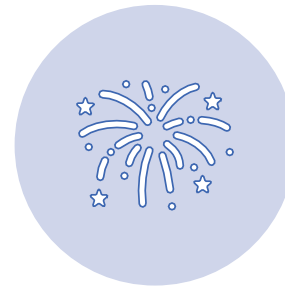
Research groups (domain specific)

National Research and Education Networks (country specific)

Dates and duration



End of July:
Buyer groups established and
draft tender document ready



October:
publish tender



Q1 2020:
Evaluation completed and
framework agreements signed by
GÉANT with suppliers (valid for 4
years). Not 1 winner takes all.
Portfolio of services.



Service consumption from Q2
2020 up until the end of Q1 2024



Building on two delivery vehicles

OCRE is the successor to the HNSciCloud and GÉANT IaaS tenders

Efficient delivery

GÉANT cloud delivery ecosystem:
reach 10,000 institutions across Europe.



Tender: inclusion and aggregated demand



CERN and other
research institutions
will establish buyer groups:
will buy together, via a lead buyer

Buyer groups through EOSC-hub?



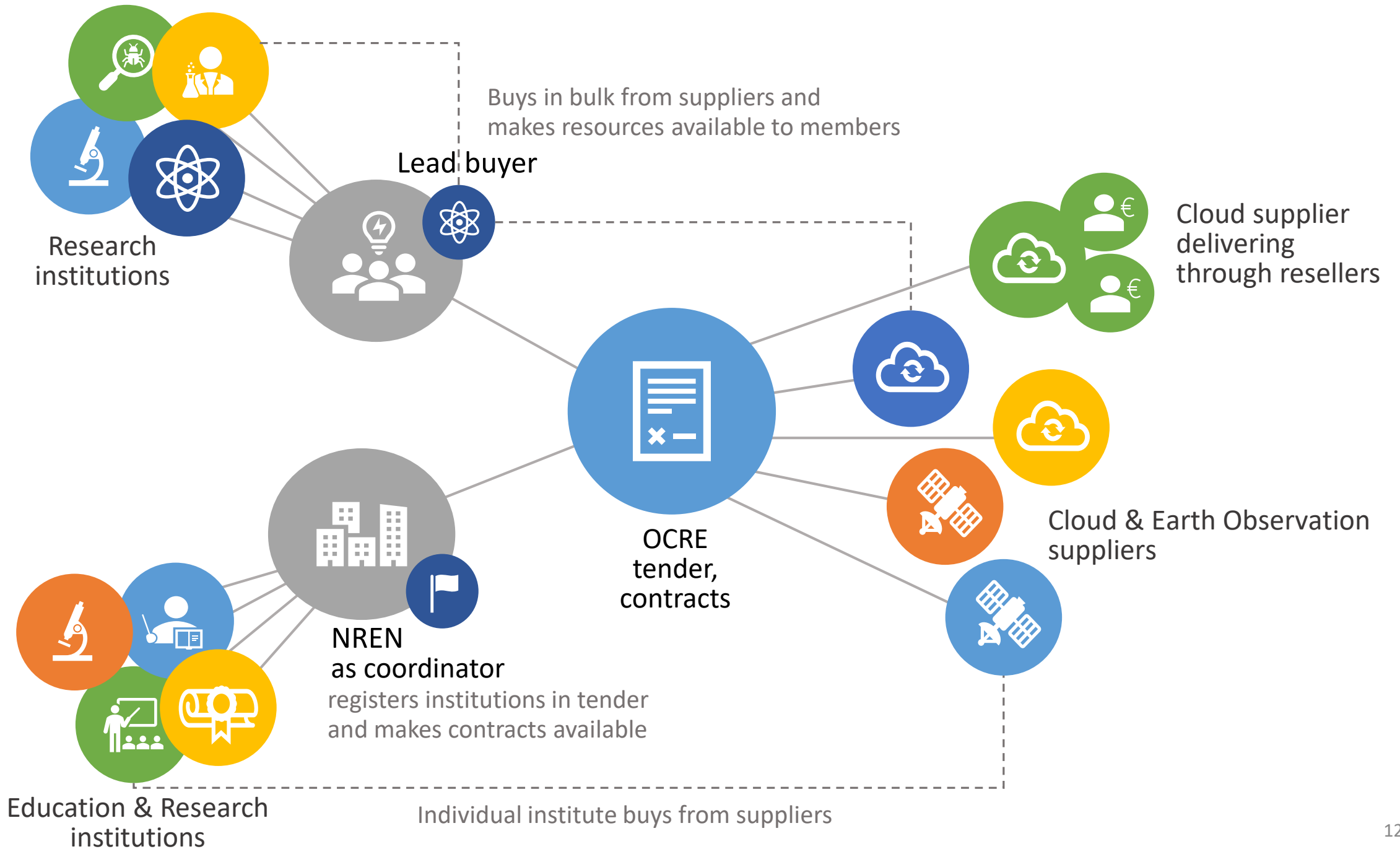
NRENs will register their member
institutions in the tender,
can buy in bulk
and ensure



Individual research and education
institutions can buy resources



CERN
EMBL
EUROfusion
ESA
ESO
ESRF
European XFEL
ILL

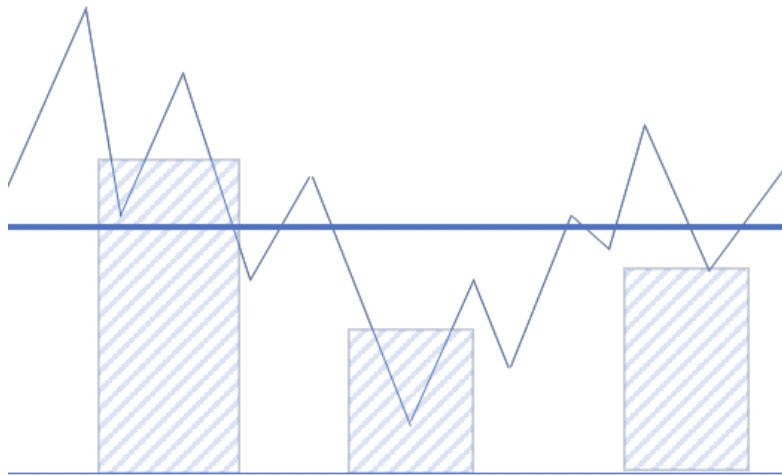


Consumption route 1
institutions / buyer groups buy with their own money

Institutions and buyer groups identified in the tender are eligible to use these framework agreements: to buy resources, via call-off agreements. Through a *Direct Award*: use contracts as is or via a *mini-competition* procedure, to ask additional questions (add additional requirements)

Call-off agreements and payments are between institution / lead-buyer and supplier (OCRE is not involved in this money flow)

Explore different usage models



On-demand



Reserved instances



Spot instances / Pre-emptible instances



Basic discount levels available to all institutions



Volume discounts for buyer groups committing to certain spending levels



Vouchers/Credits

Look at cost recovery fees, to compensate efforts for efforts in running the procurement vehicle and inclusion in the European Open Science Cloud service catalogue.

Consumption route 2

Research community benefits from EC cloud adoption fund available through OCRE

EC adoption funds 9.5 MEUR. Available through OCRE
Services are free-at-the-point-of-the-user,

Stage 1: From July 2019

500 KEURO. For individual researchers.

Usage of services in GÉANT IaaS framework. Voucher system.

Distributed via organisations who represent or have access to researchers. First participating organisations are

Eurodoc (*The European Council for Doctoral Candidates and Junior Researchers*)

and the **Marie Curie Association** (a global network of researchers).

EOSC-hub involvement planned.

Start usage, raise awareness, use-cases. Experience with vouchers.

Stage 2: 2020, until end of 2021

individual researchers, institutions, and buyer groups

4.25 MEUR million for IaaS, PaaS and SaaS

4.75 MEUR for Earth Observation

Services selected in OCRE tender

Usage management

- Technical platform to track uptake, usage of vouchers
- Through RHEA Group company SixSq.

OCRE test suite

- Validate all cloud services selected in the OCRE Framework, based on tests assembled by HNSciCloud
 - Provision of the stack with Terraform
 - Deployment of tests on Docker containers to Kubernetes cluster
 - Simple YAML configuration
 - Results: JSON on S3 bucket on CERN infrastructure
- Tests areas:
 - Compute, Storage, HPC, GPUs, Network connectivity performance
 - Advanced containerised cloud application deployments
 - Data Repatriation



Connections & outreach

- Selected providers will become an integral part of the European Open Science Cloud portal, service catalogue, marketplace
- and are connected to
 - the GÉANT data network
 - and the community's single sign-on systems,
- OCRE will stimulate awareness and adoption
- Thus, bringing the selected providers into the heart of the European research community

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.
- Customer adoption support.
- License management and migration. Transfer of existing licenses to the cloud.
- Data portability, interoperability and open standards.
- Report resource usage to OCRE.

Input to tender

- 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



EOSC-hub

EOSC-Hub & OCRE collaboration

Research community input. Tender requirements, using EOSC-hub's WP12 outputs, as input for developing the OCRE tender

Integration of commercial digital services in the EOSC portal, Service Catalogue and Marketplace.



EOSC-hub

EOSC-Hub & OCRE collaboration

Explore the opportunities and requirements for research entities to establish a group buyer role in the OCRE tender:
aggregating demand and doing purchases in bulk.



EOSC-hub

EOSC-Hub & OCRE collaboration

Establish connections between

the EOSC-hub outreach efforts,
the EOSC-hub 'Early adopter programme'
in particular

and the services and adoption funding track
available through OCRE.

Support usage

Hybrid cloud and cloud bursting scenarios

Delivery structure

- OCRE aggregates needs, demand and establishes an efficient delivery on a European level.
- OCRE will be seeking suppliers, through the tender, who can meet the community's needs and operate in a similar fashion.

GÉANT IaaS framework

Available since January 2017



Usage thus far in
18 countries



Majority of usage
in Western
Europe



300 institutions
consuming
through the
framework in
2018



Eightfold increase
in spending from
2017 to 2018



Benefits for suppliers

Efficient route to market

Respond to 1 tender

Reach 10,000 institutions

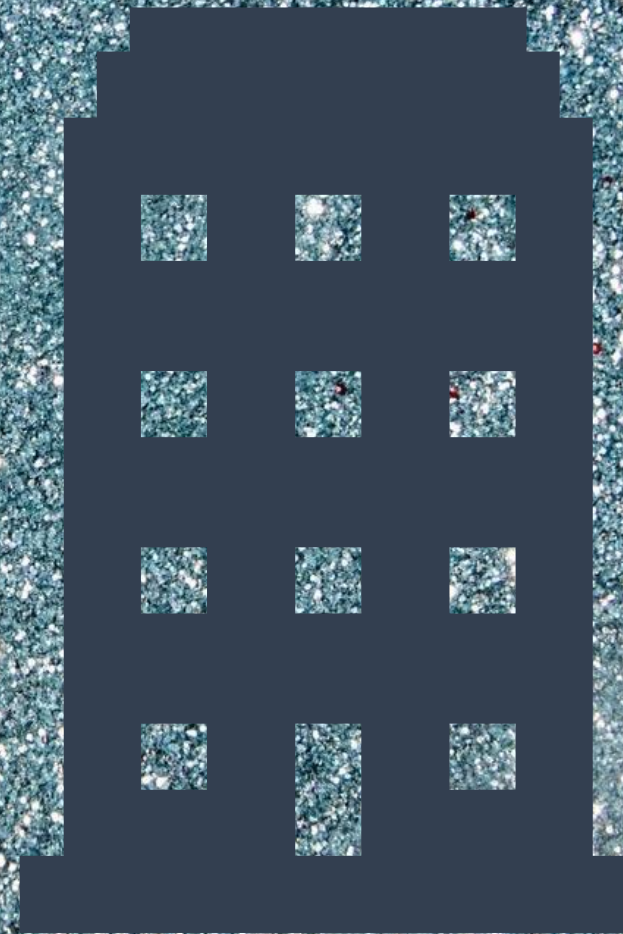


Benefits for Researchers

Validated cloud and
Earth Observation services

which meet the
community's needs.
Integrated with the EOSC.

Ready-to-use (no need to
run your own tender).
Benefit from adoption
funds



2 webinars and 1 face-to-face event
Present at EO conferences
Supplier interaction
Eurodoc conference

Gather requirements from the research community and input from providers.

Adoption funds: First vouchers for individual researchers: 500,000 euro, IaaS through GÉANT framework agreements.

Tender completed, framework agreements signed.
Technical service validation
IdM & network connections
Start of services usage

Consumption: call-offs by institutions & buyer groups

Q2 & Q3

October 2019

2020 & 2021

2019,
Q1 & Q2

Q3 – Q4

2020,
Q1

Q1 2020 up until
Q1 2024

Formation of buyer groups.
Draft version of tender document (July).

Launch of OCRE
Pan-European tender

Adoption funds: 9 MEUR,
for researchers, institutions
and buyer groups



OCRE

Open Clouds for Research
Environments

OCRE aims to be a CORE component
in the European Open Science cloud

Next steps

- Community and supplier tender input
- Outreach, Webinars, presentations
- End of July: buyer groups, tender draft and start of first voucher stage

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