



PLGrid Infrastructure for EOSC

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EOSC Festival – the National Tripartite Event Poland
24-26 October 2022, Cracow,

Partners:



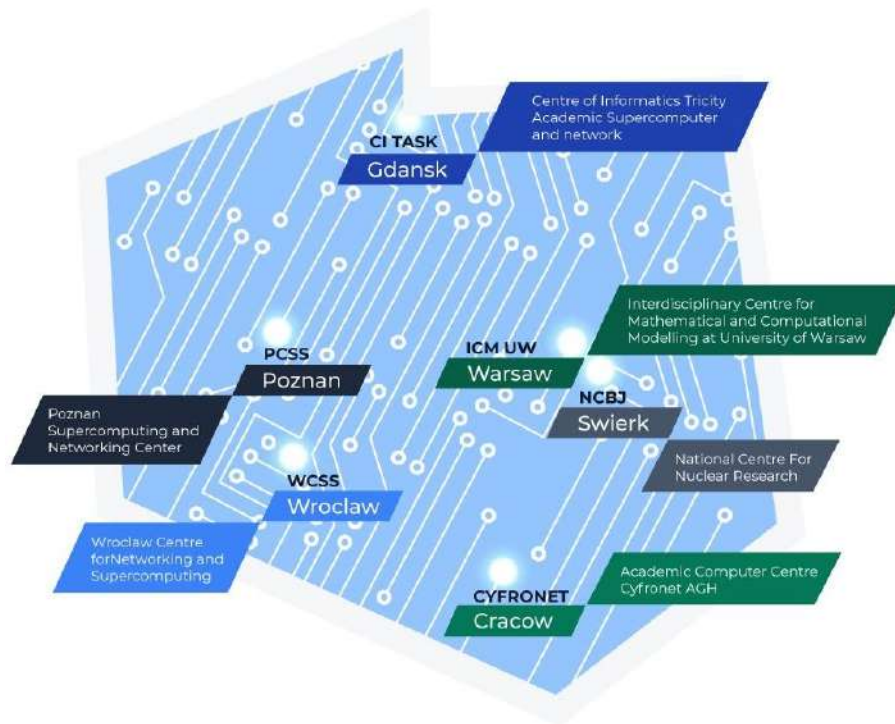
ci task





PLGrid Consortium

Established in 2007 under an agreement between the largest polish HPC centers in order to build and manage distributed computing infrastructure for science - PLGrid infrastructure





PLGrid projects implemented as part of a consortium



Polish Infrastructure for Supporting Computational Science in the European Research Space PL-Grid



Domain-oriented services and resources of Polish Infrastructure for Supporting Computational Science in the European Research Space - PLGrid Plus



New generation domain-specific services in the PL-Grid Infrastructure for Polish Science



National Supercomputing Infrastructure for EuroHPC - EuroHPC PL



National Competence Centres in the framework of EuroHPC



PLGrid infrastructure resources for scientific community



**Computing
resources**



Cloud resources



**Storage
resources**



**Scientific
applications**



**Cooperation
tools**

HPC resources integrated with PLGrid infrastructure



Prometheus
2,4 PFlops

Ares
4 PFlops

Athena
7,7 PFlops



BEM
0,86 PFlops



Eagle
1,37 PFlops



Tryton
1.41 PFlops



LUMI
550 PFlops

HPC resources

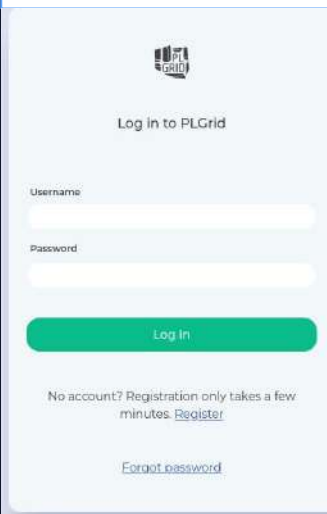


PLGrid operational tools and platforms

- IdP service
- User portal
- Resource allocation platform
- User support



<https://portal.plgrid.pl/>



Log in to PLGrid

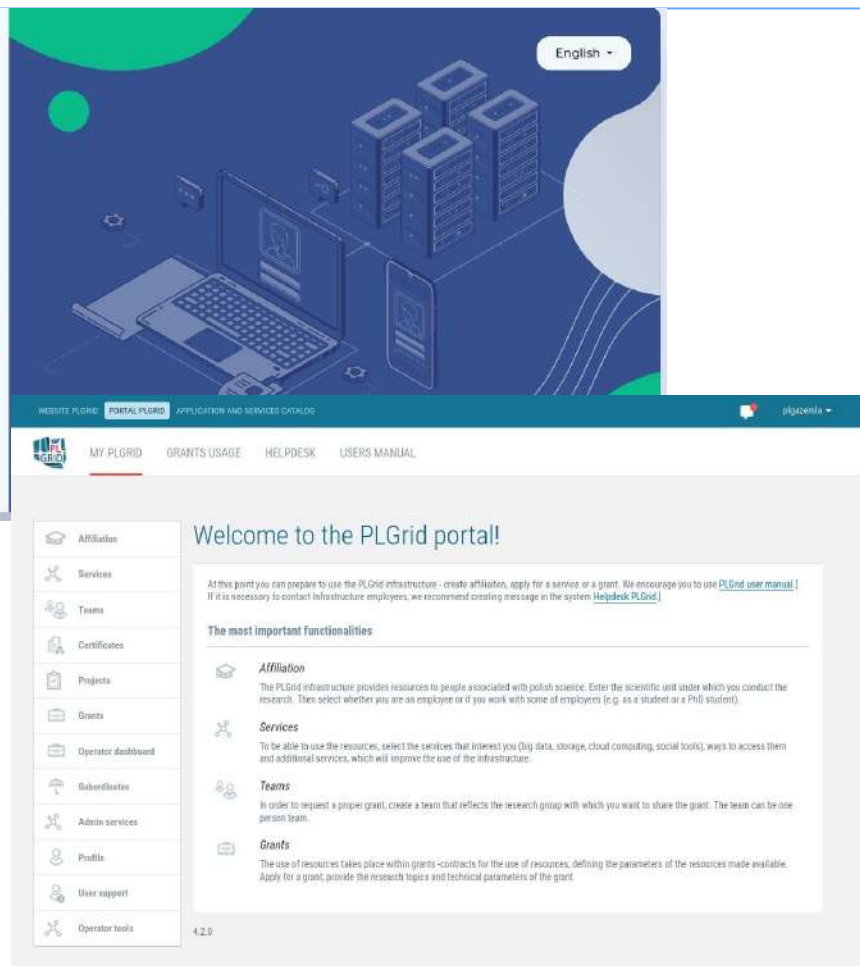
Username

Password

[Log In](#)

No account? Registration only takes a few minutes. [Register](#)

[Forgot password](#)



English

WEBSITE PLGRID: [PORTAL PLGRID](#) APPLICATION AND SERVICES CATALOG

[MY PLGRID](#) [GRANTS USAGE](#) [HELPDESK](#) [USERS MANUAL](#)

Welcome to the PLGrid portal!

At this point you can prepare to use the PLGrid infrastructure - create affiliation, apply for a service or a grant. We encourage you to use [PLGrid user manual](#) . If it is necessary to contact Infrastructure employees, we recommend creating message in the system [Helpdesk PLGrid](#) .

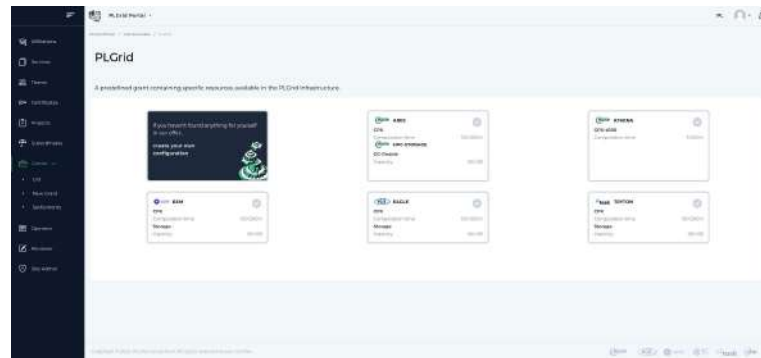
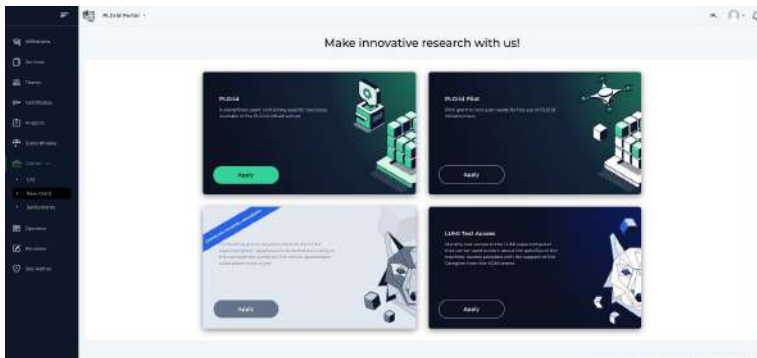
The most important functionalities

- Affiliation**
The PLGrid infrastructure provides resources to people associated with Polish science. Enter the scientific unit under which you conduct the research. Then select whether you are an employee or if you work with some of employees (e.g. as a student or a PhD student).
- Services**
To be able to use the resources, select the services that interest you (big data, storage, cloud computing, social tools), ways to access them and additional services, which will improve the use of the infrastructure.
- Teams**
In order to request a proper grant, create a team that reflects the research group with which you want to share the grant. The team can be one-person team.
- Grants**
The use of resources takes place within grants-contracts for the use of resources, defining the parameters of the resources made available. Apply for a grant, provide the research topics and technical parameters of the grant.

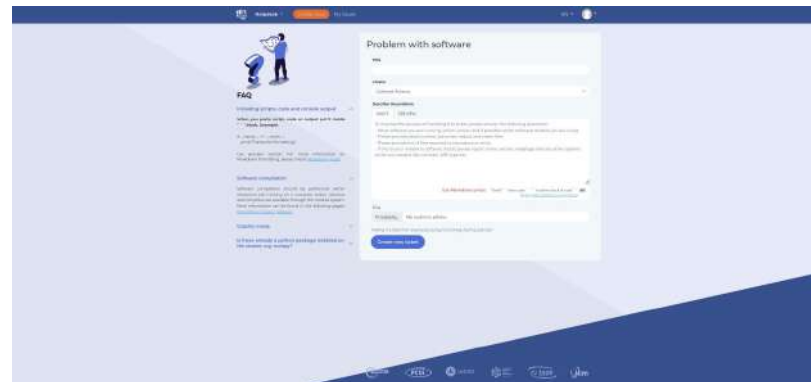
4.2.0



Resource allocation platform



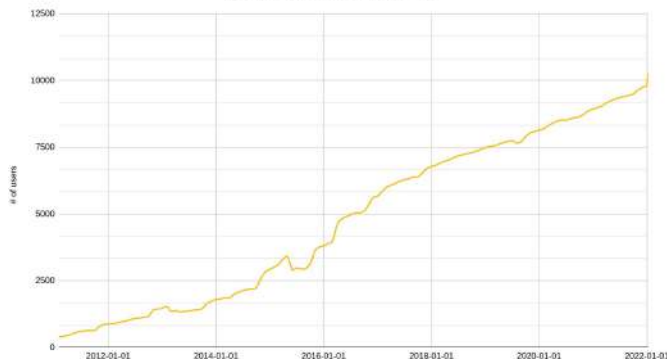
User support platform





PLGrid success

PLGrid users active accounts



>10k active users

83 Universities

35 PAS members and institutes

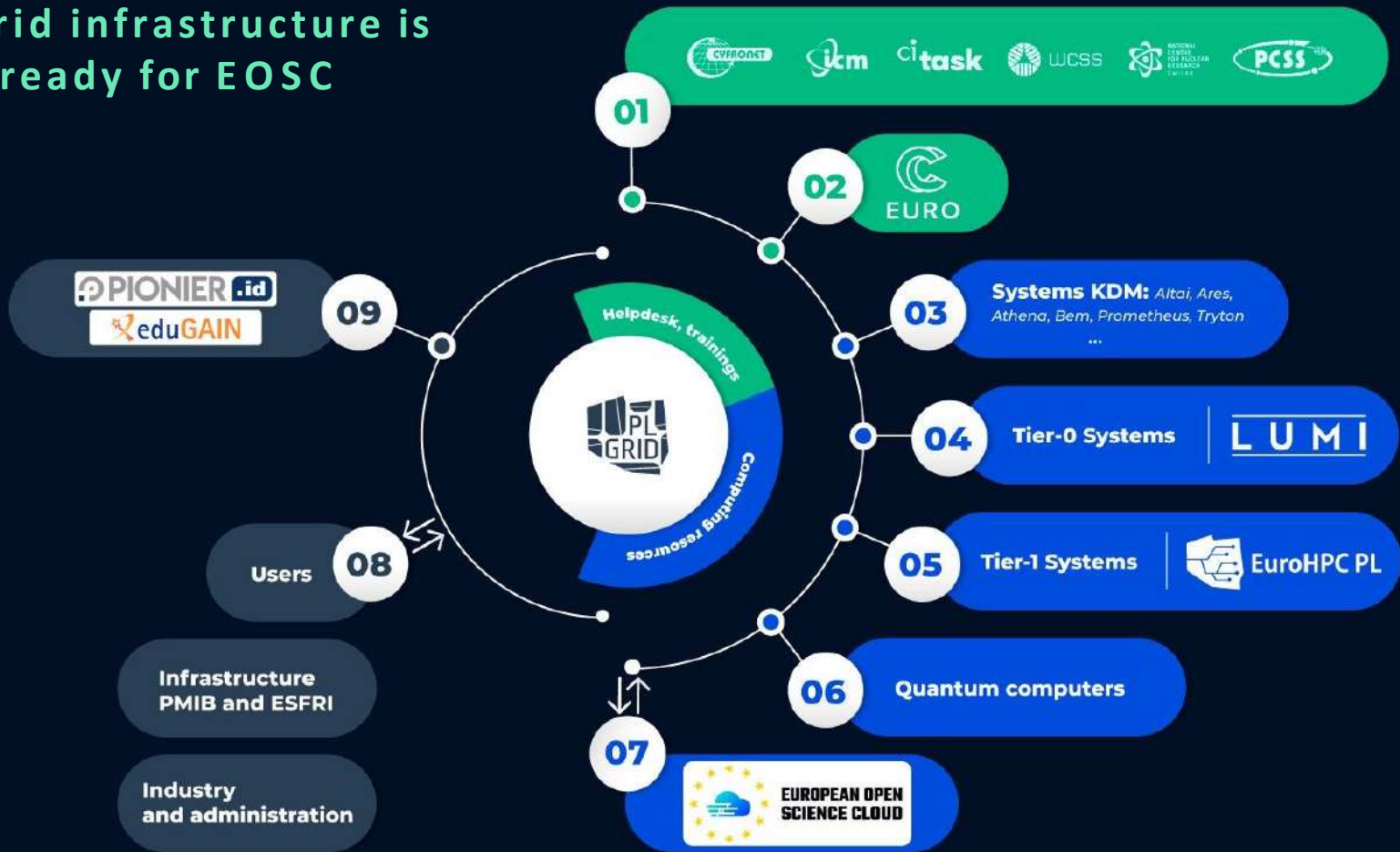
Number active computational grants per month (since 2012)



>3,5k completed computational grants

>4k publications

PLGrid infrastructure is ready for EOSC





PLGrid infrastructure for EOSC

Project on *Polish Roadmap for Research Infrastructures:* National Cloud Infrastructure PLGrid for EOSC

- ❖ federated cloud computing services
- ❖ large-scale data processing
- ❖ FAIR for computer science datasets
- ❖ repeatability and reproducibility of results
- ❖ domain-specific tools
- ❖ common infrastructure exposed to EOSC



ACC Cyfronet AGH EOSC related activity

HPC service provider for
<https://grapevine-project.eu>
project to calculate and
evaluate meteorological
complex models and to train
machine learning models.



High performance computing services for prevention and control of pests in fruit crops

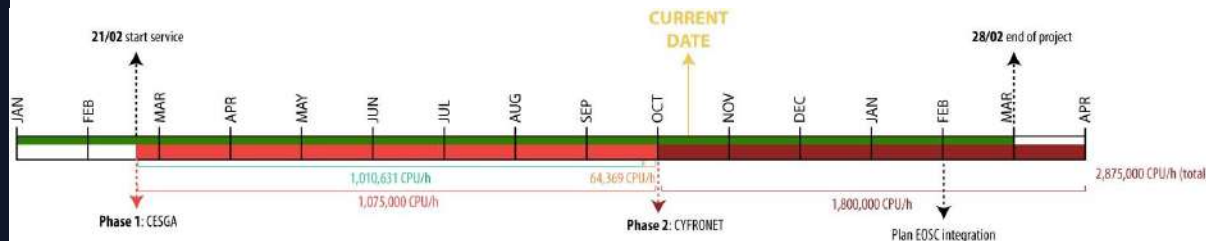
GRANT AGREEMENT UNDER THE CONNECTING EUROPE FACILITY (CEF)
- TELECOMMUNICATIONS SECTOR AGREEMENT No INEA/CEF/ICT/A2016/1837816

Project objectives

- Reducing environmental impact by optimizing the use of phytosanitary products on vineyards and increasing biodiversity.
- Providing an intelligent decision support tool for grape growers adaptable to other regions.
- Improve farms sustainability.

How do we do it?

- Developing physical models of grapevine phenology and plagues.
- Applying Big Data and Artificial Intelligence (AI) technologies to field data, IoT data and remote sensing data (Copernicus images) for creating AI models of grapevine phenology and plagues.
- Validating physical models and AI models by contrasting their results and by comparing their predictions with field data contained by RedFara, Aragonese Phytosanitary Network of Aragon.



Thank you for your attention.