EOSC for projects

Using EOSC digital services to consolidate project digital infrastructures at Observatoire de Paris

Baptiste Cecconi (Observatoire de Paris, France) — Nov. 2022 — EOSC Symposium

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Observatoire de Paris & EOSC

- A few projects linked to EOSC:
  - **ESCAPE** (European Science Cluster of Astronomy & Particle physics ESFRI research infrastructure);
  - **VAMDC** (Virtual Atomic and Molecular Data Centre), using EUDAT services;
  - **Europlanet-2024-RI**, with its VESPA-Cloud prototype, supported by EOSC-Hub;
  - **NenuFAR**, using cold storage (on tapes) via EUDAT/B2SAFE.

- Implication into EOSC is considered as a strategic asset for the upcoming large scale projects of the institute and the astrophysics science community, as well as for the large digital infrastructures.

- Observatoire de Paris is a **member of the EOSC Association**.

Generic EOSC resources

in a nut-shell

- EOSC Marketplace: https://marketplace.eosc-portal.eu
  => access/order services

- Generic services:
  - compute (EGI - cloud compute, Jupyter Notebook…)
  - storage (EUDAT - B2Drop/B2Share/B2Safe)
  - preservation/publication/DOI (B2Share, Zenodo…)

- Service orders may require configuration.
  Some service providers require direct discussion for this configuration.

- Authorisation and Authentication:
  Using a provider's AAI (e.g., EUDAT-B2Access, EGI-Checkin, GÉANT-eduTEAMS…)

Example 1 — AAI

Authorisation and Authentication

- Service = manageable registry of users with roles.
  - register users in a « virtual organisation »
  - users are invited (e-mail) and use their preferred identity provider to login (Edugain, ORCID, Github…)
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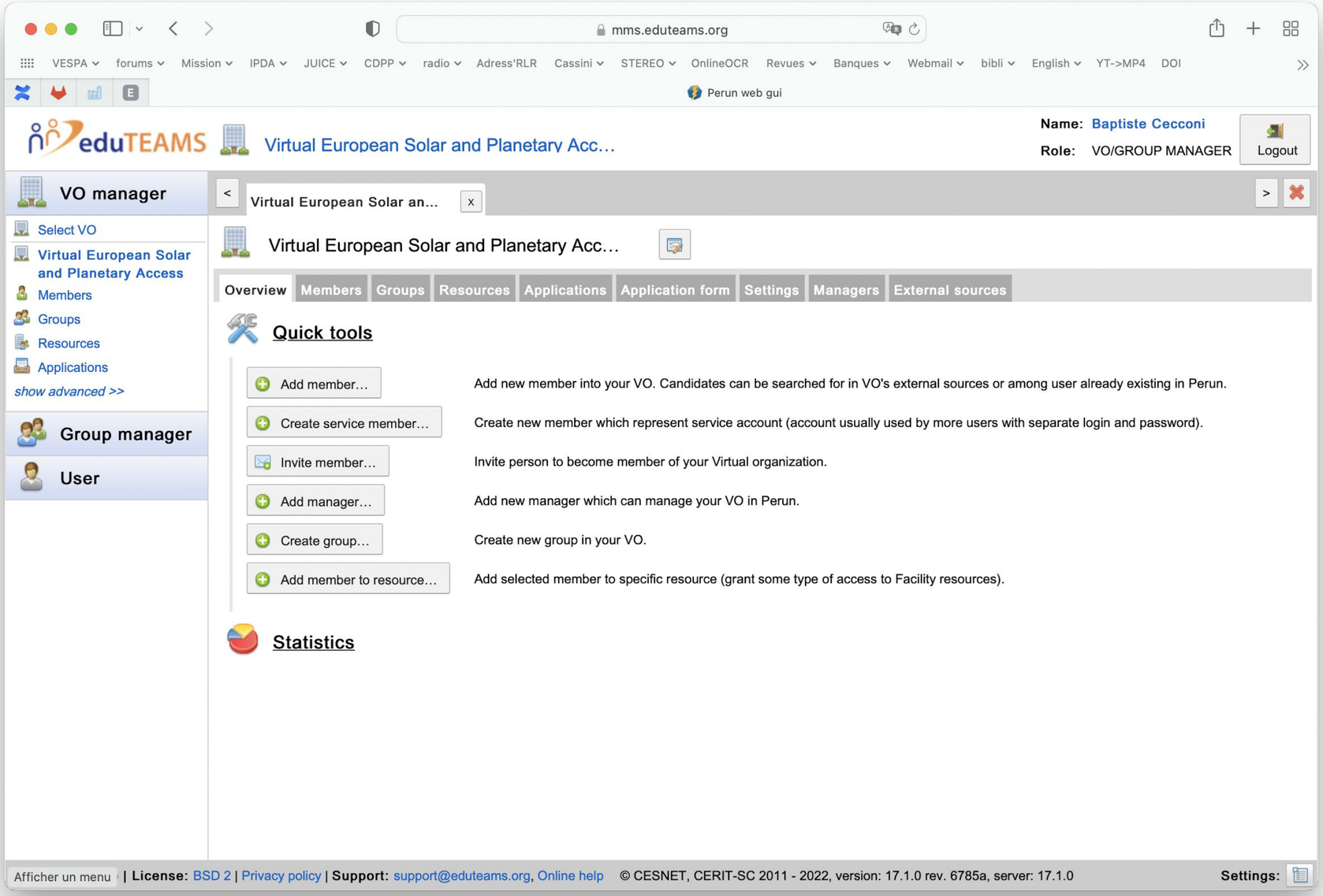
- Application can be configured to use AAI (e.g., with OpenID)
  - authentication is delegated to AAI
  - authorisation (e.g., roles) can be mapped from AAI groups

AAI for Europlanet-VESPA

Using eduTeams

- Europlanet/VESPA: Data discovery network for solar and planetary sciences.
- Need for AAI to grant access to code repository, services, configuration interfaces.



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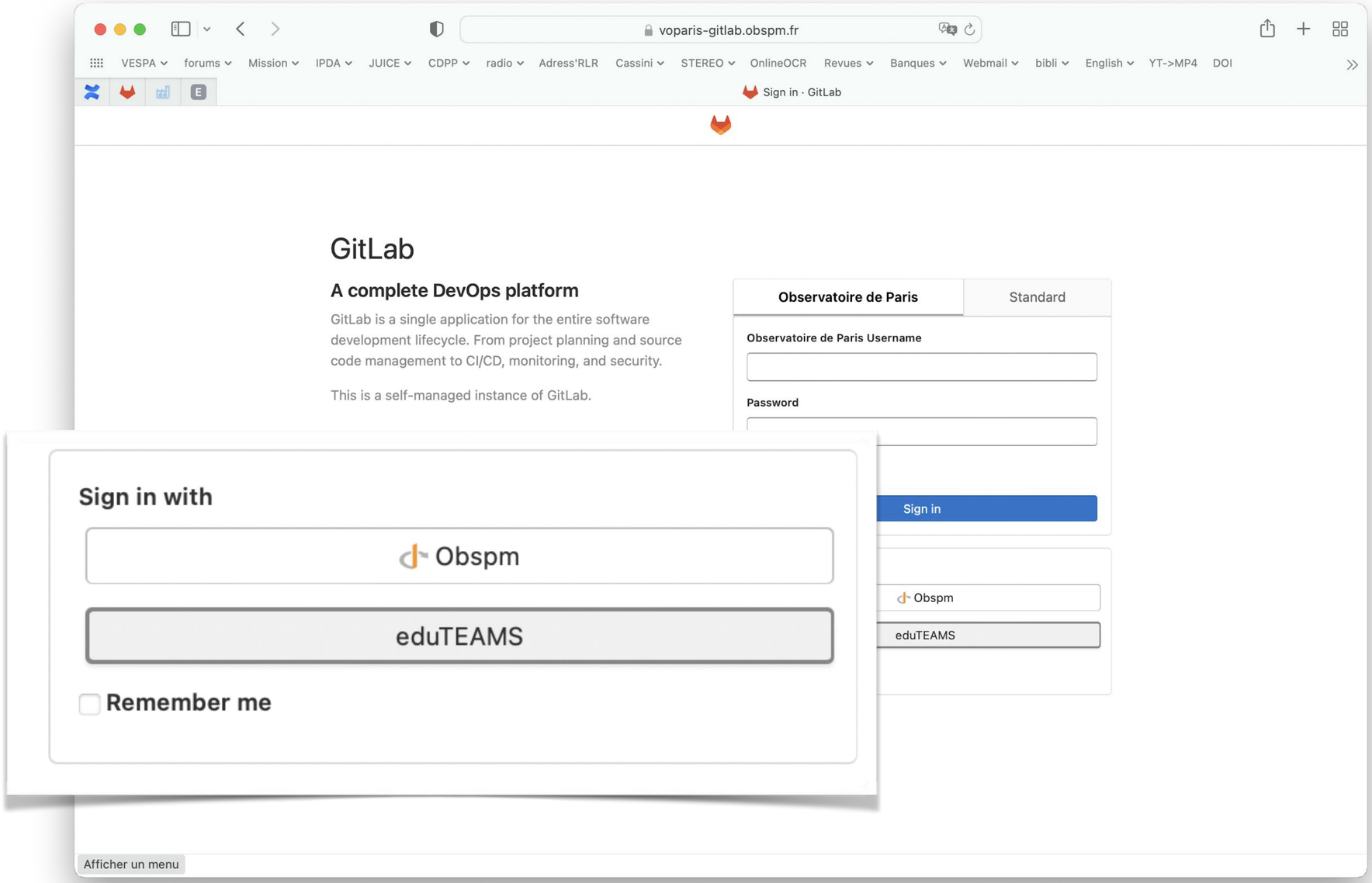
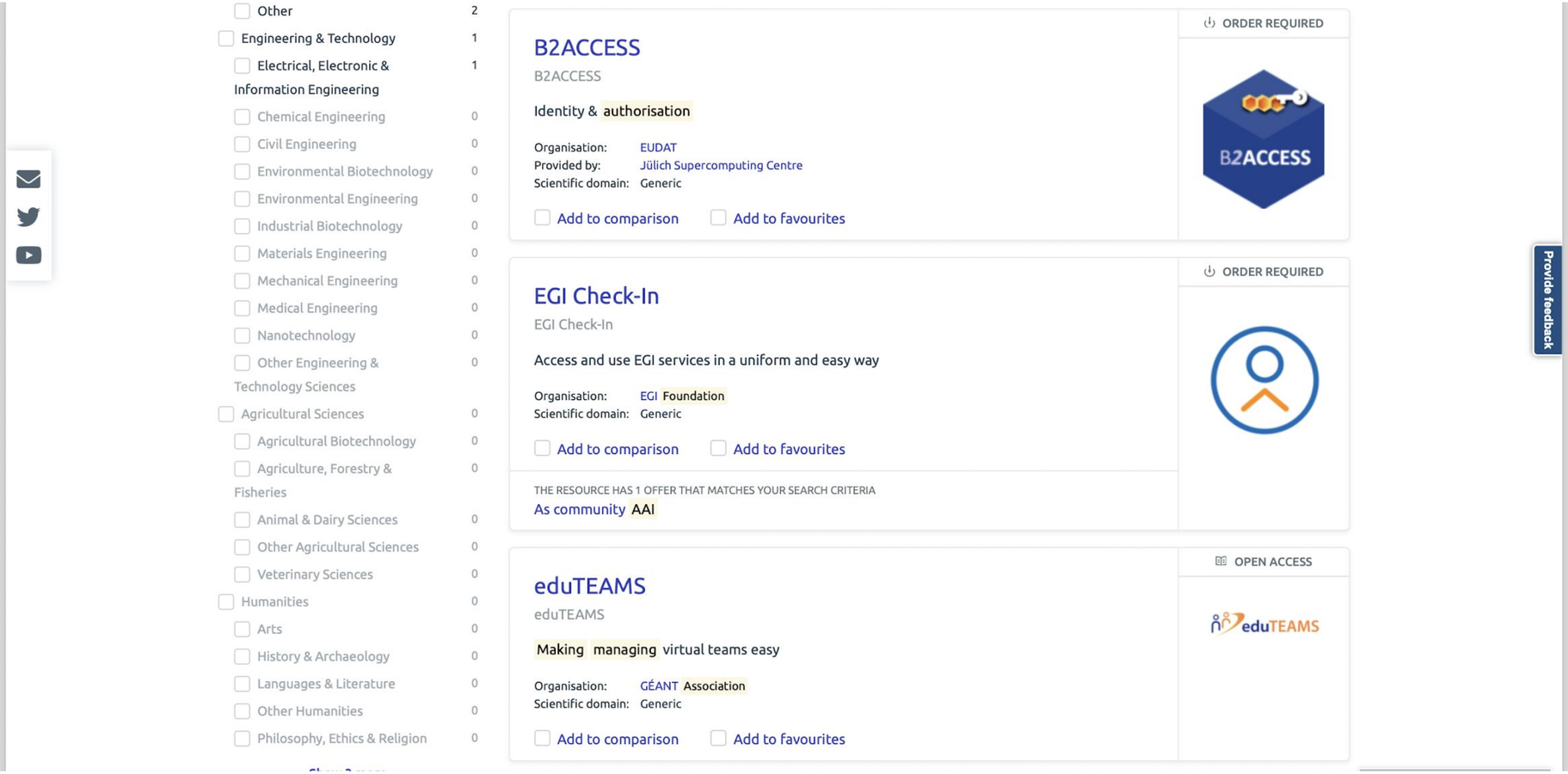


AAI in EOSC

Ordering

- search « AAI » in« Operations & Infrastructure Management Services » / « Security & Identity »



Example 2 — VM Compute

Using EGI-Cloud-Compute resources

- EOSC-Hub Early Adopter Program: extensive support from EGI.
  Service continued after end of EOSC-Hub project (small resource)
- Access managed by eduTEAMS AAI.
- Users in « admins:cloud » group have access to the
  EGI-cloud-compute configuration interface.
- Token based access
- How-to by VESPA admins:
  Create an openstack ubuntu machine on EOSC with ports 80 and 8080 open

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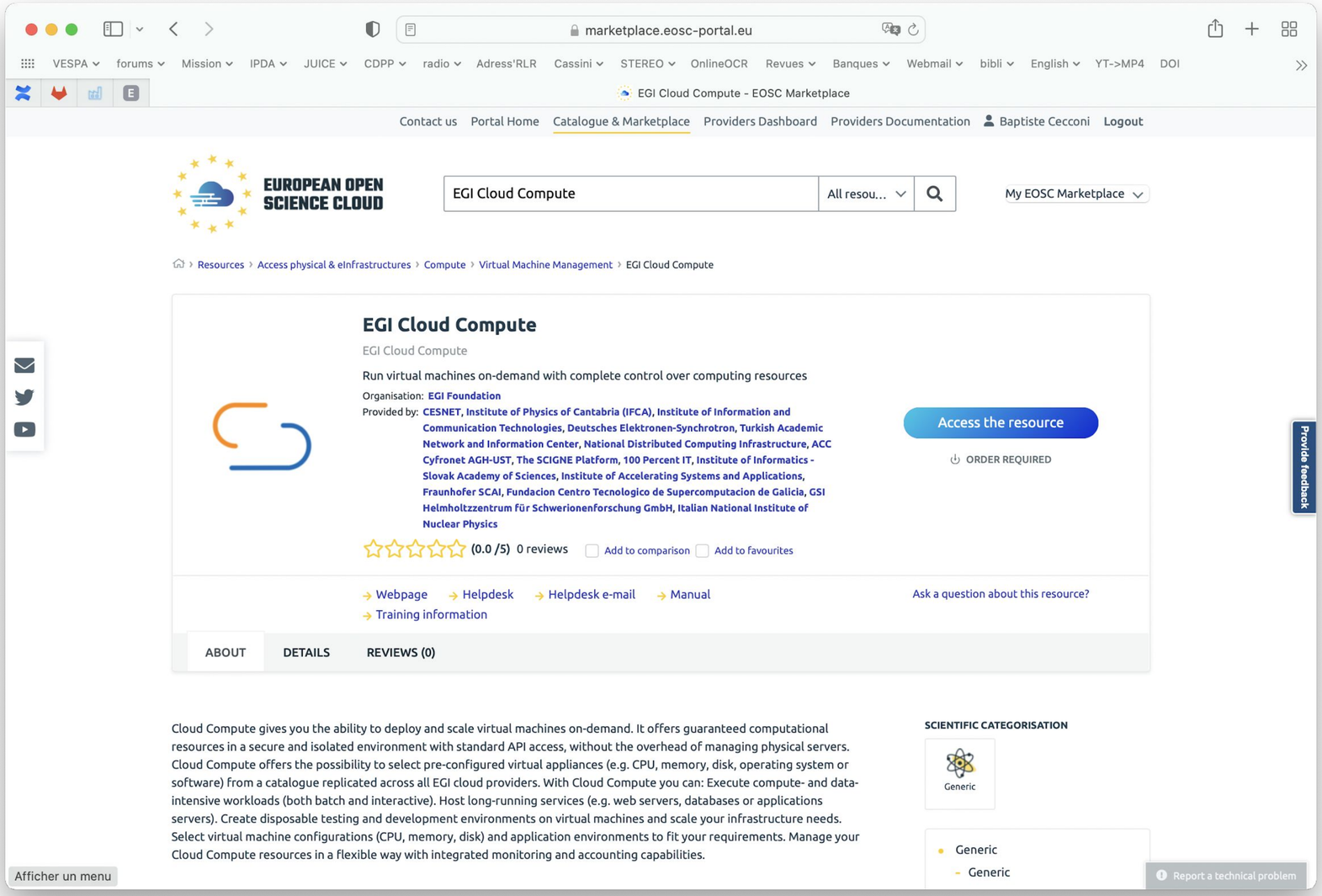
- Small VM, with web server, and dedicated public IP.



Example 3 — Cold Storage

Using EUDAT/B2SAFE

- EOSC-DICE project call:
  - EC funding
  - support to community

- Dedicated discussion to select solution.

- 3 PB of cold storage (tapes) located in MPCDF (Max Planck Computing and Data Facility)

- Data transfer using IRODS

- Current stage:
  discussion on sustainability and continuation of service provision

Cold Storage for NenuFAR

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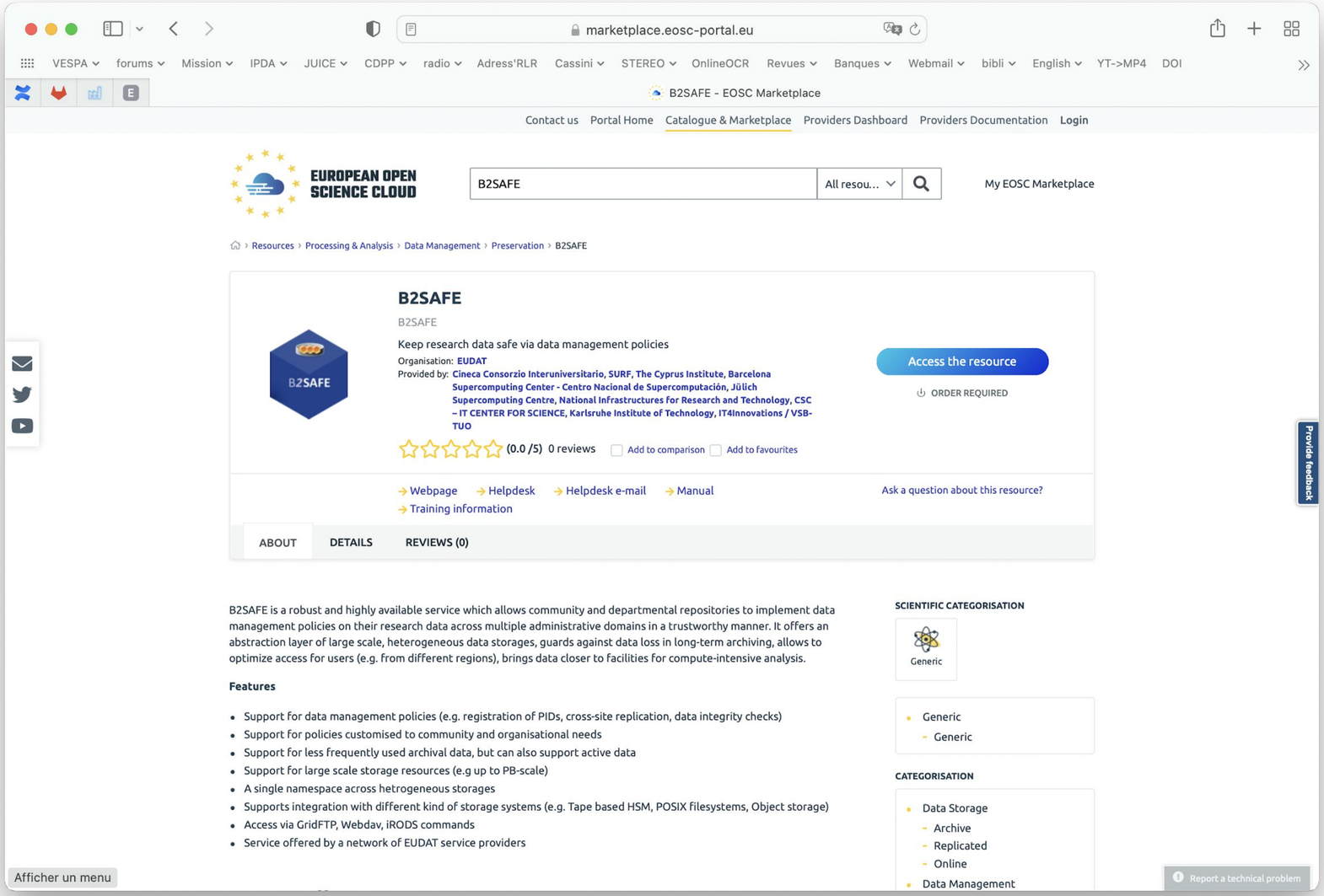

EOSC & Science of the Universe

- Before EOSC: many open science global/international alliances (IVOA, SPASE/IHDEA, RDA, OGC/DataTerra).
  Open-Science & FAIR is well understood and implemented

- With EOSC:
  - Earth Sciences: **EPOS**
  - Collaboration EUDAT/B2FIND + IVOA
  - Astrophysics & Particle Physics: **ESCAPE**

- Projects **using EOSC without a direct EOSC funding**: Europlanet/VESPA, VAMDC…

Opportunities

- DICE-EOSC: https://www.dice-eosc.eu/call-service-requests
- EGI-ACE: https://www.egi.eu/egi-ace-open-call/
- EOSC-Pillar: https://www.eosc-pillar.eu/news/resources-offered-thematic-services-integrate-eosc-national-catalogues
- EOSC-Future: https://eoscfuture-grants.eu
- OpenAIRE-Nexus, DARE (Earth Science / EPOS)…
- FAIR-IMPACT (https://fair-impact.eu/events/synchronisation-force-events/synchronisation-force-1st-workshop-november-2022)

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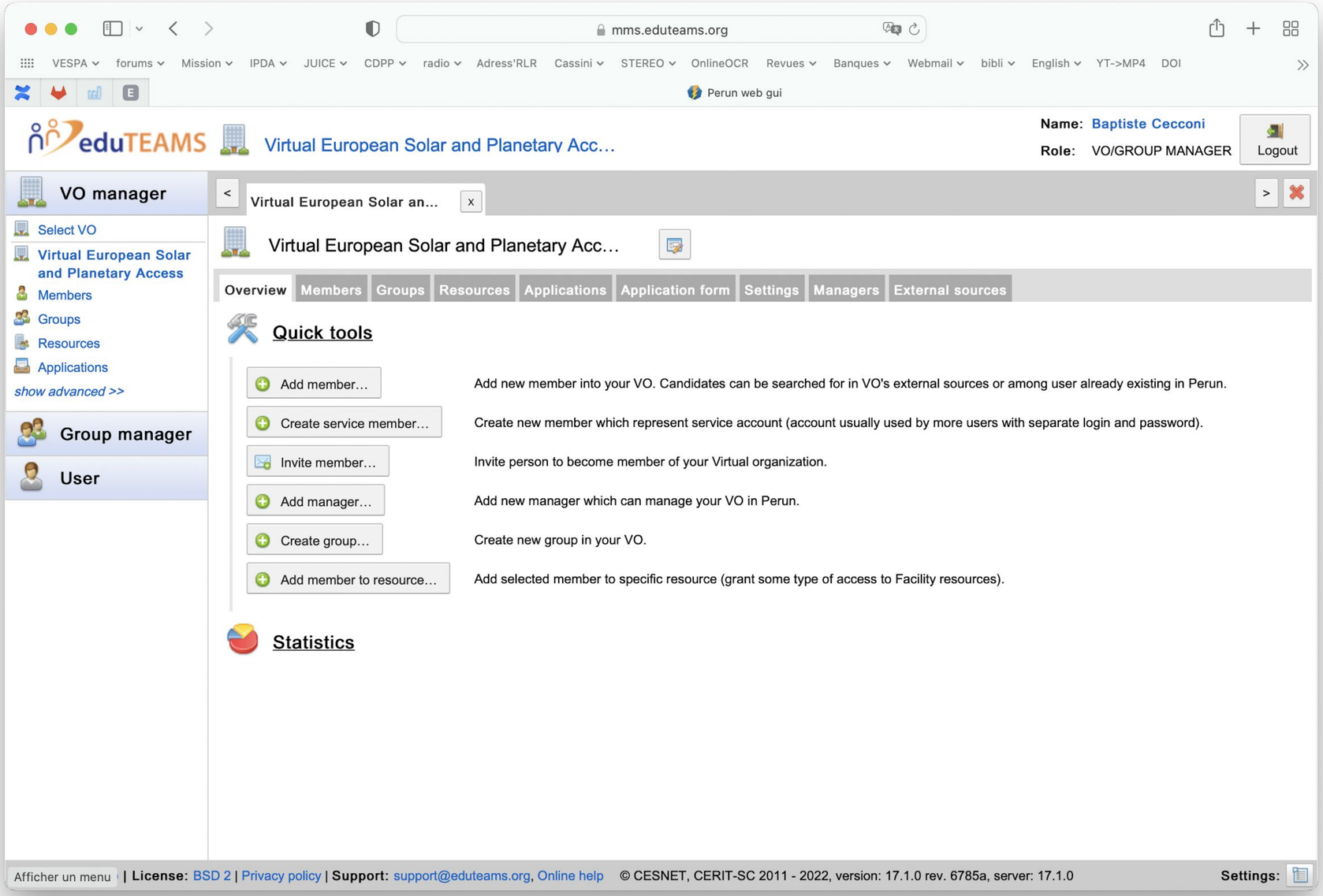

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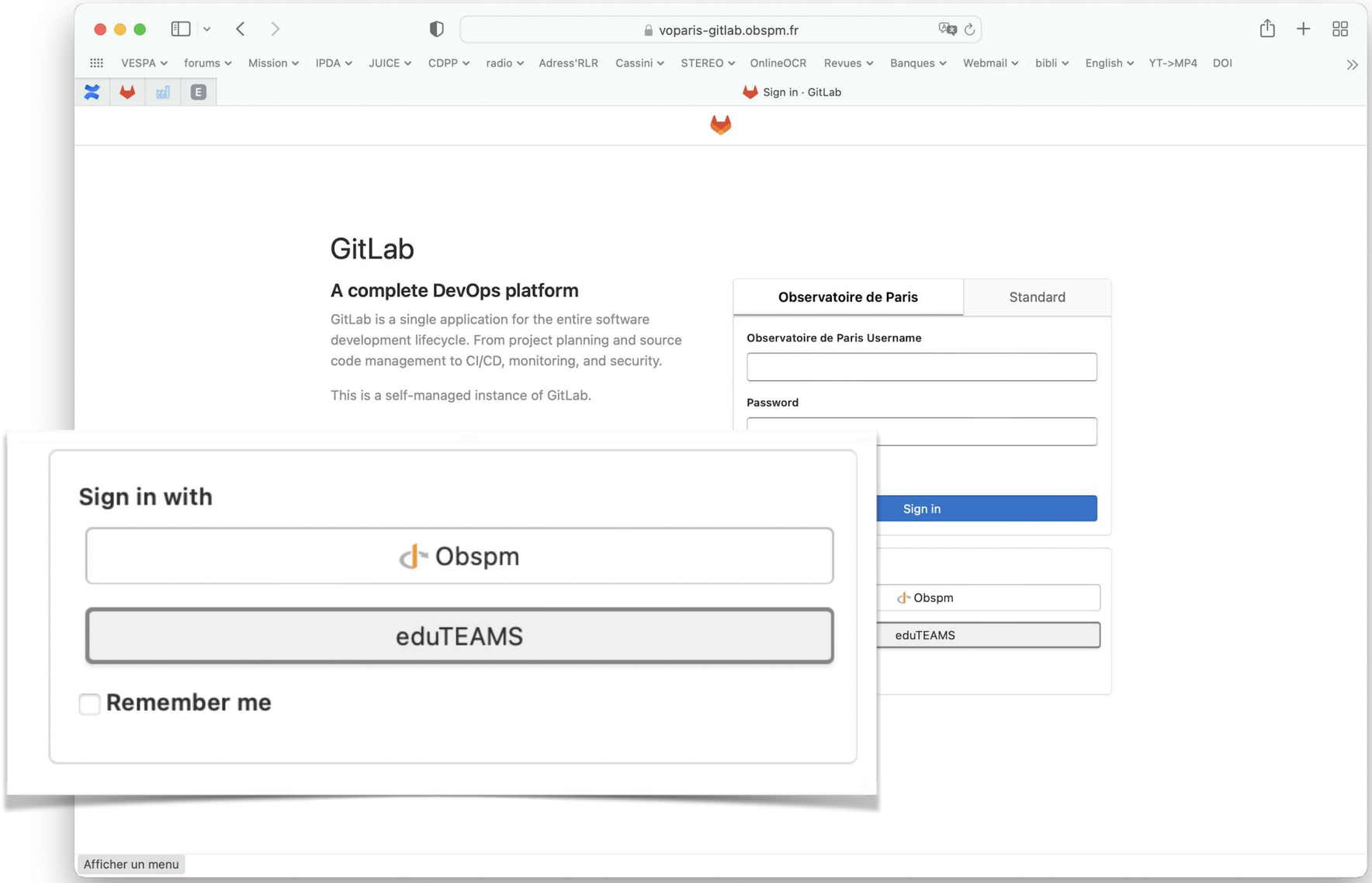

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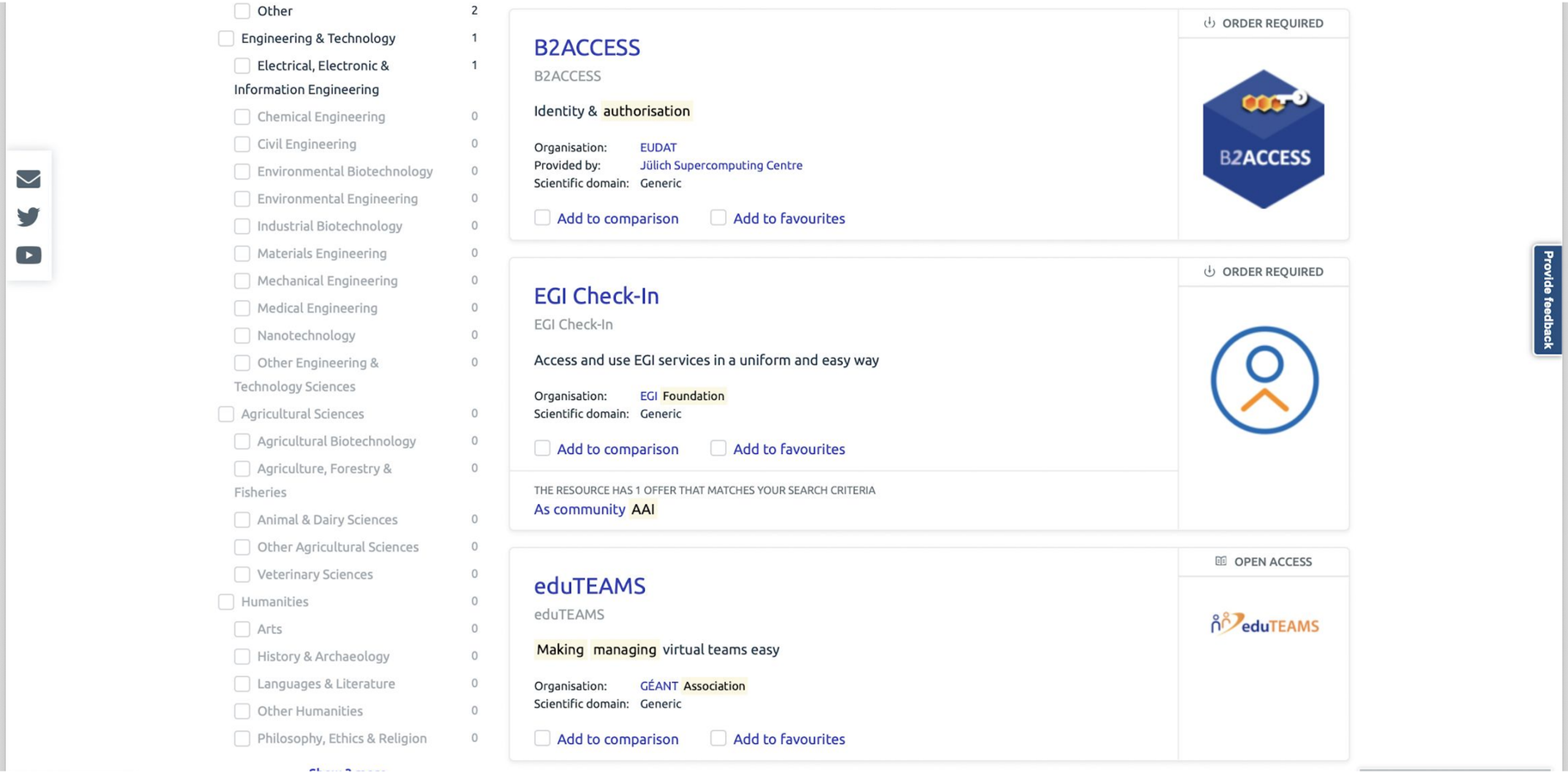

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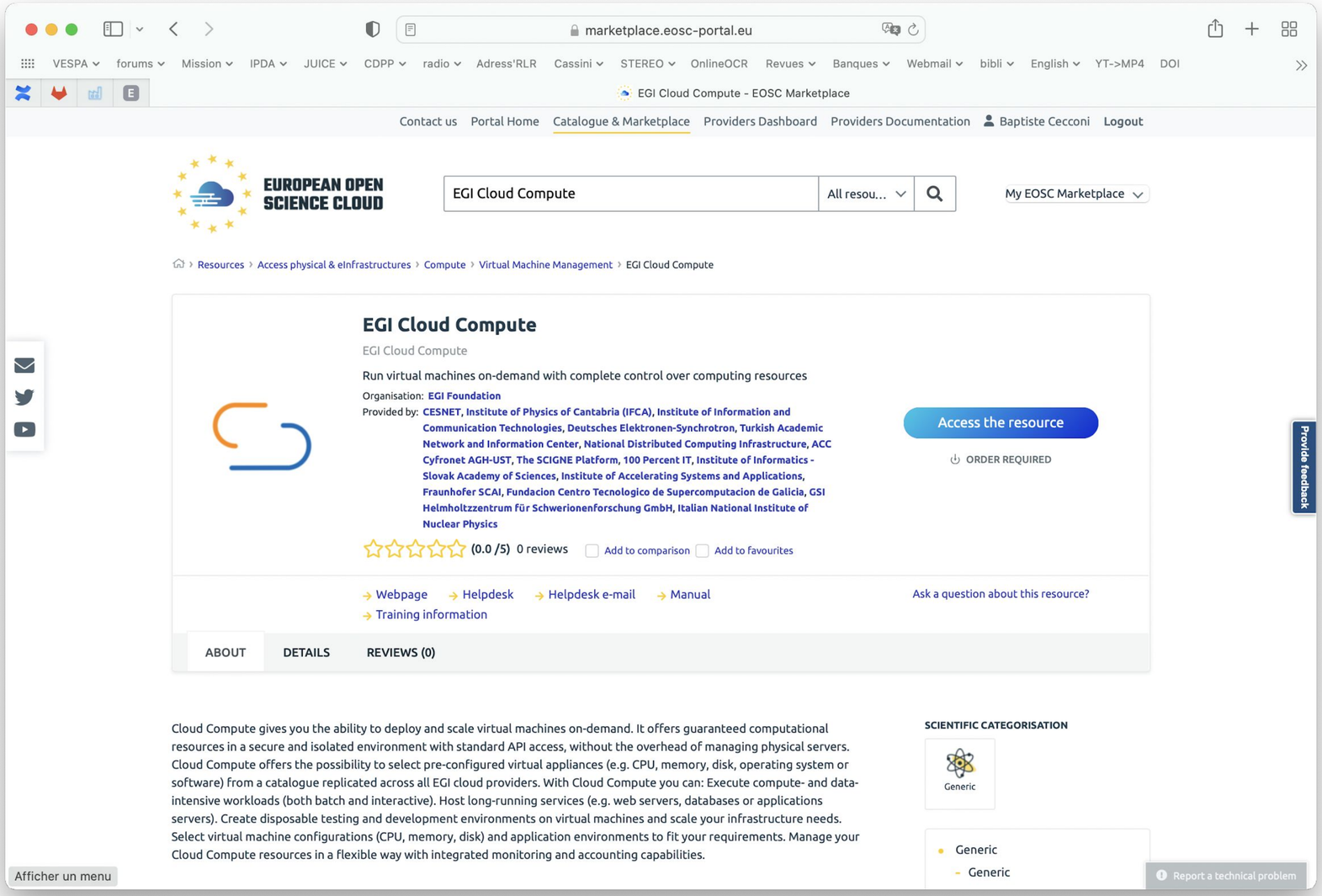

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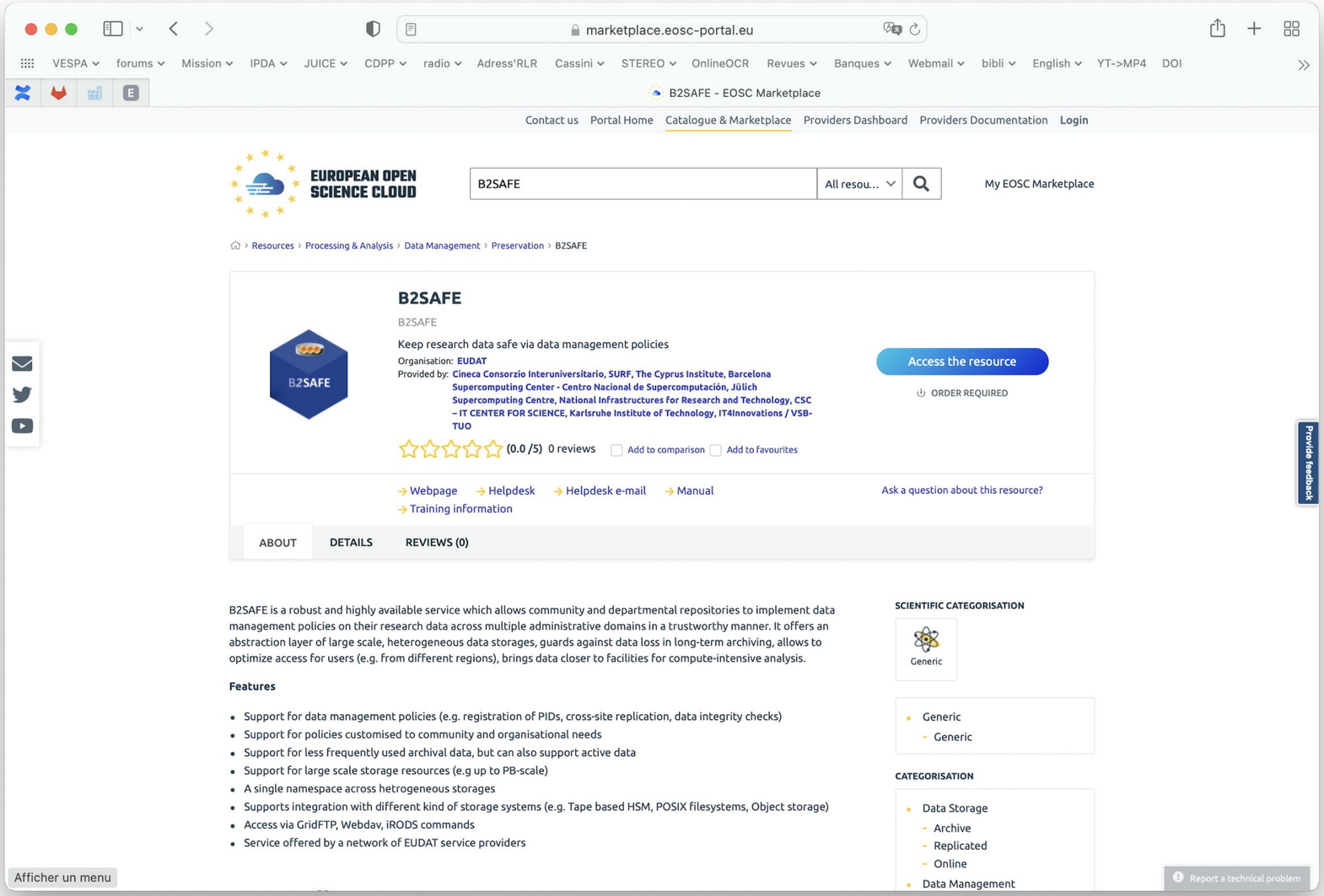

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- FAIR-IMPACT (https://fair-impact.eu/events/synchronisation-force-events/synchronisation-force-1st-workshop-november-2022)