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# Project name : Towards an e-infrastructure for plant phenotyping

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# Context

In recent years, technological progress has been made in **plant phenomics** (major improvements concerning **imaging** and **sensor technologies**). High-throughput plant phenotyping platforms now produce massive datasets involving millions of plant images concerning hundreds of different genotypes at different phenological stages in both field and controlled environments. Networks of sensors also measure environmental conditions in real time. The ongoing robotization of experimental processes foreshadows an **explosion in the volume and complexity of the data** produced by the **different research facilities**.

The **open-source Phenotyping Hybrid Information System (PHIS)\*** has been proposed to organize these data and make them accessible and reusable to a larger scientific community.

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\* Neveu et al. 2019 New Phytologist, 221: 588–601

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# Context

In order to widely disseminate the information system to all EMPHASIS european partners (22 partners, 31 phenotyping facilities) **we plan to deploy PHIS IS on the EGI infrastructures.**

**3 pilots have been proposed** to test which services are most appropriate for our use case.

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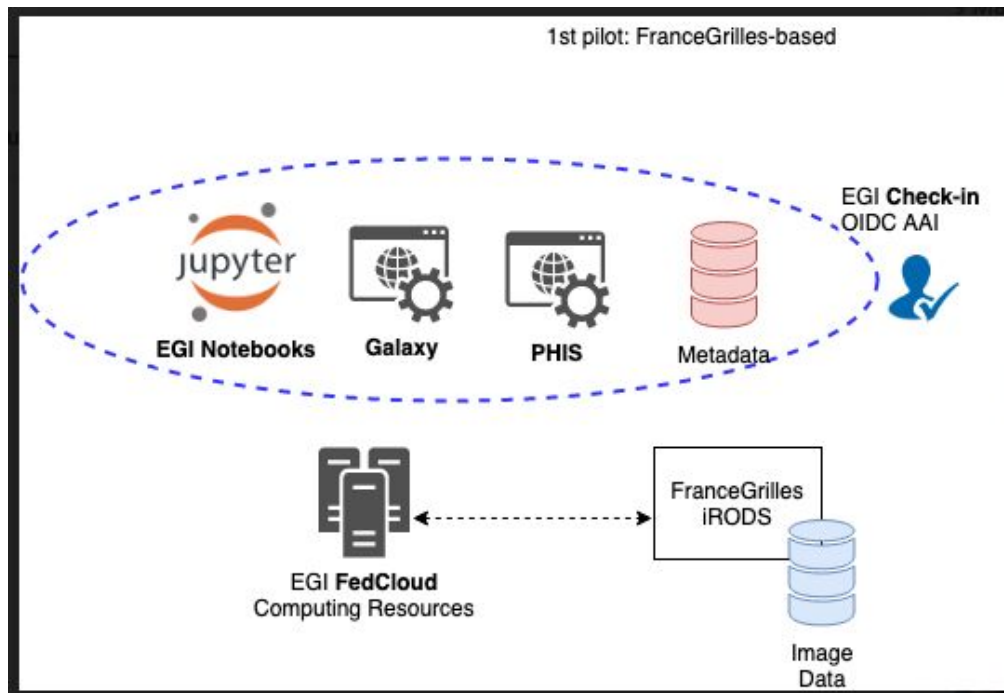
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# Context

Services we are expecting to use from these pilots are :

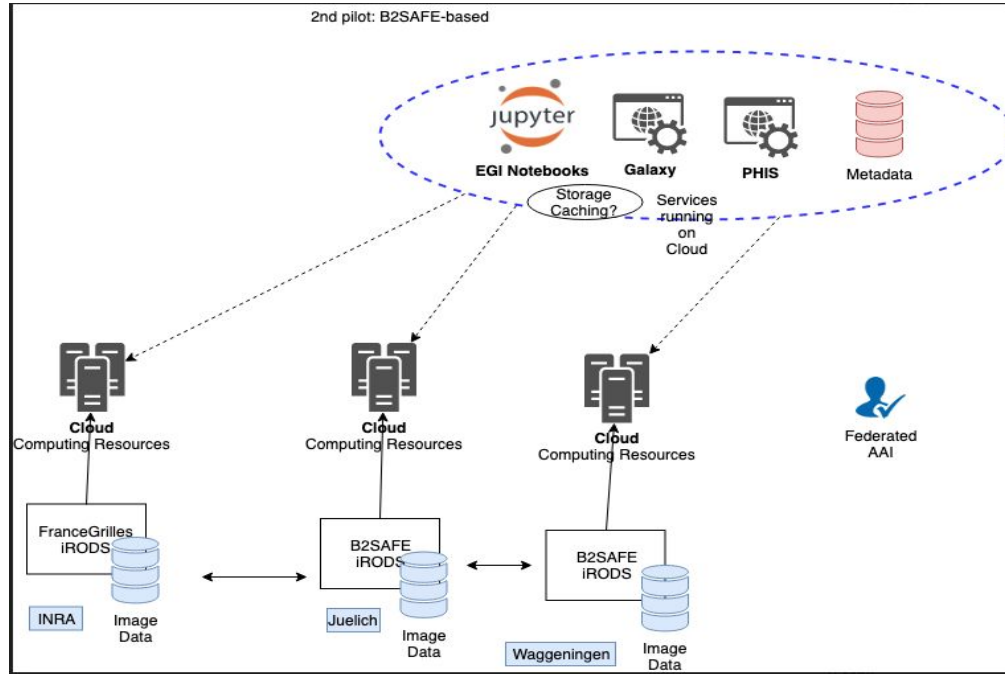
- **cloud services** : virtual machines and containers
  - **storage services** : B2SAFE service (iRODS) and EGI DataHub (One data)
  - **authentication** : EGI check In service
  - **computing service**: EGI notebook
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# First pilot



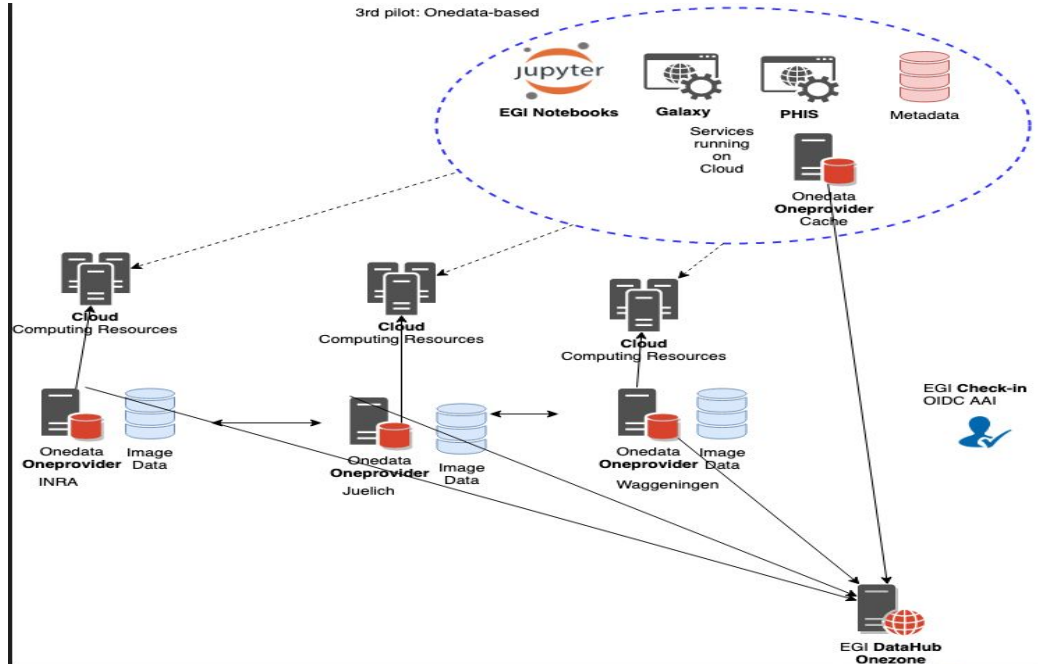
- PHIS + Galaxy environment will be deployed on **EGI virtual machines**
- The storage layer is based on the existing **FranceGrilles iRODS** infrastructure
- An authentication layer based on the **EGI check-in service**
- A computing layer provided with the **EGI Notebooks service** will be added.

# Second pilot



Compared to the previous pilot the **storage layer is based on the B2SAFE service** supported by the EGI infrastructure.

# Third pilot



Compared to the previous pilot the **storage layer is based on the Data Hub service** supported by the EGI infrastructure.

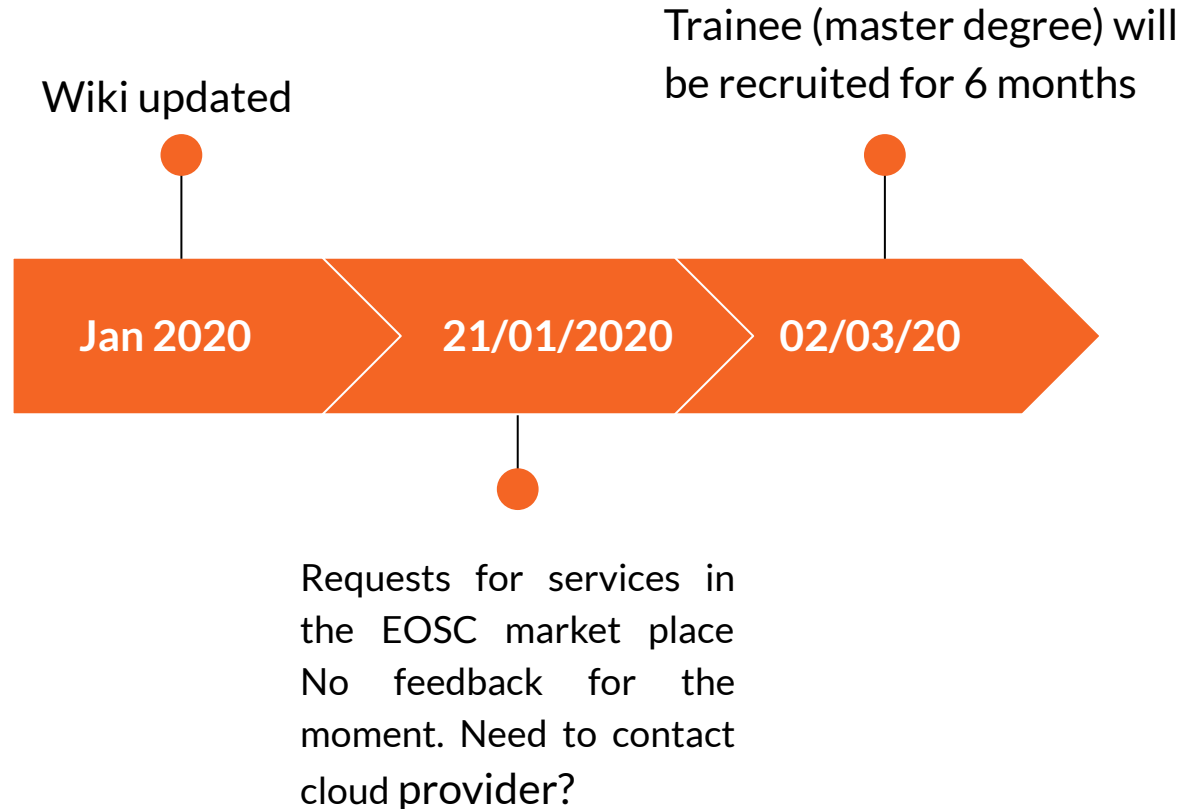
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# Calendar

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# What has been done?



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# Next steps

Implement the 3 pilots (2 months for each pilot)

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**Questions?**

