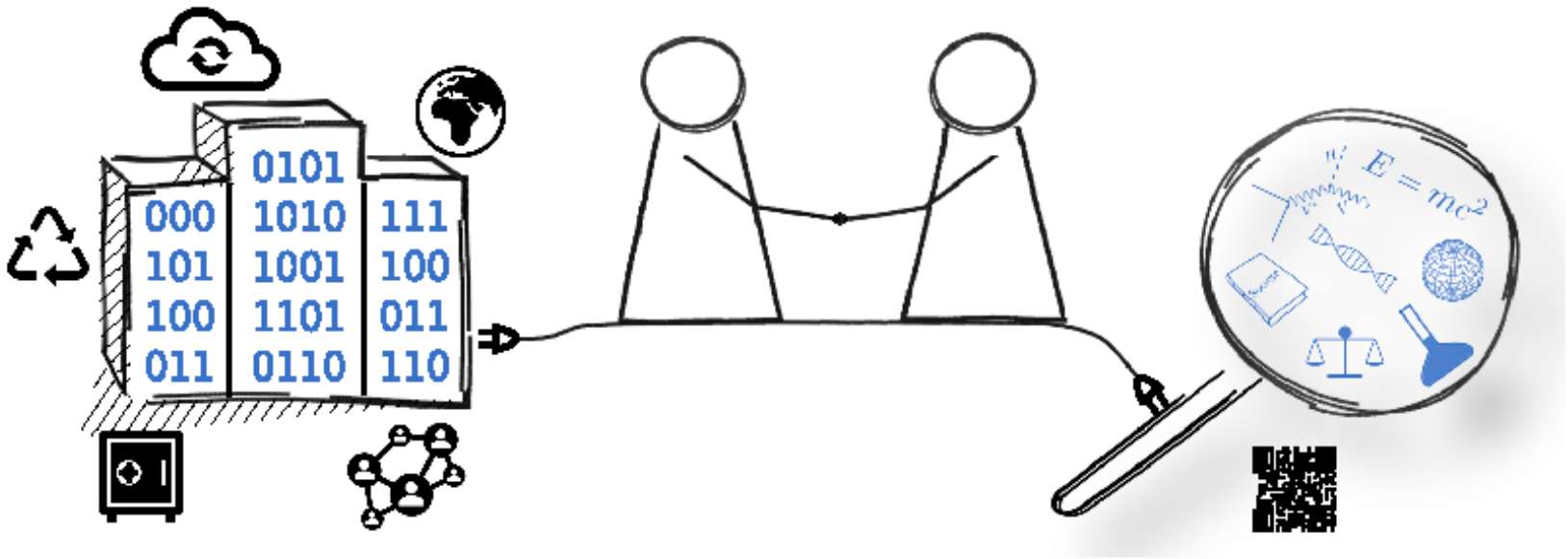
Thomas Calvet
Mustapha Ouladsine

Research data support at Aix-Marseille

CEDRE



Connecting with IPhU

Digital transition/upgrade at AMU

Storage

+40% in next 5 years

- Large increase in demand
- Entering the Tens of Po scale

CPU processing

+80% in next 5 years

- Large increase in demand
- Expecting tens of thousand of CPU

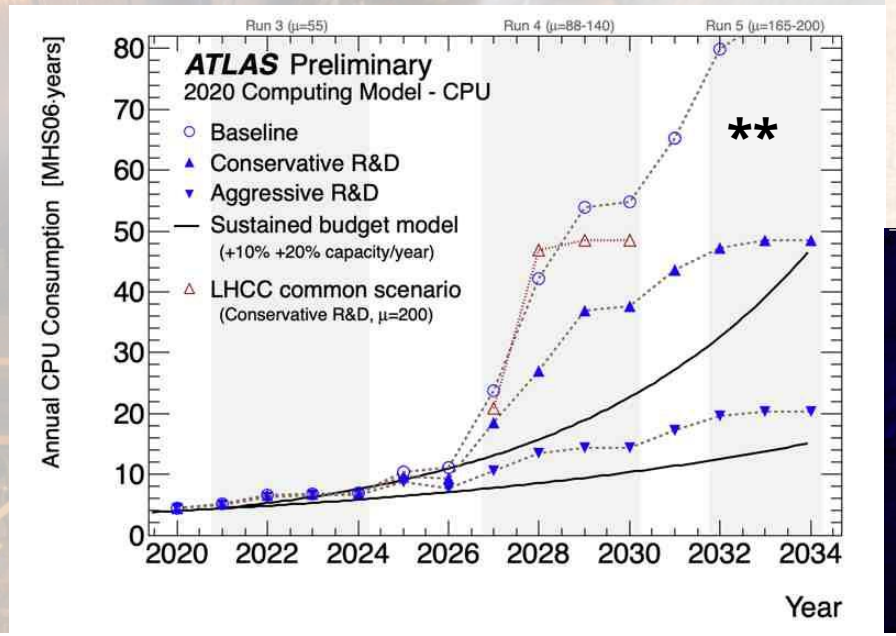
GPU processing

+250% in next 5 years

- New demand, strong kick-off
- Few hundreds of GPU to deploy

Digital transition/upgrade

*



***

*https://home.cern/fr/science/accelerators/large-hadron-collider

**https://twiki.cern.ch/twiki/bin/view/AtlasPublic/ComputingandSoftwarePublicResults

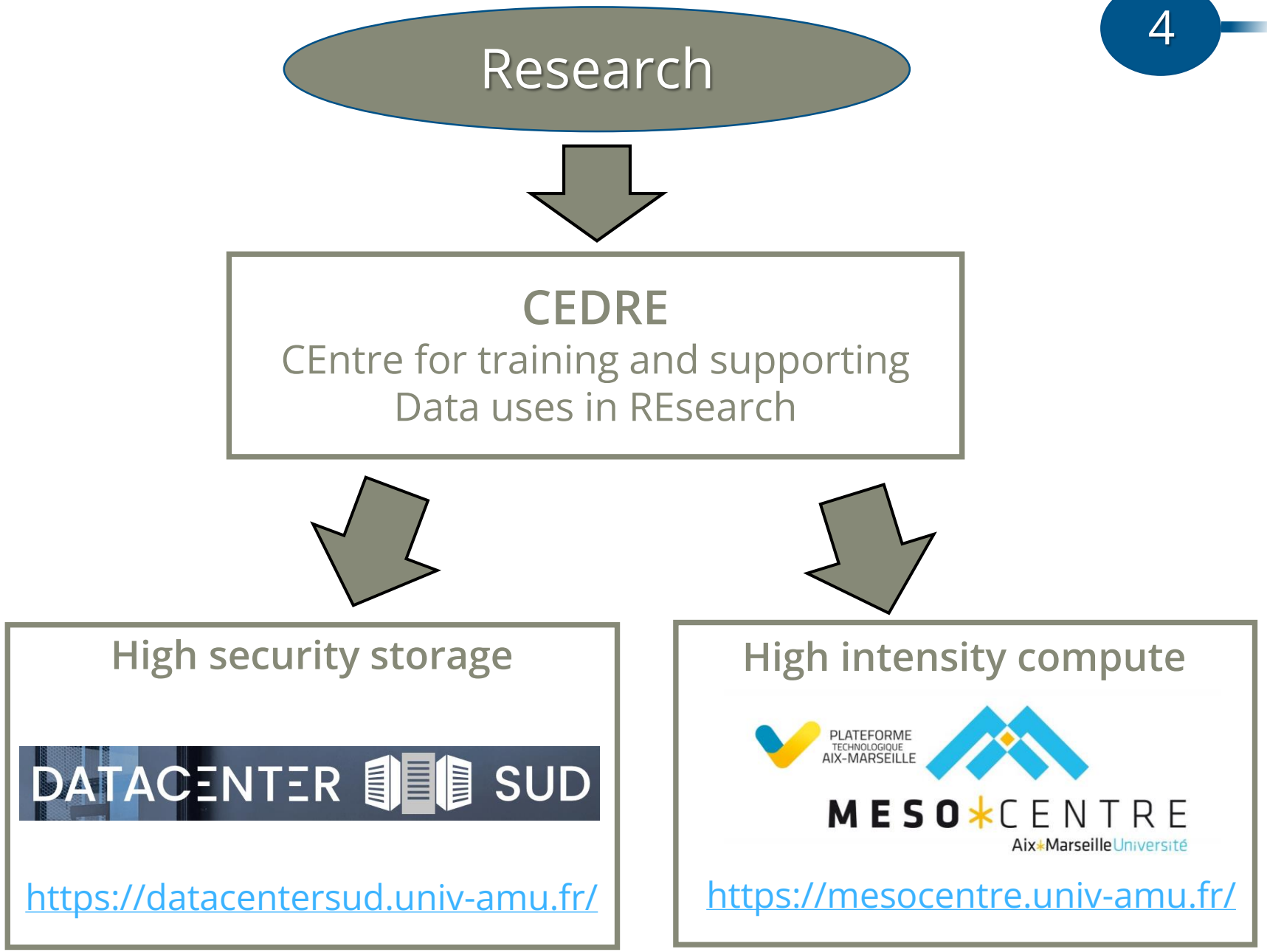
***https://www.skatelescope.org/

A topic the HEP community is only too aware of.

Support in AMU

« In the shelter of each other people live. »

Irish saying



There are more supports (Here a selection)

PUD – AMU

Plateforme Universitaire de Données d'Aix-Marseille Université

CeSAM

OpenEdition

Ressources numériques et communication scientifique

Aix*Marseille université Socialement engagée | Bibliothèques Universitaires

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE

recherche.data.gouv.fr

Les « **ateliers de la donnée** » réponse projet ANR par AMU et partenaires en cours

DIRAC
THE INTERWARE

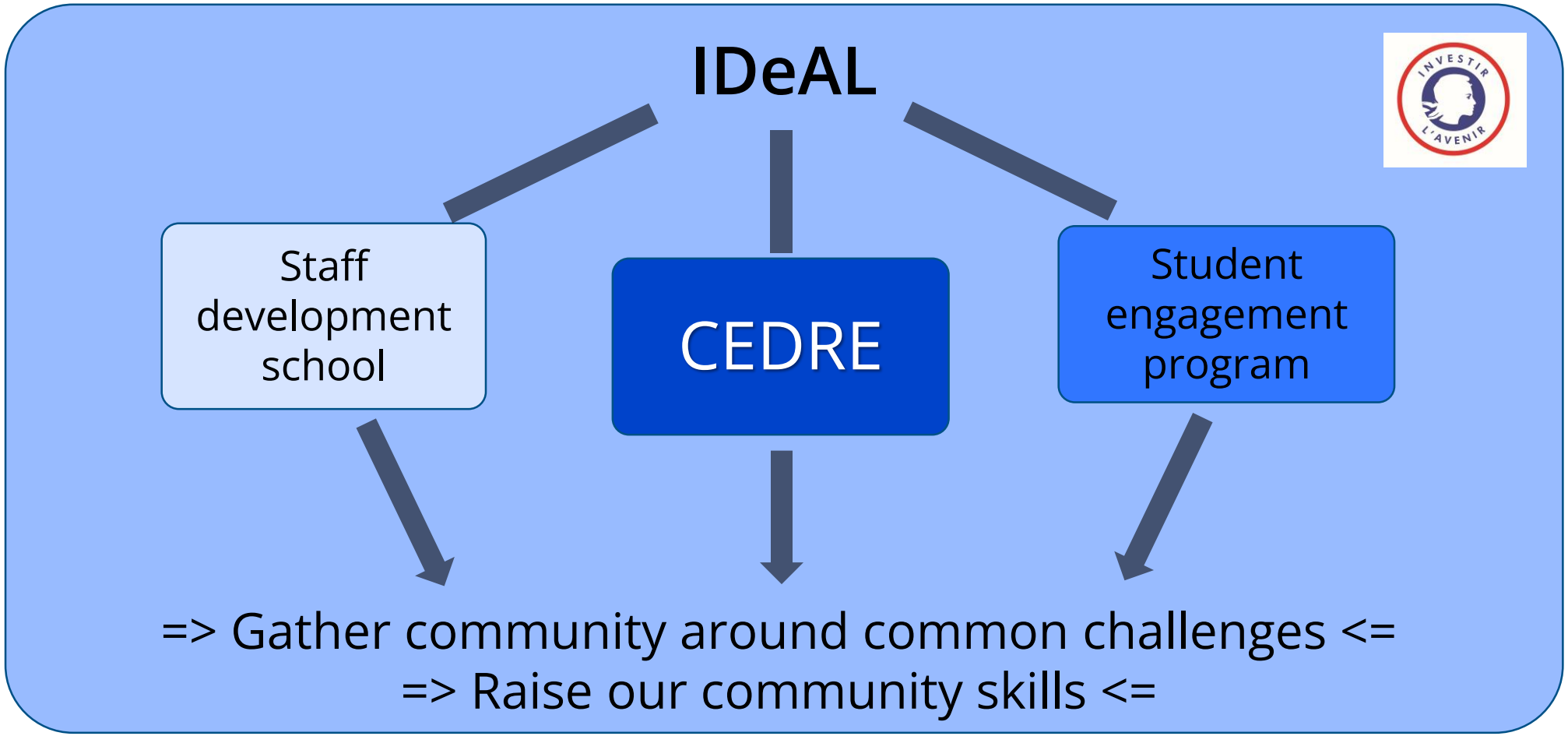
GIFT BIG DATA

CCIN2P3

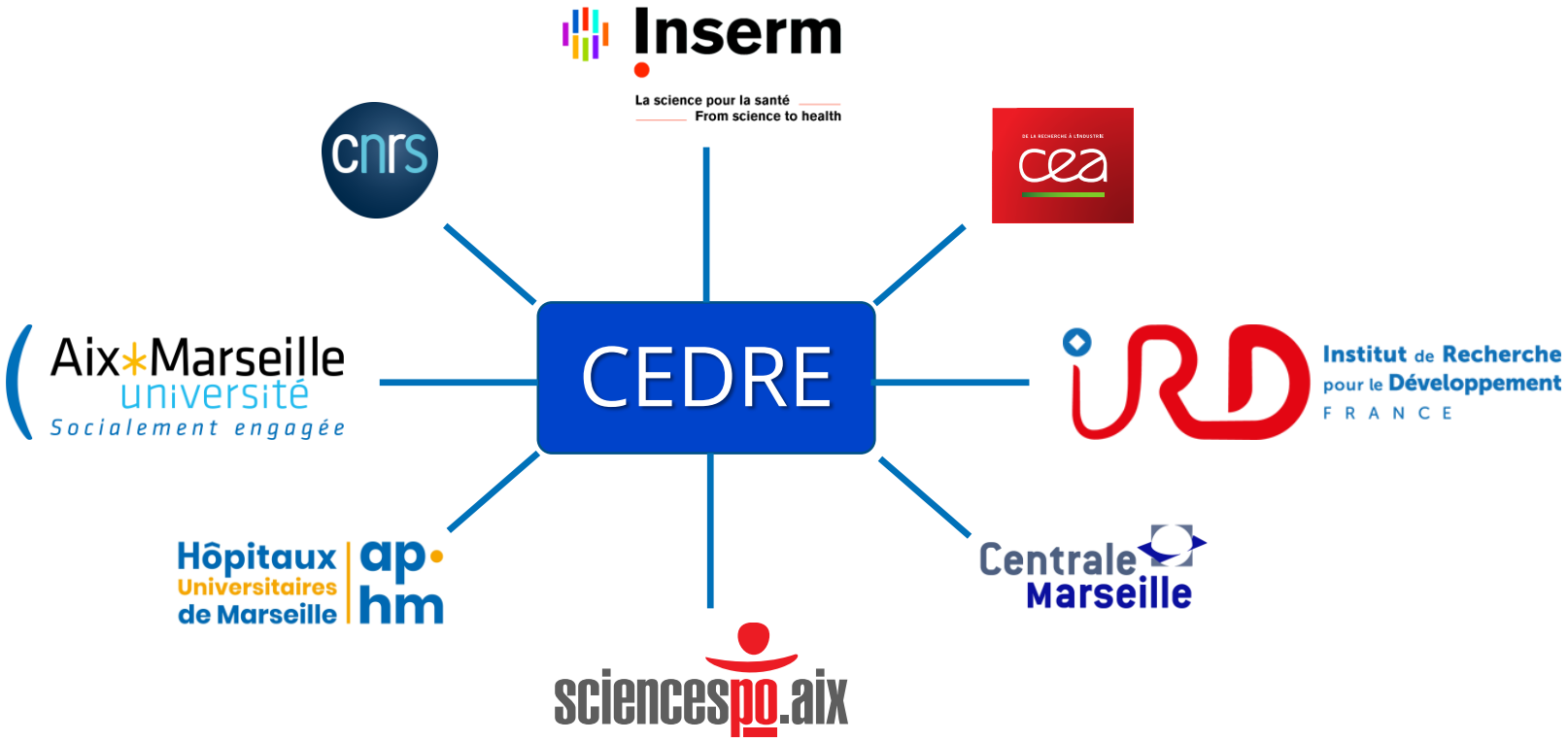
CEDRE to facilitate access to all available resources ?

CEDRE : CEnter for training and supporting Data uses for REsearch

CEDRE in a global strategy



CEDRE for AMU and its partners



⇒ Link AMU with national developments for data management

Comities watching CEDRE

AMIDEX and IDeAL managements

- Ensure coherence with Aix-Marseille site strategy
- Link with other IDeAL programs to promote formations

Executive committee

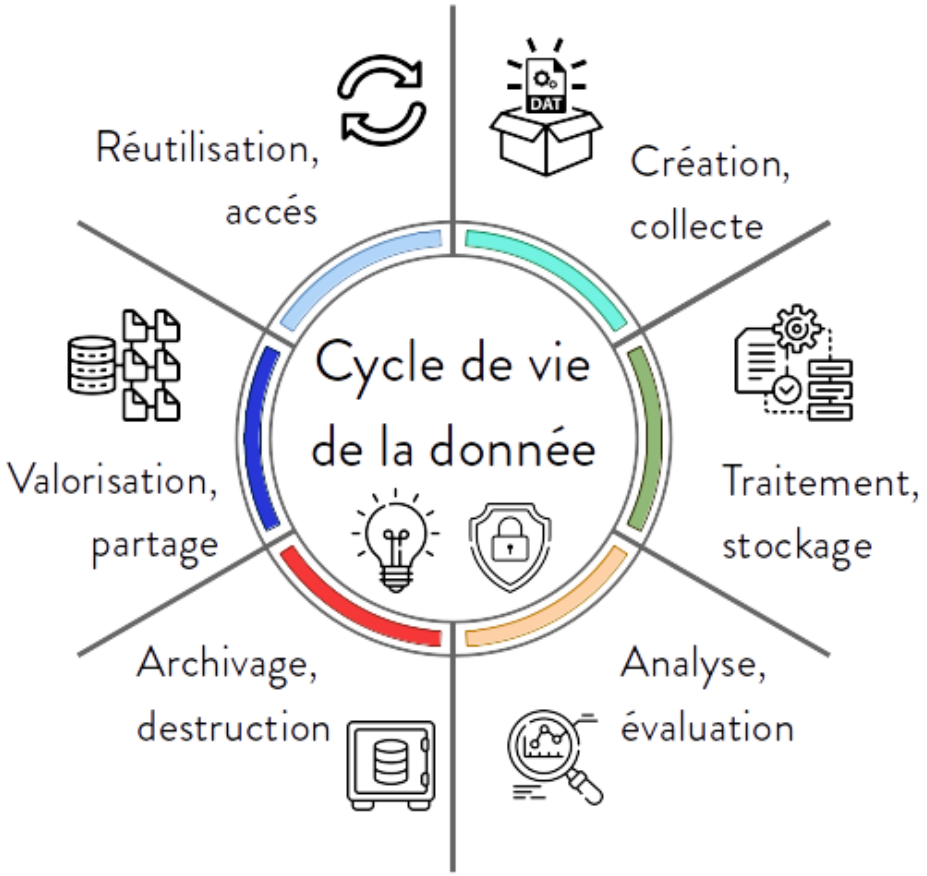
(partners, AMU thematic VP, and selected data experts)

- Validate all CEDRE actions
- Connect CEDRE with national developments on research data management

User committee

- To be created
- Feedback CEDRE on its actions and provide suggestions

Objectives : bring FAIR-ness* in our data management cycles



- Creation of an expert network
  Creation of a helpdesk
- Support to interdisciplinary and pluridisciplinary projets
- Creation of formation cycles for PhDs and staffs

* For more information (french) https://amubox.univ-amu.fr/s/6XfP9rza6JqKHE3

CEDRE deployment

VP IA and digital for research

Mustpha Ouladsine
Responsible for CEDRE in AMU

DOSI

Thomas Calvet
Project leader

AMIDEX

Randy Meersschaert
Operationnal manager

William Domingues
Technical division responsible

Data team

=> 4 engineers

=> Data management, treatment and analysis

Pedagogic team

=> 2 engineers

=> Course cycles and data centric events

Technical team

=> 4 engineers

=> Informatic infrastructure design and administration

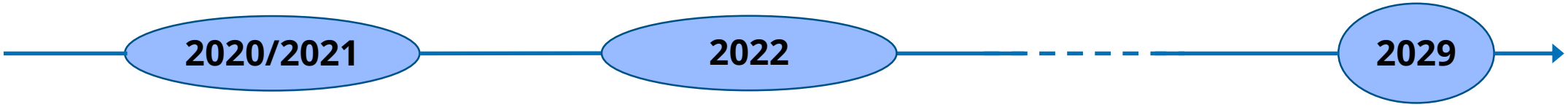
Now recruiting the teams and defining allocation strategy
(unfortunately we can't help everyone at the same time) **!**

CEDRE timeline

Setup CEDRE

- Setup governance/management and multi-service attachment
- Meet with central service (Datacenter, mesocentre, SCD, DRV, …)
- Journée de lancement de CEDRE (https://cedre.univ-amu.fr/)

IDeAL project end



Activate CEDRE support

- Fill all divisions and create a data toolbox
- Define how to request support and request treatment strategy :
  - Defining rules for CEDRE to act and a priority scheme
  - Engage CEDRE in flagship projects
- PMD/PGD support in preparation (WGs created with all partners)

Formation and animation

- Create a first formation cycle on data for staff and PhD
- Animate thematic days on research data
- Create User committee

Central services on site datacenter and mesocentre

Datacentre

DATACENTER SUD

As of now :

4 Po de stockage

260 serveurs déployés

280 m² de surface IT

70 entités hébergées

Four solutions

Server hosting

« plug and get your network access »

Linux (windows for AMU) VM

- Up to 4 vCPU, 16 Go RAM, 1 To disk per VM
- High security ensured and PRA in place

For AMU entity

Web hosting

Storage

File storage (SMB/NFS)

Object (S3) to come

Important investment in datacenter :

> in 2022 infrastructure will allow to go to 60 racks (now 10 and add 10 this year)

> in 2023 continue adding racks

https://datacentersud.univ-amu.fr/

Mesocentre

Free service for AMU accessible via project request.

Three computing architecture hosted at datacentre : HPC, grid, cloud.

HPC

- 579 Tflops/s, 1.3 Po storage and 42 To memory
- Various nodes technologies (including GPU)

Grid

- Using LHC-Tier 2 node at CPPM
- 3000 cores, 4 Go memory / core, 200 To storage
- Accessible via DIRAC

Cloud

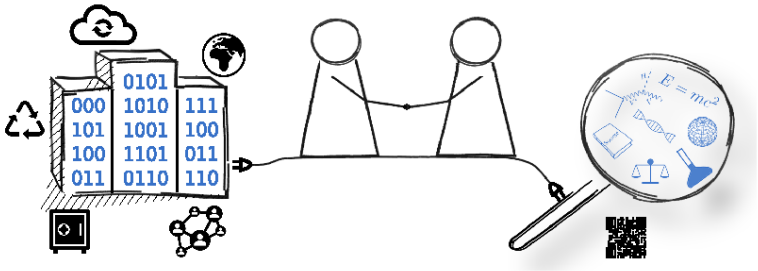
- OpenStack cloud
- 1500 cores, 400 To storage
- VMs with 16 cores and 32 Go memory

https://mesocentre.univ-amu.fr/

Conclusion

New structure on Aix-Marseille site, CEDRE, with three main objectives

1. Empowering community : data expert network and CEDRE helpdesk
2. Technical supporting : involvement in inter(pluri)-disciplinary projects
3. Promoting local skills : complete training offer



CEDRE is getting in operation

- 13 people to help research facing digital turn of event
- CEDRE support rules being defined
- Helpdesk and toolbox being built

As part of above : "Guichet de la Données du site d'Aix-Marseille"

- Answer to ANR project "atelier de la données" being writen
- Governmental label for initiatives such as CEDRE
- Articulated around CEDRE and SCD (open-science service)