HPC Userday

KU Leuven/UHasselt

Vlaanderen
is supercomputing

VLAAMS
SUPERCOMPUTER
CENTRUM

*Innovative Computing
for A Smarter Flanders*

vscentrum.be

Objectives

- Welcome
- Speakers of today are highlighting a number of
- Also an opportunity to network
  - With each other
  - HPC Team
- Important upcoming 2025 Tier-2

Program

10:00h-11:00h : Tier-0 : LUMI what and how

Best Practices sofware compilations and own R/Python installations

11:15h- 12:30h : RDM - Tier-1 Data

Ondemand new features – best practice

Lunch 12:30h – 13:30h

13:30-13:45: welcome

13:45-14:10: Testerep - *Yağız Arda Çiçek, Hydraulics and Geotechnics*

14:10-14:35: Microclimate variables modelling - *Stef Haesen, Forest, Nature and Landscape*

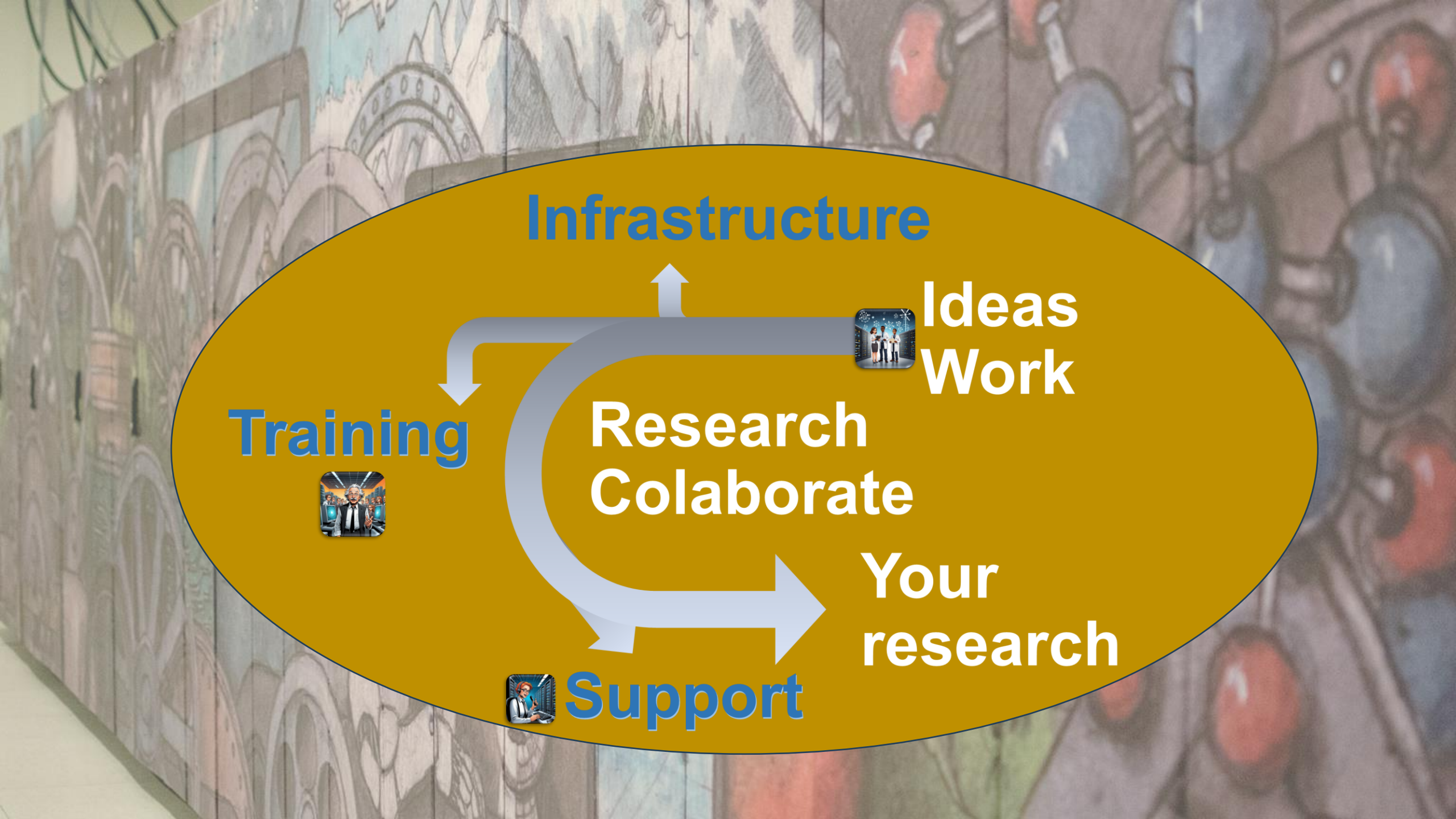
14:35-15:00: 1-minute poster session

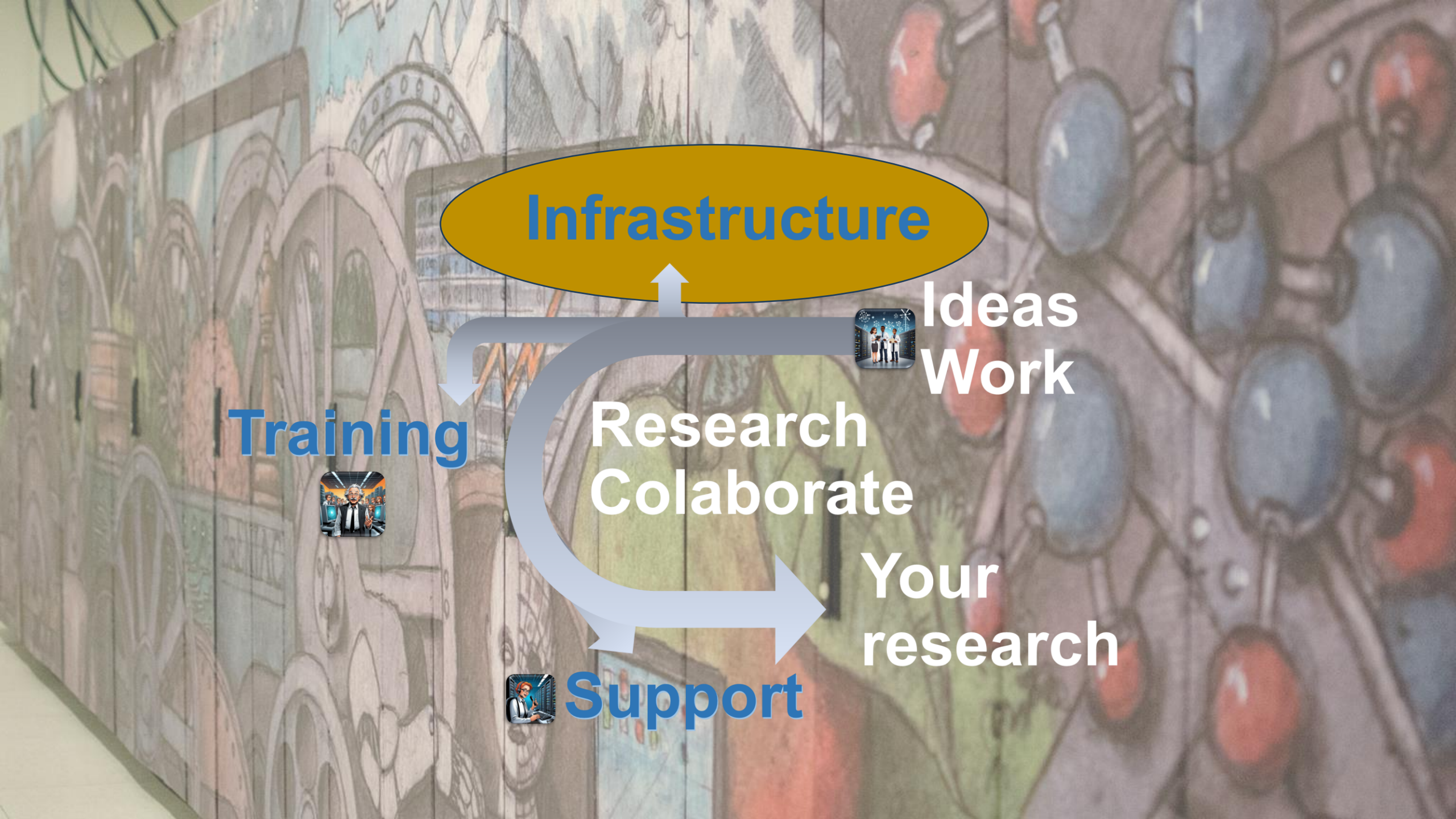
15:00-16:00: **Break - posters**

16:00-16:25: Leuven.AI presentation – *Jens Bürger, KU Leuven Institute for Artificial Intelligence*

16-25-16:40: Lumi, first steps- *Nikola Đukić, Processing Speech and Images (PSI)*

16-40-17:00: closing


Infrastructure
Ideas
Work
Training
Research
Colaborate
Your
research
Support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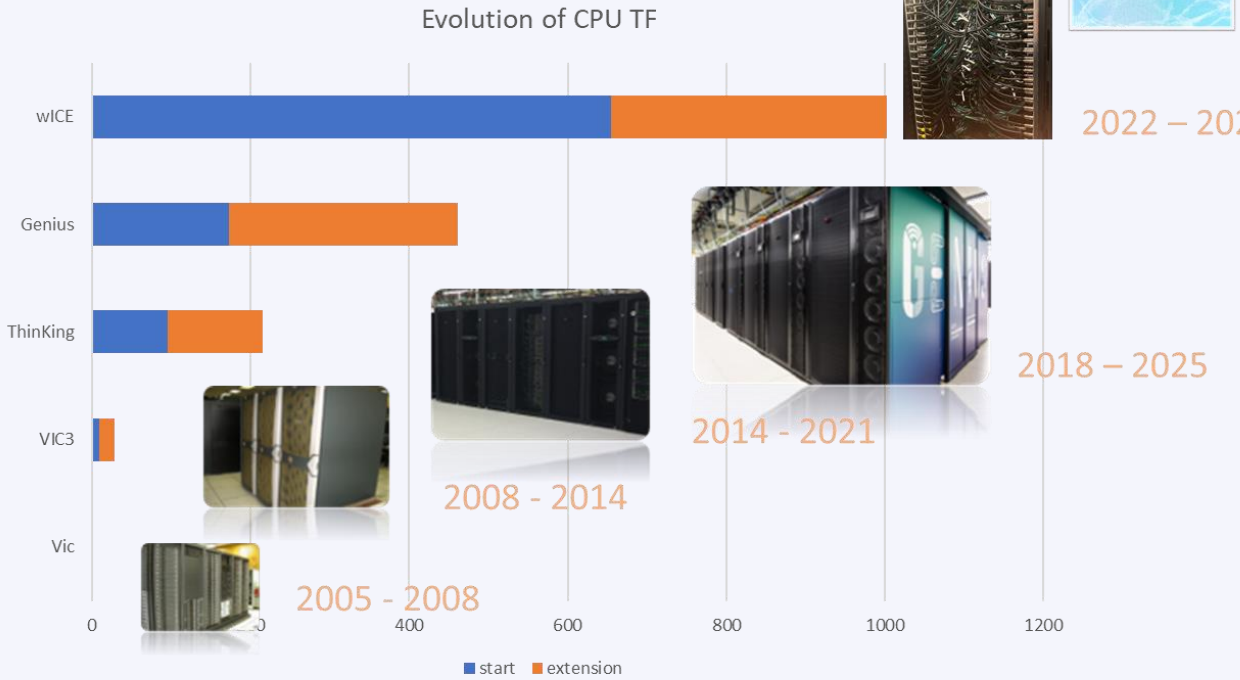
Where do we come from

- 4th generation Tier-2 system



2022 – 2027(?)

2018 – 2025

2014 - 2021

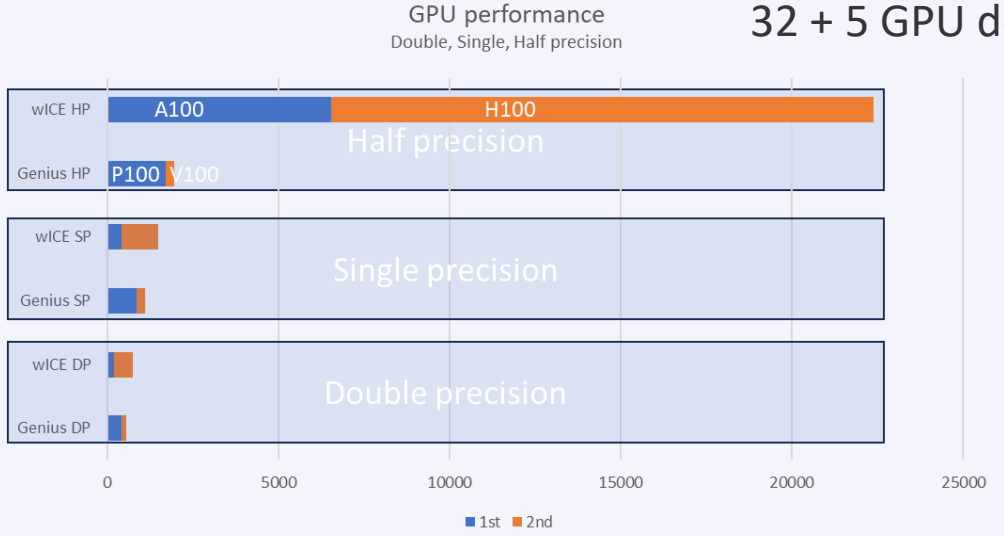
2008 - 2014

2005 - 2008

~19K cores
About same performance as BrENIAC
25% of the nodes, 68% of the cores, ~60% power

- Evolution of Tier-2 GPU-system

32 + 5 GPU devices



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Tier-2 Usage

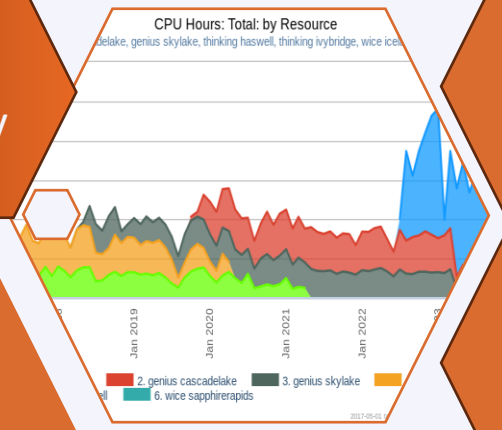
250 daily

600 monthly

12M monthly

35+ dept

1550 users



500K monthly

75 users daily

changes

Rocky 8

Jupyterlab VScode

1300+ Modules

Slurm

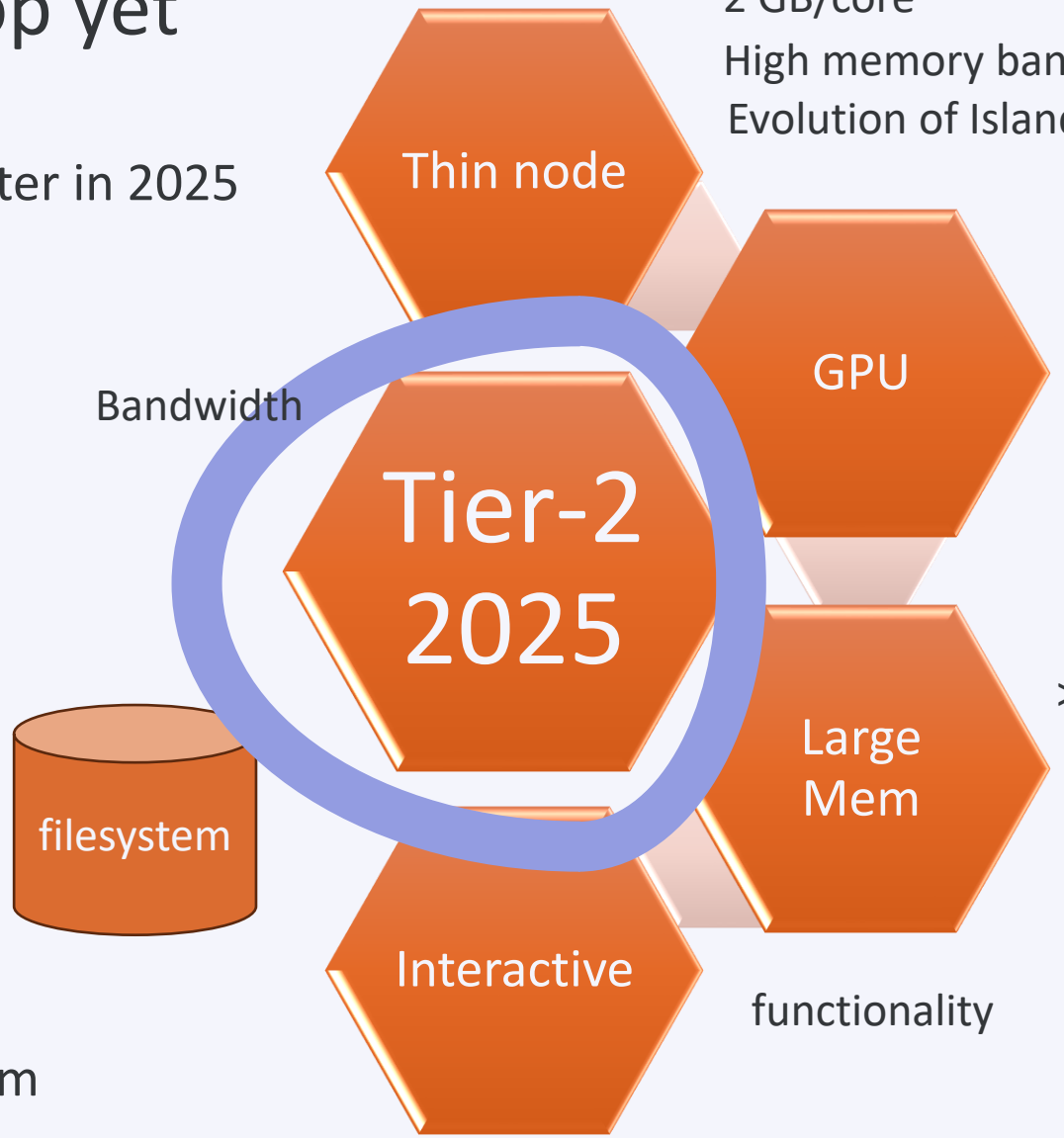
DLC

1500 questions

multiple versions

We don’t stop yet

- New Tier-2 cluster in 2025



Core count per node can get very high
2 GB/core
High memory bandwidth
Evolution of Island size on single switch is fine

GPU’s with more VRAM
More GPU's

> 1TB RAM nodes
Larger local disc

functionality

- Talk to the team

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