



# Welcome and Workshop Goals

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CERN openlab Technical Workshop 2021



**Welcome!**

**Thanks for attending the  
CERN openlab workshop**

# Logistics

We have more than 200 people registered

- We will take pictures during the event

In order to accommodate most of the time zones for a virtual meeting we have constrained the sessions to the CET afternoon

- The presentations are short as there are a lot of activities
- Speakers need absolutely to respect time
  - We will take questions at the end of each presentation
  - We will give warnings before time is up!
- Participants should mute and disable video unless they are speaking
- The meeting will be recorded

# Workshop Agenda

## TUESDAY

Exascale Technologies for HPC, AI and Advanced Storage Solutions	14:30
Unified Programming Models Storage Solutions Heterogeneous Architectures Data Analytics and Services	19:00

## WEDNESDAY

AI Applications	15:00
Working with other Sciences	17:00
	19:00

## THURSDAY

Quantum Technologies	15:00
	17:30

# CERN openlab program

## CERN openlab Phase VII

EXASCALE  
TECHNOLOGIES

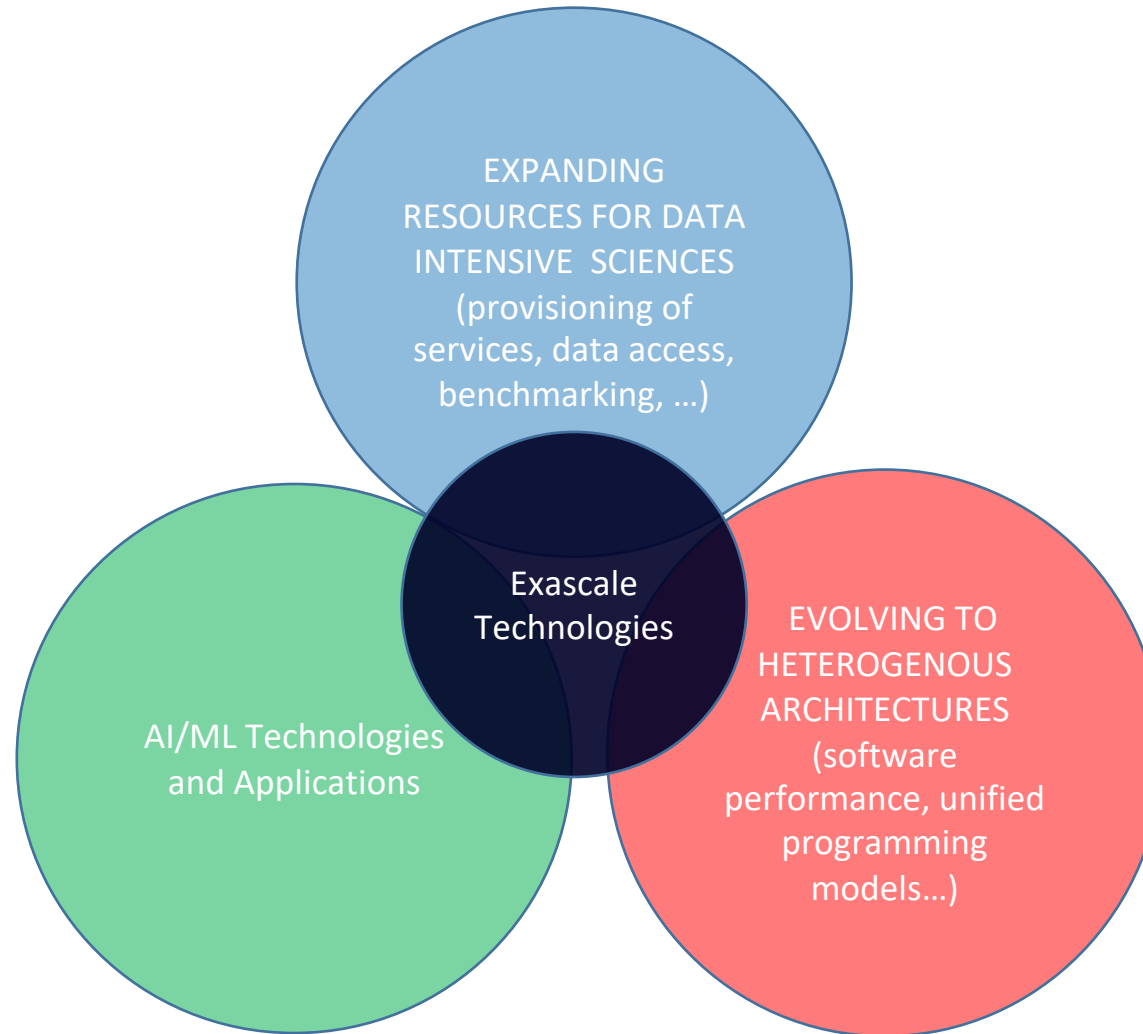
AI APPLICATIONS

WORKING WITH OTHER  
SCIENCES

QUANTUM  
TECHNOLOGIES

# Exascale Technologies

*HPC, AI and Storage*



# Exascale Technologies

*HPC, AI and Storage*

EXPANDING  
RESOURCES FOR  
DATA INTENSIVE  
SCIENCES (Data  
Access,  
benchmarking  
services..)

**Intel** DAOS: Next generation storage  
**Oracle** solutions  
EOS productisation, **Comtrade**  
DEEP-EST towards a modular supercomputer  
Benchmarking in HPC

EVOLVING TO  
HETEROGENOUS  
ARCHITECTURES  
(software  
performance,  
unified  
programming  
models...)

Using **Intel** OneAPI  
The Patatrack Project (**E4** on NVIDIA architectures)  
The Allen Project (**E4** on NVIDIA architectures)  
Profiling Code on NVIDIA GPUs

AI/ML  
Technologies

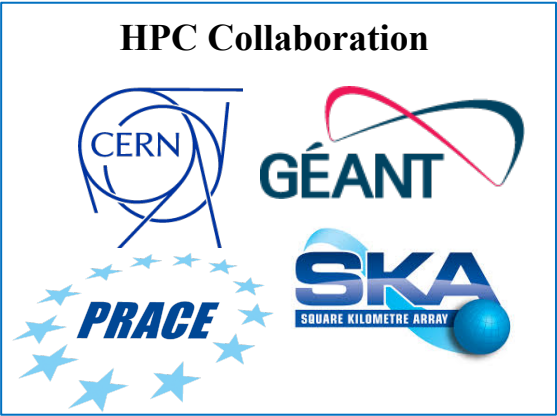
**Micron** Deep Learning Accelerator, tools, and applications  
Deep learning for particle ID in ProtoDUNE  
DEEP learning in the CMS experiment using the Micron DLA

## CERN openlab Phase VII projects on XT

- Intel oneAPI
- Intel DAOS
- E4: innovative solutions from HPC to QC
- Micron DLA
- Oracle Solutions
- ... and more..

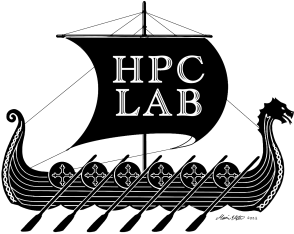
# On the path to Exascale

## Collaborations



### CERN openlab COLLABORATION

PARTNERS	CONTRIBUTORS	ASSOCIATES	RESEARCH







**Thank you!**

**Wishing you a  
productive workshop**