



Upgrading the Large Hadron Collider: The biggest computing challenges of our time

Maria Girone, [CERN openlab](#) CTO, will be delivering a keynote talk this week on the biggest computing and data challenges faced by the high-energy physics community, including those posed by the ambitious upgrade programme for the Large Hadron Collider (LHC).

Girone is speaking at the EuroHPC Summit Week, which takes place [this week \(22-26 March\)](#), bringing together the main stakeholders in high-performance computing (HPC) in Europe, including technology suppliers, those running major infrastructures, and HPC users — from both science and industry. Her talk takes place this week on Thursday 25 March at 10:00 CET, and is available to all who have signed up for the EuroHPC Summit Week, [which is free of charge](#).

Girone's presentation will summarise the unprecedented computing and data challenges posed by the ambitious upgrade programme for the Large Hadron Collider (LHC). The anticipated increase in the complexity of particle-collision events, as well the higher rate of data collection rate, will substantially outstrip the gains expected from technology evolution. Further increasing the efficiency of how we use the HPC facilities at our disposal could potentially address the resulting resource gap.

"We are engaging at the community level to solve the technical challenges related to the integration of HPC, thus helping to pave the way to the exascale era," says Girone. "HPC is a driver of innovation, both for heterogenous hardware and AI."

The EuroHPC Summit Week closes on Friday 26 March with the [PRACEdays21 panel discussion](#). CERN recently announced [a new collaboration](#) with PRACE, the Partnership for Advanced Computing in Europe; GÉANT, the pan-European network and services provider for research and education; and SKAO, the organisation leading the development of the Square Kilometre Array radio-telescope. In her talk, Girone will discuss how the four leading research organisations are working together to overcome challenges related to the use of HPC to support large, data-intensive science projects.

Participation in the EuroHPC Summit Week 2021 is free of charge, open to anyone, and includes admission to all sessions, workshops, and tracks.

[Register now](#)



If you would like to arrange an interview with any of the speakers at the EuroHPC Summit Week, please contact Marjolein Oorsprong at m.oorsprong@staff.prace-ri.eu

About EuroHPC Summit Week 2021

The **EuroHPC Summit Week (EHPCSW) 2021** will gather the main European HPC stakeholders from technology suppliers and HPC infrastructures to scientific and industrial HPC users in Europe. As in previous years, PRACE, the Partnership for Advanced Computing in Europe, organises the eighth edition of its **Scientific and Industrial Conference (PRACEdays21)** within the EHPCSW 2021. PRACEdays21 will bring together experts from academia and industry who will present their advancements in HPC-supported science and engineering. The EHPCSW 2021 will provide a great opportunity for the attendees to network.

The organisers of the EHPCSW 2021 are the **Partnership for Advanced Computing in Europe (PRACE)** and the **European Technology Platform for High-Performance Computing (ETP4HPC)**. The European Commission (EC) will represent the **EuroHPC Joint Undertaking (EuroHPC)** in the organisation of the conference. The logistical organisation is supported by a local host: for the 2021 edition this will be **Fundação para a Ciência e a Tecnologia - Computação Científica Nacional (FCT-FCCN)**.

About PRACE

The Partnership for Advanced Computing in Europe (PRACE) is an international non-profit association with its seat in Brussels. The PRACE Research Infrastructure provides a persistent world-class High-Performance Computing service for scientists and researchers from academia and industry in Europe. The computer systems and their operations accessible through PRACE are provided by five PRACE members (BSC representing Spain, CINECA representing Italy, ETH Zurich/CSCS representing Switzerland, GCS representing Germany and GENCI representing France). The Implementation Phase of PRACE receives funding from the EU's Horizon 2020 Research and Innovation Programme (2014-2020) under grant agreement 823767. For more information, see www.prace-ri.eu

Do you want more information? Do you want to subscribe to our mailing lists?

Please visit the PRACE website: <http://www.prace-ri.eu>

Or contact Marjolein Oorsprong, Communications Officer: Telephone: +32 2 613 09 27 E-mail: [communication\[at\]prace-ri.eu](mailto:communication[at]prace-ri.eu)
