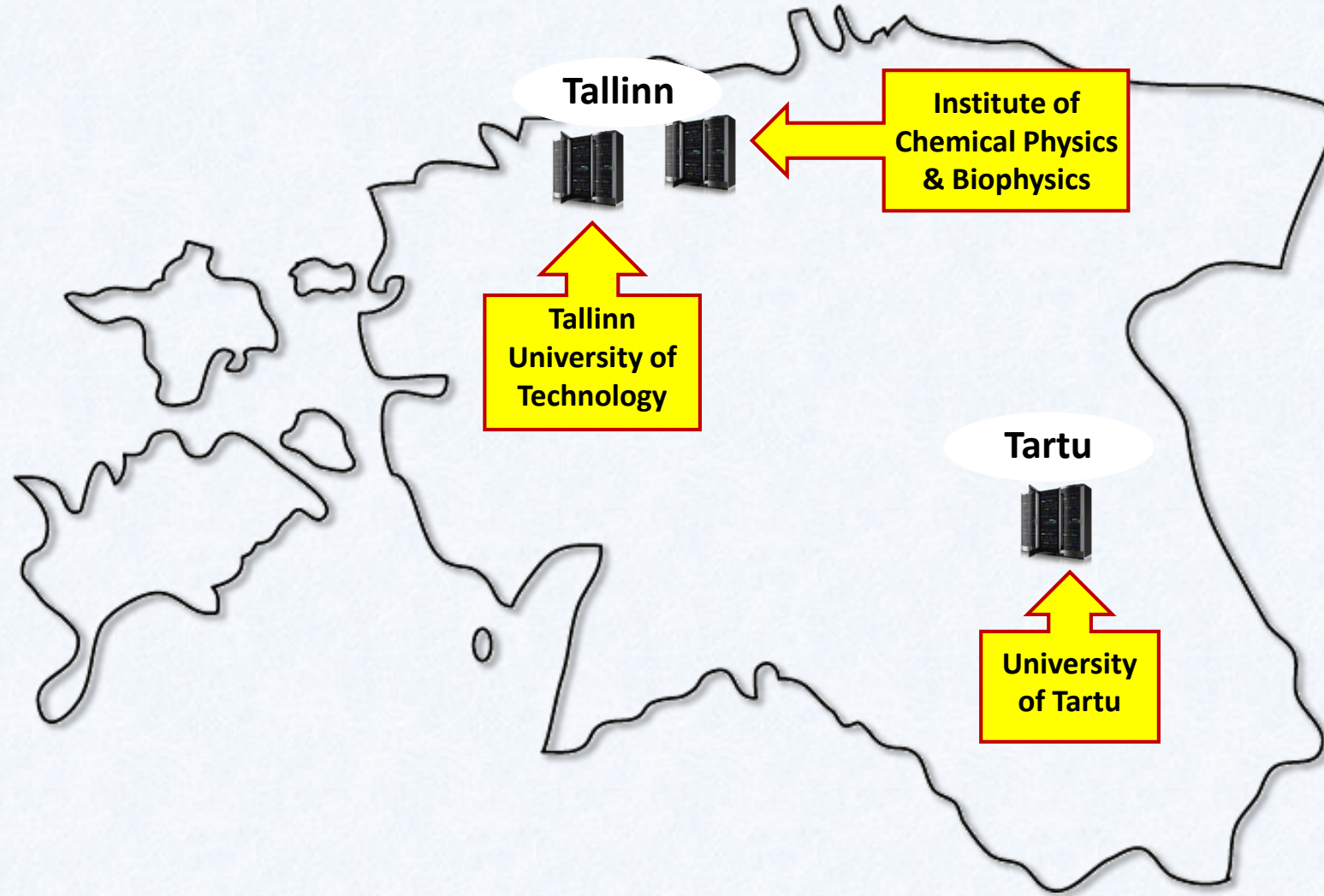# ENERGY CRISIS IMPACT ON HPC CENTRES

Case study:
HPC centre of the University of Tartu

Ülar Allas

There are three major HPC service providers in Estonia

Tallinn

Institute of Chemical Physics & Biophysics

Tallinn University of Technology

Tartu

University of Tartu

Average electricity price in Estonia (Mar 2021 - Oct 2022)

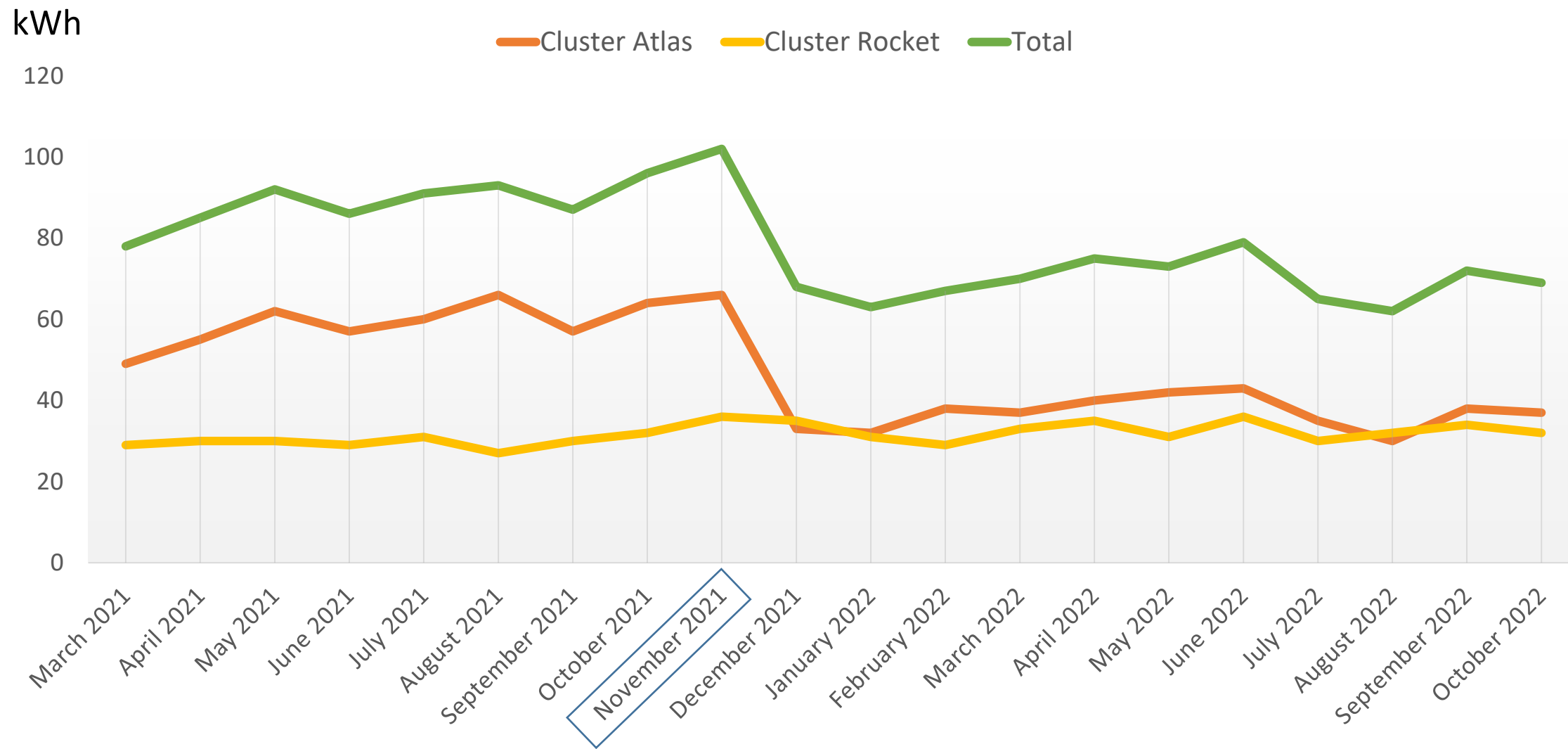
cent / kWh (incl VAT)
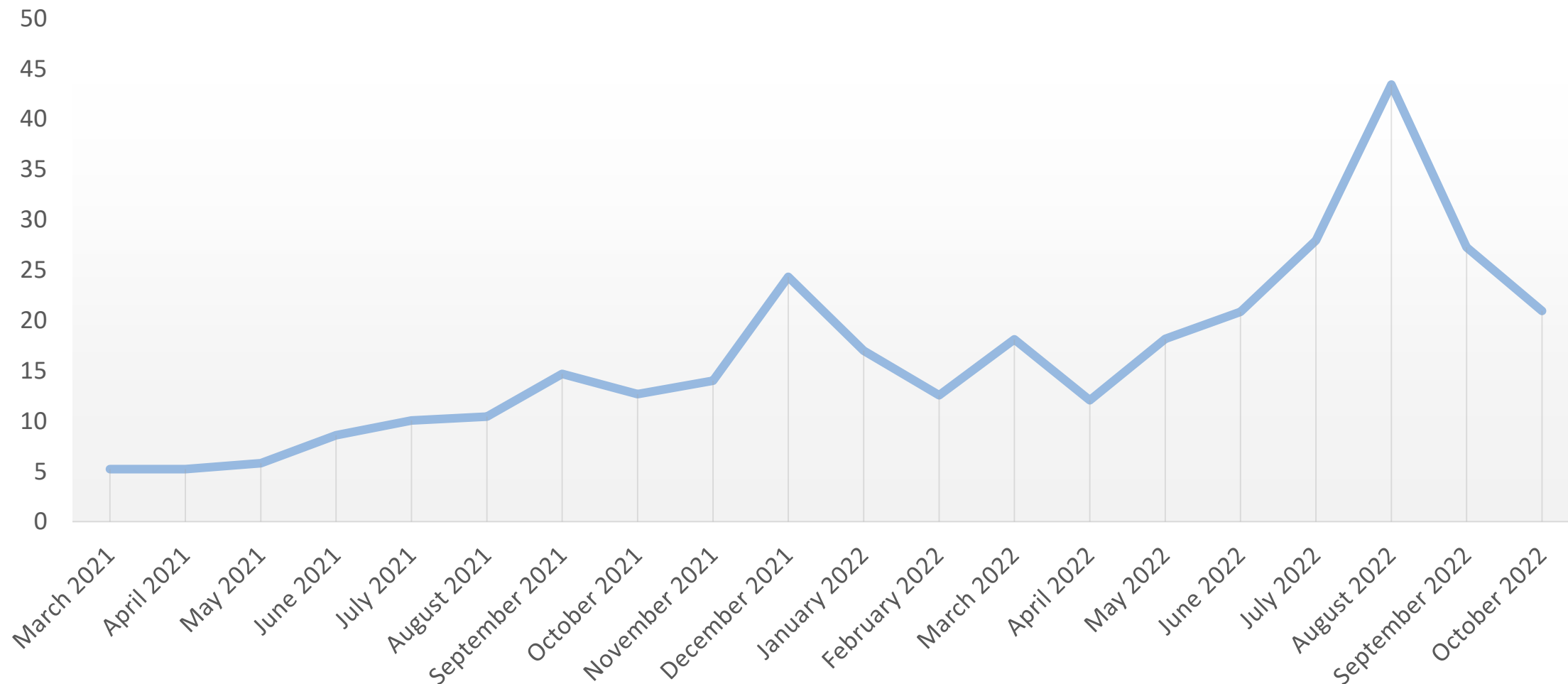
HPC center of the University of Tartu

- Established in 2008

- Currently the largest HPC center in the Baltics

- 30 employees

- Services are open for scientific researchers, industry, SMEs, and the public sector

- Two computer clusters: „Rocket" and the large memory machine „Atlas"

- 12 000 cores, 50 GPUs
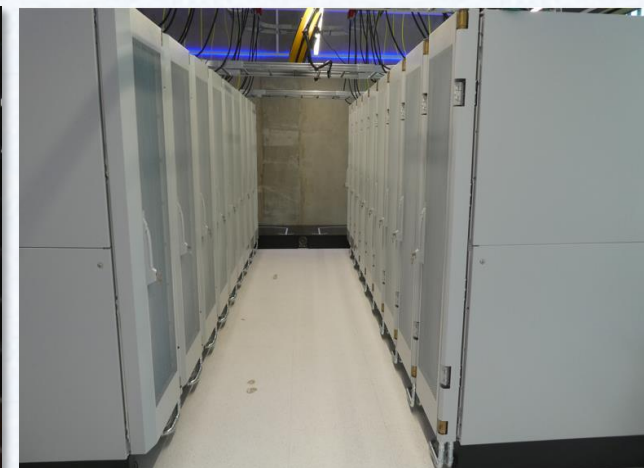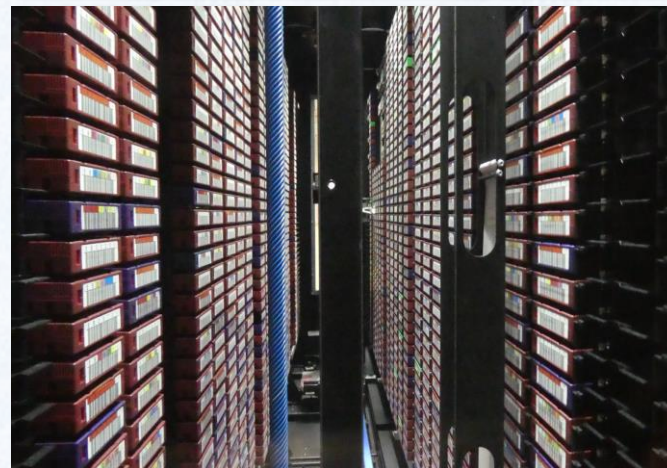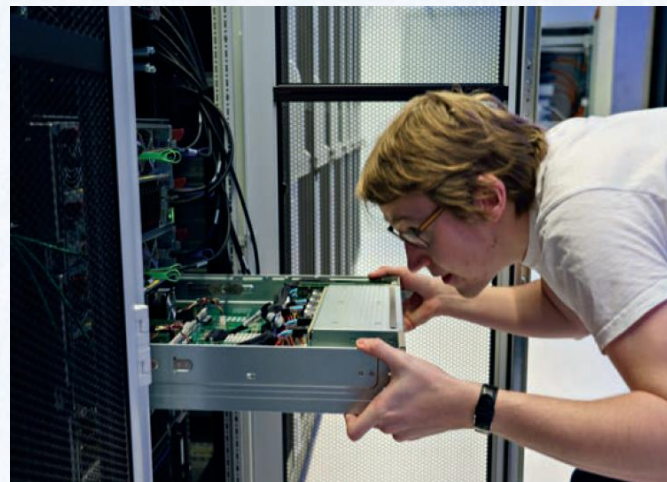
Energy consumption (Mar 2021 - Oct 2022)

Facts to consider

- The price of electricity is formed on the stock exchange (Nord Pool) as a ratio of supply and demand
- No financial support from the (current) government

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Should we increase service prices?

Why not?

Current prices:
- 0.014 EUR/CPU-hour
- 0.06 EUR/GPU-hour

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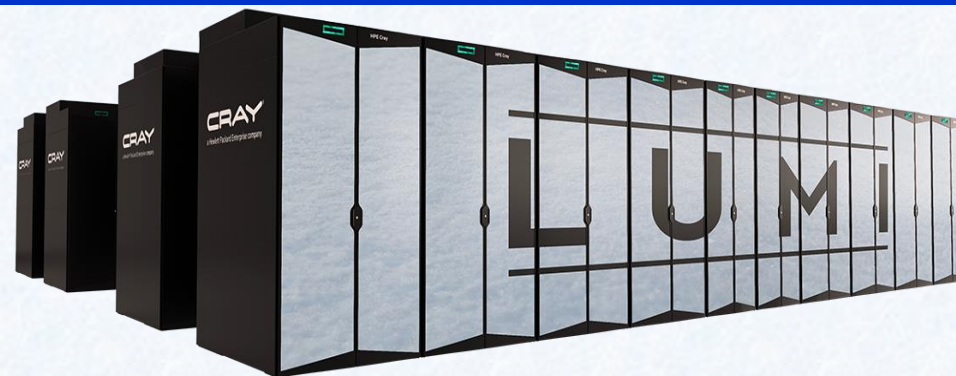
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Never let a good crisis go to waste (Winston Churchill)

How to make HPC technology greener?

The waste energy of **LUMI supercomputer** produces 20 % of the district heat of the city of Kajaani!

Thank you!

Ülar Allas   EstoniaHPC   Estonian Scientific Computing Infrastructure   hpc.ut.ee   UNIVERSITY OF TARTU High Performance Computing Center