



UNIVERSITY OF TARTU
High Performance
Computing Center

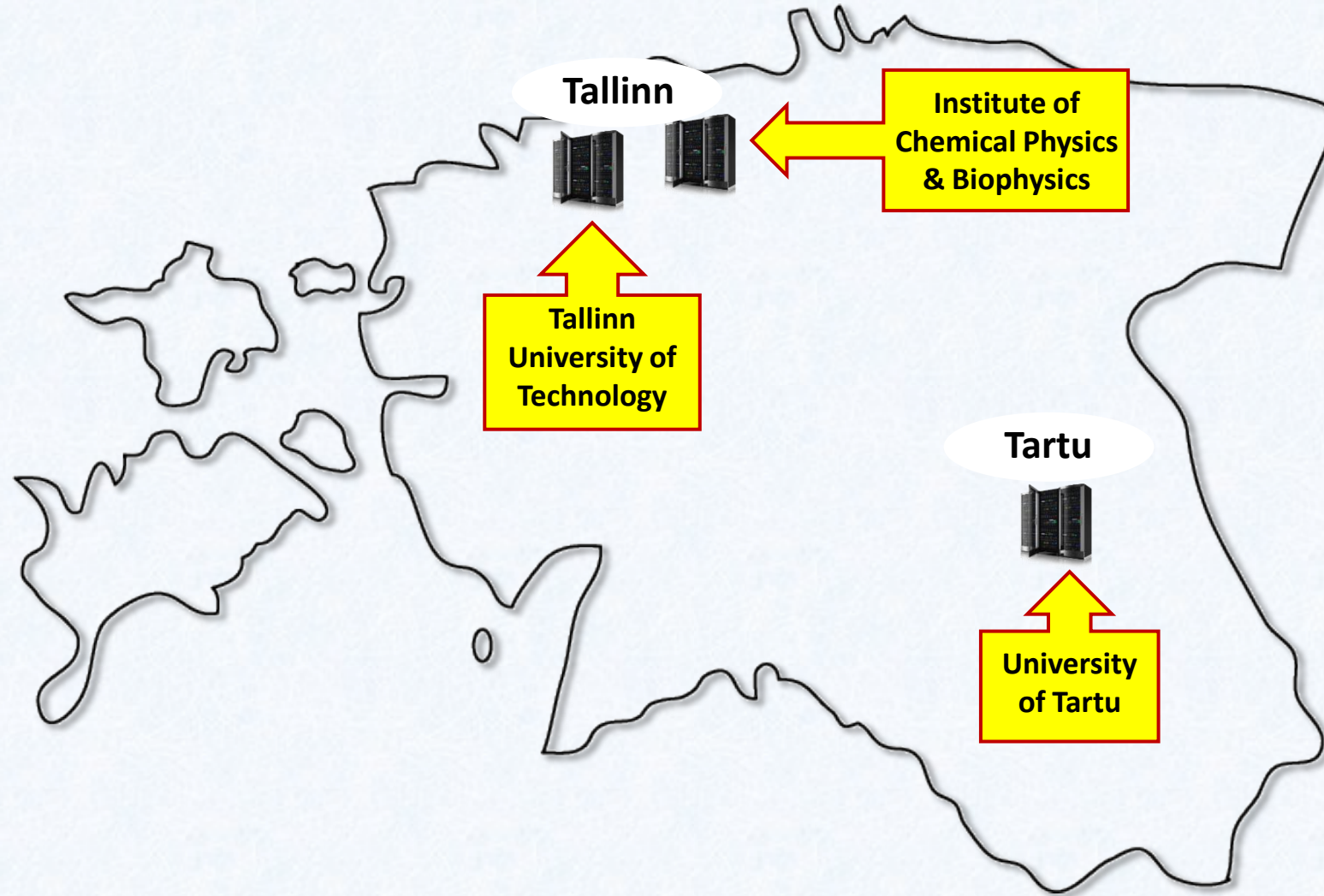
ENERGY CRISIS IMPACT ON HPC CENTRES

Case study:
HPC centre of the University of Tartu

Ülar Allas

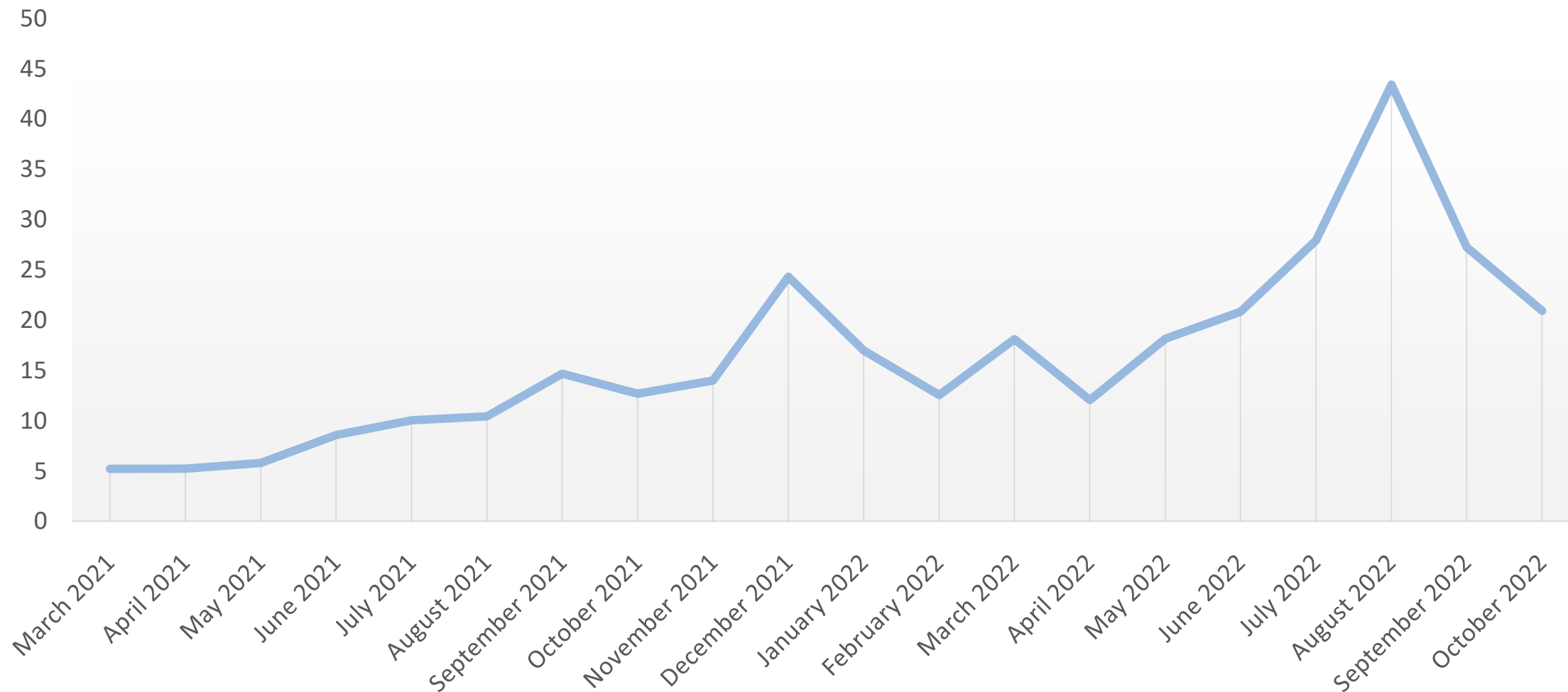


There are three major HPC service providers in Estonia



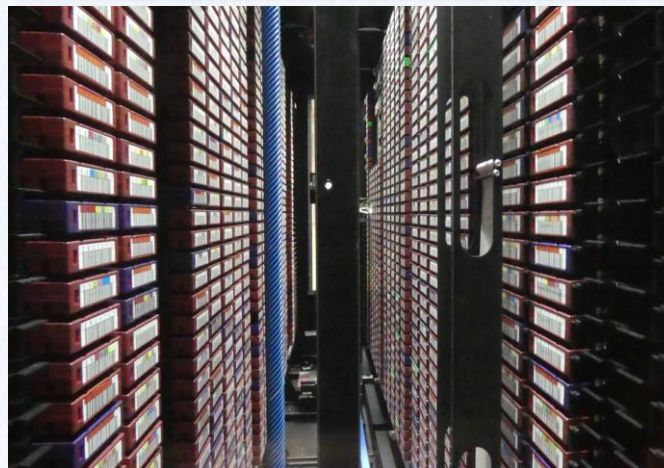
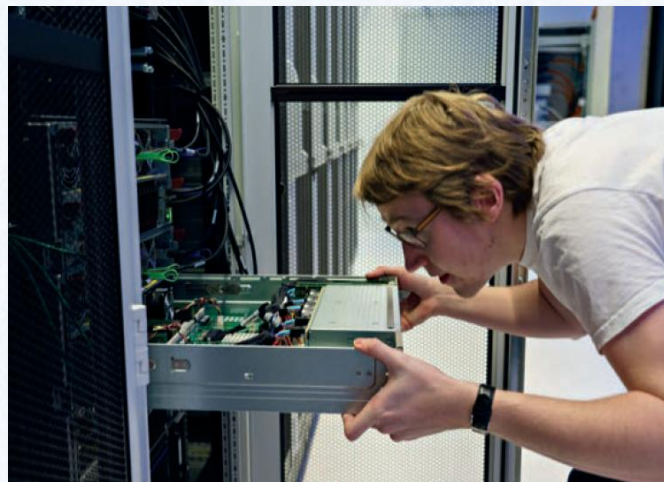
Average electricity price in Estonia (Mar 2021 - Oct 2022)

cent / kWh (incl VAT)

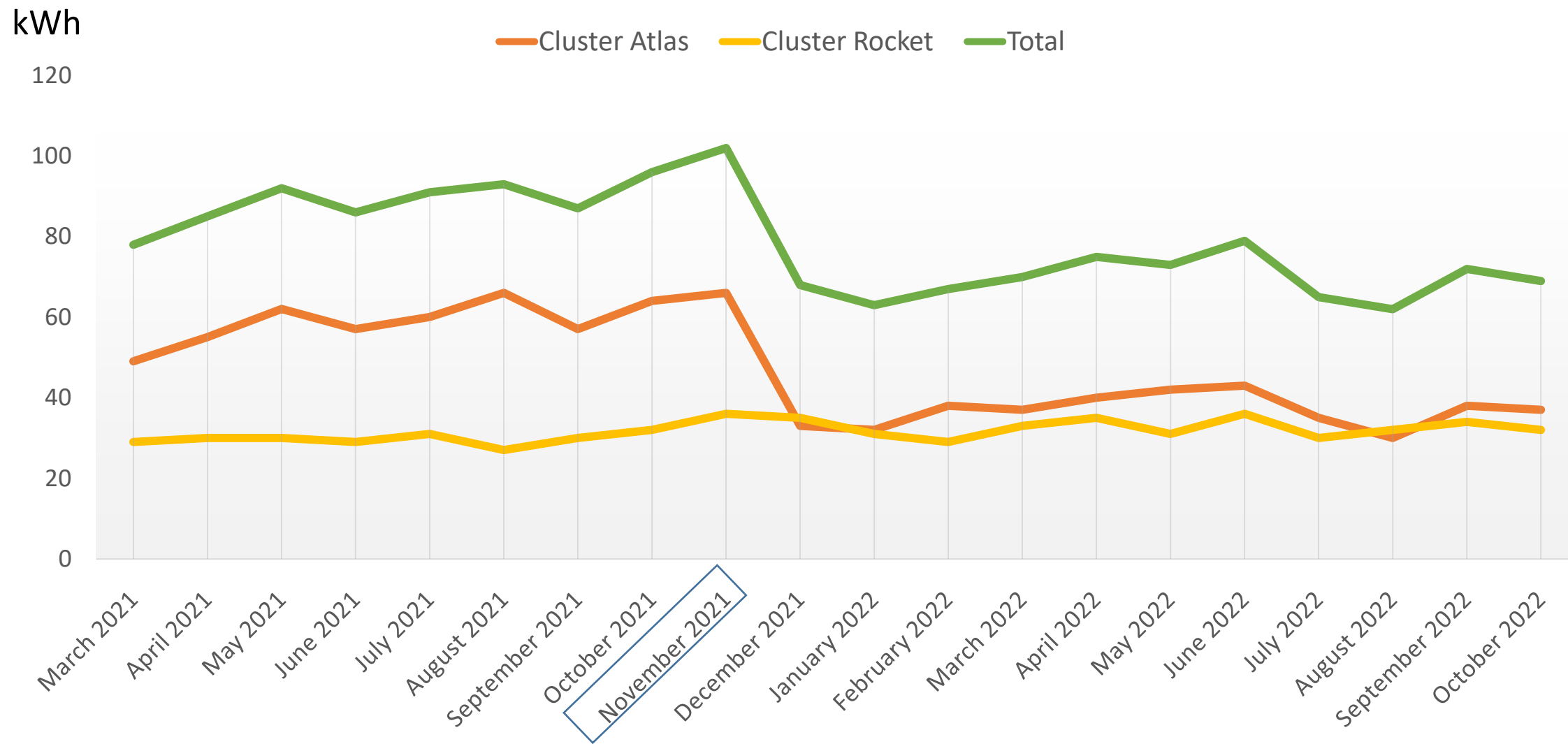


HPC center of the University of Tartu

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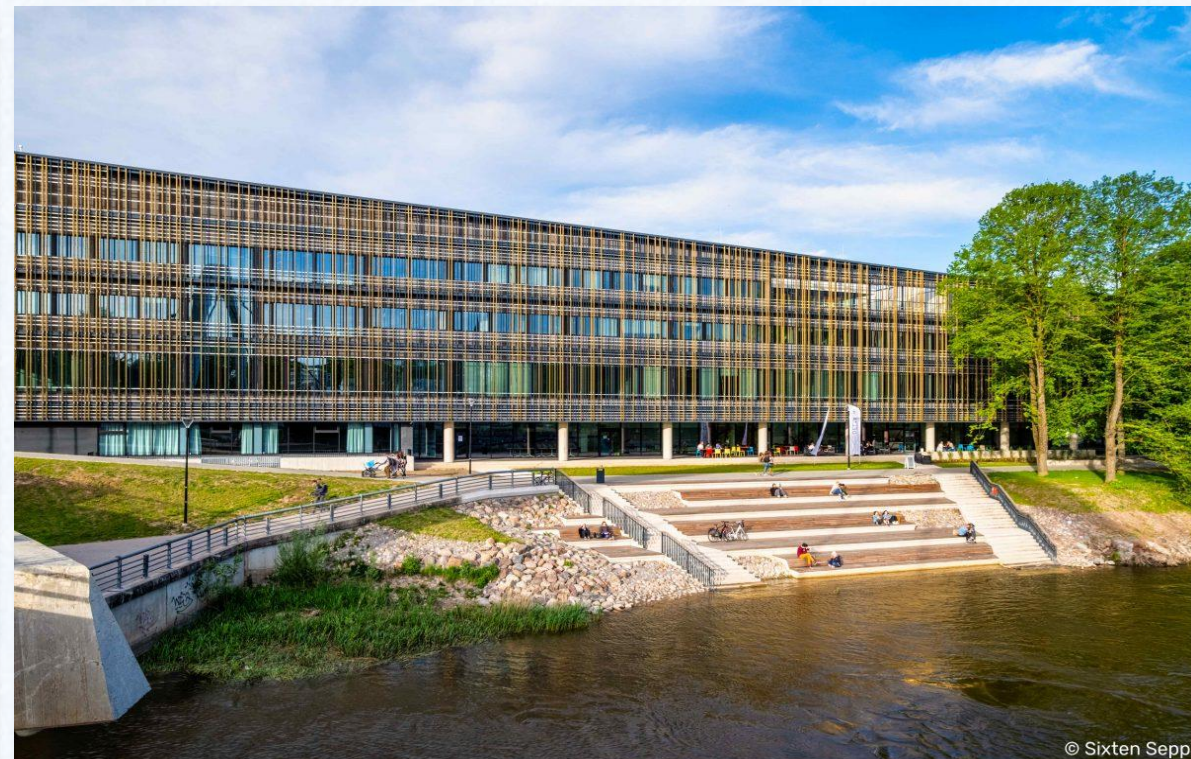
Never let a good crisis go to waste (Winston Churchill)

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!



EuroHPC
Joint Undertaking



Ülar Allas



EstoniaHPC



Estonian Scientific
Computing Infrastructure

hpc.ut.ee



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