



Academic Computer Centre **Cyfronet** AGH

Patryk Lasoń

Cracow, Poland

- Famous people

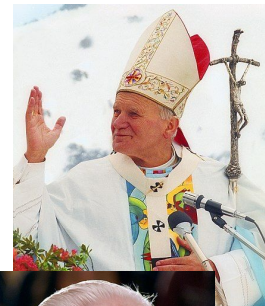
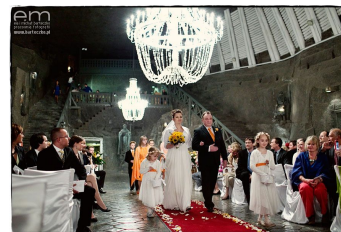
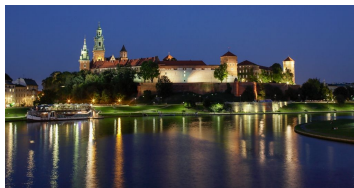
- Pope John Paul II
- Lech Walesa (president, Nobel Prize)
- Robert Lewandowski (soccer player)
- Iga Świątek (tennis player)

- Famous cuisine

- dumplings (pl. *pierogi*)
- sour soup “żurek”

- Cracow

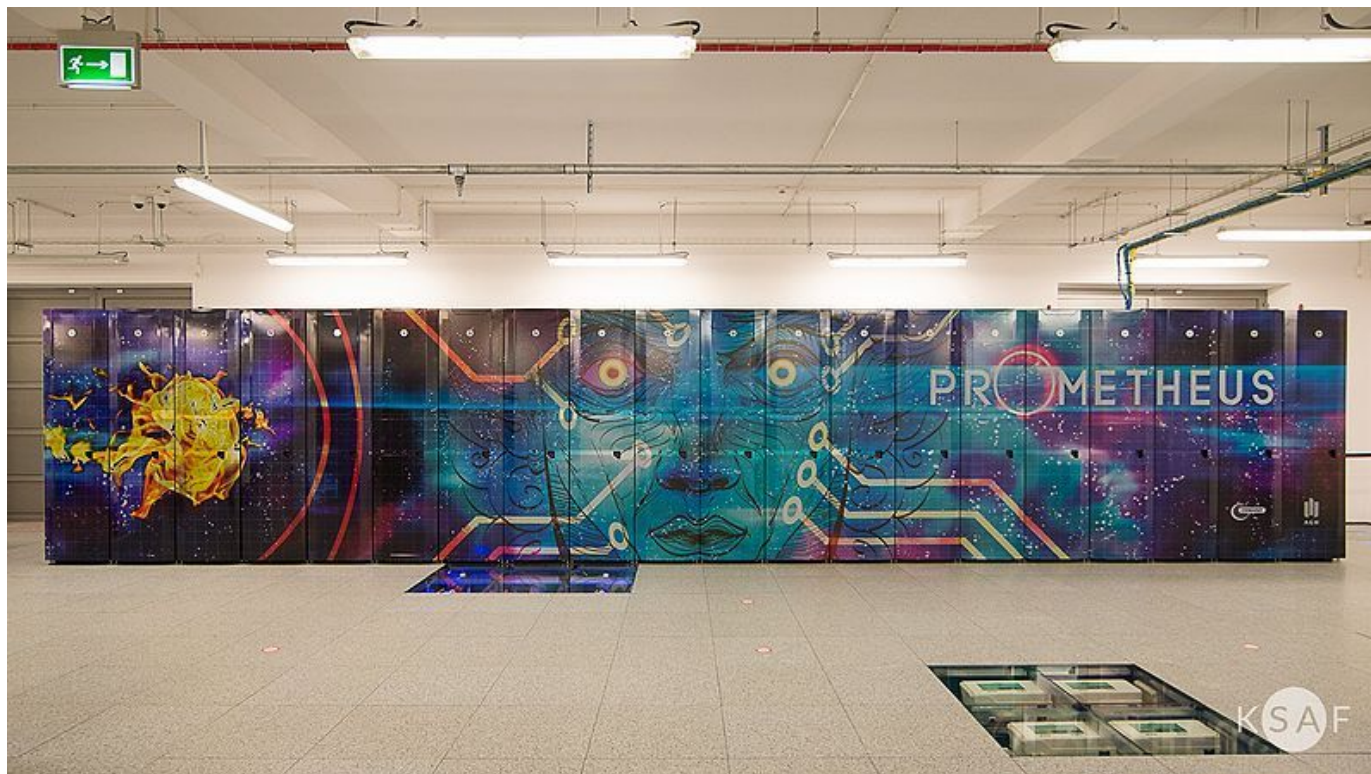
- Wawel castle, Christmas market
- Salt mine (weddings, boats on salt water)



Akademickie Centrum Komputerowe Cyfronet Akademii Górniczo-Hutniczej (w Krakowie)

- 1st computing centre in Poland
 - established in 1973
 - first machine (CDC Cyber-72) deployed in 1975
 - since 1999 independent entity of AGH-UST
- 3 datacenter locations
 - DC Nawojki (2 supercomputers)
 - DC Podole (2 supercomputers)
- Network operator
 - > 200 km of own fiber network
 - Nx 100 Gb/s PIONIER network links
- Operator of the fastest computers in Poland
 - Helios, Athena, Ares, Prometheus, (Zeus, Mars)
 - Decommissioned SMP: Baribal, Grizzly, Panda





HP Apollo 8000 (Intel, NVIDIA K40 XL)

2.4 PF, 10 PB storage, Infiniband 56 Gb/s, CentOS

#38 Top500 in 2015



Huawei (Intel, NVIDIA V100)

4,0 PF, 10 PB storage, Infiniband 100 Gb/s, Rocky 8

#216 Top500 in 2021



Format (Supermicro) (AMD, 384x NVIDIA A100)

7.7 PF, 1.7 PB storage (NVMe), Infiniband 200 Gb/s, Rocky 9

#105 Top500 in 2022

#9 Green500 in 2022

Announcing HPE Supercomputing Solution for Generative AI with NVIDIA Quad GH200





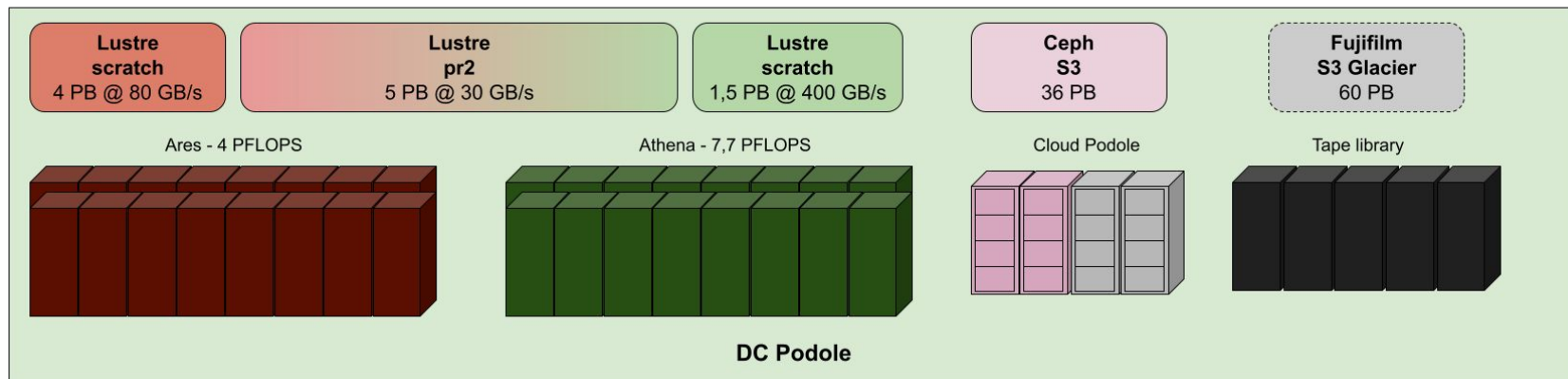
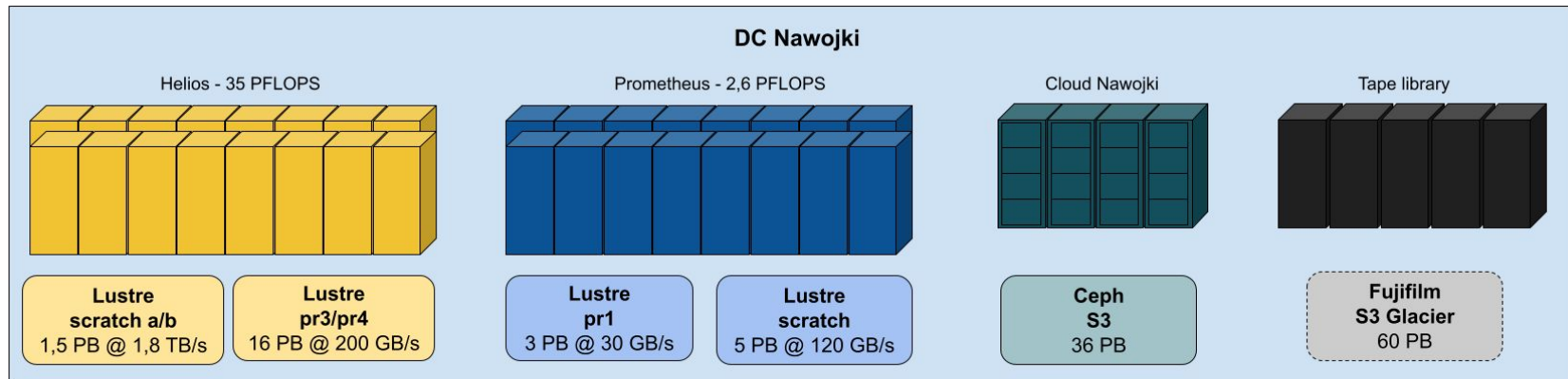
HPE Cray EX (AMD, 440x GH200)

36 PF, 18 PB storage, Slingshot 200 Gb/s, RHEL9 (in progress)

#55 Top500 in 2024

#3 Green500 in 2024







TOP500		System	Cores	Rmax (PFlop/s)	Power (kW)	Energy Efficiency (GFlops/watts)
Rank	Rank					
1	69	Helios GPU - HPE Cray EX254n, NVIDIA Grace 72C 3.1GHz, NVIDIA GH200 Superchip, Slingshot-11, HPE Cyfronet Poland	89,760	19.14	317	66.948
2	210	Athena - FormatServer THOR ERG21, AMD EPYC 7742 64C 2.25GHz, NVIDIA A100 SXM4 40 GB, Infiniband HDR, Format sp. z o.o. Cyfronet Poland	47,616	5.05		29.926
3	345	Helios CPU - HPE Cray EX, AMD EPYC 9654 96C 2.4GHz, Slingshot-11, HPE Cyfronet Poland	75,264	3.09	454	6.801
4	487	Ares - CH121L V5 Liquid-Cooled, Xeon Platinum 8268 24C 2.9GHz, Infiniband EDR, Huawei Technologies Co., Ltd. Cyfronet Poland	37,824	2.34	487	4.812
5	289	Altair - CH121L V5 Liquid-Cooled, Xeon Platinum 8268 24C 2.9GHz, Infiniband EDR, Huawei Technologies Co., Ltd. PCSS Poznan Poland	63,360	3.53	829	4.262
6	93	Proxima - HPE Cray XD220v/HPE Cray XD665, EPYC 9334 32C 3Ghz/Xeon Platinum 8480+ 56C 2GHz, Infiniband NDR200, HPE, GALAXY PCSS Poznan Poland	58,224	13.82		0.000
7	99	Lem - PowerEdge XE9640, Intel Xeon Platinum 8462Y+ 32C 2.8GHz, Nvidia H100 94Gb SXM5, Infiniband NDR200, DELL Wroclaw Centre for Networking and Supercomputing Poland	44,992	12.80		0.000
8	185	Kraken-Fregata - HPE Cray XD665, AMD EPYC 9334 32C 2.7GHz, Nvidia H100 94Gb SXM5, Infiniband NDR200, HPE, GALAXY Gdansk University of Technology, CI Task Poland	21,904	5.99		0.000

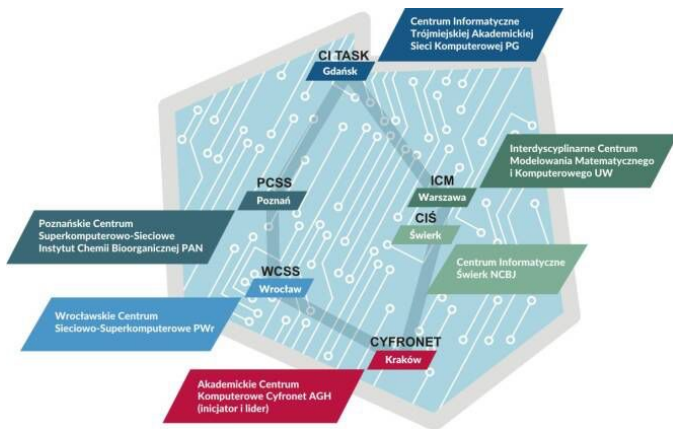


Academic Computer Centre Cyfronet AGH

- PLGrid Infrastructure Leader/Coordinator
 - National computing infrastructure (6 HPC sites)
 - Web portal (www.plgrid.pl), one login, same “env” variables
 - LUMI grants, D-Wave access
 - > 12000 users
 - > 80 universities
 - > 5000 computing grants finished

- EuroHPC
 - selected as a mid-range system hosting site
 - coordinator of Polish activities in the LUMI consortium
 - coordinator of National Competence Center

- AI factory?
 - work in progress
 - Roman/Greek name: *AI*



EuroHPC
Joint Undertaking

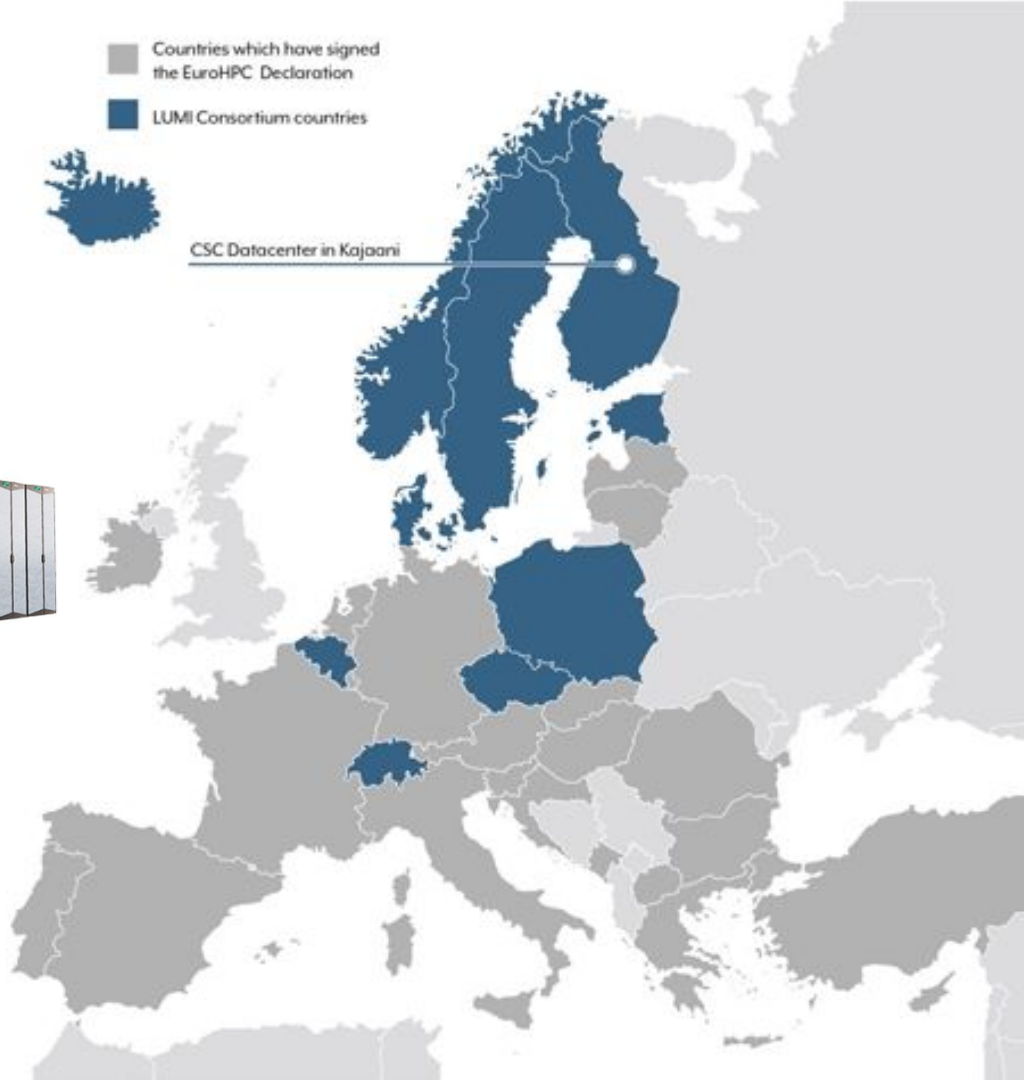




LUMI



<https://www.lumi-supercomputer.eu/>





www.cyfronet.pl