



Jülich Supercomputing Centre

Shiraz Memon

High Productivity Data Processing Group

Jülich Supercomputing Centre (JSC) - Germany



UNIVERSITY OF ICELAND
SCHOOL OF ENGINEERING AND NATURAL SCIENCES

FACULTY OF INDUSTRIAL ENGINEERING,
MECHANICAL ENGINEERING AND COMPUTER SCIENCE



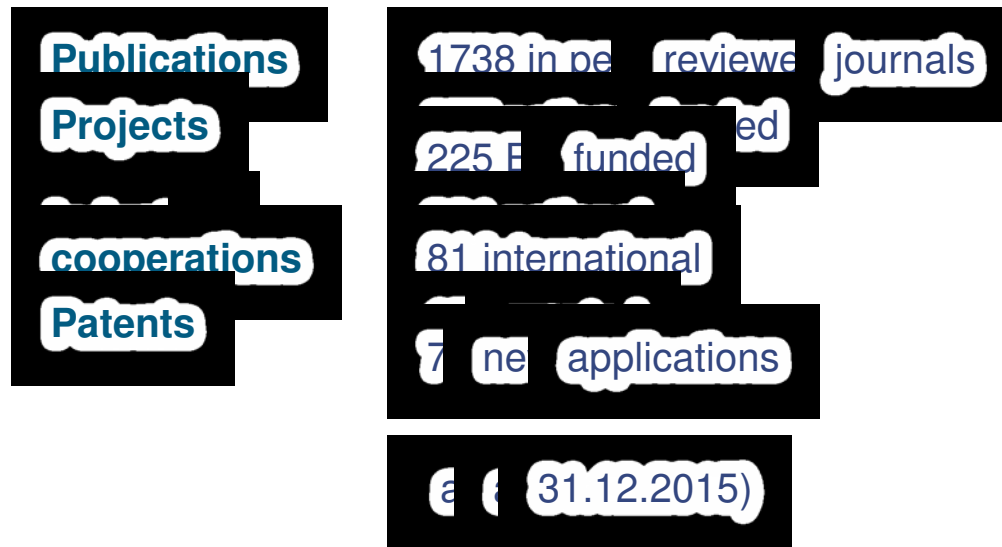
Forschungszentrum Jülich GmbH

Research and Development Facility on 2.2 sq. KMs



Forschungszentrum Jülich GmbH

Founded	11 December 1956
Partners	North Rhine-Westphalia (10 %) (%)
Revenue	(39 % third party funding)
Structure	(project volume: 1.4 billion) ations
Employees	2,048 scientists, incl. 537 PhD students 361 trainees & students on placement 1,041 visiting scientists from 68 countries
	(as at 31.12.2015)

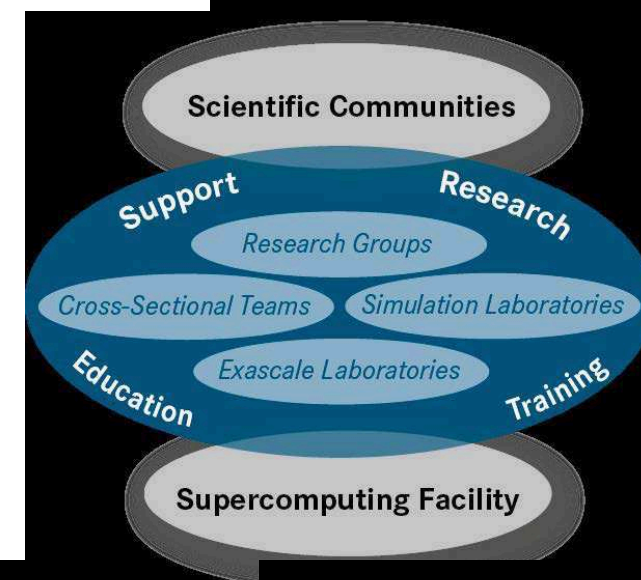


Jülich Supercomputing Centre (JSC)

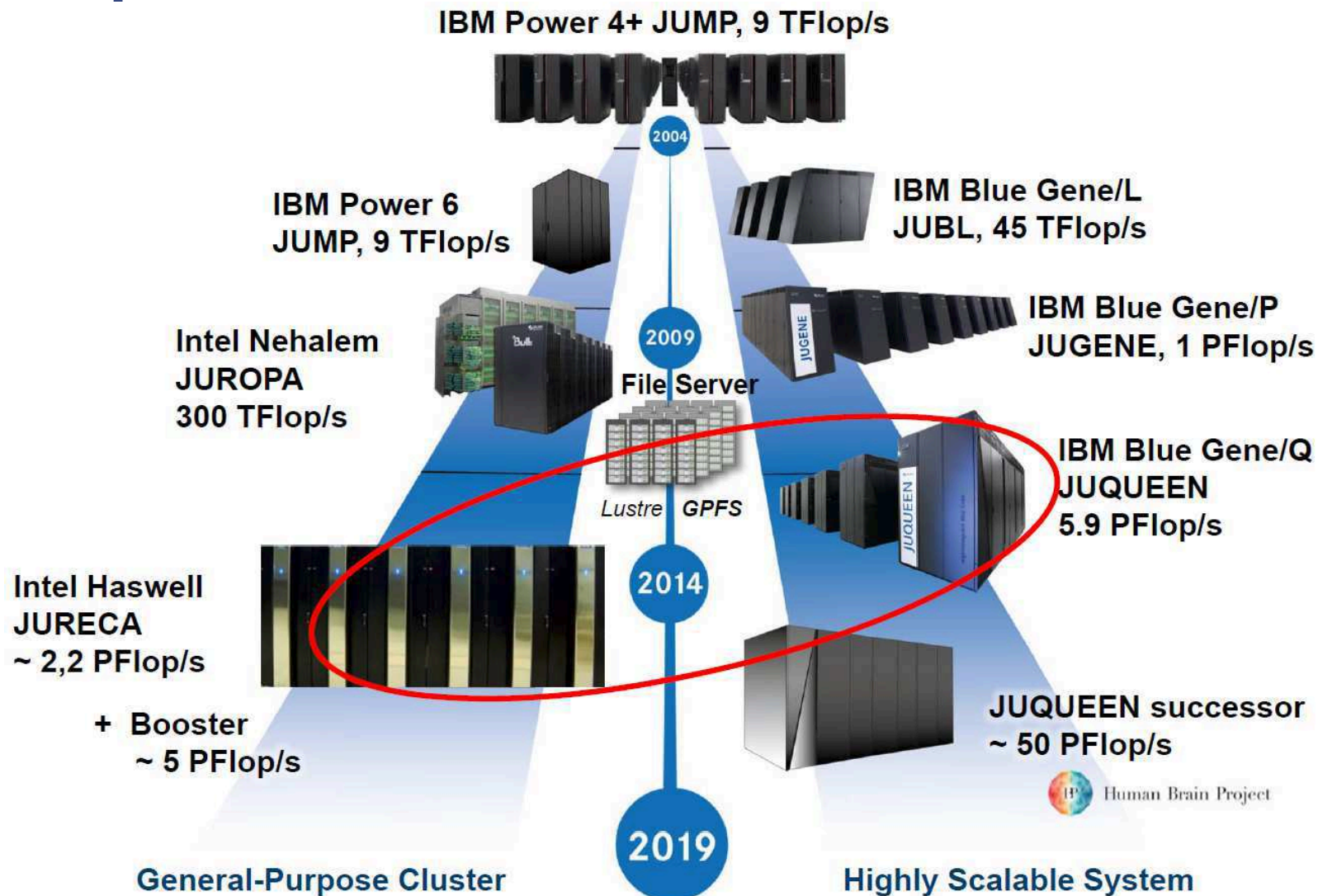


Jülich Supercomputing Centre (JSC)

- Supercomputer operation for
 - Centre: FZJ
 - Region: JARA, RWTH Aachen University
 - Germany: John von Neumann Institute for Computing
Gauss Centre for Supercomputing
 - Europe: PRACE, EU projects
- Application support
 - Unique support & research environment
 - Peer review support and coordination
- R&D work
 - Methods and algorithms, computational science, performance analysis and tools
 - Scientific Big Data analytics and data management
 - Computer architectures, Co-Design
Exascale Laboratories: EIC, ECL, NVIDIA
- Education and Training



Jülich Supercomputing Centre: Evolution of Supercomputers



JUWELS

- 23rd in Top500 list (June 2018)
- Peak performance 6.2 Pflop/s (according to Linpack benchmark)
- Realised within DEEP projects
- Based on modular and ultra flexible Supercomputing Architecture [4]
 - Big data
 - Compute intensive tasks
 - Energy efficient
- More focus on flexibility instead of speed



Computing Time on Supercomputers

- EU PRACE HPC Infrastructure for all the scientists within EU
- When to Apply?
 - Calls for Projects are announced through PRACE mailing list and Website [3]
- Steps
 - Write a scientific proposal and fill up an application form?
 - *CPU Cores, Pre-installed Parallel Applications, Time (Single or Multi-years), Use case*
 - Submit the proposal & form
 - Application goes through review process
 - Become an awardee after review
 - Reporting at the end of your project
 - Extension is also possible

Partnership for Advanced Computing in Europe (PRACE)

- HPC Driven Infrastructure
- An international non-profit association under Belgian Law (also office in Brussels)
- Has 25 members and 2 observers
- Governed by the PRACE council
- Daily management of the association is delegated to the Board of Directors





References

1. How to apply for computing time?
 - <http://www.prace-ri.eu/how-to-apply/>
2. Jülich Supercomputing Centre
 - http://www.fz-juelich.de/ias/jsc/EN/Home/home_node.html
3. PRACE Subscription
 - <http://www.prace-ri.eu/subscribe-to-prace/>
4. JUWELS Press release
 - <http://www.fz-juelich.de/SharedDocs/Pressemitteilungen/UK/EN/2018/2018-06-25-juwels.html?nn=2274286>



The DEEP projects have received funding from the European Union's Seventh Framework Programme (FP7) for research, technological development and demonstration and the Horizon2020 (H2020) funding framework under grant agreement no. FP7-ICT-287530 (DEEP), FP7-ICT-610476 (DEEP-ER) and H2020-FETHPC-754304 (DEEP-EST).