

- High-performance computer centre at GSI in Germany, build to support the scientific missions of FAIR and GSI
- Datacenter energy capacity up to 12 megawatts power for computing
- Optimized cooling system for energy- and cost-efficiency
 - Energy usage overhead for cooling etc. is less than 10 % (average for newly constructed data center is about 58%)
- 3D design reduces its footprints and allows for short network paths
- Environmental & energy efficiency label “Blue Angel” was awarded in 2020



- The GreenIT Cube was developed for efficient storage and analysis of enormous data generated by FAIR experiments at GSI
- The technology could have the following fields of application:
 - Scientific work & collaboration within academia
 - R&D collaboration with industry & startups

Strengths

- Energy efficiency
- High-performance-computing
- Test-data center

Weaknesses

- Not full adapted to industry regulatory standards (focus on scientific mission and cost reasons; can be added if needed)

Opportunities

- Scientific work
- R&D collaboration opportunity with industry, academia and startups
- Hosting of compute resources for scientific collaborations
- Hosting of compute resources for industry might be possible

Threats

- Highly competitive data center market (Europe >10 billion € in 2020)
 - IP questions, R&D strength

IPR Status & Contact Information

- Two patented inventions
- Both are granted in many countries
- Both inventions are commercialized via a spin-off/company and that entity is currently active building new data centers based on this concept for clients

For further information, the contact point is

Head of Data Center

Dr. Helmut Kreiser

H.Kreiser@gsi.de

Digital Innovation Manager

Bünyamin Yildiz

B.Yildiz@gsi.de