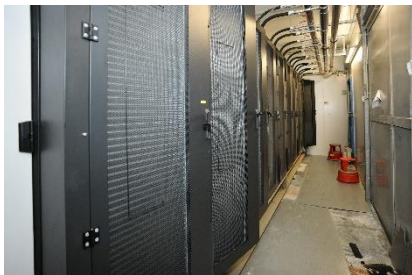


Mobile computer center with efficient cooling

Energy-efficient and modular green-IT container, edge- and cloud-computer center

DESCRIPTION OF TECHNOLOGY



According to the Organization for Economic Cooperation and Development (OECD), the information and communication technology (ICT) take up 15 % of the worldwide power consumption for server and computer centers. By aiming at an improvement in efficiency, the air conditioning in computer centers plays an essential role. Big data at the same time, causes an exorbitant data growth and therefore results in an incline for the capacity of computer centers. In the previous years, GSI Helmholtz Centre for heavy ions research's requirements for experiment analyses, simulated calculations, and for their international project FAIR, increased strongly. Development performances, on their way towards a highly energy-efficient computer center, lead

to a green-IT container. The innovative study of the concept, the "stand-alone" computer center in the container, was used as a trial installation with cooling infrastructure, including a good 10 racks, for several years with measurement technology. Thus, the mobile computer center system with fluid coolants is largely validated.

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AT A GLANCE ...

Application Fields

- Information and communication technology

Business

- Green-IT in the context of big data
- Edge- and private cloud-computer center
- Mobile computer centers as back-up systems, for large sports events or for the application in disaster areas
- Stationary (especially smaller and middle-sized) computer centers, that can be compactly integrated without reconstruction

USP

- Consequent water-cooling system
- Simple scalable cooling
- Modular structure

Development Status

- Pre-production test vehicle conducted in long-term test
- Further steps: Implementation as computer center for economic use

Patent Status

Priority application filed on August 2011 with the European Patent Office. Granted in RU, USA, CO, MX, ZA and SA
Further applications in CN and BR active

APPLICATION FIELDS

The modular and energy-efficient computer center system can be used in stationary edge-computer centers within the scope of industry 4.0, or rather the digitalization, or in weather stations as well as in mobile solutions in the case of catastrophes or events.

ADVANTAGES OVER THE PRIOR ART

The low demand for energy, due to innovative and efficient cooling, as well as the modular and mobile structure that can be carried out in standard containers, enables a fast and simple as well as a local provision of a computing and saving capacity.

STATE OF THE PRODUCT DEVELOPMENT

In a 3-year test operation, the conditions of a normal computer center were checked, inter alia at raised interior temperature.

MARKET POTENTIAL

The world market for green computer centers was assessed in 2016 at 35,8 billion US dollars and according to Mordor Intelligence, is supposed to reach 148,2 billion US dollars in 2022, thanks to a yearly growth rate of about 26,2%.

COOPERATION OPPORTUNITIES

On behalf of GSI Helmholtzzentrum für Schwerionenforschung GmbH, TransMIT GmbH is looking for licensees for international distribution and for purchasers of the constructed green-IT container.

A TECHNOLOGY OF



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