

New technology reduces data center energy consumption by more than 20 percent

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FIT4Green – project concentrated in finding new solutions for saving energy in data centres. The project designed and implemented an energy-aware plug-in on top of the current data centres' management tools to orchestrate the allocation of ICT resources and turning off unused equipment. Project achieved its goal: 20 % direct ICT equipment energy savings without compromising compliance with Service Level Agreements (SLA) and Quality of Service (QoS) metrics. The achieved savings in CO₂ emissions were on the same scale as in energy. The direct energy savings in the ICT equipment induce also remarkable additional savings due to the reduced needs for cooling, for example.

FIT4Green plug-in is designed to be applicable to any data centre type. The plug-in was validated in three representative data centres: service/enterprise portal at ENI, [supercomputing](#) data centre at Jülich Supercomputing Centre with a federated site at VTT Technical Research Centre of Finland, and cloud computing platform at HP. VTT's work in the [project](#) concentrated on the optimizations in the supercomputing scenario. The target of 20% was reached in each test bed, and in some cases the savings were even up to 50%. The comparison point for all the [savings](#) was the same system without any [energy](#) optimizations.

All the 16 public deliverables of the project are freely available on the project web site at www.fit4green.eu. The plug-in code has also been released as open source software.

FIT4Green was coordinated by GFI Informática with HP Italy

Innovation Centre as the technological leader. Other partners besides VTT were University of Passau, Jülich Supercomputing Centre, Imperial College London, University of Mannheim, Create-Net, Eni S.p.A., and Almende BV.

Provided by VTT Technical Research Centre of Finland

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