

# Press release

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## University of Passau researches environmentally sustainable data centres for Smart Cities

The University of Passau is a key partner in the recently launched EU project DC4Cities (“An environmentally sustainable data centre for Smart Cities”), where the energy consumption of data centres is adapted for use in future Smart Cities. Among other research, the University of Passau will look into the coordination of energy consumption between multiple data centres and develop prediction schemes that enable a location-aware prognosis of energy availability.

Smart Cities should optimize resource usage and minimize emissions. The project DC4Cities will promote the role of data centres as “eco-friendly” key players in Smart City energy policies. Data centres play two different and complementary roles in Smart Cities’ energy policies:

1. they support Smart Cities, e.g. by optimizing resource allocation and by providing ITC services to customers
2. data centres are large energy consumers that are expected to run at the highest levels of renewable energy sources.

The goal of the project DC4Cities is to make all types of existing and new data centres energy adaptive, without requiring any modification to their logistical processes or infrastructure and without impacting on the quality of services provided to their users. **Targets include ensuring that 80 percent of data centres’ energy comes from renewable sources**, while at the same time minimizing their overall energy consumption.

The optimal energy source usage in urban eco-friendly data centres will be achieved through the adaptation of the data centre software and operations to the available energy, while no modification in the data centre logistics is required.

The project DC4Cities will develop a wide span of technology components at different layers. The main central component is the “Data Centre Energy Controller“, which provides two main interfaces:

- The “Renewable Energy Adaptive Interface” is used to retrieve information on energy availability from energy providers and energy constraint directives from the Smart City authorities and the Smart Grid.
- The “Energy Adaptive Data Centre Operation Interface” is used to implement power consumption plans on the data centre’s subsystems.

The results of the project research will be evaluated in two (already existing) Smart City trial test beds in Trento (Italy) and in Barcelona (Spain), and by special lab experimentation at the HP Italy Innovation Centre.

**For further information, visit [www.dc4cities.eu](http://www.dc4cities.eu)**

#### **Consortium**

- FreeMind Consulting Belgium bvba/sprl
- University of Mannheim
- HP Italy Innovation Centre
- University of Passau
- Center for REsearch And Telecommunication Experimentation for NETworked communities
- Agenzia nazionale per le nuove tecnologie, l’energia e lo sviluppo economico sostenibile
- Centre de Serveis Científics i Acadèmics de Catalunya
- Institut National de Recherche en Informatique et en Automatique
- Gas Natural SDG SA
- Institut Municipal Informatica de Barcelona (Ajuntament de Barcelona)

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