

PRESS RELEASE

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Swiss research group develops public energy awareness display around Plogg

A research team at the Bits-to-Energy Lab of ETH Zurich (the Swiss Federal Institute of Technology) has designed and installed a public energy use demonstrator and online monitoring system based on Plogg wireless smart meter technology, developed by UK-based Energy Optimizers. Known as 'Energie Visible' (Visible Energy), the new system was commissioned by Cudrefin02, a sustainable development foundation based in Cudrefin, Switzerland.

Energie Visible monitors energy consumption of individual electrical appliances at Cudrefin02's headquarters by Lake Neuchâtel, displaying data graphically on a large screen at the front of the building for the benefit of passers-by. Besides its public awareness function, the browser-based system gives staff easy access to energy consumption data either over the local network or the internet, helping them to make better informed decisions on efficient use of electrical appliances.

Each appliance to be monitored is connected to a Plogg Blu smart meter, a simple plug-in device that uses Bluetooth to communicate current and logged historical power consumption. As ETH researcher Dominique Guinard explains: "We were looking for a device suitable for appliance level monitoring. Although

there are many companies working on smart metering at the moment, Energy Optimizers was the only one with a working off-the-shelf product that does exactly what we need.”

Using a C-based Plogg API (application programming interface) supplied by Energy Optimizers, the ETH team extended the functionality of Plogg to provide continuous measurement in near real time, and constructed a C++ Plogg gateway for automatic device discovery, management and data acquisition. The gateway delivers data in JSON (JavaScript object notation) format to an embedded open-source web server, using a low-bandwidth form of web service delivery known as REST (representational state transfer).

For information display, ETH used the Google Web Toolkit to develop a JAVA graphical interface. While the public information display at Cudrefin has room for just six graphs — one for each of four monitored appliance sets (refrigerator, kettle, computer/screen, and printer/file server) and the other two showing total consumption (kWh) and a comparison of the appliances — the system allows scaling to and navigation of numerous Ploggs. Cudrefin02 plans to make the information display available on its website.

Energy Optimizers general manager, Shaun Merrick, commented: “We are always keen to support projects that see Plogg not just as a product, but as an enabling technology for future smart energy systems. We are particularly pleased

to be part of the Energie Visible project because it encourages people — both in-house staff and the general public — to conceive and implement their own energy efficiency measures.”

Following installation at Cudrefin02, the ETH team will shortly make Energie Visible publicly available as a free download from www.webofthings.com/tag/energyvisible. Planned future enhancements include remote on/off control of individual appliances via a web browser, and an iPhone interface. ETH is also evaluating a Zigbee enabled version of Plogg.

Notes:

The Bluetooth version, **Plogg Blu**, works with smartphones and PDAs running Windows Mobile 5 or 6 (Broadcom or Microsoft Bluetooth protocols) and on Symbian phones (e.g. Nokia and Sony Ericsson) with Java enabled Bluetooth and data storage (JSR-82 and JSR-75).