



# Smart Energy Savings

Intelligent device developed by researchers to give householders personalised energy-saving advice

- Intelligent algorithms active inside a USB device create energy and cost saving predictions
- In its first four months, the device provided advice to over 750 households, identifying over £50k in annual heating bill savings, almost £70 per household
- The device has now been acquired by a market leading company

EPSRC-funded researchers at the University of Southampton have created a smart, simple way to reduce energy bills. All you have to do is leave a little USB temperature logger, called 'Joulo' on top of your thermostat for a week, then plug it into your computer. It will show you various actions you could take, such as adjusting heating timer settings. It also shows you how much money these actions would save.

The USB device, 'Joulo', applies EPSRC-enabled fundamental research into intelligent and autonomous computing and draws on further EPSRC investment for the product development. It is a temperature logger that uses intelligent algorithms (these are well-defined sets of instructions that direct computers to solve problems) to analyse the temperature data it collects. It builds a full thermal model of the home, which is used to calculate the potential cost savings that would occur if the householder took certain actions recommended by Joulo.

Is there a smart, simple way to reduce energy bills?





## Find out more

Knowing how to save energy in your home is often based on guesswork because it is hard to know what interventions would suit your particular house. An easy solution now exists, thanks to EPSRC investment supporting researchers at the University of Southampton. They have created an effortless way for householders to receive personalised energy saving advice, based to their existing behaviour and the house they live in.

In September 2013 University of Southampton's device, Joulo, was the winner of the British Gas Connecting Homes competition. This saw Joulo named the UK's brightest home tech startup, in competition with the innovative products and services of the home energy sector from companies around the world. As a result, the researchers founded Joulo Ltd in November 2013, establishing the product commercially. Building on its success, Joulo has recently been acquired by a market leading company 'Quby'.



[Joulo] is very impressive. Simple idea well executed.



**Jason Neylon, organiser of Cleanweb, a network which addresses sustainability challenges with technology**

## Information and Communication Technologies programme

Information and Communication Technologies (ICT) play a critical role in all aspects of our society. EPSRC's ICT Theme supports core capability in this area by investing in the delivery of high quality research, supporting excellent researchers at all stages of their careers. The Theme's investment is at the heart of UK efforts to contribute to a world-leading capability in ICT research and research training to meet the future needs of the UK.