New business opportunities thanks to the “internet of things”

More and more mini-computers are being embedded in any number of objects and connected to the internet, and this trend towards getting “things” online will have a lasting impact on – and boost – a whole range of business models. One successful example of this is the “Belimo Shared Logic” platform developed by Ergon, which equips actuators with local logic circuits and connects them intelligently with one another; interesting applications are already cropping up in the consumer field.

Belimo – Software for a better climate

Belimo, an industrial firm from Hinwil, recognised the potential of the “internet of things” at a very early stage. It was looking for an IT platform that could equip valves and damper actuators with logic circuits to enable them to interact autonomously with one another. The platform had to be flexible enough that their own ventilation technicians and even third-party manufacturers could independently develop other applications and installations on it.

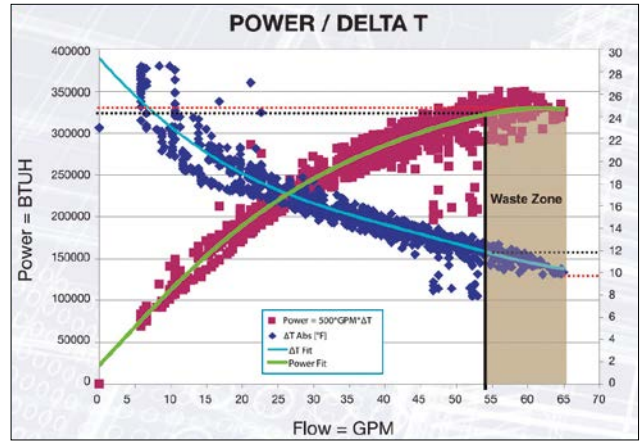
Belimo found an ideal partner in Ergon. “Although both sides were breaking new ground with this project, we were on the same wavelength right away and were able to get down to business and work productively from the get-go,” remembers Daniel Roner, Belimo’s Head of System Innovation. The result of this pioneering cooperation is the Belimo Shared Logic platform.

Smart devices

The platform’s sizeable potential is demonstrated by “Energy Valve”, the first independent product to be developed on the basis of Belimo Shared Logic. This intelligent valve is fitted with temperature and flow sensors, has an integrated web server and is linked to other valves as well as to the control station. This integrated logic function allows the water flow within the pipes to be directed automatically such that the temperature differential is always optimised for heat exchange. This allows operators of large buildings to reduce their heating costs significantly. This is just one example of how the “internet of things” is opening up opportunities in traditional industries.

Getting close to the customer

Belimo Shared Logic also serves as a shining example of a universally applicable platform that intelligently links components to new kinds of products or services for other industries: using it, in-house engineers with no programming skills can independently produce new applications and more and more energy advisors in the USA are turning to Belimo and using “Energy Valve” for their analyses of corporate energy consumption. “Belimo Shared Logic gives us a future-proof platform that enables us to react more quickly, more flexibly and more precisely to customers’ requirements,” explains Daniel Roner.



Thanks to “Energy Valve”’s sensors, users can make targeted optimisations to their energy consumption. As a result, Belimo is receiving more and more enquiries from the field of energy consulting.

Small things, big impact

When is the "internet of things" really going to take off? What are the triggers for this?

The jury is still out on the exact moment – Cisco estimates that there are already more machines than people connected to the internet right now. This said, only a fraction of the possibilities associated with connecting "things" to the internet is currently being exploited. Important factors for catalysing this process include improving interoperability through standardisation, bolstering IT security and increasing the reliability of communications infrastructure.

Are there already areas where a business case is taking shape? Is the added value going to be found in the business or consumer sector?

There are already plenty of business cases in the field of logistics, such as fixing the location of the 45,000 portable pallets used by the Swiss post. The "internet of things" is generally a crucial driver in optimising processes of all kinds, as sensors allow process parameters to be logged cheaply and in real time before analysis with algorithms. This makes it possible to implement targeted measures in an optimised response, and what is really new here is the quality and quantity of the information available. Seamlessly integrated extra services from the cloud can provide added value to users in the consumer sector. Networked products could make a valuable contribution to "independent living for senior citizens", for example, by enabling early identification of health problems or sending for help in an emergency.

What precautions will a company have to take now to make sure it doesn't miss out on the "third wave"?

The "internet of things" is a disruptive technology and thus has the potential to upset business models. However, there is no fail-safe "recipe" for a successful transition into a world full of connected things. As far as products are concerned, the role software plays in adding value will definitely become increasingly important. As we already know from smartphones, "things" will simply be updated with new functions via software. An example of this is Tesla's Model S electric car, for which several software upgrades have already been released "over the air" to improve its handling. Suitable hardware and software conditions have to exist in order to achieve this valuable flexibility, however.

Benedikt Ostermaier, Senior Consultant Internet of Things

Experiments are also being carried out day-to-day at Ergon: we have fitted out twelve lamps in the lounge with Philips' "Hue" LED lights. These emit shades of ambient light (as shown here) but can also be used to visualise information. Each light can be assigned to a development project, for example, and will show the results of the last automated test run: green indicates success, red that a problem has arisen. Abstract information thus becomes visible in our everyday life. A wireless EnOcean radio switch is used to toggle the two operating modes.