Apartimentum – more intelligent living

Ergon has been developing the Shared Logic software platform for Belimo, the global market leader in actuator solutions for managing and controlling heating, ventilation and air conditioning (HVAC) systems, since 2006. Thanks to its new cloud service platform, which was first installed in a pioneering construction project in Germany, Belimo's intelligent online devices have also been cloud-enabled since 2015.

The Apartimentum apartment block in Hamburg was Xing founder Lars Hinrichs' opportunity to blend the internet of things with intelligent living, and his search for an expert HVAC partner to realise his vision led the successful entrepreneur to Belimo.

Apartimentum might just be a foretaste of the way we will be living in the future: in the building, which will be key-ready in 2016, there are intelligent Nest thermostats to control the heating and a smartphone can be used to set the temperature of the shower or open the front door. Ergon has found it particularly exciting to be actively involved with Belimo on this beacon project – using ground-breaking technology for Apartimentum has been a bonus for all concerned, as it enables early exploration and testing of new technical avenues in a real-world setting. These include the interaction of Shared Logic with Belimo's new cloud services and the external services provided by the Google subsidiary Nest.

Local logic – cloud logic – Shared Logic

On the Shared Logic platform, software development by programmers is strictly demarcated from the development of HVAC applications by HVAC experts, and the HVAC devices are linked to the in-house cloud services via clearly defined interfaces. This decoupling sharply accelerates development processes on the HVAC side, as new ideas do not have to jump through all the hoops of specification for new software – the HVAC specialists can realise their creations quickly and easily themselves. Cloud services from other manufacturers are combined with their own, meaning that the options offered by Shared Logic can be expanded at will.

Firmware updates can also be automatically routed to the devices via cloud services, and the HVAC applications are available for use with intelligent drives or in cloud services – in addition to the proprietary room control unit, which is linked directly to the system installed in the house, a Nest thermostat (for example) can also be integrated without having to make any major adaptations to the HVAC application.

In addition to integrating sensors, linking up to cloud services also makes long-term evaluation and easy user interfaces possible, such as via a smartphone app or with remote support.

This optimised distribution between local and cloud logic also provides perfect support for times when the system is offline. This is important when internet access goes down during the winter and people still want to adjust the heating, for example, or during the construction phase when the devices are being brought online; set-up should be as simple as possible, and achievable without an active local connection – an NFC smartphone might serve as a temporary bridge to cloud services in such cases.

A sea change into a software service provider

With millions of potentially online Belimo devices round the world, a solid cloud solution is called for – but setting up proprietary cloud services is *terra incognita* for most industrial companies; firms of this kind are suddenly seeing themselves transforming into software service providers and having to square up to giants like Apple and Google.

Besides assuring trouble-free operations, the business case underlying the cloud is of the utmost significance. How can investments be amortised in future? In recent years, Belimo has developed from being a provider of simple actuators to a supplier of intelligent equipment, so-called "performance devices". An example of this is the Energy Valve, whose development was also based on Shared Logic: at its heart, there is an intelligent regulator algorithm that saves energy when heating and cooling buildings. The full benefit is created for the customer through the perfect interlinking of in-house expertise, software and cloud services with software and services from other manufacturers, and this is where good partnerships in all areas are of essential for the future.