Smart parking in Lenzburg

No need to go hunting for a parking space any more; be directed to free spaces in the vicinity instead. In Lenzburg, the approximately 80 parking spaces in two public car parks near the castle send information about their current occupancy to a central parking management system via the low-power network (LPN). The pilot project highlights the opportunities offered by the Internet of Things.

Lenzburg Castle is a top destination for excursions. There are often no free spaces in its two car parks, which means that motorists have to drive around looking for a free space to no purpose. Thanks to a pilot project, every parking space in each of the two car parks now transmits its occupancy status in real time straight to the parking management system, to a website, and, in future, to an app. This makes driving around to find a space unnecessary. All that is required is a low-power network base station and battery-operated radio sensors, which have been embedded in the asphalt at every parking space. Christian Brenner, Head of Civil Engineering for Lenzburg Municipal Council, explains: "The infrastructure costs of such a parking management system are very low, as there is no need for expensive cabling."

A cornerstone of the smart city
Networking such as the one in Lenzburg lays the cornerstone for what are called smart cities. Such smart cities utilise the opportunities offered by digitisation to improve their living space, offer their inhabitants more highly evolved services and become more sustainable. Lenzburg is making this leap – and the parking spaces are just the beginning. The first parking meters have also been connected to the mobile phone network; users simply pay via their smartphones. In future, collection containers and other objects could be networked. This would mean no more unnecessary rubbish collections, for example; instead, the town could empty them in a selective, efficient manner.

Field testing of the new low-power network
For Swisscom, the project with Lenzburg is only one of numerous field tests for the low-power network, which it developed from the LPN ecosystem in collaboration with its partners Smarcom and

Worldsensing. Gerhard Schedler, Head of M2M at Swisscom Enterprise Customers, says: "The low-power network is ideal for towns and cities: it boasts an enormous range and simple networking of battery-operated sensors." The more sensors deployed, the better a town or city can control its resources and the usage of its infrastructure.

Alongside this networking and digitisation, Swisscom also supports towns and cities with their plans to become smart cities. In Pully (Canton of Vaud), it is developing a method of improving infrastructure and traffic planning in collaboration with the municipality. Thanks to the evaluation of anonymised and aggregated mobile network data, traffic flows have been made clearly visible.

Berne, 25 November 2015

The Internet of Things (IoT) connects objects, infrastructure and people. The low-power network (LPN) makes such networking possible. It complements the mobile network and supplements current machine-to-machine (M2M) solutions based on the mobile network. The network comprises additional gateways with a low output (max. 0.5 watts) that are installed at different locations. In a simple fashion, it networks battery-operated sensors that are powered by conventional AA batteries and continuously transmit minute amounts of data for five to seven years. LPN emissions are significantly lower than those of mobile phones. Swisscom is currently operating pilot networks in Geneva, Zurich and Lenzburg.