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Press release

5G speed, narrow band and network slicing – Swisscom unveils new applications for 5G

Swisscom is intensively driving forward the development of 5G and thus supporting the Swiss economy and society with digitisation. Swisscom will launch two new access technologies for the Internet of Things next year – Narrow Band-IoT and LTE Cat-M1. The two access technologies based on mobile telecommunications supplement the existing low power network (LPN). Swisscom is the first provider in Switzerland planning to carry out field trials on network slicing in 2018. This will enable individual 5G and 4G applications to be allocated guaranteed network resources in future. Swisscom is also testing 5G speeds in a test environment for the first time in Zurich. The technology from Ericsson provides transmission capacity of over 20 Gbit/s in a radio cell. These innovations underline Swisscom's claim to technology leadership in Switzerland.

Customers can try out 5G at the Swisscom Shop on Füsslistrasse in Zurich. Since the beginning of May, customers have been able to surf there at over 800 Mbit/s using the latest smartphones. One way that Swisscom is able to reach these high speeds is by combining four different LTE frequencies. Locations in the cities of Zurich, Berne, Geneva, Basel, Lausanne, Lugano, St. Gallen, Lucerne, Sion, Chur and Fribourg and 15 further shops will be equipped with these high speeds before the end of the year. "Swisscom is making targeted investment in the development of 5G to ensure we continue to provide our customers with the best mobile communications experience in Switzerland in future. We are already the first provider in Switzerland to present 5G applications with our partner Ericsson. They establish the foundation for the further digitisation of Switzerland," remarked Heinz Herren, CIO and CTO Swisscom.

Narrow band – additional network for the Internet of Things

The "Internet of Things" (IoT) is a key element in digitisation. Interconnected devices will result in even faster growth of mobile data volumes in future. Swisscom is therefore one of the first providers worldwide to implement national expansion for IoT. Over the course of 2017, the low power network (LPN) will be made available to 90% of the Swiss population. Swisscom is now expanding its portfolio for the Internet of Things with two access technologies based on mobile communications – Narrow Band-IoT (NB-IoT) and LTE Cat-M1. Both technologies meet IoT-specific requirements, such as a high degree of power grid autonomy and high availability and security. The technologies are based on the 3GPP standard and are compatible with 4G and 5G. Initial tests with pilot customers will be carried out before the end of 2017. The commercial launch is scheduled for 2018. Swisscom is intentionally focusing on a technology mix for the Internet of Things. This will allow it to provide its customers with an optimal communications infrastructure for every application scenario.

Network slicing – guaranteed network resources as the basis for real-time communication

To take full advantage of the benefits of 5G, networks must be more flexibly configured and managed. Network function virtualisation (NFV) provides the basis for this. At the beginning of May, Swisscom became one of the first providers in the world to launch an NFV service for companies. Network function virtualisation enables the network load to be individually configured for the first time to ensure that various applications always have the resources they require. Network slicing makes sure that applications

used in industrial communications, by the rescue services or payment terminals, for example, obtain guaranteed network resources in future, as their data traffic is separated from the general data stream on the mobile network. Swisscom will test a prototype with its industry partner Ypsomed this year and carry out the first field trials in 2018.

5G high speed

Swisscom is playing a pioneering role in the launch of new technologies and is the first provider in Switzerland to test 5G. The mobile base station – with antenna and two terminal devices – deployed in the test application comes from Ericsson's 5G development centre in Sweden. This 5G prototype already enables speeds of up to 10 Gbit/s to be achieved twice in parallel on the mobile network. The potential for concrete application scenarios employing such transfer rates, such as multimedia or virtual gaming, has only just begun opening up. The increased capacity of the mobile radio cell can also be distributed to several customers. Theoretically a customer could use the entire speed alone, or 20 customers could share the frequency and surf using 1 Gbit/s each. The commercial launch of this new 5G technology is set for 2020. An industry standard is currently being drawn up for 5G.

Swisscom is expanding 4G massively and 2G will be phased out at the end of 2020

Swisscom already offers 4G+ to 40% of the Swiss population with speeds of up to 300 Mbit/s (maximum value under optimal conditions). This figure will rise to 67% by the end of 2017. Swisscom also covers 15% of the population with speeds of up to 450 Mbit/s (maximum figure under optimal conditions).

To ensure there are sufficient free frequencies for the further expansion of the 4G/LTE network and the rollout of 5G, Swisscom plans – as announced in 2015 – to phase out 2G technology, which is now 24 years old, at the end of 2020. Only a small proportion of total customer communication takes place via this outdated network, which takes up excessive capacity. Customers also benefit from HD quality and faster call setup on the 3G and 4G networks. The extended mix of technologies also provides sufficient alternatives to 2G for IoT and M2M applications.

Further information:

- More on 5G: https://www.swisscom.ch/de/about/unternehmen/portraet/netz/5g.html
- More on 1 Gbit/s: https://www.swisscom.ch/de/about/medien/press-releases/2017/05/20170508-mm-1-gbits-mobilfunknetz.html

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