Media Release

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Mobile technology

The Sunrise mobile network is «5G standalone» ready

- **Sunrise is gearing up for the future and is the first provider in Switzerland to introduce «5G standalone» (5G SA) to its mobile network.**
- **5G Standalone is an advancement of the existing 5G technology and is now deployed across the entire Sunrise 5G network.**
- **Sunrise customers will be able to use 5G standalone in the course of this year, depending on certification by device manufacturers and the delivery of a firmware update.**
- **Going forward, 5G standalone will offer several advantages for residential customers such as improved network coverage, longer battery life, real-time responsiveness and increased connection security.**
- **New solutions offering dedicated, faster and more reliable connections, massive IoT connectivity capacities, «slicing» and lower energy consumption are paramount for business customers.**

«For us, 5G standalone is the foundation that will allow us to develop 5G offerings that enable new communication & entertainment experiences, and new business solutions. Even though it will be a little while before customers can benefit from these advantages in their everyday digital lives, 5G standalone is sure to drive digitisation further – both in business and society. That's why it's important for us to embrace 5G standalone at an early stage and be primed for the new possibilities it offers,» says Elmar Grasser, CTO of Sunrise.

In Switzerland, 5G has so far used the existing 4G core networks to manage mobile data connections (known as 5G non-standalone, 5G NSA). This means that some 5G functionalities can't be offered. With 5G standalone (5G SA), the 5G core network will now manage data and telephony connections, delivering new advantages and possibilities:

- **Improved 5G reception indoors**: 5G SA uses the same frequency bands as the previous 5G (900 MHz/3700 MHz). However, as there's no need for a signalling connection via 4G, the full potential of the low 900 MHz frequency can be used and the reach in the 3700 MHz range can be increased at the same time. This will lead to better overall 5G coverage in the future, especially indoors.
- **More stable voice connections**: current 5G doesn't offer voice services. Up until now, calls were made over 4G (called Voice over LTE/VoLTE). With 5G SA, calls are made directly over the 5G network (called Voice over New Radio/VoNR). As a result, calls are more stable and 5G data connections are no longer blocked when calls are made; with 5G SA, voice calls and data connections are possible at the same time.
- **Longer battery life for smartphones and other devices**: with the current 5G, devices connect via 4G and 5G simultaneously. These dual connections require more power and drain a device's battery faster. With 5G SA, no connection is established using 4G. All connections are made exclusively via 5G. This reduces power consumption. A single battery charge will last about 10–20% longer.
- **Real-time responsiveness**: 5G SA enables dedicated configurations that reduce the response time of data connections (known as latency). This means that the time it takes for sent data to reach the recipient can be reduced to practically real time. In the future, 5G SA will improve the experience of existing applications and enable new applications that benefit from real-time data transmission.

- **Advanced connection security**: even though mobile communication via 4G offers high security standards, 5G SA goes even further. Connections become more secure thanks to special identity management for the connected devices. 5G SA offers the most secure mobile connections.

Specific benefits for existing and future applications

5G SA offers many possibilities for developing existing applications further and creating new applications in the future.

With the right offerings, residential customers could benefit from smoother streaming, even at locations and events where lots of people are using the mobile network at the same time. This will make it easier to share emotional impressions via real-time video at major events like the Street Parade. In the future, 5G SA could also offer advantages for online gaming, with its low latency connection quality. The use of new video formats with augmented and virtual reality will only really be worth experiencing with 5G SA – jerky imagery and negative perception will almost be a thing of the past.

5G SA has also the potential for solutions that will help companies increase their efficiency and capacity for innovation. Thanks to specific offerings, business customers could benefit from ultra-high reliability and low-latency connections, which are essential for industrial applications, business-critical processes and use cases like autonomous driving, linking drones, etc. With 5G SA, more devices can be connected to the 5G network at one time, which is particularly advantageous for the Internet of Things (IoT) and other industrial cases.

With «network slicing», 5G SA can offer businesses a functionality that was not previously available with 5G. The physical mobile network is divided into multiple virtual networks (known as slicing), each of which can be optimised for specific applications with respect to latency, secured bandwidths and connection reliability. This will be particularly useful for companies that have specific requirements for their private networks.

Examples of other slicing applications are connections **for TV stations in** crowded stadiums or at large events. **Safety organisations and emergency services** have access to connections that remain stable at all times, especially in emergency situations where reliable communication is essential. In **Industry 4.0**, networked robots and manufacturing equipment can benefit from a dedicated network slice that's optimised for low latency and high reliability. The **logistics industry** can use slicing to make supply chains more efficient by enabling real-time tracking and communication. In **healthcare**, medical devices that need a constant and reliable connection can benefit from, and rely on network slicing for the highest levels of availability and security.

Another benefit for companies is **enhanced sustainability**. The energy consumption per unit of transmitted data (e.g. 1 megabyte) is lower with 5G SA than with the previous 5G, which also relied on 4G. 5G SA can help companies hit their environmental targets by reducing energy consumption.

More details can be found in the Sunrise blog on mobile technologies.

Sunrise
Media Relations
media@sunrise.net
0800 333 000