Transmission with 2G (GPRS/EDGE) or SMS

The amount of data transmitted over the mobile network is rising rapidly. Apps, photos, videos and networked devices in particular all contribute to this. The increase in data volume requires ongoing adjustments and modernisation of the existing mobile network to ensure that customers can always be provided with the required capacity. But for some improvements, it is necessary to part with the old, such as obsolete antenna technologies.

The 26-year-old mobile technology 2G has reached the end of its useful life. Firstly, because it can no longer handle customers' increasing data requirements; secondly, because the voice quality of modern mobile technologies is so much better; and thirdly, because the newer mobile technologies are much more energy efficient. For this reason, Swisscom is replacing the 2G network by the end of 2020 in order to make room for the new generation of mobile communications. Some of the older M2M (machine-to-machine) solutions still use the 2G network to transmit information via data (GSM/GPRS/EDGE) or SMS.

2G, GPRS and EDGE technologies
General Packet Radio Service (GPRS) and its enhancement, Enhanced Data Rates for GSM Evolution (EDGE), are the 2G mobile network's early packet-switched data services and have been in use for almost 20 years. Basic applications that require very low data transfer rates still use 2G (GPRS/EDGE) today. These primarily include systems for remote monitoring or control, such as heating systems and electricity meters, but also include alarm systems, lift telephones and many other applications. Due to the impending phase-out of the 2G network, it is important to check which applications are affected and replace the communication solution where applicable.

SMS with 2G module
In basic M2M applications, SMS (Short Message Service) is still used for remote control or status queries. For example, heaters in holiday homes are often switched on or off via SMS. There are also applications which, in addition to data communication, also send a notification via SMS. The receiver can be any mobile phone. There are also applications that can be controlled over a modern web portal and send an SMS in the background. In some cases, therefore, the user may not even be aware that his or her system actually only receives and sends SMS.

It is important to note that the SMS service itself will be offered with 3G/4G modules on the corresponding frequencies beyond 2020. However, if the module used only supports 2G, this module will no longer be able to access the mobile network and will therefore stop working.

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Possible alternatives for 2G-based applications and devices

Users are advised to contact their service provider or supplier to clarify whether their application is affected and discuss retrofitting or modernising these applications. The following options can be considered:

Option	Modernisation with 3G/4G	Business IoT solution from Swisscom
Solution	A retrofit set or a successor product from the manufacturer or supplier. A WLAN connection via the Internet router may also be a good alternative for stationary systems in particular. Check with the supplier if the device supports this.	Swisscom's IoT Connectivity Management platform and the associated IoT SIM cards offer a wide range of solutions to customers with a large number of devices. www.swisscom.ch/iot
Implications	The wireless module is replaced, and the system continues to run. For devices with permanently installed wireless modules, it may be necessary to replace the entire device or controller and reconfigure the application.	The wireless module must be replaced. If the application has not yet been run with an IoT SIM card on the IoT Connectivity Management Platform, the SIM card must be replaced, and adjustments made to the application's configuration.
One-off charges	Depending on what needs to be replaced, low, average to high	Average
Running costs	No additional costs to low	Average to high
Suitable for	Individual applications and solutions	Suitable for customers running at least 50 or more identical devices/applications who want to connect their application to the IoT Connectivity Management Platform via API.

We recommend that the successor solution is already 4G-enabled if it is to again be used for a mobile connection.

More information about the 2G phase-out: www.swisscom.ch/2g

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