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(Stock Code: 4755
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1&1 and Rakuten agree far-reaching partnership to build Europe's first fully virtualized mobile network based on new OpenRAN technology

Maintal, Germany and Tokyo, Japan, August 4, 2021 - 1&1 AG and Rakuten Group, Inc. are entering into a long-term partnership to build the fourth mobile network in Germany. Together with Rakuten, 1&1 will build Europe's first fully virtualized mobile network based on innovative OpenRAN technology. With this, 1&1 is setting new standards for the future of mobile telephony in Germany and Europe - away from conventional proprietary networks, which are often provided overall by just one network supplier, towards a completely cloud-based multi-vendor network architecture.

Rakuten becomes general contractor for the 1&1 mobile network

Rakuten is a pioneer of OpenRAN technology. After several years of preparation and development work, Rakuten launched full-scale commercial service with the world's first fully virtualized cloud-native OpenRAN mobile network*1 as a new entrant in April 2020 in Japan. 1&1 will now benefit from this experience and expertise.

Specifically, Rakuten will take over the build of the active network equipment and will also be responsible for the overall performance of the 1&1 mobile network. 1&1 will have access to the Rakuten Communications Platform (RCP) stack of access, core, cloud and operations solutions as well as to its partner network. In this context, Rakuten will also provide its specially developed orchestration software so that the 1&1 network can be operated in a highly automated manner.

"With Rakuten, we have the world's only OpenRAN expert on our side who really has extensive practical experience with this new technology. Rakuten ideally complements our know-how in telecommunications networks, data centers and cloud applications. Together we are building a high-performance mobile network that has extensive automation and agility to fully exploit the potential of 5G," says Ralph Dommermuth, CEO of 1&1 AG. "Through complete virtualization and the use of standard hardware, we can flexibly combine the best products. This will make us a manufacturer-independent innovation driver in the German and European mobile market."

"We are honored to have been selected by 1&1 as their partner to build the first fully virtualized mobile network in Europe," comments Mickey Mikitani, Chairman and CEO of Rakuten Group, Inc.

“Like 1&1, we launched our mobile network in Japan with a vision to transform the industry. Through technological innovation, we have been able to offer high quality services at an affordable price that challenge the market. We are very excited to now have the opportunity to share this experience and know-how with 1&1 through the Rakuten Communications Platform and to jointly create a next generation network that will set new standards for future mobile communications in Germany and across Europe.”

1&1 network architecture based on OpenRAN

In contrast to traditional network architectures, the OpenRAN approach disaggregates software and hardware. By using commercially available servers, so-called COTS (commercial off-the-shelf) hardware, a wide variety of software and radio manufacturers can be combined as desired. This means that 1&1 is highly independent from dominant providers and has the possibility to work flexibly with different manufacturers.

All network functions are in the cloud and are run by software. Complex retrofitting or maintenance at the base stations of the antennas is thus obsolete and can be carried out efficiently and cost-effectively through software updates.

Four central data centers are planned for the core network. To the core network hundreds of decentralized data centers throughout Germany will be connected, which in turn will be connected to thousands of antenna locations via fiber optics. Data centers and fibre optic lines are provided by 1&1's sister company 1&1 Versatel.

Construction of the 1&1 mobile network will start in the next quarter.

*1 For a large scale commercial mobile network (as of October 1, 2019). Research: Stella Associa

About 1&1

1&1 AG is a listed telecommunications provider based in Maintal. The company is part of the United Internet AG group. 1&1 offers its customers a comprehensive portfolio of wireless services and broadband access. It also offers attractive bundled products comprising mobile and fixed-network services, as well as value-added applications such as home networking, online storage, video-on-demand, smart home solutions and IPTV. While the brand 1&1 addresses value and premium segments, the Group's discount brands appeal to a price-conscious target group.

Following its successful participation in the 5G frequency auction, 1&1 is in the starting blocks for the construction of its own mobile network. In May 2021, 1&1 signed a national roaming agreement with Telefónica, which enables the company to offer its customers nationwide reception already in the construction phase of its new network.