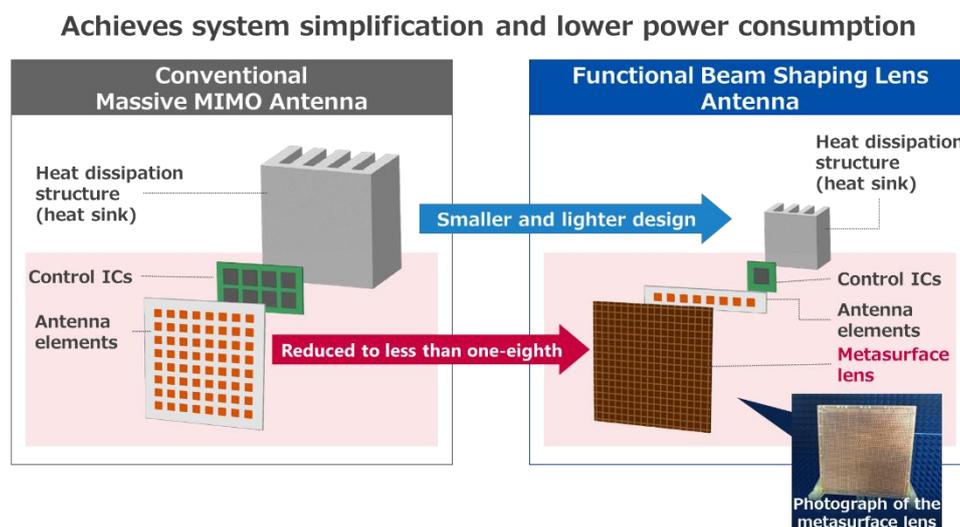


**AGC and SoftBank Corp. Develop “Functional Beam Shaping Lens Antenna”
for 6G, Demonstrate Antenna Performance in Outdoor Field Tests**
—Enabling Simpler and More Energy-Efficient Base Station Antennas
through AGC and SoftBank Technologies—

AGC (AGC Inc., Tokyo; President: Yoshinori Hirai) and SoftBank Corp. (Tokyo; President & CEO: Junichi Miyakawa, "SoftBank") have jointly developed a new base station antenna, the “Functional Beam Shaping Lens Antenna,” aimed at next-generation high-speed wireless communications. In outdoor field tests conducted by SoftBank, the antenna demonstrated stable coverage performance in a real-world environment. Developed through close collaboration between the two companies, the antenna combines AGC’s metasurface lens technology*¹ with SoftBank’s communication area and antenna beam design technologies. The companies expect the technology to be potentially applicable to next-generation communication infrastructure, including future 6G base stations.

Global communication traffic continues to grow rapidly, driven by the expansion of generative AI and cloud services. To handle higher traffic, modern base stations widely use Massive MIMO technology*². However, conventional Massive MIMO antennas require a large number of antenna elements and control ICs. This increases power consumption and equipment size as base stations scale.

By incorporating AGC’s metasurface lens technology, the jointly developed Functional Beam Shaping Lens Antenna enables a new antenna configuration that reduces the number of antenna elements to approximately one-eighth of conventional designs. This may help lower power consumption and heat generation*³. The simplified structure could also enable smaller and lighter base station equipment by reducing the need for large heat sinks. Both companies expect this to help ease installation work and operational burdens.



<Media inquiries>

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In the outdoor field test, SoftBank evaluated communication stability and quality. The results showed performance comparable to that of conventional Massive MIMO antennas. These results highlight the antenna's potential for use in real-world environments.

The AGC Group will continue development and verification toward practical applications of Functional Beam Shaping Lens Antennas. Through this work, AGC aims to help address challenges in mobile networks as the industry moves toward the Beyond 5G/6G era.

<Notes>

*1 Technology that allows flexible adjustment of the direction and spread of radio waves by arranging fine structures on a thin substrate

*2 Base station antenna technology that uses numerous antenna elements to control the direction and shape of radio waves, enabling stable, high-speed communication with many terminals simultaneously

*3 Estimated reduction in power consumption to approximately 1/8th (SoftBank research), based on a comparison of the number of control ICs required to achieve the same frequency band and coverage area in configurations using conventional Massive MIMO antennas versus those employing the "Functional Beam Shaping Lens Antenna".

For more details on the field tests, please refer to SoftBank's press release.

https://www.softbank.jp/en/corp/news/press/sbkk/2026/20260319_01/