

AGC Chiba Plant Introduces Private LTE Network in Preparation for Introducing 5G Network

- Accelerating the shift to smart factories, starting in February 2021 -

Tokyo, February 16, 2021, - AGC (Headquarters: Tokyo; President: Yoshinori Hirai), a world-leading manufacturer of glass, chemicals, and high-tech materials, has announced that it will install its own wireless network at its Chiba Plant in February 2021, using a wireless license obtained on December 24, 2020 from the Ministry of Internal Affairs and Communications Kanto Bureau of Telecommunications to operate a private BWA*¹ at the plant. This makes it possible to manage plant equipment using wireless sensing devices without relying on cable wiring or human labor. AGC's Kashima Plant also plans to obtain a license and install this system in 2022. In addition, 5G network will be installed at some of the plants by 2025, accelerating the shift of chemical plants to smart factories. AGC will introduce wireless digital devices such as smart glasses by the end of this year in order to promote the digital transformation (DX) of operator operations.



Private BWA base station covering the Chiba Plant.
Antenna tower which stands approx. 30m above the ground and the wireless station terminal.



Example of operator operations using smart glasses

The Chiba Plant has an area of 666,000 m² and manufactures a wide variety of products, including commodity chemicals, specialty chemicals, and pharmaceutical and agrochemical intermediates and active ingredients. The amount of piping and mechanical equipment required to manage these production facilities is enormous. Currently, data for managing production facilities is obtained through sensing by cable wiring and patrols by operators. The patrols in particular, wherein operators make use of their skills and experience to patrol the site, require a great deal of labor.

By introducing its own wireless network, AGC plans to consolidate acquisition of data related to production facilities on a private LTE network that has the same level of quality found in the LTE networks provided by telecommunications carriers, but offers enhanced security. The introduction of a private LTE network not only

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improves the efficiency of patrol monitoring and inspection work, but also makes it easier to refer to centralized data, enabling safer production activities. AGC is also developing wireless sensing technology in order to further utilize the private LTE network to improve plant data acquisition methods and analysis technologies.

AGC also plans to use applications and digital devices such as smart glasses and tablets on this private LTE network. As a result, an environment in which work procedures, inspections, image recording, etc., can be accessed from anywhere in the plant can be realized, and it is expected that the efficiency of operator operations will be improved, communication between operators will be facilitated by utilizing images, videos, etc., and the transfer of knowledge and skills will be promoted.

Under the management policy **AGC plus 2.0**, the AGC Group is committed to promoting “Smart AGC” which aims to reform digital business processes through digital technology. By utilizing big data from every aspect of operations including manufacturing, R&D, and sales, AGC continues to pursue the goals of achieving even more efficient operations and providing its customers with new added value.

<Notes>

*1 Private BWA (Broadband Wireless Access) is a network in which an enterprise uses LTE communication standard self-employed wireless in a specific area using the 2.5-GHz band allocated for regional BWA, which mainly provides wireless communication services for local governments. Similar to the LTE systems used by mobile phone carriers, SIM card terminal management provides a secure communications environment, enabling high-speed communications (downlink up to 110 Mbps) and wide-area coverage (approx. 2 km). To introduce a system of their own, an enterprise needs to obtain a license from the Ministry of Internal Affairs and Communications.

Ministry of Internal Affairs and Communications HP: Guidelines for Local 5G Deployment

https://www.soumu.go.jp/main_content/000659870.pdf

■ Reference

This network will be linked with [“CHOPIN”, AGC’s integrated operation and quality management system for chemical plants](#), which will start its full deployment in 2021.

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