

SoftBank Corp. to Launch Positioning Service with Centimeter-level Accuracy in Japan

Utilizing its base station network for mobile communications, SoftBank Corp. will install its own control points at more than 3,300 locations for nationwide rollout

SoftBank Corp. (“SoftBank”) today announced that from the end of November 2019 it will provide an RTK*¹ positioning service for enterprises with centimeter-level accuracy in Japan. Ahead of the nationwide service launch, starting from July, SoftBank will partner with Yanmar Agribusiness Co., Ltd., Kajima Corporation and SB Drive Corp. to conduct respective joint trials in phases to achieve commercialization in different industries.

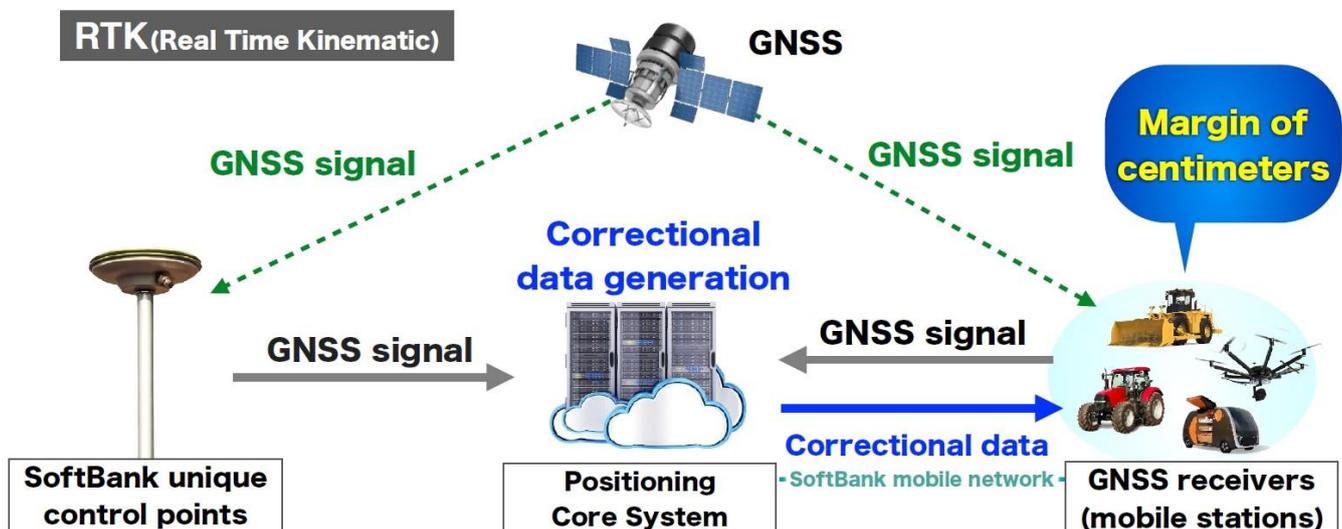
The service uses signals received from GNSS*² such as QZSS (Quasi-Zenith Satellite System) to conduct RTK positioning with centimeter-level accuracy. SoftBank will utilize its nationwide base station locations used for mobile communications to install over 3,300 unique control points that are necessary for RTK positioning.

More specifically, a “Positioning Core System” provided by ALES Corp. will generate correctional data based on signals received and transmitted by SoftBank’s own control points, and this correctional data will be sent to agricultural and construction machinery, self-driving cars, drones and other equipment embedded with GNSS receivers (mobile stations) using SoftBank’s mobile communications network. By conducting RTK positioning using this correctional data and signals received by GNSS receivers, highly accurate centimeter-level positioning can be done in real time. The correctional data generation and transmission of this information to GNSS receivers for this service will be conducted by ALES Corp., a company jointly established by SoftBank and ENABLER Ltd.

*1 RTK (Real Time Kinematic) is a positioning method that uses fixed stations and mobile stations to receive signals. Data is exchanged between the two points to achieve highly accurate positioning.

*2 GNSS (Global Navigation Satellite Systems) refers to satellite positioning systems including QZSS (Quasi-Zenith Satellite Systems), GPS, GLONASS and Galileo.

Service image



Service features

1. Unique control points installed at over 3,300 locations nationwide

By utilizing its network of base stations, SoftBank can set up unique control points at more than 3,300 locations nationwide. This means that centimeter-level positioning can be achieved affordably and easily throughout SoftBank's mobile network coverage areas*³. Furthermore, by having a dense distribution of control points nationwide, stable positioning within extremely short time spans and handovers*⁴ can be achieved. Accordingly, highly accurate positioning can be achieved continuously across long distances when GNSS receivers cross over control points. Moreover, SoftBank's own control points will be operated*⁵ while utilizing the Geospatial Information Authority of Japan (GSI)'s approximate 1,300 GPS-based control stations.

2. Specifically developed GNSS receivers that can be installed at low-cost

While GNSS receivers have been cost-prohibitive, SoftBank is developing proprietary GNSS receivers that will be more affordable so more companies can utilize centimeter-level positioning services, and new services and market expansions can be realized.

3. Commencing development of cloud-based RTK

SoftBank is also advancing the development of services that enable cloud-based RTK positioning, which enables services for devices without GNSS receivers. Cloud-based RTK will enable centimeter-level, location-based services for equipment that needs to be miniature and energy-efficient, such as infrastructure surveillance sensors and wearable devices.

*³ SoftBank 4G and SoftBank 4G LTE service areas

*⁴ The automatic switching over to an optimal unique control point in conjunction with the movements of the GNSS receiver (mobile station).

*⁵ GSI's GPS-based control stations will be utilized to identify the coordinates of SoftBank's unique control points.

Companies participating in joint trials and areas of utilization

Company: Yanmar Agribusiness Co., Ltd.

Area: Autonomous driving and assisted driving for agricultural machinery



Company: Kajima Corporation

Area: Construction site management using automatically controlled drones (earned value management using aerial photography, patrols, etc.)



Company: SB Drive Corp.

Area: Autonomous driving and assisted driving for buses and other vehicles



About ALES Corp.

ALES Corp. was established in July 2018 as a joint venture between SoftBank and ENABLER Ltd., a company that develops technology related to satellite positioning systems. The company will transmit positioning information using RTK-GNSS technology to realize highly accurate centimeter-level positioning.

Company name	ALES Corp.
Date of establishment	July 2, 2018
Headquarters address	1-9-1 Higashi-shimbashi, Minato-ku, Tokyo
Representative	Makoto Noda, President
Paid-in capital	625 million yen
Logo	

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