

INVESTOR RELATIONS\_September 2020

# AI SPATIAL AWARENESS PLATFORM

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# Needs for Spatial Awareness Technology

- Increased demand for location information control and monitoring solution to enhance security for smart buildings, smart factories, hotels, hospitals, etc.
- Insights into customer behavior derived from indoor space data analysis (customer movements, density, preference analysis, etc.)
- Corporates challenges for "Contactless technologies" to provide an optimized brand experience in post-COVID era
- Growing need for indoor space data and 3D map data to provide a differentiated experience in view of the growth of AR, VR, and 3D map industries



## // Future Predictions for A Post-Coronavirus World //

Forbes

Contactless Interfaces and Interactions

Strengthened Digital Infrastructure

Enhanced Monitoring Using IoT and Big Data

## SOLUTION

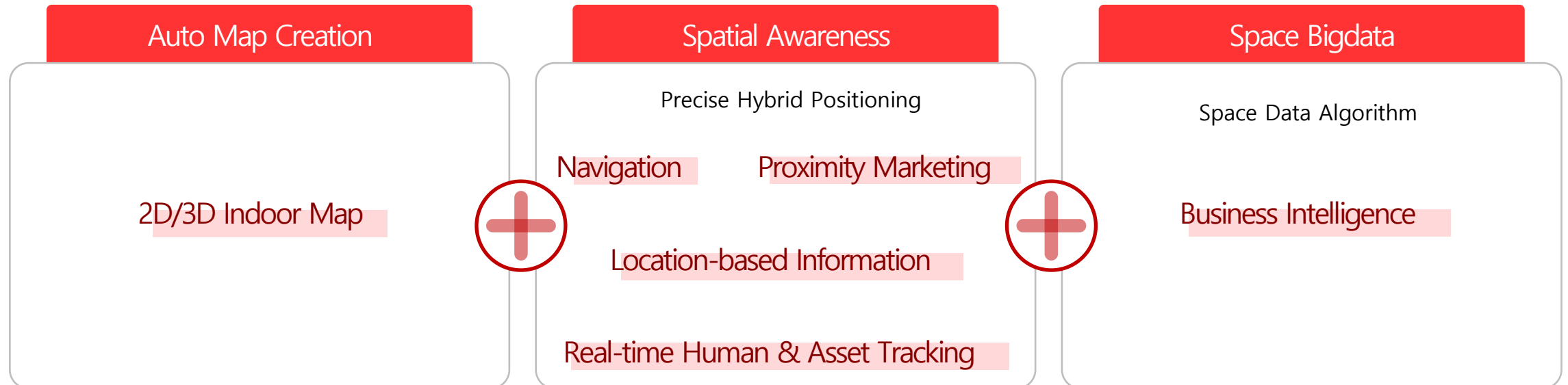
# AI Spatial Awareness Platform



WATA's Cloud Spatial Awareness Platform is supported by

- 1 Mobile 3D LiDAR/3D SLAM map creation technology combining map data with hybrid space data (Wi-Fi, BLE, barometric pressure, magnetic field, GPS, Cell patterns) in real-time;
- 2 Spatial Awareness technology enabled by hybrid indoor space data collection technology (with smartphone sensors) and Correction Algorithm to remove noisy data for high-precision positioning and
- 3 Space data algorithm.

## Spatial Awareness Platform



# Market Opportunity



- Global indoor positioning and navigation market is expected to grow from USD 2.64 billion in 2017 to USD **43.64 billion by 2025 with an annual increase of 42.0%** from 2018 to 2025
- Global indoor location-based services market is expected to grow from USD 1.83 billion in 2018 to **USD 22.7 billion in 2025 with an annual increase of 43.3%**

## [Global Positioning and Navigation & Location-based Services Markets]

(Unit: USD Billion, %)

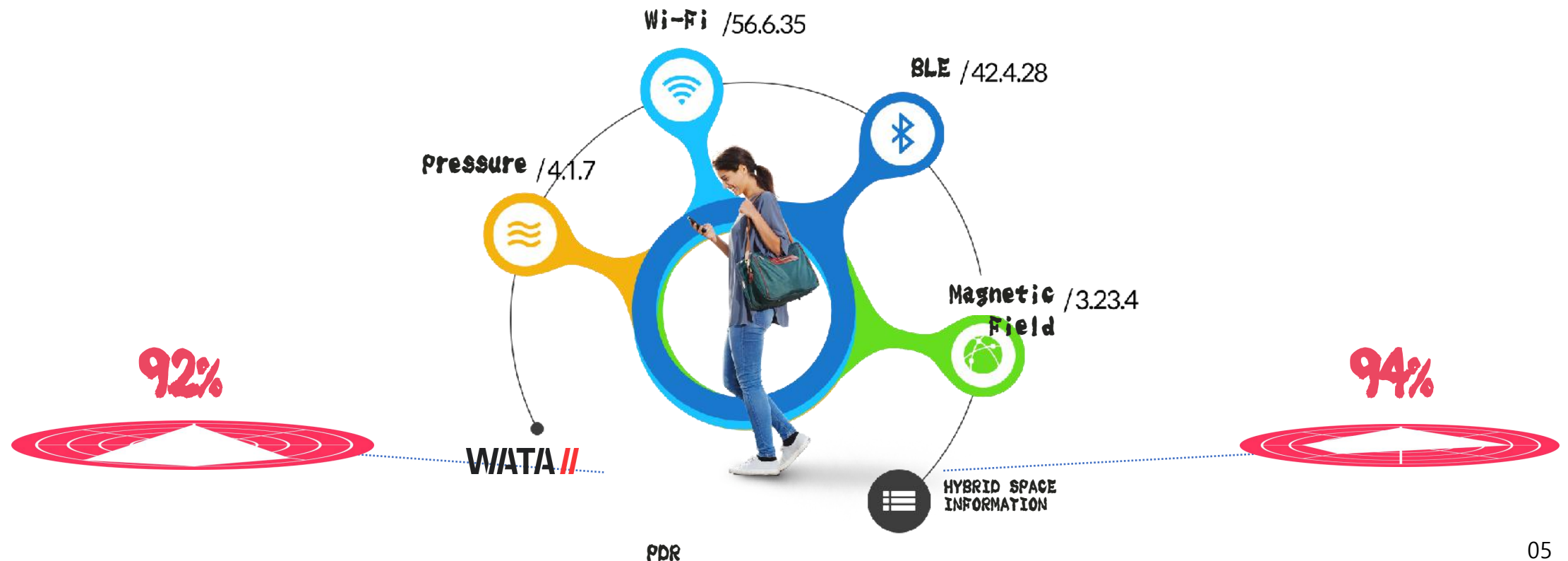
	2019	2020	2021	2022	2023	2024	2025	CAGR
Positioning & Navigation	5.32	7.56	10.73	15.24	21.64	30.73	43.64	42.0
Location-based services	2.62	3.76	5.39	7.72	11.06	15.85	22.7	43.3

# Target Market



# Hybrid Space Data

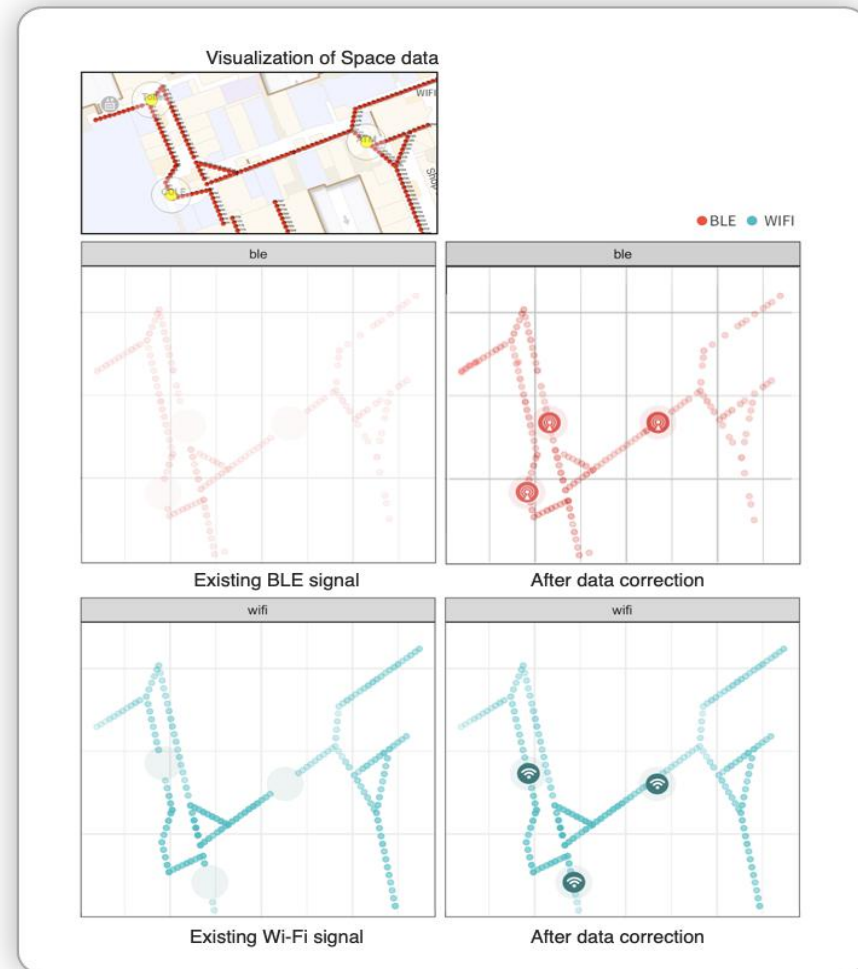
Precise Space Recognition becomes possible with our AI spatial awareness technology that collects all hybrid space data including Wi-Fi (RSSI, RTT), BLE, barometric pressure, magnetic field, cell patterns and GPS with smartphone sensors. Selects space data with strong signal through algorithms and combines those data to create a data set with highest probability for positioning. (Different space data exist for each environment with variables)



# Data Visualization and Correction

## Analysis of location infrastructure of the surrounding environment & Data correction through the Space Data Visualization Solution & Automatic update of space data DB

- Visualization of the collected space data set by the service area
- Through visualization, the quality of space data is checked and the data is corrected to give a better quality with the application of algorithms
- By analyzing the location infrastructure of your surrounding environment in the service area, DB consisting of data with high accuracy can be established.
- Automatic update of space data DB when environment changes as changes to WiFi and BLE are detected through DB scanning to maintain the up-to-date DB



# Competitor Analysis



## Location Precision Comparison with Competitors

Country	Competitor	Location Information				
		Magnetic field	Wi-Fi	BLE	Pressure	PDR
Korea	WATA	○	○	○	○	○
Germany	HERE	○	○			○
USA	Indoor-atlas	○	○	○		○
USA	mapbox	○	○			○

## Comparison of Location Precision

Results from the High-precision location information service demonstration held by the Japanese Ministry of Land, Infrastructure, Transport and Tourism

Country	Competitor	Map	Device	Error range	Compatibility
Korea	WATA	Image	Android	Can be commercialized	○
Germany	HERE	Image	Android	Need to be improved for commercialization	○
USA	Indoor-atlas	Image	Android	Errors occurred depending on the location	○
USA	mapbox	Image	Android		○

# Subscription & Customizing



Charged when the transaction exceeds the default value

## BASIC Free

- 10K SDK FREE (Active User)
- 300K transactions FREE
- Basic Spatial Awareness solution FREE
- All indoor space data FREE
- Basic reporting FREE
- Stack overflow technology FREE

Service 1

## PREMIUM USD 399 per month

- Unlimited SDK FREE
- 1 million transactions FREE
- Spatial Awareness solution FREE
- All indoor space data FREE
- 1GB database storage
- Professional reporting
- Customized support
- On-site technical support (additional cost)
- 2D/3D map (additional cost)

Service 2

## SECURITY Customization

- Unlimited SDK FREE
- 1 million transactions FREE
- Spatial Awareness solution FREE
- All indoor space data FREE +Security
- 5GB database storage
- Professional reporting
- Customized solution
- 1:1 technical support
- 2D/3D map
- Provide RAW Data

Service 3

# Sales Projection

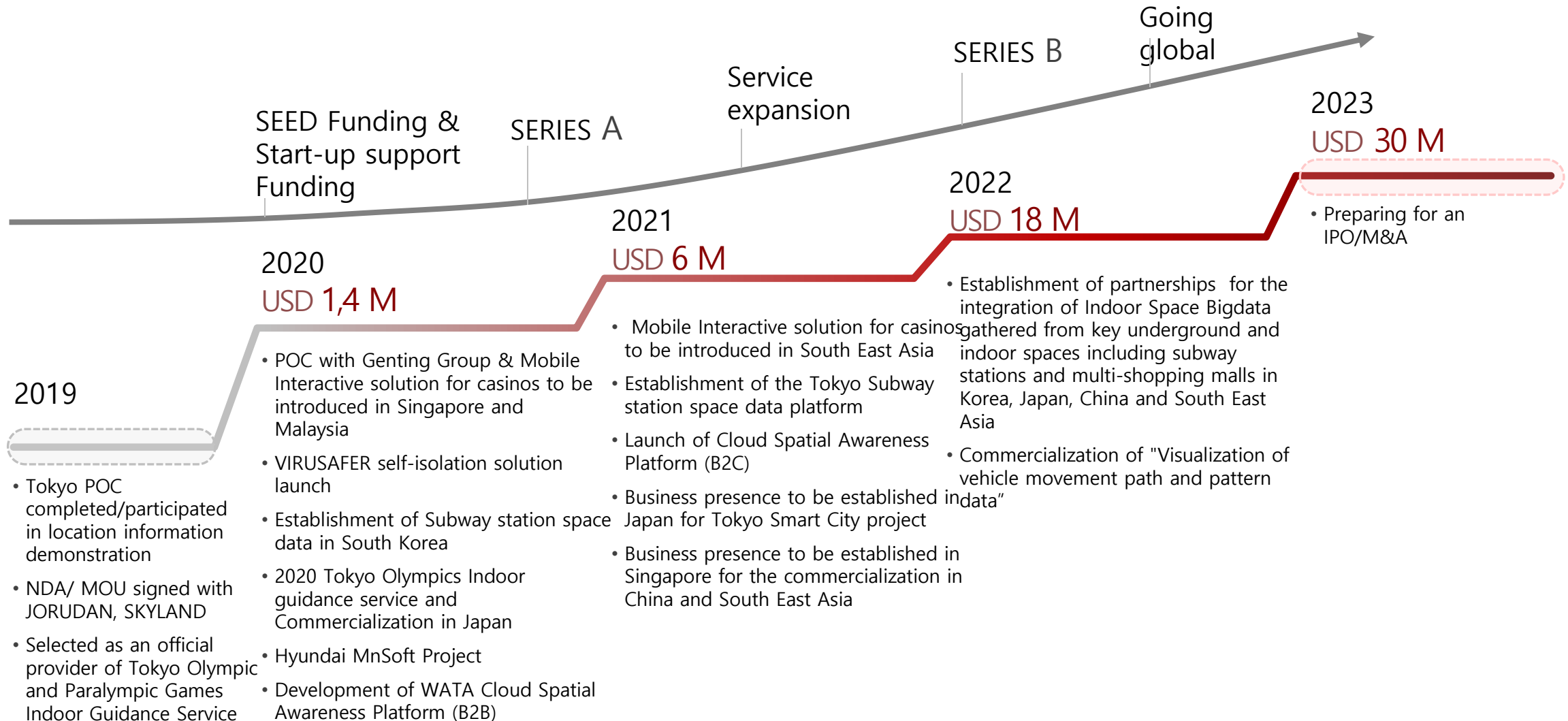


	2020	2021	2022	2023	2024	2025
Cloud Location Information Platform (Monitoring, Contactless, Smartstore)	1	3.5	9.4	15.4	20.8	18.3
Casino Spatial-Awareness Interactive Solution	0.4	2.5	6.7	10	13.3	25.3
Mobile Parking Solution - PAGO (Park & Go)			2.1	4.3	8.5	17.3
<b>TOTAL</b>	<b>1.4</b>	<b>6</b>	<b>18.2</b>	<b>29.7</b>	<b>42.6</b>	<b>61</b>

(Unit: Million USD)

# Milestones

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# Service Reference

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- Selected as Official Service Provider of Indoor Location Guidance Services for Tokyo Olympics & Paralympics



- Location Information Monitoring Solution for casinos and resorts



- Project to build indoor space data DB and create indoor maps for mobile map services



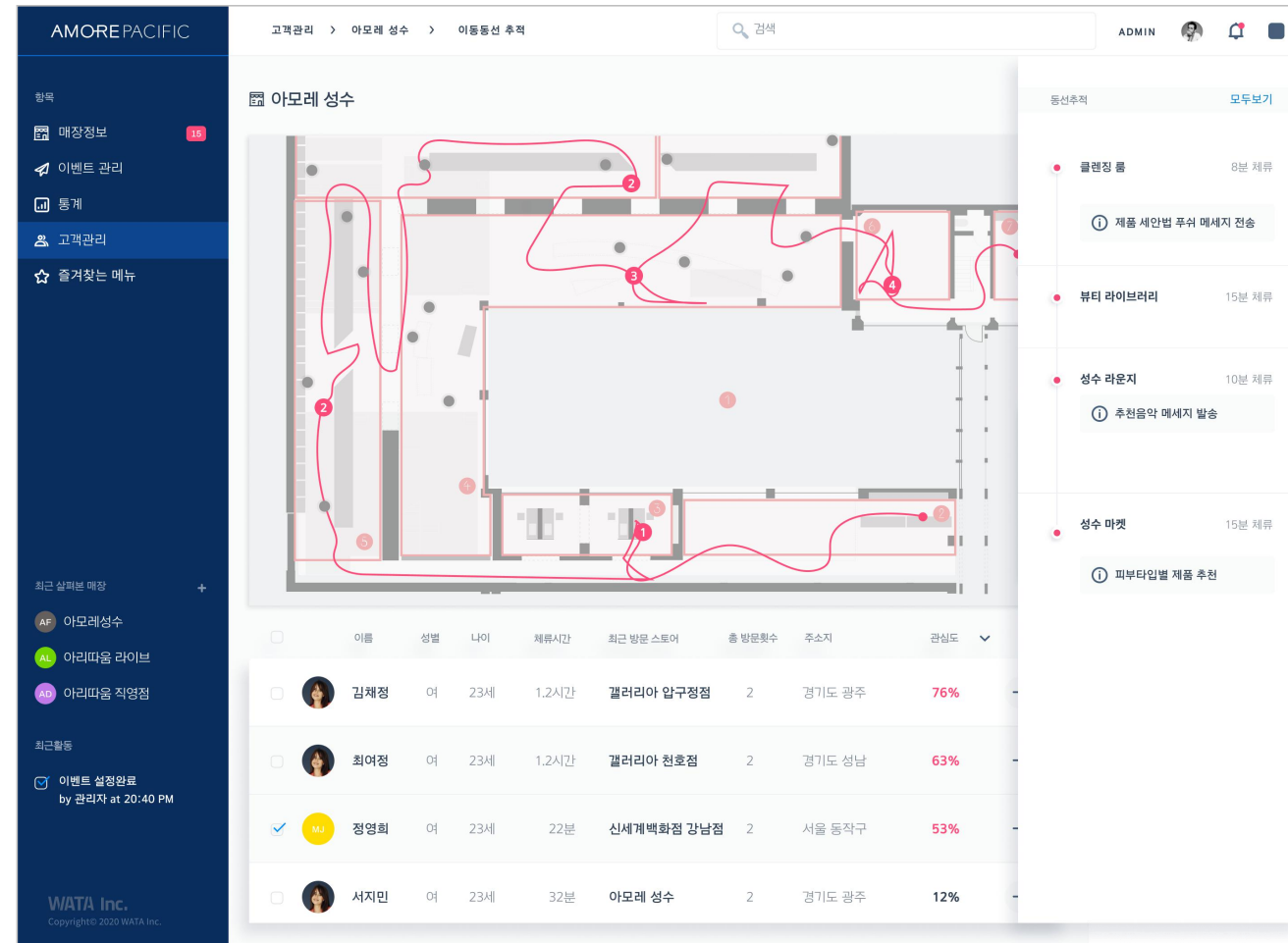
- Spatial Awareness Project for Smart stores

# Service Reference



## Spatial Awareness Project for Amorepacific's Smart Store

- Analysis of customer movement and behavior patterns
- Analysis of customer preference & touchpoints by checking customers' movement in the store
- Data classification by store and sections
- More efficient use of touchpoints using space data analysis



AMOREPACIFIC

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### Space Analysis

Space Density

Movement Patterns

Visit length/ Re-visit

Classification of customer info

Product Preferences

Purchase Interaction

Customer Review  
Event/ Promotion

# Financial



## PRE - A

Additional funding needed  
**USD 1,000,000**

### How to use

#### 2020/2021 Milestones

- Recruitment of Highly-qualified personnel for preprocessing of space data and advancing algorithms
- Reduction in time to upgrade AI Cloud Spatial Awareness Platform
- Establishment of Smartstore Data Platform in South Korea (AmorePacific, Shilla Hotel, Samsung Digital Plaza, Hyundai MNSoft, Genting Casino, Lotte Department Store, Smart hospital, etc)
- Entering in the Japanese LBS market with a local agency tapping into the existing commercialization results / Establishment of a corporate entity in Japan
- Establishment of space data DB for Tokyo's key 10 underground stations and 3D map sampling

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