



# **Enterprise Business Briefing**

**May 20, 2020**

# **Disclaimer**

**The statements in this document that are not historical factors including, without limitation, plans, forecasts and strategies are forward-looking statements based on the information available at the time they were prepared, and involve various risks and uncertainties. Such forward-looking statements are subject to various factors, including, without limitation, changes in the business environment, which may cause SoftBank's actual results of operation to defer materially from these forward-looking statements.**

**The information herein regarding corporate entities other than SoftBank Corp. and companies other than the group of SoftBank Corp. has been quoted from public sources, and therefore, SoftBank Corp. are not responsible for guaranteeing the accuracy and other aspects related to the information.**

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(1) Response to COVID-19

CORONAVIRUS  
**COVID-19 World Map**

Confirmed cases

**4655108**

Deaths

**313132**



Map Information



Data Aggregation Method

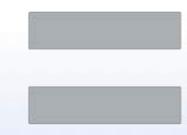
**2020/5/18**

Display Mode

**Confirmed cases**

**Deaths**

- < Previous Days
- 3
- 5/4
- 5/5
- 5/6
- 5/7
- 5/8
- 5/9
- 5/10
- 5/11
- 5/12
- 5/13
- 5/14
- 5/15
- 5/16
- 5/17
- 5/18**

 SoftBank

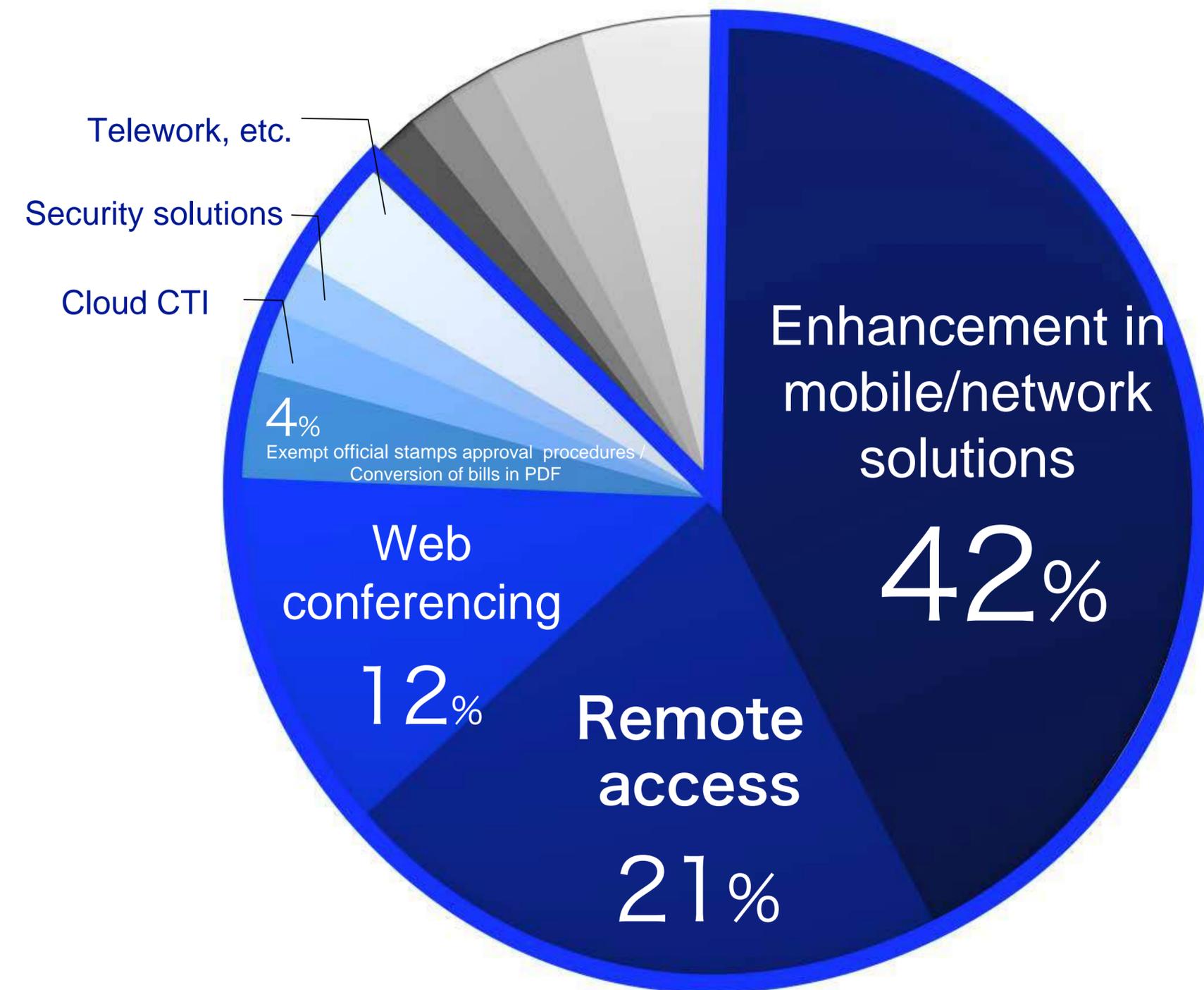
**What can SoftBank do?**

**Social mission to provide  
telecommunication infrastructure services**

An aerial view of a city, likely Taipei, with a network of white lines and dots overlaid on the buildings, suggesting a digital or communication network. The background is a blue sky with light clouds.

**Results of urgent survey**  
to customers in approx. 1,000 companies  
conducted in late March, 2020

# Requests from business (1)



## Telework-related requests

# 87%

From a survey in late March, 2020



# Teleworking Challenges

Problems in accessing in-house systems



Need to attend the workplace to answer calls via landline phones installed there



Need to go to the office to affix official stamps for concluding contracts



Difficulties in recruiting activities



Restrictions on international business travel

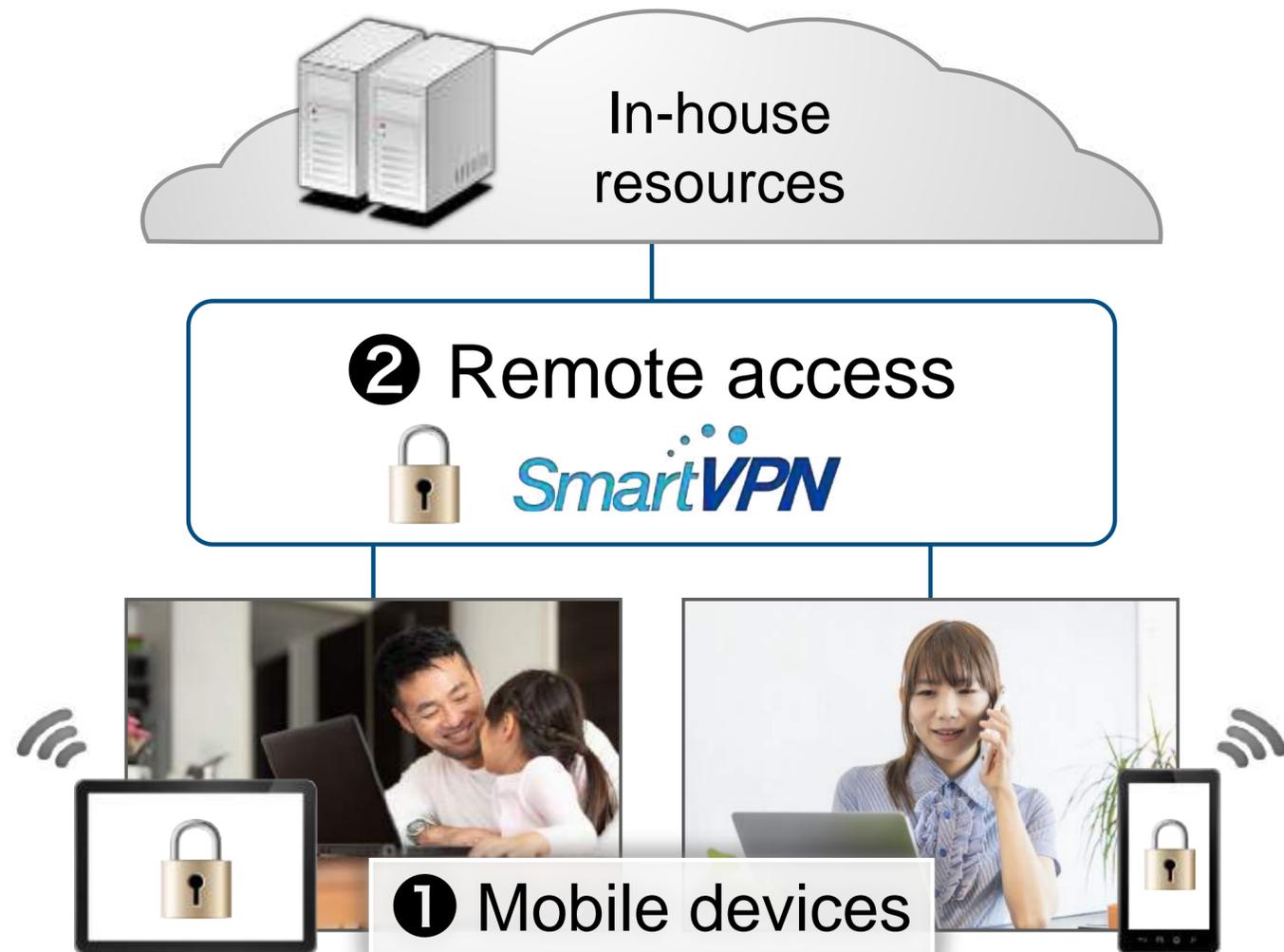


Communication hurdles

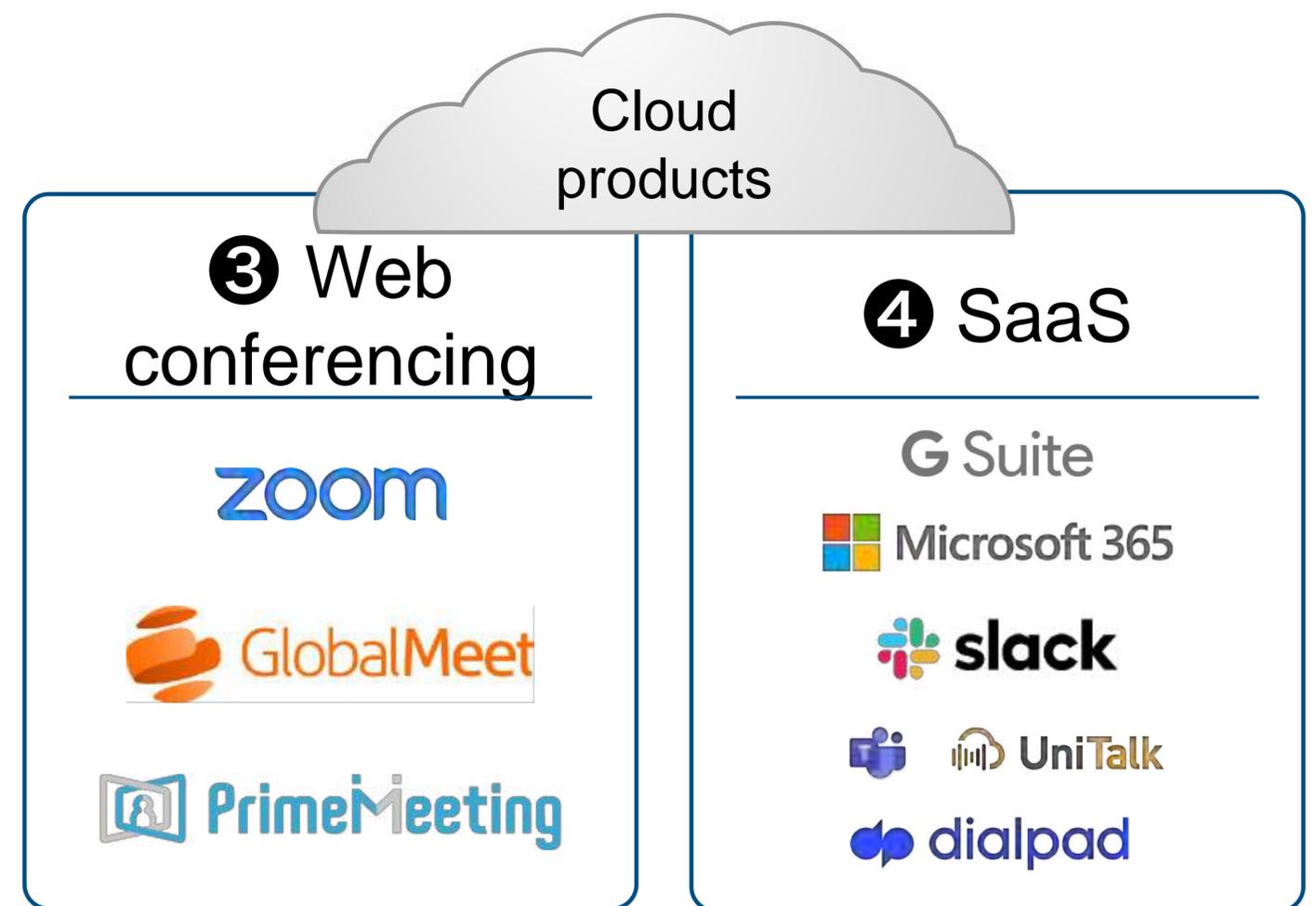


# Provide ICT environments regardless of location

## Secure network environment



## Communication environment



# ① Mobile devices

## Smartphones

(Number of sales)



120%

March + April  
2019

March + April  
2020

## Wi-Fi routers, etc.

(Number of sales)



150%

March + April  
2019

March + April  
2020

Home delivery of devices upon customer's request\*

\*This service is applicable to customers whose identity has already been confirmed by our Enterprise Business Unit.

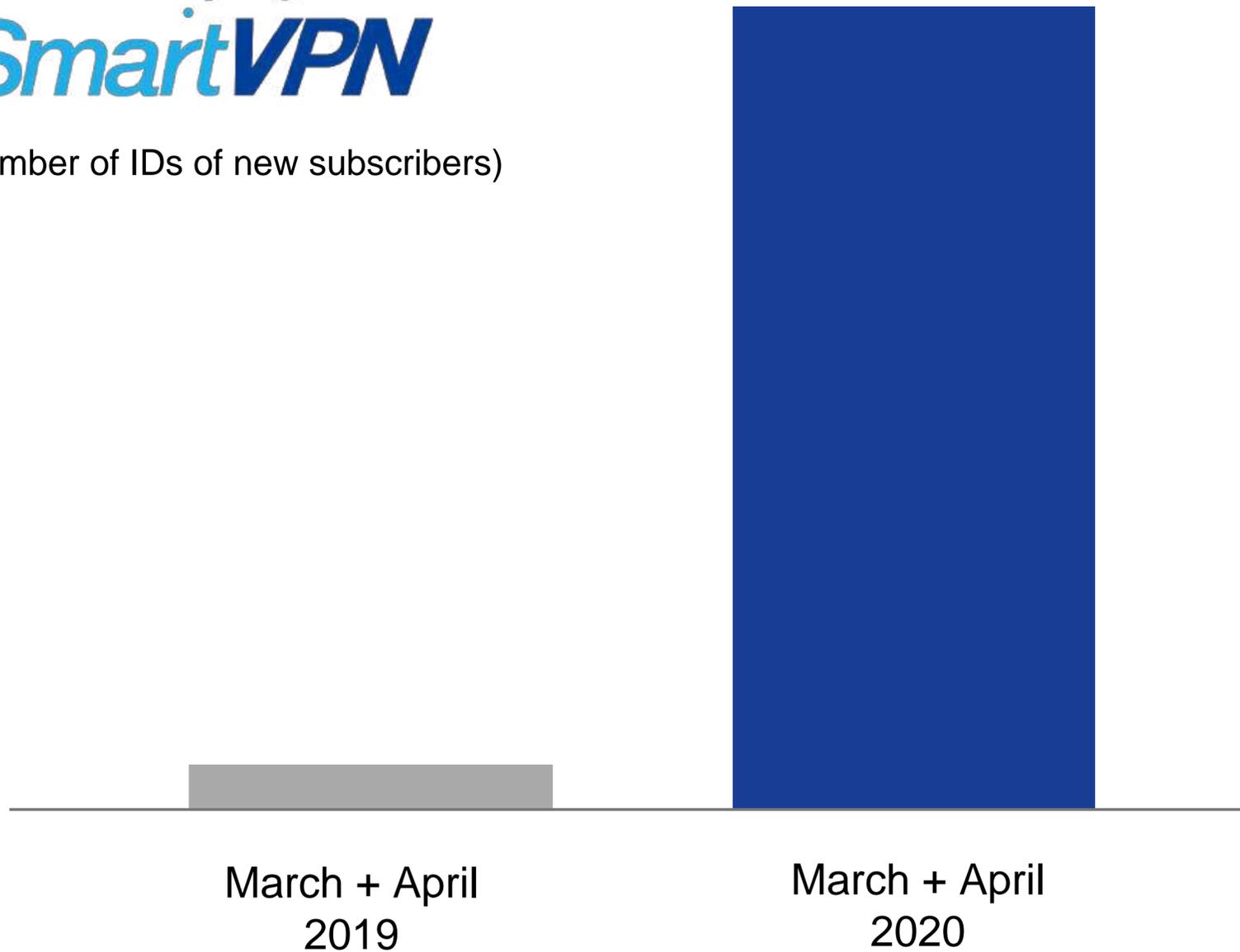
## (2) Remote Access



1,800%

SmartVPN

(Number of IDs of new subscribers)



Provide remote access to in-house environments

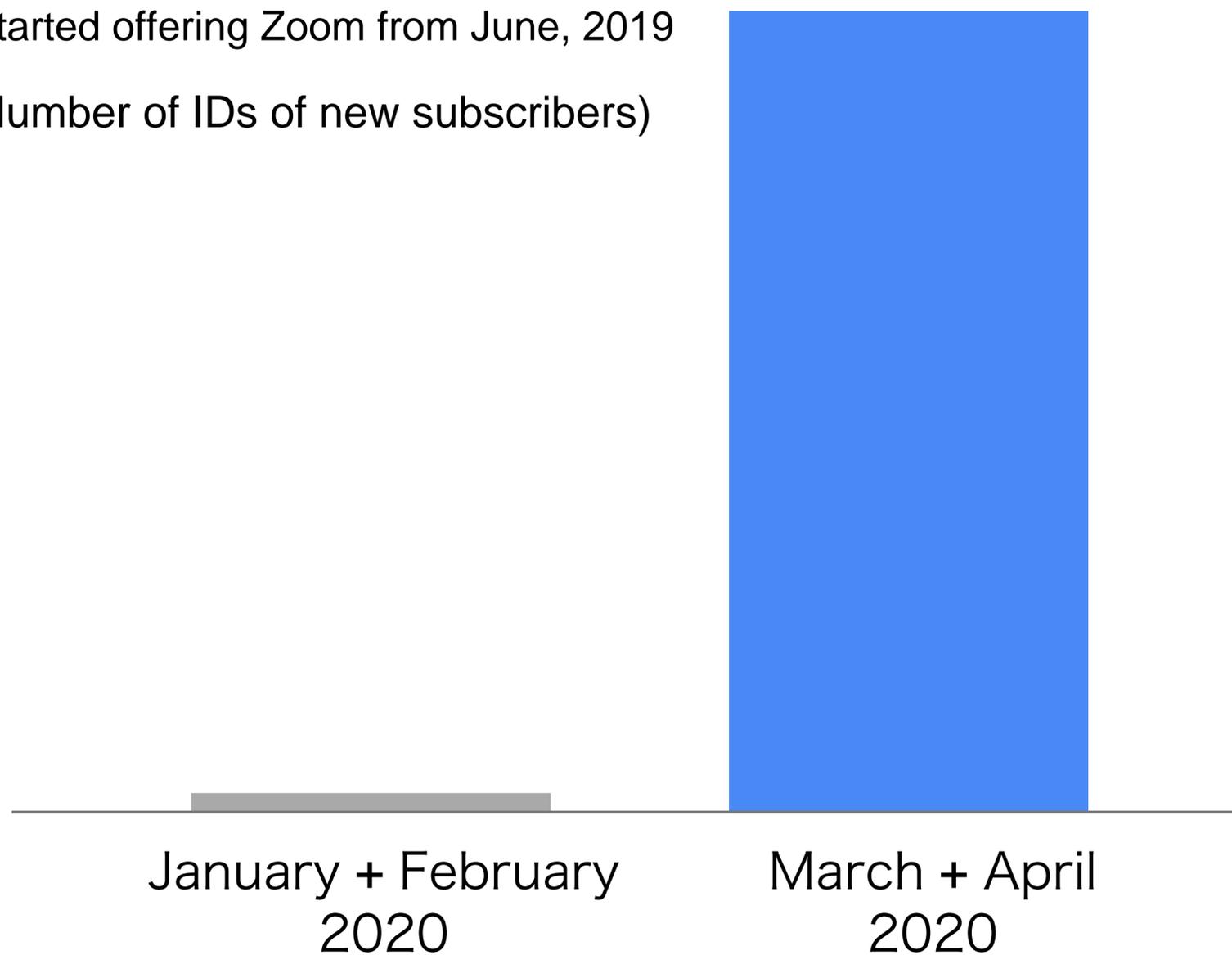


### (3) Web conferencing

zoom

4,100%

\*Started offering Zoom from June, 2019  
(Number of IDs of new subscribers)



Offer immersive remote conferencing as if having a face-to-face meeting

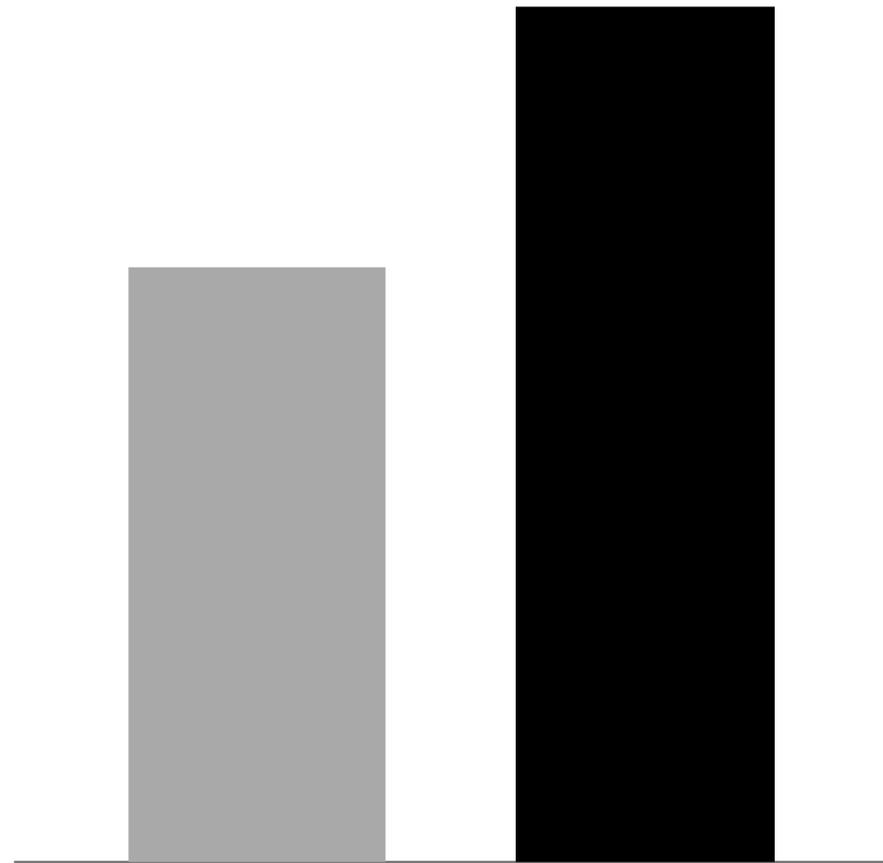


## (4) SaaS (Groupware)

### G Suite

(Number of IDs of new subscribers)

140%



March + April  
2019

March + April  
2020

### Microsoft 365

(Number of IDs of new subscribers)

380%



March + April  
2019

March + April  
2020

Create a  
communication  
environment to  
maintain operational  
efficiency

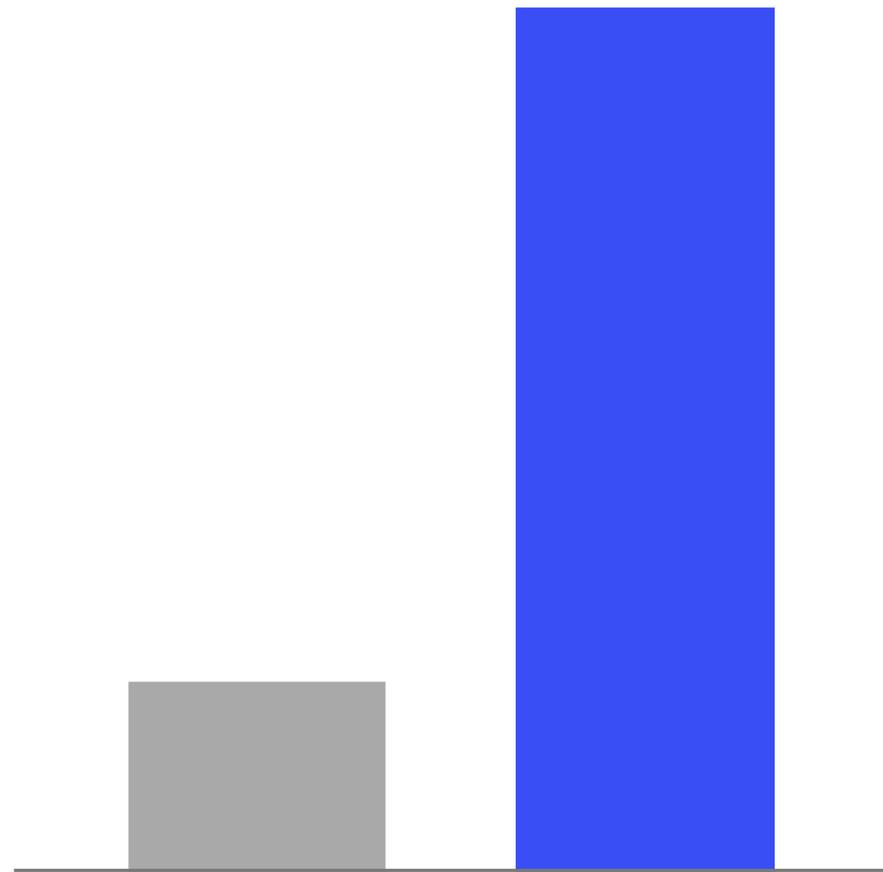


## (4) SaaS (IVR services)



(Net increase in membership IDs)

450%



March+April  
2019

March+April  
2020



Started offering from August, 2019  
(Number of phone numbers  
allocated to  
new subscribers)

520%



January+February  
2020

March+April  
2020

Take business  
calls directly from  
home instead of  
at the office



Let's get through this by teleworking!

# SoftBank Telework Support



We have opened a special website offering 14 types of free services\*

\*The types of services are those as of May 20, 2020, and they are offered for free for a certain period. The offering period may vary depending on respective services.

# Services offered for free for a limited period or discounted

## Remote conferencing

G Suite

zoom

PrimeMeeting

GlobalMeet

UniTalk



## Increase in communication

dialpad

SMART CATALOG  
powered by visuamall

MOVIE LIBRARY  
powered by visuamall

LINE WORKS

PrimeDrive

SHaiN

CLOUDSIGN

## Enhanced security

IPS™

zscaler™

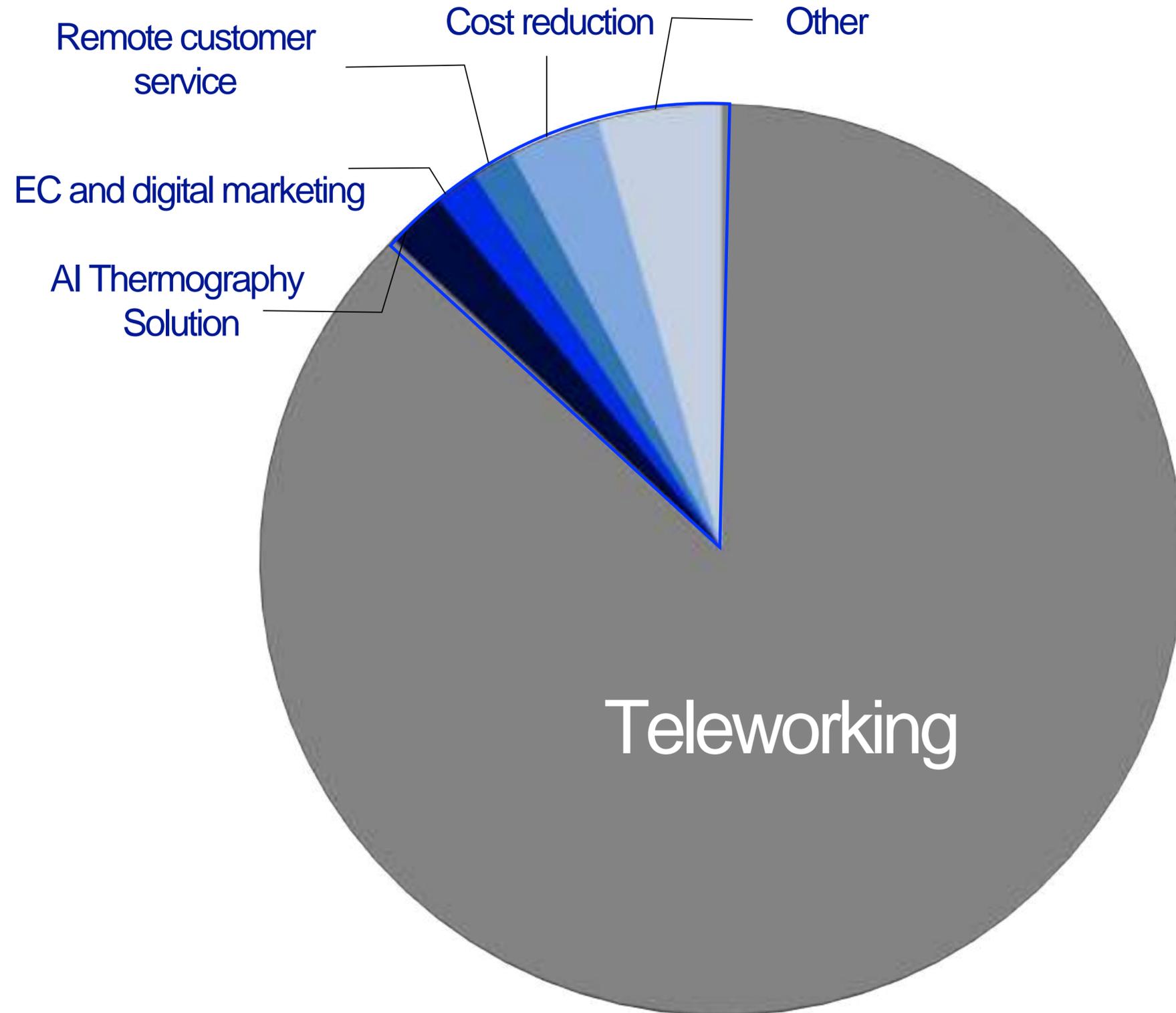
## Teleworking between Japan and China

Alibaba Cloud



# Fully support customers to help them drive a new work style

# Requests from businesses (2)



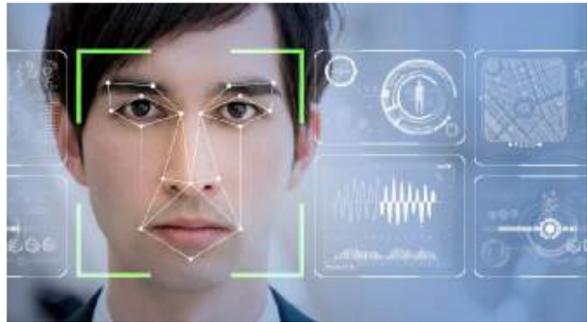
We have also received requests for **“business continuity solutions”** [aside from teleworking tools]

Survey conducted as of March 2020



# Offer suitable business continuity solutions responding to challenges in respective industries or sectors

Thoroughly-accurate health management of employees required to attend the office



AI Thermography Solution



Education: Difficulties in giving the same lessons as during normal times



Online classes



Retail: Want to promote EC channels even when stores are closed



Digital marketing



Manufacturer: Difficulties in providing customer services due to store closures



Online customer services

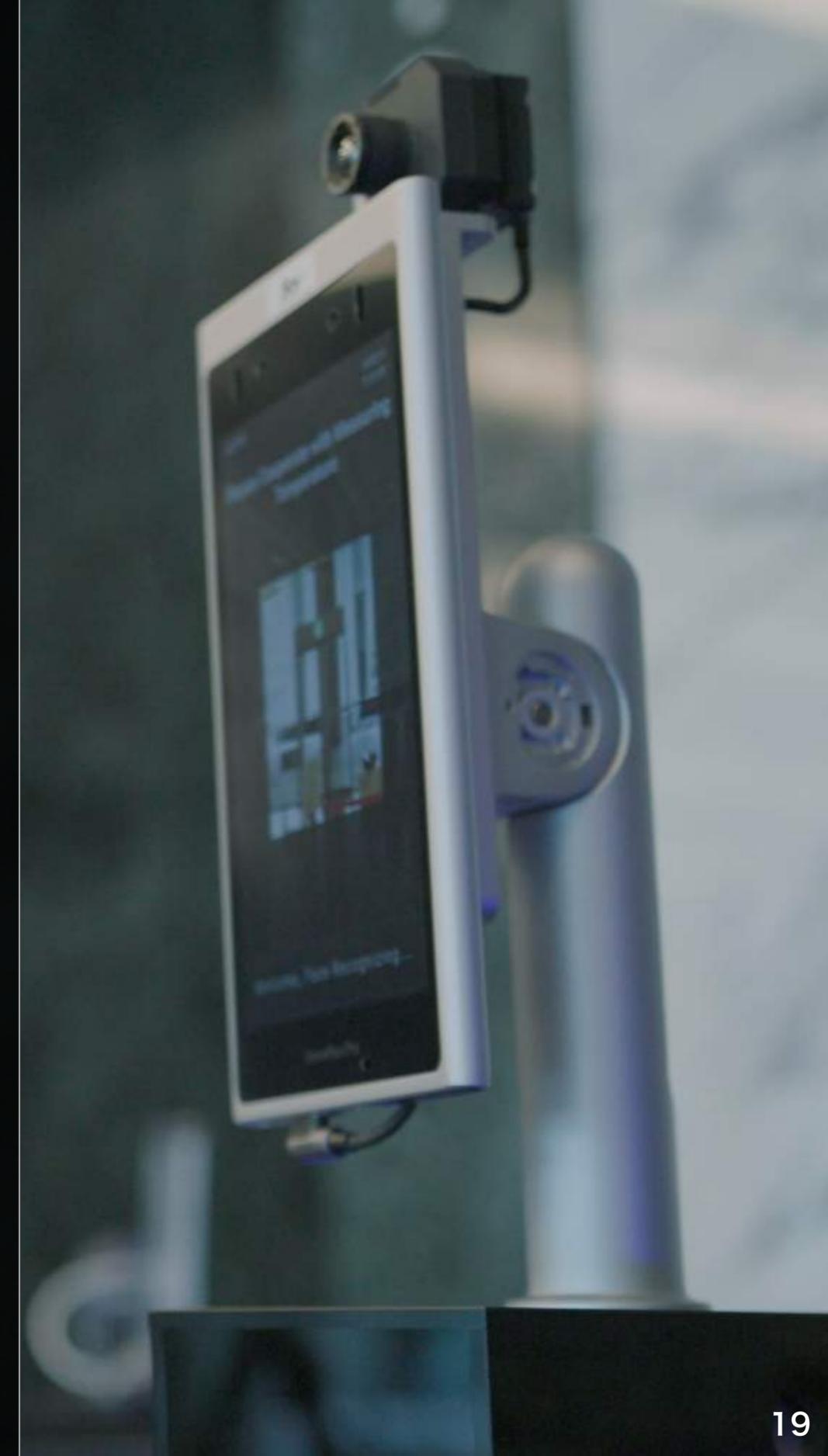


\*SB Cloud provides companies and educational institutions with support services to help them install "DingTalk Lite".

— Announcement of new solutions —

# AI Thermography Solution

SenseThunder



# Provide thoroughly-accurate health management for employees required to attend the office by adopting “temperature screening + facial recognition” terminals



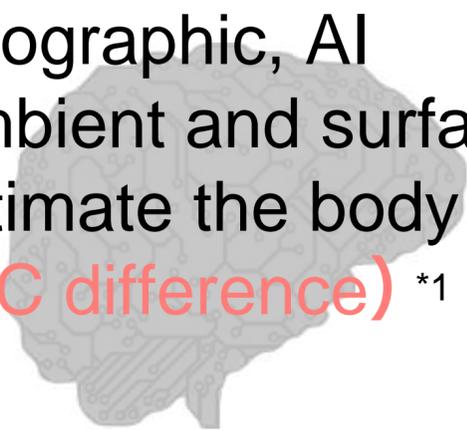
# Highly-accurate temperature detection and facial recognition within 0.5 seconds

AI-driven infrared thermographic camera

Identify the forehead position from **110,000 temperature points**



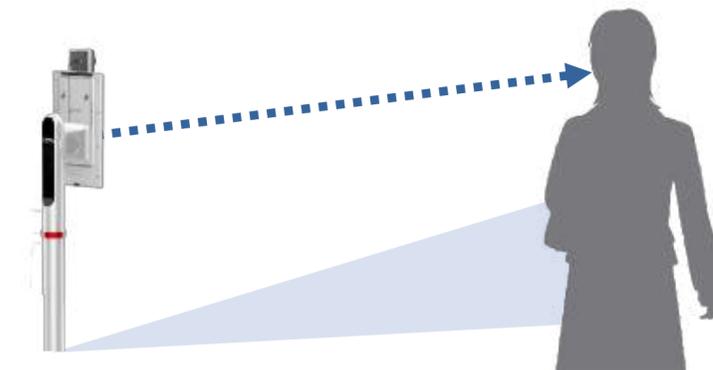
In addition to thermographic, AI measures body, ambient and surface temperatures to estimate the body temperature ( **$\pm 0.3^{\circ}\text{C}$  difference**)<sup>\*1</sup>



AI-driven facial recognition device

Highly-accurate facial recognition

Extract 100 to 200 facial features



Detect a<sup>\*2</sup> person up to a distance of 2 meters from the terminal

Even masked faces can be identified



\*1 Specifications of "SenseThunder-E" (Regular Model)

\*2 This value is the range of distance for the facial recognition feature. Temperatures can be measured up to a distance of 1.5 meters (by using SenseThunder-E).

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## Trial run at our HQ in Shiodome

for employees' health management

- Installed 20 terminals
- Detect a body temperature of 37.5 degree C or above
- Install “AI-driven facial recognition/temperature screening” solutions to work with the entrance gate



Please watch this video

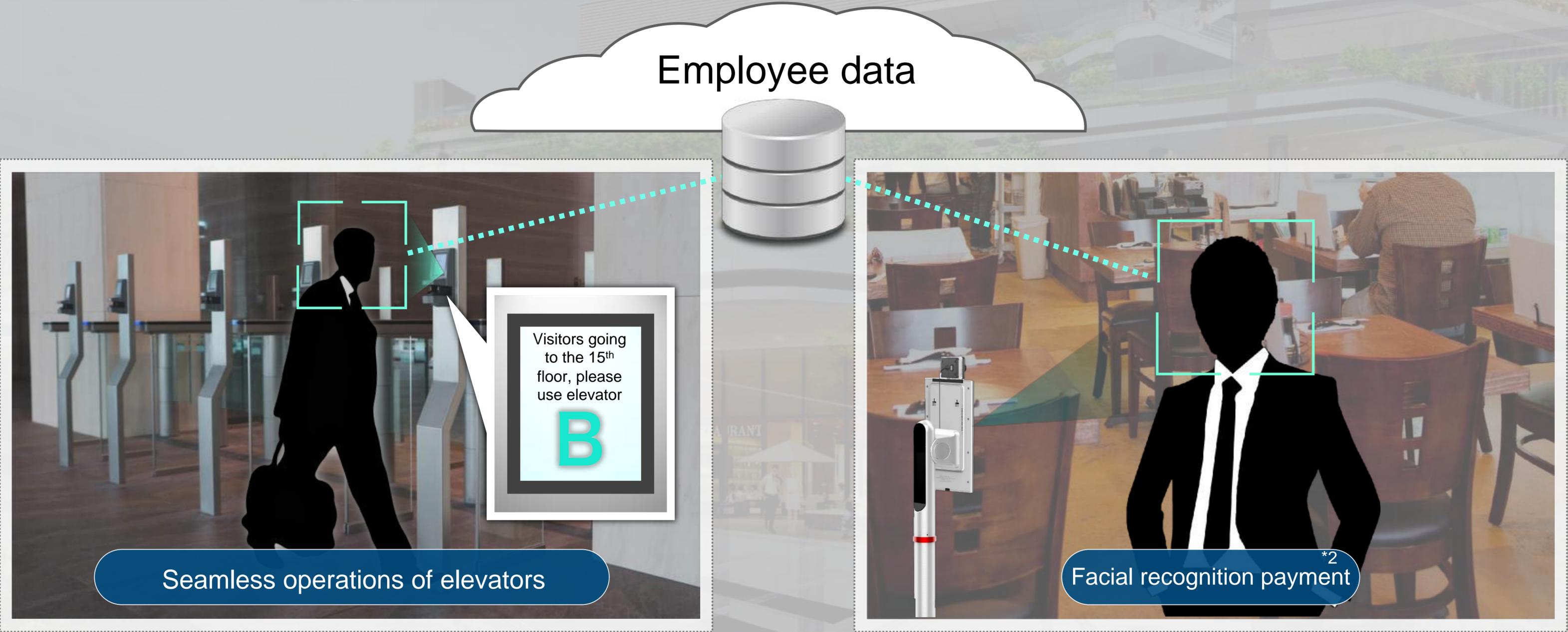
マスク着用の場合

<https://bcove.video/2Xd3naz>



# SoftBank's future scheme

## Study an approach to working with facial recognition technologies at the new headquarters in Tak<sup>\*1</sup>eshiba



<sup>\*1</sup> Relocation to Takeshiba is planned in autumn, 2020. <sup>\*2</sup> Further consideration will be made for the mechanism of facial recognition payment.



# SoftBank

Press release on May 19

## Sequentially install temperature screening terminals in approx. 3,000 stores incl. SoftBank Shops and Y!mobile Shops nationwide

- Implement temperature screening for employees and customers to ensure a safe shopping environment
- Already installed the temperature screening terminals in the direct retails in the following locations  
(Ginza, Omotesando and Roppongi)
- Scheduled to install the terminals in all our stores by July



# Use cases of our AI Thermography Solution

An increasing number of companies are installing temperature screening solutions to ensure safety of **not only employees, but also customers**

### Government sector

Ministry of Agriculture, Forestry and Fisheries

Ministry of Internal Affairs and Communications

Ministry of Education, Culture, Sports, Science and Technology

Staff

Visitor

Visitor

Visitor

### Retail

AEON

Employee

Customer

### Healthcare

東京慈恵会医科大学附属病院  
THE JIKEI UNIVERSITY HOSPITAL

Visitor

医療法人 北関東循環器病院  
Kitakanto Cardiovascular Hospital

Visitor

### Online sales

「今を生きる楽しさ」を!

Japanet

Employee

### Manufacturing

SONY

Employees

azbil

Mitsubishi Chemical

Employee

Employee

### Other

MDI

Employee

Visitor

SOUND INN

Customer

地球の恵みを、社会の望みに。  
エアウォーター

Employee

# Install AI Thermography Solution in AEON stores aiming to ensure safe store operations and that the stores are safe and comfortable for customers



## For employees

Thoroughly monitor employees' health



## For customers \*1

Raise customers' awareness of temperature monitoring through temperature screening experience



\*1 Installed in some of Aeon stores \*Aeon does not install face recognition systems for its entry/exit management. Any personal information and image data are not collected.

# Other essential services during an emergency

Food and beverages

Traffic

# “Data”

Healthcare

Electricity

Water

Supplies



# Provide COVID-19-related data to government/media sectors

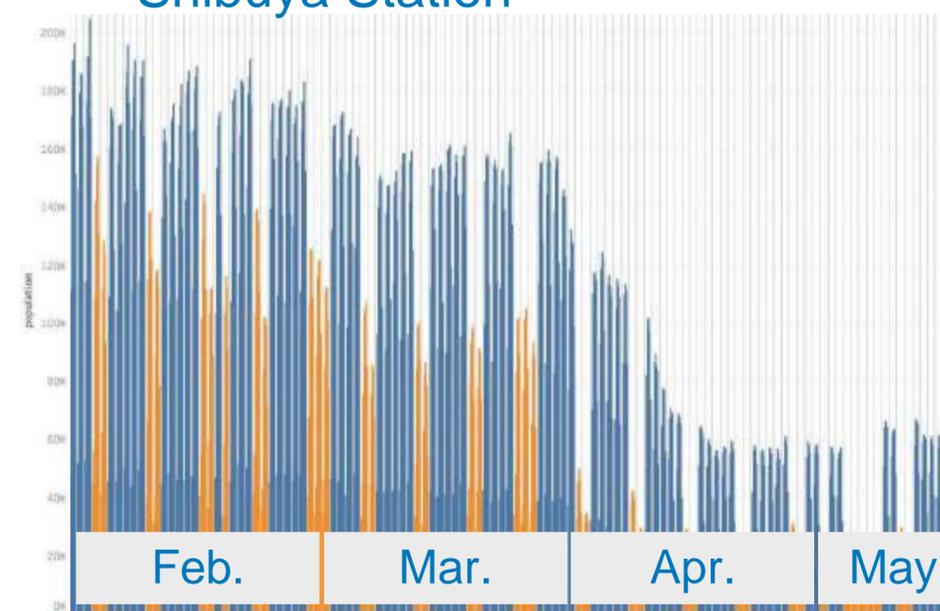


Help prevent the spread of infection  
by using location information  
gathered by apps provided to users



Analyze  
flow of people by timeline in 100 areas

e.g.) Flow of people at  
Shibuya Station



\*The data provided to customers are analysis results (statistical data), not customers' personal information.

— Announcement of new solutions —

# Mapbox

CORONAVIRUS  
**COVID-19 World Map**

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Map Information



Data Aggregation Method

**2020/5/18**

Display Mode

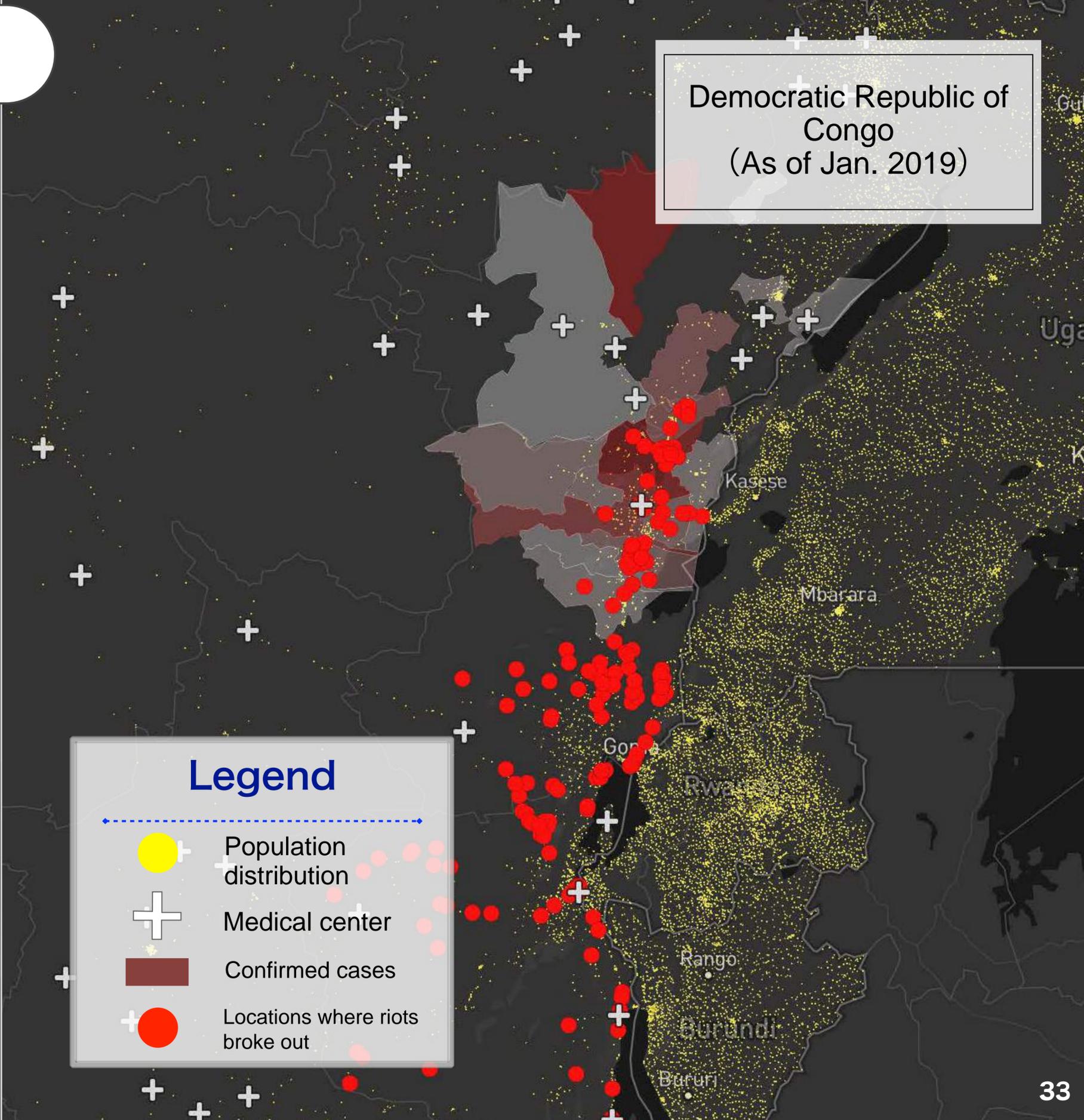
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- 5/16
- 5/17
- 5/18**

# Use case: Mapbox response to Ebola

Supported activities of medical workers in conflict zones



Democratic Republic of Congo  
(As of Jan. 2019)

**Legend**

- Population distribution
- Medical center
- Confirmed cases
- Locations where riots broke out

# Features of Mapbox

Mapping platform for web and app developers that **creates highly customizable and scalable maps**



Customers that have adopted Mapbox

# Organizations/leading companies worldwide are using Mapbox



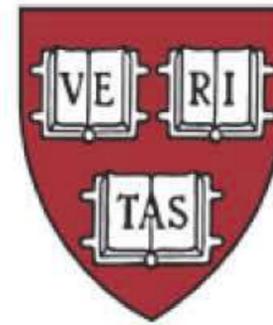
United Nations



The U.S. government



Cisco



Harvard University



Stanford University



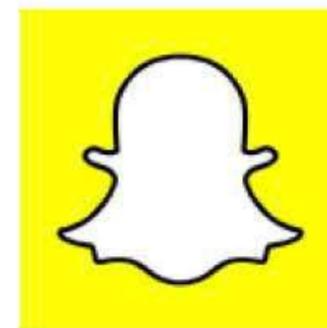
California University



Facebook



Twitter



Snapchat



Weather Channel



AT&T



T-Mobile



American Airlines



Boeing



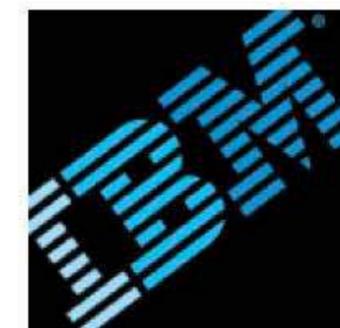
Airbnb



Booking.com



Tableau



IBM

## Real-time data visualization is vital particularly to Japan, a disaster-prone country

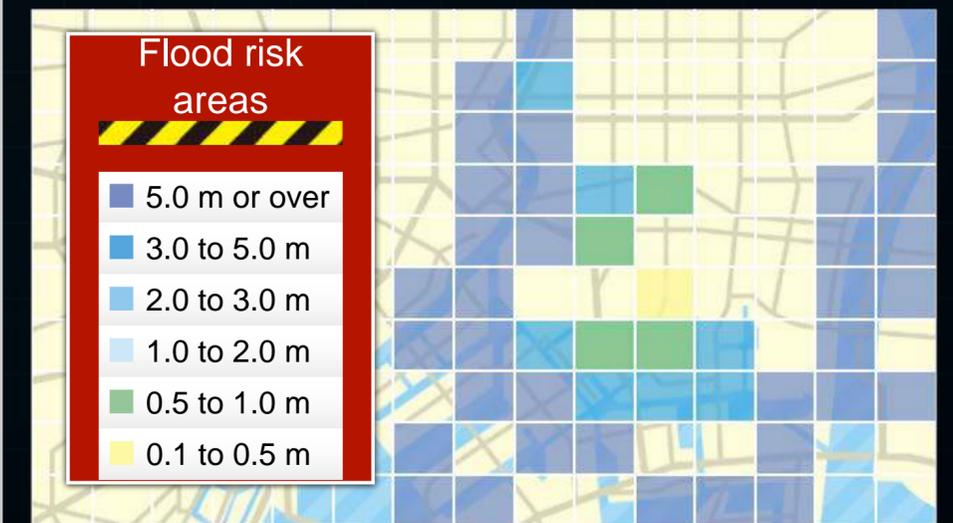
Lifeline map  
essential for life-sustaining



Passible route map  
useful for delivery of  
emergency supplies



Hazard map  
effective for  
evacuation planning



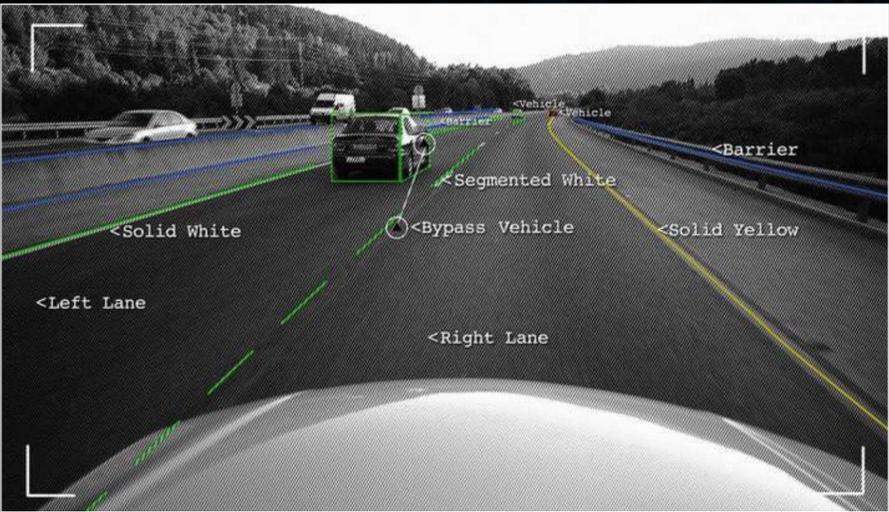
March, 2020

# Establishment of Joint Venture between Mapbox and SoftBank

**mapbox.jp**

# Highly customizable maps are vital in the age of 5G and IoT

Mapping platform supporting automated driving



Ariel 3D mapping using drones



Navigation of disaster relief robots



Obtain real-time “location information” to enable autonomous operations

# Collaboration with upcoming services to be launched by SoftBank



**Automated driving MaaS**

**AI vehicle dispatch services**

**Delivery services (EC sites, etc.)**

**Statistical data on flows of people**

**Robot/Drone**

**Navigation**

Support the business of companies that leverage data and help them drive digital transformation



DATA





SoftBank

**How can we contribute to society  
after COVID-19?**

# The coronavirus severely impacted the economy

Bankruptcy

Increase in unemployment

Self-restraint in business operations

Decline in customer spending

Cancellation of events

Negative economy growth

Olympic postponement

Initiatives towards **economic recovery** are required

# In addition, Japan faces large challenges

Rural  
depopulation

**Aging society**  
  
Ranked  
**No.1**  
among 194 countries  
worldwide\*<sup>1</sup>

**Decline in  
working-age  
population**  
  
Declining to half of <sup>\*2</sup>  
that in 1998 by 2060

Aging  
infrastructures

Decline in  
craftsmen

Dangerous  
work  
environment

## Creation of a sustainable society is vital

\*Source: Ministry of Internal Affairs and Communications "Changes in Aging Population in Japan and Future Projections"

\*2 Source: UNITED NATIONS "World Population Prospects 2019"



Help companies achieve early digital transformation (DX) towards economic recovery and creation of a sustainable society

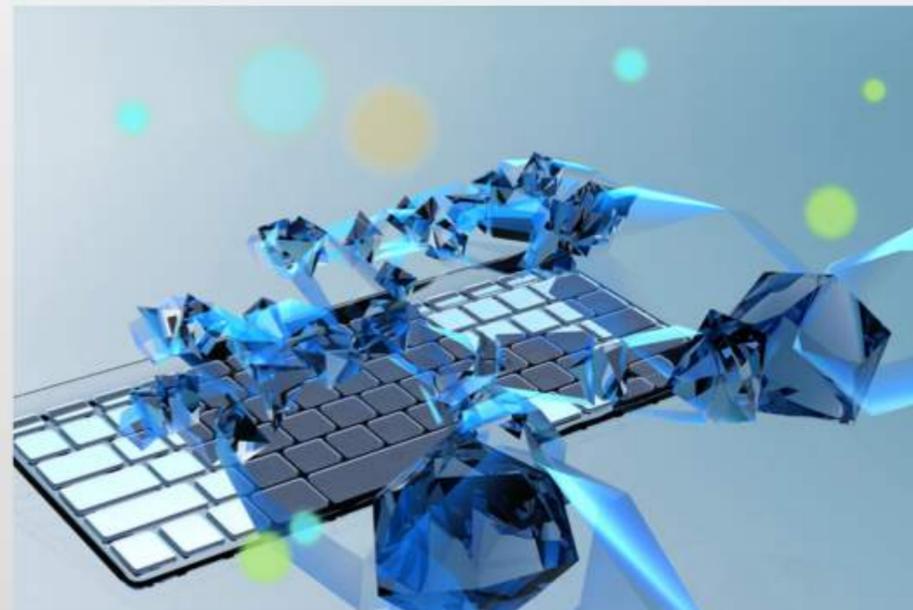
Work-style reform



Diagnosis for digitalization processes



Fully automated operations



Sophisticated supply chains



Rural construction



DX in business after COVID-19

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(2) Towards promotion of DX  
in business

# Promote DX for respective companies in line with the stage of their IT usage

Stage (1)

Digitalization of businesses



Communication

- Smart devices
- Voice/data services
- Cloud services

Stage (2)

Automated operations



Digital automation

- RPA
- Robots
- Chatbots

Stage (3)

Data utilization



Data utilization

- 5G
- AI package
- IoT
- Digital marketing

Stage (4)

New value creation



Co-creation with partners

Create new businesses leveraging technologies

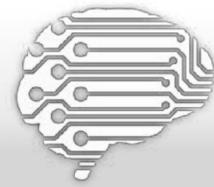
# Offer one-stop service

## from provision of devices to solutions

Customer base  
(by industry)



Solution  
by sector



Cloud, AI, IoT and Security



Data integration and analysis

Network

5G

LTE

Wi-Fi

NB-IoT

Cat. M1

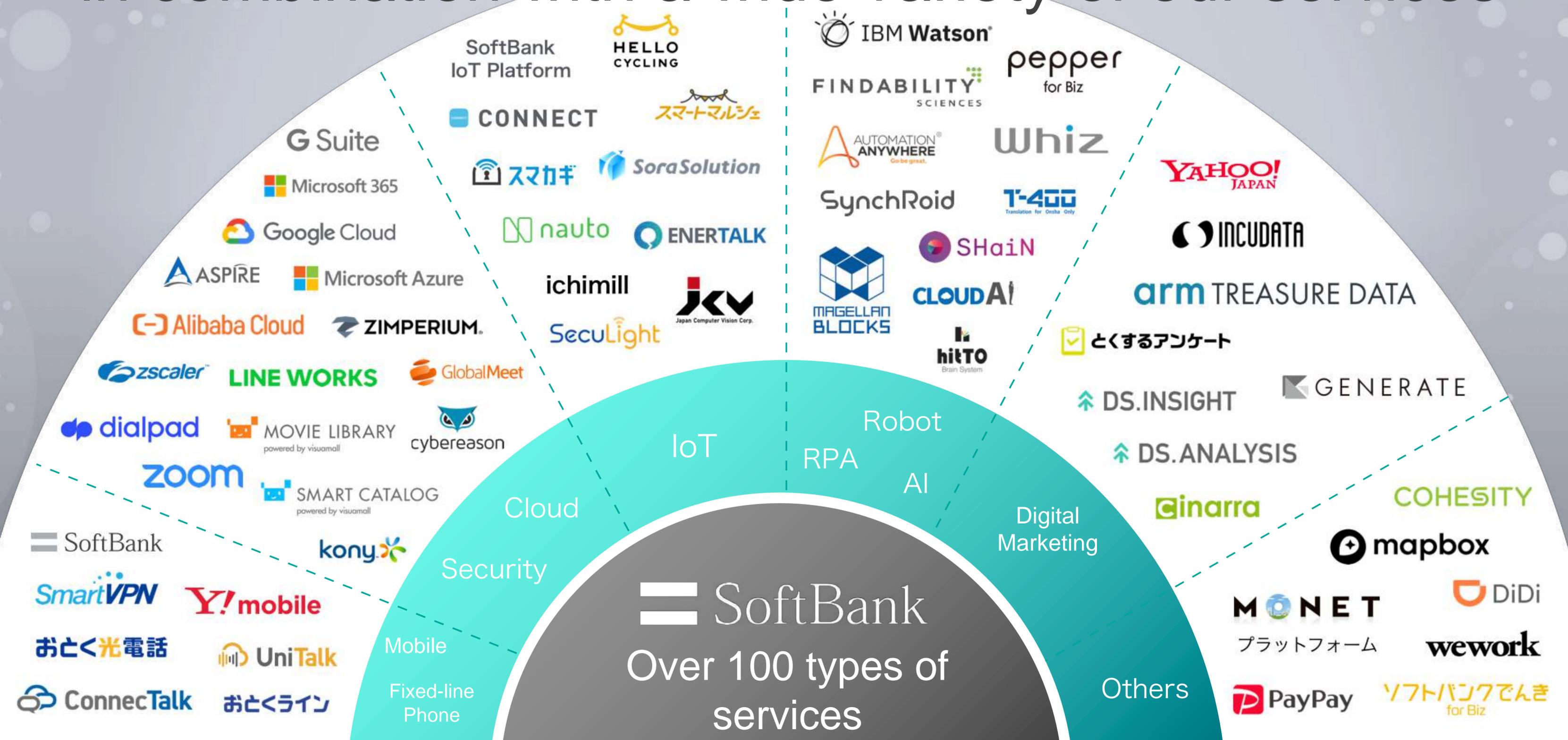
Closed  
connection

HAPS

Device



# Offer infinite number of solutions in combination with a wide variety of our services



SoftBank

263 companies  
including subsidiaries of  
SoftBank Corp.



MicroAd

ENCORED

SB Gift



BB Satellite

SB Telecom Singapore

PS Solutions

sandi

SB AtWork

C Channel



SB Power

MICE Platform

SB Telecom America



GENIEE

SB Players

COHESITY

SBI FinTech Incubation

hugmo

J.Score

FINDABILITY SCIENCES

PayPay



wework

DiDi



SB Engineering

mapbox.jp

FINDABILITY SCIENCES

PayPay



wework

DiDi



OYO



BOLDLY UPDATE MOBILITY

IDCFrontier

HAPS MOBILE

One Tap BUY

SB Payment Service



SB Cloud

LINE MOBILE

MONET MONET TECHNOLOGIES INC.

SB C&S

INCUDATA

inarra

ALES

YAHOO! JAPAN

B<sup>3</sup>! BB Backbone

JCV Japan Computer Vision Corp.

Magical Move

Vector

SB Innoventure



mysta

GENERATE

scigineer

Open Street

STR/PE DEPARTMENT

SB Mobile Service

WIRELESS CITY PLANNING

aeris.

OfaaS

Classi

SB Technology

DiDi



SB Payment Service



INCUDATA

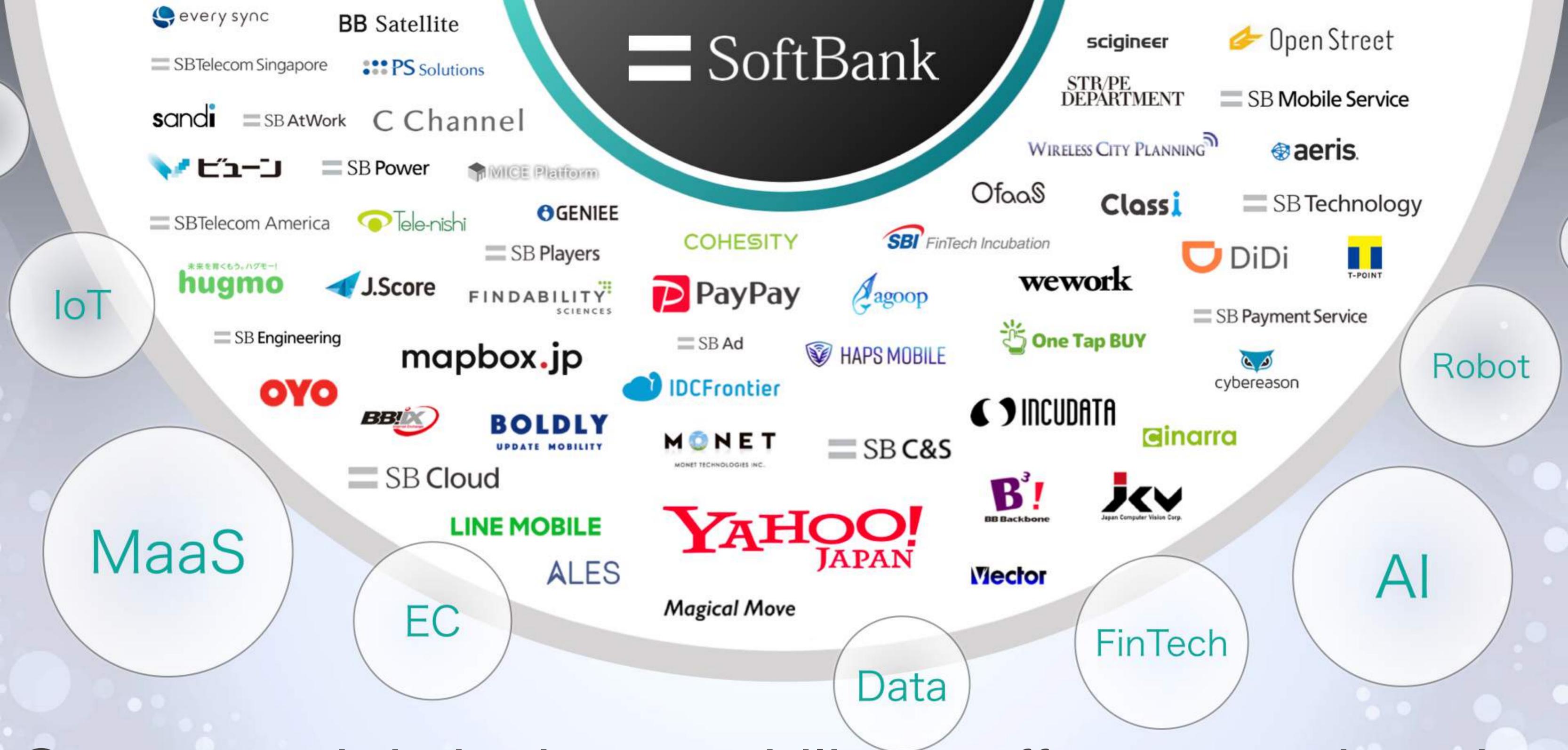
inarra

B<sup>3</sup>! BB Backbone

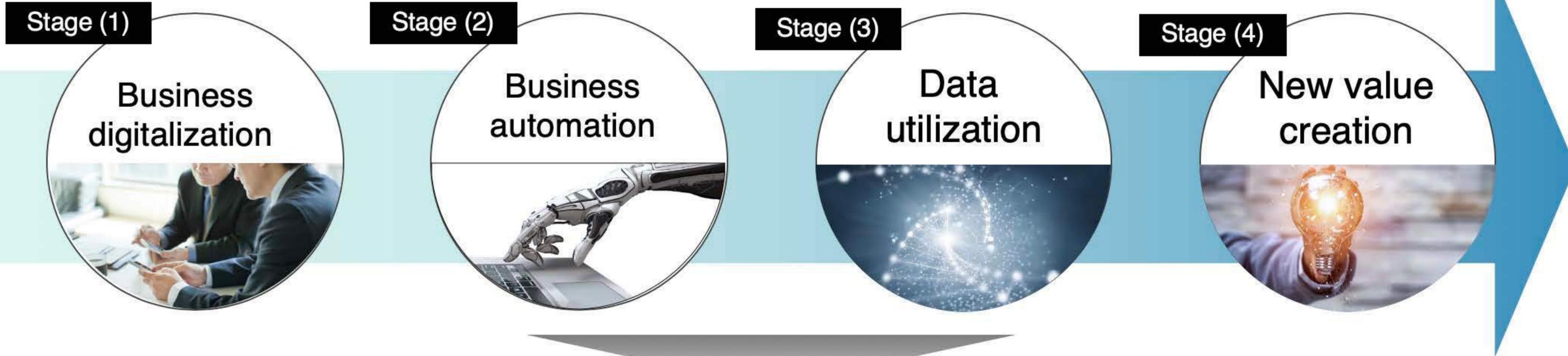
JCV Japan Computer Vision Corp.

Vector

# SoftBank



Our strength is in the capability to offer comprehensive services leveraging state-of-art technologies



**AI RPA**

Creation of clerical workforce

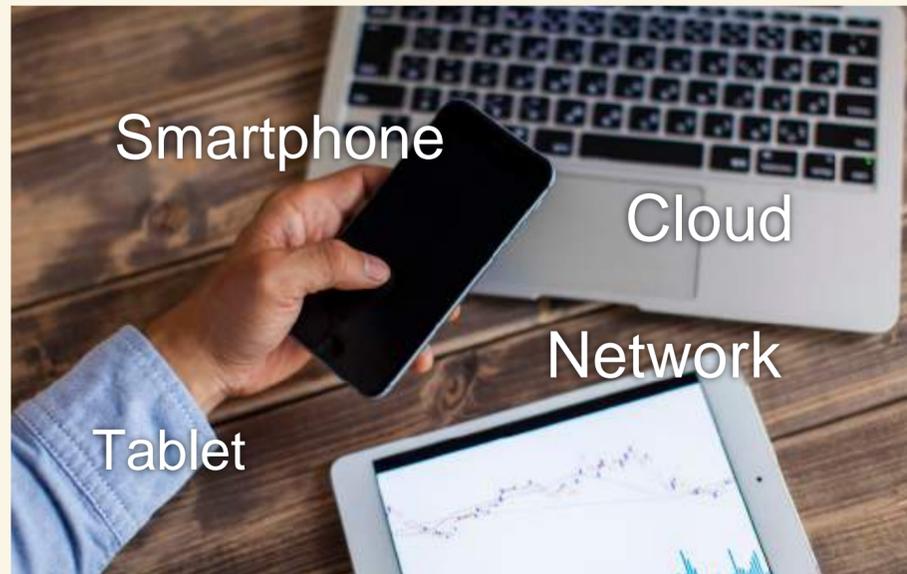


**IoT AI 5G**

Creation of production workforce

# "3 bases" required towards realizing DX in customers' businesses

## Communication base



- Support diverse work styles regardless of working hours or locations
- Active communication

## Digital automation base



- Automate routine tasks
  - Digitalize workflows in factories/facilities
- (e.g. automated inspection/monitoring)

## Data utilization base



- Data collection, accumulation and integration
- Customer behavior data analysis
- Customer demand forecasting

Offer one-stop services responding to every customer need

# 1. DX use cases in retail (Need for business automation)

## Digital automation base

### (1) Business automation

Stores



Receive and place orders in a timely manner

Head office



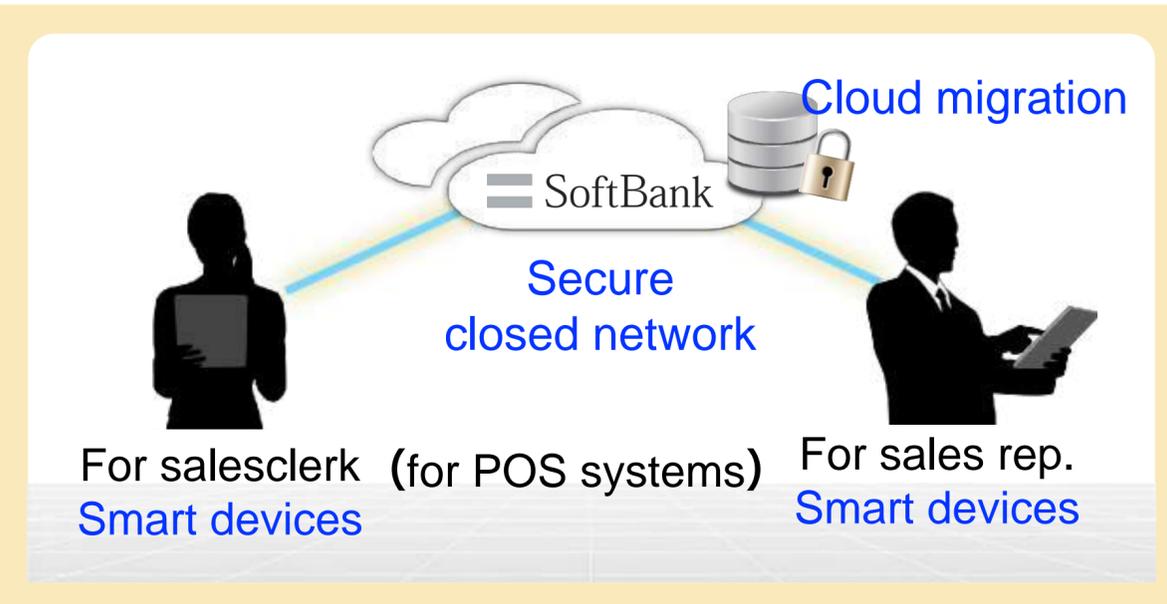
Real-time stock management



SynchRoid

## Communication base

### (2) Re-design the entire system



SmartVPN

G Suite

Microsoft Azure

## Data utilization base

### (3) Data utilization



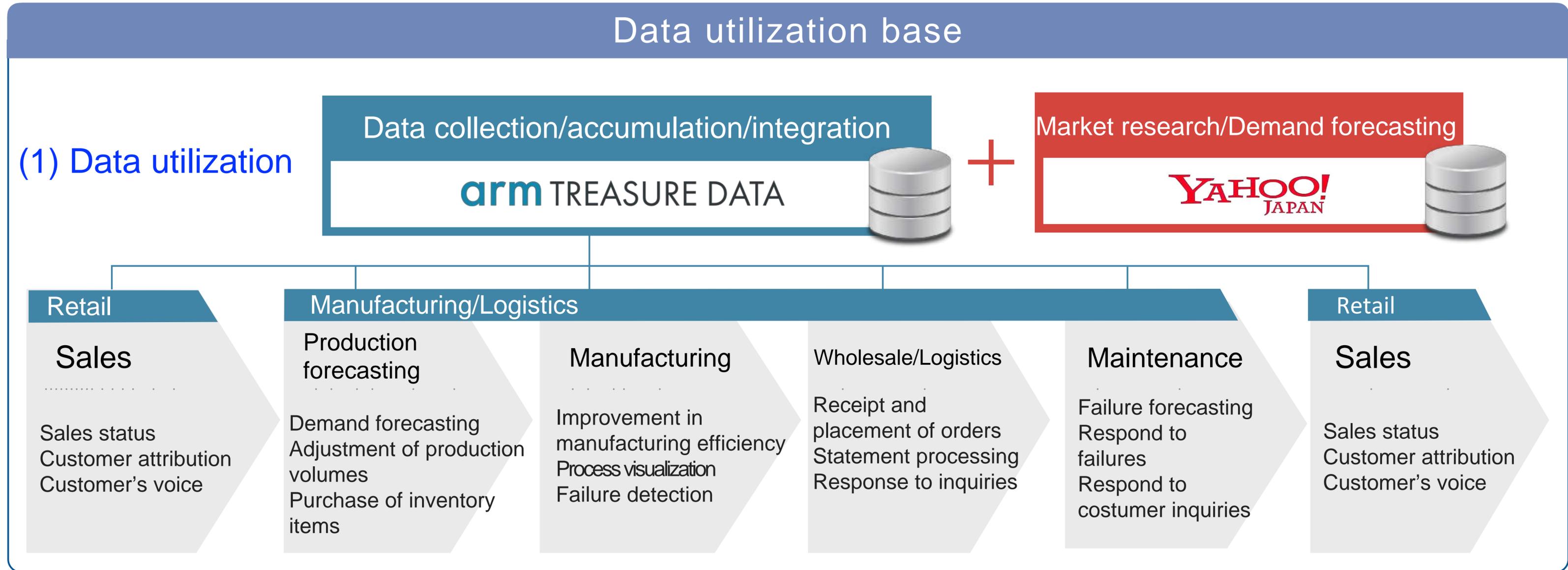
arm TREASURE DATA

INCUDATA

YAHOO! JAPAN

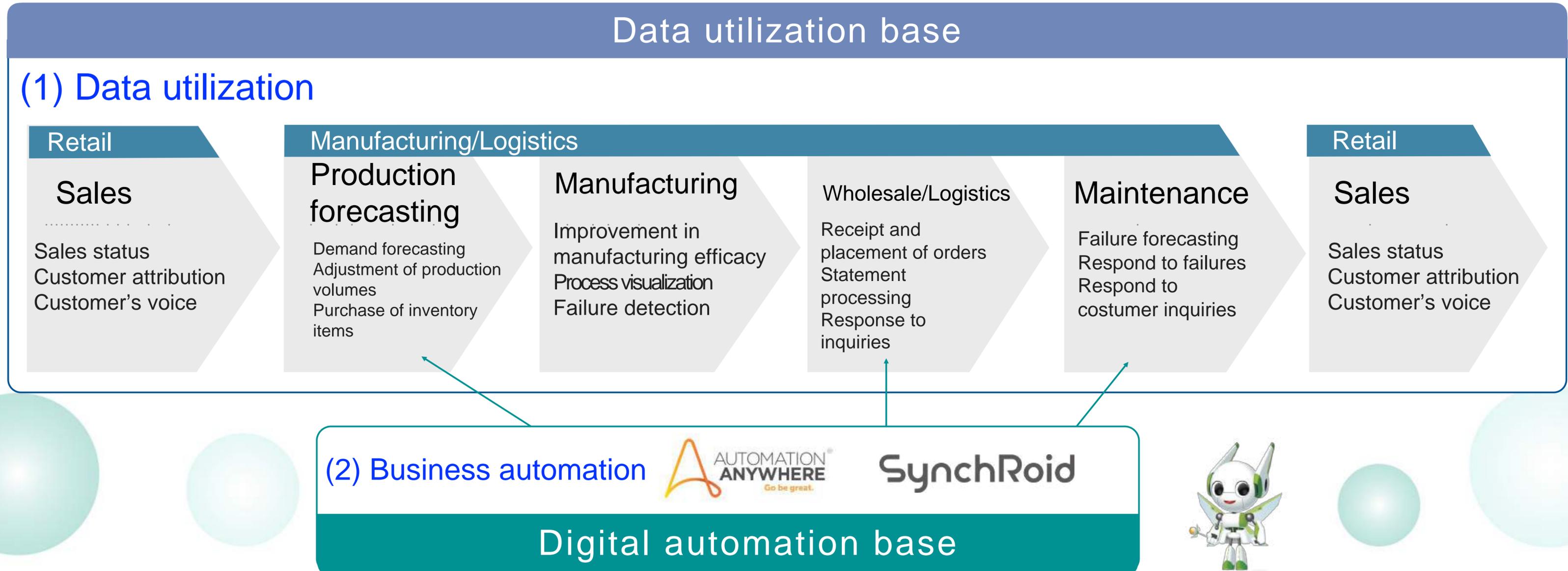
Need for redesigning systems for automating operations and also the need for using collected data is increasing

## 2. DX use cases in supply chains (Data utilization needs)



**Visualize workflows by integrating data from the whole process**  
Forecasting production demands is also possible by adding market information

## 2. DX use cases in supply chains (Data utilization needs)

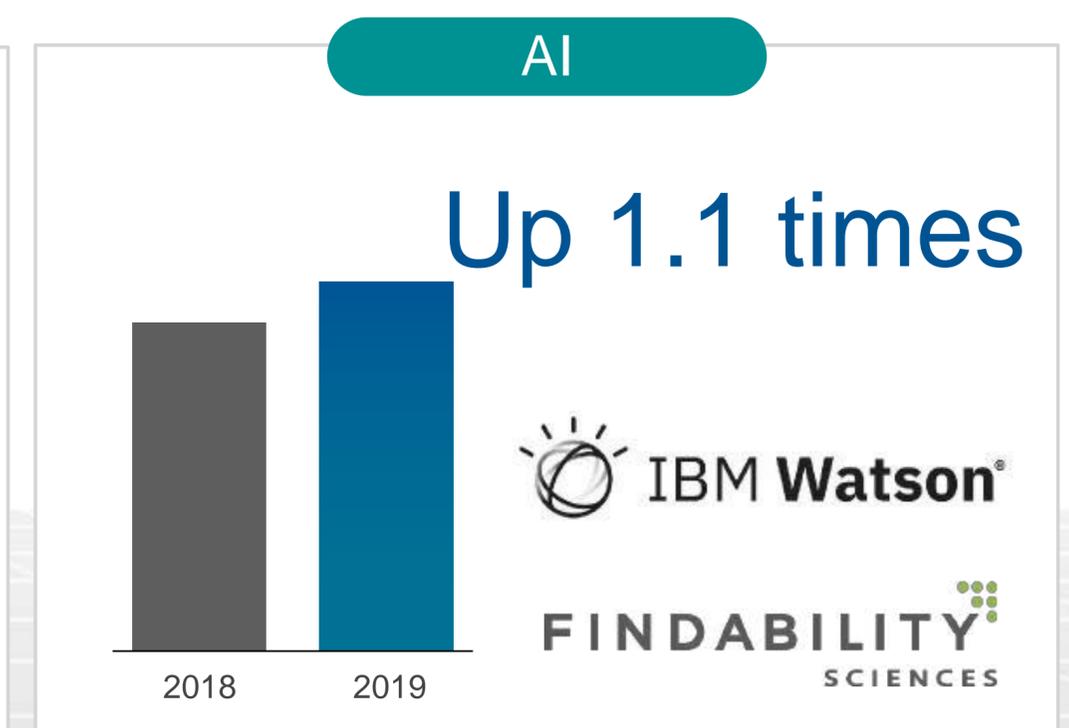
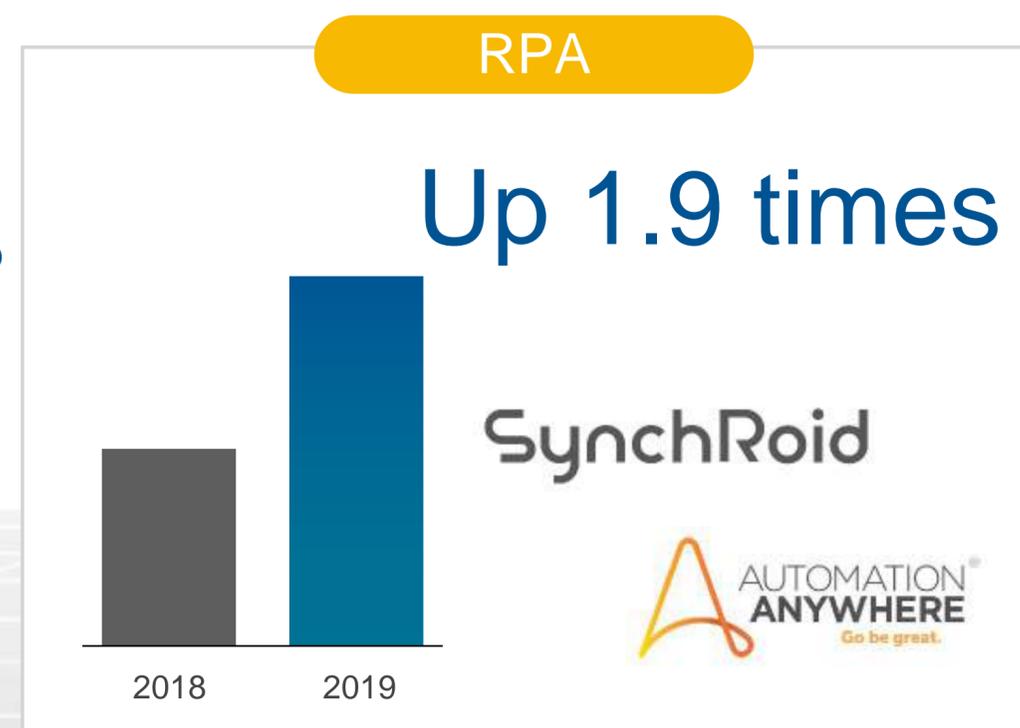
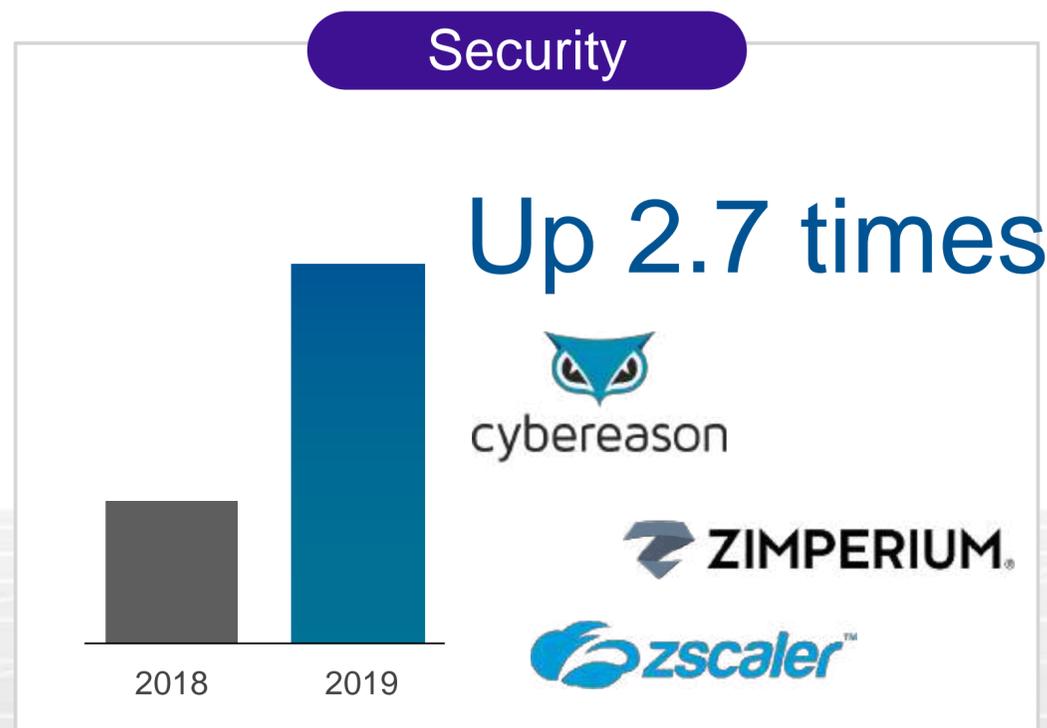
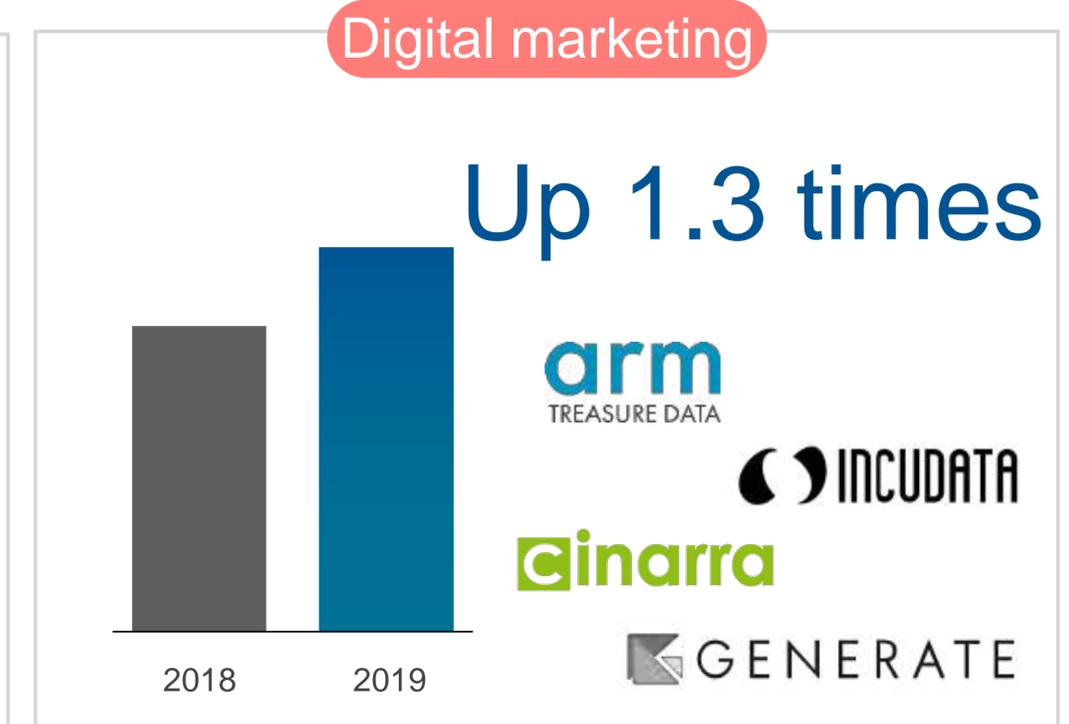
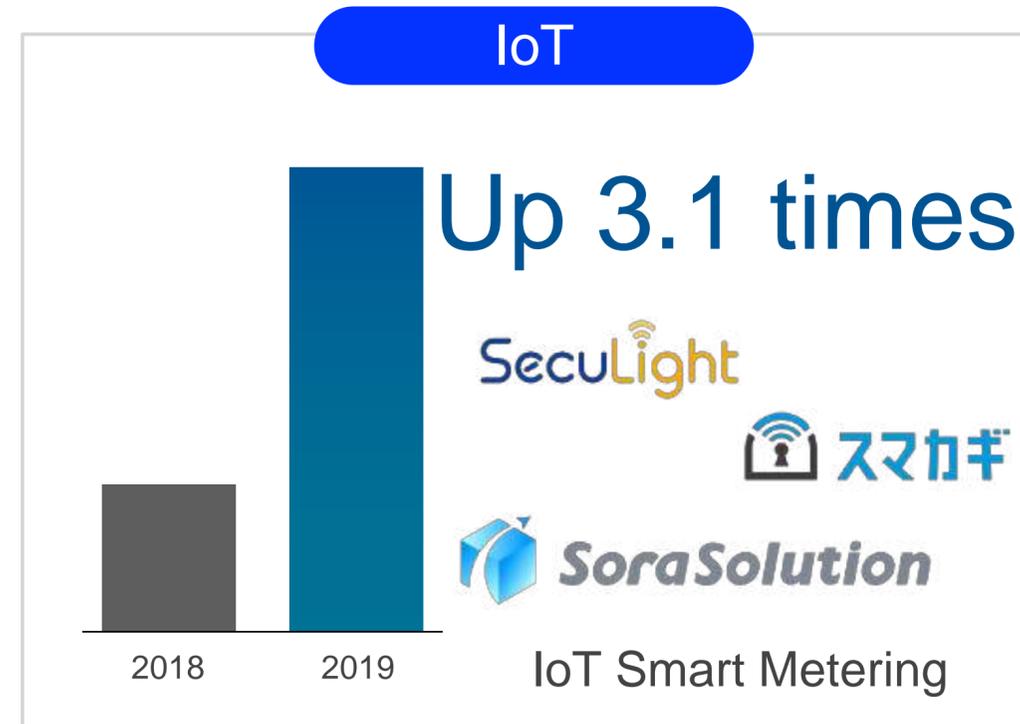
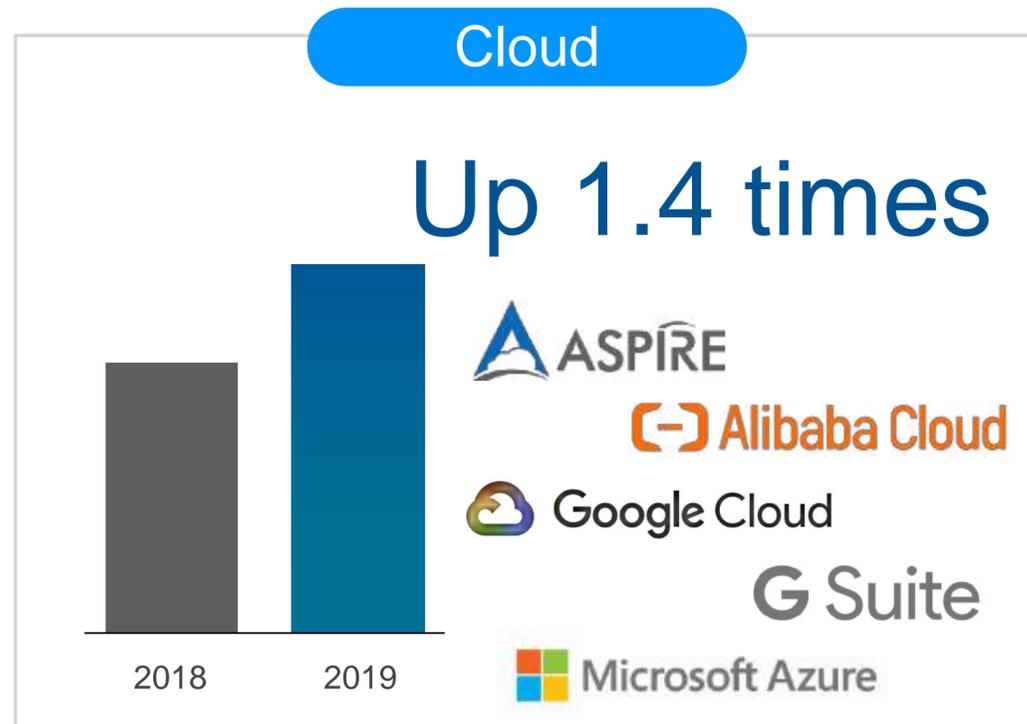


Identify tasks that can be automated by visualizing workflows

Generate need for RPA utilization

# Solve companies' challenges/Contribute to DX implementation

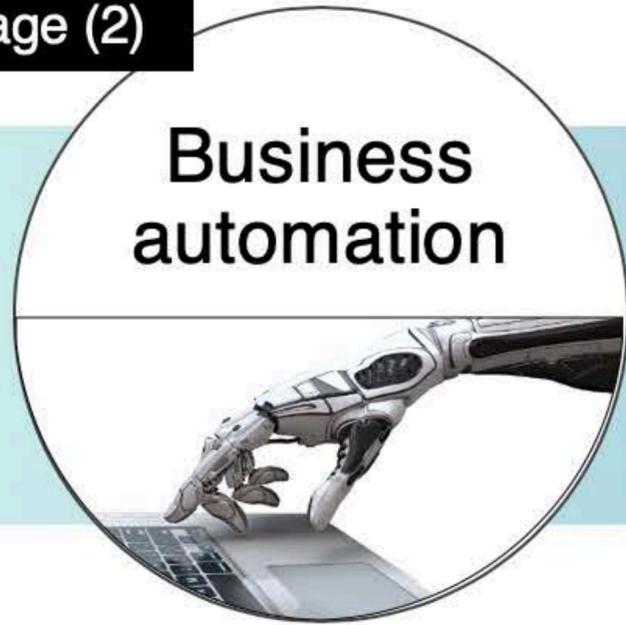
Sales comparison between FY 2018 and FY 2019



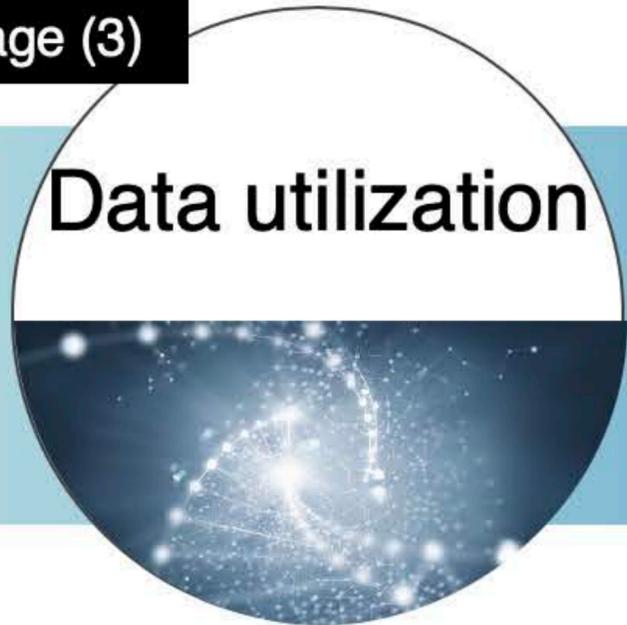
Stage (1)



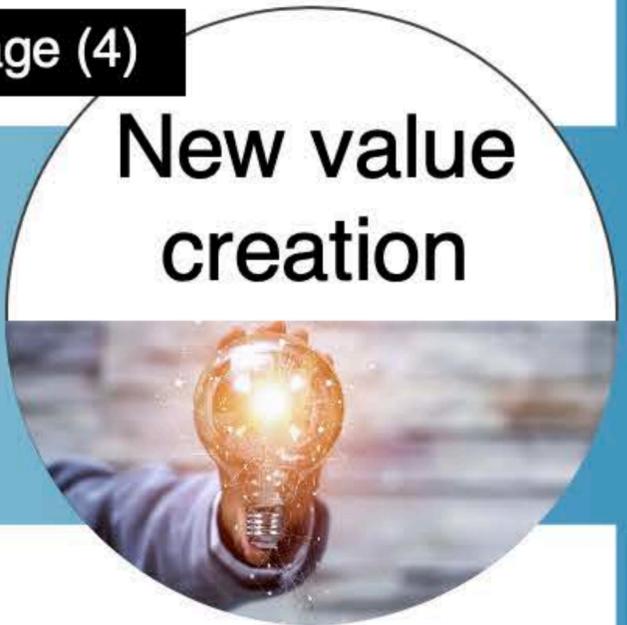
Stage (2)



Stage (3)



Stage (4)



Creation of clerical workforce



Creation of production workforce

== SoftBank

(3) Approach to Enterprise 5G

Putting a focus on 5G for enterprises.  
We have started providing 5G services  
to various industries.

 **5G**  
SoftBank

Simultaneous  
connections

Low  
latency

Super-high  
speed



Smart city



Automated  
warehouse



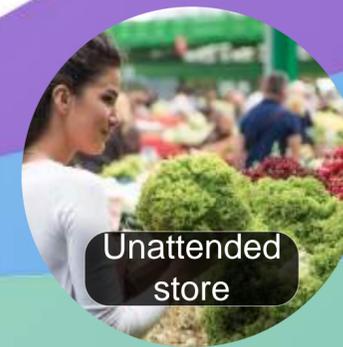
Remote  
surgery



Automated  
driving



Smart home



Unattended  
store



AR/VR/FR



Face  
recognition



Smart office



Remote  
diagnosis



Smart factory

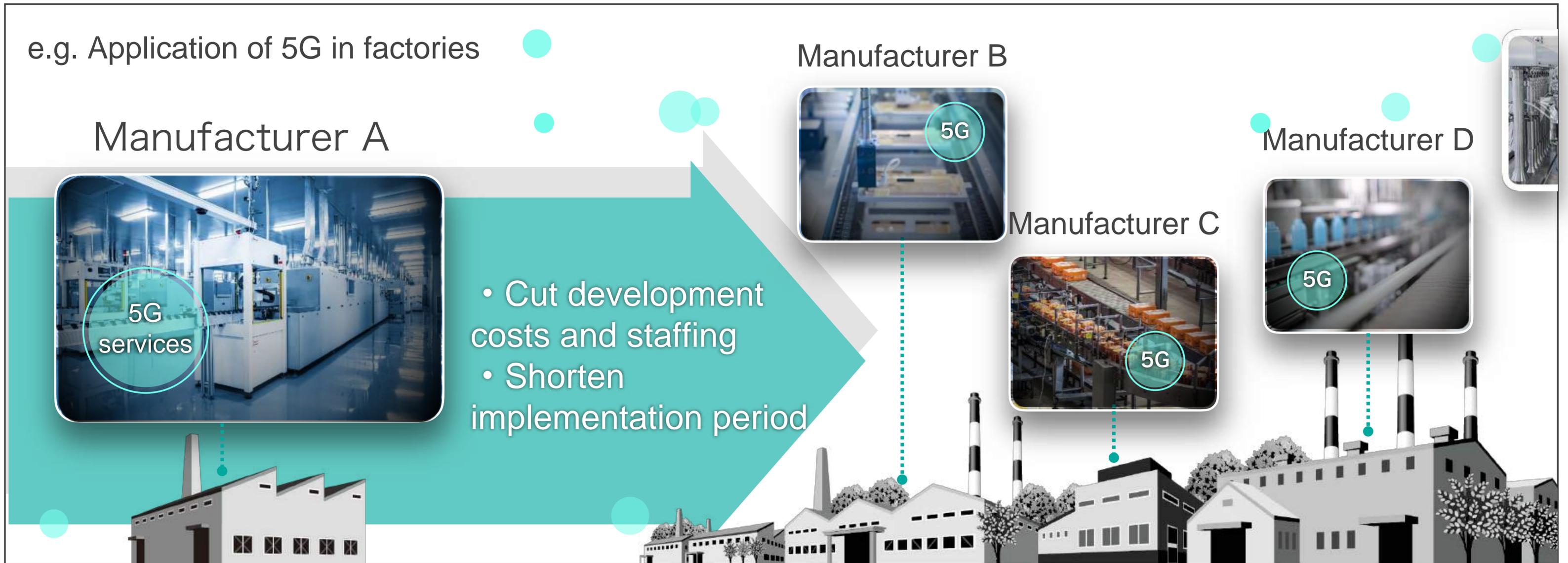


Security robot

- SoftBank Biz's 5G strategy -

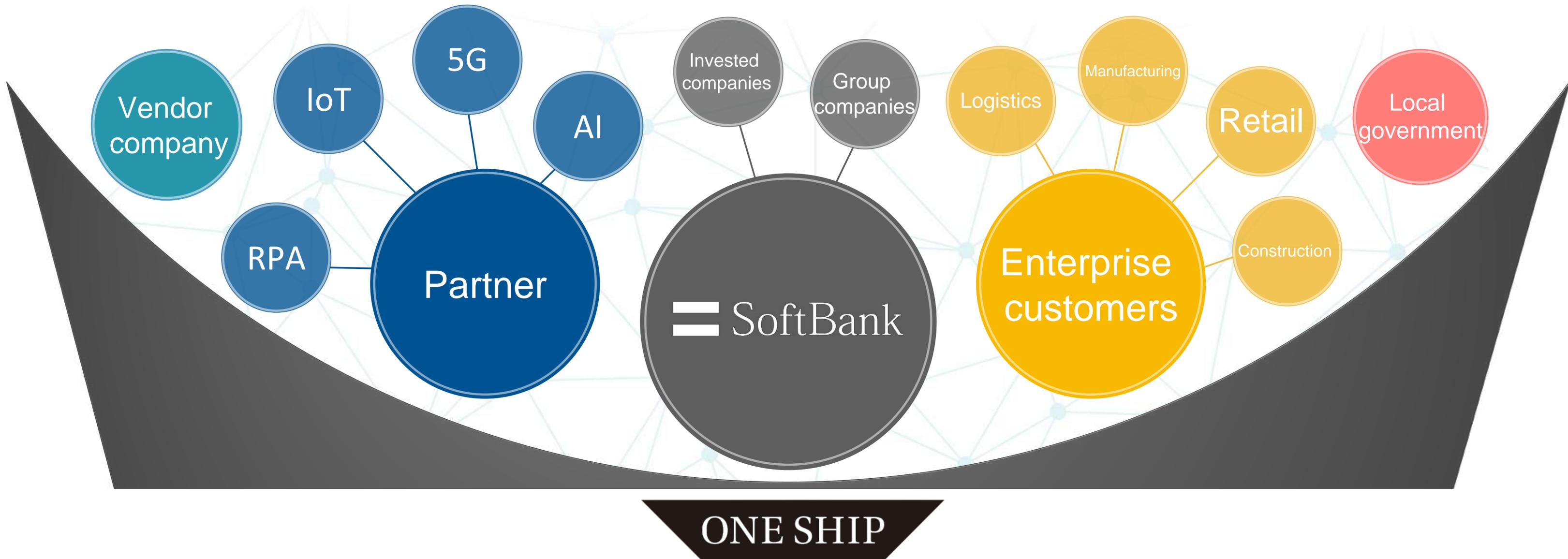
# Create use cases toward practical implementation of 5G

Launch 5G services at peer companies in the same industry, aiming to solve challenges that industry and society face



## Co-create new services in a wide range of fields

through collaboration with partners with advanced technologies and extensive experience



**NEW**

New Lab is scheduled to open in Osaka in September

June 2020

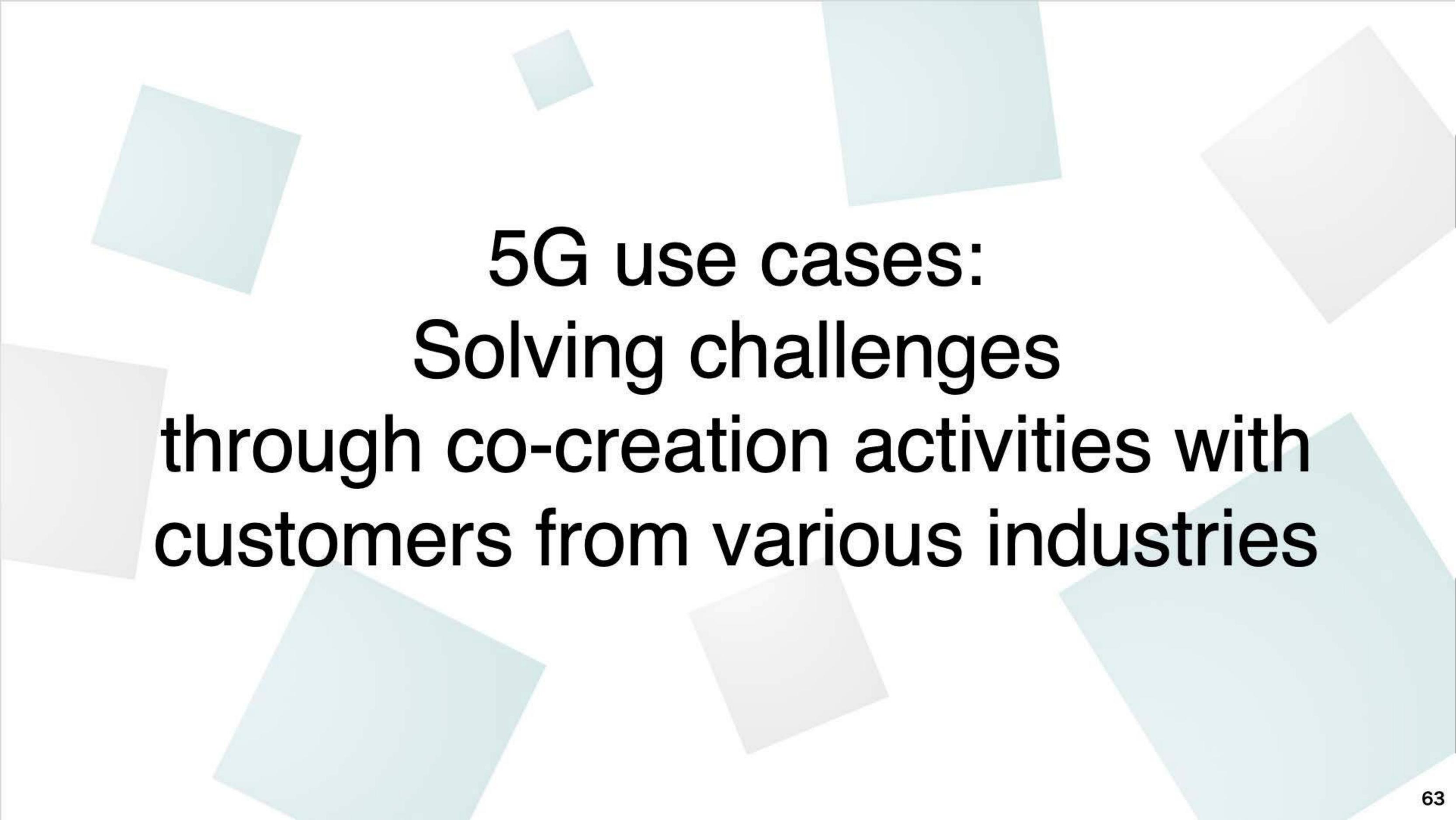


# 5G×IoT Studio

## Renovated Odaiba Lab to reopen !



A site provided for co-creation opportunities with partner companies  
Visitors can test technology under the same facility as that of the commercial environment



**5G use cases:  
Solving challenges  
through co-creation activities with  
customers from various industries**

# Use cases in previous press releases

Press release in April, 2019




**Infrastructure testing**

(Trails advocated by Ministry of Internal Affairs and Communications)

Press release in November, 2019




**Connected Car**

Press release in November, 2019




**Detection of equipment abnormality**

Press release in March 2020




**Real-time video editing**

2019

2020

Press release in March, 2019




**Regional disaster-related countermeasures**

Press release in June, 2019




**Remote operation of construction machinery**

Press release in November, 2019




**Connected Car**

Press release in February, 2020 \*




**Visualization of collection status of parcels**

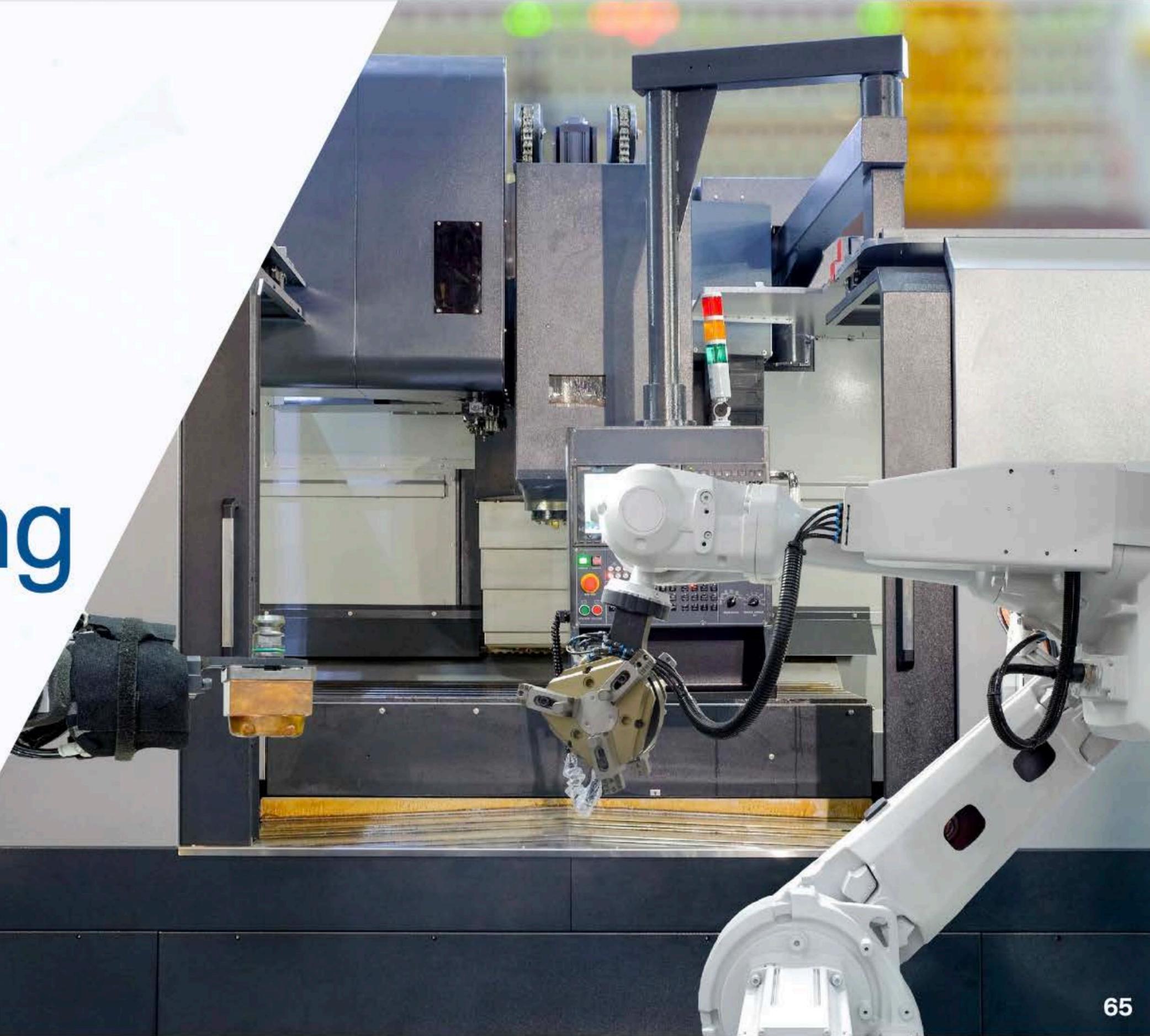
(Trails advocated by Ministry of Internal Affairs and Communications)

\*Wireless City Planning Inc. and Nippon Express Co., Ltd. conducted joint field trials in cooperation with SoftBank Corp.

— SoftBank 5G

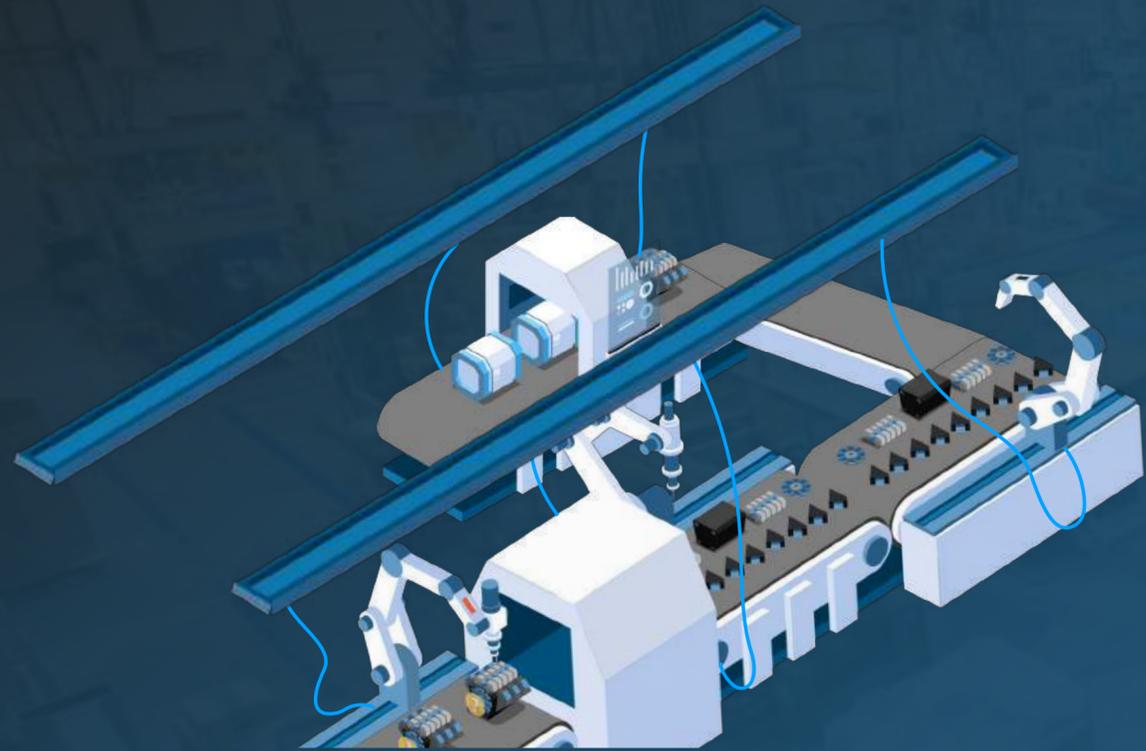
Studies toward  
practical  
implementation

**Manufacturing**



# Manufacturing industry challenges: Network in factories

## Wired network (Wired LAN)



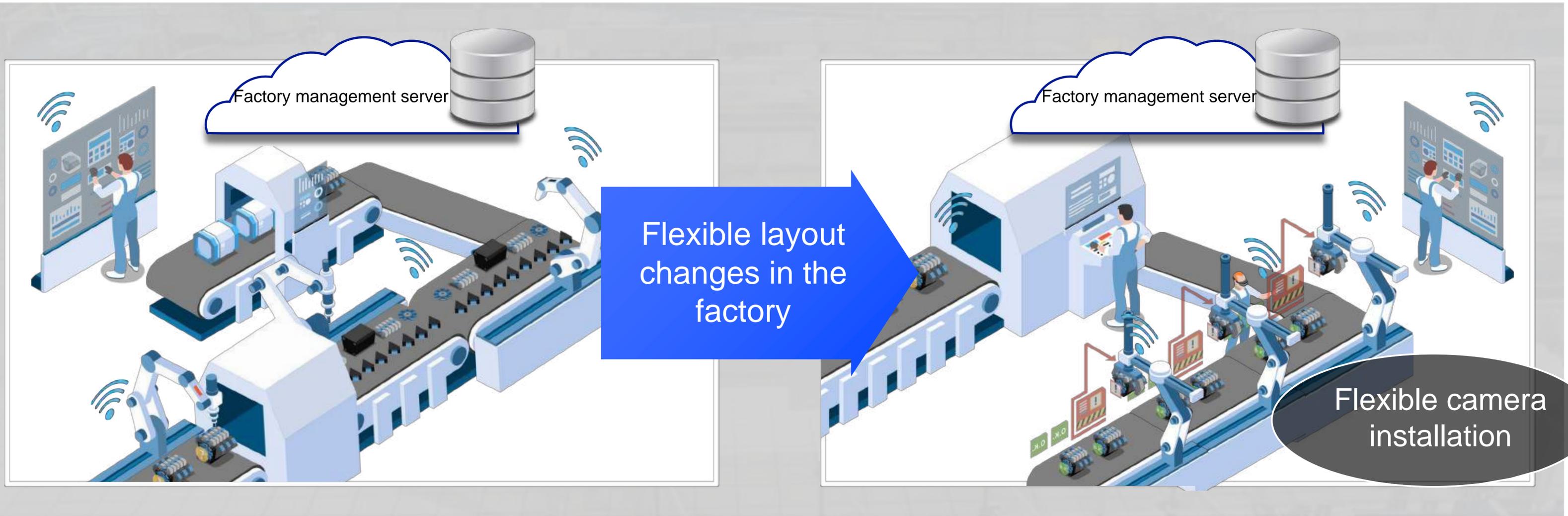
Facility expansion/Layout changes  
Require time-consuming tasks and costs for  
wiring work

## Wireless network (Wi-Fi network)



Sound cut out and noise  
Unstable connectivity

## Support construction of a stable 5G network



Unified control of the entire production monitoring crossing machinery and factory sectors is also possible by migrating on-premises equipment to the **Cloud**

# Recognized as a leading partner by Microsoft and Google

Feb. 2020



Microsoft Azure Partner of the Year  
Japan's first company winning 2 awards



- Microsoft Azure Expert MSP
- Microsoft Azure Networking MSP

The world's only carrier  
winning 2 awards

Apr. 2020



Contribution to solving problems and  
the expansion of Google Cloud  
ecosystem



- G Suite**  
2019  
Google Cloud™  
Expansion Partner  
of the Year

\*The results as of Feb. 5, 2020 surveyed by SoftBank Corp.  
Received the "Azure Expert MSP" award on Feb. 7, and the "Azure Networking MSP", on Jan. 31, respectively.

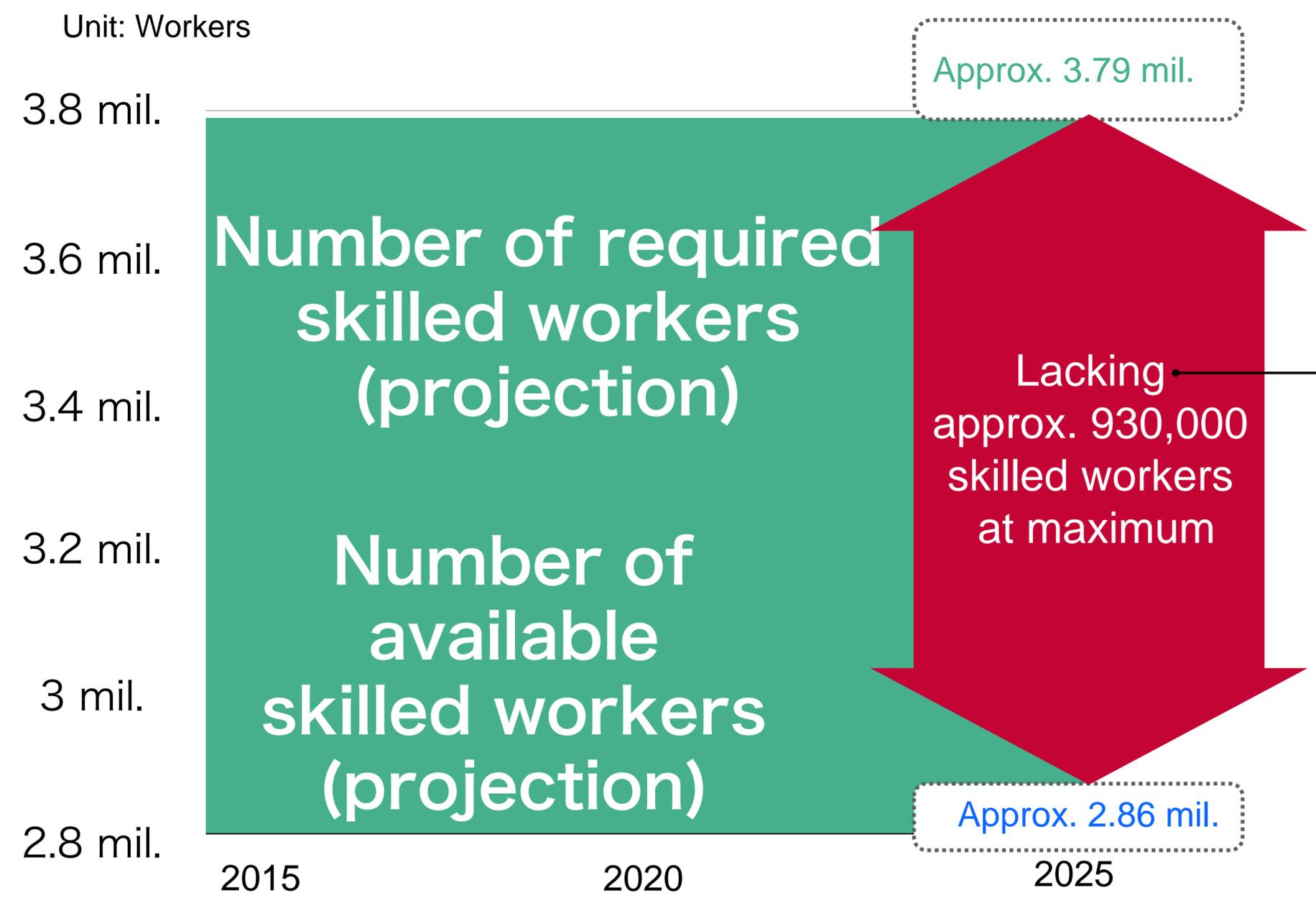
SoftBank 5G

Studies toward practical  
implementation

Construction



# Construction industry challenges: Shortage of skilled workers



Source: "Current State and Current Efforts of the Construction Industry (in 2016)" by Japan's Ministry of Land, Infrastructure, Transport and Tourism

Master System for skilled workers hosted by general contractors



## Promote development of "multifunctional workforce" to compensate for the shortage of skilled workers

High capacity Simultaneous connections Low latency

# Support the construction industry through technologies including 5G to increase the number of **workers who can perform multiple workflows**



**Surveying**

Automated surveying by drones

**Construction**

Remote control of tower cranes

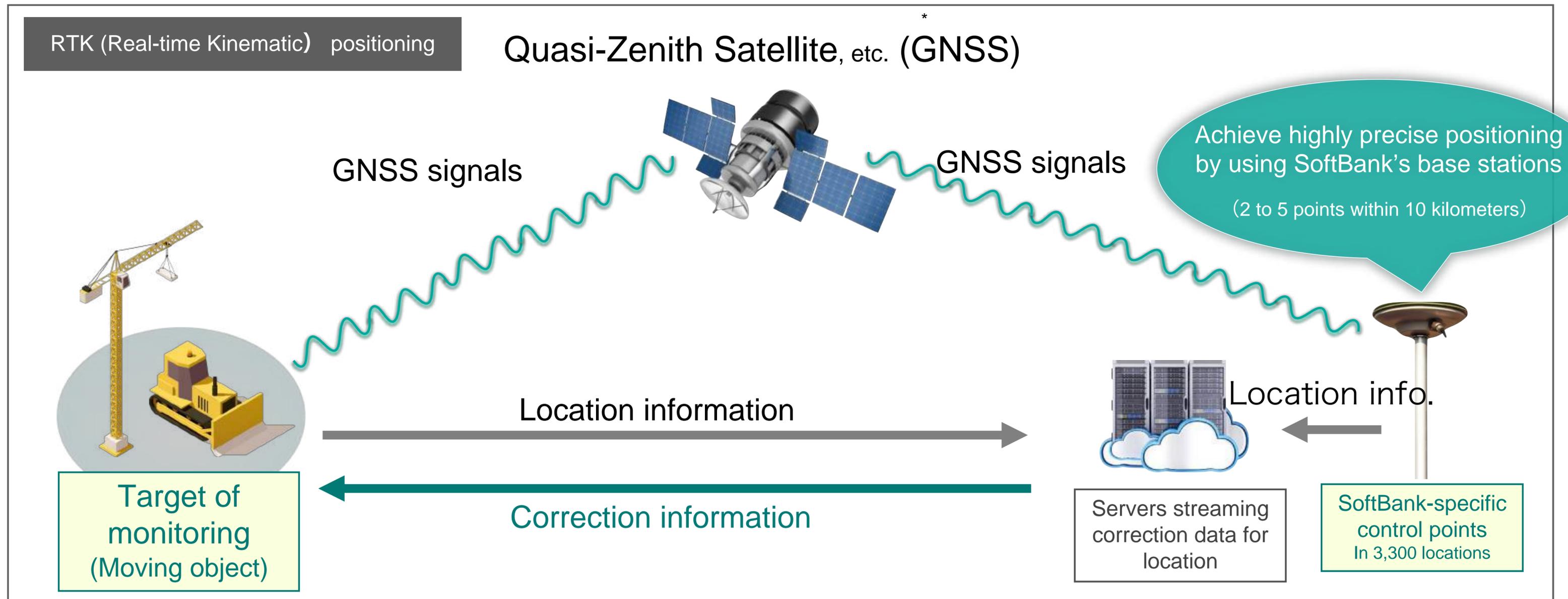
**Progress monitoring**

Confirm the latest plan

Provide a one-stop solution for the entire range of workflows in construction projects

# Reference) High-precision positioning mechanism (ichimill)

Highly precise positioning that is accurate within a few centimeters is available by combining positioning technologies of both satellites and SoftBank-specific control points



\*GNSS (Global Navigation Satellite System): Collective name of satellite positioning systems including QZSS (Quasi-Zenith Satellite system), GPS, GLONASS, Galileo, etc.

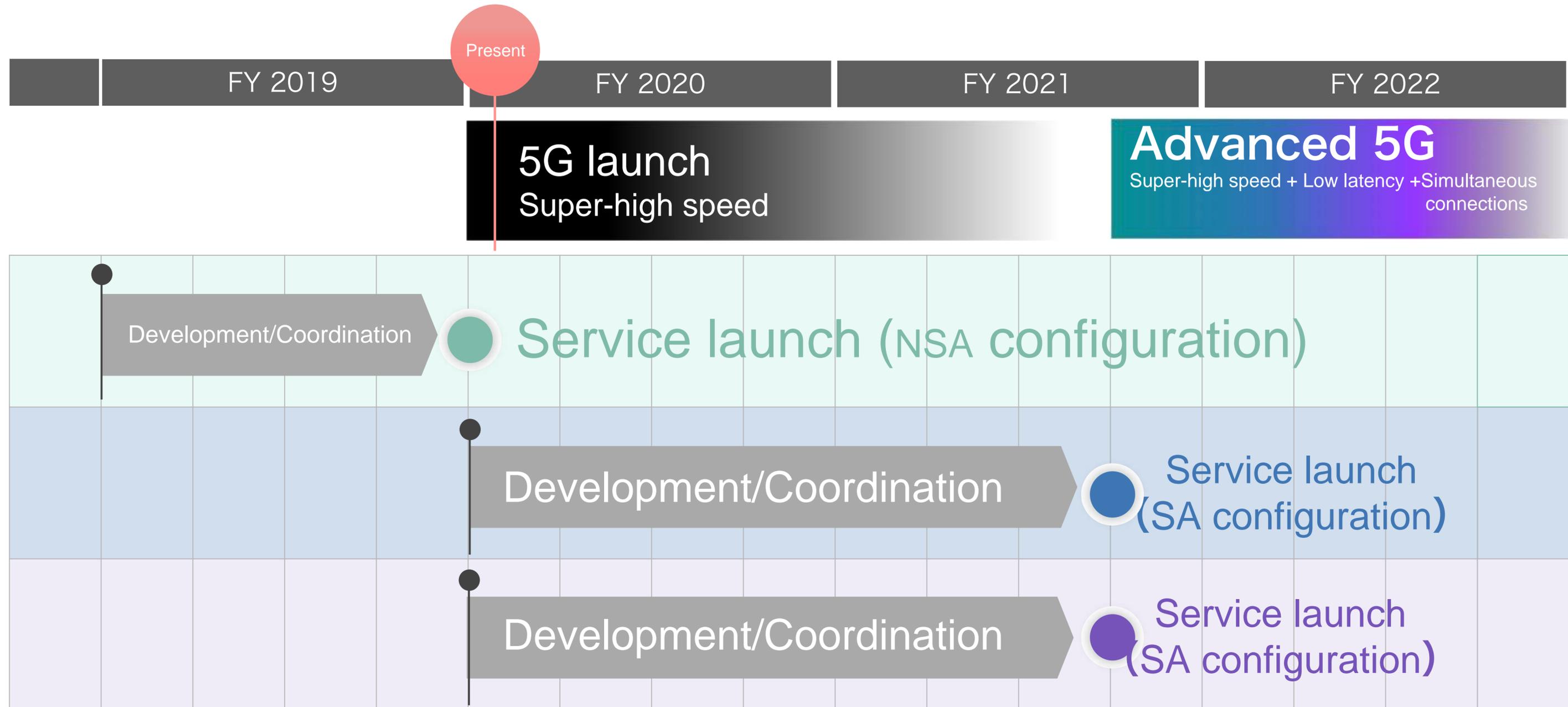
# 5G use cases at a glance



Promote sophistication of operations and services with 5G and bring solutions to challenges of respective industries

# Network deployment schedule

First deploy the super-high speed, and then other services sequentially



\*The timings for launching the services may subject to change depending on schedules for standardizing the technical specifications and other arrangements.



Towards 5G deployment

# Methods for application of 5G network

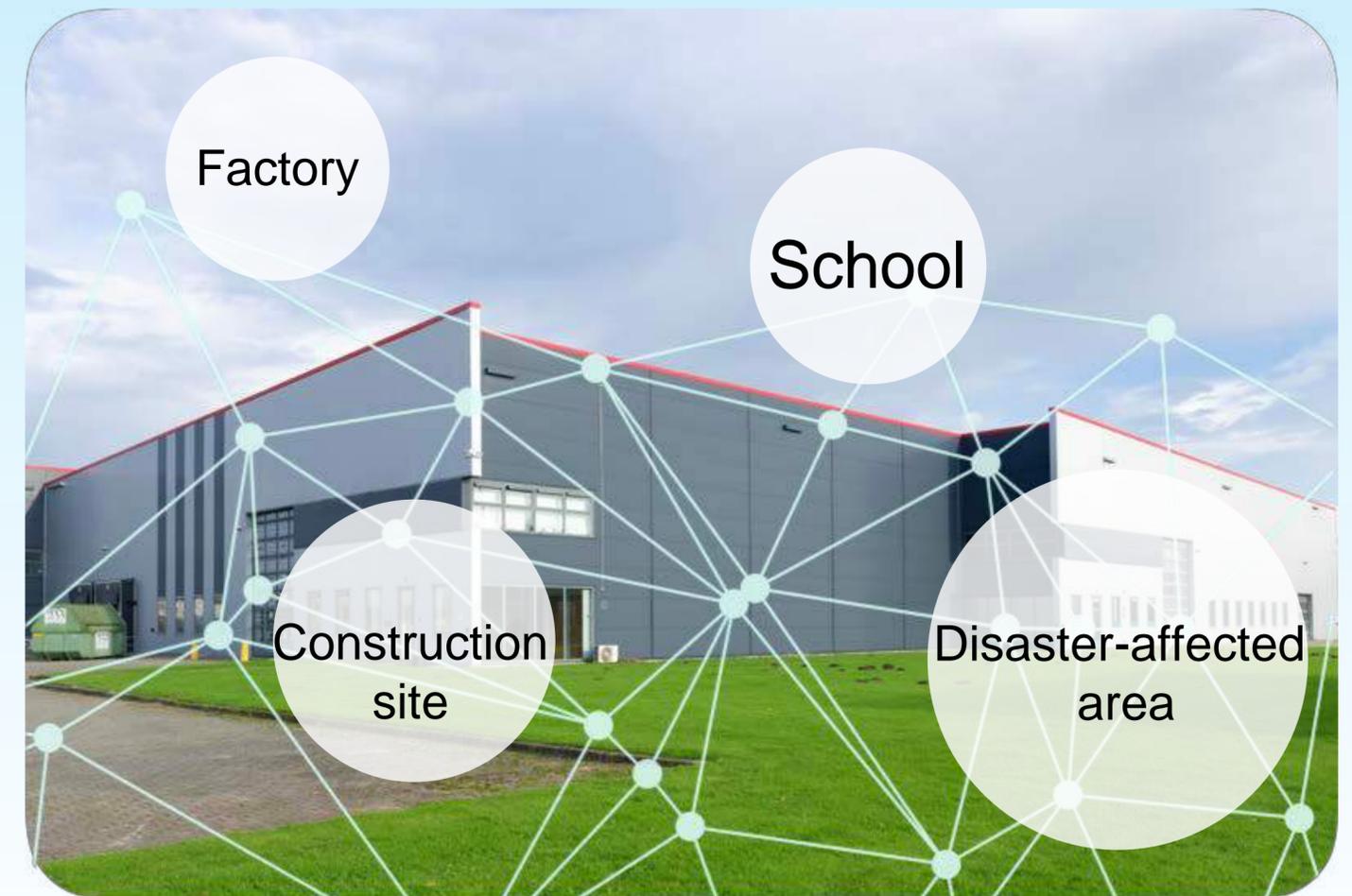
## Public 5G

Carriers sequentially roll out 5G environments nationwide



## Local 5G<sup>\*2</sup>

Enterprises and local governments individually construct their 5G environments



\*1 As of the end of FY2021

\*2 To apply the Local 5G service, enterprises and local governments construct the local 5G network in a specific area within their building or premises by using special frequencies allocated to a Local 5G operator.

New 5G managed services for businesses  
offered by SoftBank

# Private 5G

To be offered from FY2022

Install base stations in respective costumers' premises



Data are not transmitted via a carrier

Constructed and operated by SoftBank



Secure the capacity/area required for each customer



## Public 5G

### Carriers

sequentially roll out the 5G environments nationwide



From FY2020

## Private 5G

### SoftBank

constructs and operates the services within customers' premises



From FY2022

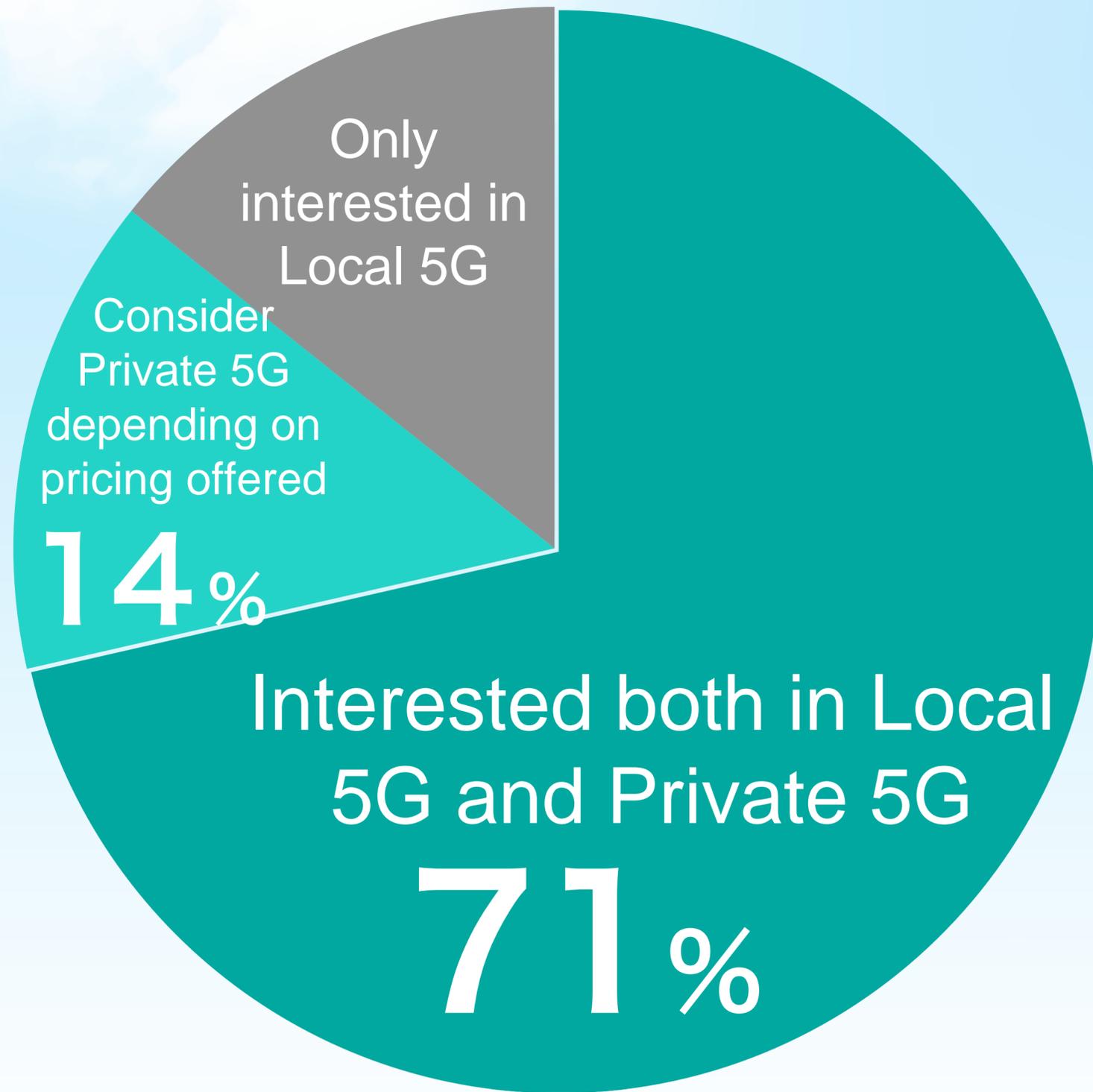
## Local 5G

### Enterprises and local governments

individually construct their 5G environments



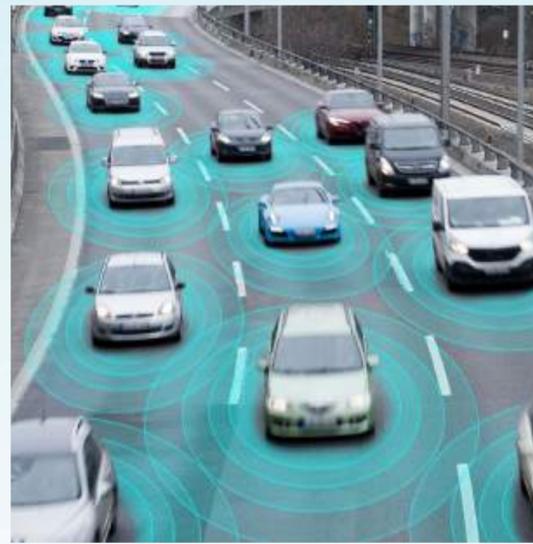
From FY 2020



Our enterprise customers are

**positive about  
deploying Private 5G**

**85%**



## ≡ SoftBank 5G

Towards creating practical services in the 5G age



== SoftBank

Summary

# We will provide solutions leveraging technologies

## Moving towards economic recovery and the creation of a sustainable society

Business growth

Solutions to social challenges



SoftBank

# Summary of today's presentation

## ■ Contribution to companies affected by COVID-19

- Rapid increase of requests for telework support services
- Expansion of installation of our "AI Thermography Solution" to government agencies, hospitals, companies, etc.
- Establishment of a joint venture, "Mapbox Japan"

## ■ Promotion of DX for businesses after COVID-19

- Also put a focus on 5G for enterprise businesses
- Scheduled to offer Private 5G from FY2022

# SoftBank

Contributing to the achievement of SDGs by providing services to our customers.

Pursuing a world where all products, information and minds are connected

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

Support  
teleworking



AI Thermography  
Solution



mapbox.jp



SoftBank 5G



SoftBank  
for Biz