

JTOWER

Company & Business Information

February 8, 2022

J T O W E R Inc.

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Company Information

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Pioneer of telecom Infra-Sharing

3

Growth drivers backed by 5G

4

Strengthen International business and related businesses

5

Alliance/ Sustainability

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Appendix

JTOWER's Vision

Infra-Sharing Services from Japan Lead the World

Japan is behind in the field of global telecommunications infrastructure sharing.

In 2012, when the term "Infra-Sharing" was not common in Japan, we launched our first business.

Our goal is not the same as other global tower companies; our goal is what they have never done.

Meeting the world's highest standard for network quality as required in the Japanese telecommunications industry, we will overcome challenges and improve services.

We will treat all stakeholders with respect and honesty, including mobile network operators, real-estate developers, and partner companies,

We will continue to innovate and challenge new ideas to expand business globally.

We will pursue the world's state-of-the-art technologies, services, and business models.

As a result of these efforts, we will make the Infra-Sharing services that we provide global standards and create our future through businesses expansion.

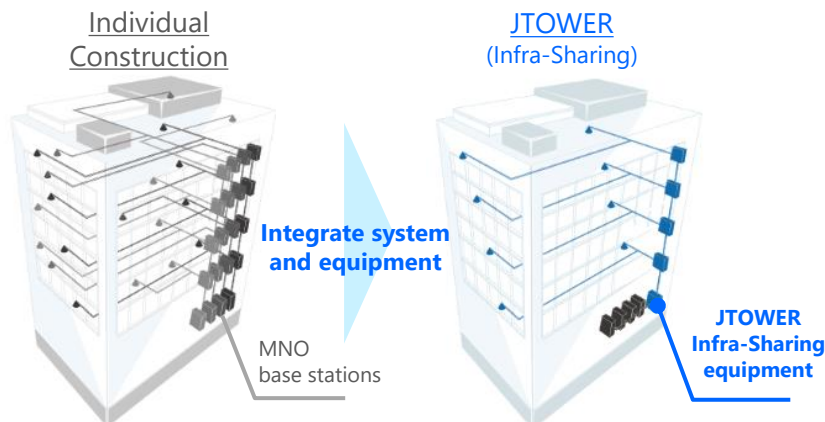
This is the vision of our company.

Company Name	J T O W E R I n c .
Founded	June 2012
Representative Director	Atsushi Tanaka
Head office	8-5-41 Akasaka, Minato-ku, Tokyo, Japan
Employees	156*1 (consolidated, as of December 31, 2021)
Capital	JPY7,988 million (as of December 31, 2021)
Business Description	Provision of telecom Infra-Sharing service and related services in Japan and overseas

*1: Number of employees includes the average number of temporary workers (contract workers and workers from staffing agencies) in the past year, which is 23.

IBS*1 Business (Indoor Infra-Sharing)

- ✓ Integrate mobile network operators' in-building infrastructure as a shared system
- ✓ Beneficial for real-estate firms, mobile users and mobile network operators
- ✓ Steady growth with a stable revenue model



Japan

- ✓ **Installation at 429 properties*2**
(4G IBS 373, 5G IBS 56 properties)
(including the number of installations to be completed)

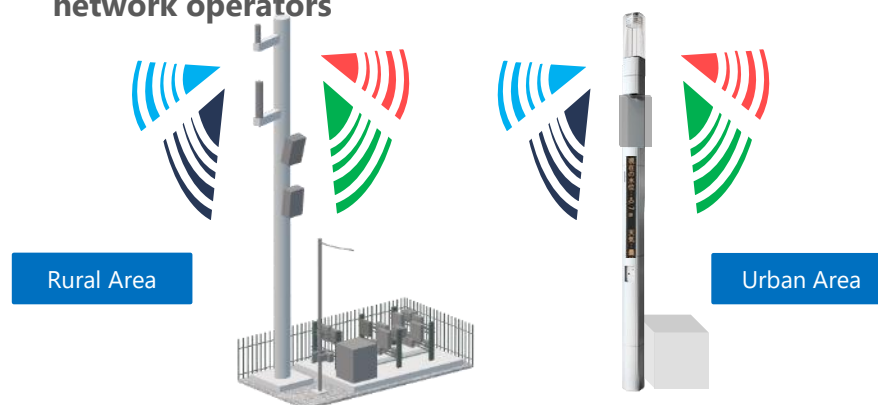
- ✓ **Expansion in emerging markets**

Overseas

- ✓ **Expand business in both organic and inorganic, mainly in Vietnam**
 - Top player in Vietnam (Installation at 219 properties*2)
 - Expanding in Malaysia

Tower Business (Outdoor Tower Sharing)

- ✓ Full-scale entry in FY2020
- ✓ New market for outdoor Infra-Sharing service driven by the deployment of 5G
- ✓ Outdoor telecom infrastructure sharing among mobile network operators



Solution Business

- ✓ Value-added services for Infra-Sharing business
- ✓ Serve demand by mobile carriers and real estate companies for rooftop base station installation through SITE LOCATOR, cloud-managed Wi-Fi solution and others



*1: IBS: In-Building Solution

*2: As of December 31, 2021

Footsteps as a Pioneer of Telecom Infra-Sharing



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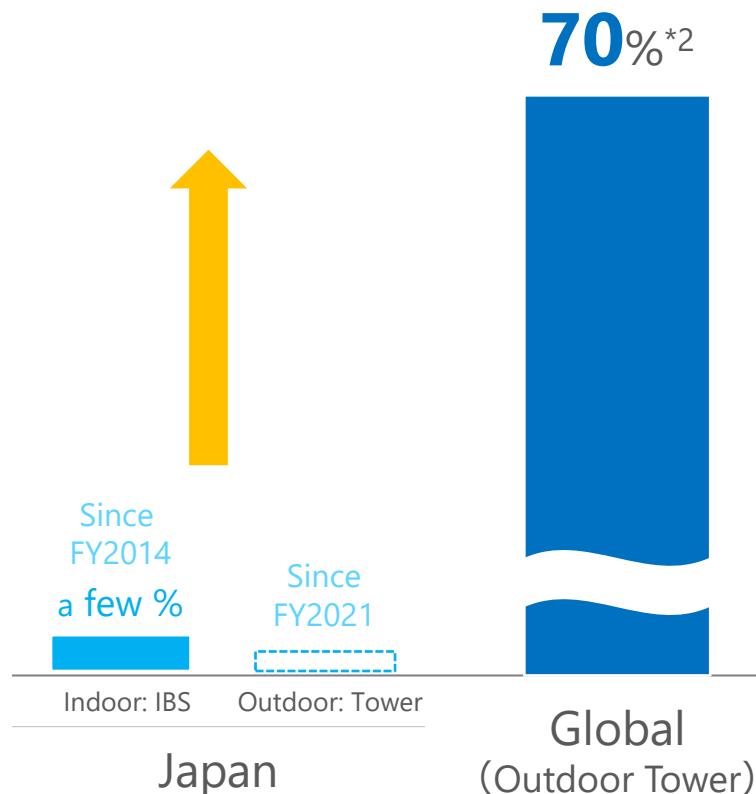
Alliance/ Sustainability

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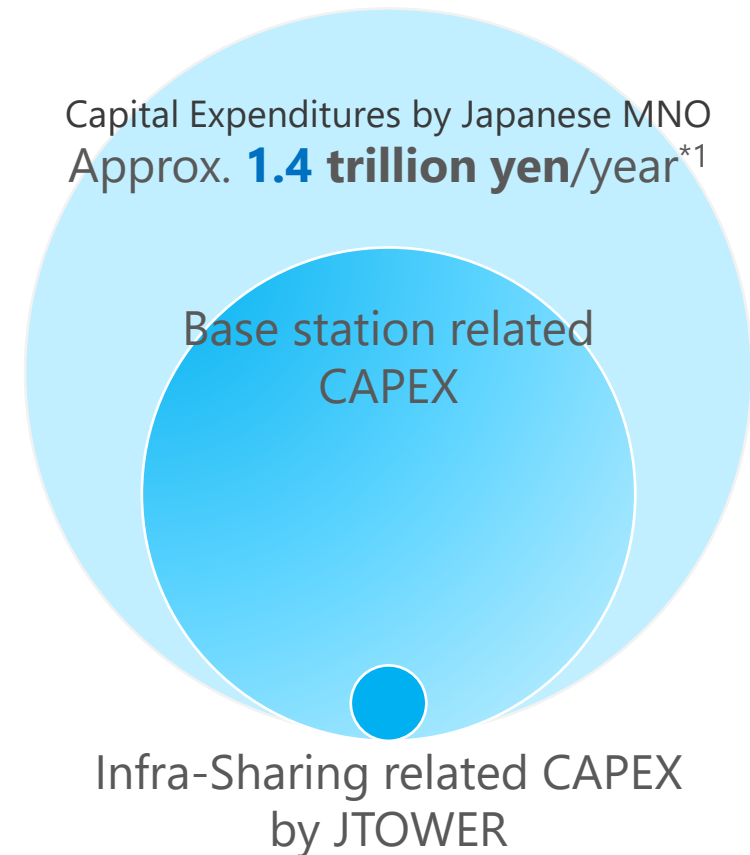
Appendix

- In Japan, JTOWER has been leading Infra-Sharing market as a pioneer.
- On the other hand, compared to the global market, Japanese Infra-Sharing market seems to be a market with considerable room for future expansion.

Infra-Sharing Penetration



Investment in telecommunications infrastructure in Japan



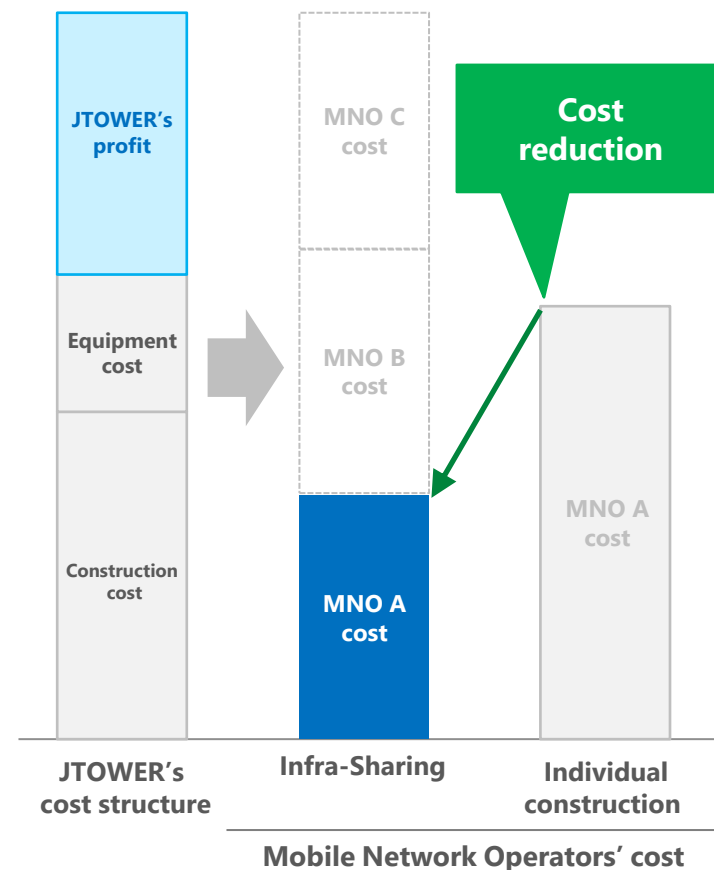
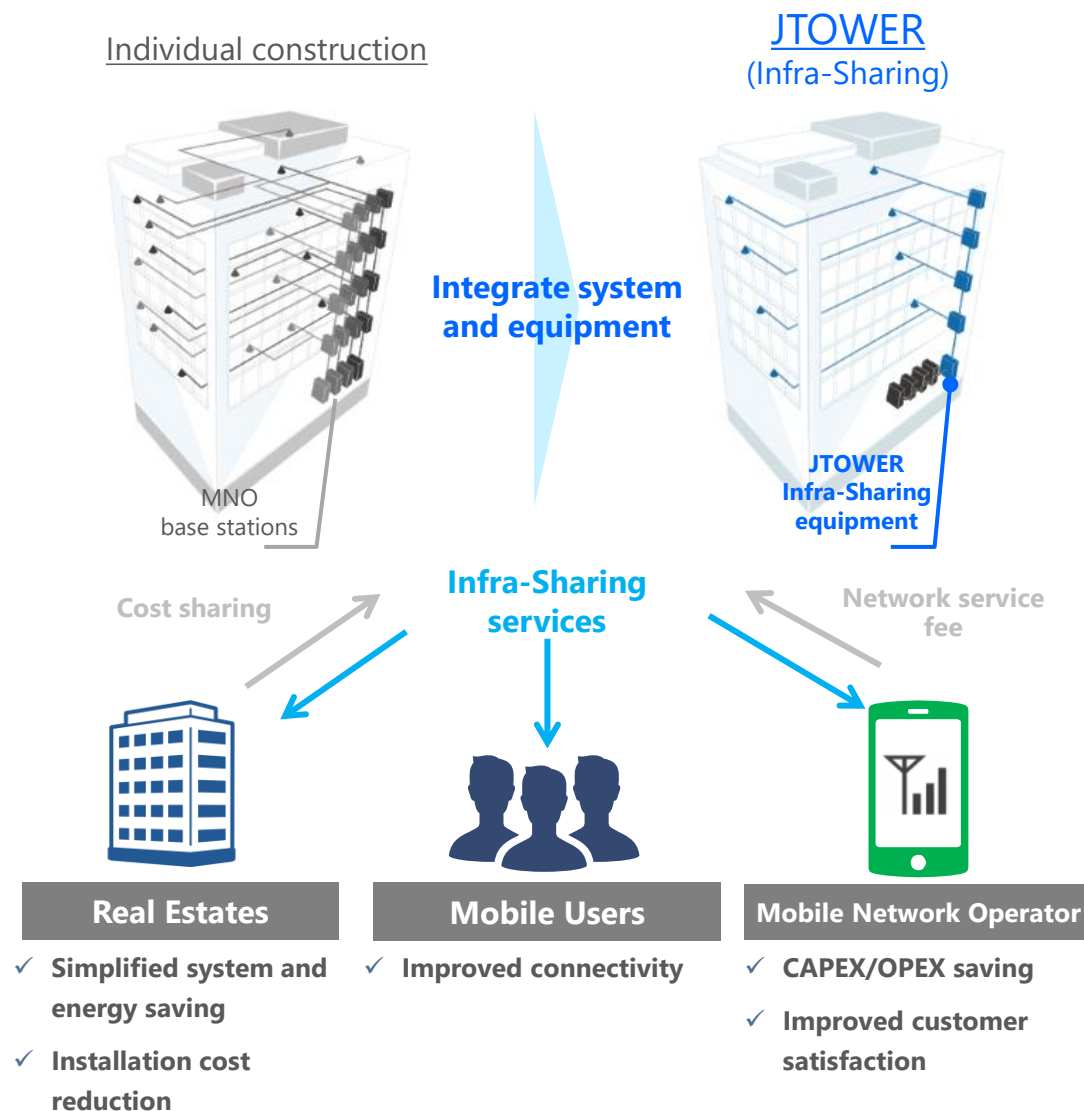
Source:

*1: Based on Current Status and Future Forecast of the Mobile Phone Base Station Market and Peripheral Materials Market (2020 Version) by MCA

*2: Based on TowerXchange

Unique Business Model to Build Win-Win Relationships

Cost-Benefits for Mobile Network Operator*1

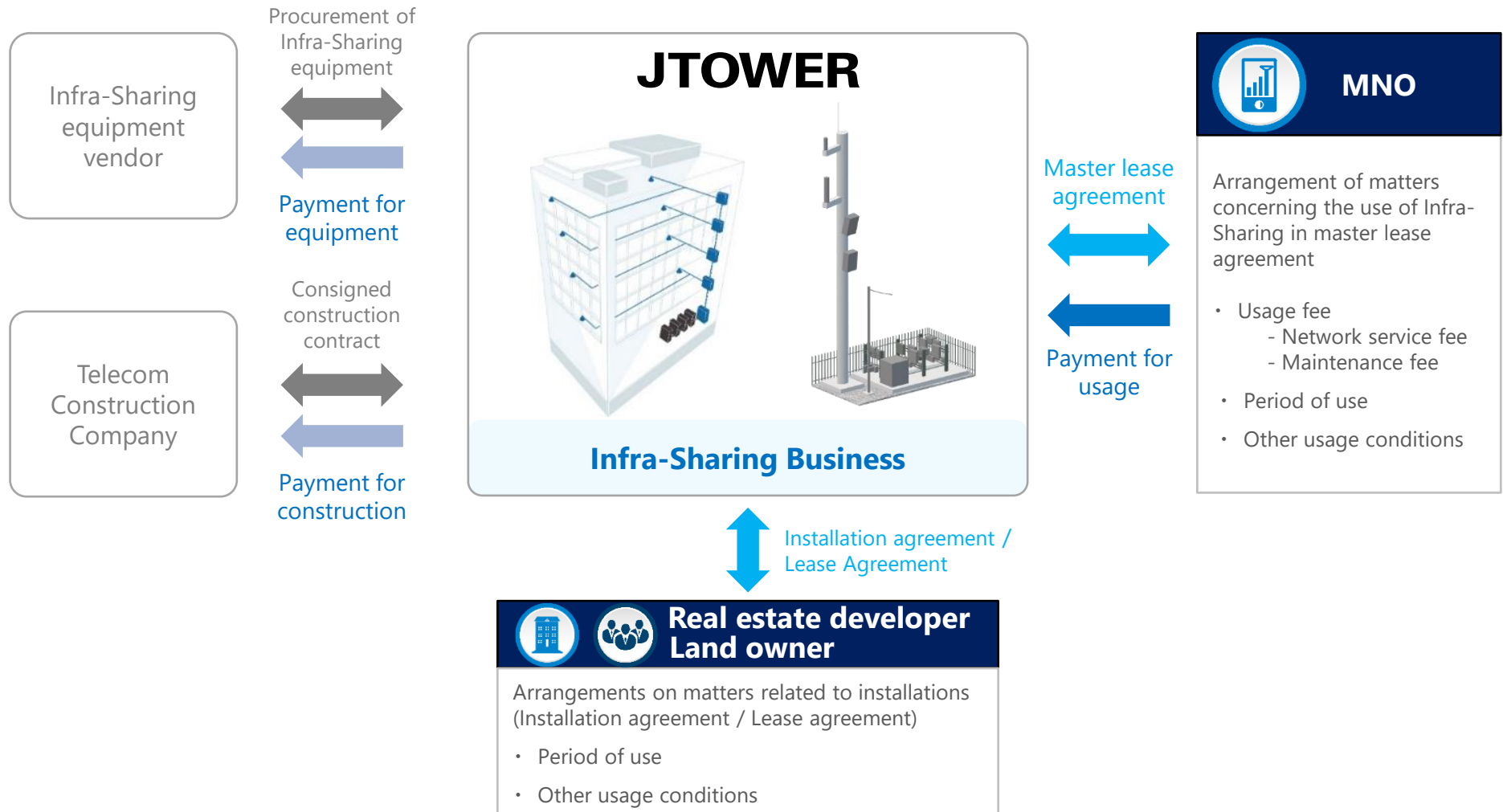


Note1:

For illustrative purposes only

2 Overview of Infra-Sharing contract structure

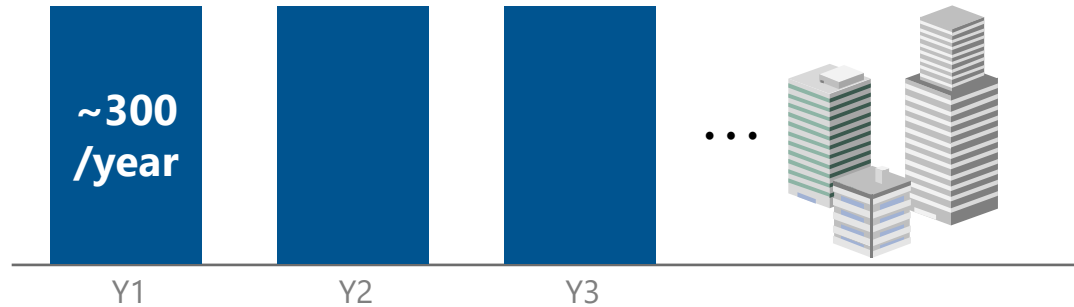
- Contracts for Infra-Sharing services, such as master lease agreement with MNO, installation agreement with real estate developers, and lease agreement with landowners.



2 Domestic IBS - Persistent Demand and Upside Potential

JTOWER

① New buildings*¹



4G

New
installation

Main target

5G

New
installation

**Major
Upside Factors**

② Existing buildings

(Offices*², commercial*³, hotels*⁴, hospitals*⁵, high-rise residence*⁶, etc.)

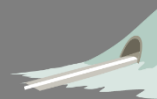


System
upgrade

③ New category (Railway tunnels etc.)*⁷



~5,000



New
installation

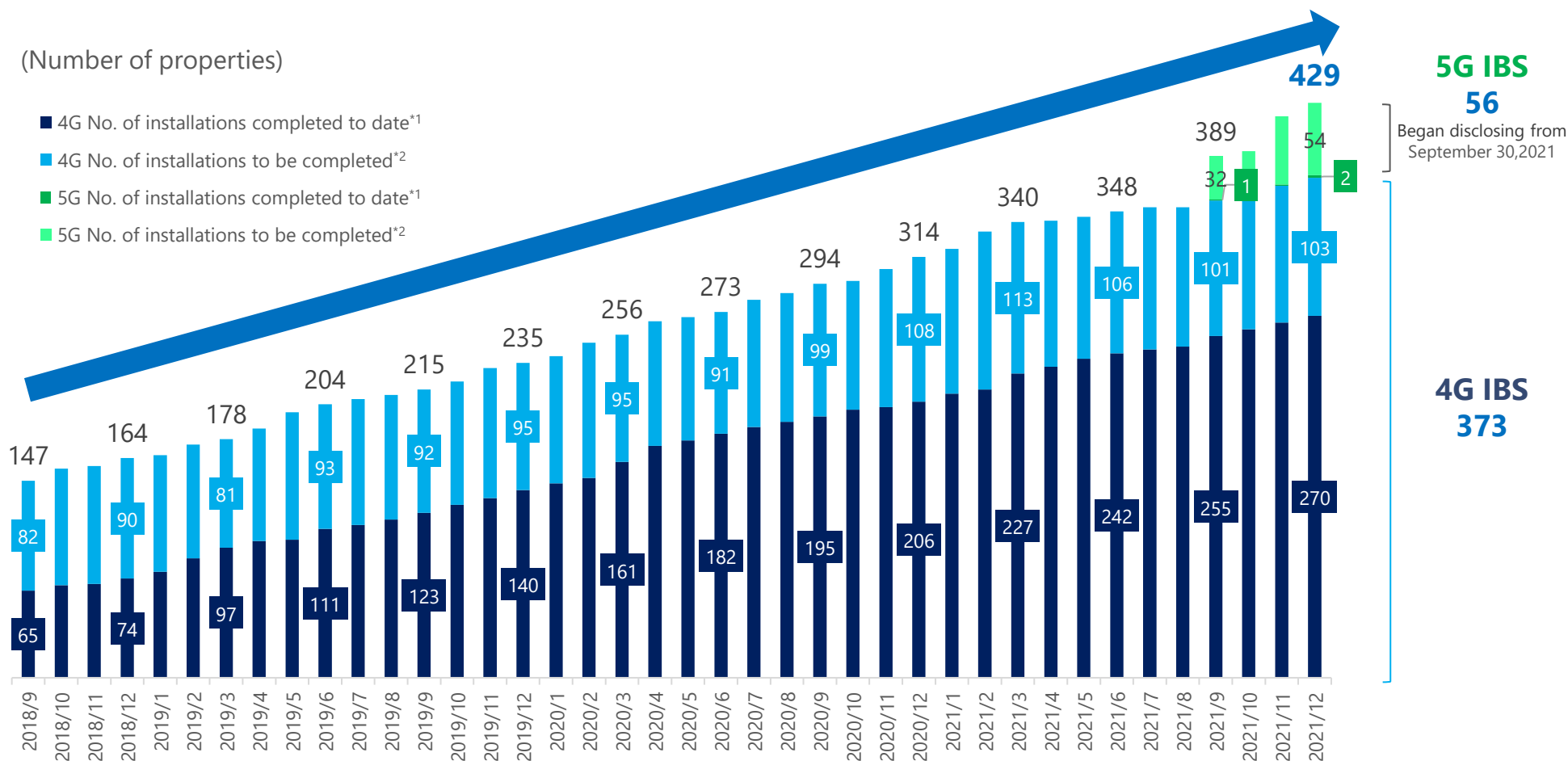
New
installation

* 1 : Company estimate based on large-scale projects with floor area of >10,000m². *2 Large-scale projects with >330m² per floor (as of Sept. end 2018, office building criterion based on Sanko Estate). *3: Large-scale projects with >1,500m² retail floor space and >10 tenants, developed by a developer. *4: Based on the number of resort hotels, city hotels and business hotels in Japan (as of Dec. 31, 2018). *5: Large hospitals with >300 beds in Japan (excluding general clinics, as of Oct. 1, 2017). *6: Condominium buildings with >20 floors in Japan (estimate for 2020 as of Oct. 31, 2018). *7: Total number of tunnels used by private railway companies and Japan Railway Company based on the statistics provided by the Ministry of Land, Infrastructure, Transport and Tourism (as of 2016)
Source: "OFFICE RENT DATA 2017" by Sanko Estate Co., Ltd., Japan Council of Shopping Centers Website, TOKYO KANTEI Co., Ltd. and the Ministry of Land, Infrastructure, Transport and Tourism (Annual Railway Statistics)

2 Historical Number of Installations (Domestic IBS-4G·5G) JTOWER

- Total number of 4G IBS installations has increased to **373** (installation completed: **270**, to be installed: **103**).
- Total number of installations of 5G IBS became **56** including pipelines.

(Number of properties)



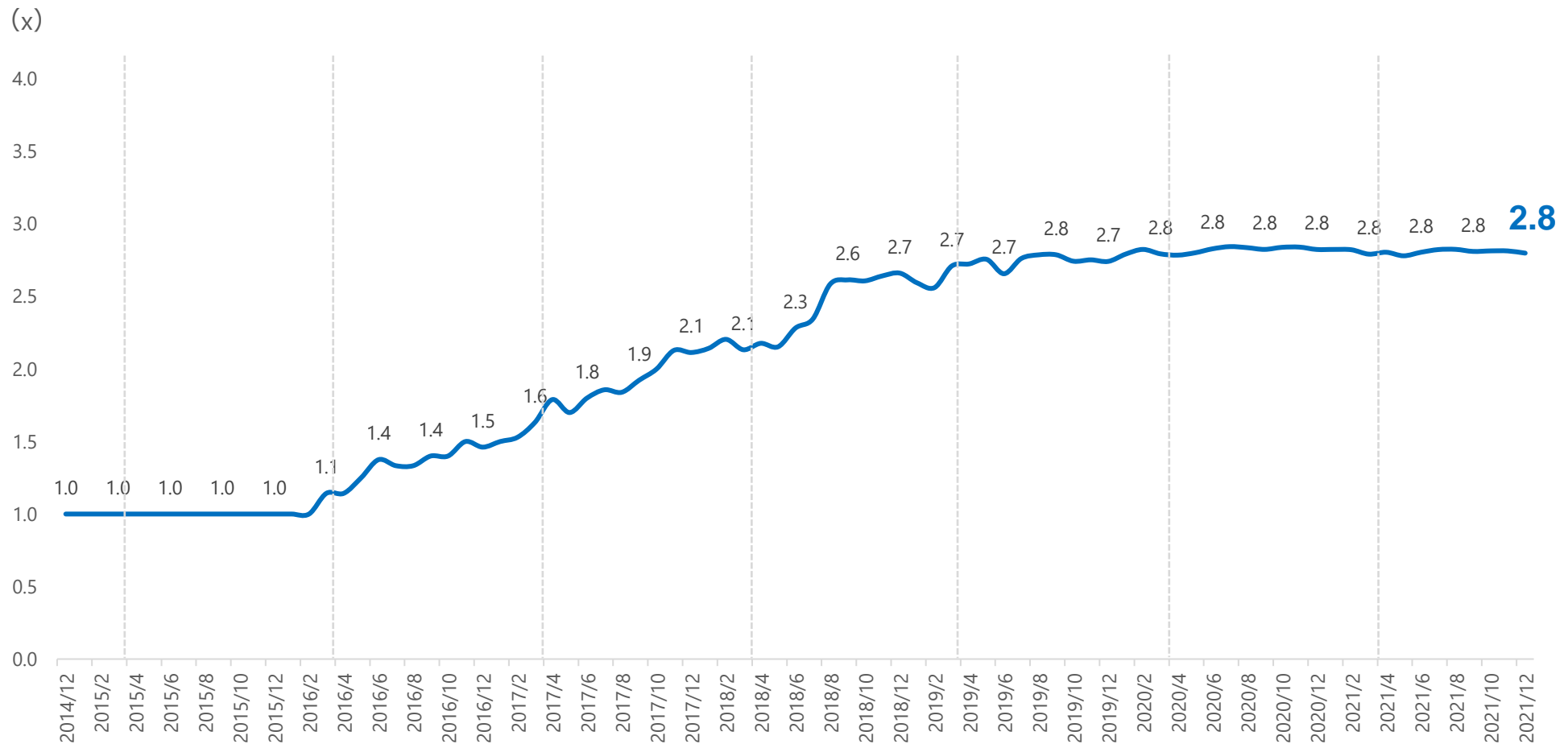
*1: Projects where radio waves have been emitted and revenues are recognized.

*2: Projects where we have reached an agreement with the property owner and mobile carriers, and radio waves emission and revenue recognition are expected in the next few years.

2 Historical Tenancy Ratio*1 (Domestic IBS-4G)

JTOWER

- Tenancy Ratio (average number of participating mobile network operators per property) has been steady in **the higher 2 point range**.

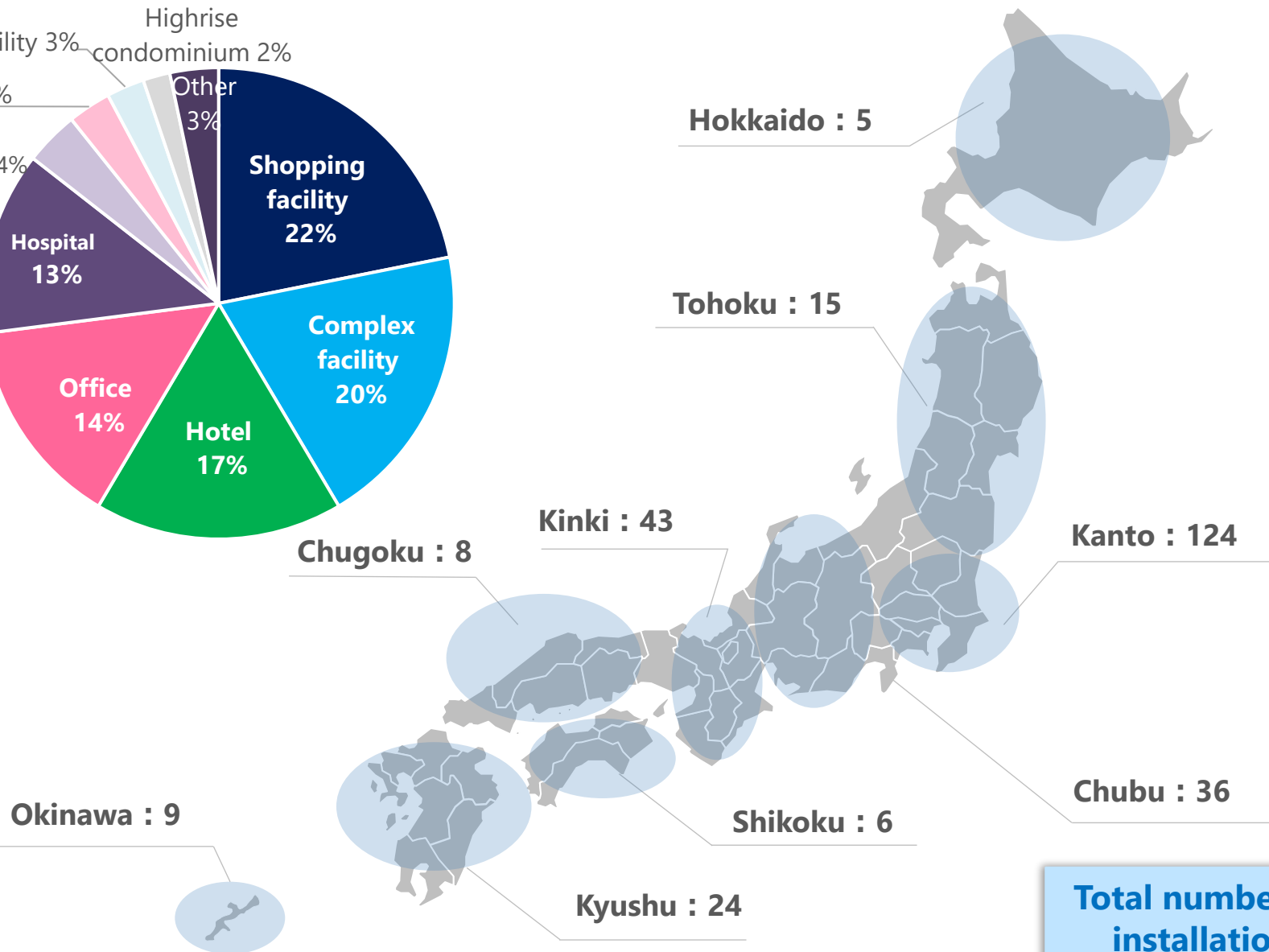
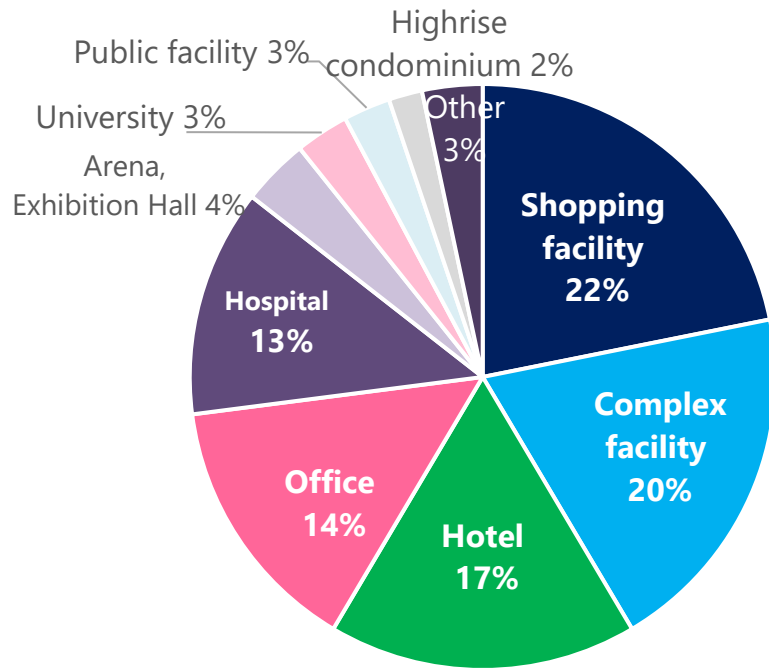


*1: テナンス・レシオ = 1物件あたりの平均参画携帯キャリア数 (累計導入済み物件における数値)

Domestic IBS (4G)

2 -The number of installations around the country and type of buildings ^{*1, 2}

JTOWER



**Total number of
installation
270^{*1}**

*1: As of December 31, 2021

*2: The number of buildings where IBS installation was completed

2 Our strengths in Infra-Sharing market

JTOWER

- As a leading company of Infra-Sharing, JTOWER has established a solid position in the market with a high entry barrier.

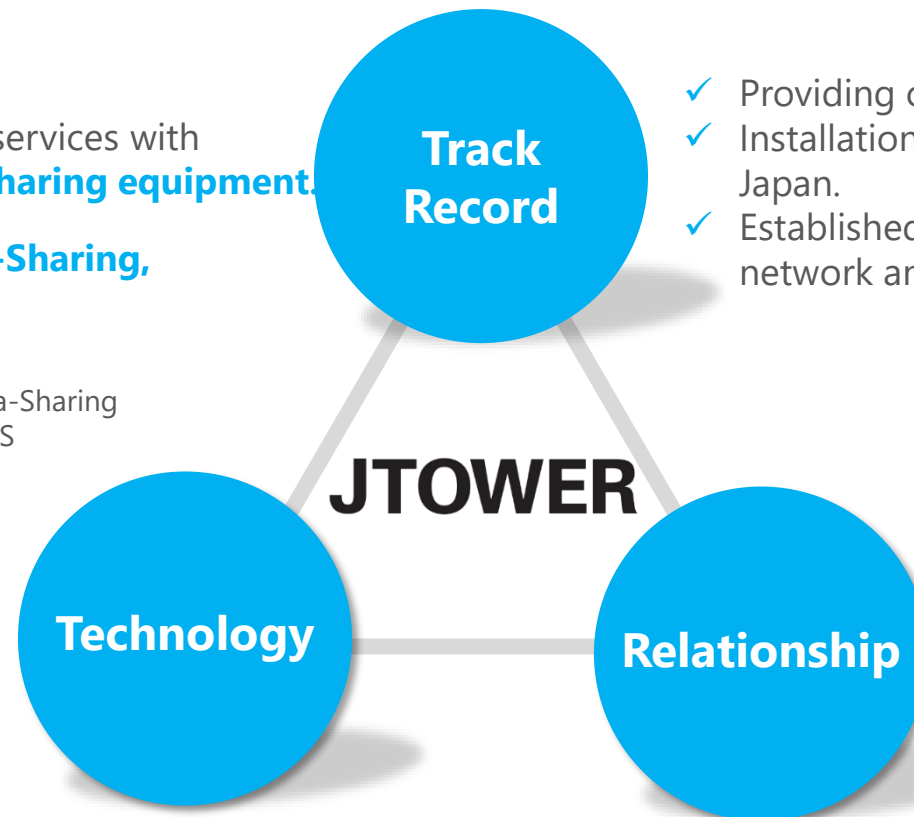
- ✓ Provide active Infra-Sharing services with **our own developed Infra-Sharing equipment**.
- ✓ Lead in **the high-level Infra-Sharing, such as 5G.**

- Sub6

Completed development of 5G Infra-Sharing equipment and have installed 5G IBS

- mmWave

Started to develop 5G mmWave shared radio units



- ✓ Providing commercial services to **4 MNO**.
- ✓ Installations in more than **250 buildings** in Japan.
- ✓ Established the nationwide maintenance network and continue stable operations.

- ✓ Relationship with MNO and real estate developers.
- ✓ **Capital and business alliance** with MNO.
- ✓ Participate in projects by MIC and the Tokyo Metropolitan Government.

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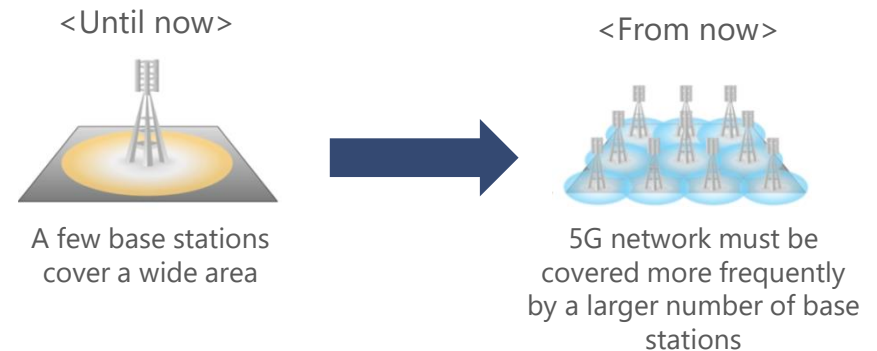
6

Appendix

- Demand for Infra-Sharing has been increasing due to the launch of 5G.

Changes by 5G

- ✓ The number of base stations increases through the shift to small cells and multiple cells
- ✓ Expansion of the network coverage in rural areas
- ✓ Intensified competition due to the new entry of the fourth carrier



Issues in 5G Infrastructure Development

- ✓ **To secure installation sites**
(Landscape and environmental issues)
- ✓ **Expansion of CAPEX and operation costs**

+

Changes in the business environment

MIC

Promote **Infra-Sharing**
(Infra-Sharing Guideline, Master Plan)

MNO

- ✓ The mainstay of competition shifted from infra-networks to **non-teleco areas such as service layers**
- ✓ Promoting financial efficiency

Demand for Infra-Sharing increases as a solution in 5G/Beyond 5G age

- ✓ Formulation of **Infra-Sharing Guideline**
- ✓ At the time of 5G spectrum allocation, **required Infra-Sharing plan** as an item in 5G infrastructure deployment plan for MNO
- ✓ If 5G base stations are installed by several companies in rural areas, it is decided that **the subsidy rate will be more favorable than that of a single company**
- ✓ Build 5G network **utilizing traffic signals**
- ✓ Initiatives to utilize **public assets** (Ministry of Finance and local governments)
Released lists and database of assets owned by the national government and the Tokyo Metropolitan Government to use as installation sites for 5G base stations

5G Base Stations Deployment Policy

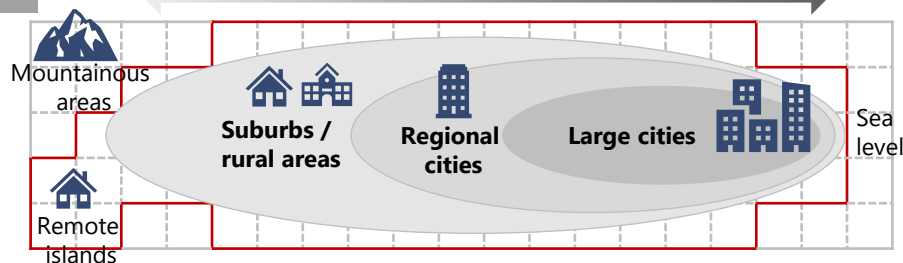
Based on area coverage→ **Development focus will be on business feasibility and not area type (residential, urban, regional, etc.)**

5G

Based on population coverage

→ Coverage of residential areas & large cities is prioritized

~4G

※Divide country into grids of 10km² to determine areas to develop

Infra-Sharing Guideline by MIC

移動通信分野におけるインフラシェアリングに係る電気通信事業法及び電波法の適用関係に関するガイドライン

2018年12月

1. ガイドラインの目的

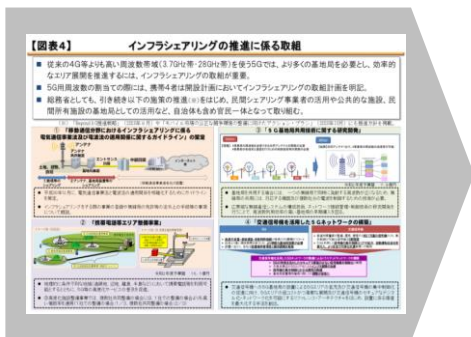
携帯電話等の移動通信サービスの提供においては、広範な地域に相当多数の基地局を設置することが必要となる。

特に、第5世代移動通信システム（以下「5G」という。）の導入に当たっては、移動通信システムの高速度・大容量化や高周波数帯の利用のために基地局の小セル化や多セル化が必要となるが、空中線を設置するための鉄塔の設置場所やビル等の物理スペースは限られており、また、景観上の問題等で新たな鉄塔等の設置が制限される場合もあるため、ビルや地下街等の屋内のみならず、ビル屋上やルーラルエリア等の屋外において鉄塔等の設備を他人に使用させ、又は複数事業者間で共同で使用する「**インフラシェアリング**」がこれまで以上に重要となることが想定される

Infra-Sharing will play an even more significant role

Source: Ministry of Internal Affairs and Communications

<Master Plan on the development of 5G base stations>



In order to promote the development of 5G network nationwide, including in rural areas, **Infra-Sharing in which multiple operators jointly develop network facilities such as base station facilities will be promoted** in accordance with Guidelines for the Application of the Telecommunications Business Act and Radio Act Concerning Infrastructure Sharing in the Mobile Communications Field (formulated in December 2018).

The public and private sectors, including local governments, will work together to promote;

- The support for joint development by multiple operators in the development of mobile network
- R&D on shared-use technologies for network facilities of 5G base stations
- The installation of base stations on traffic signals where is physical restrictions on the space
- **Utilization of private Infra-Sharing service providers**
- Utilization of public facilities and privately owned facilities for base station sites

Partial excerpt from MIC's "Master Plan 3.0" announced on December 25, 2020 (English translation by JTOWER)

- Accelerate outdoor Infra-Sharing to expand 5G coverage.
- Expanding 5G coverage in 3 areas contributing to regional digitization.

Rural Tower Sharing

Launch new tower sharing
in rural areas



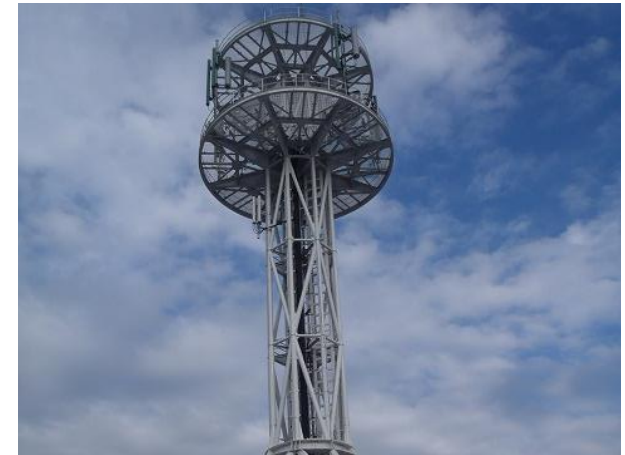
Smart Pole

Expand the coverage in areas
with smart solution demands



Carve-out

Further expand carve out
transactions for
telecommunications towers



3 Tower – Tower sharing in rural areas

JTOWER

Progress of Tower sharing in rural areas

Deployment of parent-stations to cover meshes

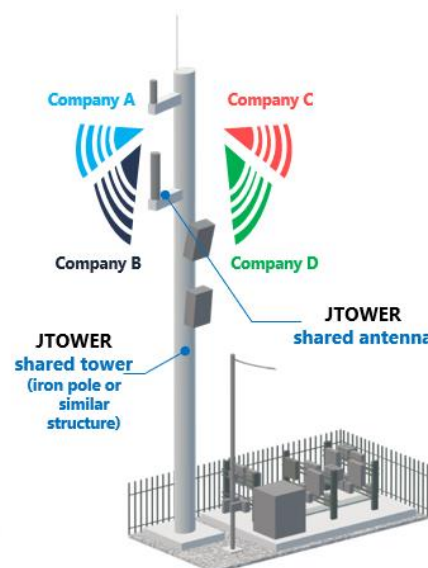
MIC

Promote 5G expansion in rural areas.
(Area Coverage Policy)

MNO

In order to achieve 5G infrastructure deployment plan, MNO needs to deploy 5G base stations in rural areas where they have not previously installed base stations **by the end of FY2024**.

Image of the installation of rural tower



FY 2019

- ✓ Selection of candidate sites
- ✓ Negotiations with landowners

FY 2020

- ✓ Propose **hundreds of** new towers (parent stations) to 4 MNOs
- ✓ Began preparations for the construction of **more than 60** towers

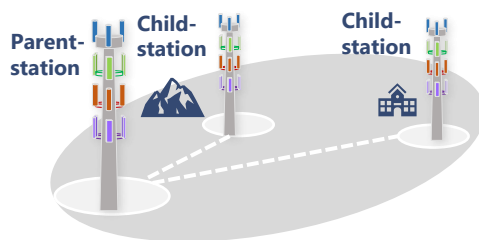
FY 2021

- ✓ Promote sales activities to expand the number of orders
- ✓ Received **additional responses** from certain MNO
- ✓ Launch of services in completed towers (from Q4)

Mid - long term

- ✓ Further expansion of **parent-stations**
- ✓ Rollout of **child-stations** within meshes

Deployment of child-stations



- Regional revitalization through the use of 5G
- Development of IoT services

Note:

A 5G advanced specified base station (parent base station) which is deployed in each mesh is one that is connected to a high capacity line and can connect to multiple 5G specified base stations (child stations)

3 Tower – Tower sharing in urban areas

Image of Smart Pole

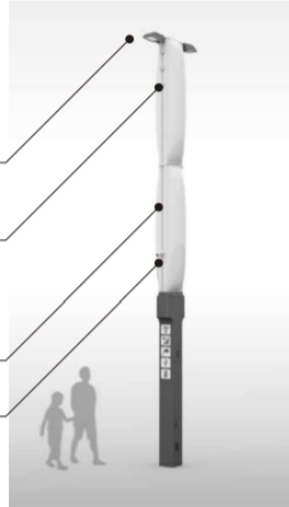
Pole type

LED street light

5G Base station

High-speed Wi-Fi

Security cameras



Signage type

Weather sensor

Security cameras

5G Base station

High-speed Wi-Fi

Analytical camera

Signage



Equipment related to data utilization

Tower sharing in urban areas

July
2020

- Selected as the 5G Smart Poles provider of the Tokyo Metropolitan Government (April 3, 2020)
- Construction of smart poles completed in Nishi-Shinjuku area, and **The four MNOs** all decided to use these smart poles.

October
2020
Onwards

- Install **5G base stations** including 5G infra-sharing equipment and began to share telecommunications facilities.
- 5G services by four MNO** gradually started from October 2020.

September
2021
Onwards

- Concluded an agreement with the Tokyo Metropolitan Government **on the expansion of installation of smart poles in Nishi-Shinjuku area.**
- 3 companies (JTOWER, TEPCO Power Grid, NTT EAST) will collaborate to build **20 new types of smart poles.**

Promote acquisition of new orders, such as collaboration with local governments with smart pole demand aiming for expansion

3 Tower – Progress of tower carve-outs with NTT West

JTOWER

Progress of transaction

- Began discussions with NTT West and existing tenants for the transfer. The contract transfer is expected to be implemented gradually, but the transfer is expected to begin from March 2022.
- After the contract transfer is completed, we plan to work to attract new tenants to telecommunication companies and others for sharing.

Image of telecommunications tower

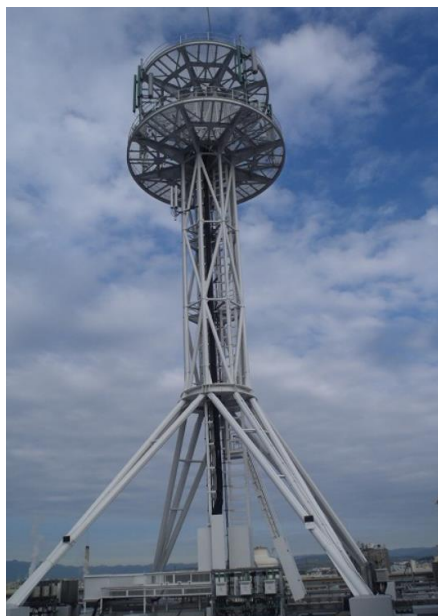
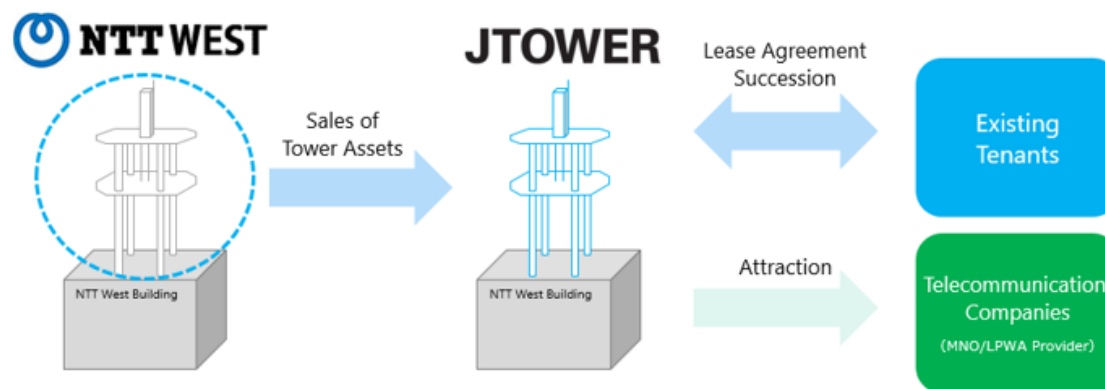


Image of tower carve-outs transaction



Purchase Price (Total):
Approx. **700 million yen**

Number of Towers: 71

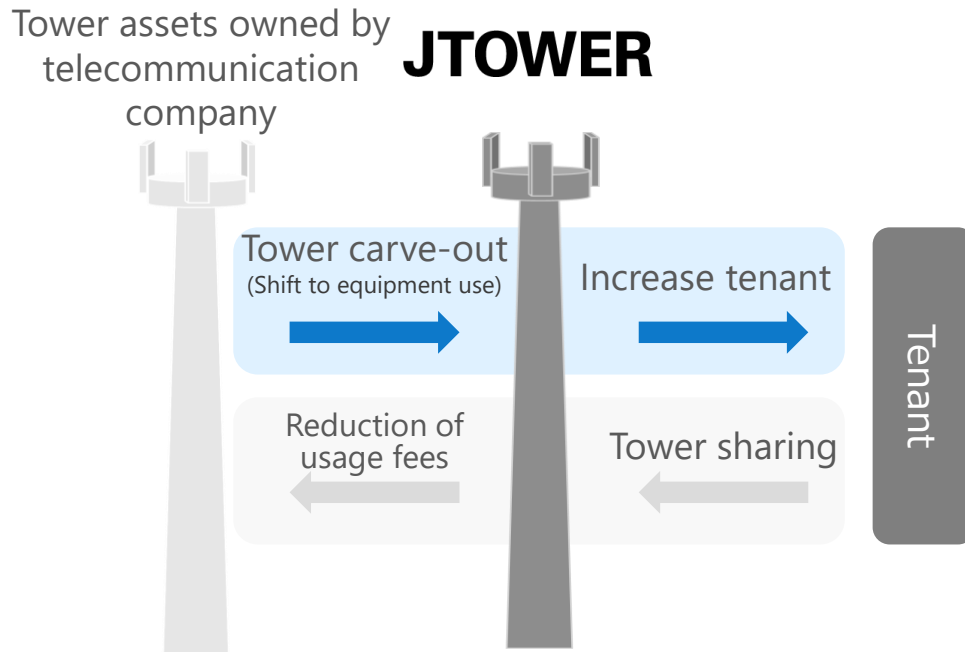
Transfer of ownerships:
Start gradually from March 2022

*The contracts of the existing tenants of each tower will be successively transferred

Revenue contribution:
Approx. **200 million yen**

* If this transaction contributes for the full fiscal year

Image of existing tower carve-outs



Significance of existing tower carve-outs

Economic benefits (telecommunication company)

Reduction of
OPEX by
tower sharing

Improvement of
financial base
through disposal
of assets

Social significance

Reduction of
environmental
impact

Effective use
of social
infrastructure

- in addition to ongoing expansion of existing 4G IBS, launch new services including 5G IBS.
- Aiming for further expansion in existing buildings, which has significant potential.

[Image of 4G/ 5G IBS \(main target buildings\)](#)



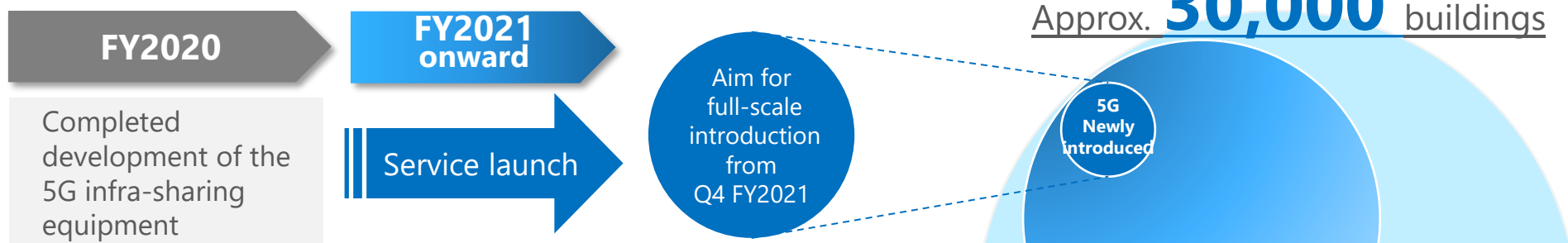
3 Domestic IBS – New Initiatives

JTOWER

- New initiatives, the replacement of existing 4G networks to 4G IBS in existing buildings and the rollout of new 5G IBS, will be introduced from FY2021 onward. Aiming to expand in the existing building market, which has significant potential, over the medium to long term.

<5G IBS>

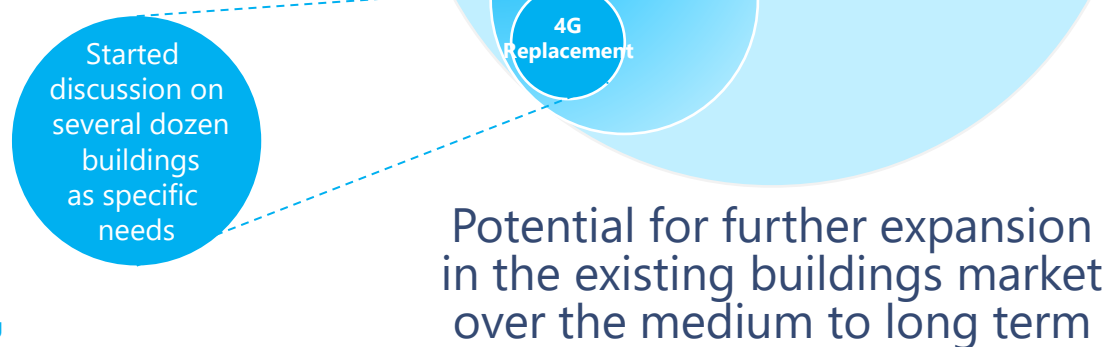
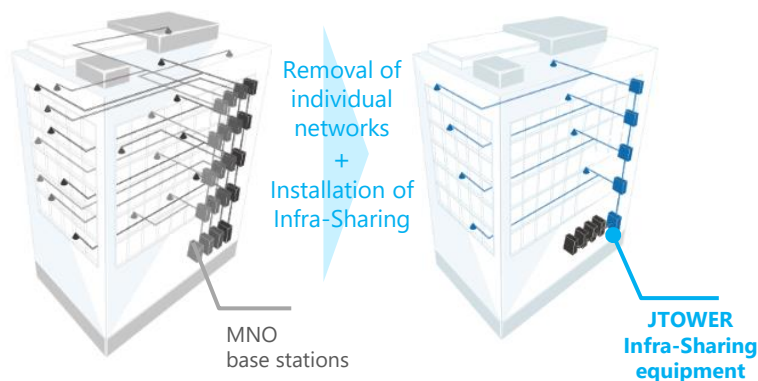
Introductions in new/existing buildings



<4G IBS> Replacements in existing buildings

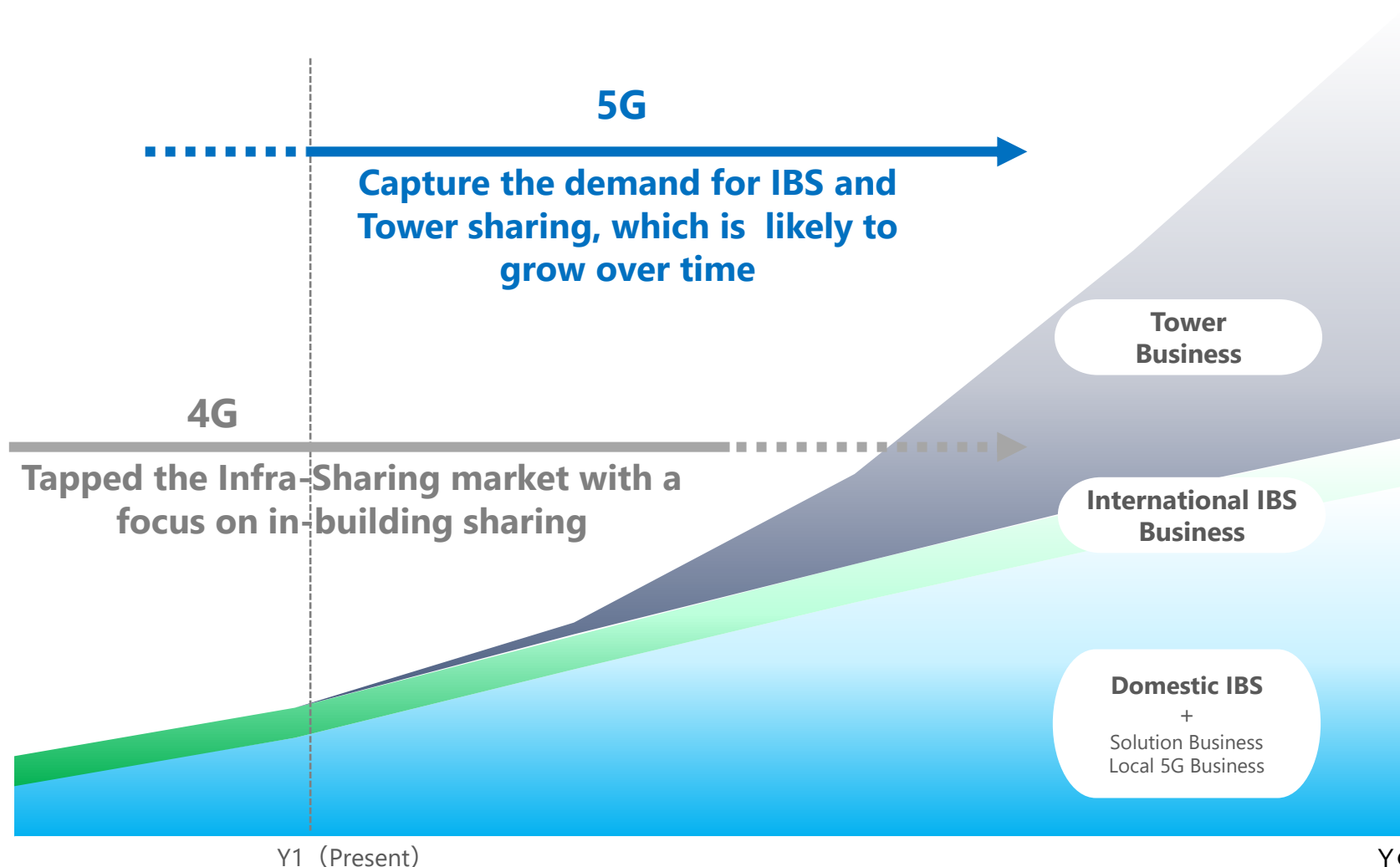
Individual Installation
by MNO
(Existing building)

After replacing with
Infra-Sharing



3 Mid-to Long-Term Growth Strategy

- Aiming to expand the Domestic IBS business and the Tower business supported by the increasing 5G demands for the efficient capital investments in telecom infrastructure area.



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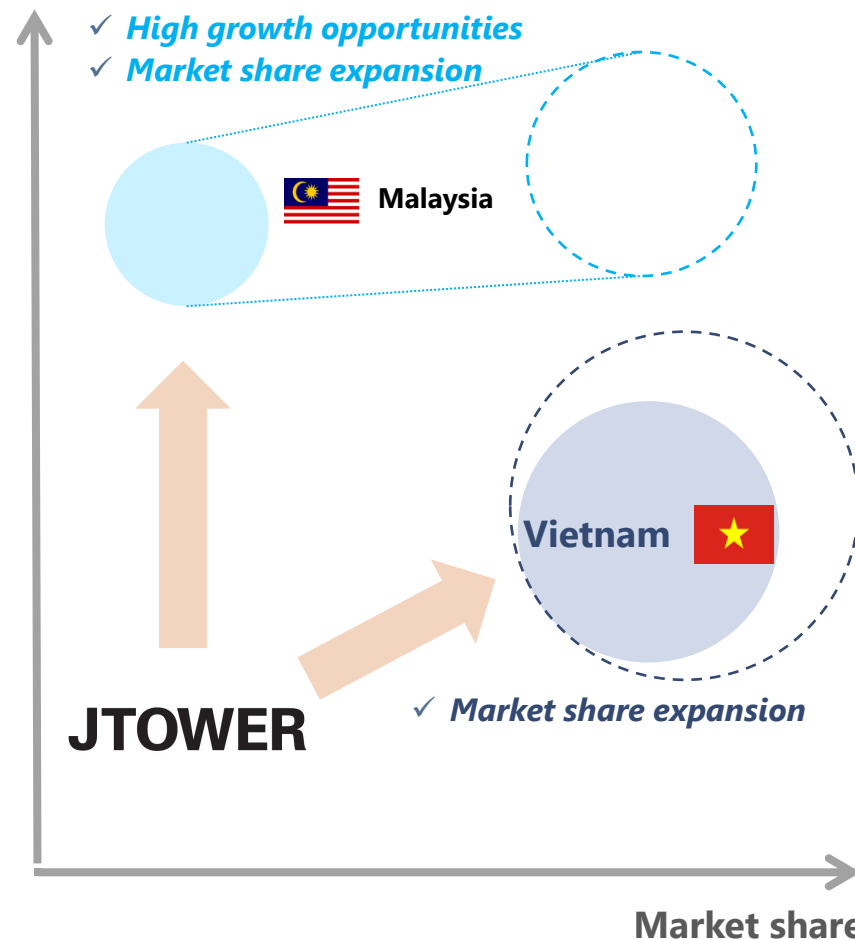
Alliance/ Sustainability

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Appendix

- Expansion mainly in Southeast Asia by partnering with influential local players.

Market growth



- Entry : July 2017
 - Local entity name : SOUTHERN STAR TELECOMMUNICATION EQUIPMENT JSC (SPN)
 - Market leader in Vietnam
 - **219 installations^{*1}**
 - Wholly-owned subsidiary
-
- Entry : January 2019
 - Local entity name : JTOWER MALAYSIA SDN. BHD. (Non-consolidated subsidiary)
 - Preparing the business foundation

*1: As of December 31, 2021

- On November 17, 2020, the overseas subsidiary SPN engaged in the IBS business in Vietnam, has executed IBS Asset Purchase Agreement with Thien Viet Company Limited one of the IBS operators in Vietnam.



**International
IBS**

SPN executed IBS Asset Purchase Agreement with Thien Viet Company Limited one of the IBS operators in Vietnam.
(Announced on November 17, 2020)

Purchase Price (Total)
Approx. 240 million yen

Number of Projects
63 projects
(Approx. 1.8 million m²)

**Transfer of ownership expected to be
completed**

at the end of December, 2021

* Transfer of ownership will be conducted on a property-by-property basis

Revenue contribution

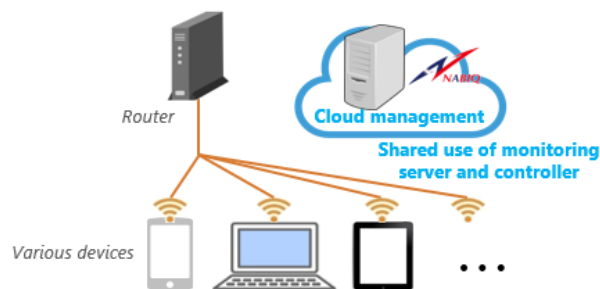
Approximately **150 million yen**

* If this transaction contributes for the full fiscal year

Further promoting growth strategies in Vietnam, including M&A of local competitors and the purchase of existing operating assets

- Provide related services as an up sell for Infra-Sharing.

Cloud-managed Wi-Fi Solution



Provide Cloud-managed Wi-Fi Solution as an up sell for Infra-Sharing

Site Locator



Provides a database for matching the rooftop space leasing demands with the BTS installation demands

Local 5G



Promote development and participation in demonstration tests as a preparation for the launch of commercial services in FY2022

- Launched initiatives for commercialization by leveraging management resources cultivated in Domestic IBS.

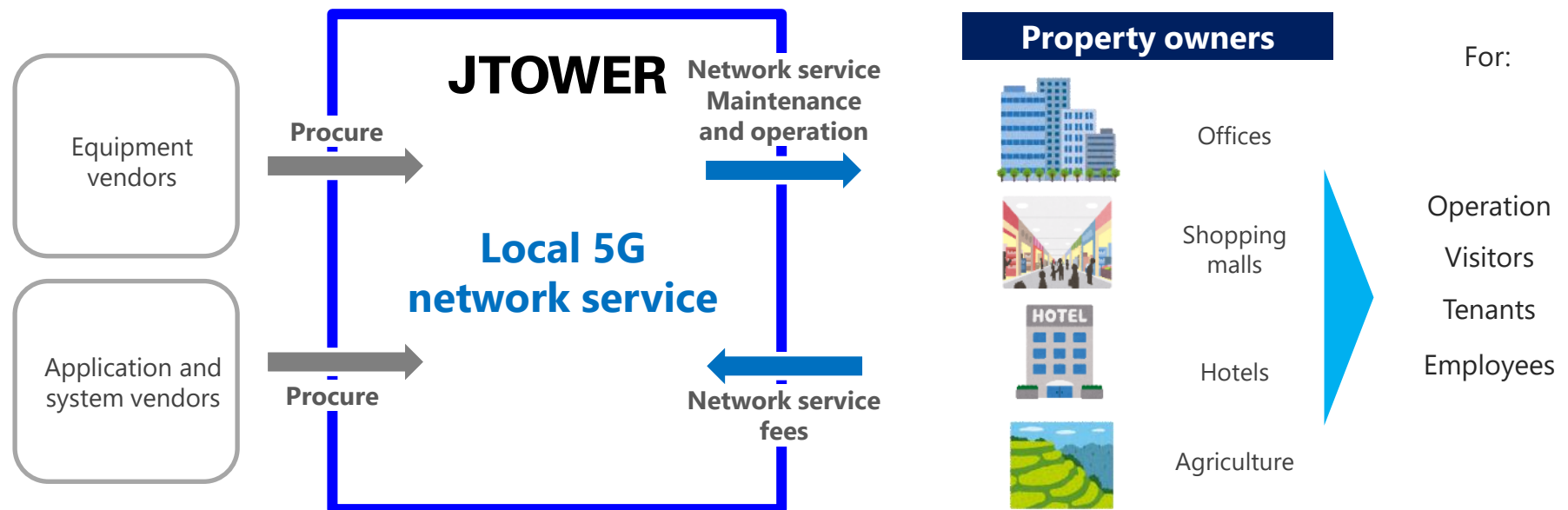
Local 5G

Obtained license for testing
(December 21, 2020)

The verification of Local 5G started after **obtaining a license** from Kanto Bureau of Telecommunications for testing Standalone (SA) Local 5G using Sub6 frequency band.

✓ The Image of Our Local 5G Services

Expect to provide B2B2C and B2B2B services to property owners



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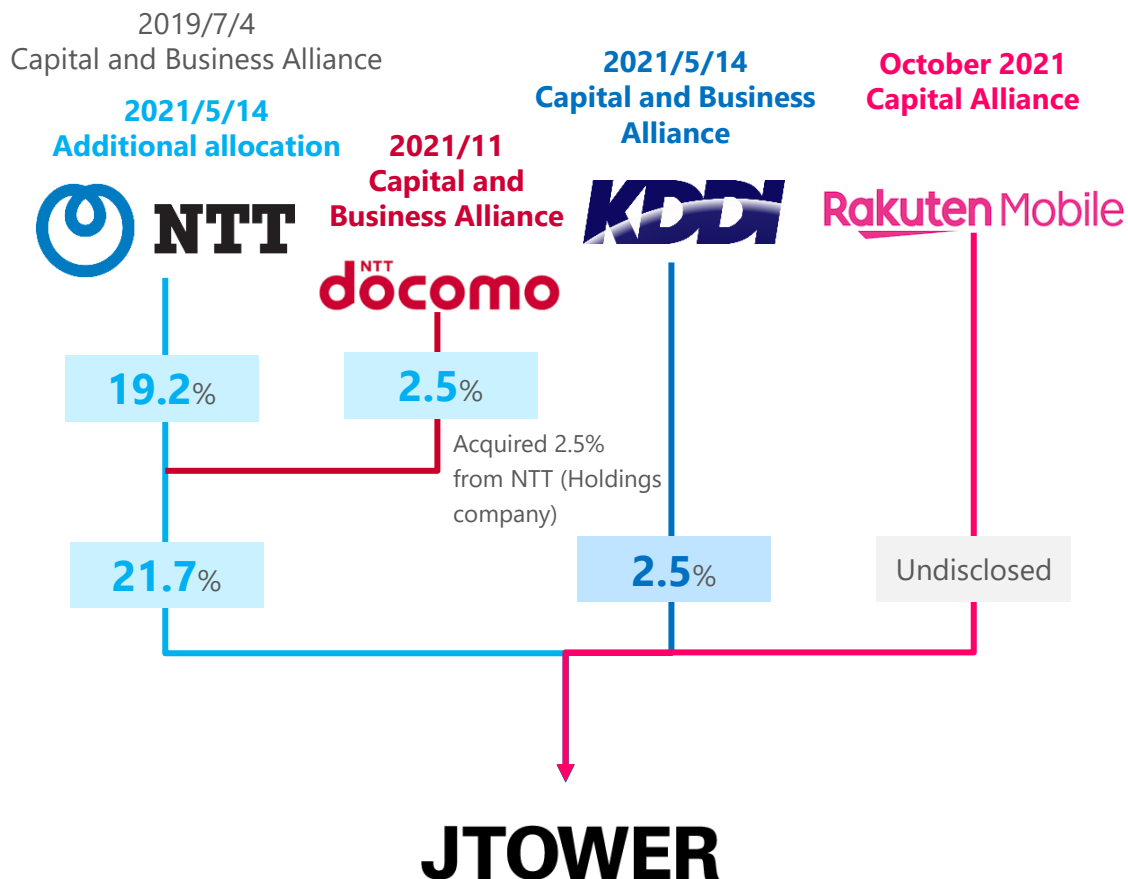
Appendix

5 Positioning of alliances with mobile network operators

JTOWER

- By strengthening relationships through alliances with mobile network operators, we will strengthen our position as Infra-Sharing provider aiming for further growth and expansion.

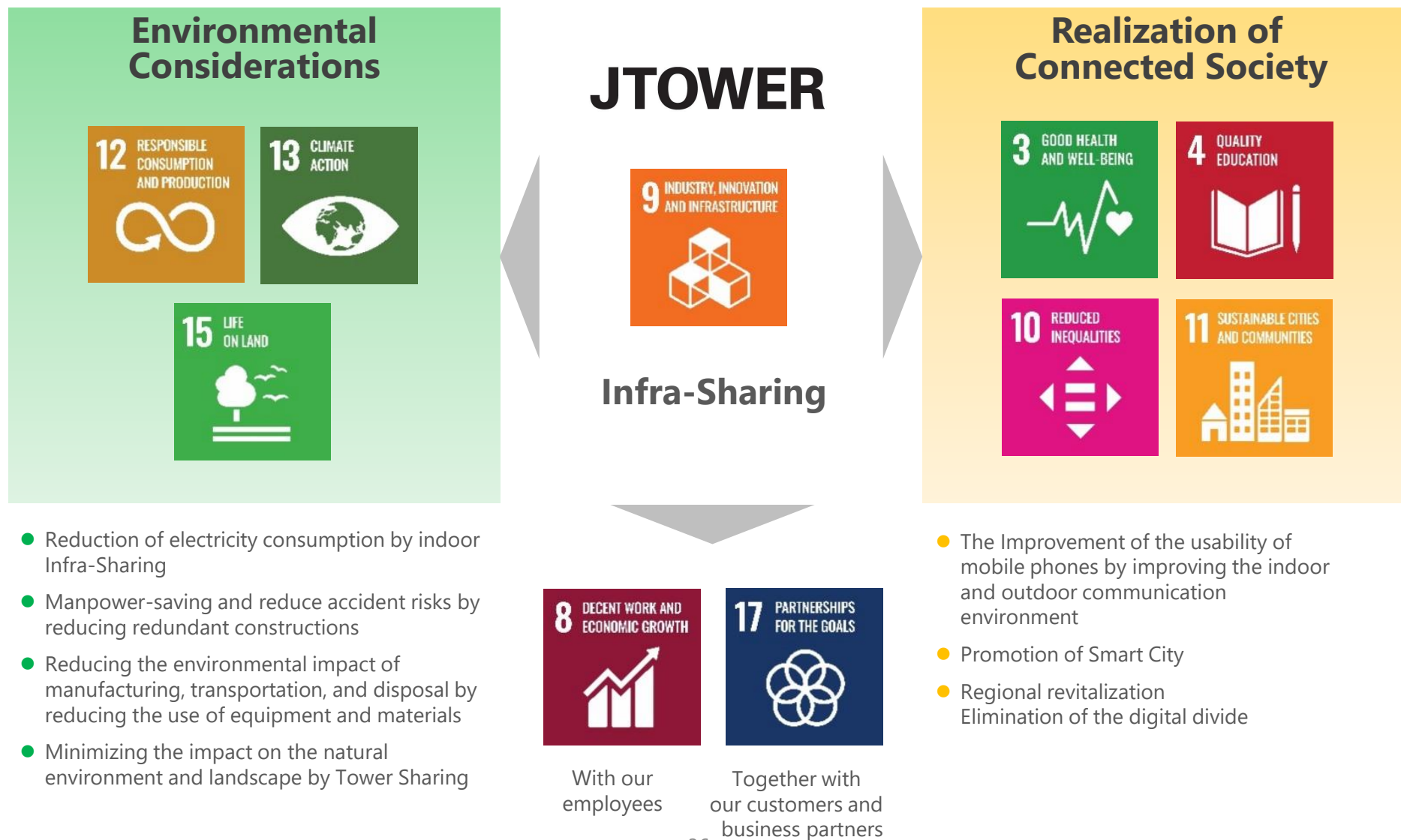
Our capital structure



Significance for us

- Strengthening our position as a leading company of Infra-Sharing
- In Tower Business, where the relationship with mobile carriers is important, we aim to expand the business based on the strengthening of the relationship under this alliance.
- Going forward, we will continue to consider alliances that contribute to enhancing corporate value as an important measure.

- Infra-Sharing in itself leads to the realization of Sustainable Society

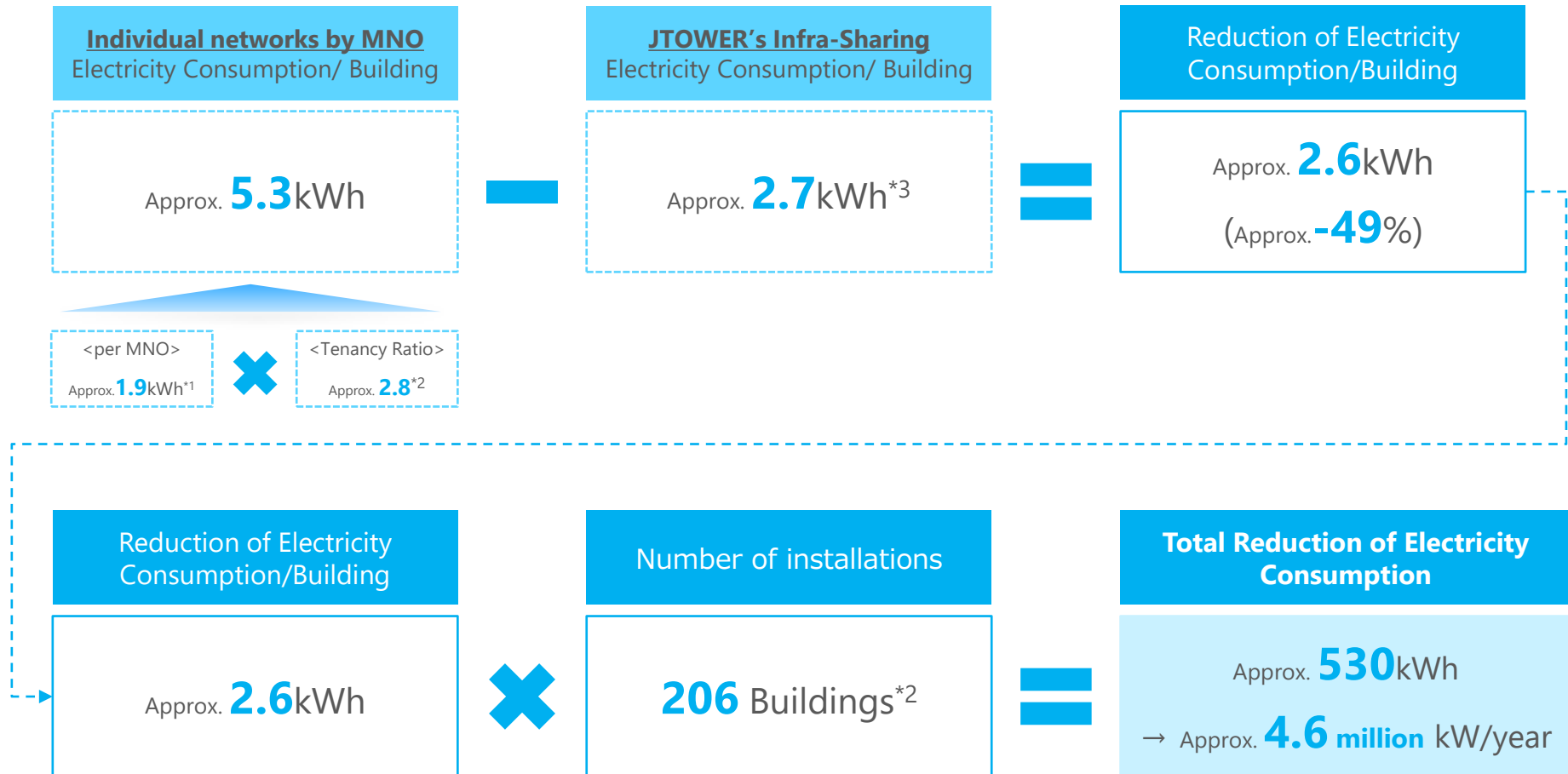


Our Approach to SDGs

5 - Reduction of Electricity Consumption (Domestic IBS)

JTOWER

- In Domestic IBS business, the installation of indoor Infra-Sharing contributes to reducing electricity consumption by **approximately 4.6 million kW/Year** (our calculation).



*1: (Estimated electricity consumption/Building) × 70%
70% is our assumed calculation and does not indicate actual electricity consumption

*2: As of December 31, 2020

*3: Estimated based on the calculation:
(The average number of units used at IBS installed properties) × (The estimated electricity consumption of our Infra-Sharing equipment based on specification) as of December 31, 2020.

1

Company Information

2

Pioneer of telecom Infra-Sharing

3

Growth drivers backed by 5G

4

Strengthen International business and related businesses

5

Alliance/ Sustainability

6

Appendix

Board of Directors

Representative
DirectorAtsushi
TanakaSenior Managing
DirectorYusuke
KiriyaManaging
Director
CFORyosuke
Nakamura

Outside Director

Naoki Ota



Outside Director

Yoshitaka
Hiramoto

Outside Director

Yoshiaki
Uchida

Outside Director

Mutsuko
ObaYears of
Telecom
Industry
Experience

24

18

14

22

27

40

3

Previous
Experience**Goldman Sachs**
(Equity analyst /
Telecom sector)**eAccess**
(Head of corporate
planning div.)**eMobile**
(CFO / Head of
corporate planning
div.)**M'sWorks**
(Senior engineer)**PwC Arata**
(Audit / Advisory)**eAccess**
(Group head of
business planning
div.)**Boston
Consulting Group**
(Senior partner /
Managing director)**Ministry of Internal
Affairs and
Communications**
(Advisor to Minister)**DOCOMO CS
Kansai**(GM / Network
Construction
Promotion dept.)**NTT(Holding
Company)**(GM / Technology
Planning dept.)**NTT DOCOMO**
(GM / Radio Access
Network Engineering
dept.)**KDDI**
(Executive Vice
President,
Representative
Director, Executive
Director of
Technology
Sector)**KDDI
Engineering**
(Chairman)**KPMG AZSA**
(Audit / Advisory)**Mutsuko Oba
CPA Office**
(Founder and
Representative)

Advisors



Advisor
Nobuo
Nezu



Advisor
Eiji
Hagiwara

Years of
Telecom
Industry
Experience

53

47

Previous
Experience

KDDI

(Managing executive officer /
Full time auditor / Advisor)

NTT DOCOMO

(Director)

**Panasonic Mobile
Communications**

(Senior Managing Director)

**SAMJI
ELECTRONICS**

(Advisor)

Number of Installations



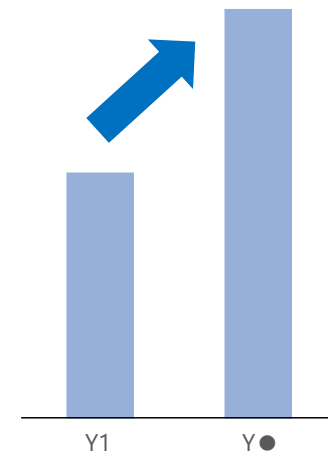
- ✓ 4G IBS in existing property and new introduction of 5G IBS
- ✓ Strengthen business foundation through alliances

Tenancy Ratio



- ✓ Increase in the entry of mobile network operators such as further participation on existing properties

Unit Price

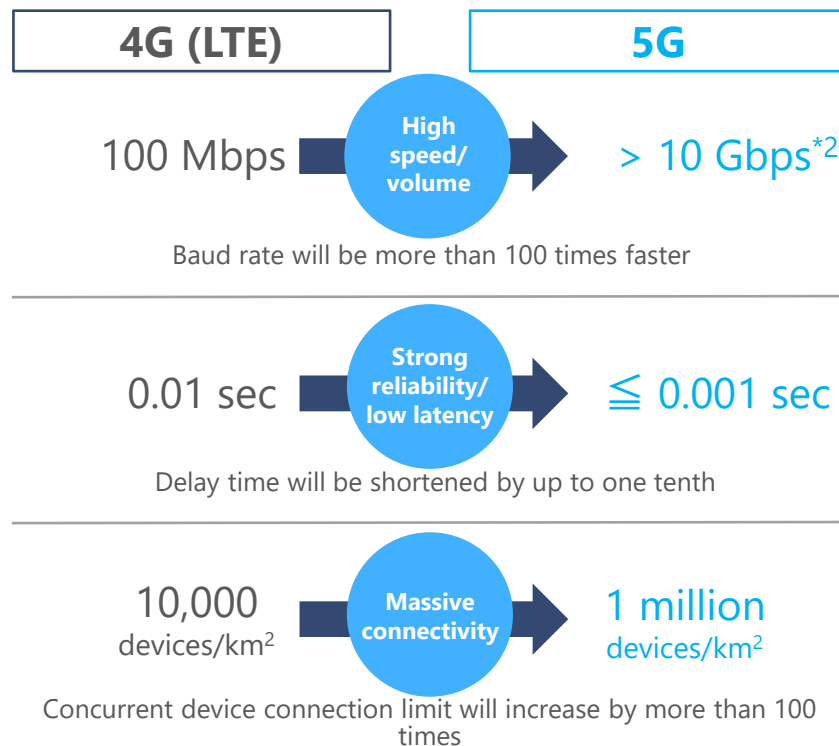


- ✓ Introduction of shared equipment for 5G to the existing and new properties
- ✓ Additional value for IBS Business – Provide Wi-Fi solutions
- ✓ Provide local 5G-related solutions

Note: Graphs are for illustrative purposes only

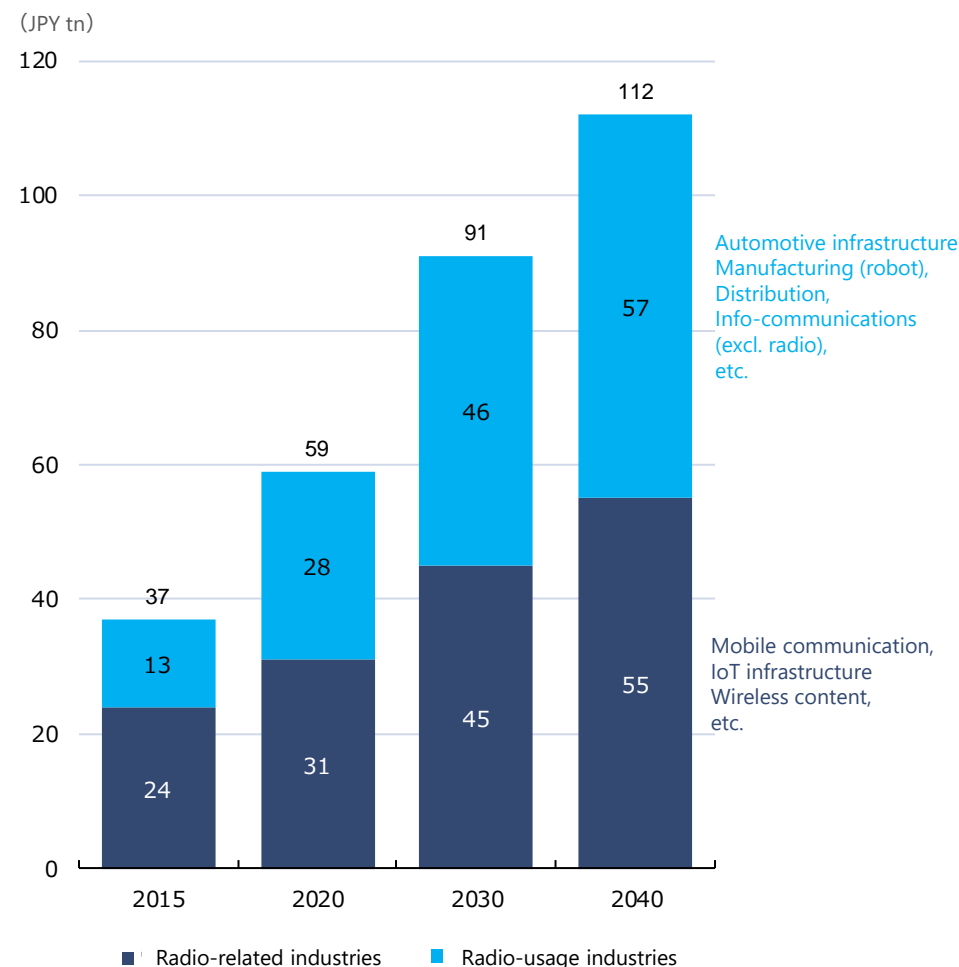
6 Potential Infrastructure Demand Driven by 5G

Advancement to be Enabled by 5G



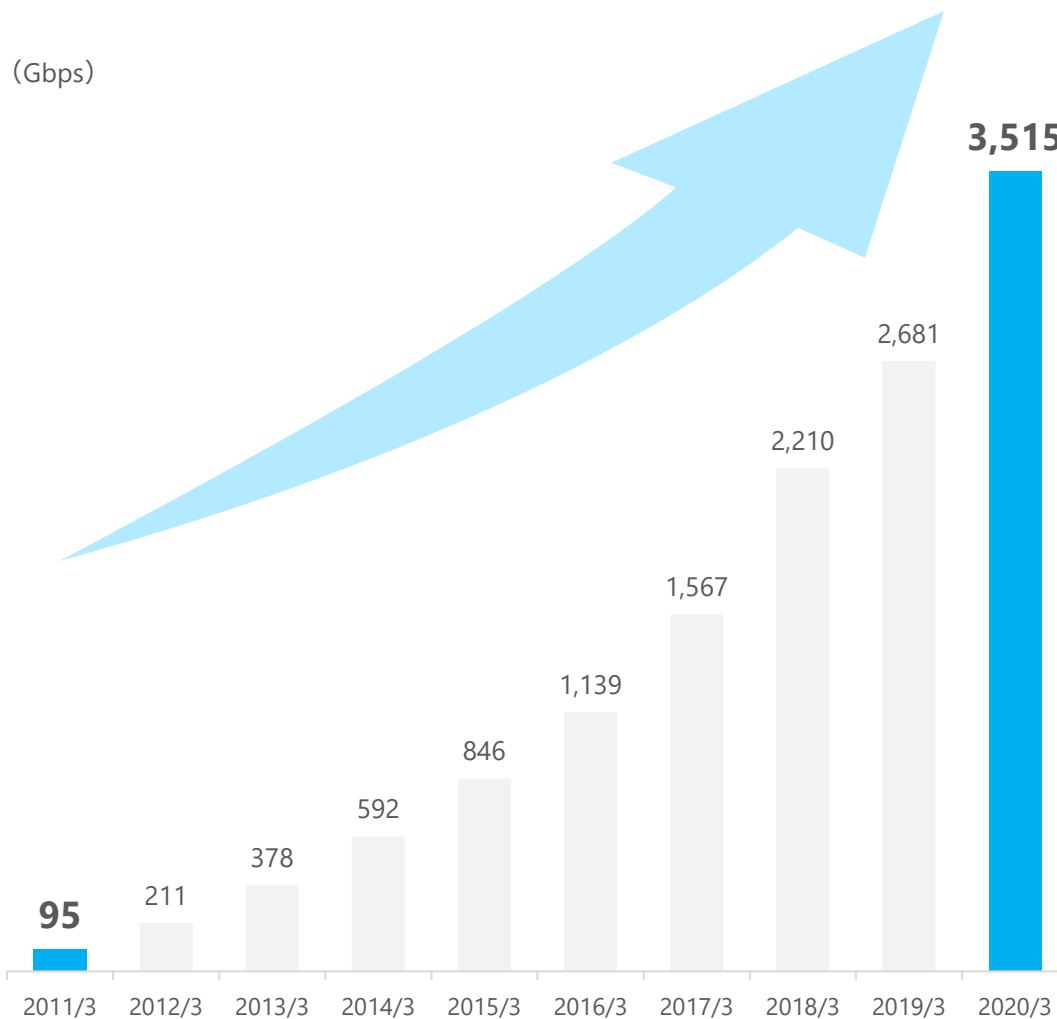
Demand for infrastructure will increase due to the significant impact of 5G related services

Estimated Market Size of the Radio Industries in the 5G Era



Note: "Radio-related industries" is defined as industries in which companies use radio in their main business
 "Radio-usage industries" is defined as industries in which companies use radio to enhance or streamline their services (excl. radio-related industries)
 Source: Mitsubishi Research Institute

*1: As of September 30, 2018
 *2: "Gbps" is defined as Gigabits per second. 1Gbps is equal to 1,000,000,000 bits per second
 Source: Ministry of Internal Affairs and Communications, Softbank



over the past 10 years

Annual increase

about **50%**

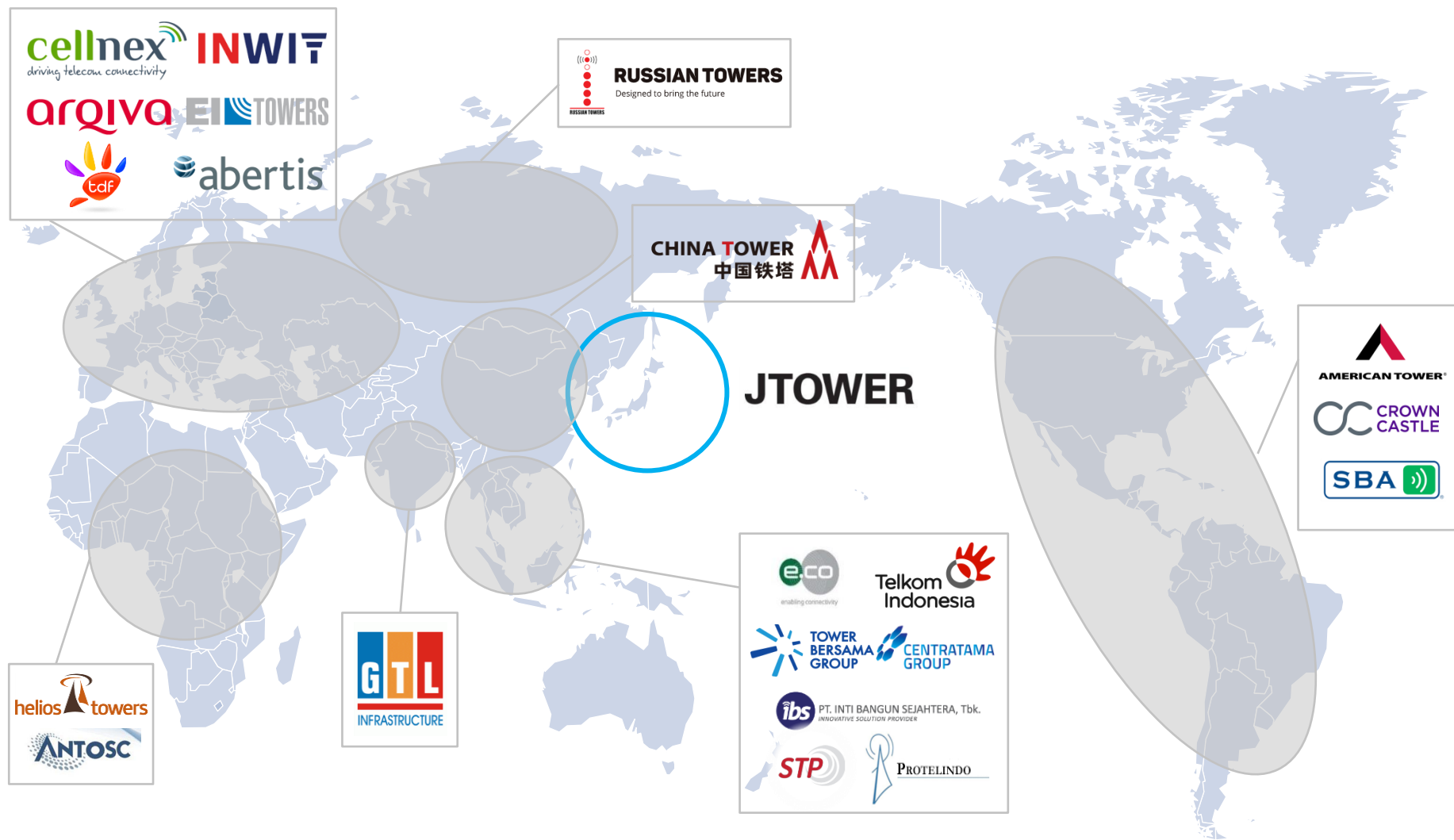
(approx. **37** times)

Future Potential

- ✓ Accelerate further growth in traffic through 5G
- ✓ Further use of 5G frequency band

Source: Information and Communications Statistics Database of Ministry of Internal Affairs and Communications

*1: The average of monthly traffic (download)



Notes: Based on the announcement regarding main business operating area by each global tower company

Source: Company Materials

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