

# 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.

# **JTOWER**



# **Outline**

- 1. Pioneer of Infra-Sharing in Japan
- 2. Infra-Sharing Market and Growth Potential in Japan
- 3. Infra-Sharing Business Model
- 4. Finance & Alliance
- 5. The Realization of a Sustainable Society
- 6. Appendix

Infra-Sharing
Services
from Japan
Lead the World

## **1** Pioneer of Infra-Sharing in Japan





Since the foundation of our company in 2012, JTOWER has been a pioneer of Infra-Sharing in Japan by providing services to four mobile network operators.

For the future, Infra-Sharing is expected to play an increasingly important role in the Japanese society where the early development of new telecommunications infrastructures including 5G is required.

As the pioneer of Infra-Sharing in Japan, we will contribute to the development of a more efficient network leveraging our know-how developed through our proven track record and will actively engage in technological development and new businesses.

We will continue to lead activities that contribute to the advancement and promotion of Infra-Sharing.

#### About Infra-Sharing



#### What is Infra-Sharing?

- Sharing the mobile networks that historically had been separately developed by mobile network operators.
- The cost of equipment, operation, and maintenance can be reduced compared with when mobile network operators develop network separately, thereby realizing more efficient network development.
- Reduction of power consumption, materials, and number of construction works is possible, leading to reduction of environmental impact

# Indoor Infra-Sharing Outdoor Tower Sharing AFTER BEFORE AFTER LITTLE LIT

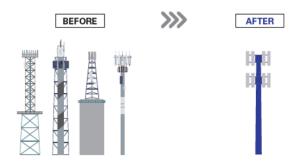
Sharing of antenna, cable, repeater and other equipment necessary for the development of communications networks in buildings.

Site sharing of towers and poles for the installation of base stations.

#### **1** JTOWER's Infra-Sharing Business



#### **Outdoor tower sharing (Tower business)**



- √ Full-scale entry in FY2020
- Outdoor telecom infrastructure sharing among mobile network operators
- ✓ In addition to carve-out (acquisition of existing towers from telecom operators), promote new tower sharing in rural areas.

Total number of towers decided to be acquired or constructed\*<sup>2</sup>

more than **7,700** 

#### **Indoor Infra-Sharing** (IBS\*1 business)



- ✓ Integrate mobile network operators' in-building infrastructure as a shared system
- ✓ Beneficial for real-estate firms, mobile users and mobile network operators
- ✓ In addition to 4G, developed 5G Infra-Sharing equipment and launched the commercial service
- ✓ Operating International IBS business in Vietnam

Total number of installations\*2 (buildings)

Domestic IBS 521 International IBS 238

\* The total of 4G IBS(new installation, replacement) and 5G IBS

#### **Other Infra-Sharing business**

- · Lead in the high-level Infra-Sharing through the development of 5G mmWave shared radio unit
- Deployment of multifunctional Digital Poles
- · Realize the sharing of telecommunications facilities of Local 5G and Carrier 5G
- \*1: IBS: In-Building-Solution
- \*2: As of December 31, 2023 (International IBS: As of September 30, 2023)

## **1** Our strengths in Infra-Sharing market



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

Track

Record

**JTOWER** 

- 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

Technology

- ✓ Providing commercial services to 4 MNO.
- ✓ Installations in more than **500 buildings** in Japan.
- Established the nationwide maintenance network and continue stable operations.
- ✓ Concluded the first large-scale carveouts deal with Japanese telecom operators.

Relationship

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

# **JTOWER**



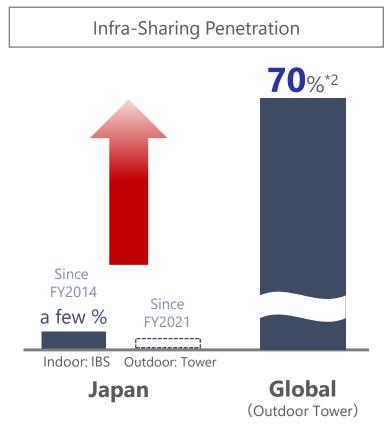
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# 2 Market development and room for expansion for Infra-Sharing in Japan

- **JTOWER**
- 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.



Investment in telecommunications infrastructure in Japan

Capital Expenditures by Japanese MNO Approx. **1.8 trillion yen**/year\*1



Source:

<sup>\*1:</sup> Based on Current Status and Future Forecast of the Mobile Phone Base Station Market and Peripheral Materials Market (2019-2024 Version) by MCA

<sup>2:</sup> Based on TowerXchange

# 2 Changes in the business environment and potential for demand expansion in Japan (1)



#### **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

in the mobile communications
market in Japan



 Lower ARPU due to the lower price

**Mobile fee reduction** 

#### **Issues in Infrastructure Development**

- **✓** To secure installation sites
  - (Landscape and environmental issues)

**✓** Expansion of CAPEX and OPEX

#### MIC

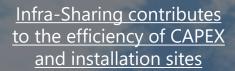
- ✓ Promotion of Infra-Sharing
  - Infra-Sharing Guideline
  - Master Plan
  - Subsidy

#### **MNO**

- Promotion of cost reduction and financial efficiency
- ✓ The mainstay of competition shifted from infra-networks to non-telecom areas such as service layers

# 2 Changes in the business environment and potential for demand expansion in Japan (2)







Change in business environment is a tailwind

Japan is an underdeveloped country in Infra-Sharing

Have great potential for business expansion

Carve-out has just started in Japan



Large room for future growth compared to the global market

#### Potential for outdoor tower sharing

- Carve-out of existing towers owned by telecommunications companies
- ✓ New tower sharing in rural areas
- → See for details,
   P19-26 3. Infra-Sharing Business Model
   Outdoor tower sharing

#### Potential for indoor Infra-Sharing

- Installation of 4G and 5G IBS to new buildings
- ✓ Installation of 5G IBS to existing buildings
- ✓ Replacement of 4G networks at existing buildings
- → See for details,
   P27-39 3. Infra-Sharing Business Model
   Indoor Infra-Sharing

## **❷** Medium-to long-term financial targets and KPI\*¹ (FY2026) **JTOWER**

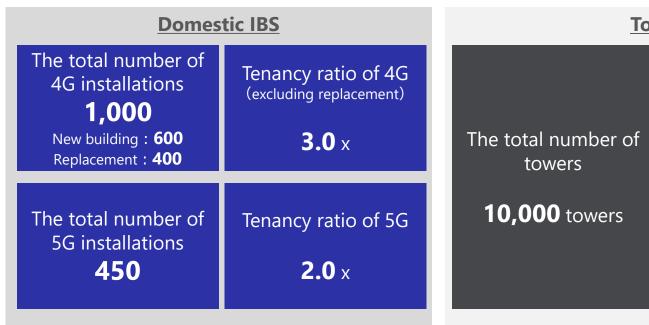
**■** FY2026 (FY03/2027) financial targets

Revenue

30 billion yen

Revenue CAGR\*1 (FY2022-2026) +55 % EBITDA margin
60 %
EBITDA
18 billion yen

■ FY2026 (FY03/2027) KPI



The total number of towers

10,000 towers

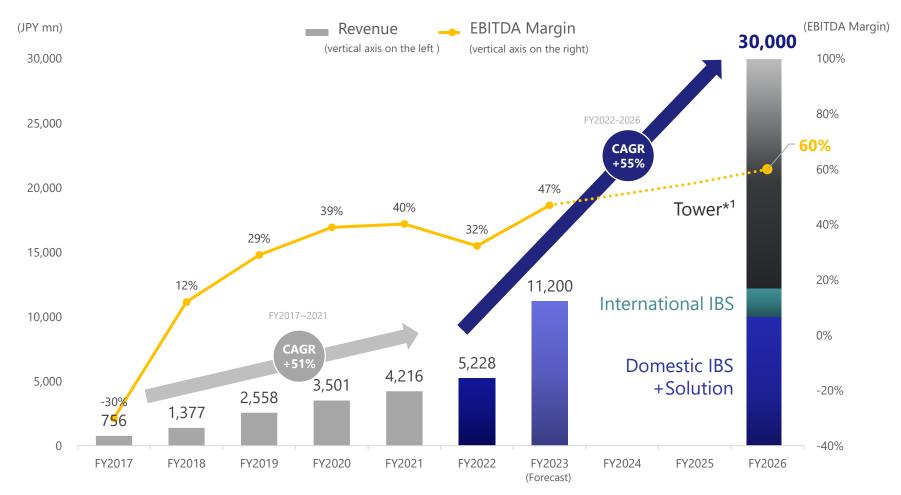
Tenancy ratio
1.8 x

<sup>\*1:</sup> The average annual revenue growth rate (CAGR) was initially estimated at FY2022 forecast (JPY5.8 billion), but since it was replaced with FY2022 actual result (JPY5.2 billion), the rate has been changed to 51%→55%.

#### 2 Medium-to long-term growth image



 Aiming to achieve the financial target with the improvement of revenue growth rate, centered on business expansion in Domestic IBS and Tower.



<sup>\*1:</sup> In the tower carve-out, the number of towers transferred from FY2023 onward is not disclosed because discussions are underway.

# 2 Indicators and Upside potentials for Medium-to long-term growth

#### **JTOWER**



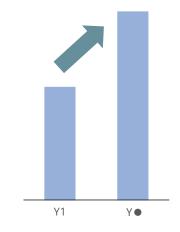


**Tenancy Ratio** 













**Tower** 

- ✓ Rollout of child-stations in rural areas
- ✓ Promotion of carve-outs

- Attraction of new tenant for carveout towers
- ✓ Utilization of multi-functions at smart poles
- Expansion of sharing areas for facilities

**IBS** 

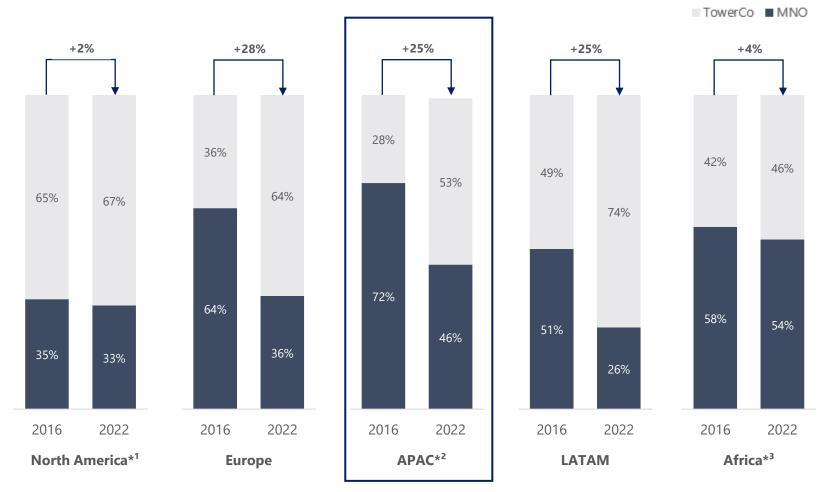
- ✓ New 4G and 5G installation opportunities in existing buildings
- ✓ Increase in the entry of mobile network operators such as further participation on existing facilities
- ✓ Introduction of 5G Infra-Sharing equipment in the building where 4G IBS has been installed
- ✓ Provision of local 5G services
- Expansion of sharing areas for facilities

Note: Graphs are for illustrative purposes only

#### **②** [Reference] Tower Sharing Market Trends (Global)



Ownership of telecommunications towers in the global market (MNO/TowerCo)



Sources: Tower Xchange, Altman Solon

<sup>\*1:</sup> Data shown for North America is USA, Canada and Mexico

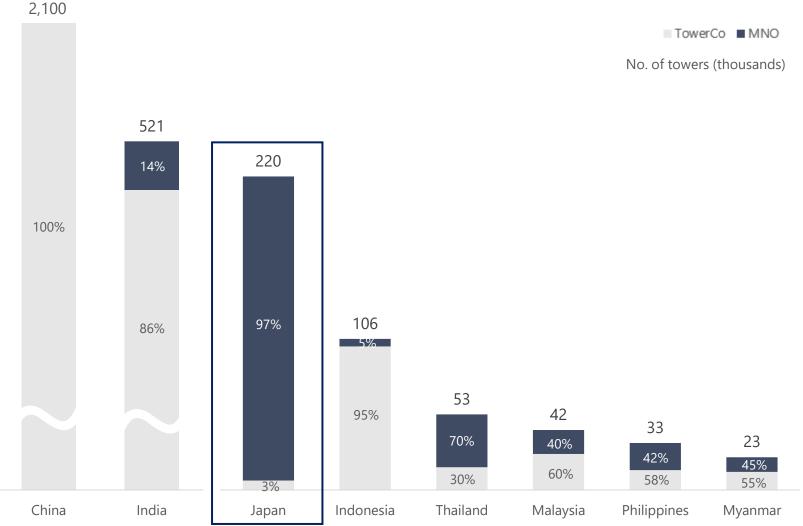
<sup>\*2:</sup> Data shown for APEC is a subset and excludes China; largest driver of mix shift is Brookfield's acquisition of Jio's towers

<sup>\*3:</sup> Data shown for Africa is Sub-Saharan Africa

#### [Reference] Tower Sharing Market Trends (APAC)



Ownership of telecommunications towers in the APAC market (MNO/TowerCo)



Sources: Tower Xchange, Roland Berger, edotco

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<sup>\*1:</sup> Upon completion of PLDT and Globe sale and leaseback transactions and includes towers to be built by TowerCos as part of BTS commitments provided by MNO

<sup>\*2:</sup> Includes TowerCos in which MNOs have an interest

# **②** [Reference] Major transactions of tower carve-outs from telecom companies in the global tower market

## **JTOWER**

Date	Telecom companies (Seller)	Tower companies (Buyer)	# of sites	Deal value (\$ billion)
2012/9	T-Mobile (US)	Crown Castle (US)	7,200	2.4
2013/10	AT&T (US)	Crown Castle (US)	9,700	4.9
2015/2	Verizon (US)	American Tower (US)	11,324	5.1
2018/6	Vodafone india Idea Cellular (India)	American Tower (US)	20,000	1.4
2019/7	Arqiva Group (UK)	Cellnex (ES)	7,400	2.5
2020/11	CK Hutchison (6 European countries)	Cellnex (ES)	24,600	8.5
2021/1	Telefonica (ES、DE、Latin America)	American Tower (US)	30,722	9.4
2021/2	Altice (FR)	Cellnex (ES)	10,500	6.3
2022/4	PLDT (PH)	edotco Group (MY)	2,973	0.8
2022/12	Globe (PH)	Frontier Tower Associates (PH)	3,539	0.8

Source: TowerXchange, press search

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# **3** Tower - Expand business through carve-out & new construction

### **JTOWER**

#### **Carve-out**



- Acquire existing towers owned by telecommunications companies and utilized for tower sharing.
- ✓ Realize the first large-scale carve-outs deal with Japanese telecom operators.

More than 20m-80m high towers located in local and suburban areas throughout Japan

#### **New tower sharing in rural areas**



✓ We construct new towers in rural areas to promote tower sharing.

Around 15m high tower located in rural areas

#### **3** Tower – Tower carve-outs



 We concluded the master transaction agreements for tower carve-outs from NTT WEST, NTT EAST and NTT DOCOMO and are in the process of transfer of 7,761 towers. We aim to further expand of tower carve-outs in the future.

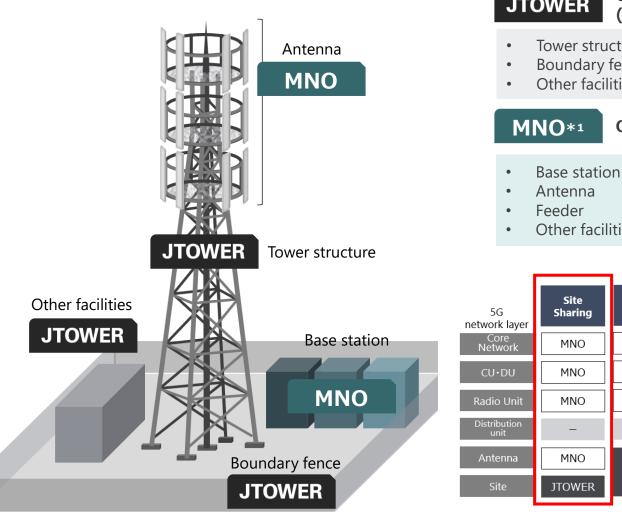
Carve-out deals that signed the master transaction agreements							
The counterparty to the transaction	döcomo		ONTT WEST	NTTEAST			
Total number of towers*1	6,002	1,552	71	136			
Purchase Price/tower	17.7 million yen	11.0 million yen	9.9 million yen	6.6 million yen			
Annual revenue/tower* <sup>2</sup>	1.5 million yen	0.9 million yen	2.8 million yen	5.1 million yen			

<sup>\*1:</sup> The number is the total number agreed upon in the master transaction agreement.

<sup>\*2:</sup> Approximate value based on the tenancy ratio at the time of acquisition

#### **3** Outdoor tower sharing facility configuration (carve-out tower)

### **JTOWER**



**Operated by JTOWER JTOWER** (sharing)

- Tower structure
- Boundary fence
- Other facilities

**Operated by MNO** 

- Other facilities

5G network layer	Site Sharing	Antenna Sharing	DAS Sharing	Radio Unit Sharing
Core Network	MNO	MNO	MNO	MNO
CU∙DU	MNO	MNO	MNO	MNO
Radio Unit	MNO	MNO	MNO	
Distribution unit	-	-		JTOWER
Antenna	MNO	JTOWER	JTOWER	
Site	JTOWER			

<sup>\*1:</sup> MNO: Mobile Network Operator

## **3** Tower – New tower sharing in rural areas



#### What is rural tower sharing?

Based on 5G Base Stations Deployment Policy, we proposed new towers (parent stations) to 4 MNO

in areas where there is no 4G coverage

#### **5G Base Stations Deployment Policy**

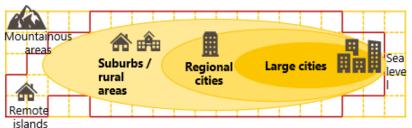
Based on <u>area coverage</u>

→Development focus will be on business feasibility and not area type

(residential, urban, regional, etc.)

Based on **population coverage**→Coverage of residential areas & large cities is prioritized

~4G



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

<Progress of rural tower sharing>

#### FY2021-2022

✓ After received orders from MNO, the construction of approx. 150 towers was decided

#### FY2022

- ✓ Decided to grant subsidies\*¹
- ✓ Started providing services to MNO
- ✓ Completed construction on **88 towers** (total)

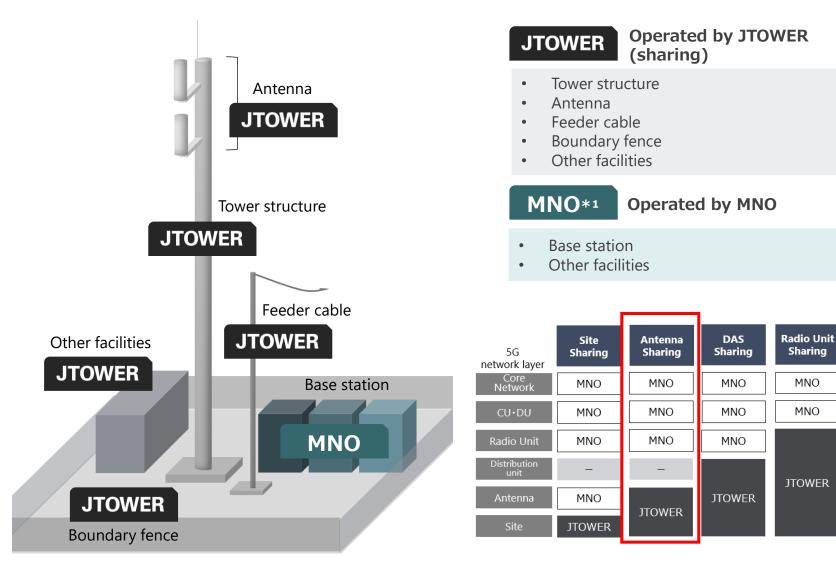
#### FY2023 (plan)

- ✓ Completed construction on approx. 150 towers (total)
- ✓ Service launch in 112 towers
- ✓ Utilize the subsidies in most of the towers where services are launched

<sup>\*1:</sup> The subsidy system in which 2/3 of 5G base station installation costs are subsidized. When multiple operators, including Infra-Sharing, jointly install base station, the subsidy rate is raised (1/2 → 2/3).

# **3** Outdoor tower sharing facility configuration (new tower sharing in rural areas)

## **JTOWER**



<sup>\*1:</sup> MNO: Mobile Network Operator

## **3** Tower – Rural tower construction image

## **JTOWER**







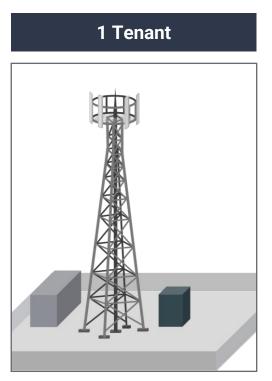


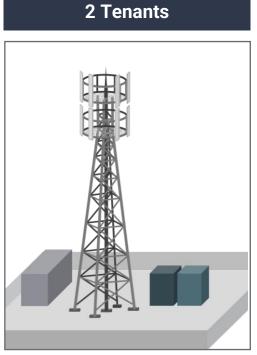
Rural tower in Hokkaido area

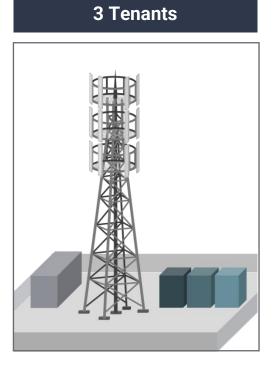
## **1** [Reference] Image of Tower Sharing



• The usage fees per tower increases adding additional tenants, while costs remain relatively flat.





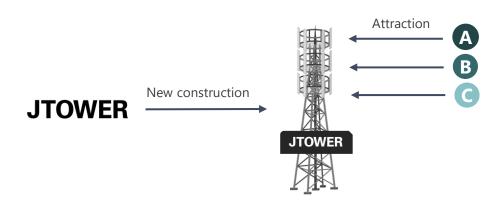


## **③** [Reference] Patterns of tower sharing



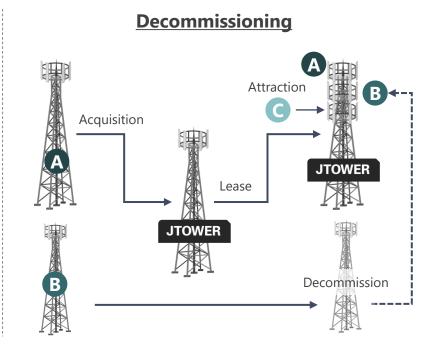
New construction

Carve-out



# Acquisition Acquisition Lease JTOWER JTOWER

**Attraction** 



# **JTOWER**

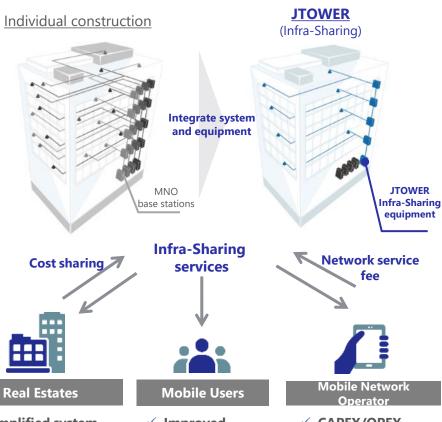
Indoor Infra-Sharing

Infra-Sharing Services from Japan Lead the World

## **3** Domestic IBS – Our Business Model of Infra-Sharing **JTOWER**

#### **Unique Business Model to Build Win-Win Relationships**

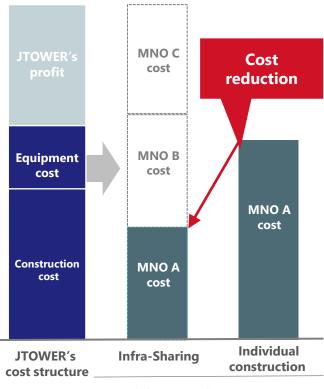
**Cost-Benefits for Mobile Network Operator\*1** 



- ✓ Simplified system ✓ Improved and energy saving connectivity
- ✓ Installation cost reduction



- ✓ CAPEX/OPEX saving
- ✓ Improved customer satisfaction

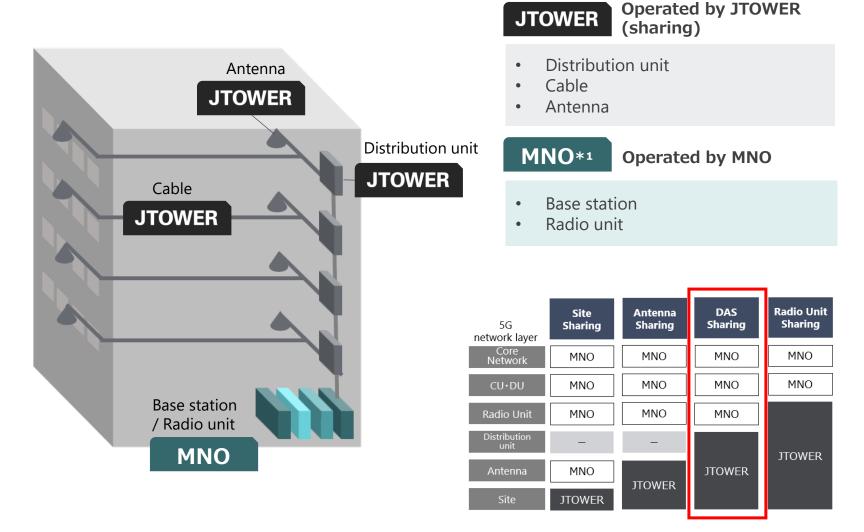


**Mobile Network Operators' cost** 

Note1: For illustrative purposes only

## **3** Indoor Infra-Sharing facility configuration

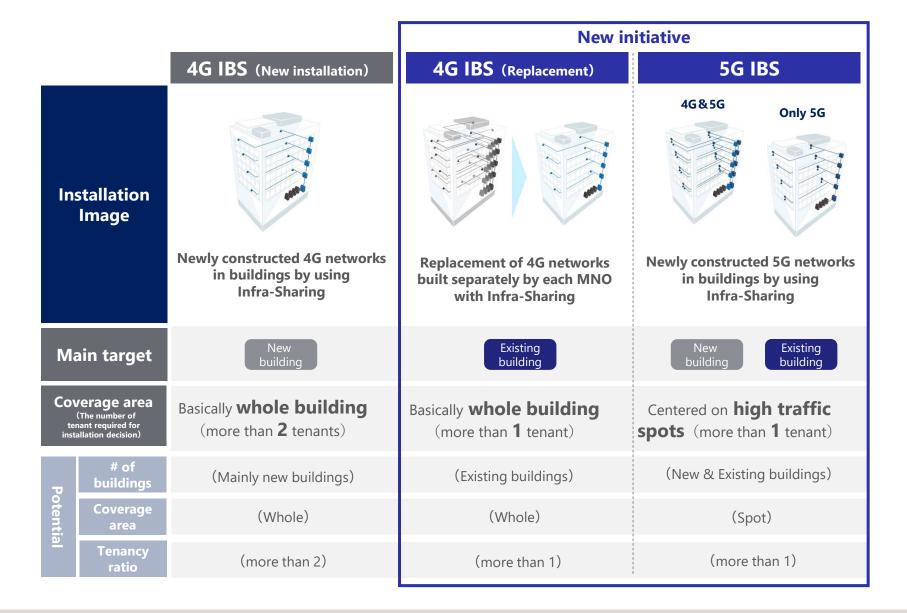




<sup>\*1:</sup> MNO: Mobile Network Operator

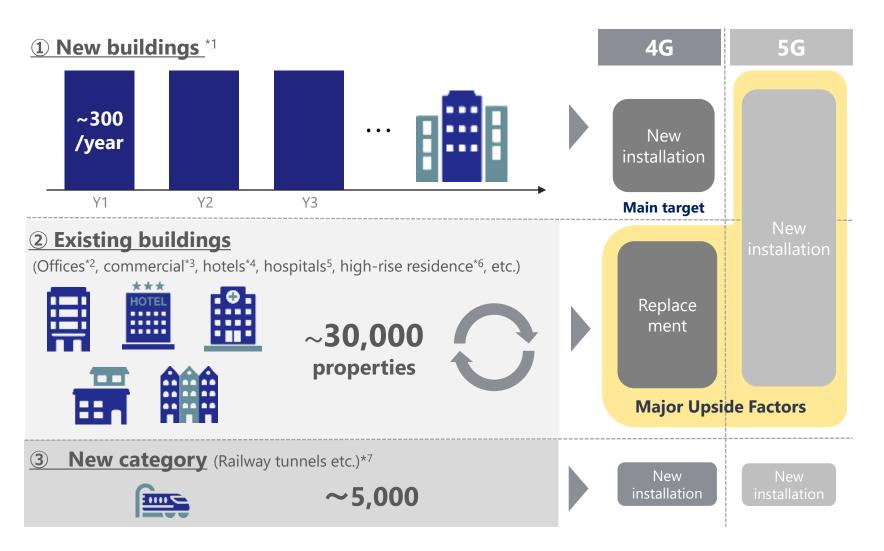
#### **❸** Domestic IBS - Installation image of 4G and 5G IBS





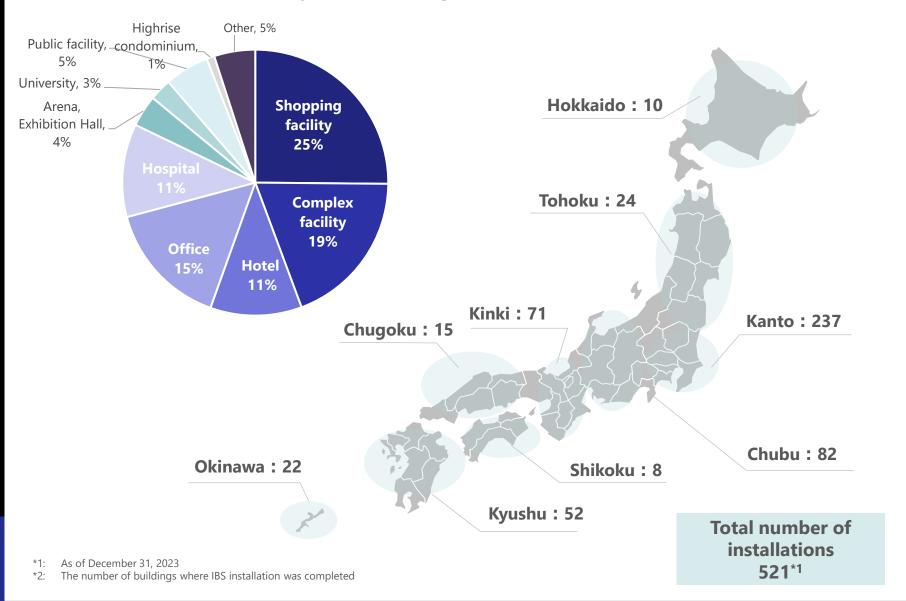
# **3** Domestic IBS - Persistent Demand and Upside Potential

#### **JTOWER**



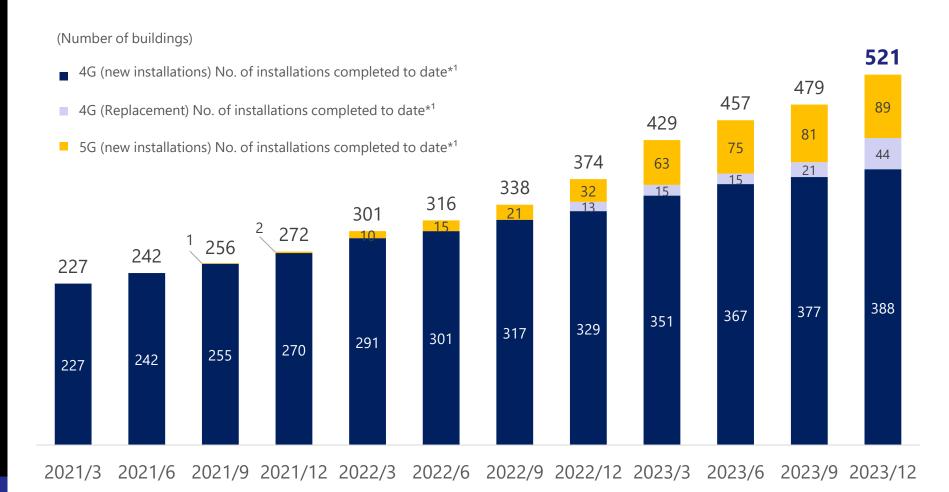
<sup>\*1:</sup> Company estimate based on large-scale projects with floor area of >10,000m. \*2 Large-scale projects with >3,500m retail floor space and >10 tenants, developed by a developer. \*4: Based on the number of resort hotels, city hotels and business hotels in Japan (as of Dec. 31, 2018). \*5: 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 trunels 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)

# **3 Domestic IBS** – The number of installations in each area and type of buildings \*1, 2



#### Domestic IBS – Historical Number of Installations

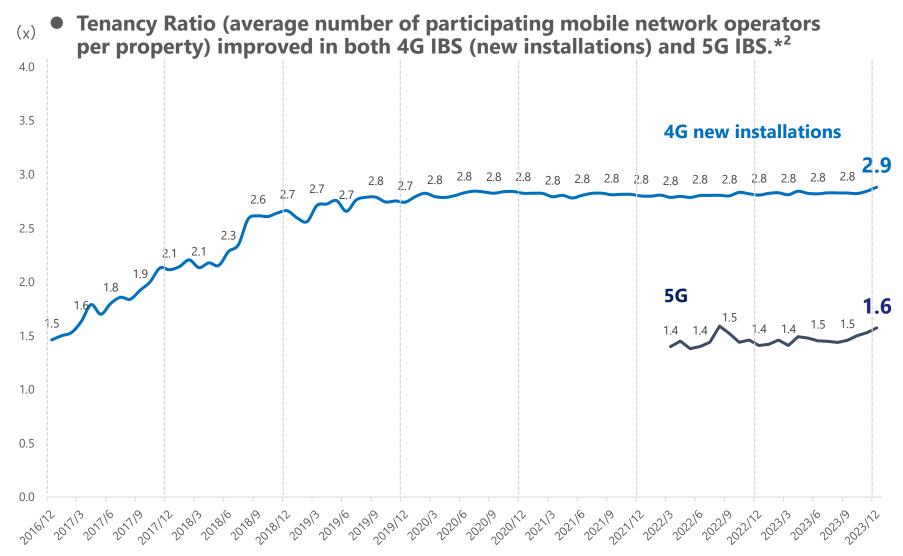




\*1: Projects where radio waves have been emitted and revenues are recognized.

## **3** Domestic IBS – Historical Tenancy Ratio\*1





<sup>\*1:</sup> Average number of participating mobile carriers per property (at properties where IBS has been installed to date).

<sup>\*2: 4</sup>G IBS (replacement) has been shortly after the service was launched, and the tenancy ratio is still for only anchor tenant (1.0), for this reason it is not included in the current table.

#### **②** International IBS − IBS business in Vietnam



- Entered the Vietnam market by acquiring a local IBS operator in 2017.
- In addition to increasing the number of installations, promote the growth strategy that includes M&A of local player and the purchase of existing operating assets in Vietnam.



- Entry: July 2017
- Local entity name: SOUTHERN STAR TELECOMMUNICATION EQUIPMENT JSC (SPN)
- Market leader in Vietnam
- Number of installations: 238\*1
- 100% consolidated subsidiary (Fiscal year-end is December 31)

#### <Examples of Installation in Vietnam>







\*1: As of September 31, 2023

## **③** [Reference] Infra-Sharing development team

## **JTOWER**

## **JTOWER Engineering Team**

- ✓ Formulate specifications considering market needs, latest technologies, and international standards.
- Order to domestic and overseas vendors and collaborate to develop and mass produce equipment.

## **JTOWER**



Domestic and overseas manufacturers

Formulation of specifications

Collaborate in development and mass production

In-house development team enables direct communication with MNO's engineering team/ Understand their needs and utilize for development

## JTOWER Tech Lab. Tokyo

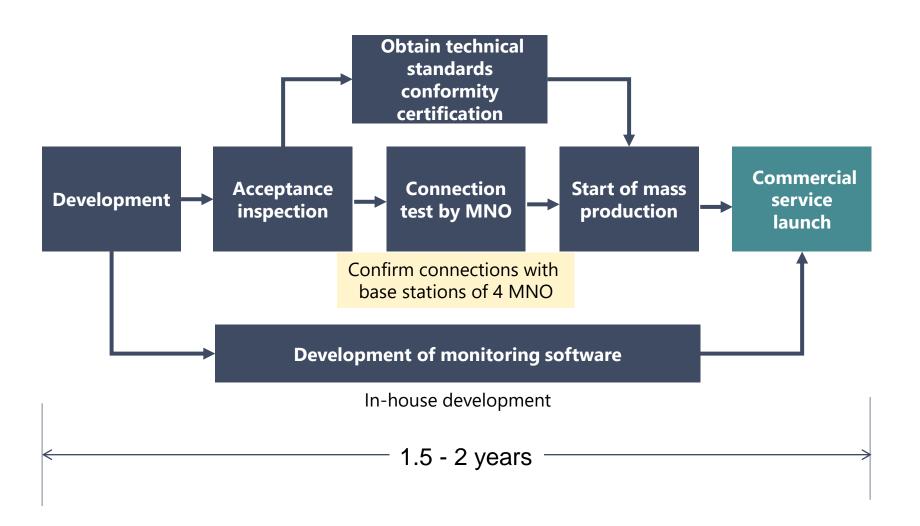
✓ Opened in July 2022 upon relocation of head office for future technology development and verification.



**Driving technology as a pioneer of Infra-Sharing** 

## **③** [Reference] From development to services launch





## **③** [Reference] Infra-Sharing Equipment Lineup

## **JTOWER**

4	5 <b>G</b>	
JDAS-3.0	JDAS-2.0	JDAS-5.0
800MHz band, 900MHz band, 1.5GHz band,1.7GHz band,2GHz band	2.5GHz band, 3.5GHz band	3.4/3.5GHz band,3.7GHz band, 4.5GHz band
MU	MU HU RU	MU HU RU
<ul> <li>✓ Equipment for 4G started co</li> <li>✓ More than 300 installations.</li> <li>✓ JDAS-3.0 is compatible with</li> </ul>	<ul> <li>✓ Development completed in 2020 as Japan's first 5G Infra-Sharing.</li> <li>✓ We also have "RU-L" for local 5G.</li> </ul>	

## ② [Reference] Interview with Real Estate Developers 1/2 JTOWER



As a member of NTT Urban Solutions Group, responsible for NTT Group's urban development business, NTT Urban Development is actively promoting the development of next-generation office buildings that utilize technology.

Since the first installation in 2017 (in UD Yumesaki Building in Osaka), the company has been utilizing JTOWER's indoor Infra-Sharing solutions for next-generation office buildings that utilize 5G.



Supervisor Architecture & Engineering Division Urban & Architecture Design Department

Tomohiko Kamiya

The best thing is that we no longer have to take a time to coordinate with mobile network operators.

JTOWER has expanded and provided the services not only in 4G but also in 5G, so our operations have become truly easy.

For this reason, we are contacting JTOWER first when we have new development projects.

We utilize the foundation of Urban DTC\* to coordinate patrol routes for security robots and control air-conditioning to achieve comfort and energy conservation using human-flow data.

And this Urban DTC utilizes 5G network built through Infra-Sharing.

\* NTT Group's initiatives aim to create new value in urban development by leveraging Digital Twin Computing technology.

Telecommunications is one of the important infrastructures, so it is necessary to provide a perfect service. We believe that the utilization of Infra-Sharing is one of the strengths of our service.

//

## **③** [Reference] Interview with Real Estate Developers 2/2 **JTOWER**



H.U. Group is a Japanese leading company of clinical testing and H.U. Bioness Complex is the core facility for the healthcare business.

A large-scale facility composed of laboratories with the world's largest automation line and state-of-the-art technology, as well as multiple buildings, such as the R&D center which aims to create innovation by encouraging interaction between researcher, and a welfare function that gathers a dining café and hall.



General Manager IT Infrastructure Service Department Information Technology Division

Kentaro Takao

Due to the nature of this facility, which is used to conduct inspections and R&D, there are many "only authorized personnel permitted" places after the start of operation, so it is not realistic to conduct additional construction works later.

//

For this reason, if each MNO installed their facilities separately, we would have had no choice but to give up additional constructions for late coming MNO's facilities after the start of operation.

It is precisely because we chose Infra-Sharing that we were able to expand later on.
Since the completion of the facility, the use of each carrier has gradually increased and we have been able to improve connectivity.

//

After the installation of Infra-Sharing equipment, there were some areas where the connectivity was not good, then, JTOWER carefully interviewed the situation and thoroughly checked including areas other than those that seemed to have problems. They responded sincerely, focusing on quality until the end.

Infra-Sharing Services from Japan Lead the World

# **JTOWER**

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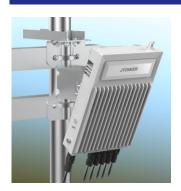
Infra-Sharing Services from Japan Lead the World

## Development of 5G mmWave Shared Radio Unit



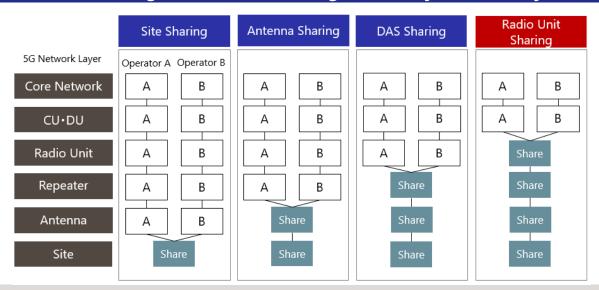
- Development of shared radio unit in 5G mmWave spectrum.
- Anticipate installation in a wide range location, such as electric poles, traffic signals, and smart poles.

#### **5G mmWave Shared Radio Unit**



Available frequency	28GHz band(n257: 26.5GHz-29.5GHz)		
Device	Integrated antenna with remote unit		
R&D partner	Foxconn Technology Group		
Feature	<ul> <li>✓ Compact and lightweight (less than 10L, 10kg)         Anticipate installation in a wide range location both indoor and outdoor         ✓ Complying with O-RAN         ✓ Realize RU sharing in the high layer     </li> </ul>		

#### Promote the high-level Infra-Sharing with an eye on 5G, Beyond5G



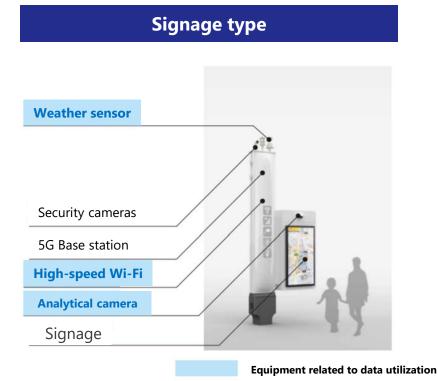
43

## **3** Promotion of Digital Pole\*1



- In Tokyo, Nishi-Shinjuku areas, 22 Digital Poles (of which 20 are new models with the image shown below) were built, and we made proposals to 4 MNO for installation of 5G base stations.
- Verification of each function.
- To measure effectiveness from the perspective of social welfare, the verification for emergency information distribution was conducted such as Local alert and the collection of foot traffic data.

# LED street light 5G Base station High-speed Wi-Fi Security cameras



<sup>\*1:</sup> Digital pole is the name of Smart pole (a generic term for multi-functional poles), a product of JTOWER Inc. (trademark registration number 6642477) for the notation of Katakana in Japan.

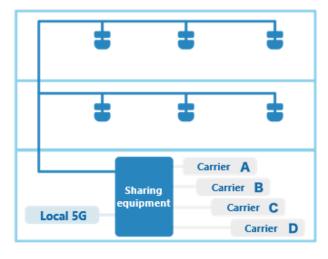
## **②** Promotion of Local 5G



• In February 2022, we completed the development of sharing equipment compatible with Local 5G Sub6 bandwidth. After conducting connection tests with major Local 5G radio systems, we started commercial services from FY2022.

#### Local 5G sharing equipment

#### Infra-Sharing of Local 5G and Carrier 5G



Sharing telecommunications facilities of Local 5G and Carrier 5G.



Save space and power, as well as to reduce materials and constructions.

Realize more environment friendly, more efficient network development.

## Know-how to build wireless networks for various facilities



Leveraging the strengths cultivated in Domestic IBS, propose optimal services tailored to the issues and demands of facilities

#### **Installation:**

**Tokushima Prefectural Government Building, Tokushima Prefectural Central Hospital and other facilities** 

## **JTOWER**



## **Outline**

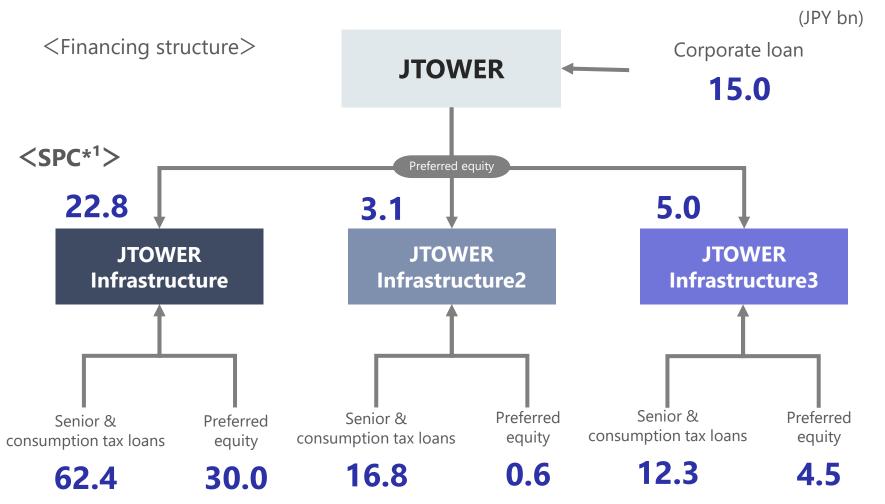
- 1. Pioneer of Infra-Sharing in Japan
- 2. Infra-Sharing Market and Growth Potential in Japan
- 3. Infra-Sharing Business Model
- 4. Finance & Alliance
- 5. The Realization of a Sustainable Society
- 6. Appendix

Infra-Sharing
Services
from Japan
Lead the World

## **4** Implementation of strategic financing

**JTOWER** 

 Raising funds optimally and strategically aiming to achieve medium-to longterm financial targets (FY2026).



<sup>\*1:</sup> ALL the SPCs are 100% subsidiaries of JTOWER Inc. and special-purpose companies for tower ownership and financing.

# 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.

#### July, 2019 Capital and Business May, 2021 Alliance **Capital and Business** May, 2021 Additional allocation **Alliance** November, 2021 October 2021 **Capital Alliance** Capital and **Business Alliance Rakuten** Mobile d∞como 2.5% Acquired 2.5% from NTT (Holdings company) 2.5% 21.6%

**JTOWER** 

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.

## **JTOWER**



## **Outline**

- 1. Pioneer of Infra-Sharing in Japan
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## **6** The Realization of a Sustainable Society



- JTOWER believes that Infra-Sharing in itself leads to the realization of Sustainable Society.
- While contributing to the resolution of social issues, such as the reduction of environmental impact and the realization of Connected Society, we aim to achieve sustainable growth and further increase corporate value together with society.

For information related to ESGs and SDGs, please refer to the Sustainability Section in our corporate website. URL: https://en.jtower.co.jp/sustainability

#### **Environment**



Contribution to electricity consumption reduction through introduction of Infra-Sharing

#### Governance



Disclosure of corporate governance, compliance policies, initiatives and management systems

## Social



Safety activities in construction



Sustainable office and work style



Supply chain management



Communication with employees

## **6** The Realization of a Sustainable Society



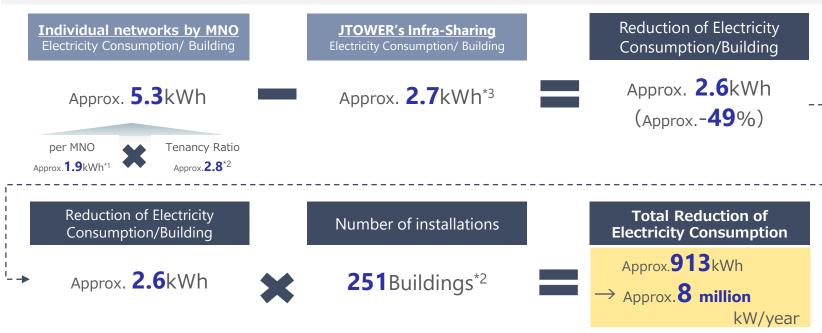
- Environment

 Infra-Sharing not only reduces costs, but also the material and construction work, as well as electricity consumption, which leads to a lower environmental impact.

### Contribution to electricity consumption reduction through introduction of Infra-Sharing



In the case of Domestic IBS, we are contributing to a reduction in electricity consumption of about 6.6 million kW per year (our estimate) by promoting indoor Infra-Sharing.



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

<sup>2</sup>: As of March 31, 2023

<sup>\*3:</sup> 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 sspecification) as of December 31, 2020.

## **13** The Realization of a Sustainable Society - Social



 We will strive to reduce risks in business by establishing a risk management system that includes not only JTOWER but also partner companies and suppliers in terms of safety in construction and procurement.

## Safety activities



In order to prevent industrial accidents and other accidents, we will promote the creation of safe and comfortable workplaces through regular safety and health inspections.

#### **Safety and Health Patrols**

Efforts to identify risks and hazards at an early stage, eliminate them and take measures to reduce them, prevent equipment accidents and information accidents, and ensure thorough safety awareness among workers in construction work.

#### **Efforts for Safety and Health Patrols**

- ✓ Check whether there is any risk of disaster at a construction site.
- ✓ If confirmed, direct the correction on the spot.
- ✓ If "cannot be implemented immediately," the work will be discontinued and countermeasures will be considered as soon as possible.
- ✓ Check whether the instructed approaches are actually conducted at Safety and Health Meeting and morning meeting.
- Maintain an appropriate tension and focus in the implementation of on-site work.

#### **Safety Conferences**

Efforts to review accidents and complaints associated with construction work, prevent the occurrence of similar problems, share the same understanding of construction safety and aim for safe and high-quality construction.

### Supply chain management



In developing and procuring equipment, we have established a sustainable management system not only for the company, but also for the entire supply chain.

#### **RoHS Compliant**

The components and products used comply with RoHS (Restriction of Hazardous Substances Directive), the European Union directive on Restrictions on the Use of Certain Hazardous Substances in Electronic and Electric Equipment.

#### ISO9001/ISO1400

We have introduced ISO90001 and ISO14001 acquisitions as terms for suppliers that we believe are relevant to environmental and employment issues, and we continually review their condition, including their subsequent renewals.

#### **Factory audits**

Periodic factory audits of suppliers are conducted to verify safety and health, the qualifications of workers, and the working environment.

## **13** The Realization of a Sustainable Society - Social



- Together with a sustainable office, we aim to create an environment in which employees can work in good physical and mental health.
- Utilize new facilities to promote communication that combines offline and online.

## Office and work style



Regarding business expansion, we are planning to relocate our Tokyo head office in July 2022. In the new office, We will make use of sustainable materials and create a comfortable environment for employees.

## **Utilization of Recycled Materials**Utilize recycle materials for interior design.

## Reduction of office furniture disposal

Use a subscription service for office furniture. Realized a system that does not dispose furniture while flexibly responding to changes in working styles.

#### **Promoting Wellness**

In addition to comfortable working spaces, we will provide office spaces that enable employees to work in good physical and mental health by making communication and refreshing spaces.







#### Communication



Implementation of various initiatives with the aim of sinking in the corporate vision and revitalizing communication across positions and departments.

#### **Company-wide meeting**

Regular company-wide meetings are held to promote understanding of the company and share information. At the same time, a social gathering is held aiming for further communication among employees.



President Lunch is held regularly to deepen communication between top management and employees and to share various opinions and thoughts.



Established a committee to promote understanding of the corporate vision by young employees across departments.

#### Codes of Conduct Award

The award system for the employee who embodies Code of Conduct.







## **5** The Realization of a Sustainable Society



- Governance
- In order to be a company trusted by all stakeholders, we will work to enhance corporate governance as one of our important management issues.

Disclosure of corporate governance, compliance policies, initiatives and management systems



Corporate governance, compliance policies, initiatives and management systems are disclosed in the Governance section of the corporate website. https://en.jtower.co.jp/governance



Given this recognition, and in order to improve the soundness and transparency of management, improve efficiency, and raise corporate value consistently over the long term, JTOWER makes every effort to enhance its corporate governance in the pursuit of speedy, rational decision-making and more efficient business operations.

#### Corporate Governance System

We have established General Meeting of Shareholders, Board of Directors, Audit & Supervisory Board, and Accounting Auditors as organizations under Companies Act. The Board of Directors, which is composed mainly of directors who are familiar with our business, carries out basic management policies and important business execution decisions and Audit & Supervisory Board, which is composed entirely of outside Audit & Supervisory Board Members, conducts audits from a fair and independent perspective by Audit & Supervisory Board Members with expertise in each field. We believe the current system is effective in ensuring the soundness, transparency and efficiency of management. In addition, we collaborate with outside lawyers when making compliance and important legal judgments.



#### Compliance System

We are implementing various initiatives to ensure thorough compliance by establishing a compliance system in which the head of Corporate Department is responsible for company-wide compliance. In addition, the person in charge of internal audits under the direct control of Representative Director and President is appointed to conduct periodic audits of the business execution and compliance status of each department, and the evaluation is reported to Representative Director and President and Audit & Supervisory Board Members.

#### — Compliance Hotline

We have established an internal reporting system and set up a contact point to properly operate and respond to violations of laws and other legal suspicions. In order to strengthen compliance managements, we have established the system for appropriate handling of requests for advice or reports of organizational or personal violations of laws and regulations from our employees, contract employees, part-timers, temporary workers, dispatched workers, and retirees, ensuring early detection and correction of improprieties.

## **6** Our Approach for the SDGs



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

# **Environmental Considerations**





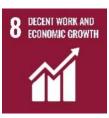


- Reduction of electricity consumption by indoor Infra-Sharing
- Manpower-saving and reduce accident risks by reducing redundant constructions
- Reducing the environmental impact of manufacturing, transportation, and disposal by reducing the use of equipment and materials
- Minimizing the impact on the natural environment and landscape by Tower Sharing

## **JTOWER**



**Infra-Sharing** 



With our employees



Together with our customers and business partners

# Realization of Connected Society









- The Improvement of the usability of mobile phones by improving the indoor and outdoor communication environment
- Promotion of Smart City
- Regional revitalization
   Elimination of the digital divide

## **JTOWER**



## **Outline**

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## **6** Company Information



Company Name	JTOWER Inc.
Founded	June 2012
Representative Director	Atsushi Tanaka
Head office	2-2-3, Minamiaoyama, Minato-ku, Tokyo, Japan
Employees	230*1 (consolidated, as of December 31, 2023)
Capital	JPY8 billion (as of December 31, 2023)
Business Description	Provision of telecom Infra-Sharing service and related services in Japan and overseas

<sup>\*1:</sup> Number of employees includes the average number of temporary workers (contract workers and workers from staffing agencies) in the past year, which is 47.

**6** History



Footsteps as a Pioneer of Telecom Infra-Sharing								
2012	2014	2017	2018	2019	2020	2021	2022	2023
						May Capital & Business Alliance with KDDI Additional allocation to NTT	March Signed the master transaction agreemer for tower carve-outs from NTT East and NTT DOCOMO	March Signed financing t contract for tower carve-outs (SPC2)
June JTOWER Founded	September Launched Domestic IBS	July Launched International IBS in Vietnam	October Announced to enter into Tower Business in Japan	July Capital & Busin Alliance with N' (Holding Comp  December Listed on the T Stock Exchange Mothers	October Began offering indoor 5G Infra-Sharing solutions	July Signed the master transaction agreement for tower carve-outs from NTT West  October Capital Alliance with Rakuten Mobile  November Capital & Business Alliance with NTT DOCOMO	November Signed financing contract for tower carve-outs (SPC1)	September Signed the master transaction agreeme for additional tower carve-outs from NTT DOCOMO  November Signed financing contract for tower carve-outs (SPC3)

# **6** Management with Telecom Expertise - Board of Directors

## **JTOWER**



Representativ e Director

Atsushi Tanaka

26

Years of Telecom Industry Experience



Senior Managing Director

Yusuke Kiriya

20



Managing Director CFO

Ryosuke Nakamura

16



Outside Director

Naoki Ota

24



Outside Director

Yoshiaki Uchida

42



Outside Director

Mutsuko Oba

5



Outside Director

Shingo Ishida

29

#### Goldman Sachs

Equity analyst / Telecom sector

#### **Experience**

#### **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. **Tokyo** 

## **Boston Consulting Group**

Senior partner / Managing director

#### Ministry of Internal Affairs and Communications

Advisor to Minister

#### Tokyo Metropolitan Government

Chief Digital Service Fellow : current position

#### **KDDI**

Executive Vice President, Representative Director, Executive Director of Technology Sector

#### KDDI Engineering Chairman

KPMG AZSA

#### Audit / Advisory

**Statice CPA Office**Founder and
Representative:
current position

#### **TASUKI**

Outside Director: current position

#### **PicoCELA**

Outside Director: current position

#### **NTT EAST**

Executive Manager of Corporate Strategy Planning Department

#### NTT

Director of Technology Planning Department : current position

# **6** Management with Telecom Expertise - Board of Directors

## **JTOWER**

#### **Advisors**



Advisor Nobuo Nezu

**55** 

Years of Telecom Industry Experience



Advisor Eiji Hagiwara

49

#### KDDI

Previous Experience

(Managing executive officer / Full time auditor / Advisor)

#### **NTT DOCOMO**

(Director)

Panasonic Mobile Communications (Senior Managing Director)

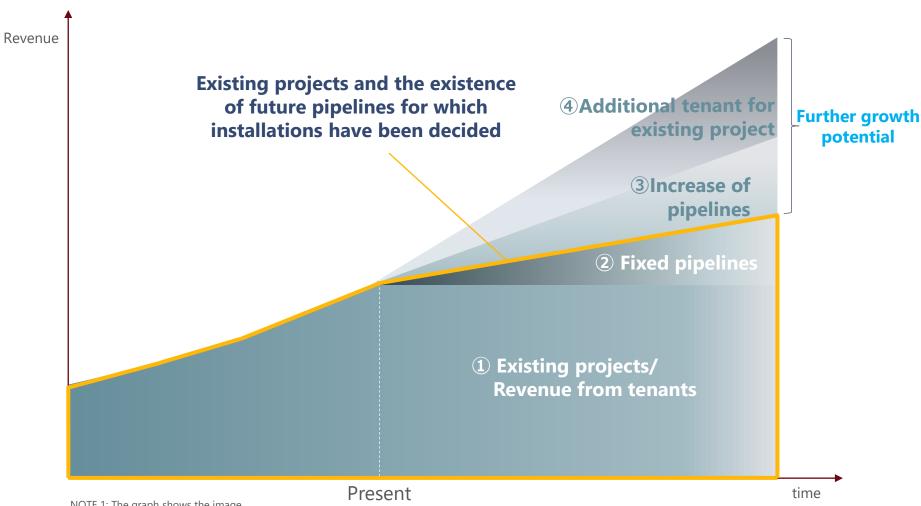
> SAMJI ELECTRONICS

(Advisor : current position)

## **6** Characteristics of Infra-Sharing revenue growth



High revenue growth due to stability based on long-(Growth image) term contracts and the existence of future pipelines



NOTE 1: The graph shows the image.

NOTE 2: This is a business model that requires capital investment when recording Infra-Sharing revenue (at the time of service launch). Such capital expenditures are distributed and expensed over the depreciation period.

## **3** 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.

Infra-Sharing equipment vendor

Telecom Construction Company Procurement of Infra-Sharing equipment

Payment for equipment

Consigned construction contract

Payment for construction



Installation agreement / Lease Agreement



Land owner

Arrangements on matters related to installations (Installation agreement / Lease agreement)

- · Period of use
- Other usage conditions



Arrangement of matters concerning the use of Infra-Sharing in master lease agreement

· Usage fee

Master lease

agreement

Payment for

usage

- Network service fee
- Maintenance fee
- · Period of use
- Other usage conditions

# **1** Types of mobile infrastructure network development in Japan



- In order to rationally and efficiently promote network development in Japanese telecommunications industry as a whole, demand for Infra-Sharing has been increasing.
- Currently, competition for Infra-Sharing services by independent operators is limited.

		Developer	Business model	Organization /Company	
Type1	Network by each MNO	MNO or a division of MNO	Internal use	MNO	
Type2	Network by public interest incorporated association	Public interest incorporated association with the MIC and MLIT as the competent government agency	Targeting facility sharing in highly public areas such as subways and tunnels	JMCIA	
Type3	Network sharing among MNO (based on Guidelines on the use of poles, pipelines by public utilities)	MNO or a division of MNO	Network sharing among some MNO	MNO	
Type4	Infra-Sharing by independent Infra-Sharing service provider	Independent Infra- Sharing service provider	<ul> <li>Multiple MNO are the target of tenants</li> <li><u>Highly efficient in use</u></li> </ul>		

## **10** Important risk factors and countermeasure policy **JTOWER**



	ltem	Major Risk	Possibility/ Timing	Impact	Countermeasures against risks
	Trend of competitor	Possibility of loss of competitive edge, if competitors with sales capabilities, price competitiveness, quality and brand value that exceed our group enter the market.	Medium/ Medium-to long-term	High	In addition to improve technology and services, strengthen our position as a Infra-Sharing provider by strengthening relationships with MNO and real estate developers.
В	Service defects, accidents, natural disasters	If an accident or other incident occurs or services are suspended due to a large-scale natural disaster in the business of our group, the brand image may be damaged, which may affect our business development and financial position.	Medium/ Medium-to long-term	High	Assume possible risks and clarify the response flow/priorities through the formulation of a business continuity plan (BCP).
Business Environment	Technological Innovation	The potential loss of demand from the market if new technological innovations or market trends occur and our group's current businesses do not fit the demand and we are unable to deploy technologies and services that are in line with circumstances.	Low/ Medium-to Long-Term	High	In addition to strengthen the in-house technology team, expand information sharing through capital and business alliances with MNO, including information for technical requirements and base station development plan.
ronment	Violation of financial covenants	When financial covenants in a syndicated loan contract are violated, it may be obligated to repay the loan before the due date, which may affect the financial condition.	Low/ Medium-to Long-Term	Medium	To ensure that it dose not violate financial covenants, our group has the Finance Division monitoring of the business plans of various business divisions.
	Dependence on certain suppliers	Significant changes in the business activities or bankruptcies of large suppliers may affect the provision of our group's services.	Low/ Medium-to Long-Term	Medium	Promote multi-vendor and decentralized procurement.
	Overseas Business	Possibility that country risks, such as the inability to conduct business may materialize due to the impact of political, economic and social conditions in countries with overseas operations.	Medium/ Unknown	Medium	Promote M&A of existing Infra-Sharing companies and equity participation with business partners in markets with a high growth potential.
Business Structure	Recruit and develop excellent human resources	If we are unable to recruit and develop enough human resources, or if the loss of human resources progresses, our business development and operating results may be affected.	Low/ Medium-to Long-Term	High	Strengthen proactive recruitment activities and initiatives to improve employee satisfaction.
	Reliance on an individual person	If our representative director, founder and major shareholder Atsushi Tanaka becomes difficult to continue the operations in our group, our business performance may be affected.	Low/ Unknown	Medium	Information sharing among Board of Directors and strengthen management organization.

<sup>\*</sup>Within the contents of Business and Other Risks section of the Annual Securities Report, major risks that affect the realization of growth and the execution of business plans are extracted. For other risks, please refer to Business and Other Risks in the Annual Securities Report.

## **1** Initiatives of MIC and others to promote Infra-Sharing



Promoting the Development of 5G Base Stations through Infrastructure Sharing\*1

- ✓ 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

Digital Garden City Nation Infrastructure Development Plan\*<sup>2</sup>

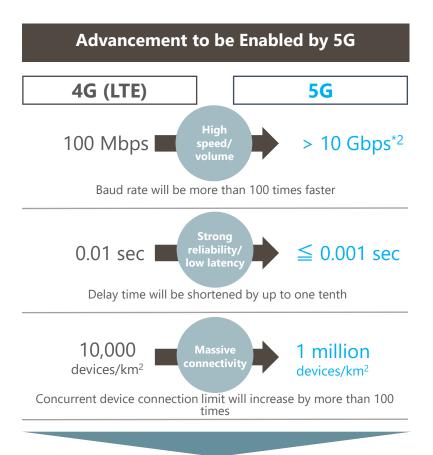
- Expansion of subsidy target areas to cover all rural areas
- > Added Infra-Sharing providers to eligible subsidy recipients
- Raising the national treasury subsidy rate for joint development by multiple operators (Subsidy rate:  $1/2 \rightarrow 2/3$ )

<sup>\*1:</sup> Partial excerpt from MIC's "Promoting the Development of 5G Base Stations through Infrastructure Sharing" announced in December, 2020.

<sup>\*2:</sup> Partial excerpt from MIC's "Digital Garden City Nation Infrastructure Development Plan (Summary)" announced on March 29, 2022.

## **6** Potential Infrastructure Demand Driven by 5G



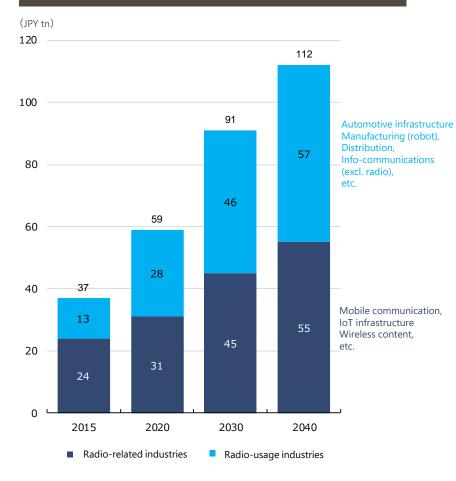


# Demand for infrastructure will increase due to the significant impact of 5G related services

\*1: As of September 30, 2018

\*2: "Glops" 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

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



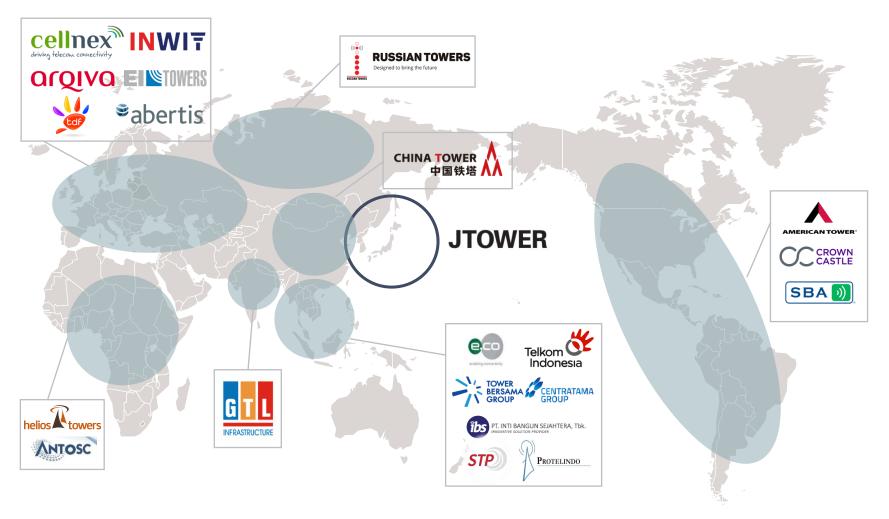
Note:

"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

## **6** Operating Areas of Global Tower Companies





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

Source: Company Materials

## **Disclaimer**



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The information on industry, market trends or economic and other conditions contained in this document is prepared based on the information currently available, and JTOWER is not liable for the truthfulness, accuracy or completeness of such information.

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