

Japanese technologies at the core of Smart Cities

With Japan leading the transformation towards Society 5.0, Japanese companies are developing the state-of-the-art telecommunications technology that will be at the heart of the data-driven Cities of the Future.

New technologies such as IoT, the latest sensor systems, Big Data, cloud computing, robotics and 5G/6G internet will pave the way for the Smart City concept to become a reality over the coming years.

In our data-powered world, Smart Cities will gather and make sense of an almost endless stream of digital information collected from physical objects connected to the internet. Insights gained from that data will be used to manage resources and services more efficiently.

Tokyo has long been seen as a 'City of the Future' and is a natural center-point of Japan's – and indeed the world's – Smart City revolution. As a global authority in high technology, Japan has even taken the Smart City concept one step forward with Society 5.0, the idea of a super-smart society brought forward by the Japanese government, where "Big Data collected by IoT will be converted into a new type of intelligence by AI and will reach every corner of society."

In its Fifth Science and Technology Basic Plan, the Japanese government laid out its roadmap for the future of the nation, outlining its plans to create Society 5.0, "a human-centered society that balances economic advancement with the resolution of social problems by a system that highly integrates cyberspace and physical space."

Up to now industrial and social revolutions have existed separately from each other, taking place at different points in history. However, under Society 5.0, the industrial/economic development will merge with societal change, where the latest Industry 4.0 technologies such as IoT, Big Data, artificial intelligence and robotics, will be deployed to improve livelihoods, solve environmental issues and reduce social inequality.

Drawing on the nation's technological prowess, Japan aims to turn Society 5.0 into a reality, incorporating these new technologies at all levels of indus-

try, business and social life in order to achieve both economic development and solutions to a broad range of societal issues.

But ultimately it will be Japanese companies, and not the government, that ensure Japan leads the transformation towards Smart Cities and Society 5.0. Anritsu Corporation, for example, considered a global pioneer for developing the world's first wireless telephone network, finds itself once again at the forefront of the next communications revolution.

"If you were to consider a Smart City, you are going to have different signals and dif-

ferent wireless networks ensuring that everything is functioning," says president of Anritsu Corporation, Hirokazu Hamada.

"For example, in a Smart City, autonomous vehicles and connected cars will need to stop at red light signals, and those red light signals will be operating on wireless signals. If you were to consider a Smart City, you are going to have different signals and different wireless networks ensuring that everything is functioning."

"You need devices to ensure that those wireless signals are properly working and that is where our devices come into play."

"Japan aims to turn Society 5.0 into a reality, incorporating these new technologies at all levels of industry, business and social life in order to achieve both economic development and solutions to a broad range of societal issues"

With Japan at the forefront of Society 5.0 and the Smart City revolution, the efforts of Japanese companies like Anritsu Corporation to develop next-generation telecommunications infrastructure will go a long way towards the development of a smarter world.

NCN: the global reference in luxury wooden housing development

With trends towards sustainability in construction, the demand for high-quality wooden housing continues to grow, particularly in the US, Europe and Japan.



Japan has always had a predilection for wooden housing. However, the nation's proneness to earthquakes has traditionally been a major issue for these types of structures. In 1996, after having witnessed the catastrophic damage caused to wooden buildings by the Great Hanshin Earthquake, NCN founder Ikuo Takusari set about establishing a company aimed at providing safe and secure wooden structures using the most advanced structural calculation methods.

Since then, NCN has become the developer of reference in

wooden housing, employing its proprietary SE-structure method to build earthquake-resistant, luxury, wooden homes that maintain asset value, using the highest-quality wood sourced from their Nordic suppliers.

"Structural calculations are crucial when building wooden buildings. Even though the law now states the obligation to provide them, there is a lack of expertise in the field," explains NCN president, Mr. Takusari.

"We fill this gap by providing structural calculations for our clients. We also provide our customers with energy-efficiency calculations using our in-house CAD/CAM system. We will continue to conduct research and development daily, focusing on improving our technology and quality to be utilized in the market."

Having maintained vital data on structural records for over 24,000 wooden houses spanning the past 23 years, NCN has gained unrivalled knowledge and expertise in structural calculations in wooden housing, with over 520 companies nationwide now employing its construction system as SE-registered constructors.



"NCN's innovation is providing people with a safe, natural, and harmonious living environment"

Ikuo Takusari, President, NCN



Strong, stable, smart: How Japanese real estate is attracting a new wave of foreign investors

Tokyo leads the way in Smart City development and ESG (environmental, social and corporate governance) investing.



"Opening our office in Singapore is a first step to capturing more international attention, and to allow foreigners to discover what Japan has to offer"

Tetsuji Hirano, CEO,
Legal Corporation

Japanese manufacturing is renowned for offering strength, reliability, high-quality and sound returns on investment, with a big focus on sustainability, high-technology and long-term value. And the same can very much be said of Japan's real estate sector, particularly in the urban centers of Tokyo and Osaka.

While Japan's aging population is generally shrinking, that is not the case in the nation's capital, where the number of residents continues to grow. Buoyed by demand from this expanding population, increasing tourism numbers, strong economic fundamentals, rising land prices, and an infrastructure boom driven by the Olympics (now rescheduled for 2021), Tokyo's real estate sector continues to witness strong and stable growth, offering investors attractive investment yields and stable profit channels.

Japan is widely recognized as an innovative country that adopts new technologies, and the real estate sector is no exception. Leveraging on new technologies such as IoT, Big Data and robotics, Japan is at the forefront of the Smart City movement, with Tokyo taking center stage. And it's yet another factor that is drawing foreign investors.

"The Smart City megatrend is being rolled out at great speed and related technologies have already been implemented in industrial houses, offices and commercial facilities. These technological advancements attract investors and create confidence in the market's future outlook," says Tetsuji Hirano, CEO of Legal Corporation, a comprehensive real estate development company offering real estate solutions, rental, consulting, facility management and nursing care services, which boasts a number of high-quality developments in Tokyo, Osaka and throughout the country.

Foreign capital levels in Tokyo real estate are much lower than in comparable global capitals like London or New York. And many experts say now is the opportune moment for overseas investors to invest in the Japanese capital as it leads the way in Smart City development and ESG (environmental, social and corporate governance) investing.

With foreign investment accounting for just 20% of total investment volume in Tokyo real estate, the government and other stakeholders have worked to open up the market and build a more favorable environment for overseas investors. And real estate firms like Legal Corporation, which has rich experience in both the Tokyo and Osaka markets, aim to serve as the link between foreign investors and the best opportunities in Japanese real estate.

"We have the potential to become a bridge between the Japanese and the global market. Opening our office in Singapore is a first step to capturing more international attention, and to allow foreigners to discover what Japan has to offer," explains Mr. Hirano.

"Furthermore, we plan to enhance the value of our portfolio by promoting ESG investing. To that end, we will soon receive the accreditation for GRESB (Global Real Estate Sustainability Benchmark), thereby providing more business intelligence and engagement tools to investors interested in Legal Corporation."

The famous Yamanote metro line that circles central Tokyo serves as the clearly marked border within which the capital's most lucrative property zones lie and where Legal Corporation aims to leverage on the greatest potential for investors. One of its latest flagship projects located in downtown Tokyo is LEGALAND, a series of low-rise rental condominiums defined by aesthetic design, high-quality structures, long-lasting life span and an excellent location. Legal Corporation currently offers 76 LEGALAND buildings in Tokyo and five in Osaka.

"As these buildings are systematically located close to main metro stations, they are both convenient and accessible," explains Mr. Hirano. "Regarding the business model, we do not sell LEGALAND per unit, but per building. Each building costs between 300 to 500 million yen (approx. \$2.8m-\$4.8m), which is the average market price and is both

attractive and affordable. In comparison, if one was to buy a similar facility in Singapore, they would pay the same price, but per unit."

But Japanese real estate is not only about Tokyo. With strongholds in Osaka and around the Kansai region, Legal Corporation has a presence throughout the country. Outside of Tokyo, Mr. Hirano believes that the nation's second capital Osaka remains the top destination for real estate investment.

"Even though our Tokyo Branch is conducting business activities as well, Legal Corporation's headquarters is located in Osaka," he adds. "As Tokyo and Osaka are two very different markets, it is difficult to acquire expertise in both. Thanks to the location of our offices, however, we are proud to boast an in-depth knowledge of both markets."

Legal Corporation will change its name to LeTech Corporation on February 1st, 2021.



Series of Low-Rise Rental Condominiums

LEGALAND

LEGALAND is designed to be attentive to the needs of tenants, owners and local residents.



**Legal Corporation*
to become
"LeTech Corporation"
on February 1st, 2021.

www.legal-corp.co.jp/english/

AXS: Creating unique projects through the fusion of Art & Science

One of Japan's most reputed architecture firms, AXS has responded to the ever-changing needs of society.



"We always find it important and fundamental to unite the ability of individuals and organizations to tackle various problems related to architecture, cities and environment"

Masaharu Hosoda, President, AXS

"Architecture is for all people." These were the words and guiding philosophy of Takeo Satow, the late founder of AXS, who firmly believed that architecture's main purpose is to respond to the ever-changing needs of society.

Having established his company in 1945, Satow set out to make his contribution to society by creating beautiful, inspiring and functional spaces – architectural breeding grounds for innovation, creativity, learning and dialogue, built primarily for the citizens who use them. The visionary architect sadly passed away in 1972, but his philosophy and vision have continued to live on at AXS.

One of Japan's most reputed and valued architecture firms, AXS has been responsible for several vital public, cultural and social infrastructure projects, including schools, hospitals, theatres, libraries, university halls, old-age residences and municipal buildings – not to mention the office and high-rise buildings that define Tokyo's skyline.

"Satow said that architecture is for everyone. This idea runs through our veins and we put it into everything we make," explains AXS's current president, Masaharu Hosoda.



Mirai On (Nagasaki Pref. and Omura City Library, Omura City Historical Museum). (Credit: Kai Nakamura)

"I think the important thing with architecture is to think about what is necessary and what is required for the future of our society."

Considering the environmental and social challenges the world faces today, Satow's philosophy has never been more important. While the unprecedented issues related to climate change continue to intensify, the global urban population is expected to double in the next 40 years. With Japan leading the charge



Waterras (Kanda Awaji-Cho Area Redevelopment Project). (Credit: Takeshi Yamagishi)

in the building of smart and sustainable cities, AXS has positioned itself at the forefront of tackling various problems concerning architecture, cities and the environment.

As part of its global strategy, AXS has now shifted more focus to providing solutions in China's fast-growing metropolises. Competition in China is huge among the world's biggest architecture firms but so far AXS's experience and capabilities have allowed it to thrive amongst competitors. For example, the company recently beat out 70 other firms to win the contract for an upcoming aquarium and hotel resort project in Shenzhen, thanks to its unique and eye-catching design.

China will represent big opportunities for AXS over the coming decades, where a favorable building policy allowing for creativity, flexibility and innovative design bodes well for the company's business model.

"The great thing about China is that the cities are designed to be the world's best," adds Mr. Hosoda. "Therefore, expanding to China will allow us to blend our know-how of the Japanese market and our

freedom of expression in China, enabling us to be a competitive architectural design firm globally."



Mirai On (Nagasaki Pref. and Omura City Library, Omura City Historical Museum); The New Ocean World & High-End Full Service Hotel in Xiaomeisha Area, Shenzhen.

