

# JAPAN

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## An innovative edge on global challenges

Western industrial countries meet in Japan May 26-27, with worries about the global economic slowdown, market jitters and how to deal with another financial crisis at the top of their agenda.

Guiding the Group of Seven (G7) discussions on how to recalibrate the international financial system will be Japanese Prime Minister Shinzo Abe, the architect of Abenomics, the name given to his administration's attempts to shake Japan free of decades of economic stagnation.

While opinions differ on whether Mr. Abe's efforts to reform and revive the country are running out of steam, few would deny that his policies have pushed the country in a new direction. And whether the G7 presidents and prime ministers, guided by Mr. Abe, can agree on strategies to steer the global economy safely through current financial and geopolitical uncertainties, remains to be seen.

In mid-April the International Monetary Fund (IMF) sounded warning bells about shaky economic conditions, falling commodity prices, concerns about China's economy and the negative impact all of this has had on markets. This year, global equities had plummeted, volatility had risen sharply, talk of recession in advanced economies had increased and bank equity prices had come under renewed pressure, it noted.

While the situation has improved recently, these developments reflected increased concerns about the ability of policies to offset the impact of higher economic and political risks," the IMF commented.

They attributed the improvement in the market situation since February to better news on the economic front, as well as intensified policy actions by the European Central Bank, and a more cautious stance toward raising rates by the U.S. Federal Reserve.

China has also stepped up efforts to strengthen its policy framework to bolster growth and stabilize the exchange rate. That said, policymakers need to deliver additional measures to create a more balanced and potent mix of policies to reduce risks and support growth. In fact, market turmoil could recur and intensify," the IMF said.

The Japanese government, as host of the G7 summit, which is



Next week the Japanese city of Ise, Shima will host the G7 summit, where issues such as climate change, global economic landscape take the lead on many of the aims to revitalize an economy while Japanese companies operations abroad and sustainability.

## Tokyo 2020: the most groundbreaking Olympic games ever

Preparations are well under way as Tokyo and Japan prepare to hold what is promised to be the most innovative Olympic and Paralympic Games in history

When Tokyo hosts the XXXII Olympic Games in 2020, it will have been 56 years since the event was last held there in 1964. Expectations are high that Japan, and Tokyo, will deliver the same groundbreaking experience that the 1964 Tokyo Olympics, Japan introduced a range of innovative products to the world, such as the Shinkansen bullet train and color television. Similarly, I believe 2020

needs a new set of innovations too," he states. It does seem as if the 2020 Summer Olympics are set to be the most futuristic of them all. Some of the innovations visitors may have the pleasure of experiencing include a robot village, driverless taxis, super-speed trains, 5G wireless connectivity, and instant language translation. There may even be artificial meteor showers.

Multilingual robot concierges that can carry your luggage, hail your taxi, offer translation services, and provide just about any service you need will be available throughout Tokyo's Odakura neighborhood, where the athletes will also be housed. Additionally, a robot taxi test vehicle has already been unveiled.

The government hopes to have laws in place regulating the robot taxi by next year. The service is now being tested by a group of the cars to perform basketball-like going to the grocery store. After the games, the taxis will be used to provide transportation services in rural areas and for the elderly.

Athletes at the 2020 summer games will not be left out of the innovations in transport. Automakers are currently working on hydrogen fuel cells that might be used in the cars that their drivers taxi ride to their hotel with just a tap of a finger. Officials expect fingerprint payment to be set up nearby to keep the cars running smoothly and on time.

Further futuristic conveniences that may be used in the games include fingerprint payment options and full 5G wireless coverage. Visitors may be able to register their fingerprints at the airport as they arrive, then pay for their driverless taxi ride to their hotel with just a tap of a finger. Officials expect fingerprint payment to be set up nearby to keep the cars running smoothly and on time.



The 2020 Summer Olympics are set to be the most futuristic of them all.

During the 1964 Tokyo Olympics, Japan introduced a range of innovative products to the world. Similarly, I believe 2020 needs a new set of innovations too."

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Other 'tech-tacular' features will be found in the security systems, which will be comprised of tens of thousands of cameras and sensors, all installed by Panasonic. Spectators could also use an e-pass to get into the stadium, in conjunction with facial recognition technology that will verify ticket holders. The World Japan Pass is a device similar to

## Society takes precedent over profit making

'Our final goal is to improve people's quality of life while protecting the planet and its water. Profit comes second,' says Madoka Kitamura, President of Toto, whose philosophy is shared by many Japanese companies

Japan has always been at the forefront of technology and scientific advances. Few households do not contain at least one appliance that rolled off a production line somewhere in the Land of the Rising Sun. And the sun doesn't set on too many driveways not containing a Japanese-made car, or one that carries Japanese technology.

As the world starts an uneasy shift from unchecked consumerism into a more environmentally aware, sustainable life model, Japanese companies are again leading the way in innovations to make the lives of people more comfortable on an everyday basis, while also helping to ensure the inheritance of future generations. From paint, to soap, via construction and toilet manufacturers, there is a domino effect taking place among Japanese companies, where one environment-sensitive breakthrough follows another.

One such example is the potential for cooperation between two visionary and expanding Japanese companies, Nihon Chuo Kenkyujo Co Ltd (NCK) and Daiwa House Group. The former has developed a unique heat reflective paint, based on nanotechnology, which reduces energy costs, lessens carbon footprint and contributes to a healthier environment by reducing CO2 emissions, cooling buildings through its patented heat distribution properties while also softening the impact of thermal deterioration, effectively extending the lifespan of buildings incorporating it into its architectural design.

Marketed internationally as Adgreencoat, the product is environmentally certified as the world's first spherical inorganic fine ceramic with a high insulation value. Admafine is the unique and patented ingredient in Adgreencoat and NCK Japan is the only coating manufacturer in the world authorized by Admafine, the company that developed Admafine, to use the substance in Adgreencoat, which was developed and produced in accordance with the Kyoto Protocol.

Already in use in large parts of South East Asia, Adgreencoat has already received environmental certification from China, Singapore and Taiwan. Now, NCK plans to export the technology to the rest of the world, with plans to 'coat all structures in the Middle East region by year 2020'. In the U.S., NCK is already working with partners in high-temperature states and together with DHL in Dubai.

NCK also works with the city of Seoul after an initiative launched by the former mayor of New York, Michael Bloomberg, who approached his counterparts across the globe to push for heat-distributing paint to be applied in major cities to combat the so-called urban Heat Island effect.



Daiwa House constructs homes that incorporate eco-friendly materials and renewable energies

"The Heat Island Phenomenon, as ground temperatures of urban areas rise, the area becomes more prone to sudden downpours - often referred to as 'guerilla rainfalls' in Japanese - along with other abnormal climate features," says Yasuhiro Manaka, NCK's President. "The former Mayor of New York attempted to address this issue by promoting the usage of white coating for rooftops recommending the initiative to mayors across the globe. The Mayor of Seoul in South Korea is one of the leaders that the Mayor of New York approached, and he acted upon his advice by promoting white-coated rooftops; today, the City of Seoul is one of our business partners."

Approximately 10 years ago, the Metropolitan Government of Tokyo opened a competitive bid for coating manufacturers across the country as an attempt to encourage the development of an eco-friendly coating material in order to address the urban heat island phenomenon.

As a part of this movement, the Japanese government introduced a series of industrial standards to which the participating bidders must abide; as a result, Japan became one of the countries in the world to establish a formalized industrial standard (JIS) for the production of rooftop coating material. The Adgreencoat essentially originated from this movement.

"The Adgreencoat was created to combat the urban heat island phenomenon with an intricately designed coating material that allows an effective and quick scattering of heat. Our product was developed through the application of nano-sized, ultra-fine, and truly-spherical ceramics, which is a substance already widely in circulation for electronics and precision equipment manufacturing. The application of this substance for building coating allows us to ensure the highest diffusion rate of near infrared rays, sunlight and heat when applied to building surfaces. Furthermore, the active substances forces the suppression of the surface temperature to that of the outside air, thereby preventing heat storage from being trapped inside."

Industry journalists in Japan have commented that NCK's



MADOKA KITAMURA, President, Toto Ltd

"With a growing global population, using water efficiently and economically is crucial - especially in developing countries where the population is growing, which increases the demand for safe drinking water and public sanitation"

speed of business development has been amazingly high over the past five years in Japan, and the aim of the company is to expand globally over the next few years. NCK has already signed a Memorandum of Understanding with Sersol Bhd (Sersol), Malaysia's only public-listed paint maker, to manufacture and market thermal barrier paint under the Adgreencoat brand name through a joint venture company in which Sersol will hold a 51% stake and NCK the remaining 49%. Eventually, NCK envisions more such partnerships in heat-affected countries and regions worldwide.

"By 2018, we plan to establish partnerships in at least fifty nations that are actively addressing the urban heat island phenomenon. Furthermore, eventually we want to operate with a simple business process of delivering high quality products to our global partners and focus on our sales efforts," says Mr. Manaka.



YASUHIRO MANAKA, President, NCK

"The Adgreencoat was created to combat the urban heat island phenomenon with an intricately designed coating material that allows an effective and quick scattering of heat."

Today, Daiwa House constructs homes built with technology to combat the effect of natural disasters and that also incorporate eco-friendly materials and renewable energies. "We started our Smart Town initiative in 2013," says the group CEO and President Naotake Ohno. "We have already developed Smart Towns in 16 locations, representing 1,000 units. An additional three locations with a total of 300 units are under consideration. These units feature solar power generation, storage cells, and HEMS to manage these systems. The specific design of each Smart Town differs place to place, and at some locations, we include designs to incorporate natural ventilations and at some areas we provide electric vehicles for car sharing. The buildings feature the use of insulation that keeps the home warm in the winter and designs that eliminate the influence of external temperature during the summer."

Daiwa House began to enter the international markets in the 1960s, expanding into Southeast Asia, the United States, Brazil and Australia, with recent development projects also taking place in China, Vietnam, Indonesia, South Korea, Taiwan, Singapore and Malaysia.

"I think our overseas business will come to be centered on the U.S.," says Mr. Ohno.

"Currently, our operations there are focused on the rental housing business, but in the future, we also want to expand into single-family housing, logistics facilities, commercial facilities, such as shopping centers, retail outlets and hotels. The quality of Japanese housing is extremely high. We want to infuse those aspects with all the great elements of Japanese housing to proactively promote the strengths of the Made in Japan brand."

As part of its dedication to social responsibility Daiwa House is heavily involved in reconstruction work following the Great East Japan Earthquake and on an individual level the company develops 'lifestyle assistance robots' that play a valuable role in nursing care and rehabilitation, as well as the operation of fee-based homes for the elderly. Among the company's incredible advances are assistive robot suits to support the independence of the elderly and patients with disabilities.

"Daiwa House adopts a philosophy of being a Group that co-creates value for individuals, communities, and people's lifestyles," notes Mr. Ohno.

Whereas some companies today are focused on how best to prevent further deterioration of the earth's fragile ecosystems in their day-to-day operations, others are striving to do their bit to preserve resources that are under equal pressure from population growth and industry activity, but which are not in any way replenishable or subject to a possible dramatic environmental turnaround as in the case of greenhouse gas emissions or deforestation. Chief among these, and the source of all life on the planet, is water.

"We believe that profit comes second - after providing the highest-quality and best service to our customers to give them total satisfaction," says Madoka Kitamura, the president of the world's largest toilet manufacturer, Toto. "Profit is not our main goal. It is a means and a method to reach our final goal - improving people's quality of life while protecting the planet and its water."

Toto's products have achieved global fame, not least for its industry leading Washlets, described in a 2010 Time Magazine article as 'the toilet of choice to the stars.' Toto's dedication to the hidden, and potentially rather embarrassing, art of excellence in the bathroom is deep-rooted, dating back almost 100 years. Before Japan even had a sewerage system, Toto began developing ceramic sanitary ware to improve people's everyday existence and provide a healthy and civilized way of life.

The company's products include ceramic toilet fixtures and sinks, bathtubs, dressers, and solar powered water heaters. But it is the Washlet, the company's trademark product, that is not only a

luxury item craved by the great and the good, but a potential remedy for two of the earth's most prevalent social problems: a lack of proper sanitation and the excessive use of water resources.

According to a 2014 Economist report, around one billion people worldwide have no access to a functioning toilet. Of these, more than 600 million live in India. As public sanitation systems start to develop in India, Toto wants to be present in this market and help Indian people 'build their own toilets for their own country,' says Mr. Kitamura. "In today's environment, where global population is growing dramatically, Toto's duty is to conserve our precious water resources. In emerging markets or developing countries, where access to public sanitation systems expands and access to clean water increases, we need to provide our water-saving technologies and products at a lower cost, so we may help reduce the general cost of infrastructure, dams and sewage cleaning services. With a growing global population, using water efficiently and economically is crucial - especially in developing countries where the population is growing, which increases the demand for safe drinking water and public sanitation."

At the macro-level, Toto is working in this direction with a series of initiatives aimed at promoting the Washlet on a global scale. In traditionally toilet-shy countries like the U.S. and the UK, progress is slow, but headway is being made. On an individual level, each Toto washlet is specifically designed to use as little water as possible but still produce optimum results. To conserve water, it is important that a toilet clears the bowl completely with one flush. 'At first glance the impression is that it is not advanced technology being used to achieve this. However, our Tornado flushing system products are extremely sophisticated,' notes Mr. Kitamura.

The humble toilet, so often the butt of a joke or two, is deadly serious in the hands of Toto. 'Our founding vision was to promote the world's greatest idea - public sanitation - to the Japanese people, and grow our plumbing products business based upon that public health innovation. From our founding, we wanted to contribute to society. We wanted the Japanese people to be able to live cleaner, healthier, more fulfilled and richer lives. Our vision today is to market the Washlet and NEOREST products to visitors in Japan, so they will take the idea back to their country and expand our business. Toto has been in operation for nearly 100 years and we plan to remain in business for another 100 or 200 years at least."

Try before you buy is obviously a difficult promotional gambit for Toto, but as Kitamura states: "Once they use the Toto Washlet, visitors to Japan become fans almost immediately."