# We Are *Tomodachi* Spring/Summer 2016





The Government of Japan

### We Are *Tomodachi* Spring/Summer 2016



In observance of the fifth anniversary of the Great East Japan Earthquake, Prime Minister Abe visited Fukushima Prefecture; he spoke with high school students at JR Odaka Station, where railway service is scheduled to resume in the near future (March 2016).

# *Wagashi:* Traditional Japanese Confections



#### Ichigo daifuku

*Daifuku*, a confection of sweet *an* bean paste wrapped in *mochi* glutinous rice, has been on the scene for about 250 years. But the *ichigo daifuku*, which contains a whole strawberry(*ichigo*), is a relative newcomer to the world of Japanese sweets, having been created about 30 years ago. The delicious contrast of sweet and sour has won favor for this confection, which has become a popular choice among *wagashi* lovers during the strawberry season. A recent variation adds whipped cream between the *mochi* and *an*. Confectioners have also come up with variations that substitute other fruits, such as grapes and melon, for the strawberry.

The makers of *wagashi* strive to preserve traditional tastes, but they are also constantly coming up with original creations. We hope you will enjoy these Japanese treats.

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Note: All U.S. dollar equivalents for Japanese yen amounts in this issue of We Are Tomodachi are calculated at 110 yen to the dollar, roughly the rate at the time of publication.

### Spring in Full Swing with Beautiful Blossoms



#### Wisteria: Ashikaga, Tochigi Prefecture

The wisteria has long been loved by people in Japan. Called *fuji* in Japanese, it has been celebrated in poetry and appeared in tales since early times. The flowering vine blooms from April through early May, its small blossoms gathered in elegantly hanging bunches. Wisteria can be seen growing along overhead lattices in parks and gardens around the country, attracting many visitors when the fragrant and beautiful flowers are in full bloom. One such location is Ashikaga Flower Park, about 90 minutes north of Tokyo by car or train. Here the vines of a great 150-year-old wisteria extend along lattices covering an area of more than 1,000 square meters (11,000 square feet), producing a breathtaking display when they bloom in unison.



#### Nemophila (Baby Blue Eyes) : Hitachinaka, Ibaraki Prefecture

Hitachi Seaside Park is on the Pacific coast of Ibaraki Prefecture, about a two-hour drive northeast of Tokyo. This extensive public park has many flower gardens, displaying colorful tapestries that change with the seasons. From late April through mid-May, a major attraction is nemophila, a flowering plant native to North America that has also become widely popular in Japan. Some 4.5 million of these plants bloom in the park around this time, turning broad expanses into beautiful sky-colored fields. Across these fields visitors can enjoy views of the Pacific gleaming in the spring sun—sea, sky, and flowers blending in a harmony of brilliant blue.

#### The Promising Potential of Japan's Industries

### The Quest for Advanced Regenerative Medicine

Foreign Firms Drawn by Japan's Expedited Approval System

Regenerative medicine is drawing attention as a form of treatment using people's cells and a method that can be used for testing new pharmaceuticals. Japan has been leading the world in this field, as exemplified by the research into induced pluripotent stem cells (iPS cells) by Dr. Shinya Yamanaka, winner of the 2012 Nobel Prize in Physiology or Medicine. The global market for regenerative medicine is seen as growing to a huge JPY 38 trillion (USD 345 billion) by 2050. In Japan, government and industry are working hand in hand to advance this field with measures including bold regulatory reform and active promotion of investment by foreign corporations.

In November 2014 Japan became the first country in the world to adopt an expedited approval system for regenerative medical products and to allow outsourced cell culturing. Two products were approved under the new system within a year of its adoption. Thanks to this system, it has become possible in some cases to secure approval of new regenerative medical products in Japan prior to their approval in other countries.

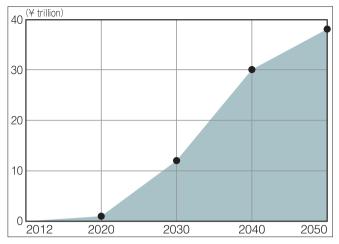
In 2015 three government ministries—the Ministry of Education, Culture, Sports, Science and Technology; the Ministry of Health, Labour and Welfare; and the Ministry of Economy, Trade and Industry—joined in establishing the Japan Agency for Medical Research and Development. Through this agency the three ministries have created a unified setup for promotion of research and development. Meanwhile, the Japan External Trade Organization (JETRO) has taken the lead in efforts to support foreign companies that invest in regenerative medicine in Japan, with some JPY 1 billion (USD 9 million) in financial support available. Thanks to such initiatives, foreign companies have come to see Japan's regenerative medicine market as offering opportunities.

Japanese industry is also welcoming the entry of foreign participants. As early as 2011, companies involved in this field joined in launching the Forum for Innovative Regenerative Medicine (FIRM) to serve as a pipe connecting the relevant companies and research institutions, both Japanese and foreign. FIRM's Representative Director and Chairman Yuzo Toda stresses, "Japan, with its aging population, has a strong need for regenerative medicine, and it also has the technological strength to develop practical applications based on research results."

According to FIRM, some foreign companies are now considering making Japan the initial market for their new regenerative medical products so as to achieve quick practical use for them. Toda declares, "Conditions are in place for realization of Japan-made, world-first products. FIRM's role is to serve as an incubator for the regenerative medicine industry. We want to advance initiatives to open up this new field, working in tandem with Japanese and foreign companies."

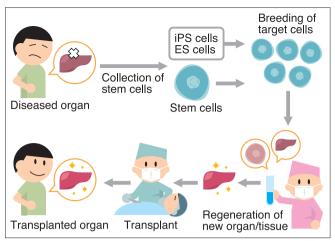
FIRM has established a partnership with the Alliance for Regenerative Medicine (ARM), America's trade association for regenerative medicine. It also has tie-ups with Sweden, Britain, and Australia, and Canada will soon join the list. Japan's initiatives in the field of regenerative medicine are developing international breadth.

#### Global scale of the regenerative medicine market

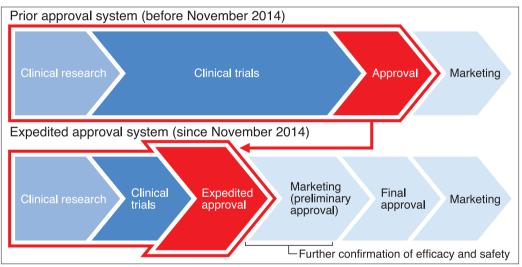


The future scale of the global market for regenerative medicine is forecast to grow to JPY 1 trillion (USD 9 billion) by 2020 and JPY 38 trillion (USD 345 billion) by 2050.

#### A medical field drawing global attention



Examples of regenerative medicine using iPS cells, embryonic stem cells, and somatic stem cells, now drawing attention for its potential in curing previously untreatable conditions.

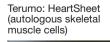


#### Shortening of development period under expedited approval system

By comparison with the previous approval process, this system provides for a major shortening of the time required for approval of pharmaceuticals, subject to further confirmation after marketing, followed by a review of the approval.

### Two regenerative medical products approved

JCR Pharmaceuticals: TemCell (allogenic mesenchymal stromal cells)





Yuzo Toda, Representative Director, Chairman Forum for Innovative Regenerative Medicine (FIRM)

FIRM, with 185 corporate members as of January 2016, is working to close gaps in awareness and regulations regarding regenerative medicine among industry, academia, government, and citizens, as well as to show specific ways forward.



## Top-Quality Japanese Food Finds International Appeal

Beef, Rice, and Other Ingredients Gain Ground in World Markets

Recent years have seen a worldwide boom in the popularity of Japanese cuisine. Generally speaking, the Japanese diet packs fewer calories than its Western counterparts, and obesity is less prevalent among the Japanese as a result. This is one of the main reasons for the worldwide common interest in Japanese food. Now, though, attention is also focusing on the ingredients that make up these dishes.

In response to this interest, moves are afoot in Japan to increase overseas awareness of the attractiveness of various Japanese food ingredients and to expand sales channels for them in world markets. One of these moves aims to establish the "Japan brand" for high-quality agricultural and fisheries products, with a focus on measures to grow exports of them.

One such area is high-grade Japanese beef. Meat labeled with the Japanese name *wagyu*, produced in Australia and other countries, has been distributed mainly in Western markets in recent years. But this foreign beef differs greatly from true Japanese *wagyu*, which owes its quality to thorough feed management, clean, stress-free living environments for the cattle, and painstaking care of and devotion to the animals on the part of ranchers. This approach is not so easily copied.

According to Tsuyoshi Hishinuma, chairman of the Japan Livestock Export Promotion Council, foreign diners use unique words to describe the experience of eating true Japanese *wagyu*, exclaiming "Beautiful!" at the sight of the richly marbled appearance of the meat and marveling at the "melty" mouthfeel of each bite they take. "At trade fairs held in Britain and Germany in autumn 2015," says Hishinuma, "we saw chefs from those countries' Michelin-starred restaurants lining up to sample the *wagyu*."

Similar global attention is now focusing on rice, which plays a central role in the Japanese diet. This grain is a vital ingredient in sushi, another Japanese cuisine with broad popularity overseas. Miho Yamazaki, who grows rice in Ibaraki Prefecture, has been developing finely tuned strains of rice that are perfect matches for particular dishes. One of these, a special version for use in sushi, features less stickiness than ordinary grains and a delicate flavor that matches sushi vinegar perfectly. "Ask people abroad what Japanese food they like, and they're certain to answer, 'sushi!' This made me believe that there was demand for Japan's delicious rice in overseas sushi markets, and I started looking into exporting it," says Yamazaki. She now sells sushi rice in the United States, Canada, France, Britain, and Singapore. Her rice has earned high praise from guests enjoying it at receptions hosted by Japan's embassies in places such as Canada and France. Marketing moves like these have helped Yamazaki to open up new sales channels around the world.

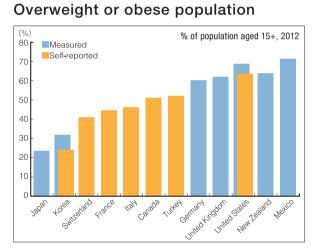
There are still issues to address, of course. Some countries continue to restrict imports of Japanese agricultural products, citing concerns about radioactive materials in the wake of the March 2011 disaster. But thanks to concerted efforts through scientific research to show the safety of Japanese food, these obstacles are being dismantled as time goes on. The European Union, for example, dramatically relaxed its restrictions in January 2016. We are having quarantine consultation with other countries to make more people in the world enjoy Japanese excellent foods. As this progress continues steadily, conditions will ripen for more and more people around the world to get a taste of the high-quality agricultural produce and food products that Japan has to offer.

► Wagyu Beef, the original from Japan https://youtu.be/TzuhKQQrCy0



1 2

1. Japanese cattle raised in comfortable, clean environments. 2. Finely marbled wagyu looks magnificent and melts in the mouth.



#### Source: OECD, Health Statistics

#### Overcoming safety concerns

"The measures taken to monitor and respond to issues regarding radionuclide contamination of food in Japan are appropriate and the food supply chain is under control." Assessment by the International Atomic Energy Agency, February 2016

#### 17 countries have already lifted their import restrictions

Countries that have lifted their restrictions					
Canada	Myanmar	Serbia			
Chile	Mexico	Peru			
Guinea	New Zealand				
Colombia	Malaysia	Ecuador			
Viet Nam	Iraq	Australia			
Thailand	Bolivia	India			

Stringent control of food safety				
Among the world's strictest reference values				
Prompt restriction of shipments				

Strict inspection systems



3

4

3. Lustrous grains of Japanese rice promise amazing taste. 4. Rice hangs heavily on its stalks.

(© Ministry of Agriculture, Forestry and Fisheries)

### Tapping the Potential of Japan's Undeveloped Tourism Resources

The number of tourists visiting Japan has been rapidly increasing. In 2015 inbound tourists totaled 19.74 million, double the figure for 2013. A number of factors are seen as contributing to this growth, such as the depreciation of the yen, relaxation of visa requirements, and increased affluence in neighboring countries. The trend seems likely to continue.

The Japan Tourism Agency recently released data showing that the increase in the number of tourists is spreading to regions around the country. This offers evidence of growing awareness among visitors from abroad that Japan's attractions are not limited to the sights along the popular Tokyo–Mount Fuji–Kyoto "Golden Route." It indicates that regional tourism is a new market with great room for future development.

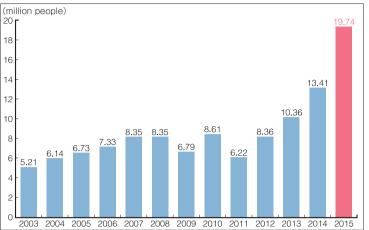
Let us introduce one case of a region that has successfully tapped its tourism resources to attract foreign visitors. The ski resorts of Hokkaido, notably Niseko and Rusutsu, have long been favorite destinations for Japanese skiers attracted by their high-quality powder snow, but now the area is also drawing growing numbers of foreign visitors as well, including Southeast Asian tourists, for whom snow is an unusual sight, and skiers from Australia, where the seasons are the reverse of Japan's. Ross Findlay, an Australian who fell in love with Hokkaido, has been actively involved in developing the town of Niseko as a resort. He worked with locals eager to promote their town as a tourist destination, creating a hospitality setup to accommodate non-Japanese guests. As a result Niseko has become a resort that is highly popular among foreign visitors. Findlay says his next goal is to get out the word about Niseko's attractions as a summer resort. He believes that many other places in Japan have similar potential for development as international tourist destinations.

International involvement is also seen in cases where foreign companies have acquired and revived traditional Japanese inns, *ryokan*, that were ailing financially. One such *ryokan* is Chikusenso in Zao, Miyagi Prefecture, which was bought by Mingly, a Hong Kong–based corporation. Payson Cha, Mingly's chairman, says he was confident that Chikusenso could be made more international, more efficient, and more modern as a hotel while maintaining its original values, culture, and environment. Japan's regions have many undeveloped or underutilized tourism resources of this sort.

The development of inbound tourism is not just about special tangible resources. Martin Barrow, a Briton who has been cooperating with Japan's tourism promotion campaign as a Visit Japan Ambassador, declares that visitors do not come to Japan just to see famous or historical sights; they look forward to experiencing the "real" Japan—the lives and everyday activities of people in the regions of the country. These typically Japanese aspects have untapped charm and latent potential to attract international visitors. And they can be found in close juxtaposition to city sights and tourist attractions, which means that tourists can combine experiencing these everyday aspects with visiting historical sites and enjoying the latest forms of recreation.

Japan's local regions are definitely worth visiting. And if you discover the attractions of the lifestyles, history, and nature to be found in these places, perhaps you will consider investing in their development potential.

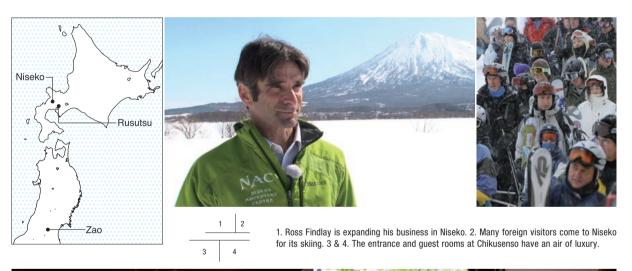
Year-on-year increase in total number of nights spent by foreign visitors at tourist accommodation



Number of foreign visitors to Japan

Source: Japan National Tourism Organization (JNTO)

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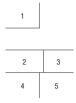




Invest in Japan : The Attractions of Regional Cities https://youtu.be/GpumpMdr9to

A Story of an Onsen Resort http://youtu.be/o2t-IE7XCfY

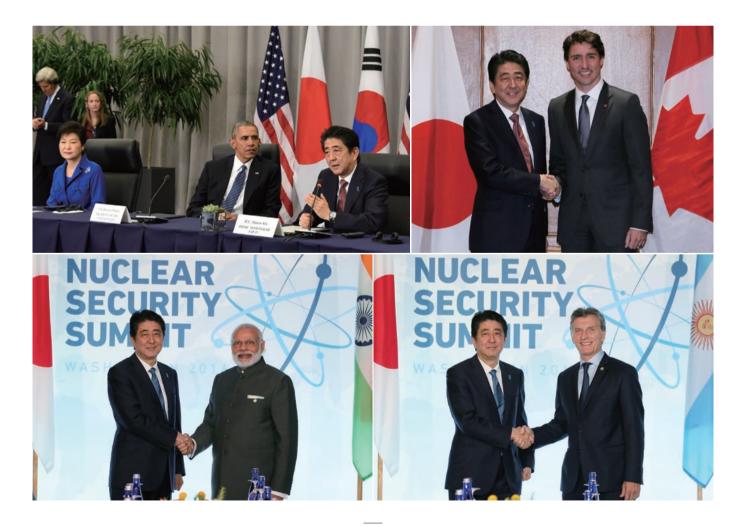


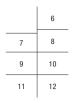


Prime Minister Abe traveled to the United States to attend the Nuclear Security Summit held in Washington DC. While there, he held meetings with world leaders (March and April 2016).

1. Attending the fourth Nuclear Security Summit (April 2016). 2. Holding a trilateral summit meeting with President Barack Obama of the United States and President Park Geun-hye of the Republic of Korea (March 2016). 3. With Prime Minister Justin Trudeau of Canada (March 2016). 4. With Prime Minister Narendra Modi of India (April 2016). 5. With President Maurcio Macri of Argentina (April 2016). Page 15: 6. With President Nursultan Nazarbayev of Kazakhstan (April 2016). 7. With His Majesty King Abdullah II Ibn Al Hussein of Jordan (April 2016).

## Moments of Prime Minister Abe





Prime Minister Abe welcomed foreign dignitaries to Tokyo for meetings. 8. Speaking with His Majesty King Carl XVI Gustaf of Sweden (February 2016). 9. Meeting with President Sauli Niinisto of Finland (March 2016). 10. Meeting with President Abdel-Fattah El-Sisi of Egypt (February 2016). 11. Meeting with President Taur Matan Ruak of Timor-Leste (March 2016). 12. Meeting with President Robert Gabriel Mugabe of Zimbabwe (March 2016).









Prime Minister Abe welcomed world leaders at the Prime Minister's Office. 1. Meeting with President Petro Poroshenko of Ukraine (April 2016). 2. Meeting with Prime Minister Taavi Rõivas of Estonia (April 2016).

3. Receiving a courtesy call from the Japanese American Leadership Delegation (March 2016). 4. At the Memorial Ceremony Marking the Fifth Anniversary of the Great East Japan Earthquake (March 2016). 5 & 6. Visiting Miyagi Prefecture (5) and Fukushima Prefecture (6), which are advancing their reconstruction from the Great East Japan Earthquake (February and March 2016).







東日本大

震災犠

### The Charms of the G7 Ministerial Meetings Host Cities

Toyama: A Nature-Rich City with Environment-Friendly Policies

The city of Toyama, site of the G7 Environment Ministers' Meeting, is about two hours from Tokyo on the Hokuriku Shinkansen, a high-speed railway line that came into service in March 2015. It is one of the principal cities on the Sea of Japan coast. The city is rich in nature, with features ranging from Toyama Bay, with a maximum depth of more than 1,000 meters (3,300 feet), to the Tateyama Mountain Range, with peaks of around 3,000 meters (9,800 feet). From April through June the Tateyama Kurobe Alpine Route, which provides an entryway to Toyama via the Northern Japan Alps, is flanked by great walls of snow reaching heights of about 20 meters (65 feet), created when the snow is cleared from the road—a breathtaking sight that enthralls tourists from Japan and abroad. Visitors to Toyama can enjoy sushi made with the bountiful seafood from Toyama Bay, along with local sake made with the clear water from the Tateyama peaks.

Toyama has adopted various environment-friendly policies, including the introduction of light rail transit (LRT) and the building of small hydroelectric power plants. In its "Compact City Policies" report, the OECD selected Toyama as one of five leading cities in terms of these policies.





1. A tram runs along the Centram loop line of Toyama's light rail transit (LRT) system; in the background is Toyama Castle, the city's symbol. Toyama is promoting use of LRT by distributing free-ride tickets at hotels within the city to tourists from abroad who spend the night there. 2. A view of Toyama's urban center, including Toyama Station of the Hokuriku Shinkansen, against the backdrop the Tateyama Mountain Range towering around 3,000 meters in the distance.

G7 Japan 2016: Messages from Toyama and Karuizawa https://youtu.be/XR76afICMHY

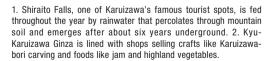
#### Karuizawa: A Town Developing as a Resort Convention Site

Karuizawa, Nagano Prefecture, site of the G7 Transport Ministers' Meeting, originally developed as a post town on the road from Edo (present-day Tokyo) to Shinano (present-day Nagano). Now it is about 70 minutes from Tokyo by Shinkansen high-speed rail, and it is one of Japan's most popular highland resorts, with many vacation homes. This town is one of few places in the world to have hosted events for both the Summer Olympics and Winter Olympics.

Karuizawa's visual attractions include old streetscapes showing the influence of Western culture on the town since the late nineteenth century. In addition, the town has become a major site for conventions of various kinds. A large hotel near Karuizawa Station, where Shinkansen trains stop, offers commodious meeting facilities. Visitors to Karuizawa can enjoy dishes made with highland vegetables grown in the town's cool, nature-rich environs, as well as servings of soba, Japan's traditional buckwheat noodles.







G7 Japan 2016: Messages from Toyama and Karuizawa https://youtu.be/XR76aflCMHY Kurashiki: A City That Preserves Its Traditions and Culture

Kurashiki in Okayama Prefecture, site of the G7 Education Ministers' Meeting, is one hour by Shinkansen high-speed rail from Osaka. Located on the Seto Inland Sea, it developed as a city of merchants, but it is now known as a city of culture and education—the site, for example, of the Ohara Museum of Art, famous as Japan's first private museum of Western art. The Great Seto Bridge extends for over 13 kilometers (8 miles) to the south, connecting the city to the island of Shikoku on the other side of the sea. Kurashiki's Bikan Historical Quarter preserves many Edo-period (1603–1868) merchants' homes and earthen-walled warehouses and granaries.

Cotton has been a major crop grown in the Kurashiki area since the seventeenth century, and the city is now world-famous as a producer of high-quality denim goods. Kurashiki is also known for its seafood from the Seto Inland Sea and for the white peaches and muscats that grow in its mild climate.

Recently, the city has been working to attract tourists from other countries with ongoing measures such as providing Wi-Fi hotspots.







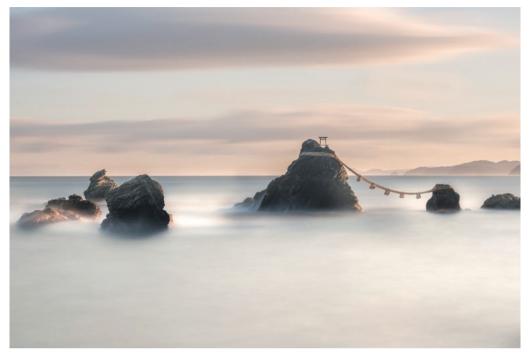
1. The Kurashiki Museum of Folkcraft, opened in 1948, was originally a rice granary. It is now the signature building of the city's Bikan Historical Quarter. 2. Riverboats carrying cargo formerly plied the Kurashiki River, which runs through the Bikan Historical Quarter. Now boats carry tourists for rides along the river, preserving the area's traditional ambience.

G7 Japan 2016: Messages from Kurashiki Video clip will be available at https://www.youtube.com/user/pmojapan



G7 Japan 2016 Ise-Shima Summit official website http://www.japan.go.jp/g7/

### G7 Japan 2016 Ise-Shima Photography Contest Winners





Yo lwata MIE / Meoto-iwa (wedded rocks)

A photograph that captures the slanted rays of the sunrise taken on my first visit to the Meoto-iwa. To capture a place said to be of the gods' since ancient times, I used a long exposure to express the pure beauty of Japan.



#### Life in Japan Division

Guided by The Milky Way Eiji Nakane

IBARAKI / Suigo Itako Ayame Park

An event recreating the "wedding boat" tradition from the Edo period, when brides rode on boats to their grooms. The many LED lights set loose in the river looked very much like the stars. It was like taking a photograph of a fantastic fairy-tale called "The Wedding Boat Floats Upon the Milky Way." The Government of Japan held the G7 Japan 2016 Ise-Shima Photography Contest. More than 17,000 submissions were received from Japan and abroad. We are grateful for the many submissions.

Following a rigorous judging process, the following four photographs were selected as recipients of the Prime Minister's Award.



#### Japanese Culture Division

**Young Man** Fumi Komata NAGANO / Nanakuri Shrine, lida City

A tradition practiced for 700 years. I was moved by the dance of the figure with a rope tied around his waist and a water pail raised overhead.



#### Smartphone Division

Aya Ebihara TOKYO / Kindergarten bus taking children home My son and his friend . . . feeling worn out?

> Capture the Best Japan G7 Japan 2016 Ise-Shima Photography Contest http://www.japan.go.jp/g7/photocon/

#### Going Global with Yamagata Roots

### Traditional Artisanship and Modern Style

A Renowned Designer Links Japan and the World from His Hometown

Industrial designer Ken Okuyama is globally famous as the first non-Italian to design a Ferrari. He spent his teens in Yamagata in northern Japan, an area rich in nature. After studying car design at Art Center College of Design in the United States, he started his career as a designer at General Motors. But after four years there, having revealed his talent, Okuyama was hired by Porsche, which was then at a historical turning point. There he took part in creating a new lineup of products that became the mainstay of the German automaker's success in the years that followed. His ongoing quest took him next to Italy, where he found a job with the famous design firm Pininfarina in 1995, when he was in his mid-thirties. His entry drew attention as the firm's first hiring of a foreign designer. Several years into his career there, he supervised the production of the Enzo Ferrari, a model built to mark the 55th anniversary of the founding of Ferrari. With this accomplishment he gained international renown.

Over the course of his 12 years living in Italy, Okuyama says he became aware of the "modern, simple, and timeless" Italian design philosophy—a philosophy that has commonality with Japan's traditional culture. "In Italy, they treasure what's old and enhance its value. Conversely, when they make something anew, it has to be modern, different from what came before. Also, simplicity strengthens beauty more than heavy decoration, giving products lasting appeal. What is modern and simple gains a timeless existence."

In 2006, Okuyama left Pininfarina. Returning to Japan, he founded his own studio, Ken Okuyama Design, in Yamagata. The decision to set up headquarters in his hometown, he says, was derived from what he saw in Italy: "I was struck by the fact that skilled artisans working in various local industries are conducting the world's best manufacturing." Yamagata has its own world-class artisans in fields like woodworking and iron casting. Okuyama believed that combining his designs with this artisanship would make it possible to craft objects that would both preserve tradition and command international appeal. In line with this ambition, the various products now being sold under the Ken Okuyama brand include goods for daily use that are based on local crafts not just in Yamagata but from around Japan.

Okuyama remains broadly active today, working from bases in Japan, the United States, and Britain. He works in a wide range of fields—from cars and trains to tableware and furniture. Based on his own experience, he declares, "Japanese people don't necessarily have the best understanding of Japanese culture. We have much to learn from Germans and Italians, with their skill at distinguishing between traditions to be preserved and elements to be changed." Linking Japan and the world from Yamagata, Okuyama continues to exert international influence transcending cultural borders.

Ken Okuyama Design official website http://www.kenokuyamadesign.com/



#### Kiyoyuki "Ken" Okuyama

Born in 1959; raised in Yamagata, Yamagata Prefecture. He has headed his own firm, Ken Okuyama Design, since 2007. In addition to producing and marketing products under his own brand, ranging from original cars to tea utensils and cutlery incorporating artisanal techniques, he provides design consultation services for companies.





1. A teapot designed by Okuyama fuses tradition with modern style. The painstakingly hand-hammered copperware pot has a form inspired by the shape of an apple and a texture that evokes bare rock. The precise fit of the body and lid of the accompanying tea caddy bespeaks the artisanship with which it is made. 2. Okuyama has also designed many trains, including those for the Hokuriku Shinkansen high-speed rail line inaugurated in March 2015. 3. The Enzo Ferrari by Okuyama: Alone among the world's renowned industrial designers, Okuyama has handled designs for Ferraris, Porsches, and Corvettes.

#### Going Global with Yamagata Roots

### Changing the World with Synthetic Spider Silk

A New Technology to Turn Protein into High-Performance Materials

Spider silk—the thread in spider webs—is thin and supple. In addition, this natural material is more elastic than nylon and stronger than steel per unit of mass. Spiber, a start-up based in Tsuruoka, Yamagata Prefecture, is now in the limelight for its world-first development of synthetic spider silk and the technology for its mass production. The company's technology harnesses genetically engineered microorganisms to produce protein that serves as the material for synthetic spider silk. If this innovative technology is able to substitute for the existing petroleum-based technologies for fiber and other products, the materials industry could be radically transformed.

Kazuhide Sekiyama, Spiber's representative executive officer, founded the company in 2007, using a blend of "spider" and "fiber" for its name. His team succeeded in determining the genetic sequence of fibroin (the protein that is the main component of spider silk), synthesizing the relevant DNA, and incorporating it into microorganisms. They also developed techniques to culture the microorganisms quickly in large amounts and to collect the fibroin they produce. The protein is powdered and then fused into thread using a special device.

Spiber has named this artificial spider silk material "Qmonos<sup>TM</sup>" from *kumonosu*, Japanese for "spider web." The company says that it is possible to customize the strength and elasticity of the material by changing the amino acid sequences of the DNA incorporated in the microorganisms. Thanks to its research and improvement so far, it has achieved a dramatic increase in productivity. Its pilot plant has a production capacity on the order of 20 tons a year, and it is pursuing commercialization of its material for use in apparel.

In October 2015, Spiber revealed a sample of a parka made with Qmonos. Since then the company, which has 111 employees, has received a barrage of commercial inquiries and proposals for technological tie-ups from Japan and abroad. The parka is scheduled to be put on the market by the end of 2016.

The fibroin produced by microorganisms can be provided not just as fibers but in a variety of formats, including films, gels, and nanofibers. Taking advantage of the material's unmatched combination of strength and elasticity, Spiber expects to be able to use it to develop advanced technologies and products in the future, such as automobile bodies that will not be dangerous even if they collide with people and artificial blood vessels with extraordinary durability.

Sekiyama declares, "We want to create an industrial society that does not jeopardize the global ecosystem by using new, biologically sourced materials that do not rely on petroleum. In another 10 years, I believe that these materials will be mass-produced on a major scale and that products made with them will be widely available. We can envisage the emergence of an industrial landscape unlike anything we have experienced." With the development of next-generation high-performance materials, Spiber has high aims to contribute to the resolution of environmental problems and other issues confronting humankind.

Spiber official website http://www.spiber.jp/en

#### From production of Qmonos to fabrication of apparel

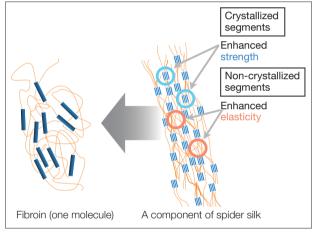


Fibroin, the protein in spider silk, is produced by microorganism culture and powdered.



The fibroin powder is spun into thread with a device developed by the company.

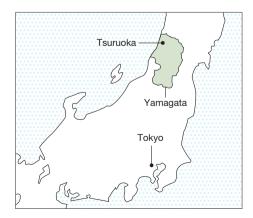
#### Molecular structure of fibroin



The molecular structure of fibroin is divided into hard crystallized segments and soft non-crystallized segments. This structure is thought to be related to the combination of strength and elasticity.



Kazuhide Sekiyama, Spiber's top executive, poses with a parka made using Qmonos. Sekiyama, now 32 years old, started researching artificial spider silk as a student majoring in biotechnology at Keio University, and he founded Spiber while pursing doctoral studies.





Spiber's headquarters, located in a rural district of Tsuruoka, Yamagata Prefecture.

### Hearing Better with the Comuoon System

Unique Speakers Offer Communication Support for Those with Hearing Problems

Japan, due to its aging population, has a growing number of senior citizens with agerelated hearing loss. It also has increasing numbers of non-seniors with hearing issues due to causes including noise-induced hearing loss and stress. Universal Sound Design, a Tokyobased start-up, has developed a unique communication support system called "comuoon®" to provide communication support for the hard of hearing.

The comuoon system consists of a slim microphone and a specially designed speaker. When a person talks into the microphone, his or her voice can be heard from the speaker unit with the sound enhanced to be more audible to a hearing-impaired listener. It can serve in place of a hearing aid for those with moderate hearing impairments who can hear loud sounds but have a hard time understanding normal speech. This system allows those who are speaking to proactively help the listener, instead of placing the burden on the listener to take actions to boost his or her hearing. This is the concept behind the development of comuoon.

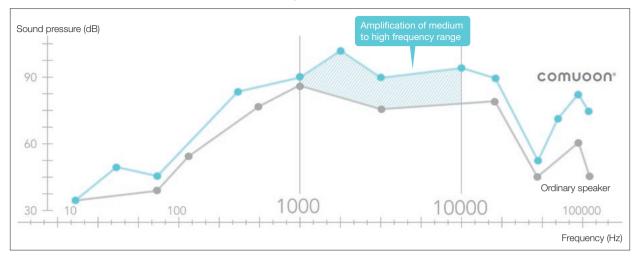
Hearing aids have improved considerably, but many people living with hearing loss do not use them because they amplify all sounds, including unneeded ones. Universal Sound Design CEO Shinichiro Nakaishi, who developed comuoon, says that his father had a hearing problem that interfered with everyday conversation. This was what motivated him to create something that would allow hearing-impaired people to converse without the need for a hearing aid. The specifics of hearing impairments differ from person to person, but such impairments tend interfere with the hearing of consonants. This tendency is particularly strong in the case of the high-frequency sounds of k, s, and t, making it difficult for people with hearing problems to catch words containing these sounds. Simply increasing the volume does not help. As Nakaishi explains, what is important is the clarity of the sound, not the volume.

The comuoon system, which was completed at the end of 2013, resolves sounds into their component parts, reduces noise, and amplifies volume in the frequency ranges around consonants, thereby making sounds clearer. Speaker diaphragms are normally made of paper, but the comuoon speaker uses a newly developed aluminum component with a honeycomb structure that enhances resonance. The speaker's ovoid shape keeps the sound from scattering, providing high directionality that delivers sound straight to the listener's ears. University experiments have verified the globally unmatched efficacy of this device.

Comuoon systems are far from cheap, but about 3,000 of them have already been sold in a little over two years. They have been installed in hospitals, at bank counters, and elsewhere, facilitating communication with the hard of hearing. They are also being used in schools and classes for the hearing impaired, and thanks to them, students happily report that they can hear better.

Universal Sound Design aims to promote comuoon globally and is currently testing the system in countries including the United States, which, like Japan, has a growing population of seniors. Nakaishi is eager to spread this system in the lead-up to the 2020 Tokyo Olympics and Paralympics, saying that his ultimate goal is to accomplish "barrier-free listening."

#### Sound pressure: comuoon vs. ordinary speaker



By raising the sound pressure in medium and high frequency ranges, comuoon enhances the clarity of sounds in the ranges around the consonants, which hearingimpaired people commonly have difficulty understanding.





1. The comuoon system consists of a slim microphone and a speaker. 2. Systems with wireless microphones are also available, allowing students with hearing problems to sit at a distance from the teacher. 3. Shinichiro Nakaishi, CEO of Universal Sound Design, formerly worked for a major record company. Assigned to new business development, he did research on speakers for concert use. It was during this time that he discovered sounds that are easier to perceive for those with hearing loss. This led to development of the comuoon system. 4. The company has donated comuoon systems to schools and classes for the hearing impaired and has received many thank-you letters from students.

### Sharing Travel Treats with the World

Japan's Ekiben Win Favor in France

Railways developed as a major means of long-distance travel in Japan from the 1880s on, and along with this came demand for food to eat during the many hours on the train. From the start, rice balls called *onigiri* were sold on station platforms, but as time went on, there gradually emerged supplies of boxed meals, *bento*, featuring local food products or evoking local attractions. These came to be called *ekiben*, *eki* meaning train station and *ben* being short for *bento*, and they won recognition as local specialties. So well established is their position on the Japanese travel scene that some people actually take trips for the express purpose of eating them. The *ekiben*, which people can buy on a station platform and then eat on the train, making good use of their time in transit, has become an element of Japan's food culture.

Now a move is underway to share the railway *bento* familiar to Japanese with travelers elsewhere. An *ekiben* kiosk has been opened for a two-month period at Gare de Lyon, one of the main railway terminals in Paris. It is the first such international initiative. As the operator of the kiosk explains, France has a culture of long-distance rail travel similar to Japan's, and recently French people have become more familiar with Japanese culture; this was the basis for the decision to undertake trial sales of *ekiben* in Paris with the objective of spreading this typically Japanese railway cuisine.

The kiosk at Gare de Lyon offers five types of boxed meals, including "Makunouchi," a popular traditional type of *bento* with many ingredients, and "Paris-Lyon," an original *bento* featuring French beef. The beautiful and easy-toeat arrangement of the food has been impressing French travelers. The ingredients have been adjusted to enhance their appeal to France's first-time *ekiben* diners, such as by adding flavoring to the white rice. These Japanese-style boxed meals are reportedly winning favor in France as well.

In Japan, *ekiben* fairs are held periodically at department stores and elsewhere, meeting the wishes of people who want to enjoy a travel experience but who cannot readily take a trip. At these events, which have proved quite popular, people can buy boxed meals from various locations prepared on the spot as they watch. And at Matsuri, an *ekiben* shop inside Tokyo Station, people can choose from a lineup of over 170 daily-made *ekiben* from around the country. This is a boon to those who do not have time to visit the local stations where they are ordinarily sold. Matsuri is planning to hold a G7 commemorative *ekiben* fair featuring the proud offerings of the cities where G7 Summit–related meetings are being held this year.

Special fairs of this sort provide a convenient way of purchasing *ekiben*, but the best way of experiencing them is by eating them locally. We hope that when you visit Japan, you will travel to regional destinations and enjoy various box meals as you make the rounds of tourist attractions. A dazzling variety of *ekiben* await you —each one a package of local foods, local tradition, and above all, the thoughtful ingenuity of local people seeking to offer travelers delicious meals.







1. People line up to buy boxed meals at the "Ekiben" kiosk in Paris. 2. Two of the *bento* sold at Ekiben: Makunouchi (left) and Paris-Lyon, both for  $\in$ 15. 3. Customers can refer to the samples on display as they choose their bento.



JPY 1,300 (USD 11.80)

#### Appealing ekiben from around Japan



Note: Prices include 8% consumption tax.

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### Yurikamome: Tokyo's Automated Transportation System

Connecting Central Tokyo with the Rinkai Waterfront Area

New Transit Yurikamome is an automated guideway transit (AGT) system that connects central Tokyo with the Rinkai waterfront area, built on reclaimed land in Tokyo Bay. The 12-kilometer (7.5-mile) section from Shimbashi, a major train and subway station, to Ariake in the Rinkai area opened on November 1, 1995, and was extended to connect Ariake with the subway station at Toyosu in March 2006. The line now has 16 stations along its 14.7 km (9.1-mile) route.

There are two main advantages to the AGT system. The first is that operation is controlled by computer and is fully automatic. There is little chance of human error, and the level of operational precision is high. The service thus sticks very closely to the timetable, with 18 trains per hour at peak times. As the availability of drivers is not a constraint, it is possible to flexibly add extra services when many passengers are expected, such as around New Year's, during vacation periods, or when special events are being held.

The second advantage is that the trains have rubber tires, four per carriage, and run along a concrete guideway. As AGT systems can be built on elevated routes above existing roads, there is no need to acquire a great deal of extra land, and construction costs are about a third to a half of those for a subway route. The carriages are small and light, and their tires grip well, allowing the trains to negotiate sharp curves and slopes. Thanks to this, it is possible to construct routes even in crowded urban areas.

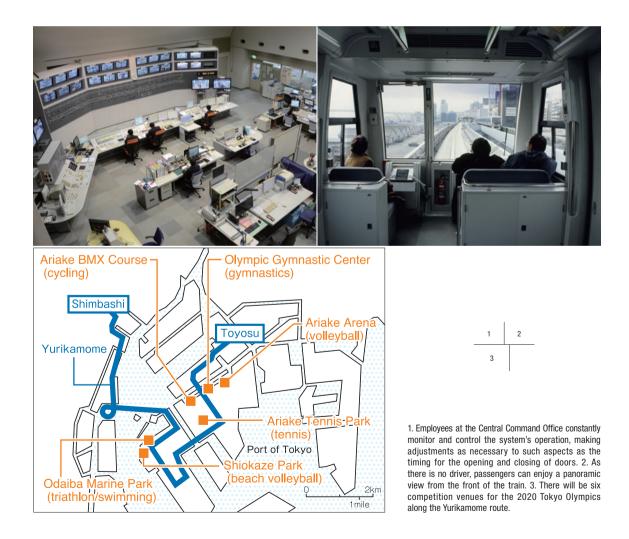
Yurikamome's successful introduction as an additional form of transportation within a developed metropolis has garnered major interest from overseas. As urbanization advances around the world, many countries and regions are experiencing issues such as traffic congestion and pollution caused by vehicle exhaust fumes. Members of inspection teams from other countries who have come to see the system have appraised it highly.

Of the 110,000 daily Yurikamome riders, around 60% are tourists and other occasional users, which is a high proportion compared with other public transit services. They are drawn by attractions along the route including the Tokyo Big Sight convention center, Odaiba Marine Park, museums, and shopping centers. Yurikamome will also play an important access role when the Tsukiji fish market, known as "the kitchen of Tokyo," relocates to Toyosu in November 2016, and when the Summer Olympics and Paralympics are held in Tokyo in 2020. The Main Press Center and International Broadcasting Center for the games will be located in Ariake, and there will be six competition venues along the route. Because they are fully automated, with no drivers' or conductors' cabins, Yurikamome trains offer sweeping views from their elevated routes; visitors will enjoy the chance to feast their eyes on the great panorama of Tokyo as they travel.

Yurikamome official website http://www.yurikamome.tokyo/



Emerging from the skyscraper-studded center of the metropolis, Yurikamome trains cross a section of Tokyo Bay via the Rainbow Bridge and sweep around the Rinkai waterfront area built on reclaimed land.



## Friends of Japan



### Karolina Styczynska

Born in Warsaw, Poland. First came to Japan in 2011. Entered Yamanashi Gakuin University in 2013 and divides her time between schoolwork and honing her *shogi* skills. In her play she seeks to emulate the strategy of Yasuharu Oyama, a legendary player who earned the top rank of *meijin*. Hopes to spread the popularity of the game by one day using her expertise to write a *shogi* manual for players overseas.

#### Shogi – A Japanese Game Wins a Devotee from Poland

The traditional Japanese game of *shogi* has a distinct sound: a sharp click as wooden pieces, called *koma*, are strategically placed on a burnished board. Karolina Styczynska, a Polish *shogi* prodigy quickly on her way to becoming the first non-Japanese *kishi*, or professional *shogi* player, considers this aspect of play among her favorites. "Hearing the click of the *koma* with a game-winning move is perfection," she exclaims.

As a teenager Styczynska discovered *shogi*, also known as Japanese chess, in the pages of a Japanese manga. A self-professed lover of riddles and puzzles, she was intrigued by the distinctive game and began scouring the Internet for information. "Once I began to understand the rules," she recalls, "I was captivated."

*Shogi* differs in several ways from other variants of chess, most notably in the observance of the so-called drop rule, which allows players to introduce captured pieces as their own. "The *koma* are always alive," Styczynska explains. "It makes the game extremely dynamic."

Playing online, the Warsaw native quickly drew attention for her skill and competitiveness. She caught the eye of Madoka Kitao, a Japanese *kishi* in the country's professional female ranks. Kitao recognized the young player's potential and invited her to Japan in 2011. Once she overcame her initial surprise, Styczynska assuaged her family's concerns, convincing them to let her accept Kitao's offer. Upon arriving in Japan, she recalls, "I did nothing for two weeks except play *shogi*. It was great!"

With few resources in Polish or English, studying has been a challenge. But Styczynska diligently learned Japanese and has pored over official match records, called *kifu*, working out tactics and strategies. She explains that she has largely focused on finishing maneuvers: "As many players say, *'Shogi* is decided by the end game."

In 2012 Styczynska traveled again to Japan, where she grabbed headlines by beating a professional player in an official tournament, an achievement that helped cement her aspirations of turning pro. She repeated the feat the following year and in 2014 she won the European and World Open Shogi Championships.

Recognizing that the road to becoming professional passed through Japan, she moved to the country almost immediately upon finishing university in Poland. Along with studying *shogi*, she is currently pursuing a graduate degree in information management at a Japanese university.

Styczynska takes full advantage of Japan's *shogi*-rich environment, studying the game three hours each day and spending most weekends in Tokyo training at the headquarters of the Japan Shogi Association. She points out how facing diverse adversaries has matured her game. "I started off playing aggressive, but in facing younger, assertive players, I've been forced to learn how to defend."

In 2015 Styczynska earned provisional professional status. Though this was a major

step toward her goal, she understands the magnitude of work involved in meeting the two-year deadline to win the rank of fullfledged *kishi*. While she is aware of the expectations directed at her as she vies to be the first non-Japanese *kishi*, she has learned to focus on earning one victory at a time. "I just need to be patient and continue pushing myself," she says. "Being a professional means I have to stay competitive and keep working to be better."



### The JET Programme: A Great Way to Experience Japan

Joining a Network Spanning Japan and the Globe

I came to Japan on the Japan Exchange and Teaching (JET) Programme in 2011, eager to take advantage of the opportunity to live and work abroad. As a student in my hometown of Northampton in England, I was involved in my high school's Japanese club and delighted in the various language and cultural activities the teacher, a former JET participant in Nara Prefecture, provided. This motivated me to study Japanese at university, and during my third year I had the opportunity to visit Japan for five months. After graduation, the enduring memories of studying abroad strongly influenced my decision to participate in JET, which I did initially as an Assistant Language Teacher (ALT) and later as a Coordinator for International Relations (CIR).

I spent my first two years on the program as an ALT at an elementary school and junior high school in Kobe. Working alongside the schools' Japanese teachers of English, I planned original activities aimed at providing students opportunities to communicate in English, and I took great satisfaction from witnessing their ability grow over time. I also found it rewarding to put a personal face on the language through open and friendly interactions, such as sharing aspects of British culture and answering the multifarious questions students posed.

In 2013 opportunity knocked and I joined the Kobe City Government's International Department as a CIR, enabling me to fulfill my childhood ambition of becoming an interpreter and translator. Working in a Japanese office environment posed new and exciting challenges, and I applied my language skills on a wide variety of projects, such as interpreting for the mayor of Kobe and rendering official documents into English. I delighted in playing a vital role as a member of a close-knit team. The numerous connections I forged within JET and Kobe City Hall continue to support me in my new role as PR Specialist for the city, a position I have held since April 2015.

Now as an alumna, my JET connections remain important. My office has recently initiated the Kobe PR Ambassador scheme to have those who know Kobe best share its numerous charms with the world via social media. Kobe, one of Japan's first international ports, enjoys a mix of Japanese and Western traditions. Combined with its abundant natural environs, these have produced a distinct, high-quality lifestyle. In putting out the call for Kobe PR Ambassadors among non-Japanese residents, I made sure to reach out to Kobe's sizable JET community, whose participants are broadly involved in a profusion of activities throughout the city.

Being a JET participant means becoming a lifelong member of a vast, ready-made network extending around the world. There are a multitude of former participants who are using their JET connections to do valuable work at various organizations in Japan and abroad. Going forward, I hope to contribute to and also expand this network through involvement in the JET Alumni Association. Professionally, I am confident my JET experience will continue to serve me in whatever endeavors lay ahead.



Louise Dendy

Born in Northampton, England. While a student at the University of Birmingham, spent five months in Japan studying at Sophia University in Tokyo and traveling around the country. Has lived in Kobe since 2011. With both traditional appeal and Western charm, she considers Kobe to be a microcosm not just of Japan but of the entire world.





Dendy interprets during a meeting run by Mayor Kizo Hisamoto of Kobe (to her left) aimed at promoting the city internationally.







1. Public announcements are just one aspect of Dendy's role as PR Specialist for Kobe. 2. Dendy and coworkers discuss what photos of Kobe to share on social media. 3. Dendy runs an English lesson while an ALT at a junior high school in Kobe.

The JET Programme official website http://jetprogramme.org/en/

# Websites

#### Official Websites of the Government and Related Organizations

The following websites offer information from various ministries, information for tourists, and other information relating to the contents of this magazine.

#### Prime Minister of Japan and His Cabinet



#### **Cabinet Public Relations Office, Cabinet Secretariat**

Information in English about Japanese government policies, speeches and statements by the prime minister, and press conferences by the chief cabinet secretary.



http://japan.kantei.go.jp

https://www.facebook.com/Japan.PMO

**INTO** (Japan National

Tourism Organization)

https://twitter.com/JPN\_PM0

#### Japanese Government Internet TV



#### Public Relations Office, Cabinet Office

Videos from the Japanese government relating to the prime minister, press conferences by the chief cabinet secretary, videos of the imperial family, and more.



#### JETRO (Japan External Trade Organization)



#### Japan External Trade Organization (JETRO)

Information about how JETRO supports Japanese companies overseas, attracts foreign companies to the Japanese market, contributes to Japan's trade policy and conducts activities in developing countries.



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http://www.jetro.go.jp/en/

#### Ministry of Foreign Affairs of Japan



#### **Ministry of Foreign Affairs**

Information from Japan's Ministry of Foreign Affairs, with links to embassies and consulates overseas.



# JET (Japan Exchange and Teaching) Programme



#### Council of Local Authorities for International Relations (CLAIR)

Information about the Japan Exchange and Teaching  $\ensuremath{\mathsf{Programme}}$  .

WEB	http://jetprogramme.org/en/
f	https://www.facebook.com/pages/JET- Programme/219440938121634
	(US)





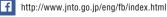
#### Japan National Tourism Organization (JNTO)

Information about tourism in Japan, including videos and photos. In English and many other languages, including Chinese, Korean, French, and German.

3 ... 2014



http://www.jnto.go.jp/



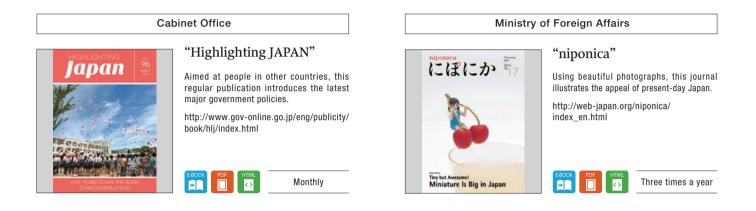
JAPAN =

(US) https://twitter.com/Visit Japan

# Publications

#### Official Publications from the Government and Related Organizations

The government of Japan and various organizations publish the following periodicals.



Ministry of Economy, Trade and Industry

**Nuclear Regulation Authority** 



#### "METI Journal"

Explains policies being instituted by the Ministry of Economy, Trade, and Industry (METI) in an easy-to-understand manner.

http://www.meti.go.jp/english/publications/ index.html

Bimonthly

#### Japan National Tourism Organization

#### "Monthly Web Magazine"

Each issue provides seasonal and updated information on three select features.

http://japan-magazine.jnto.go.jp/en/



Monthly



PAN -

#### -

A monthly magazine that introduces various activities of the Ministry of Defense and Self-Defense Forces.

"Japan Defense Focus"

http://www.mod.go.jp/e/jdf/ index.html#sub01







#### "F1 Issues Fukushima Daiichi NPS's Issues"

This releases information about the Fukushima Dalichi Nuclear Power Station, such as details about the monitoring of seawater since the accident caused by the Great East Japan Earthquake and subsequent tsunami.

http://www.nsr.go.jp/english/

About once a week



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https://www.kantei.go.jp/foreign/forms/comment\_ssl.html

Links to the websites of ministries

Cabinet Office http://www.cao.go.jp/index-e.html Ministry of Agriculture, Forestry and Fisheries http://www.maff.go.jp/e/ Ministry of Defense http://www.mod.go.jp/e/ Ministry of Economy, Trade and Industry http://www.meti.go.jp/english/ Ministry of Education, Culture, Sports, Science and Technology http://www.mext.go.jp/english/ Ministry of Education, Culture, Sports, Science and Technology http://www.mext.go.jp/english/ Ministry of the Environment http://www.env.go.jp/en/ Ministry of Finance https://www.mof.go.jp/english/index.htm Ministry of Foreign Affairs http://www.mofa.go.jp Ministry of Health, Labour and Welfare http://www.mhlw.go.jp/english/ Ministry of Internal Affairs and Communications http://www.soumu.go.jp/english/index.html Ministry of Justice http://www.moj.go.jp/ENGLISH/index.html Ministry of Land, Infrastructure, Transport and Tourism https://www.mlit.go.jp/en/ Reconstruction Agency http://www.reconstruction.go.jp/english/ Nuclear Regulation Authority http://www.nsr.go.jp/english/

### The Government of Japan



JapanGov website



JapanGov app



You can download the JapanGov app from the following stores.

IOS https://itunes.apple.com/app/japangov-official-gateway/id893574708?mt=8 Android https://play.google.com/store/apps/details?id=jp.go.japan.japanapp Kindle http://www.amazon.com/The-Government-of-Japan-JapanGov/dp/B00LEAM0I0





http://www.japan.go.jp/tomodachi

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JapanGov **Q** http://www.japan.go.jp



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