

## **JAPANESE INDUSTRY AND POLICY NEWS**

**December 2017**

### **LEGISLATION AND POLICY NEWS**

#### **First Meeting of the National Smart Monodzukuri Conference Held**

Many mid-ranking companies and SMEs in Japan face challenges in improving factory floor performance in the current environment of labor shortages and other issues in their industries. To address this situation, business associations and owners across Japan have been advancing efforts to support companies in overcoming challenges through an approach called "smart monodzukuri" that makes use of IoT and robot technologies.

With the goals of establishing a network of entities to advance a broad range of efforts for promoting "Connected Industries" and sharing cross-sectoral know-how and solutions to challenges that companies are facing, the Ministry of Economy, Trade and Industry (METI) held the first meeting of the National Liaison Conference of Support Organizations for Smart Monodzukuri (National Smart Monodzukuri Conference ) on December 1, bringing together over 140 participants across Japan, as part of the "International Robot Exhibition 2017."

From the presentations of the support organizations, METI identified common challenges facing factory floors, including uncertainty concerning the effects of introducing the smart monodzukuri initiatives and related actions that should be taken. METI also discovered that it is important to share case examples of leading companies taking advantage of such initiatives. Therefore, METI said that it would advance efforts for making visible the case examples of proactive efforts by business owners of many mid-ranking companies and SMEs as well as those of specific efforts by companies taking advantage of tools, e.g., IoT and robots.

[http://www.meti.go.jp/english/press/2017/1204\\_003.html](http://www.meti.go.jp/english/press/2017/1204_003.html)

#### **Measures for Strengthening Quality Assurance Systems in Manufacturing Industries Announced**

In response to recent cases of data falsification of product inspections by some manufacturers, the Ministry of Economy, Trade and Industry (METI) announced on December 22, policy measures titled "Toward Strengthening Quality Assurance Systems for Manufacturing Industries."

Summary of the measures is as follows:

- (1) Further improvement of internal monitoring through individual corporate initiatives and intra-industrial engagement
- (2) Promote connected industries
- (3) Improve effectiveness of governance

Promoting connected industries includes various measures as (a) Re-position quality data as a domain for cooperation and promote efforts to share such data, (b) Share best practices, (c) Support efforts for intra-industrial data sharing and data sharing between supply chains, (d) Introduce systems and robots that meet certain requirements that promote data collaboration and utilization.

[http://www.meti.go.jp/english/press/2017/1222\\_003.html](http://www.meti.go.jp/english/press/2017/1222_003.html)

### **Sagawa Express and Others Win Carbon Offset Award**

Ministry of Environment announced on 4 December the winners of the 7<sup>th</sup> Carbon Offset Award. The Minister of Environment Award was accorded to Sagawa Express Co., Ltd., the Minister of Economy, Trade and Industry Award to Autosnack Co., Ltd. and the Minister of Agriculture, Forestry and Fisheries Award to the Forest Owner's Cooperative of Yokote city, Akita prefecture.

Sagawa Express introduced a carbon neutral home delivery system combining an energy saving parcel collection method and using carbon credit. Autosnack is a vending machine service company offsetting electricity consumption by using locally available carbon credit. In addition, nine other companies/associations were commended for their respective effort in carbon offsetting.

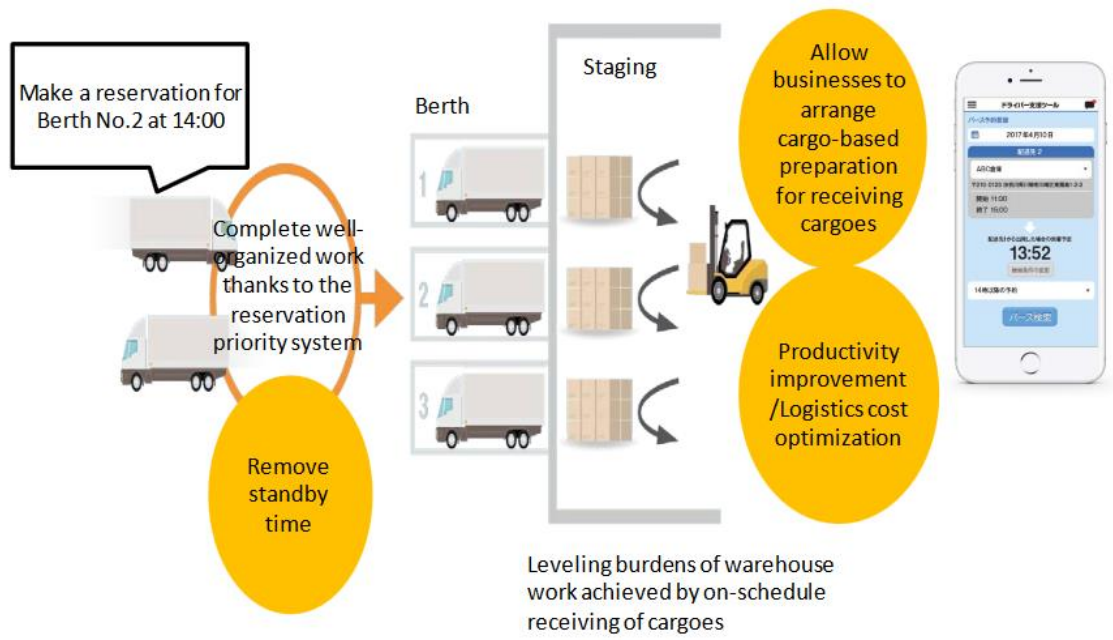
<http://www.env.go.jp/press/104842.html> (Japanese language only)

<http://co-net.org/pg403.html> (Japanese language only)

### **Winners of Excellent Green Logistics Commendation Announced**

The Ministry of Economy, Trade and Industry (METI) and the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) announced on 7 December the winners of the awards under the FY2017 Excellent Green Logistics Commendation Program. This year, METI Minister's award went to a group consisting of SEAOS, Inc., Otsuka Warehouse Co. Ltd. and Seino Holdings Co., Ltd. for their project of reducing standby time, productivity improvement and carbon dioxide reduction through the establishment of a truck-berth reservation system as illustrated below. The MLIT Minister's award was accorded to a group consisting of Nippon Express Co., Ltd., Asahi Breweries, Ltd., Kirin Brewery Co.,

Ltd. and Japan Freight Railway Company for their joint distribution system of beverages which resulted in the reduction of CO2 emission and labor.



A chart illustrating the project which wins METI Minister's award

[http://www.meti.go.jp/english/press/2017/1207\\_001.html](http://www.meti.go.jp/english/press/2017/1207_001.html)

<http://www.mlit.go.jp/common/001213121.pdf> (Japanese language only)

### **New Fuel Efficiency Standards for Heavy Vehicles Compiled**

The Ministry of Economy, Trade and Industry (METI) announced on 12 December that a council discussing regulation of vehicle fuel efficiencies, which was jointly established by METI and the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), compiled a draft proposal for new fuel efficiency standards for heavy vehicles, i.e., those with a gross weight exceeding 3.5 tons, such as trucks and buses. Setting FY2025 as a target year, the draft proposal enhances such standards, increasing efficiency by approximately 13.4% for trucks and other heavy vehicles and by approximately 14.3% for buses from the existing standards setting FY2015 as the reference year.

Outline of the draft proposal is as follows:

Proposed new fuel efficiency standards : 7.63 km/L (increased by approximately

13.4% from the existing standards) for trucks and other heavy vehicles. 6.52 km/L (increased by approximately 14.3% from the existing standards) for buses.

Targets of the new standards : Diesel vehicles

It is anticipated that the revision of related laws and regulations and formulation of new fuel efficiency standards for heavy vehicles will take place in April 2018.

[http://www.meti.go.jp/english/press/2017/1212\\_001.html](http://www.meti.go.jp/english/press/2017/1212_001.html)

### **Demonstration Test Launched for Unmanned Last-Mile Autonomous Driving**

The Ministry of Economy, Trade and Industry (METI) and the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) have jointly developed vehicles with a built-in technology equivalent to the Level 4 Autonomous Driving Technologies through the project commissioned to the National Institute of Advanced Industrial Science and Technology (AIST) . The ministries launched on December 18 a demonstration test to evaluate Japan's first unmanned autonomous vehicle on a public road in Wajima City, Ishikawa Prefecture, using an electric vehicle provided by Yamaha Motor Co., Ltd.

In accordance with the goals set in the Future Strategy 2017 (approved by the Cabinet on June 9, 2017) , METI and MLIT aim to realize a mobility service that uses an unmanned, autonomous driving system in 2020 as one of the major efforts for achieving this revolution in mobility.

[http://www.meti.go.jp/english/press/2017/1213\\_005.html](http://www.meti.go.jp/english/press/2017/1213_005.html)

<https://news.yamaha-motor.co.jp/2017/015471.html> (Japanese language only)

### **Basic Hydrogen Strategy Determined**

On December 26, the Ministerial Council on Renewable Energy, Hydrogen and Related Issues held its second meeting and decided on a Basic Hydrogen Strategy to accomplish a world-leading hydrogen-based society.

At the first meeting of the Ministerial Council on Renewable Energy, Hydrogen and Related Issues in April 2017, Prime Minister Abe requested relevant ministers to formulate a basic strategy for hydrogen-related policies by the end of 2017 to encourage the government to unite its efforts for the accomplishment of a world-leading hydrogen-based society. In response to the request, related ministries and agencies held discussions at the meetings of the Council for a Strategy for Hydrogen and Fuel Cells of industry-academia-government experts, and compiled the discussion results into a draft proposal for the strategy.

The Basic Hydrogen Strategy shows future visions that Japan should achieve with an eye on 2050 and also serves as an action plan to accomplish the visions by 2030. The strategy sets a goal that Japan should reduce hydrogen costs to the same level of conventional energy (e.g. gasoline and LNG) and to achieve the goal, provide integrated policies across ministries ranging from hydrogen production to utilization under the common goals.

[http://www.meti.go.jp/english/press/2017/1226\\_003.html](http://www.meti.go.jp/english/press/2017/1226_003.html)

### Based on a Japanese Proposal, New International Standards Issued for Pedestrian Detection and Collision Mitigation

New international standards for daytime and nighttime pedestrian detection utilizing an automatic braking system to reduce the chance of collisions between vehicles and pedestrians have been issued, based on the proposal filed by Japan to the International Organization for Standardization (ISO). These standards are expected to contribute to popularizing vehicles with built-in preventive safety functions that work effectively even in low-light or dark conditions, where the pedestrian casualty rate involving car accidents is particularly high.

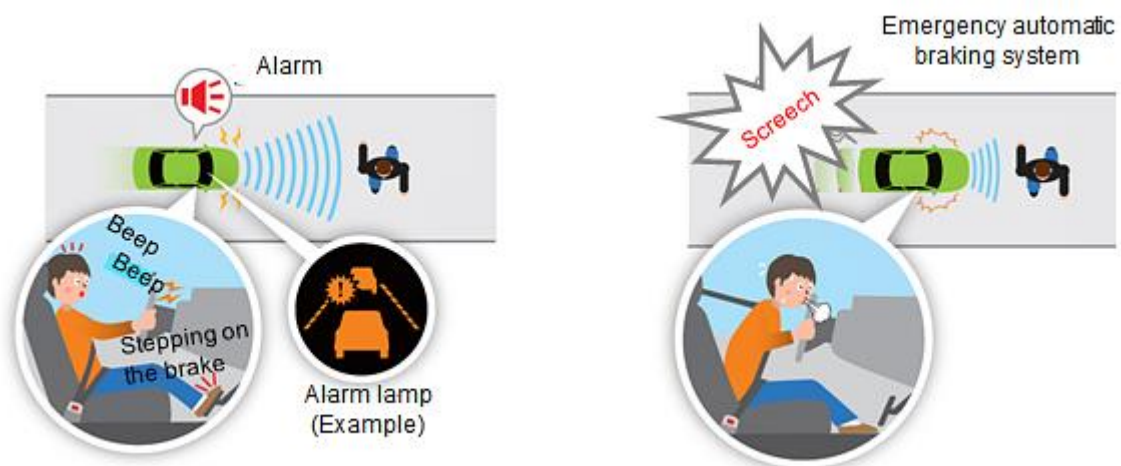


Figure 1 : Pictures of a braking system for pedestrian detection and collision mitigation in operation

Key points of the issuance of new standards (ISO 19237 : Pedestrian detection and collision mitigation systems) are as follows.

- The standards stipulate performance requirements of the systems and testing procedures (daytime and nighttime).
- They also stipulate reference to other international standards for specifications of mock pedestrian used for performance tests, an achievement developed in collaboration with another ISO working group.

In December 2013, the Society of Automotive Engineers of Japan, Inc. (JSAE) submitted a proposal of new standards to ISO / TC204 (intelligent transport systems) / WG14 (vehicle/roadway warning and control systems), in which Japan serves as the secretariat. In response, WG14 developed new standards for ISO 19206-2 which specifies details of mock pedestrians to be used for vehicle performance tests in mutual collaboration with ISO / TC22 (road vehicles) / SC33 (vehicle dynamics and chassis components) / WG16 (active safety test equipment), and on December 8, 2017, the ISO finally issued the new standards.

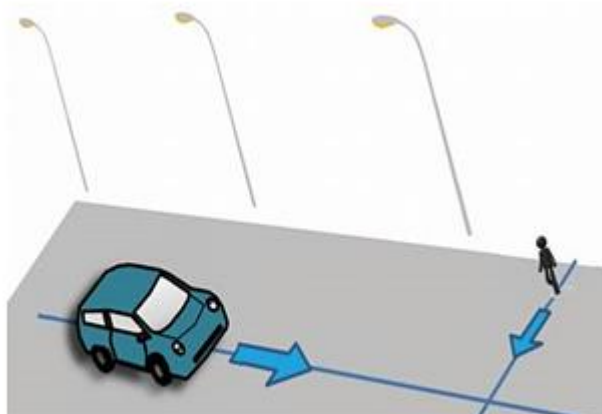


Figure 2: Picture of a test of the braking system preventing a vehicle from colliding with pedestrians



Figure 3: Mock pedestrians

[http://www.meti.go.jp/english/press/2017/1225\\_002.html](http://www.meti.go.jp/english/press/2017/1225_002.html)

### **METI and UK Space Agency Signed Initiative for Space Debris Industry**

In response to the agreement concluded in the Japan-U.K. summit meeting on August 31, 2017, the Ministry of Economy, Trade and Industry (METI) and the Department for Business, Energy and Industrial Strategy (BEIS), United Kingdom

held a Japan-U.K. Industrial Policy Dialogue on December 13.

Officials from Japanese and U.K. authorities exchanged views on variety of issues, including the need to improve productivity through business globalization and the connected industries policy concept, the international situation surrounding major industrial players in terms of the advancement of digitalization. In addition, both sides exchanged views on future approaches to Japan-U.K. cooperation in various industrial fields, i.e., space, aviation, energy and climate change, advanced manufacturing, and bio-economy.




Following the dialogue, METI and the UK Space Agency signed Initiatives for the Space Debris Industry, which aims to enhance information exchange on space debris, promotion of business activities, and other issues.

[http://www.meti.go.jp/english/press/2017/1213\\_003.html](http://www.meti.go.jp/english/press/2017/1213_003.html)

### **Details of the EU Tariff Rates of Industrial Goods under the Japan-EU Economic Partnership Agreement (EPA) Released**

The Ministry of Economy, Trade and Industry (METI) announced on 25 December the details of the tariff rates of industrial goods on the EU side (those related to METI) under the Japan-EU Economic Partnership Agreement (EPA) .

Following documents are available now.

1. [Details of the EU's tariff rates under the agreement](#) (PDF : 2,051KB) 
2. [The outline of both the EU's and Japan's tariff rates of industrial goods under the agreement in principle of the Japan-EU EPA \(in Japanese, the English version will be posted soon.\)](#) (PDF : 398KB) 
3. [Details of Japan's tariff rates of industrial goods under the agreement in principle of the Japan-EU EPA \(in Japanese\)](#) (PDF : 3,596KB) 

[http://www.meti.go.jp/english/press/2017/1225\\_003.html](http://www.meti.go.jp/english/press/2017/1225_003.html)

Separately, the Ministry of Agriculture, Forestry and Fisheries (MAFF) published on the same date detailed information on tariff rates on the products which come under their jurisdiction.

[http://www.maff.go.jp/j/kokusai/renkei/fta\\_kanren/f\\_eu/attach/pdf/index-53.pdf](http://www.maff.go.jp/j/kokusai/renkei/fta_kanren/f_eu/attach/pdf/index-53.pdf)

(Japanese language only)

[http://www.maff.go.jp/j/kokusai/renkei/fta\\_kanren/f\\_eu/attach/pdf/index-54.pdf](http://www.maff.go.jp/j/kokusai/renkei/fta_kanren/f_eu/attach/pdf/index-54.pdf)

(Japanese language only)

## **SURVEY AND BUSINESS DATA**

### **National Greenhouse Gas Emissions Recorded a Decrease in FY2016**

Ministry of Environment released on 11 December, preliminary figures of Japan's national greenhouse gas emissions in fiscal year 2016. According to the release, Japan's total greenhouse gas emissions in FY2016 were 1,322 million tonnes of carbon dioxide (CO<sub>2</sub>) equivalents (Mt CO<sub>2</sub> eq.). This is a decrease of 0.2% (3 Mt CO<sub>2</sub> eq.) and 6.2% (87 Mt CO<sub>2</sub> eq.) when compared to the FY2015 and FY2013 emissions (1,325 Mt CO<sub>2</sub> eq. and 1,409 Mt CO<sub>2</sub> eq.) respectively, mainly because of the decrease in energy-related CO<sub>2</sub> emissions due to wider adoption of renewable energy and resumption of nuclear power plant operation, despite the increase in hydrofluorocarbon emissions from refrigerants that substitute for ozone-depleting substances.

<http://www.env.go.jp/en/headline/2352.html>

### **Asian and European Tourists Show Different Consumption Trend**

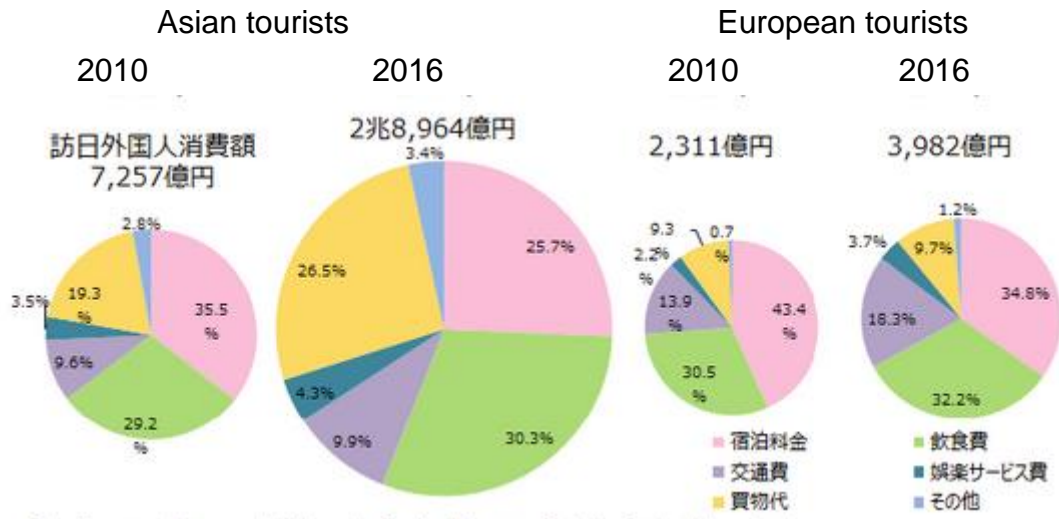
According to the analysis by the Ministry of Economy, Trade and Industry (METI), Asian tourists tend to show more interest in shopping while European tourists tend to enjoy the travel itself and experience Japanese food.

Consumption by Asian tourists increased from 725.7 billion yen in 2010 to 2,896.4 billion yen in 2016 while that of European tourists were 231.1 billion yen and 398.2 billion yen in respective years. For Asian tourists, the biggest spending item was accommodation (35.5%) in 2010. But it turned out to be "eating and drinking" (30.3%) in 2016. More remarkable was the change of shares of "shopping" which increased from 19.3% in 2010 to 26.5% in 2016.

For Europeans, biggest expending item remains accommodation in both of the years but the share of "eating and drinking" (32.2%) came closer to the cost of accommodation (34.6%) in 2016 while that of "shopping" remains stable at less than 10%.



## Consumption trends of tourists



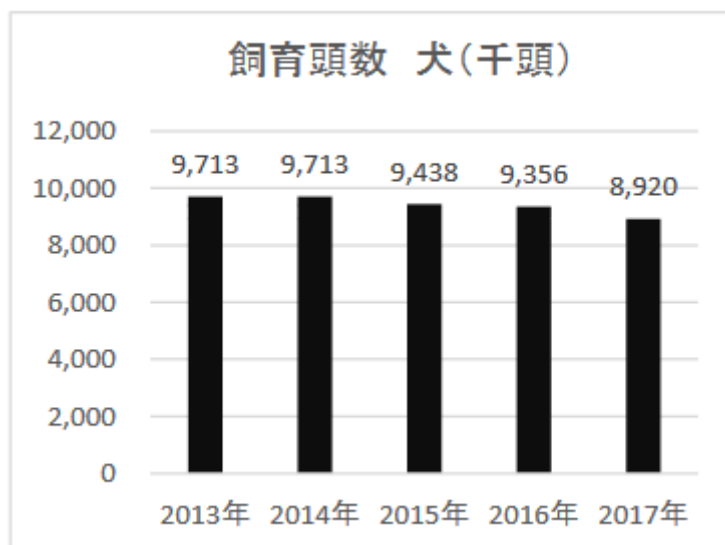
<https://meti-journal.jp/p/149> (Japanese language only)

## Number of Cats Exceeds Dogs

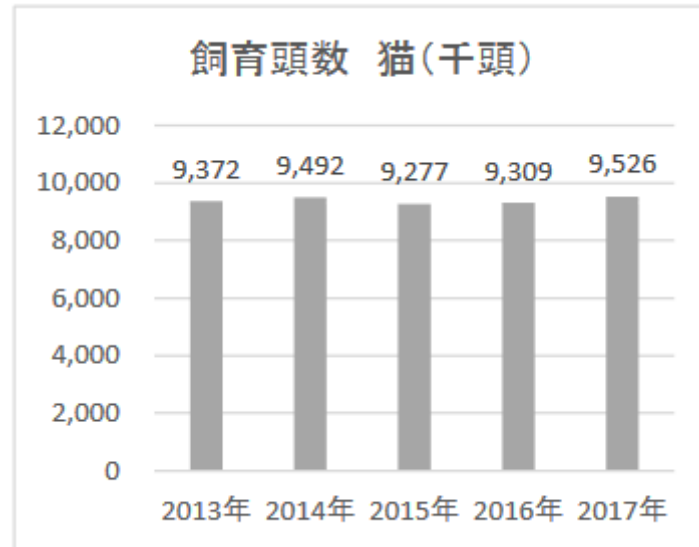
According to the statistics of the Japan Pet Food Association released on 22 December, there are 9.52 million cats and 8.92 dogs kept at home in 2017. Number of dogs shows a declining trend while number of cats is stable. This was the first time that the number of cats exceeded dogs.

As for the type of pet food, “dry” type is most popular both for dogs (84.7%) and cats (92.5%), while “wet” type is less served for dogs (25.1%) and cats (49.1%).

Number of dogs kept in Japan (unit: 1,000)



Number of cats kept in Japan (unit: 1,000)



<http://www.petfood.or.jp/topics/img/171225.pdf> (Japanese language only)

## COMPANY NEWS

### **Toyota to Build the World's First Megawatt-Scale 100% Renewable Power and Hydrogen Generation Station in California**

Toyota Motor North America, Inc. (TMNA) announced on December 1 that it would build the world's first megawatt-scale carbonate fuel cell power generation plant (Tri-Gen) with a hydrogen fueling station to support its operations at the Port of Long Beach, California. The Tri-Gen facility will use bio-waste sourced from Californian agricultural waste to generate water, electricity and hydrogen.

When it becomes operational in 2020, Tri-Gen will generate approximately 2.35 megawatts of electricity and 1.2 tons of hydrogen per day, enough to power the equivalent of about 2,350 average-sized homes and meet the daily driving needs of nearly 1,500 vehicles. The power generation facility will be 100% renewable, supplying Toyota Logistics Services' (TLS) operations at the Port and making them the first Toyota facility in North America to use 100% renewable power.

Tri-Gen is a key step forward in Toyota's work to develop a hydrogen society. In addition to serving as a key proof-of-concept for 100% renewable, local hydrogen generation at scale, the facility will supply all Toyota fuel cell vehicles

moving through the Port, including new deliveries of the Mirai sedan and Toyota's Heavy Duty hydrogen fuel cell class 8 truck, known as Project Portal. To support these refueling operations, Toyota has also built one of the largest hydrogen fueling stations in the world on-site with the help of Air Liquide.

<https://newsroom.toyota.co.jp/en/corporate/20132821.html>

### **Mitsubishi Motors and Indonesia Government Agree on EV Initiative**

Mitsubishi Motors Corporation announced on December 11 that it has signed a Memorandum of Understanding with the Indonesian Government under which it will work to expand the use and availability of electric vehicles (EVs) in Indonesia.

Indonesian Government and Mitsubishi Motors will also work together to conduct a joint study to examine the efficient usage of electric vehicles in Indonesia.

Mitsubishi Motors will make an immediate contribution to the transition of Indonesia to a low carbon economy by providing 10 electric vehicles and four charging units to the Indonesian Ministry of Industry (MOI) and a range of other organisations, including national universities and research institutes.

<http://www.mitsubishi-motors.com/en/newsrelease/2017/detail1096.html>

### **Upcycling of Trash to Fuel Demonstrated in Japan**

Sekisui Chemical Co., Ltd. ("SEKISUI") and American carbon recycling company, LanzaTech announced on December 6 that they have shown that it is possible to recycle the carbon from unsorted municipal solid waste destined for landfill or the incineration and ferment it to make new products that would otherwise come from fossil resources or sugars.

In contrast to traditional fermentation that uses yeast to convert sugars into products such as ethanol, LanzaTech ferments gases and produces ethanol and a variety of chemicals using a naturally occurring bacteria. These chemicals are precursors to plastics, rubber and synthetic fibres and can be used to produce new packaging, sneakers, etc. while avoiding the need for more fossil resources to come out of the ground.

This technology, which was first demonstrated in 2013 in a laboratory unit, has now been demonstrated at pilot scale achieving commercial productivity and stability targets.

<http://www.lanzatech.com/trash-tank-upcycling-landfill-fuel-demonstrated-japan/>

[https://www.sekisui.co.jp/news/2017/1314802\\_29186.html](https://www.sekisui.co.jp/news/2017/1314802_29186.html) (Japanese language only)

### **Seven-Eleven Japan and Hitachi Cooperate on Energy Data**

Seven-Eleven Japan Co., Ltd. and Hitachi, Ltd. announced on 5 December that they started working together for the effective use of energy-related data such as electricity consumption of 20,000 convenience stores all over Japan. In addition, Seven-Eleven Japan outsources various report preparing works to Hitachi in order to comply with obligations imposed by the government as a part of measures against climate change.

<http://www.hitachi.co.jp/New/cnews/month/2017/12/1205.pdf> (Japanese language only)

### **Hitachi Capital Issued the First Foreign Currency Denominated Green Bonds**

Hitachi Capital Corporation (“Hitachi Capital”) announced on December 15 that its group company, Hitachi Capital Management (China) Ltd. (“HCMC”), which is also a financial management company in China business, issued the first foreign currency denominated green bonds amounting to 100 million U.S. dollars in Asia as a Japanese company.

They plan to use the proceeds of total 100 million U.S. dollars from the green bonds mainly to fund three businesses. i.e. renewable energy, circular economy, and sustainable water infrastructure in mainland China.

<http://www.hitachi-capital.co.jp/hcc/english/newsrelease/2017/20171215english.pdf>

## **ADDITIONAL TOPICS**

### **New Company for Full-fledged Development of Hydrogen Stations to be Established in the Spring of 2018**

The Ministry of Economy, Trade and Industry (METI) announced on 12 December that 11 companies, including infrastructure businesses developing and operating hydrogen stations, automobile manufacturers and financial institutes, had concluded a contract to establish a new company in the spring of 2018 for full-fledged development of such stations. From Europe, an affiliate of Air Liquid participates in the venture.

Major efforts that the new company will engage in are (a) Strategic development of hydrogen stations and (b) Contribution to effective operation of hydrogen stations.

Major roles that participating companies should play in advancing these efforts are as follows.

Infrastructure businesses - These businesses will invest in efforts for developing hydrogen stations and construct such stations. They will be entrusted with a commission involving business for operating hydrogen stations.

Automobile manufacturers - These manufacturers will encourage related activities, including enhancement of the user friendliness of hydrogen stations through commissioning business to the new company. They will accelerate dissemination of fuel-cell vehicles (FCVs).

Financial institutes - These organizations will fund expenditures for developing hydrogen stations.

[http://www.meti.go.jp/english/press/2017/1212\\_002.html](http://www.meti.go.jp/english/press/2017/1212_002.html)

<https://newsroom.toyota.co.jp/jp/corporate/20245564.html> (Japanese language only)

### **Global Health R&D Forum Took Place in Tokyo**

Japan's Global Health Innovative Technology (GHIT) held its inaugural R&D Forum on December 8 in Tokyo. Approximately 130 domestic and international researchers participated, joining discussions on GHIT invested projects ranging from target research to clinical trials. In addition, GHIT executives, along with representatives from the Japan Agency for Medical Development (AMED), the

European & Developing Countries Clinical Trials Partnership (EDCTP) and a global health initiative, UNITAID, discussed co-funding partnerships.

Speakers from GHIT's product development partner organizations shared lessons learned and explored related R&D challenges and opportunities through interactive sessions with the broader participants.

Questions and answer sessions following each panel covered such topics as how to find appropriate partners, the ingredients of successful cross-border R&D partnerships, issues pertaining to the conduct of clinical trials in low- and middle-income countries.

On financial aspect, the GHIT Fund announced in June, 2017 that it secured commitments of over 200 million US dollars for 2018-2022, roughly half of which will come from the Japanese government.

<https://www.ghitfund.org/about/mediacenter/eventsdetail/detail/194/en>

### **European Photonics Industry Attempts to Start Collaboration with Japan**

From 7 to 10 of November, European Photonics Industry Consortium (EPIC) brought together various industrial actors in photonic integrated circuits (PICs) in Tokyo and arranged a company visit to Hamamatsu Photonics. A workshop was organized for networking and knowledge sharing with 15 European participants and 31 Japanese participants together with 5 more participants from Canada and USA. Europe was represented by leading research organizations like Fraunhofer and Imec with SMEs which have cutting edge technology in the field.

From the presentations of the participants, it is evident that the main interest of the Japanese companies lies in IT and optical communications. According to the experts, newer areas such as medical imaging, biosensors, LIDAR, microwave photonics and even quantum attract interest in Europe. The organizing of the event was assisted by Japan's Optoelectronics Industry and Technology Association (OITDA)

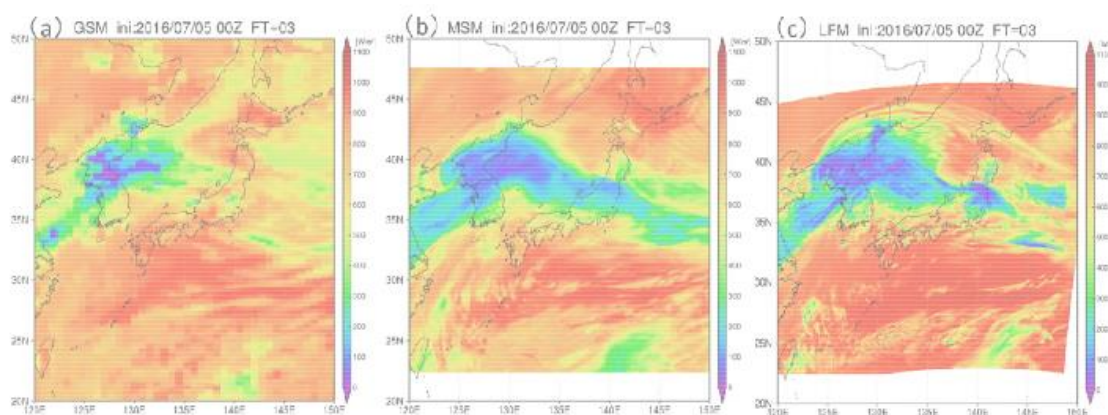
<https://www.electrooptics.com/news/analysis-opinion/epics-delegation-japan-focuses-photonic-integrated-circuits>

[http://www.oitda.or.jp/main/epic/epicws\\_prg.pdf](http://www.oitda.or.jp/main/epic/epicws_prg.pdf)

### **JMA Starts Providing Solar Radiation Prediction Data**

Japan Meteorological Agency (JMA) announced on 5 December that it would start providing data on solar radiation prediction obtained by a super computer. According to the Agency, demand for such data is apparent especially in electric power industry and agricultural sector. Actual information dissemination is carried out by the Japan Meteorological Business Support Center (JMBSC). JMBSC add solar radiation data to their existing on-line weather information services.

Example of solar radiation predictions



[http://www.jma.go.jp/jma/press/1712/05a/20171205\\_nissha.pdf](http://www.jma.go.jp/jma/press/1712/05a/20171205_nissha.pdf) (Japanese language only)

<http://www.jmbsec.or.jp/en/meteo-data.html>

### **Good Practices of Japanese Companies' Adaptation Business in Developing Countries Showcased**

Ministry of Economy, Trade and Industry (METI) and Mitsubishi UFJ Morgan Stanley released a booklet titled, "Climate Change Adaptation\* Good Practices by Japanese Private Sector" during an additional event to the UN Climate Change Conference (COP23) held from 6 to 17 November in Bonn.

\*Alleviating impact of climate change

The booklet shows 20 cases of Japanese companies' products and services in various areas including Resilient Infrastructure against Natural disasters, Sustainable Energy Supply, Food Security & Strengthening Food Production Base and Secure Resources & Sustainable Water Supply.

Installation of rainwater storage system of Sekisui Chemical Co. Ltd.



<http://www.sc.mufg.jp/english/company/news/000014701.pdf>