



Auto industry symposium highlights CASE Expert says, "It is a big challenge"

The Nikkan Jidosha Shimbun (Daily Automotive News) hosted its Auto Industry Symposium on February 27 to commemorate its 90th anniversary. Featuring four key areas called CASE (Connected, Autonomous driving, Shared & Service, and Electric), five experts delivered lectures in front of an audience of about 600 people.

Hirokazu Kobayashi, Director of Technology Affairs of Minister's Secretariat of the Ministry of Economy, Trade and Industry (METI), delivered a lecture titled "New Era of Automobile and Society 5.0." Kobayashi said, "We are placing expectations on automobiles as a backbone of Japan's economy" and considered CASE a big challenge. He stressed that the technological and infrastructural development and ruling should be progressed jointly with various players. "CASE will also be the center of Society 5.0, an ultra-smart society, in which social problems will be solved by artificial intelligence (AI) and the Internet of things (IoT)," Kobayashi said.

Yukio Ito, Nissan Motor Co.'s Managing Executive Officer, presented a lecture titled "Nissan's Mobility to help Japan. Nissan's Efforts toward upcoming increased use of electrified vehicles and autonomous driving." He pointed out three issues in Japan: an increase in shopping refugees and mobility-impaired people due to depopulation, an increase in and intensification of natural disasters, and an energy problem. He introduced the idea that automobiles could help people by using Nissan's Intelligent Mobility technologies such as ProPilot and the visualization of unseen objects. He also presented the case of an electric vehicle's large-capacity battery acting as a "moving power supply" in a disaster-hit area. Ito said, "If you see EVs as batteries, EV's cost is lower than that of fixed battery equipment. We have already seen a social importance of EV."

Norihisa Adachi, Mazda Motor Corp.'s Technology Department Chief, introduced the companywide efforts toward its design philosophy "Kodo" under the lecture theme of "Challenge to Mass Craftsmanship ~ Innovation in Mold Making to realize Kodo design."

An interface of craftsmen's handiwork and volume production technology is inevitable, he added. He also introduced three core points for design technology: "Kofo Form," an advanced engineering technology; "Kodo Shaving", a high-precision shaving technique; and "Kodo Polishing", the ultimate polishing technique that does not destroy continuity and intonation of the surface. Adachi showed his determination, saying, "Kodo design can produce a vehicle panel by making concave and convex without using lines. Throughout the whole processes, quality is assured under the 'zebra lights'. We have made our efforts with a sense of crisis that our company may close unless we can achieve this Kodo design on vehicles."

Baji Toru, NVIDIA Corp., a major semiconductor producer, delivered a lecture titled "Trends of Autonomous Driving Industry and the Reason Why NVIDIA Platform was Chosen." Currently, more than 370 companies have adopted NVIDIA's Drive Platform that realizes Level 5 autonomous driving. After explaining the performance of GPU, Baji showed his confidence, "A customer said NVIDIA's platform is the only choice for autonomous driving."

Naoki Tada, President of Japanese branch of China's Contemporary Amperex Technology (CATL), discussed the growth of the Chinese auto market, "Although recent sales of new vehicle are sluggish, the importance of the Chinese electrified car market should remain unchanged." Tada showed the company's competitiveness in four key areas of batteries: cost, thickness, energy intensity, and production capacity. Regarding the all-solid-state battery, he said, "We have already completed samples." (*Daily Automotive News, Mar. 1 issue*)

Insurers to speed up accident response by AI

*AI makes the determination of damage
cases in shorter time*

In order to shorten accident response times, auto insurance companies are moving to use artificial intelligence (AI) in court cases. At the end of February, Mitsui Sumitomo Insurance Co. (MSI) launched its full-fledged operations of an AI-based retrieval system for court cases. For bodily injury, the company aims to reduce by 30 percent the time required from completion of treatment to payment of insurance claim. Aioi Nissay Dowa Insurance Co. already introduced such a system in April 2018 and successfully identified a 20 percent reduction in operational processes.

MSI's system has adopted "Watson" AI developed by the US company IBM. After entering the status and symptoms of the injury, the system instantly shows appropriate cases from several thousand cases. As for calculating the proportion of negligence, insurers should examine carefully it based on the court cases. Until now, a lot of time and effort was required and largely depended on the staff's experience and intuition. AI now helps people to find

matched cases in a very short time.

Aioi Nissay Dowa uses AI to find information needed for payment of insurance claims. The AI-based system incorporates upgraded application software that was used for inquiring about specific products and agents. By providing a cross-searching function of court case information, it helps to improve operational efficiency. Sompo Japan Nipponkoa Insurance Inc. is also developing its AI-based system.

On the other hand, Tokyo Marine & Nichido Fire Insurance Co. adopted its court case information retrieval system using its own database. "Although AI is not used to its full capacity, its response is sufficient."

Recently, along with an increased variation of auto insurance products, insurance companies have been facing complicated operations. Nevertheless, they must efficiently use their systems to improve customer services and processing capabilities. To this end, the scope of usage of AI is expected to widen in the near future. (*Daily Automotive News, Mar. 1 issue*)

NEDO to test auto recycling in Thailand

The New Energy and Industrial Technology Development Organization (NEDO) announced that it will conduct a verification project involving automobile recycling in Thailand. Currently, the majority of automobile recycling operations are performed manually in Thailand. By offering Japan's recycling technologies and know-how, the organization will cooperate with Thailand to create environment-friendly automobile dismantling processes and related regulations. NEDO aims to build auto recycling models suitable for each Asian country after it achieves favorable results in the Thai project.

NEDO recently signed a basic agreement with the Ministry of Industry and Industrial Estate Authority of Thailand concerning the verification test project. Toyota Tsusho Corp., to be consigned by NEDO, will conduct associated tests in Bangkok and in the surrounding area for a period of three years.

The dismantling processes will feature drain and collection systems for waste fluid and oil, thereby allowing access to records documenting the treatment of collected wastes, as well as tracking of such wastes, resulting in an environment-friendly dismantling process. Automobile dismantling machines (nibblers) will also be provided to achieve efficient operations. Valuable metals will be collected from end-of-life-vehicles (ELVs), while electric circuit boards and catalyzers, both of which cannot be collected inside Thailand, will be recycled in Japan.

In Thailand, ELVs are expected to increase along with the demand for new automobiles. At present, however, dedicated regulations applicable to ELV recycling are not available, and waste fluids and fluorocarbons thus may escape from recycling sites. (*Daily Automotive News, Feb. 28 issue*)



Nishiwaki Shop's sophisticated interior after the renovation. Offices locate behind the partition wall.



President Yuzo Yokoyama



--- Welcome to JARA Partner Companies ---

Entrance, left, and outside view of Nishiwaki Shop, right

WORLD PARTS CO., LTD.

World Parts Co. manages an automotive recycling business in Nishiwaki City, Hyogo Prefecture. The company was established by its former president. The current president, Yuzo Yokoyama, joined the company 16 years ago. Since then, the business has been expanding despite keen competition from rivals in Hyogo and Osaka Prefectures.

Today, its Nishiwaki Shop handles purchasing of end-of-life-vehicles (ELVs). Production and sales of recycled parts are handled by the Yashiro Honten Shop, located in Kato City, while shipping and management of engines and other large parts are managed by the Logistics Center (Kato City).

World Parts accepts an average of 3,600 ELVs a year. Although the company has experienced a slight increase in large vehicle acceptance, the desired volume for this type of ELVs is difficult to maintain. The company has also become active in work style reforms. Recently, a new department was established to oversee employee welfare and labor management. President Yokoyama said, "People cannot act only to earn money. We have to consider people's motivation and how they are recognized by management. Although the company bears many burdens, we want to help employees achieve job satisfaction through a carefully arranged system of wage

increases and promotion."

Social contributions toward harmonization with community

Nishiwaki Shop, which was formerly a car dealership, underwent a complete renovation in March 2018 to offer the sophisticated atmosphere of a modern office. "The company is for employees. Everyone had been hoping for a comfortable workplace for a long time before the renovation. The renovation we made have provides a clean, comfortable work environment for both our female and male employees," he added. The interior design and furnishings have been fully replaced. Yokoyama aims to sweep away the traditional recycler's image by showcasing this new office.

Most recyclers are actively involved in harmonization efforts in local communities because they want to reduce environmental issues within the community. World Parts' employees have joined in cleaning and tree trimming activities in the vicinity of Nishiwaki Shop, and have participated in rescue drills led by the Fire

Department of Kato City. Moreover, the recycler also interacts with the community by accepting junior high school students to the company's workplace as trainees under a program called "Trial Week."

Participates in local community revitalization

Yokoyama, as the Chairman of the Hyogo Prefectural Auto Recyclers Association, promotes the expansion of the business' range to revitalize the domestic market within the Prefecture. He stated that he was especially inspired by other members acting as role models. "It is important for association members to join forces to build a better organization." Continuous information exchange among members as well as the group's efforts in the community, drive Yokoyama's business vision. (*Daily Automotive News, Mar. 14 issue*)



Cut models of an engine and transmission on display



Outside view of Yashiro Honten Shop

Transport ministry to establish guidelines for OTA updates

The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) is planning to establish the domestic rules for the adoption of programming Over-the-Air (OTA) updates for autonomous driving systems. By 2020, international standards for the use of OTA are expected to be enacted. To adopt such standards in Japan, MLIT will create guidelines (in the form of manual) by 2020, which clearly define approaches toward technological examinations, including determining whether the content of an update is compatible with existing safety standards. The ministry intends to provide indexes to help automakers and parts suppliers use OTA technologies, thereby helping to improve vehicle safety.

A task force under the UNCEC World Forum for Harmonization of Vehicle Regulations (WP29), with Japan and the U.K., as chairpersons, is leading

discussions regarding the use of OTA technologies, focusing on autonomous driving. In the 2020 timeframe, a set of international standards is expected to be enacted, and Japan will follow these standards. In March 2019, a bill for partial revision of the Road Transport Vehicle Act was approved by the cabinet, in which establishment of a certification system for approval of program updates wireless for "autonomous equipment" is planned.

At present, wireless updates are available for in-vehicle entertainment equipment such as radio. In the future, wireless addition or expansion for autonomous driving functions is expected. For example, a lane changing function can be added to a vehicle in which an advanced braking system is already installed. For functions that affect the vehicle's safety, such as braking, updates should be performed by following the approval process.

When adopting international standards, examination methods to verify the standards' compatibility with local safety standards should be clarified. MLIT plans to compile a guidelines document by 2020, thereby assisting automakers and other companies to perform safe OTA updates.

OTA is one of the inevitable technologies for next-generation mobility services. In March 2019, Toyota Motor Corp., Denso Corp. and Toyota Tsusho Corp. announced that they would invest \$15 million in Airbiquity Inc. of the U.S., which specializes in OTA security. (*Daily Automotive News, Mar. 19 issue*)

CO₂ Reduction Effect (based on JARA System)

The use of Reuse Parts saved
4,495 tons of CO₂ emissions
in February 2019

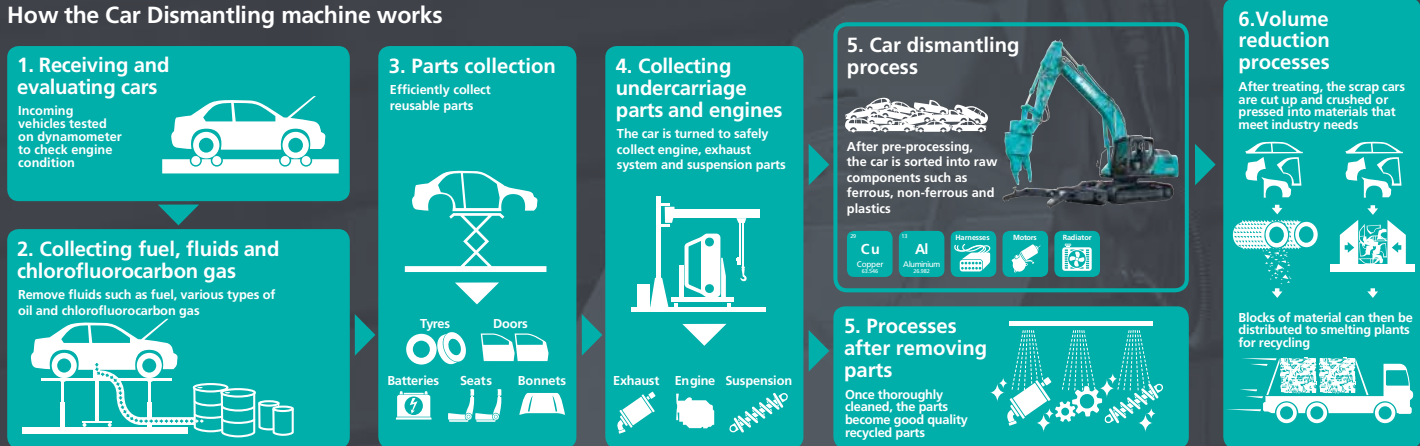
The reference figure represents the difference of carbon dioxide (CO₂) emissions at the vehicle repair using genuine (new) parts and recycled parts.*

*: Based on "Green Point System", which was jointly developed by the Japan Automotive Parts Recyclers Association and Waseda University Environmental Research Institute using a life cycle assessment (LCA) technique.



Dismantling process flow chart

How the Car Dismantling machine works



The Evolution of car dismantling industry by Kobelco

Four times* the vehicle dismantling capability compared with hand dismantling.

*In one day (Kobelco test figures)

15 vehicles >
One operative working by hand.

60 vehicles >
One operative in a Kobelco Car Dismantling machine.

Engine, Catalytic Agents, Body Steel, Seats, Windows, Wheels/Tyres, Suspension, Radiator, Brakes, Front & Rear Bumpers, Transmission, Doors, Harnesses

The machine's special attachment is designed to strip materials from End-of-Life Vehicles (ELV) safely and thoroughly

Improved recovery rate of rare earth metals

Fe Iron	Al Aluminum	Cu Copper	Pt Platinum	Pd Palladium
------------	----------------	--------------	----------------	-----------------

Separation of these valuable materials is quicker and easier and can be performed with one Kobelco machine.



コベルコ建機株式会社
www.kobelco-kenki.co.jp/

For Japan

成都神鋼工程机械(集团)有限公司
www.kobelco-jianji.com/

For China

(주)삼정건설기계
www.samjung-kenki.co.kr/

For Korea

KOBELCO CONSTRUCTION MACHINERY U.S.A. INC.
www.kobelco-usa.com/

For North America

KOBELCO CONSTRUCTION MACHINERY AUSTRALIA PTY LTD
www.kobelco.com.au/

For Australia

KOBELCO CONSTRUCTION MACHINERY EUROPE B.V.
www.kobelco-europe.com/

For Europe

FAIR FRIEND ENTERPRISE CO.,LTD.
www.ffg-tw.com/

For Taiwan