

# News from

# JAMA

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## Top News

### JAMA Chairman Munekuni: “Our industry hopes to grow side by side with ASEAN.”



With the implementation of the ASEAN Free Trade Area (AFTA) and other programs to encourage growth, ASEAN's automobile market will more than double by 2015, predicts JAMA Chairman Yoshihide Munekuni. But for this to occur, full-scale trade liberalization will need to be realized by the target year 2010.

“This will further encourage the expansion of the ASEAN automobile industry in the years ahead,” said Mr. Munekuni, speaking before an audience of some 90 participants at the AMEICC-WGAI Meeting held in Manila on August 21, 2003 “In particular, the interdependent relationships between and among automobile assemblers and parts suppliers... will be a step toward market integration.”

Mr. Munekuni outlined the overall vision for the ASEAN automobile industry and the challenges that he believes must be addressed to make the vision a reality.

Turning to the subject of ASEAN's automobile industry, Mr. Munekuni noted it a matter of “crucial importance” for the industry to establish a roadmap for its future direction that takes into account worldwide industry trends. “The industrial policies of ASEAN member nations will have a profound influence on how [its] automobile industry turns that roadmap into an effective course of action.

“Japanese automobile manufacturers hope to see a commitment on the part of both government and industry to promote the advancement and global competitiveness of the ASEAN automobile industry,” Mr. Munekuni said.

## Experts' dispatch 2nd phase seeks to boost instructional skills



Starting from 2000, teams of Japanese automotive experts have been posted for six-month stays to assist ASEAN parts manufacturers in enhancing their global competitiveness through improvements in productivity, quality and cost reduction. The project, overseen by the Automotive Division of Japan's Ministry of Economy, Trade and Industry (METI), was originally earmarked to continue for two years; but based on the many successes achieved, it was decided to extend the program for an additional two years in accordance with requests from both sides. In the second phase, commencing from October 2003, the government of Japan will place emphasis on transfer of instructional skills in a manner that will become firmly rooted in the respective host nations; and assisting governments to create a linkage of development policies with the basic industries.



Speaking in Manila on August 20, 2003, on the occasion of the submission of the summary report upon completion of the first experts' dispatch program to the Philippines, Mr. Toshihiro Iwatake, Director General of the International Department at JAMA, noted that

the quality of the many components produced by automotive parts industries are dependent on the skills and technical capability of their workers. However, the nurturing of human resources is not something that ends after just a few years, but must be maintained for an extended duration, and expanded by the transfer of skills and technology from one person to another. As ASEAN's motor industries progressively recovered from the 1997 crisis, a great deal of effort has been devoted to the development of the vehicle components industry. In this regard, Japan lent its assistance with the experts' dispatch program. In addition to providing instruction concerning manufacturing technology, the program has also been highly regarded for efforts to nurture human resources. While the program's second phase is about to commence, at the same time it must be understood that a system of dispatch of experts from Japan on a semi-permanent basis is neither practical nor efficient. Realistically, its purpose should be to enable each country to nurture native experts who can maintain development on their own.



In this regard, it will be important to take energetic measures to create the foundation for an infrastructure to nurture and support these human resources. Unless the importance of such a long-term policy is recognized and adopted, then the technicians skills and the "kaizen" mindset will not take root in local industries. Naturally, it is important for automotive industries to take their own initiatives, but we must also emphasize that progress can be boosted by the respective governments on the receiving side according their full support to all of those manufacturers involved in the project. JAMA will, of course, be pleased if it can contribute to these ongoing efforts.

## SERIES: The Future of Motoring

# Exciting New Technologies on the Horizon

### Part I: The Fuel Cell Vehicle

After a history of over 100 years, at last the end of the road can be seen for the hydrocarbon-fueled internal combustion engine in passenger vehicles. What will replace it? Researchers have experimented with many possible alternatives, such as electricity, hydrogen, so-called "hybrid" power sources (such as vehicles equipped with both gasoline engines and electric motors) and others, but the most promising new technology on the horizon is the fuel cell vehicle.

Abbreviated FCV, these vehicles utilize electric motors driven by energy that is generated on board by a chemical reaction between hydrogen and oxygen. The fuel cell, which functions in a manner similar to a battery, uses a catalytic process to extract hydrogen from city gas, LPG or other hydrocarbon fuel source. During the process electricity is generated, which is then converted to alternating current to drive a motor.



In addition to such benefits as generating less pollution, fuel cell vehicles are expected to lower dependence on petroleum-based fuel, as well as enable use of alternative, and possibly renewable, energy sources.

Japan's government, business and academic organizations are working together closely to promote development of fuel cell technology. In 2002, Japan launched a three-year project, named the Japan Hydrogen & Fuel Cell Demonstration Project or JHFC, with a first year budget of approximately 2 billion yen. This year, an

additional 2.5 billion yen has been budgeted for a variety of R&D activities. As of June 2003, a number of manufacturers (including Daihatsu, Daimler-Chrysler, General Motors, Honda (see photo at left), Mitsubishi, Nissan, Suzuki and Toyota) have developed working prototype passenger cars. In addition, Hino and Toyota have jointly produced four prototype 60-passenger buses with a top speed of 80 km/h, which are already being used to transport passengers in central Tokyo.



FCV buses are already running in Tokyo.

Before the FCV can be launched on a commercial basis, its developers must still deal with numerous issues, including cost concerns, vehicle weight, fuel efficiency, availability of a refueling infrastructure, safety and reliability.

Making FCVs affordable will naturally be a key factor in achieving growth at an earlier stage. To put a fuel cell engine on par with today's gasoline-powered vehicles, it will need to be able to generate 1 kilowatt of electrical energy at a cost of around 5,000 Japanese yen (about US \$40). This will require not only that existing technology be considerably improved, but that vehicle usable life be extended.

Upon evaluation of the results of the three-year JHFC Project, FCVs will move from the experimental to the practical stage. Present projections are for 50,000 FCVs to be in operation between 2005 to 2010. Then as costs gradually come down and more models become available, the number on the roads in Japan is expected to grow to 5 million by 2020. Manufacturers in North America and Europe are, needless to say, engaged in their own efforts and exchanging data with their counterparts in Japan.

## Making Efficiency Work Both Ways: The fine science of vehicle recycling

To observe the current progress being made in processing end-of-life vehicles, *Nikkei Business* magazine (August 25) paid a visit to Matec, an automobile disassembly plant located in the city of Obihiro (Hokkaido), Japan. Completed in May 2002, the 2000 square-meter plant currently processes 800 to 1,200 vehicles a month. Using a 60-meter long rail to transport the cars on wheeled platforms, the disassembly line reverses the process begun at the auto factory. First the car's bumpers are removed, followed by air bags and CFC coolant (from older models — it is no longer utilized in new car air conditioners). After draining any residual fuel and oil, the car is turned on its side and the catalytic converter/muffler assembly and radiator are removed.

The entire process consists of seven stages, with each worker on the line carrying out one or two operations. With approximately seven minutes allocated for each task, a car can be stripped down to its bare steel frame and body in about 50 minutes.

Matec vice president Yasutomo Koba says that his company consulted with automobile manufacturers in order to design the line in a way that would be compatible with all makes and models.

“We’re processing about 1,200 cars a month now, and finally starting to turn a profit from the

operation,” he says. “Our decision to proceed with this business came in response to manufacturers’ positive response to the new automobile recycling law.”

In response to the “reverse engineering” techniques developed by companies like Matec, automakers have begun to build in more recycling considerations at their cars’ design stage. To take one example, the article notes that the new version of the “March” compact car launched by Nissan Motor Co. in the spring of 2002 uses 12 connecting points to attach the bumper to the body, as opposed to 32 in the predecessor model. Other design innovations make it possible to drain oil and recover other fluids in about one-fifth the time previously required. These and other efforts have already enabled that particular model to achieve the government’s set target of a 95 percent recyclability ratio, which will not be compulsory until 2015.

As recycling laws come into force, manufacturers understand that unless they nurture the recycling industry, it will become difficult to prevent some owners from illegally abandoning their old vehicles, creating more environmental problems. End-of-life recycling, increasingly, promises to become an essential element in the designs of today’s new vehicles.

### Message from Singapore

In anticipation of the integration of the automobile market, ASEAN has organized a task force. Ten working groups (WG) will commence activities in the various areas including the following:

Training in the car parts industry, Investment, Application of AICO/CEPT, Customs procedures and Unifying technical standards.

This is to complete with China, whose market has grown in scale to twice the size of ASEAN. Furthermore, some ASEAN countries are making efforts to realize Free Trade Agreements (FTAs) with countries outside the region. This also includes ASEAN’s competitor China. In this growing ground swell of international cooperation, both Japan’s expectations and role in bringing about the free movement of people, goods, money and information are growing more and more important.

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