Mazda Sets Long-Term Vision for Technology Development: 'Sustainable Zoom-Zoom'

Mazda's technology development plan aims to harmonize driving pleasure with environmental and safety features

Hiroshima, Japan, 22nd March 2007. Recognizing the challenges of CO2 mitigation will require a concerted and coordinated effort between governments, the auto industry, the energy industry, suppliers and consumers. Mazda Motor Corporation has announced its long-term vision for technology development, "Sustainable Zoom-Zoom", as part of its brand value improvement initiatives. The plan also articulates Mazda's role in the automotive industry's response to global climate and transportation issues, outlining Mazda's efforts toward realizing a sustainable environment for the future.

Amongst other aims, Mazda's primary focus will include harnessing synergies with Ford and improving the HEV system of the Hydrogen RE Hybrid. Introduction of Mazda's independently developed Smart Idling Stop System (SISS) is also planned for Japan.

In announcing the long-term technology development plan's vision, Seita Kanai, Mazda's director and senior executive officer in charge of R&D, said: "Mazda is committed to working towards a sustainable future that brings continued happiness and excitement to people in a global society, by developing vehicles that never fail to excite, visually capture the customer's heart and provide a fun driving experience that keeps bringing them back to Mazda."

Under the Sustainable Zoom-Zoom plan, Mazda will pursue the harmony felt between driving pleasure and environmental and safety features, and the quest for an advanced Zoom-Zoom world.

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Mazda's long-term vision will be supported by this new technology development plan. Elements of the technology plan include a drive to create captivating design, a renewed desire for continual driving pleasure and an ongoing mission to achieve improved safety and environmental features, all part of Mazda's goal of improving its brand value in the eyes of consumers.

Global environmental benefits will be sought by building highly efficient, clean powertrains and striving to reduce vehicle weight. Working toward a better transportation environment, Mazda is moving forward with Human Machine Interface (HMI) technologies. HMI supports accurate recognition and assessment of hazards, more compact design attributes, and improved vehicle dynamics to minimize the risk of collisions. Through the continuous development of a wide range of technologies, Mazda seeks a balance between driving pleasure and environmental safety features as part of its dedication to attain the goals set out in the Sustainable Zoom-Zoom plan. Mazda's key technical development initiatives are as follows:

1. Powertrains
   - As part of Mazda's drive toward achieving a sustainable global environment for the future, Mazda will develop powertrains which unite advanced environmental performance with thrilling driving characteristics and which make cars so fun to drive people will keep coming back for more.
   - For the future embodiment of Zoom-Zoom, Mazda will research hydrogen fuel technologies, with particular emphasis on internal combustion engine applications, as part of the goal of realizing a hydrogen society in the future. During this development period, other practical technologies will also be introduced in line with the advancing social infrastructure.

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(1) Gasoline engines

- Introduce Mazda's independently developed Smart Idling Stop System (SISS) in the Japanese market in 2009.
- Introduce an E85 fuel-compatible flex-fuel engine to the Northern European market in 2009.
- Upgrade Mazda's gasoline engines toward the start of the decade beginning in 2010; increase performance and significantly improve fuel efficiency.

(2) Diesel engines

- Further evolve our clean diesel engine that has become popular in Europe, and introduce a new diesel engine that meets Japanese and North American long-term emissions regulations toward the start of the decade beginning in 2010.

(3) Automatic transmissions

- Introduce a new automatic transmission with improved fuel efficiency and performance comparable to that of a manual transmission toward the start of the decade beginning in 2010.

(4) Rotary engines

- Introduce a new generation gasoline rotary engine with enhanced power and fuel efficiency toward the start of the decade beginning in 2010.

(5) Future technologies

- Begin commercial leasing of the Premacy Hydrogen RE Hybrid in 2008. Increase its power by 40 percent and achieve a 200 km range.

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- Launch a vehicle with HEV system based on the Hydrogen RE Hybrid toward the start of the decade beginning in 2010.
- Develop an all-new Hydrogen RE with dynamic performance equivalent to a 3.0-liter gasoline engine and a range of 400 km.

2. Design
   - Design cars that people will want to drive at first sight; that people will recognize as Mazda at first sight; and that connect with the tastes of families.
   - Offer new and exciting Mazda design cues
   - Present new proportions that are aligned with platform development

3. Vehicle Technologies
   - Seek to create vehicles that are fun to drive as well as safe, and invent technologies that allow the designers the freedom to create captivating styling which attracts the eyes of potential buyers.
   - Seeking a sustainable future transportation environment, offer vehicles that have a comfortable ride together with excellent safety features such as collision avoidance systems.
   - Reduce vehicle weight to improve handling and cut CO2 emissions.

   (1) Platforms
   - From 2010, steadily develop safe, lightweight new generation platforms with eye-catching design and excellent dynamics.
   - Achieve a weight reduction of approximately 100 kg for the new Mazda2/Demio due for launch in 2007, as compared to the current model.

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(2) Safety technologies

- Introduce safety technologies with Mazda's Zoom-Zoom DNA to make cars easier to operate, such as a Human Machine Interface (HMI) system that supports accurate recognition and assessment of hazards and user-friendly collision avoidance dynamics.
- From next year, start an Intelligent Transportation System (ITS) verification experiment in the Hiroshima area to examine safety in collaboration with the government and the local community.

(3) Material technologies and production technologies

- Expand the applications of carbon neutral bioplastics that were developed in collaboration with government, industry and academia. Utilize bioplastics in the Premacy Hydrogen RE Hybrid that is scheduled to begin commercial leasing in 2008.
- From 2008, make our paint shops the cleanest of any plant by evolving our Three Layer Wet Paint System with our unique water-based painting technology.

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