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Mazda Announces "Lean Asset Strategy" that Realizes Electrification of Multi-Solution

- Collaboration and "Mazda Monozukuri Innovation 2.0" to increase efficiencies in development and production for higher asset efficiency -

HIROSHIMA, Japan - Mazda Motor Corporation (Mazda) today announced its "Lean Asset Strategy", which will realize the company's multi-solution approach for electrification.

Mazda considers the period up to 2030 to be the "dawn of electrification", and under the 2030 Management Policy, the company will promote electrification with multi-solution to flexibly respond to diversifying customer needs and environmental regulations. The "Lean Asset Strategy", announced today, is an implementation strategy to enhance Mazda's corporate value as a niche player by increasing the utilization of existing assets in the timely development, production, and market introduction of diverse products and electrification technologies.

The effects of the "Lean Asset Strategy" are as follows:

- The 1.5 trillion yen investment in electrification by 2030 announced in November 2022, which is expected to be around 2 trillion yen due to inflation, will be reduced to around 1.5 trillion yen in total through optimization of investments such as battery investment. Of this amount, in comparison to the assumption to procure all batteries on our own, the investment is expected to be halved from 750 billion yen, which takes into account the impact of inflation, by using collaboration.
- In the area of Monozukuri (manufacturing), the company deploys "Mazda Monozukuri Innovation 2.0", a unique development and production process innovation. On the development side, tripling of productivity has been achieved to allow more complex development to be carried out with the current level of resources.
- For the battery EV to be launched in 2027, the company expects to reduce development investment by 40% and development man-hours by 50% compared to conventional development through collaboration and partnership.
- In addition, by using existing manufacturing assets to produce both battery EV and engine vehicles on the same production line, the initial capital investment can be reduced by 85% and the time for mass production preparation by 80% compared to building a new factory dedicated to battery EVs.
- We will achieve sustainable growth though generating returns that exceed the cost of capital by ensuring high asset efficiency with low investment and providing competitive technology and products.

As the automotive industry enters a period of change that occurs only once in a century, Mazda will continue to evolve the "joy of driving" for the next generation while balancing sustainable technological development and management flexibility, and deliver the excitement of the mobility experience to customers' everyday lives.

[Specific initiatives]

■ ”Mazda Monozukuri Innovation 1.0”

- Mazda's unique development and production process innovation. Even with Mazda’s company size, this initiative makes it possible to achieve both efficiency through economies of scale and the flexibility to respond to diverse customer needs and demand fluctuations.
- Flexibility and efficiency are achieved at the same time by planning (bundled planning) products and technologies that will be needed in the next 5 to 10 years, and then having the development and production teams work together to design a standard structure and standard processes that can be used for a wide range of future products (common architecture). Then those products are manufactured by mixed-production method (flexible production) that utilizes general-purpose equipment.

■ "Mazda Monozukuri Innovation 2.0”

- In the age of electrification and intelligence, this is the evolution of "Mazda Monozukuri Innovation 1.0" to further increase flexibility and efficiency in development and production despite being a niche player.
- Planning for the development and production of battery EVs to engine vehicles.
- In the development field, model-based development (MBD)[*1] for individual component units was promoted under “Mazda Monozukuri Innovation 1.0”. It evolved to manage the modeling of the entire vehicle by utilizing AI and other technologies. Furthermore, through the co-creation with JAMBE[*2] and others, model-based development is expanded to the entire supply chain, resulting in more efficient development.
- In the area of production, the mixed production line was cultivated over many years as one of Mazda's strengths. "Rootless Production Equipment" that employs Automatic Guided Vehicle (AGV), Unmanned Guided Vehicle, has been introduced to the mixed production line to produce battery EVs and engine vehicles in the same line. It ensures flexibility against demand fluctuations and improves asset efficiency.
- Through co-creation with suppliers, Mazda promotes structural change in the supply chain to optimize the number of component types and also move the sites where those types are assembled to areas closer to our plants.

■SKYACTIV-Z

- Meets strict emissions regulations such as Euro 7 in Europe, LEV4 and Tier 4 in the US as the core engine of Mazda's engine line-up in the era of electrification.
- Combustion technology is close to the ultimate combustion, achieving both high fuel economy and driving performance.
- To be introduced in combination with Mazda's proprietary hybrid system from the next MAZDA CX-5 by the end of 2027.
- SKYACTIV-Z combustion improvement technology is deployed in inline 6-cylinder engines for Large products, and is also utilized for emission development of the rotary engine.
- Including SKYACTIV-Z, the number of engine units will be reduced to less than half, and the control software will be consolidated to two-thirds in the future.

■Battery EV

- The EV-dedicated platform developed in-house takes into account the continuing evolution of battery technology, and can accommodate diverse types of battery, ensuring high flexibility to derive different model types.
- Even battery EVs will provide Mazda's signature Jinba-ittai driving experience and fun of driving.
- The battery EV developed in-house to be launched in 2027 will be produced in Japan for global deployment.

<For reference>

- 2030 VISION / MANAGEMENT POLICY UP TO 2030:
  https://www.mazda.com/en/about/vision/
- Mid-Term Management Plan Update and Management Policy up to 2030:
  https://newsroom.mazda.com/en/publicity/release/2022/202211/221122a.html

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*1 In design and development activities, by placing the focus on "models" that are reproduced on a computer rather than actual prototype parts, the time and effort required for performance conceptualization, design, parts prototyping and testing can be greatly reduced, and development can be carried out efficiently. It is a style of achieving more efficient development. English name: Model-Based Development.

*2 Abbreviation for " MBD Promotion Center", which aims to promote the spread of technology and build a mechanism for model distribution among companies, industry and academia. English name: Japan Automotive Model-Based Engineering center.