

Sept. 24, 2021

AISIN CORPORATION
SUBARU CORPORATION
TOYOTA MOTOR CORPORATION
Panasonic Corporation
Mazda Motor Corporation

JATCO Ltd
DENSO CORPORATION
Nissan Motor Co., Ltd.
Honda Motor Co., Ltd.
Mitsubishi Electric Corporation

Participation in Japan Automotive Model-Based Engineering Center

Expanding the reach of *Monozukuri* and contributing to further development of Japan's automotive industry

Five Japanese automobile manufacturers (SUBARU CORPORATION, TOYOTA MOTOR CORPORATION, Nissan Motor Co., Ltd., Honda Motor Co., Ltd., and Mazda Motor Corporation) and five parts manufacturers (AISIN CORPORATION, JATCO Ltd, DENSO CORPORATION, Panasonic Corporation, and Mitsubishi Electric Corporation) will be filling the role of executive member in the Japan Automotive Model-Based Engineering center (JAMBE), which went public today. JAMBE's mission is to promote Model-Based Development (MBD) ^{*1} across Japan's automotive industry.

The center was founded to fulfill the purpose of creating the most-advanced development community in the mobility sector, able to carry out optimal and high-grade *Monozukuri* efficiently and without rework. Primarily consisting of private companies, the center succeeds an initiative led by Japan's Ministry of Economy, Trade and Industry called "Enrichment of *Suriawase 2.0*^{*2}" — an industry-academia-government and strategic future policy for MBD in the automobile industry — which had been compiled as a result of discussions conducted by the Study Group for Ideal Approaches to Model Utilization in the Automobile Industry^{*3}.

Executive member companies will lead the center's activities to contribute to making Japan's automotive industry more competitive internationally by enabling academia and businesses to share digital models^{*4} across the board, linking academic research with development of parts, systems and vehicles. Therefore, allowing both sides to coordinate and make adjustments (*Suriawase* in Japanese) digitally from the initial stages of development.

JAMBE's Guiding principle, Vision and Goal

<Guiding principle>

- Contribute to making Japan's automotive industry more competitive internationally by spreading and deploying MBD technology and concretizing the *Suriawase 2.0* concept's high-grade virtual model development technology.

<Vision>

- Utilize MBD to promote carbon neutrality and innovation of vehicle technology to respond to needs such as CASE, thereby contributing to SDGs.
- Encourage organizations of all sizes to use virtual models, thereby promoting highly efficient research and development.

<Goal>

- Concretize *Suriawase 2.0*: MBR^{*5} (Academia) creates new models and MBD (Industry) enhances development efficiency by using the same models across parts and vehicle manufacturers in the engineering chain for their *Suriawase* engineering style, creating new value and achieving the most efficient development processes in the world, free from rework.

Overview of Japan Automotive Model-Based Engineering center

Name: Japan Automotive Model-Based Engineering center (JAMBE)

Business outline: Promotion of model-based development technologies, establishment of structure of model distribution across business entities as well as between industry and academia
[Joint research business project of participating companies (members) and Japan Automotive Research Institute JARI (secretariat)]

Chairperson of steering committee:

Mitsuo Hitomi (Senior Innovation Fellow, Mazda Motor Corporation)

Operation cost: Approximately 60 million yen per year

Established: July 9, 2021

Logo:



Press release from JAMBE

Please refer to the press release from JAMBE for more details, such as a list of participating companies or further information about the online forum held to commemorate the start of JAMBE

https://www.jambe.jp/uploads/20210924a_en.pdf

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^{*1} Model-Based Development (MBD): A development style that uses virtual models on a computer, not using actual prototype parts throughout design and development activities to realize efficient development activities by saving considerable time and effort that would usually be spent elaborating performance concepts, designing, making prototype parts, and testing.

^{*2} *Suriawase 2.0*: A concept that uses MBD to heighten the degree of coordination of cross-disciplinary development (*Suriawase* engineering style) between companies and between industry and academia throughout the engineering chain.

^{*3} Established in November 2015 by the Ministry of Economy, Trade and Industry. Please visit the website below for further details.
https://www.meti.go.jp/english/press/2018/0404_001.html

^{*4} A "model" is a simulated object that is made to behave like a real object using computer simulation. Depending on the needs, models of various scales are used, including models of individual parts (e.g., pistons of an engine), models of systems/units (e.g., an engine), and models of entire vehicles. Models can also refer to mathematical models of phenomena such as fuel combustion, hydraulic oil flow, etc.

^{*5} Model-Based Research (MBR): MBR means activities of basic research and numerous experiments of physical phenomena to create models with higher accuracy that are required for successful MBD.