

Mazda, Denso, and Toyota Sign Joint Technology Development Contract for Electric Vehicles

– The three companies agree to establish a new company as a joint development center and begin specific cooperative projects –

Toyota City, Japan, September 28, 2017—Mazda Motor Corporation (Mazda), Denso Corporation (Denso), and Toyota Motor Corporation (Toyota) signed a contract today to jointly develop basic structural technologies for electric vehicles. Furthermore, the three companies have also decided to establish a new company consisting of selected engineers from the three companies to ensure the efficient implementation of the joint technological development projects.

As countries and regions around the world adopt increasingly stringent policies to help reduce greenhouse gases, new regulations that mandate a certain proportion of electric vehicle sales are beginning to emerge. Complying with these environmental regulations, while ensuring the sustainable growth of our companies, requires the development of a wide range of powertrains and technologies. We regard electric vehicles (EVs) as a key technological field in this process alongside fuel cell vehicles.

With EVs yet to find widespread market acceptance, the huge investments and time required to cover all markets and vehicle segments is a pressing issue for individual automakers when responding to the widely varying demand for vehicles around the world.

Mazda, Denso, and Toyota have decided to jointly develop basic structural technologies for EVs capable of covering a wide variety of vehicle segments and types to ensure flexible and rapid response to market trends. This agreement covers a diverse range of models, from minivehicles to passenger vehicles, SUVs, and light trucks, and aims to innovate the development process by combining the strengths of each company, including Mazda's bundled product planning and prowess in computer modeling-based development, Denso's electronics technologies, and the Toyota New Global Architecture (TNGA) platform.

The new company will engage in the following:

- 1) Research into the characteristics (common architecture*) that define optimum performance and functions of EVs from the standpoint of both individual components and the whole vehicle
- 2) Verification of component installation and vehicle performance realized by the characteristics achieved in item 1)
- 3) Examination of the optimum concept for each car classification with regard to each component and each type of vehicle realized by achieving items 1) and 2)

Through this joint technological development project, by dedicating an equal amount of development resources, ensuring efficient development processes, and taking advantage of existing production facilities, Mazda and Toyota intend to focus their resources on fundamental vehicle values to enable the creation of appealing EVs that embody the unique identities of each brand and avoid the commoditization of EVs.

The companies also aim to create a business structure that is open to participation by other automakers and suppliers.

*Common architecture is the basic product design concept for realizing required product performance by distributing those requirements among structural components. Under the concept of a common architecture, the basic structure of each component can be commonized, thereby transcending differences in vehicle class and power. By organizing component characteristics, various products can be developed and produced through the same process.

Outline of New Company

Name	EV C.A. Spirit Co., Ltd.
Location	Midland Square 37F, Meieki 4-7-1, Nakamura, Nagoya
Capital	10 million yen (equity participation = Toyota: 90%, Mazda: 5%, Denso: 5%)
Directors	President: Shigeki Terashi Director: Kiyotaka Ise Director: Toshiyuki Mizushima Auditor: Tatsuro Ueda
Employees	At establishment: approximately 40
Website	http://www.ev-cas.co.jp (will be live on Middle of October)
Contact address	info@ev-cas.co.jp (will be available on October 1)

Outline of Structure of New Company

