

**SkyDrive Makes Progress Toward Acquiring Type Certification****with the Development of a Composite Vehicle's Structure****by Toray Carbon Magic, and Starting Material Conformity Testing**

**SkyDrive Inc.** (headquartered in Toyota City, Aichi Prefecture; Tomohiro Fukuzawa, CEO; hereinafter "the Company"), a developer of "flying cars"<sup>1</sup> and "cargo drones", partnered with **Toray Carbon Magic Co., Ltd.** (headquartered in Maibara-city, Shiga-prefecture; Akiyoshi Oku, President and Representative Director; hereinafter "TCM"), providing advanced Carbon Fiber Reinforced Plastics ("CFRP") products for the automotive, aerospace and other industries, to develop a composite vehicle's structure together. We started with material conformity testing.

**■ Background of Development**

With the mission of "leading the once-in-a-century mobility revolution," we are developing "flying cars" to realize a future that utilizes the sky for daily transportation. In 2025, we aim to enter into service in the Osaka Bay Area using the "flying car" of the SkyDrive Type SD-05, a two-seater vehicle for which we are currently pursuing type certification.

The most important factor in the development of the two-seater SD-05 is to reduce the weight of the vehicle. TCM's design and manufacturing technologies and facilities are extremely effective in achieving this goal, and we have been engaged in discussions and prototypes of a light and strong CFRP structure for a flying car.

CFRP is a resin base material to which carbon fiber is added as a reinforcing material. In addition to high rigidity and high strength, carbon fiber also has features such as electrical conductivity, heat resistance, low thermal expansion coefficient, self-lubricity, and X-ray permeability. By taking advantage of these features, it is expected to make products lighter, larger, smaller, and more energy-efficient, and is widely used in a variety of applications.

TCM's design technology, prototype proposal capabilities, and high-precision autoclave production technology, cultivated through the design and manufacture of racing car parts, are highly recognized by the market, and the company currently produces many CFRP parts not only for automotive applications but also in a wide range of other fields.

SkyDrive will proceed, together with TCM, with material conformity testing, acquire type certification<sup>2</sup>, and promote development with the target of launching air taxi services in the Osaka Bay Area in 2025.

### ■ Comments from the companies

#### **Akiyoshi Oku, President and Representative Director, Toray Carbon Magic Co., Ltd.**

We are delighted that our lightweight and aerodynamic technologies cultivated in the development of racing cars will be utilized in developing the "flying car". We will continue to work proactively on the development of elemental technologies required for flying the vehicle, and together with SkyDrive, we will strive to contribute to the future society.

#### **Tomohiro Fukuzawa, Chief Executive Officer, SkyDrive Inc.**

Toray Carbon Magic's advanced carbon fiber reinforced plastic is an essential element of our two-seater aircraft SD-05. Starting with this material compatibility testing, we will continue to work closely together to promote the development of a light and strong "flying car" airframe structure, with the aim of realizing an air mobility society.

#### **Company Profile of Toray Carbon Magic Co., Ltd.**

Establishment	April, 2013
Representative	CEO, Representative Director and President, Akiyoshi Oku
Website	<a href="https://www.carbonmagic.com/">https://www.carbonmagic.com/</a>
Location	215-1 Miyoshi, Maibara-City, Shiga-Prefecture, Japan
Services	Prototyping and manufacturing of carbon composite products using carbon fiber composite materials, including design and analysis work

#### **Company Profile of SkyDrive Inc.**

Establishment	July, 2018
Representative	CEO, Representative Director and President, Tomohiro Fukuzawa
Website	<a href="https://skydrive2020.com/">https://skydrive2020.com/</a>
Location	Toyota HQ : 2-1-1, Koromocho, Toyota city, Aichi Prefecture Tokyo Office : Shinjuku-ward, Tokyo Toyota Test Field : Asuke, Toyota city, Aichi-Prefecture Osaka Office : Osaka Ekimae Daiichi Bldg. 8F, 1-3-1-800 Umeda, Kita-ku, Osaka City, Osaka Prefecture

Projects	With the mission of "leading a once-in-a-century mobility revolution," we established the Company in July 2018 to develop "Flying Cars" and "Cargo Drones" to realize the future of "Using the Sky for Daily Transportation". In the development of flying cars, we are the only company in Japan to conduct manned flight tests, and we are also involved in the design of the system as a member of the public-private sector council. We are currently developing a two-seater "flying car," with the target of entering into service in the Osaka Bay area in 2025.
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**Editor's Note:**

<sup>1</sup> Flying cars, formally eVTOL (electric vertical takeoff and landing) aircraft, are characterized by electrification, a fully autonomous autopilot, and vertical takeoff and landing. A new advancement in the field of mobility, the development of flying cars is being promoted globally. In Japan, the Public-Private Council for Air Mobility Revolution was established in 2018 for that purpose. The project is expected to lead to taxi services in urban areas, new means of transportation for remote islands and mountainous areas, and emergency transport in times of disaster. A roadmap formulated by the Ministry of Economy, Trade, and Industry (METI) and the Ministry of Land, Infrastructure, Transport, and Tourism (MLIT) anticipates the start of business in 2023 and full-scale deployment in 2030.

<sup>2</sup> Certificate issued by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) in accordance with the Civil Aeronautics Law, certifying that the design, structure, strength, and performance of each type of newly developed aircraft comply with the prescribed safety and environmental standards.

Press release regarding SkyDrive's certification activities:

<https://skydrive2020.com/archives/9238>

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