March 17, 2022
ACSL Ltd.
Aeronext Inc.

Started taking orders for Japan's first mass-produced logistics-specific drone “AirTruck” that solves the logistics industry's manpower shortage problem and provides last mile delivery services
- New Drone to be unveiled at the "New Smart Logistics Symposium" on Tuesday, 3/22! -

ACSL Ltd(Headquarters: Edogawa-ku, Tokyo; President and COO: Satoshi Washiya; hereinafter referred to as "ACSL") and Aeronext Inc. (Headquarters: Shibuya-ku, Tokyo, CEO: Keisuke Toji, hereinafter referred to as "Aeronext") have been jointly developing an application-specific drone equipped with 4D GRAVITY®, which is specialized for logistics, based on the 4D GRAVITY® license agreement signed in August 2020, and announced the latest prototype in March 2021. ACSL and Aeronext are pleased to announce the mass production of AirTruck, a new dedicated logistics drone with a 5kg payload, which has been improved through a series of logistics demonstration under Level 3 (out-of-sight flight in unmanned zone) condition. This is the first mass production of a dedicated logistics drone in Japan.

It will be unveiled for the first time at the "New Smart Logistics Symposium to Realize the Digital Rural City State Concept" event for local governments to be held on Tuesday, March 22.

ACSL and Aeronext aim to play a role in last-mile delivery by combining AirTruck, a drone specially designed for logistics, with trucks, the current mainstream of logistics, to solve the manpower shortage faced by the logistics industry and realize a society where people who receive services and goods can get what they want, when they want, even in depopulated and aging areas.

New Dedicated Logistics Drone

■Development Background

Due to the decline in the national population, the aging of the population, and depopulation, the distribution function and transportation network have been weakened, and the shopping environment has deteriorated, leaving an increasing number of vulnerable shoppers in a situation where daily

shopping for food and other necessities is difficult.※ One measure for vulnerable residents is to have items delivered to their homes by delivery companies, but there is currently a shortage of labor in the logistics industry. To solve such last mile delivery issues, governments and municipalities are actively promoting the use of drones and other digital and technological solutions.

※Ministry of Internal Affairs and Communications, "Survey on Measures for Vulnerable Shoppers.

On January 28, 2022, ACSL announced its medium-term management policy, "ACSL Accelerate FY22, "[*1] and is promoting the mass production of four application-specific drones, including a Level 4 delivery drone, and the social implementation as one of its strategies to transition to "Sustainable Global Manufacturer" amid the relaxation of Level 4 unsighted flights over manned areas in accordance with the revised Aviation Law and the development of the licensing system.

Aeronext has been engaged in research and development of various industrial drones based on its proprietary 4D GRAVITY®[*2] airframe structural design technology, with a particular focus on the logistics field and the development of specialized airframes. In addition, it established a strategic subsidiary that mainly provides drone delivery services, and have steadily improved the performance and operation of a prototype logistics drone developed jointly with ACSL in a demonstration experiment aimed at building a new smart logistics system that links land delivery and drone delivery, starting with Kosuge Village in Yamanashi Prefecture and continuing with Kamishihoro Town in Hokkaido and Tsuruga City in Fukui Prefecture to realize more efficient and active regional logistics.

In order to develop a Level 4-compliant logistics aircraft, it is essential to develop a drone with improved stability, efficiency, and maneuverability, and to improve it through repeated demonstration tests in the airspace under Level 3 condition.

AirTruck is equipped with Aeronext's 4D GRAVITY® airframe structural design technology that improves the basic performance of the drone, resulting in increased levels of flight speed, flight distance, deliverable weight, and delivery quality. The development of the new aircraft has been made possible by a total of 466 demonstration tests conducted in Kosuge Village, Yamanashi Prefecture, and Kamishihoro Town, Hokkaido, and other locations, covering a total distance of 1,730 km. Based on the demonstration tests conducted to date, the two companies have come to the conclusion that AirTruck will solve the logistics industry's problems in last mile delivery and become indispensable for people living in the area, leading to its mass production.

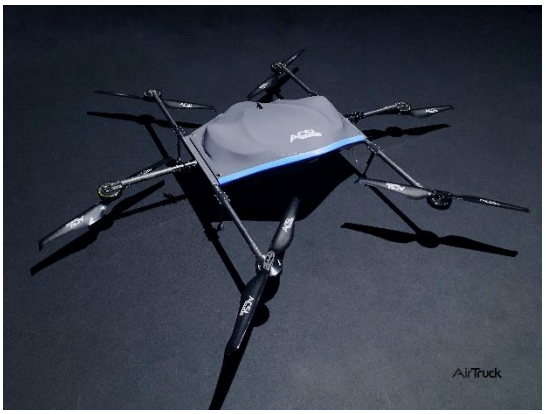
■ About Product Name

Today's logistics is supported by trucks, which are dedicated logistics vehicles. AirTruck was named in the hope that it will harmonize with existing trucks, which are dedicated logistics vehicles, as a dedicated drone that will build new logistics in the sky, a space of infinite possibilities.

AirTruck Logo

■Features of The AirTruck

1. 4D GRAVITY® center-of-gravity control technology for stable flight with less luggage sway.
2. Aerodynamic optimization through aerodynamic simulation and wind tunnel testing to achieve high flight performance.
3. Equipped with LTE communication, FPV camera, etc., Level 3 (out-of-sight flight in unmanned area) can be remotely controlled.
4. Payload increased from less than 3 kg to 5 kg compared to ACSL's previous drone (ACSL-PF2).
5. UX design that is easy for users to understand and handle, including a method for easily loading luggage from above.



AirTruck

Over-all Length：1.7m×1.5m

■Aircraft Overview

Product Name	AirTruck
Over-all Length	Unfolded：1.7m×1.5m Folded：1.0m×1.5m
Height	0.44m
Weight	10kg
Maximum takeoff weight	25kg
Payload	5 kg
Maximum flight speed	10m/s
Maximum flight time	About 50min
Maximum flight distance	20 ㎞
Maximum ascent・descent speed	Ascent：3m/s　Descent：2.5m/s
Hovering accuracy	Horizonal：±2.0m/s　Vertical：±1.5m/s
Maximum communication distance	No limitation within LTE signal coverage

※Subject to change at time of sale.

■Partner Comments

Mayor of Kamishihoro Town, Hokkaido Mitsugu Takenaka

This drone has already been demonstrated in Kamishihoro Town, where the population is aging and the birthrate is declining. We are convinced that drone logistics will become indispensable for those who have difficulty in accessing groceries and other necessities to lead sustainable and affluent lives.

Shuji Kawai, Executive Officer, Seino Holdings Co.,Ltd

Manpower shortages in the logistics industry are a growing risk to the sustainability of social

infrastructure. This drone can be expected to operate stably as a dedicated logistics machine, and we see it as a promising new technology to promote labor-saving and unmanned operations in the industry. We believe that this drone will be used nationwide by our company and the industry as a whole.

Masafumi Hirono, Leader, Drone Business Promotion Group, Business Development Department, Business Creation Division, KDDI CORPORATION

We believe that the performance, reliability and adaptability of the drone itself is an important factor in the social implementation of drones, and we are confident that AirTruck can be applied to more logistics use cases when combined with our Smart Drone Tools[*3].

※1　Medium-term management policy "ACSL Accelerate FY22"
https://ssl4.eir-parts.net/doc/6232/tdnet/2073279/00.pdf

※2　4D GRAVITY®※2
4D GRAVITY® is a structural design technology developed by Aeronext that improves the basic performance of industrial drones, such as stability, efficiency, and maneuverability, by optimizing the aircraft's center of gravity and equalizing the number of motor rotations regardless of posture, condition, or movement during flight. Aeronext has patented this technology and is managing it in its 4D GRAVITY® patent portfolio. The improved basic performance of 4D GRAVITY® will expand the possibility of using industrial drones in new markets and applications.

※3　Smart Drone Tools：https://smartdrone.kddi.com/tools/
The "4G LTE Package," which combines the flight operation management system, mobile communications, and cloud computing necessary for remote autonomous drone flight, can be combined with "options" that suit the customer's usage scenario. Smart Drone Tools will be provided by KDDI Smart Drone Corporation (Location: Minato-ku, Tokyo; President: Masafumi Hirono, scheduled to take office on April 1, 2022), which will take over KDDI's drone business as of April 1, 2022.
January 28, 2022 News Release
https://news.kddi.com/kddi/corporate/newsrelease/2022/01/28/5844.html

【ACSL Ltd.】
ACSL develops, manufacture, and commercialize industrial drones in order to realize labor-saving and unmanned operations in the industrial field. The core technology is in its proprietary autonomous control technology and industrial drones equipped with image processing and AI edge computing technology. Drones are already used in various fields such as infrastructure inspection, postal and logistics, and disaster prevention.
For more information: https://www.acsl.co.jp/en/

【Aeronext Inc.】

Aeronext, an IP driven R & D technology startup for next-generation drones, is a company that designs the sky through technology to create a world where the sky becomes a social infrastructure, is economized, and solves social issues through drones. Our core technology is 4D GRAVITY®, a unique structural design technology that improves basic drone performance such as stability, efficiency, and mobility of industrial drones by optimizing the center of gravity of the aircraft. In order implement this 4D GRAVITY® as standard equipment on industrial drones, we have constructed a strong patent portfolio and are promoting a partnership-based platform business for the 4D GRAVITY® license globally. Aeronext has also founded a subsidiary to implement the SkyHub® smart logistics and pursue drone delivery.

*For more information: https://aeronext.com/company/

Attention

This document is an unofficial translation of the timely disclosure on March 17, 2022 by ACSL and this is for reference purpose only. In case of a discrepancy between the English and Japanese versions, the Japanese original shall prevail.