



The K-racer X1 could provide a rapid cargo transport system unaffected by traffic conditions or obstacles | Photo source [Kawasaki Group](#)

[Innovation](#) > [Mobility & Transport](#) > [An autonomous cargo helicopter for last-mile deliveries](#)

## AN AUTONOMOUS CARGO HELICOPTER FOR LAST-MILE DELIVERIES

● MOBILITY & TRANSPORT

### The helicopter is accompanied by a robot that completes the delivery without human intervention

**Spotted:** Kawasaki has recently completed proof-of-concept testing of its un-crewed vertical take-off and landing (VTOL) cargo transport helicopter – the K-Racer X1. Built using the supercharged 1,000cc engine from Kawasaki’s own Ninja H2R hyperbike, the drone helicopter comes complete with a robotic delivery system.

The huge drone is able to transport a 100 kilogramme payload. It is designed to rise vertically on a helicopter-style top rotor, but instead of a tail rotor to balance the torque, the K-Racer uses two forward-facing props mounted at the end of stubby wings. These provide forward propulsion, while the wings add lift. Kawasaki has not yet specified the flight speed.

A video released in November 2021, shows the prototype K-Racer in flight. The idea is that an automated delivery robot will be loaded with cargo by a human worker or autonomous robots before being rolled onto a cage that sits beneath the helicopter. The loaded VTOL will then fly autonomously to a preset destination. On landing, the delivery bot disembarks and handles the ‘last mile’ delivery autonomously. Kawasaki is working on larger rolling modules that can integrate with other robotic systems in factories and delivery centres to make the entire process completely autonomous.

In a press release, Kawasaki said that the system is being developed in response to ‘labour shortages in the logistics industry and other challenges faced by society,’ adding that the company hopes to realise, ‘a rapid cargo transport system that is not affected by road-traffic conditions or topographic features such as seas, mountains and rivers, and reliable logistics services to locations deep in the mountains or on remote islands.’

The COVID-19 pandemic has served to further accelerate the shift from in-person shopping to delivery. In order to gain new efficiencies in deliveries, these are likely to be increasingly made using autonomous systems. At Springwise, we have highlighted recent innovations in this space, including [drone delivery](#) of food and an insulated [food delivery pod](#).

Written By: Lisa Magloff

10th January 2022

Website: [robotics.kawasaki.com](https://robotics.kawasaki.com)

Contact: [kawasaki-corporate.com/contact](https://kawasaki-corporate.com/contact)

## **Takeaway:**

We have all been reading about the current shortage of delivery workers – driven by COVID-19, the 'great resignation', poor pay and conditions in the industry, and other factors. However, Japan is also looking at a longer term worker shortage, as its population ages and shrinks. In 2021, around 29 per cent of Japan's population was aged 65 years or older, accounting for 13.6 per cent of the country's workforce. And this trend is set to continue. This means that robots will be needed to take over a lot of the labour busywork, meaning that a fully autonomous system that can handle the full range of logistics—from first mile to last—is not a luxury but a necessity.