



# CONNECT

## Flying helpers - drones support medical care

### Background

Wingcopter develops drones for a specific purpose - to provide medical care in emergencies or other shortages. Founded in 2017, the company focuses on societal needs and challenges through advanced, easy-to-use technology. Thanks to patented tilt rotors and aerodynamic design, the drones promise weather resistance, reliability, fast transport times and unrestricted control over the flying object. Furthermore, the safety of the transport is ensured by a large number of cameras with special perception systems, and artificial intelligence detects risks in real time and, if necessary, flies around them with spontaneous evasive maneuvers.

### Flying helpers - how drones support medical care

Berufsverkehr, verstopfte Straßen, Staus durch Baustellen oder Unfälle sind gängige Probleme. Rush hour traffic, congested roads, traffic jams due to construction sites or accidents are common problems and do not stop at medical care. But what do you do when you need to get medical care faster? What alternatives exist to conventional transport routes? Drugs, laboratory samples, blood reserves and even medical equipment such as defibrillators can recently be transported to their destination much faster thanks to drones specially developed for medical purposes, thus saving lives.

According to a study, more than 50,000 people in Germany and around 275,000 people in Europe are affected by cardiovascular arrest every year. Fast action and an immediate start of resuscitation measures are essential. The resuscitation register shows that only 40% of Germans are up to the task before the rescue service arrives. The number of survivors of cardiovascular arrest currently averages just 10%. Fast, effective action is the difference between life and death, because immediate resuscitation and defibrillation can increase the chance of survival up to 70%!

In the future, automated drones will be used to deliver medicines from pharmacies to hospitals. Medicines are to be transported in special transport boxes that are air-conditioned and meet specific hygiene requirements for medicines. The German Federal Ministry of Health also supports drone transports in the medical sector. The primary focus is on the transport of defibrillators, blood samples and other supplies.

The goal of drone operations is a fully automated flight route from take-off to landing, in which external parameters are also included both statically (during planning) and dynamically (during flight). Such parameters include local weather data, battery and performance data, temporary route obstructions



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due to construction measures or the avoidance of routes where larger crowds would have to be flown over. Alternative routes are also being debated, as is the distinction between day and night routes.

In the USA and Sweden, providers such as Zipline, Matternet and Everdrone are leading the way, but the useful flying objects for medical purposes are also establishing themselves in Germany. The company Wingcopter develops drones that can cover distances of up to 110km, fly under the radar and reach their destination reliably, quickly and safely in any weather conditions. With a speed of up to 144km/h, the W198 drone is capable of carrying loads of up to 6kg. The provider also promises maximum route efficiency through the drones' triple drop feature, which allows 3 packages to be transported simultaneously with a maximum weight of 5kg and deposited at different delivery locations. For delivery, the drone changes its flight mode to hover mode and gently ropes down the corresponding parcel. Using special control software and the high degree of autonomy of the drones, it is also possible to fly and monitor up to 10 drones simultaneously without any further effort.

The cost of acquiring a drone suitable for medical purposes is on average around €60,000. In addition, the cost of a launched drone is about 3-4€ per kilometre flown, so they would usually be cheaper and more environmentally friendly than transport by ambulance. There is also the possibility of easier and more efficient access to remote areas.

Nevertheless, many are sceptical about electronically powered drones. Questions about reliability, the surveillance aspect and flight safety are highlighted.

Have the flying helpers piqued your interest, or do you need more information material? We would be happy to provide you with further insights or put you in touch with the company. arcoro CONNECT links innovative trends with people and helps to understand tomorrow's knowledge today.

| COMPANY                             | LOCATION        | WEBSITE   | FIELD OF EXPERTISE      |
|-------------------------------------|-----------------|---|-------------------------|
| Wingcopter GmbH                     | Germany         | <a href="https://wingcopter.com/">https://wingcopter.com/</a>   | medical drone transport |
| GermanCopter GmbH                   | Germany         | <a href="https://www.germancopters.de/de/">https://www.germancopters.de/de/</a>   | medical drone transport |
| Falck A/S                           | Denmark         | <a href="https://www.falck.com/">https://www.falck.com/</a>   | medical drone transport |
| ZipLine Inc                         | USA (CA)        | <a href="https://flyzipline.com/">https://flyzipline.com/</a>   | medical drone transport |
| Flirtey                             | USA (NV)        | <a href="https://www.flirtey.com/">https://www.flirtey.com/</a>   | medical drone transport |
| TU Delft                            | The Netherlands | <a href="https://www.tudelft.nl/io/onderzoek/research-labs/applied-labs/ambulance-drone">https://www.tudelft.nl/io/onderzoek/research-labs/applied-labs/ambulance-drone</a> | medical drone transport |
| Throttle Aero Space Systems Pvt Ltd | India           | <a href="https://www.throttle-aerospace.com/">https://www.throttle-aerospace.com/</a>   | medical drone transport |
| Skyport x Swoop Aero                | Australia       | <a href="https://skyports.net/">https://skyports.net/</a><br><a href="https://swoop.aero/">https://swoop.aero/</a>  | medical drone transport |



We would also be happy to establish a direct contact with an expert in the field of medical drone transport and logistics. Remarkable developments, inspiring start-ups and strong visions - we have researched some international opinion leaders for you:

| INDUSTRY EXPERT       | JOB POSITION  | FIELD OF EXPERTISE             |
|-----------------------|---|--------------------------------|
| Tom Plümmer           | CEO at Wingcopter GmbH  | Drone transport                |
| Prof. Dr. Markus Holz | Professor of Logistics and Aviation Management at Anhalt University of Applied Sciences | Logistics & Traffic Management |
| Jackie Dujmović       | Co-founder & CEO at Hover UAV   | Drone transport                |

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