

Transporting petrochemical samples by air: ADLC makes drone logistics scalable

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From student project to pioneer in European drone logistics

What if the fastest route between two points is not by road, but through the air?

The founders of ADLC spotted this opportunity several years ago, when Europe started developing a regulatory framework for drone traffic. What began as a student project grew into the only B2B drone transport operator in the Benelux. Today, the company uses drones to transport petrochemical samples in the Port of Antwerp and is among the global pioneers in professional drone logistics.

But there is much more behind this innovation than drones alone. Safety, compliance, monitoring, cybersecurity, and reliable digital infrastructure are just as important. That is why ADLC is working with partners such as Sirris on the next generation of safe and scalable drone operations.

The challenge: enabling drone transport under strict regulations

‘When the regulatory framework was being developed at European level, we immediately saw the potential as students at Vlerick Business School,’ says Grégoire Moreau, CTO and co-founder of ADLC. *‘The playing field was opening up, but there were no players yet. For our final project, we therefore investigated what it would take to become a drone service provider. Our solution proved so convincing that we went on to establish ADLC.’*

The academic exercise quickly developed into an ambitious business venture addressing a number of complex challenges. One of these was the strict safety rules and complex aviation requirements applying to the transport of hazardous petrochemical cargo. ADLC not only had to demonstrate that the technology worked, but also that the entire operation could be organised safely, reliably, and in a controlled manner. Moreover, the regulations continued to evolve while the company was developing and testing its technology.

Those efforts paid off. In June 2024, ADLC received the necessary approvals from the relevant authorities. Since October 2024, the company’s drones have been transporting petrochemical samples for several customers in the Port of Antwerp.

Software makes drone logistics scalable

Despite its unique position, ADLC does not describe itself as a traditional drone company. What sets it apart is not the hardware, but the way drone operations are organised and managed. *‘We don’t build drones ourselves,’* says Moreau. *‘Our main differentiator is our software. It supports ordering, logistics, flight operations, and monitoring. This allows us to work more efficiently and achieve more with the same team.’*

ADLC therefore developed its own digital environment to:

- Support logistics processes
- Control drone flights
- Centralise monitoring
- Increase operational efficiency

This software provides the foundation for efficiently managing growing transport volumes without a corresponding increase in staff workload.



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Automated monitoring makes drone operations scalable

One of the main innovations ADLC is currently working on is the automation of flight monitoring. In professional drone operations, a pilot is currently still responsible for monitoring the flight.

'Once all the settings and the destination have been entered for a flight, the drone is ready for take-off,' says Moreau. *'The pilot monitors the flight and intervenes in situations such as bad weather or a potential conflict. We are now working on systems that automatically alert the pilot when a potential problem arises.'*

This automation is crucial to the further growth of drone logistics. Together with Sirris, ADLC is therefore working within the Sa4CPS project on systems that detect anomalies, flag potential collisions, process GPS and flight data, and identify risks more quickly.

Sirris also supported the security aspects of the flight operations control system. This included:

- An assessment based on ISO 27001 and ISO 27002 principles
- Authentication guidelines
- Cybersecurity recommendations
- Advice on secure system architectures

This approach significantly reduces the workload per flight. *‘A pilot is still required, but automated monitoring allows one pilot to manage multiple flights,’* Moreau explains.

The collaboration between ADLC and Sirris goes beyond software and monitoring. They also worked on specialised cargo boxes for transporting petrochemical samples. These containers must not only be practical, but also comply with stringent safety requirements. The work therefore covered areas including:

- Impact resistance
- Cargo stability
- Safety during transport
- Risk mitigation in the event of incidents

International ambitions for drone logistics

ADLC is now firmly focused on international growth.

‘We are already among the global leaders in B2B drone logistics,’ says Moreau. *‘That is attracting international interest, especially now that we have the necessary licences to fly in European airspace.’*

In addition to its activities in Belgium, ADLC has now opened an office in Singapore. Discussions are also under way with partners in countries including Canada. These international ambitions illustrate how quickly the drone logistics market is evolving.

Drone logistics requires collaboration

ADLC’s story shows how drone logistics is gradually evolving from an innovative pilot application into a fully-fledged logistics service. Every safe flight relies on a combination of technology, operational expertise, compliance, cybersecurity, and reliable infrastructure.

By combining their expertise in drone operations, software, monitoring, and cybersecurity, ADLC and Sirris are developing solutions that are ready for the next step in industrial drone logistics. Their collaboration highlights that the future of drone logistics will be shaped not only by technology, but also by strong partnerships that bring together innovation, safety, and reliability.

Are you working on safe drone operations?

Are you developing applications involving drones, logistics, monitoring, or digital infrastructure? Sirris supports companies with expertise in cybersecurity, AI, digital innovation, and innovation projects.

Contact our expert

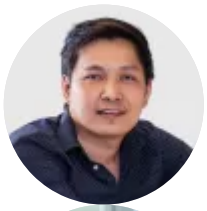


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