



# CargoKite

Emission-free micro cargo ships for smart & sustainable maritime logistics

## Our mission

We are dedicated to decarbonizing the shipping industry by offering emission-free oversea transportation at competitive prices.

## The shipping industry does not meet the requirements of modern logistics...



### High emissions & little sustainability

Maritime transports are steadily increasing and already cause **more CO2 emissions than all of Germany combined**. The UN is aiming for a **70% reduction** by 2050, but to date there are **no market-ready technologies** that could make that happen.



### No resilient & flexible supply chains

Ships are being built larger and larger to take advantage of **economies of scale**. Thus, **low service frequencies**, infrastructure needs, a **smaller selection** of navigable ports, **waiting times** of ships before port entry and **lack of resilience & agility** are having an increasingly negative impact on players in the logistics chain.



### Lack of digitalization & data collection

A lack of data collection and analysis **prevents confident and informed decisions from being made**. Poorly digitalized services also make **integration with landside logistics** difficult. Inefficiencies and lack of knowledge become ubiquitous.

## ...but our technology can change that.

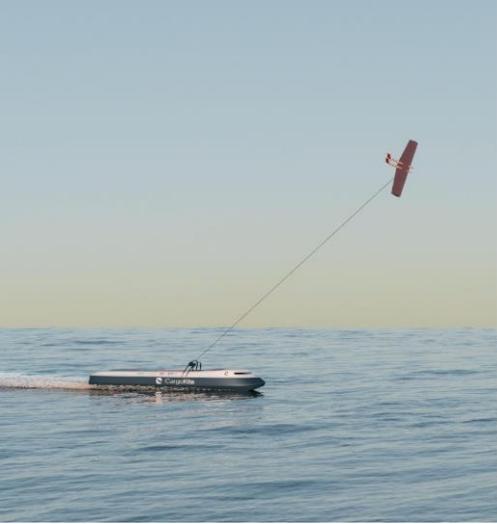
We tackle this problem with an innovative, **patent-pending, autonomous** micro-cargo vessel powered by **wind**. To best address each customer's individual supply chain, the ship is also embedded in a **state-of-the-art logistics software suite**.

The main propulsion of the ship is an **Airborne Wind Energy (AWE)** system, whose kite flies in 100 - 300m and pulls the ship. Combined with the **completely redesigned hull**, the energy of highly available and strong high-altitude winds can be transformed directly into forward motion of the ship. For harbor cruising, the kite lands on the ship and a small electric drive takes over. The AWE-system will be supplied by reliable partners, the core of our innovation lies in the ship hull and and above all the **control technology** built into the hull, which brings the interaction between kite and hull to perfection.

This enables wide approach angles against the wind, high maneuverability and higher speeds than conventional container ships. In addition, there is no need for a large energy storage system on board anymore.

The software suite includes several tools precisely tailored to the new vessel. The central **intelligent route planner** uses machine learning to calculate the optimal route and determine precise arrival times. Combined with the vessels' small size and full autonomy, this enables flexible point-to-point connections and just-in-time delivery of 200t cargo.





## What distinguishes us



Reduction of operating costs by up to 75%



Smooth integration into existing supply chains



Flexible & resilient supply chains



Point-to-point connection between any ports



Reliable prediction of travel times



Easy integration into existing port infrastructure

## About us

We are a Munich-based startup that aims to lead the shipping industry into a **sustainable and digital future**.

Our team combines the necessary disciplines, such as mechanical engineering, electrical engineering, software development, shipbuilding and business development, to be able to implement our ambitious goals. The team also stands out for its **vision, entrepreneurial foresight, technical skills** and **commitment**.

We are deeply anchored in the ecosystem of **UnternehmerTUM**, the largest European center for startup innovation, and the **Technical University of Munich**. This allows us to draw on their infrastructure, guidance, talent pool and experience in molding unicorns like Celonis and Liliium. Our **mentors** include industry and technology experts as well as experienced founders.



**Amelie Binder**

Software Development  
Funding



**Marcus Bischoff**

Mechanical Engineering  
Systems Integration



**Tim Linnenweber**

Business Development  
Finance



**Max Perschen**

Electrical Engineering  
Communications

## Think big, start small, scale fast

It is our goal to be able to go into **series production** with our zero-emission ship in **2027**. Our development is based on several years of research work and detailed simulations. In order to validate the functionality and calculated performance improvements, the **first prototype** is currently being built, for which initial test bench tests have already been completed. Based on this, the **MVP** will be developed as a vessel with a carrying capacity of approximately one container by mid **2023**. In an initial pilot project with customers, this is already to be used for freight transport. The complete ship will then be ready for series production by 2027.

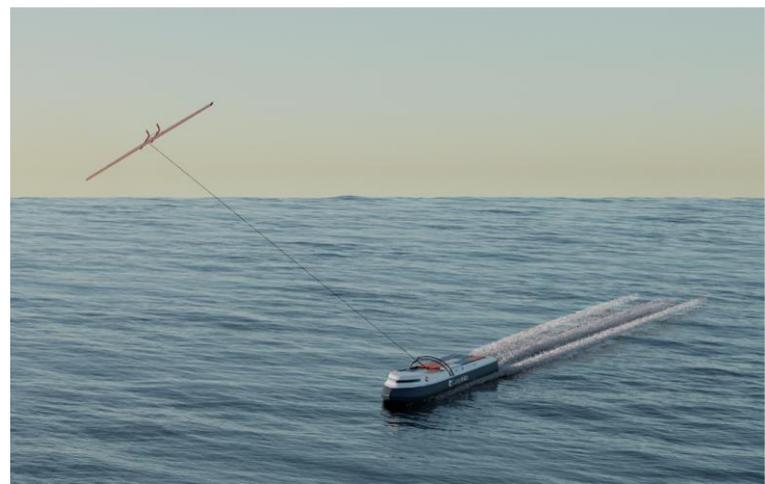
For our market entry, we operate as a shipping company and focus on a small number of routes and customers. Our target group consists of companies that want to eliminate emissions along their supply chain. In the long term, we plan to **enable smart and sustainable overseas transportation of goods worldwide**. Whether in the form of chartering/selling our vessels, logistics service or other depends to a large extent on the needs of our customers.

**Six expressions of interest** from potential customers and partners are a testament to the need for sustainable shipping as well as the confidence in our team and technology.

We are a potential gamechanger in a \$180 billion market and have correspondingly **high growth potential**. Our company is scalable, capital intensive and has a long-term focus. We strive for sustainable change in the marine industry for the benefit of global environmental protection.

## Shipping faces a wave of disruption

Let's lead global trade into a sustainable future together.



### Contact us!

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