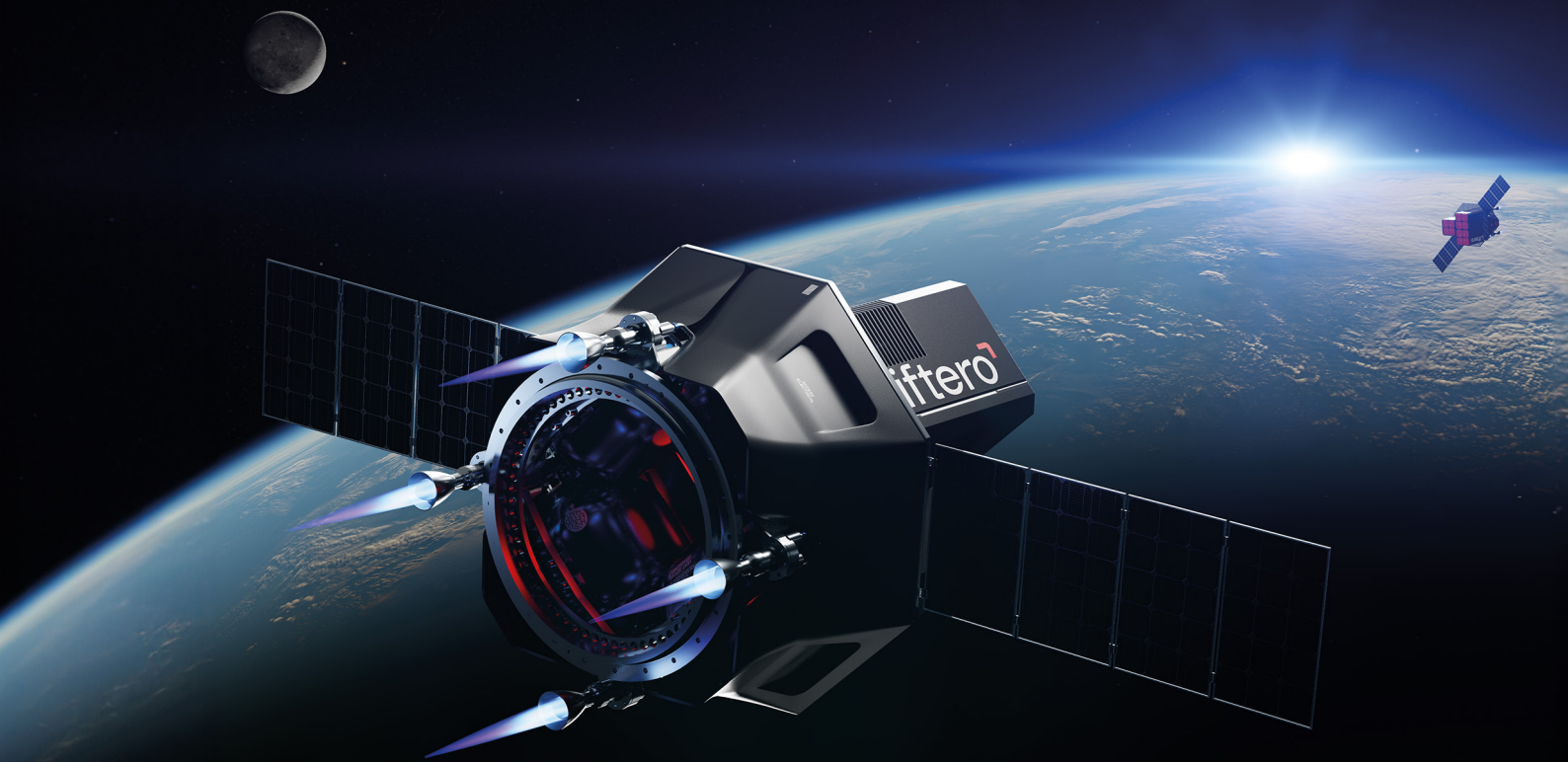


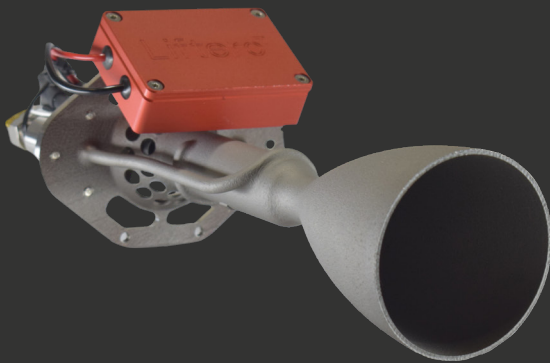
# Liftero<sup>7</sup>

MOVING  
FORWARD



## WHISPER GREEN CHEMICAL PROPULSION FOR SMALL SATELLITES

# WHISPER GREEN CHEMICAL PROPULSION



Whisper is a green chemical propulsion based on the nitrous oxide and propane, making it safe, non-toxic and readily available. The unique design of the combustion chamber is the key element behind Whisper, as it allows for rapid manufacturing and improved performance when compared to other green chemical propellants.

Liftero provides a range of thrust levels for Whisper thrusters, each equipped with its own distinct set of valves and control units. We offer a complete propulsion system, which includes tailored propellant tanks to fit your mission requirements. Furthermore, we provide an engineering model to ensure seamless integration and testing.

PROPERTY	WHISPER M10	WHISPER M1
Steady-state thrust	10 N	1 N
Steady-state specific impulse	290 s	270 s
Minimum impulse bit	600 mNs	30 mNs
Propellants	Nitrous Oxide + Propane	
Voltage	5 V and 28 V	
Power [ hold ]	6 W	
Tank Pressure	< 60 bar	
Operating temperature	5°C to +35°C	
Propellant storage density	0.765 kg/L	
Interface	CAN / RS485	

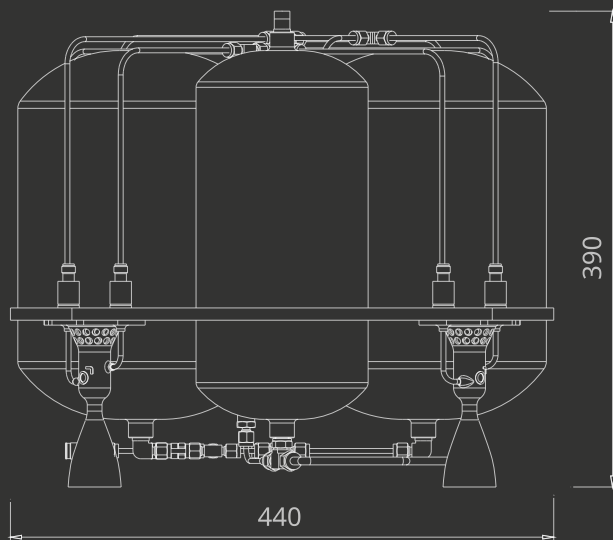
NON-TOXIC  
PROPELLANTS

NO PREHEATING

ITAR-FREE

HIGH-THRUST

# TECHNICAL SPECIFICATIONS



## SYSTEM CASE STUDY

$\Delta V$	450 m/s
Thrusters	4 x 10 N
Satellite total mass	100 kg

The satellite mission requires 40 kNs for a total mass of 100 kg, corresponding to a delta-V of over 450 m/s.

High thrust is needed to achieve a fast and efficient Hohmann transfer burns.

The propulsion system consists of four Whisper M10 thrusters and four propellant tanks. See an illustrative drawing of the system.

## SYSTEM PERFORMANCE

Total impulse	40.000 Ns
Specific impulse	290 s
Power [ spike ]	45 W
Power [ hold ]	30 W
Propellant mass	15 kg
Dry mass [ excl. propellant ]	11 kg
Dimensions	44 cm x 44 cm x 39 cm
Lead time	6 months

Each thruster is fitted with its own isolation valves and control unit, allowing independent operation and making the system redundant.

# ABOUT LIFTERO



Liftero is an orbital transportation company originating from Poland. We provide space logistics services and satellite mobility products.

Liftero is a space startup born from a deep passion for space and engineering. We view the ongoing revolution in the emerging space industry as a tremendous opportunity for humanity, and we're determined to play an active role in shaping the future space economy. While we're driven by our vision for space, we remain down-to-earth individuals, always seeking a balance between our work, passion, and daily life.

Our mission is to provide customers with the highest quality space mobility solutions, ensuring they can execute their missions with reliability and ease.

## SPACE LOGISTICS

Liftero offers an end-to-end launch and deployment service for small satellites using Motus, an orbital transfer vehicle tailored for nano- and micro-satellites. Motus is also capable of hosting technology demonstration payloads.

🔴 OTV DEMO FLIGHT IS SLATED FOR Q4 2025.

## SPACE MOBILITY

Liftero offers a green chemical propulsion system called Whisper. It comprises turnkey systems including thrusters, propellant tanks and control units. Whisper is also at the heart of our Motus orbital transfer vehicle.

🔴 HERITAGE IN Q1 2025.

# Liftero<sup>7</sup>

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