

Taking-off Hydrogen



Map of the Problematic

**Fight
Global Warming**

- Renewable fuel for more than transportation
- Mass adoption of renewable power beyond transportation
- Contribute to renewable intensive grid stability
- Wider power generation area on globe
- Flexible/fast scaling green energy distribution

Quieter cities

- Reduce overall noise
- Desaturate ground
- Smoother commuting
- Non-swarming vehicle fleet

**More efficient
Supply Chains**

- Reduce number of Offloadings
- Shortest-path Routing
- All terrain point-to-point Delivery
- Unlimited routes throughputs

**Nature/Health
Preservation**

- Reduce microparticles generated by tires, train bogies and brakes of all vehicles on the road
- Reduce air pollution from maritime and inland waterway transport
- Stop producing NOx
- Stop reliance on land-consuming / natural areas splitting infrastructures
- Fast/massive response to (ever dire) natural disasters

**H2-powered
+ fuel cells**

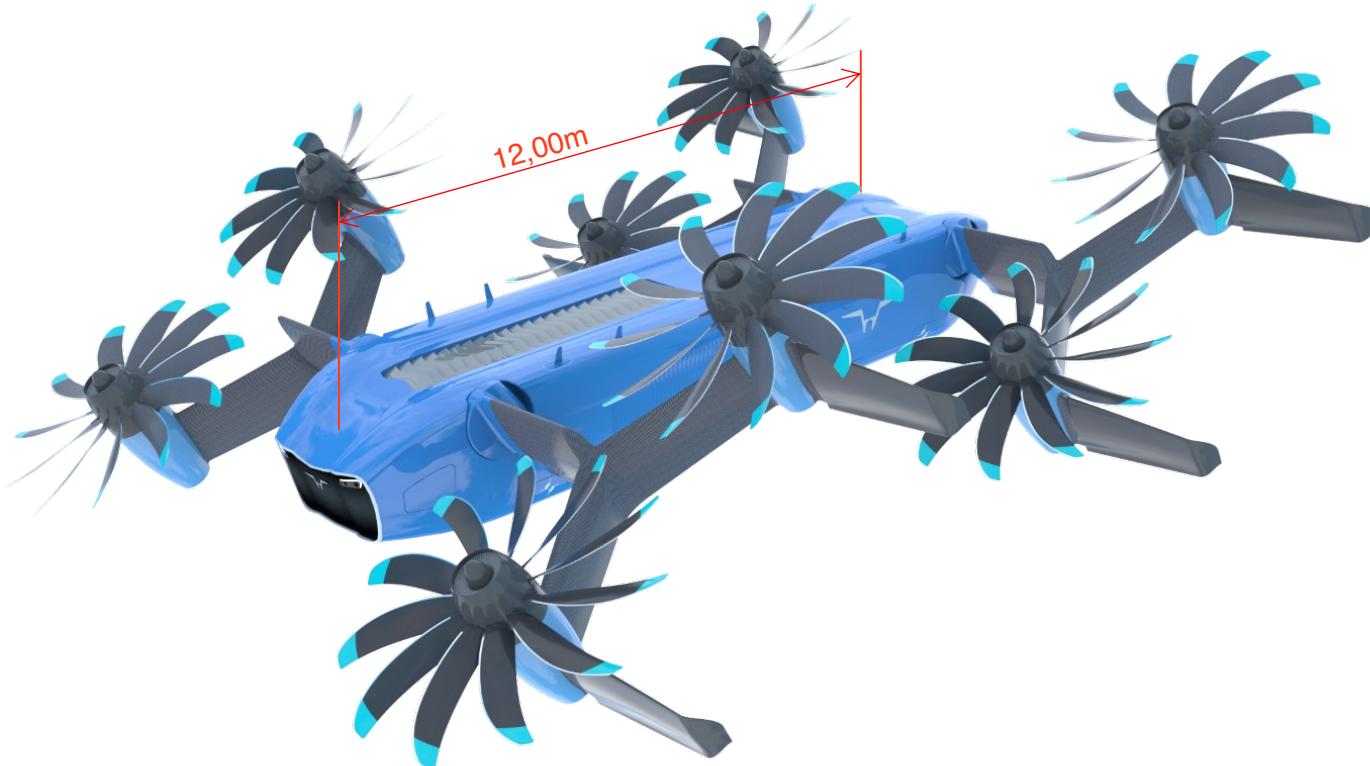
eVTOL

Heavy duty

> OCTOFAN

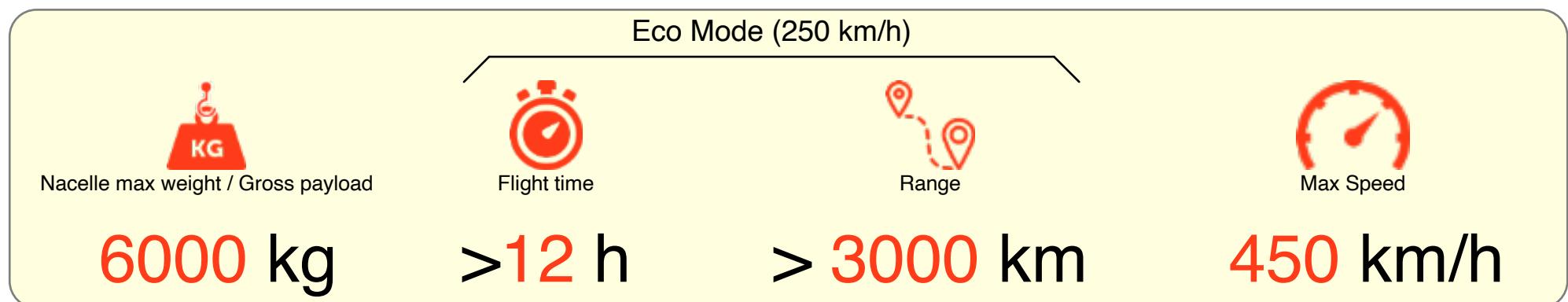
Solution#1 : Aircraft Outline

OCTOFAN is a piloted, semi-automatic or automatic, hydrogen powered aircraft, silent, vertically landing and taking-off (e-VTOL), consisting of a carrier lifting switchable mission-specific nacelles.





Solution#2 : Aircraft Specs



SUSTAINABLE

- Zero Emission (CO₂/NOx)
- Enabler for H₂ generation
- Enabler for H₂ distribution

HIGHLY MANEUVRABLE

- Vector thrust
- Enabler for H₂ generation
- Enabler for H₂ distribution

SAFE

- x8 Redundancy
- Engine overpower margins
- Can land in auto-rotation

SILENT

- No turbine/internal combustion
- Low RPM / high #blades rotors
- Direct drive (no gearbox)

DEPENDABLE

Availability **>90%** thanks to:
• Direct transmission
• Full electrical chain
• Swappable components

ALL TERRAIN

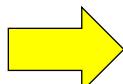
- VTOL
- Self-supporting
- self-manoeuvring
-> Land almost everywhere

VERSATILE

- Swappable payloads
- Wide operational range

TECH.LY MATURE

- No components with less than 30+ years of track record
- Assembling **TRL 7** techs



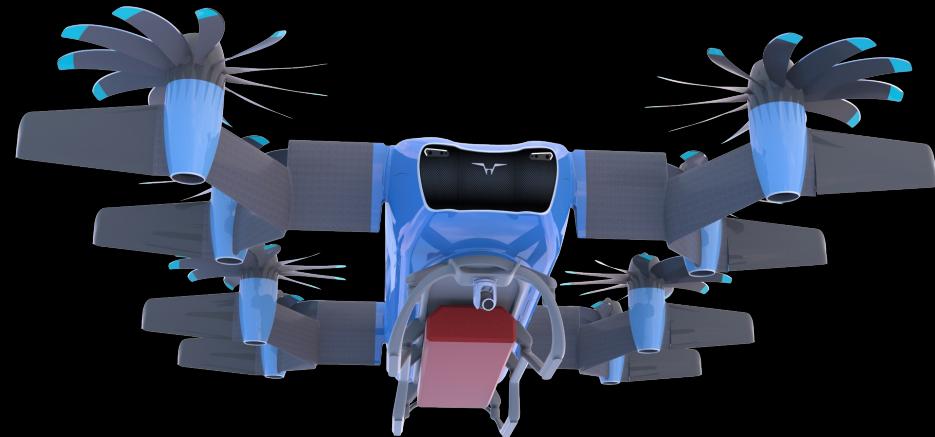
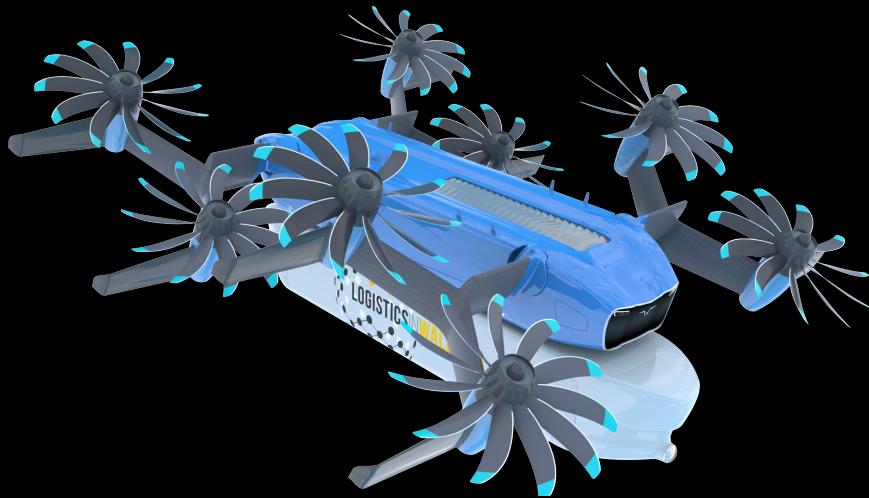
Fully equipped platform with unmatched technical specifications



Solution#3 : Aircraft Apps

FREIGHTER

25m³, 5 tons payload

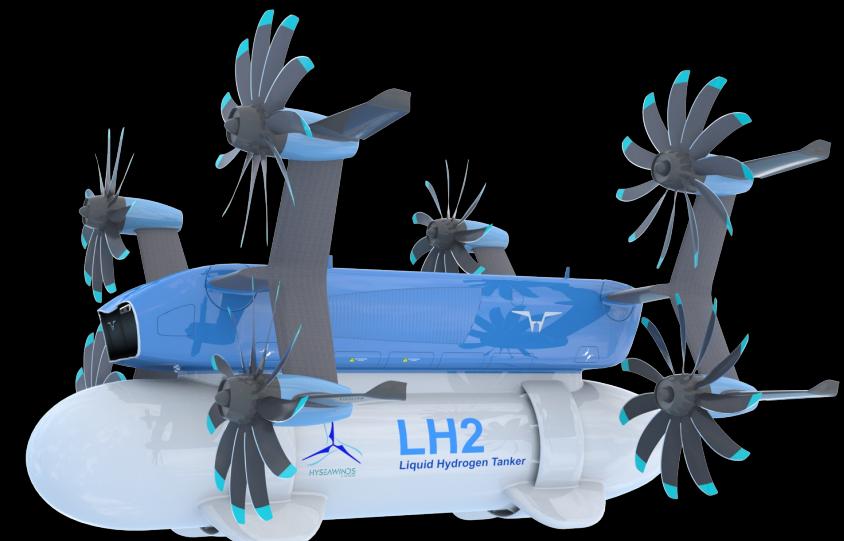
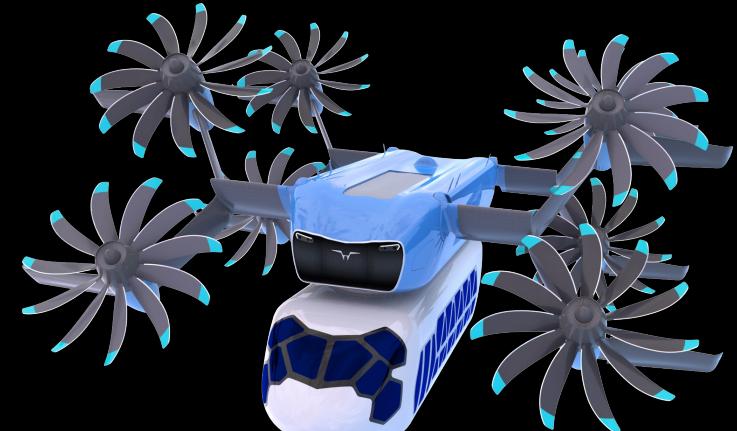


FIRE-FIGHTING (High-rise building/forest)

4 tons of water, high power diphasic water/air nozzle (x4 efficiency of Canadair)

BUS (Short-haul/intracity commuting)

24 confort seats

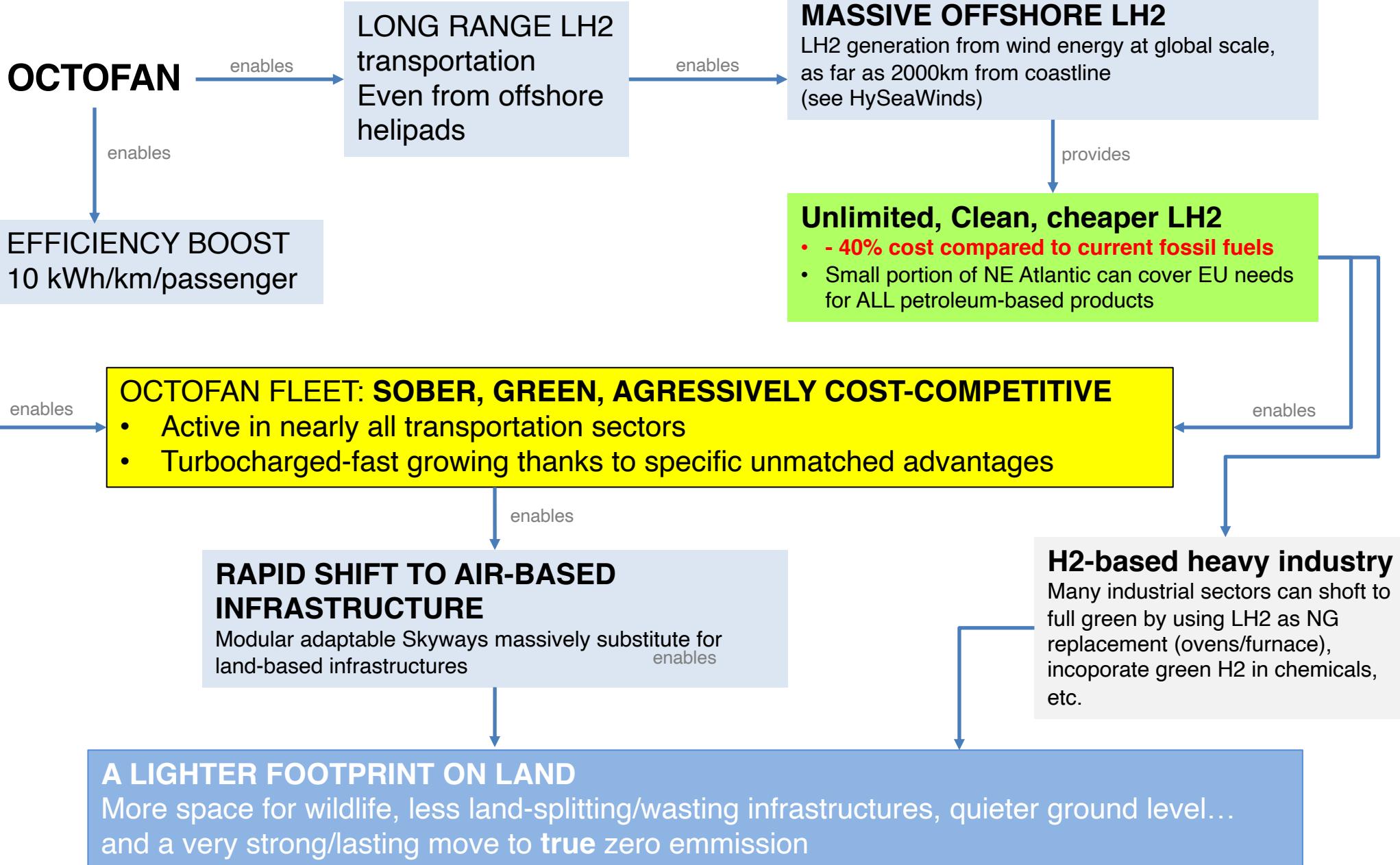


TANKER (Long range LH2)

Carries 5000kg of LH2



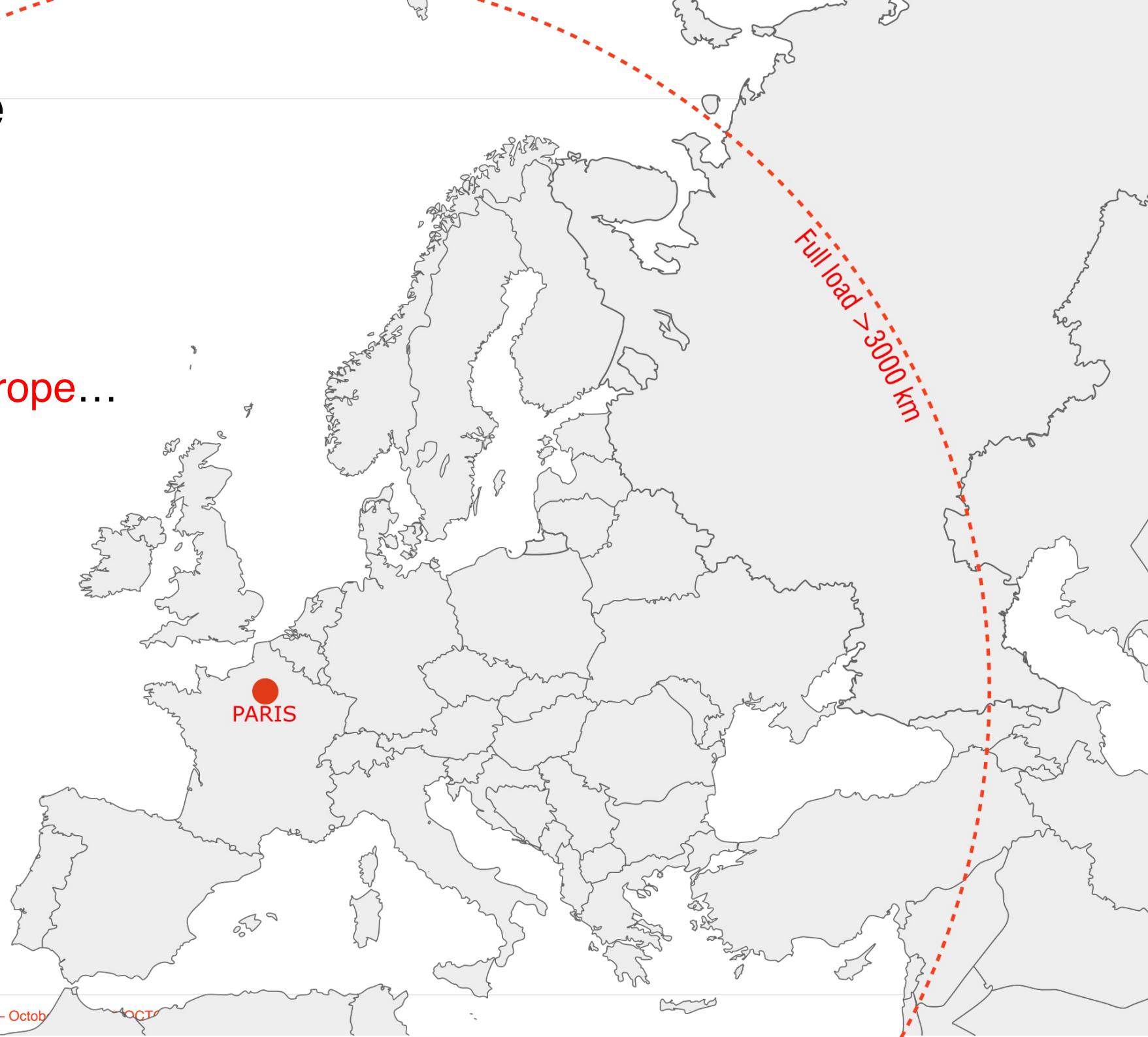
OCTOFAN IMPACT





Range

To serve
all of Europe...





Range

... all of North America ...

Vancouver

Seattle

San Francisco

Los Angeles

Québec

Montréal

Ottawa

New York

Washington

Full load
>3000 km

Full load
>3000 km

Full load
>3000 km



Range





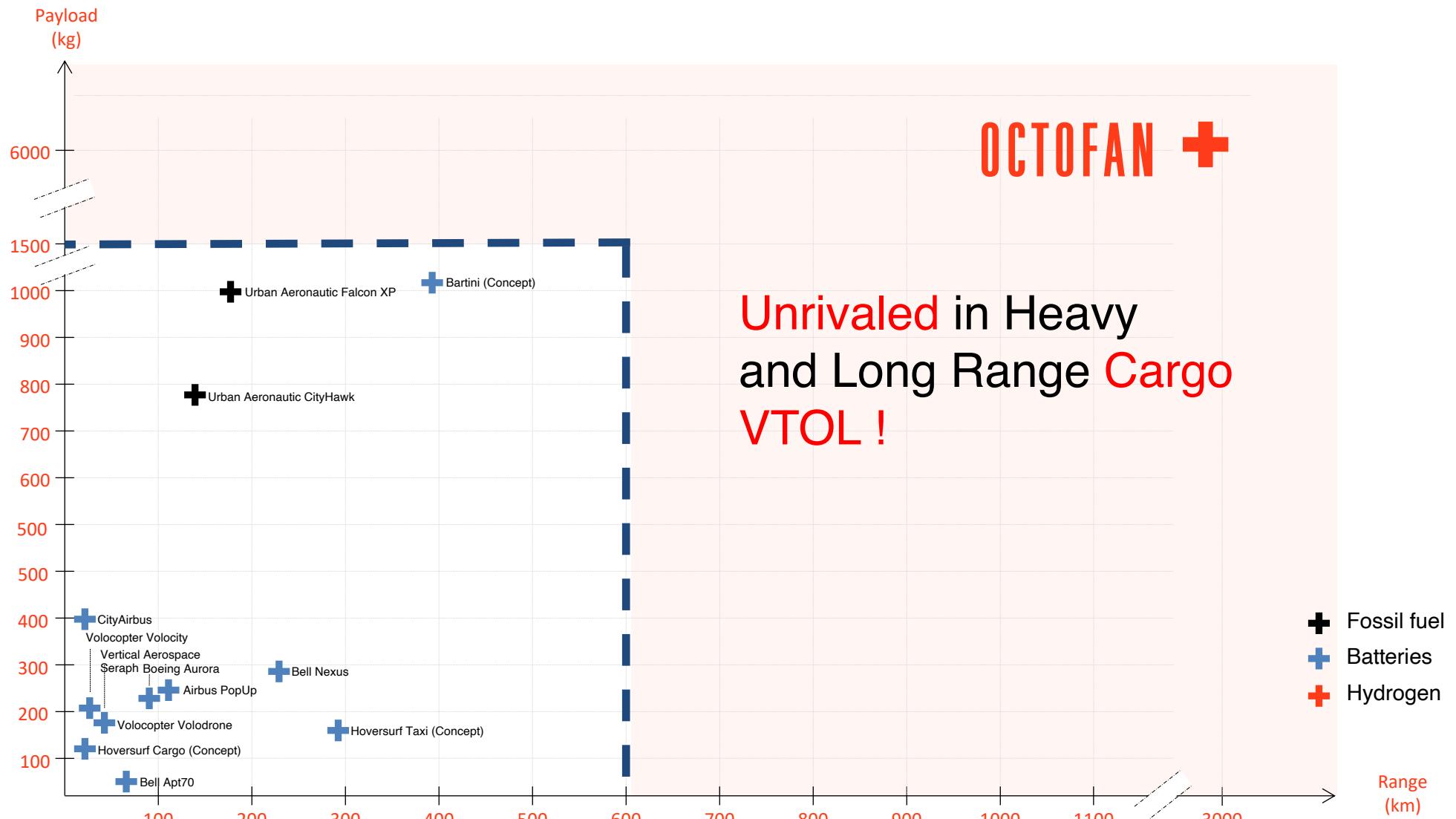
Range

... and all of
Africa.





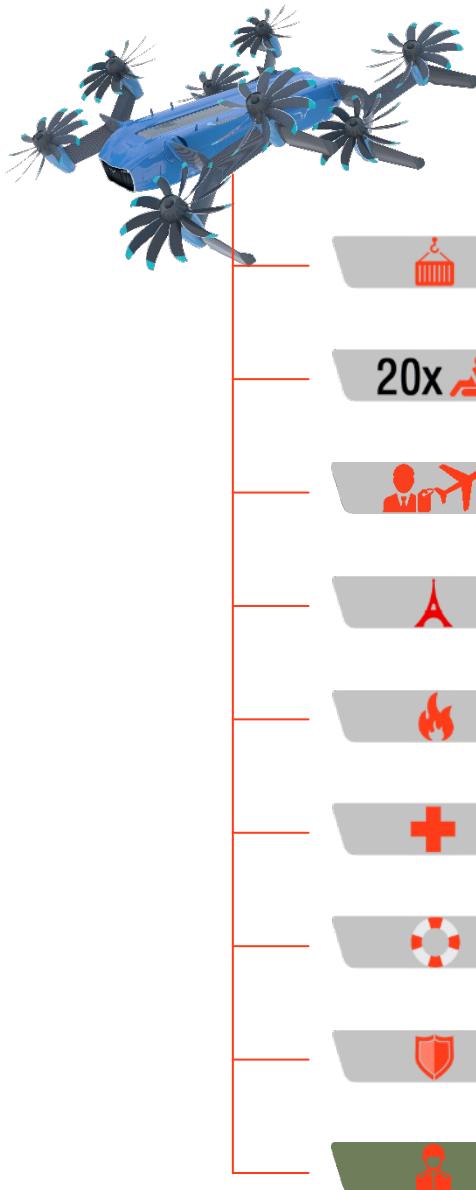
Competitors



Octofan stands in the Range/Payload zone where applications become profitable



Addressable markets



Switchable pods

Freight / Logistics

(Products with high added value, fresh products, speed and/or field constraints, etc.)

Public transportation

(intra- and peri-urban shuttles, city centre ↔ airport shuttles, saturated areas and capacity limits, etc.)

Business Aviation

Sight seeing, tourism, entertainment

Firefighting

(forest fires, industrial fires, urban fires with difficult access, etc.)

Sanitary evacuation and emergencies

Land/sea/mountain rescue missions

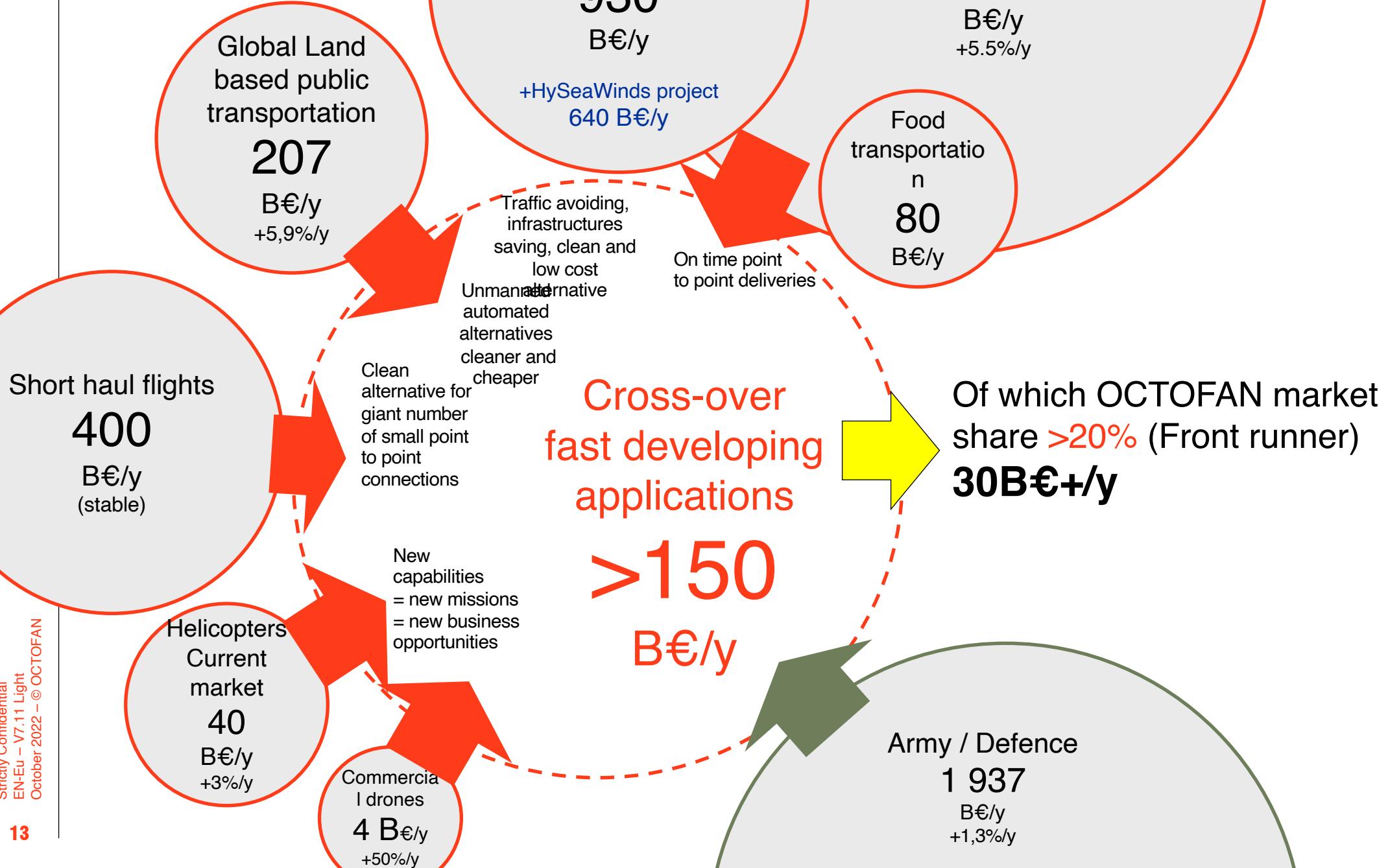
Civil protection

Army / Defence

(transport of troops and commandos, logistics, air-to-ground missile platform, air support, medical evacuations, mobile hospital, etc.)



Market





Market Traction

► Presentation / test of the concept with **8 targets**

➤ Civil Security / Firefighters



➤ Logistics company



➤ Territorial collectivity



➤ Rail transport



➤ Public Infrastructure Manager



➤ Normandie Aerospace



➤ Nextmove, European competitiveness cluster



➤ Normandie Energies



► Conclusion:

- ✓ OCTOFAN is part of the issues studied
- ✓ OCTOFAN meets expectations
- ✓ OCTOFAN could be deployed in the short/medium term



Revenue model

► Direct sales

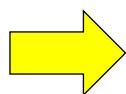
- FaaS (Flying as a Service): rental by the hour of use or by package/time
- Leasing solutions
- Carriers and specialized nacelles direct sales

► Ground force services

- Fleet deployment services (preliminary sizing studies, usage studies, fine grain pre-deployment studies)
- Maintenance
- Hydrogen refill services
- On site hydrogen production (selling back stations and operating them)

► Routing services

- Optimal live routes planification (embedded softwares, ground based optimization services)
- Safety re-routing

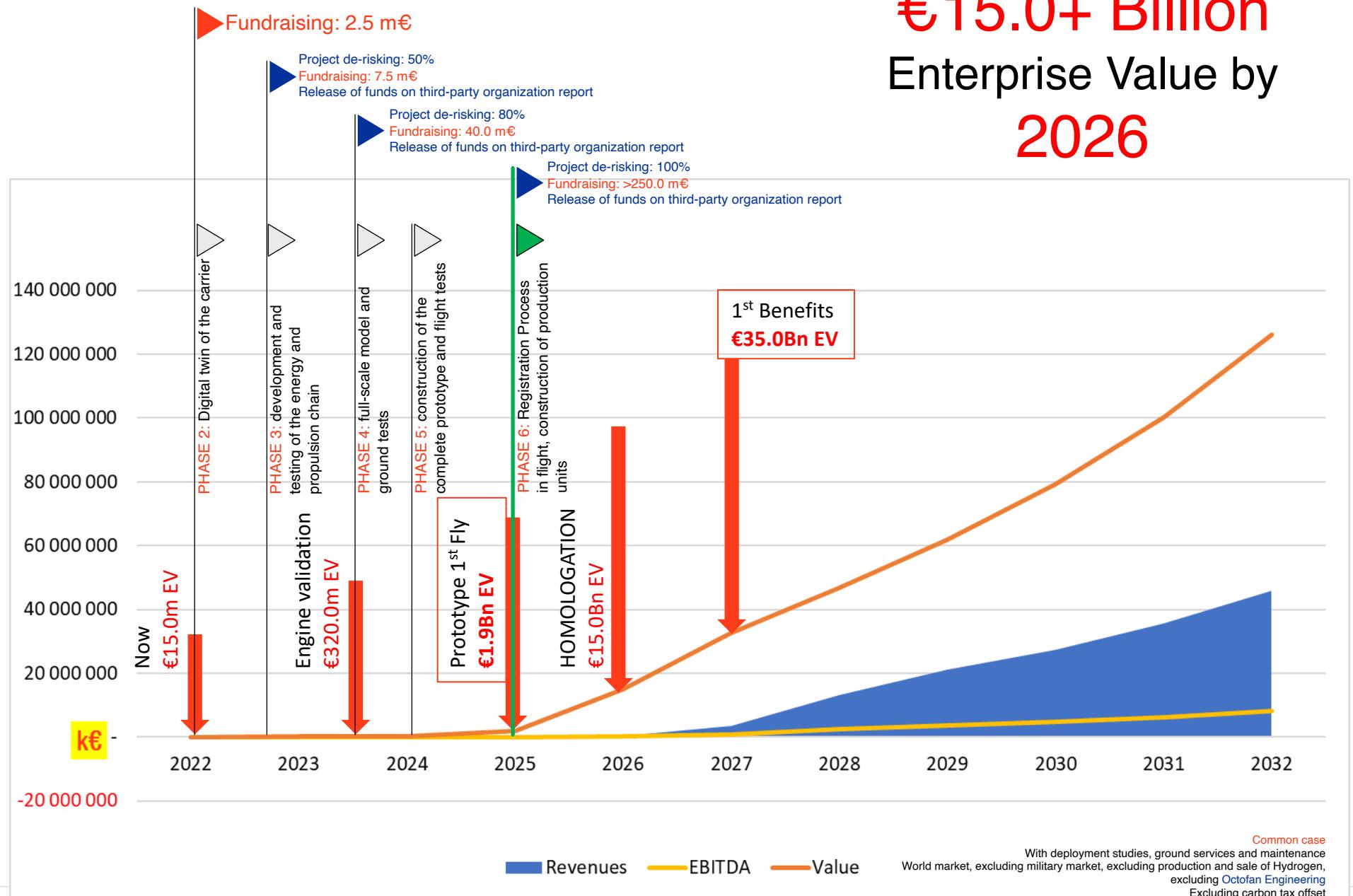


Captive full-fledged platform model enables multi-channels added-value along the whole chain



Enterprise Value Plan

€15.0+ Billion
Enterprise Value by
2026





The Team

Executive Managers

**Pierre CONVERT**

Partner & Founder; CEO, CTO
Engineer École Polytechnique, Corps des Ponts et Chaussées, founder of several companies in the fields of technology and energy.

**Shan JIANG**

Partner & Founder; Ground infrastructure & Art director
Architect and designer, founder of the SJA Architecture Agency, Vice-President of the French Association for Economic and Cultural Development of Shanghai.

**Pierre ROSSINI**

Partner & Founder; COO
Founder of several companies in various fields, former administrative director of a Luxembourg company, former IT and general services director, former deputy general secretary of an association with a political purpose.

Executive Advisors

**Laurent DAUDÉ**

Senior Consultant, Strategic & Operational Management Consulting, Cross-Functional Strategy Management.

**Jean-Luc DUFOUR**

Senior consultant, creation, takeover and corporate governance, finance and strategy consulting.

**Philippe LACROUTE**

Major Airline Captain, Reserve Colonel (Air Transport Gendarmerie), Vice-President of 'Aéro-Club de France'.

**Hélène PICHON**

Reserve Colonel (French Air Force)
Former Director of Institutional Relations of the CEPS-OING.

**Richard VALENTI**

More than 30 years of experience as a senior executive in leading financial institutions (Groupe BPCE, Generali France, BNPP Assurance, BNPP-Korean Asset Management, BNPP Australia).

Advisory Board

**Denis BAUPIN**

Senior consultant in public energy and mobility policy, former Vice-President of the French National Assembly, Engineer Centrale Paris.

**Emmanuel DAVIDSON**

Experienced aviation executive with international industry network, General Management, Business Development & Marketing.

**Michel EMELIANOFF**

Former CEO of Alcatel-Lucent Enterprise, Former President of a Cobham Group division (Aviation and embedded electronics), Engineer Centrale Paris.

**Jack KRINE**

Retired Colonel (French Air Force), former fighter pilot and air combat instructor in the French Air Force, former solo leader of the Patrouille de France, more than 20,000 flight hours on 42 types of aircraft, flight director of more than 400 air shows, Officer of the Legion of Honor, Officer of the National Order of Merit, Medal of Aeronautics.

**Sylvie PERRIN**

Lawyer in a famous international law firm
Founder of the think tank 'La Plateforme Verte'.

**Marc TEYSSIER d'ORFEUIL**

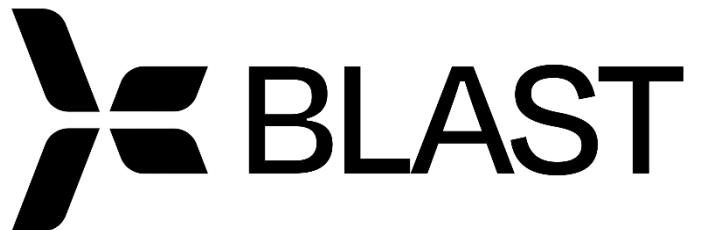
Reserve Colonel (Gendarmerie)
Founder and President of Com'Publics, Agency specialized in public affairs and institutional communication, Industrial Development Consulting.

**Jean-François MINNE**

Senior Communications Consultant, Former CEO and Board Member of International Advertising Groups (TBWA, DMM Masius-D'Arcy).



Strategic Partners



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edéis
'Allié des territoires'



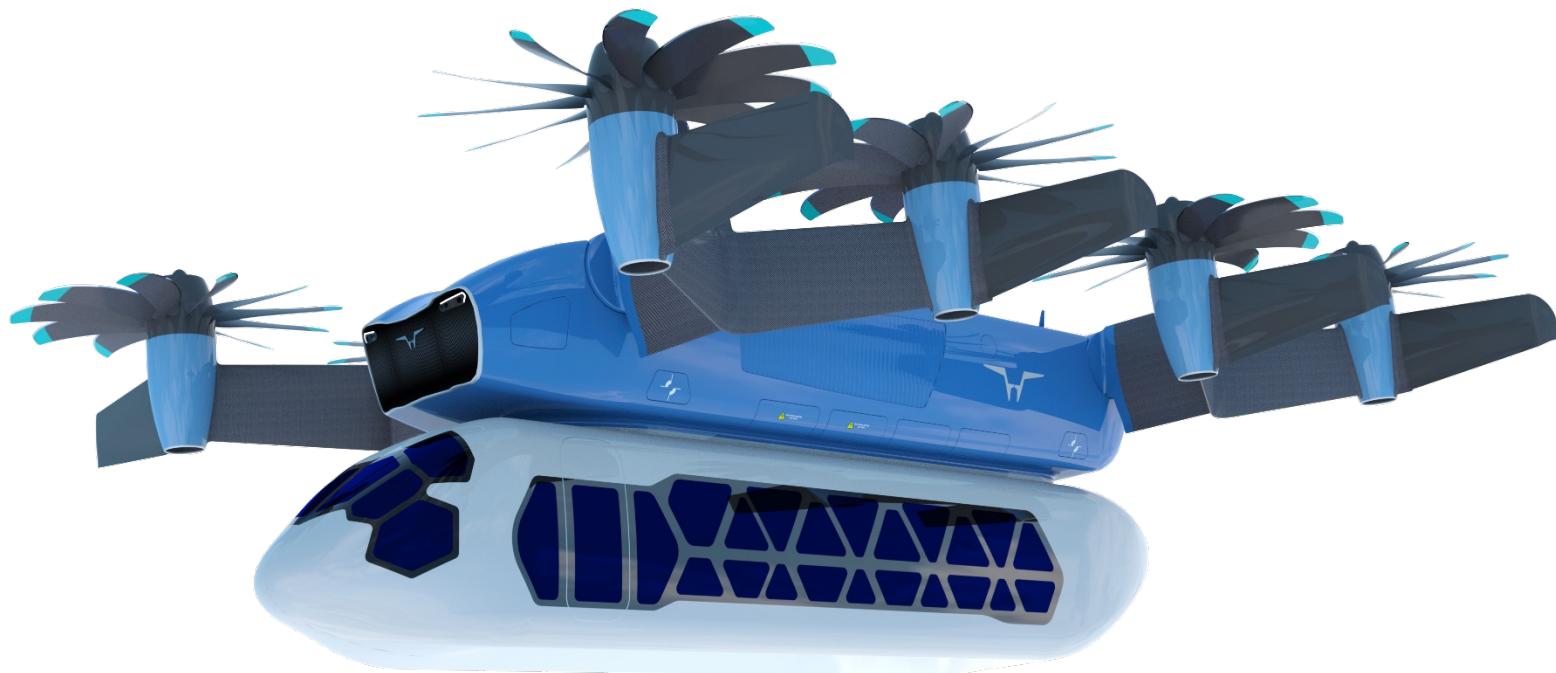
Vision

In **5** years

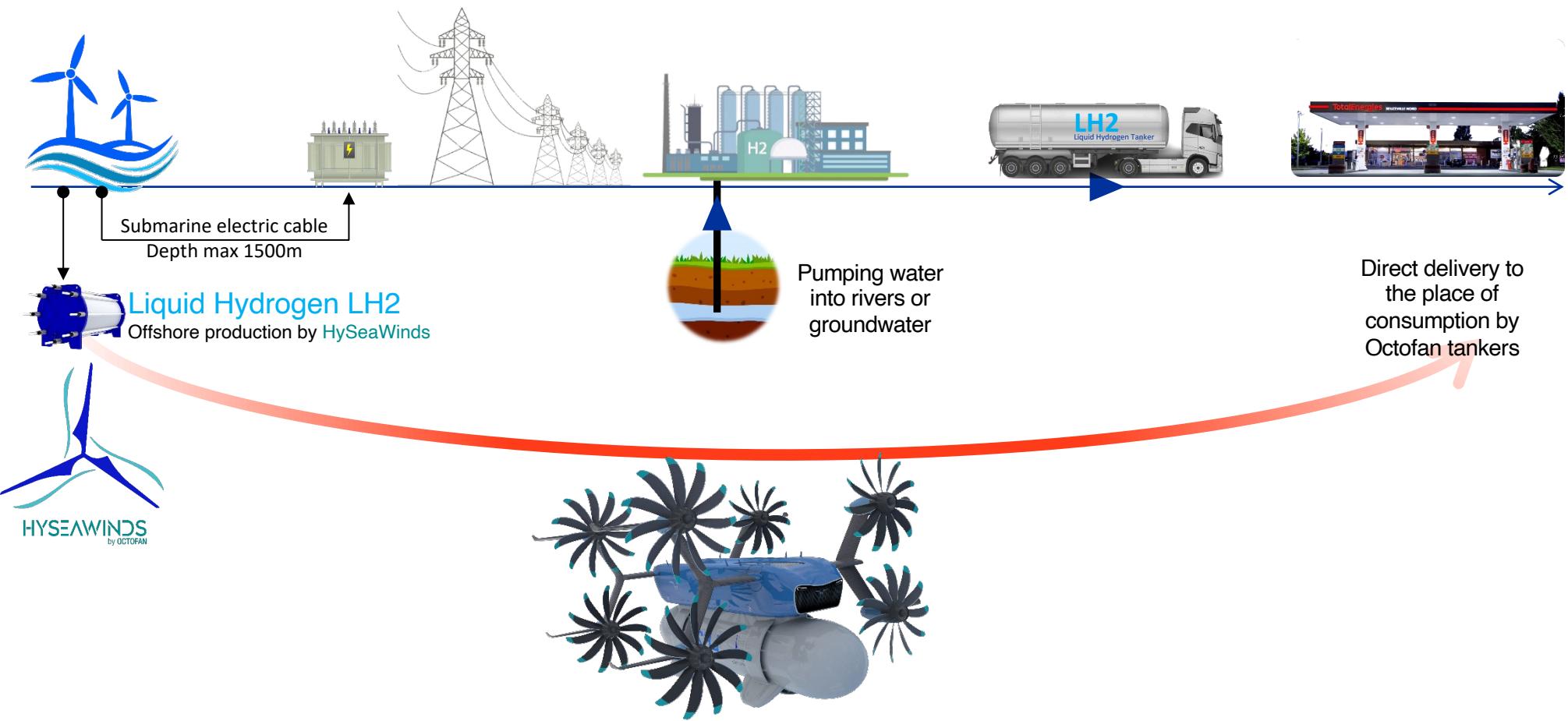
OCTOFAN
will be the
world's leading
manufacturer and operator of
heavy drones
in the fields of
freight transport,
passenger transport,
as well as in the fields of
public services



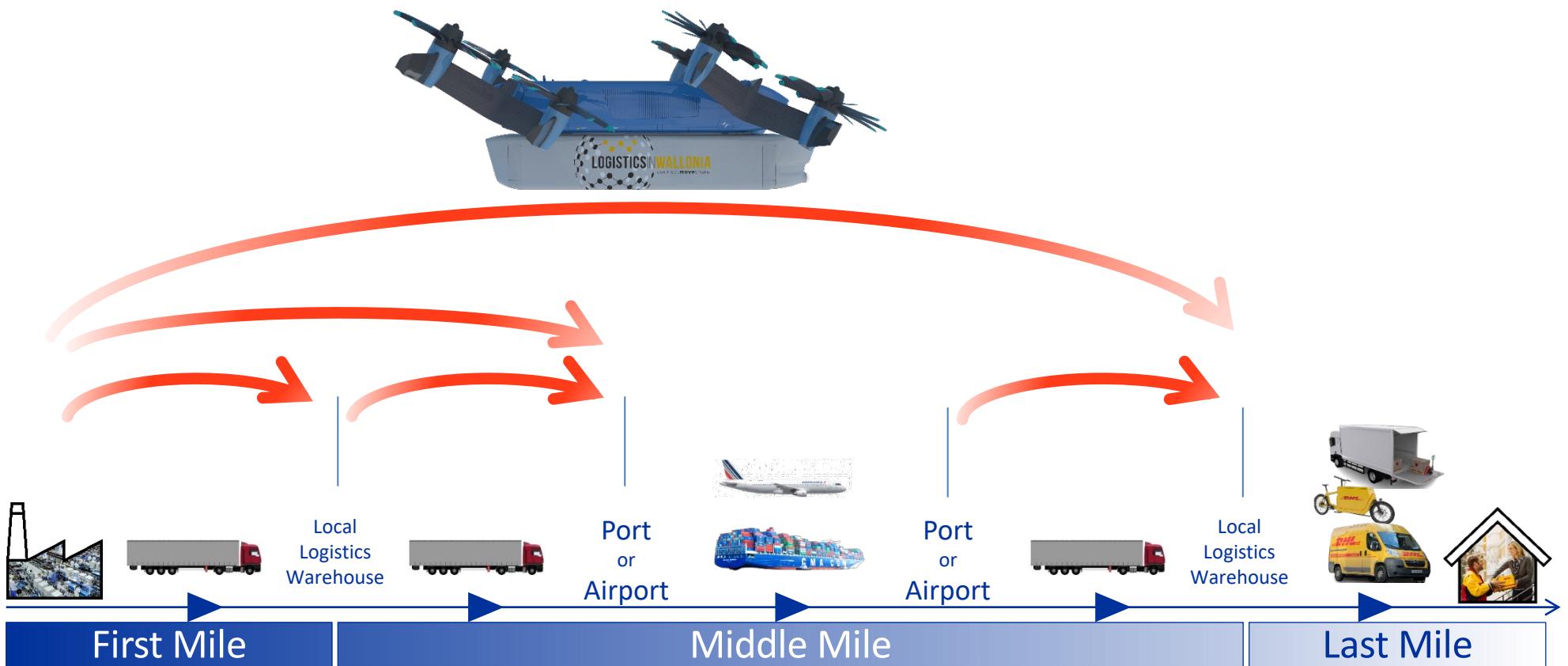
SOME USE CASES



HySeaWinds: Hydrogen production on the high seas and direct distribution at the point of consumption

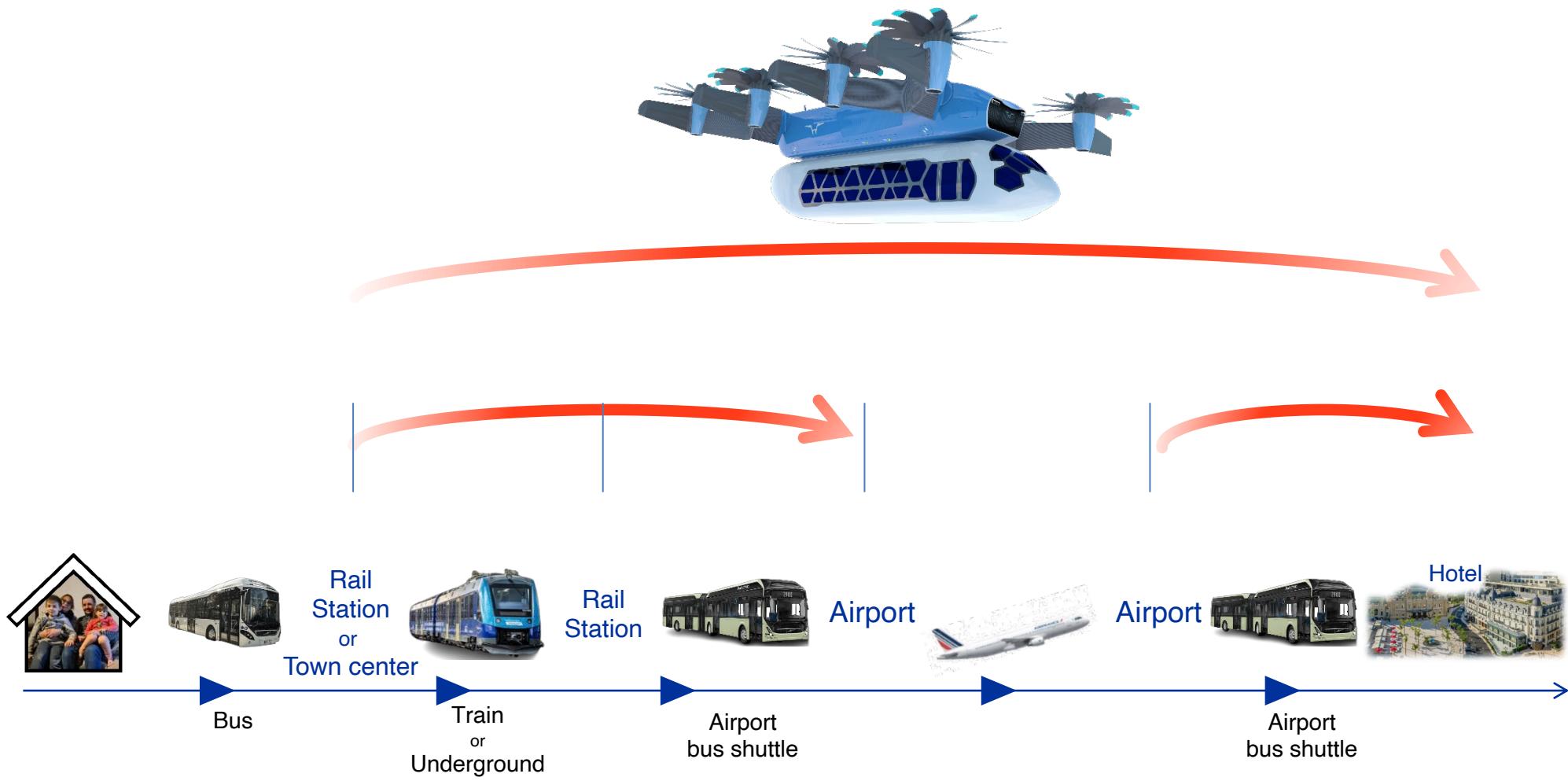


Air Cargo to expanded destinations, at lower cost





Air Shuttle: Accelerate your travels and commute smoothly





Fire fighting



Average rotation time: 8
min
Cost: < €1,000 / hour

Small bodies of water
Swimming pools, rivers, ponds,
etc.

Average distance 50km

Large body of water
Lakes, sea, great rivers,
etc.

Average distance 100km



Average rotation time: 17
min
Cost: ≈ €15,000 / hour





Emergencies / Sanitary evacuations



Emergencies at 450 km/h (280 mph) without traffic jams





OCTOFAN
www.octofan.com



Taking off Hydrogen

Every revolution of transportation
moves humanity forward