

ARTEMIS TECHNOLOGIES

Next generation decarbonised pilot boats that
deliver on exacting safety & performance
standards

John Cumming

Heritage of Excellence

Artemis Technologies (ATL) is a spin-off from the America's Cup team, Artemis Racing, and boasts a rich heritage steeped in innovation and excellence.

Passionately driven to challenge the status quo, ATL develops systems and solutions that solve our customer's challenges while minimising impact on the environment.

At the forefront of green maritime technology, we have invested over £250m in maritime R&D.

We're paving the way for a brighter, more sustainable future.



Our Mission

To help accelerate the maritime sector's transition to a greener more sustainable future.

Why Foiling?

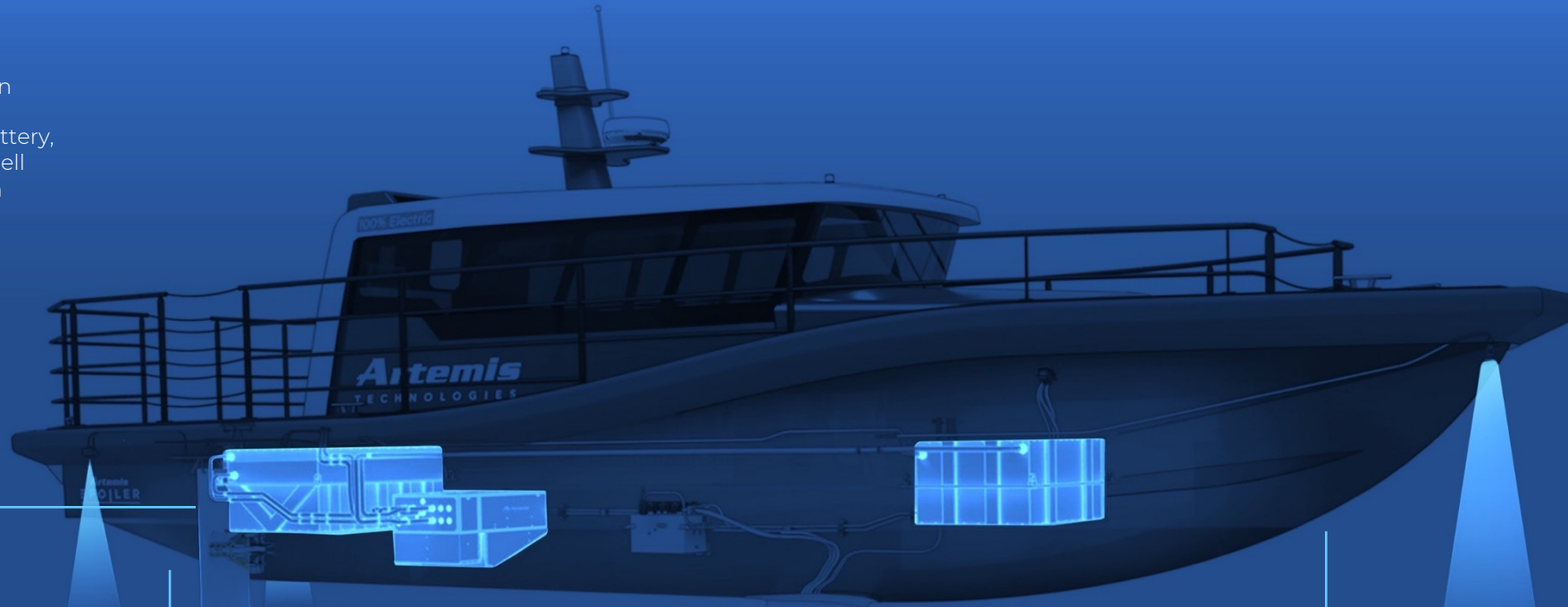
A solution for our times

- Increased energy efficiency
- Increased comfort
- Reduced wake
- Avoid speed restrictions
- Better for the environment
- OPEX savings



ENERGY

The system includes an Artemis Technologies 800V marinized EV battery, with a hydrogen fuel cell range extender option under development.



STEERING SYSTEM

Aft hydrofoil acts as a rudder to steer under propulsion, with thrusters, to assist in low-speed manoeuvres.

HYDROFOILS

High aspect ratio hydrofoils, with replaceable leading edges, that lift vessel out of the water reducing drag.

PROPULSION

Zero-emission propulsion provided by a self-cooled, ultra high power density, 97% efficiency electric drivetrain. Minimal service requirements.

FLIGHT CONTROL SYSTEM

Ride height of the vessel is managed by an autonomous flight control system.

eFoiler®

The Worlds First Commercially Viable, Zero Emission Propulsion Solution for High-Speed Maritime Transport.

Enables environmentally conscious operators to reduce their impact on nature in a safe and reliable way.

Our patented technology is built to last and is protected around the world.

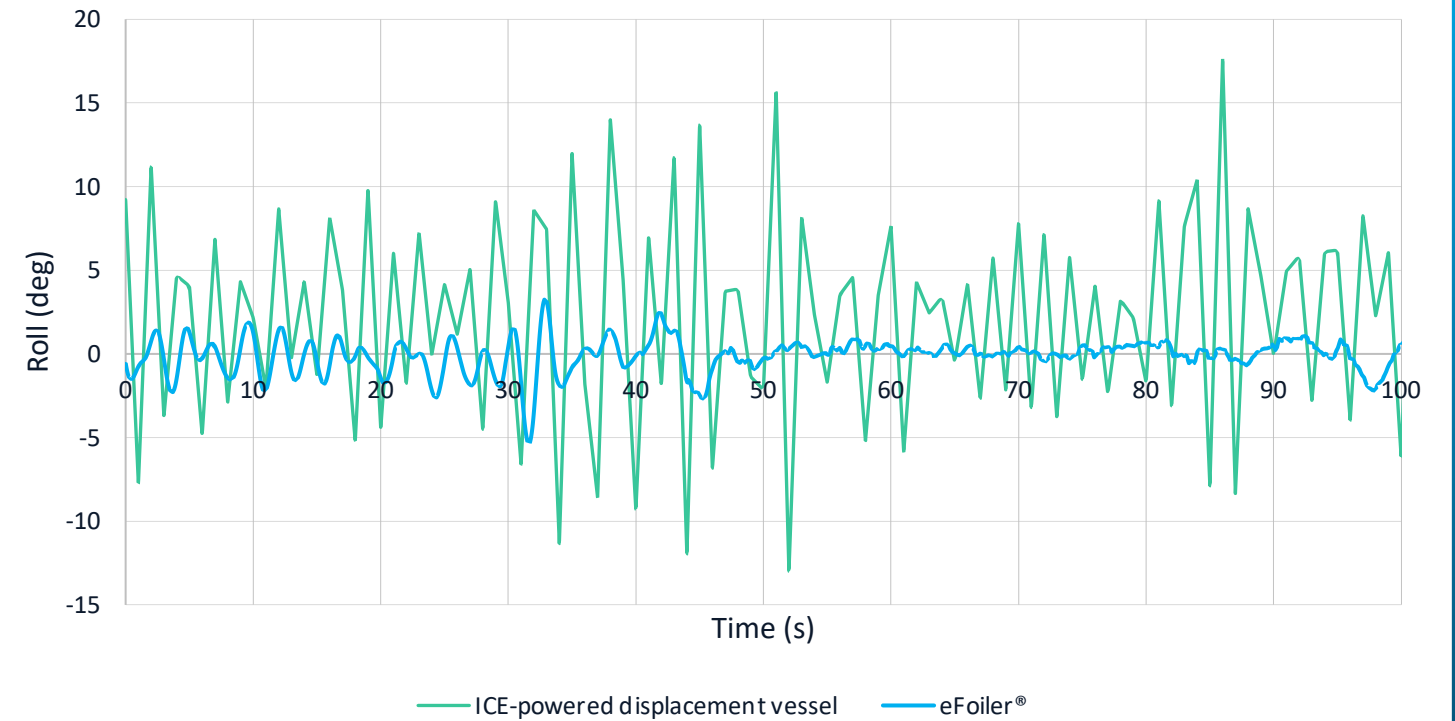




Validation

In 2022 we launched the world's largest, 100% electric foiling craft.

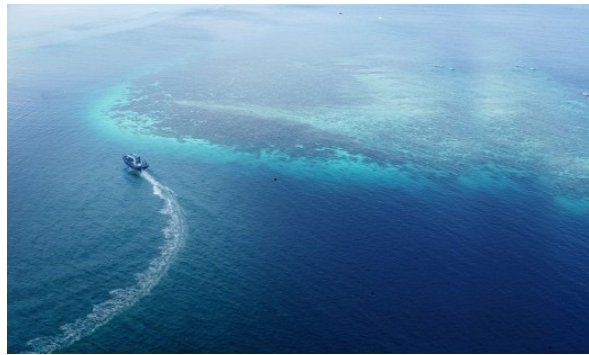
The performance of the vessel against current fossil fuel solutions has been validated through two-boat testing against a gasoline sister ship.



	Gasoline Sister Ship Seahorse	Artemis eFoil Pioneer
Energy consumption at 17 knots, 0.1m Hs	38.0 kWh/Nm	6.53 kWh/Nm
Energy consumption at 17 knots, 0.6m Hs	52.1 kWh/Nm	6.92 kWh/Nm

Benefits

Operational,
Environmental
& Commercial



A game changer for the decarbonisation of high-speed maritime transport applications, the technology provides a range of benefits for both operators and passengers.



Charging Infrastructure

The vessel is only part of the solution, and we work closely with customers to deliver an optimal high-speed charging solution.

Member of CharIn - Global charging initiative developing MegaWatt charging for transport & heavy goods vehicles.



Battery life optimisation:
Trickle charging to reduce degradation (available on fast / MW chargers).

Monitor SoC (state of charge) and SoH (state of health) via telematics.

Shore-based booster box and pontoon dispenser





Workboats



Defence



Smart Mobility



Leisure

Target Markets

The Artemis eFoiler® has widespread applications across the high-speed maritime transport.



Artemis EF-12 Pilot

Decarbonising Pilot Operations

The 100% electric foiling Artemis EF-12 Pilot boat can help ports and harbours around the world take the next step towards decarbonising port operations.

EF-12 Pilot

Superior Seakeeping

Following demand from across the globe, Artemis Technologies has developed a dedicated Artemis eFoil® pilot boat design that delivers market-leading crew comfort and stability, whilst meeting the specific requirements unique to this challenging operation.

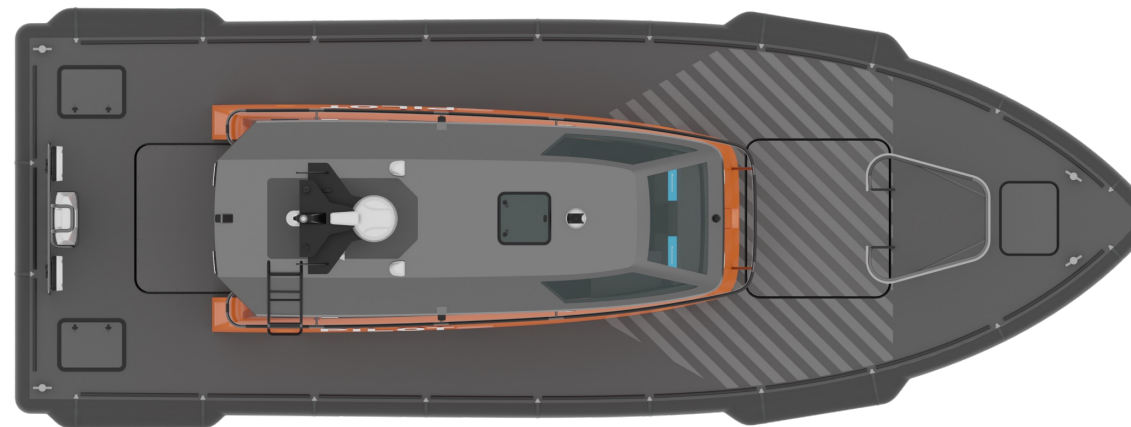


EF-12 Pilot



Excellent Visibility

Reinforced structure and fender systems offer enhanced protection against the impacts during pilot transfer operations. The positioning of the wheelhouse, railings and all-round superstructure maintains clear line of sight and visibility for the coxswain to navigate the Artemis EF-12 Pilot boat with ease.



32
KNOTS
TOP SPEED

55
NAUTICAL MILES
FOILING RANGE

4
PASSENGERS
CAPACITY

Principle Dimensions

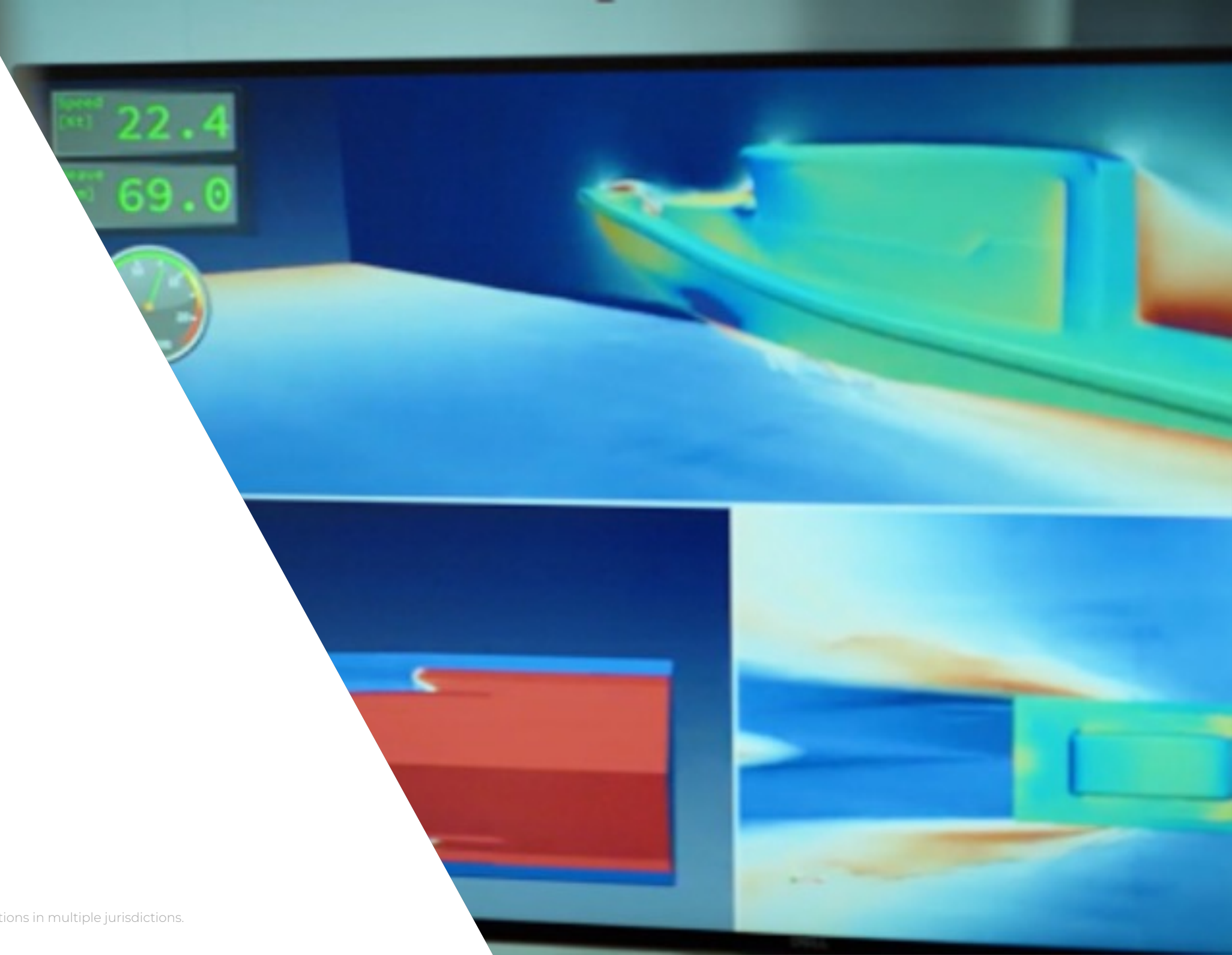
Length Overall (m)	12.0
Beam Overall (m)	4.7
Draft (m)	2.2
Air Draft (m)	3.9
Lightweight Displacement (t)	9.2
Deadweight (t)	2.3
Crew	2
Passengers	4

Performance

	Single Drive Artemis ePod Propulsion	Dual Drive Artemis ePod Propulsion
Battery (kWh)	412	412
Power (kW)	250	500
Top Speed (kts)	30	32
Cruise Speed (kts)	25	23
Foiling Range (nm)	55	55

Validation

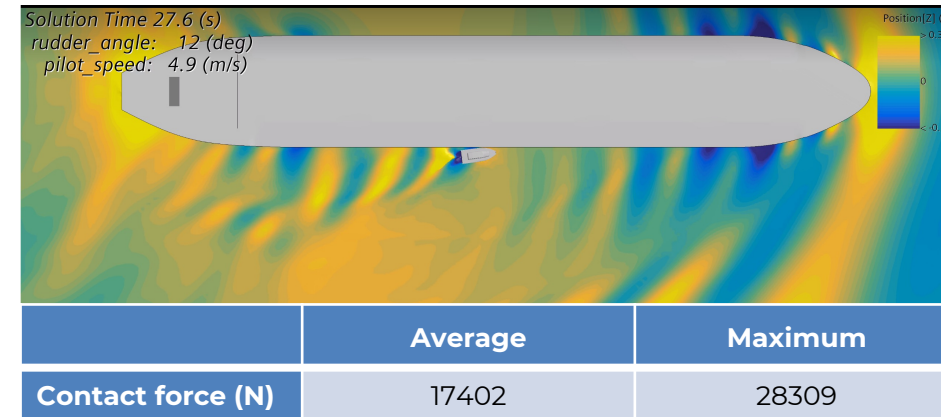
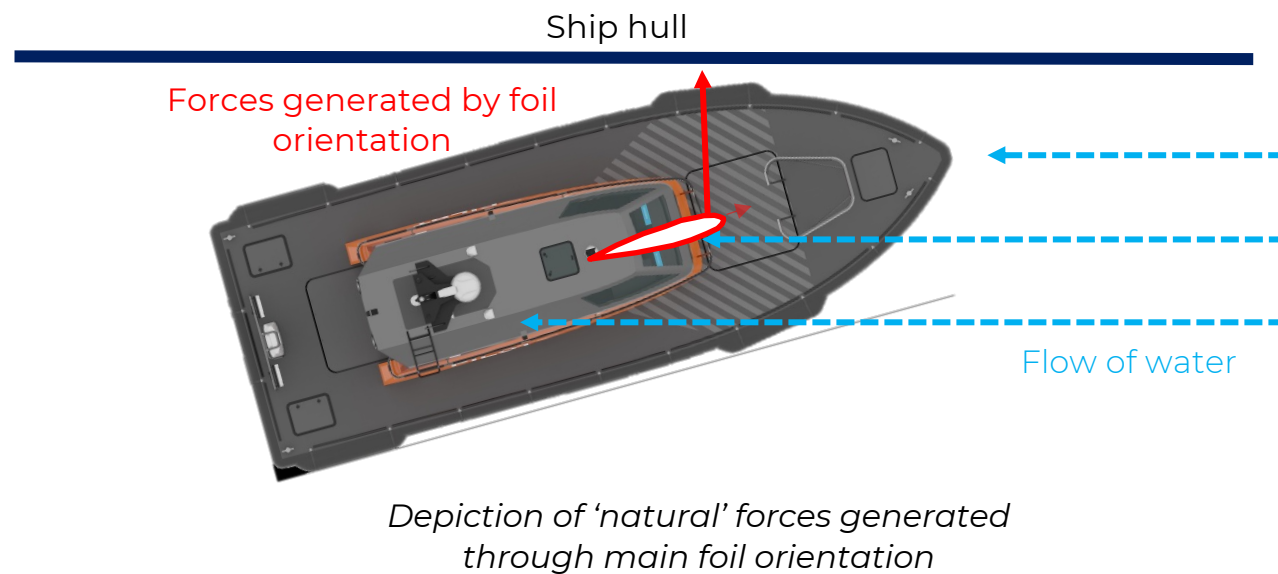
Technical capability



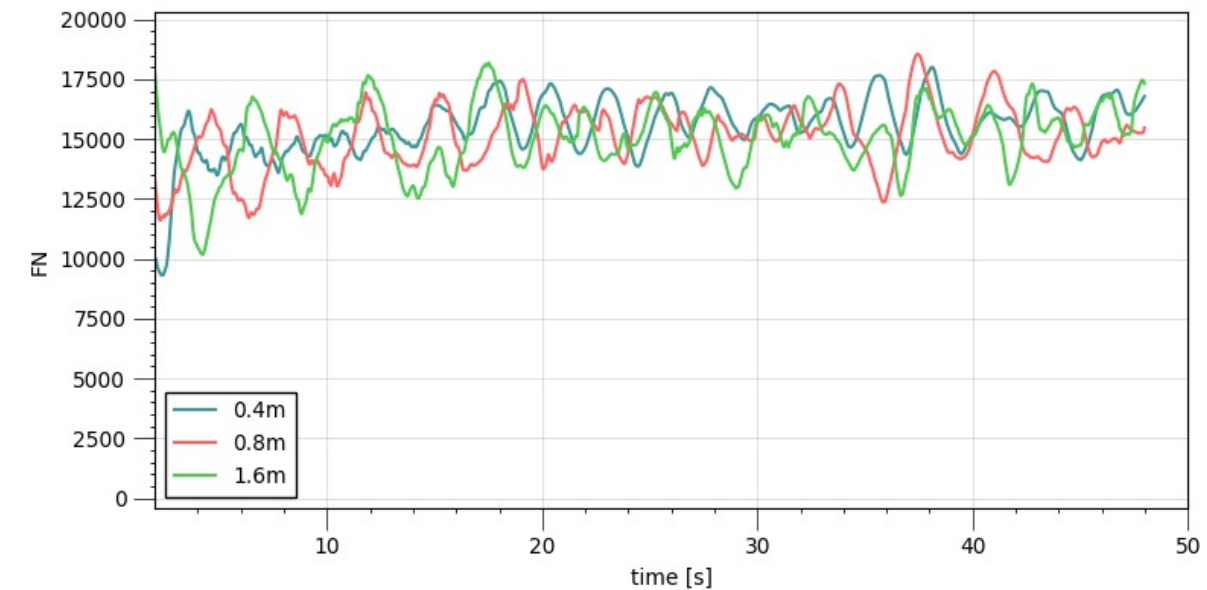
Making & maintaining contact force

We have completed **multiple simulation/CFD studies** for the pilot transfer contact manoeuvre

These validate the EF-12 Pilot can perform this challenging manoeuvre: **making & maintaining contact force** with ship hull



CFD contact manoeuvre model & eFoiler-Pilot contact forces



Contact forces when exposed to sea states

Stability & deck levelling

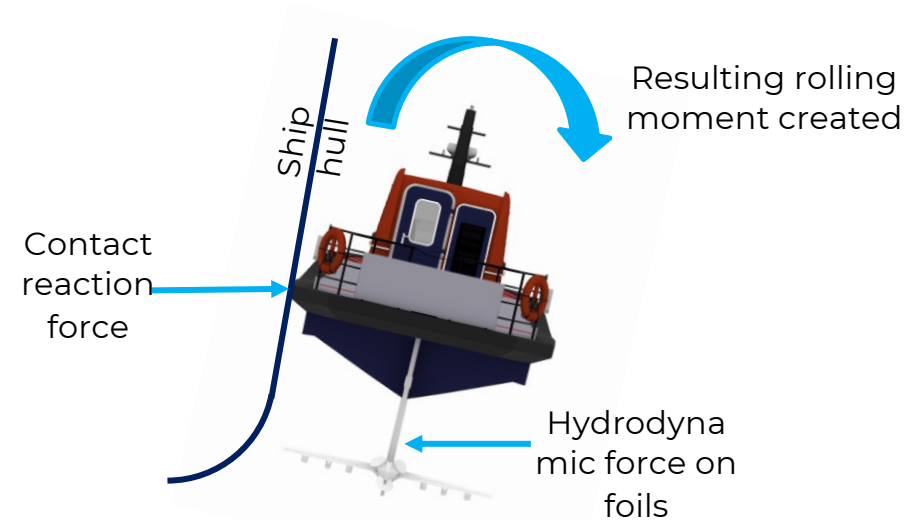
Active roll control system delivers significant stability improvements compared to diesel displacement hull

Challenge

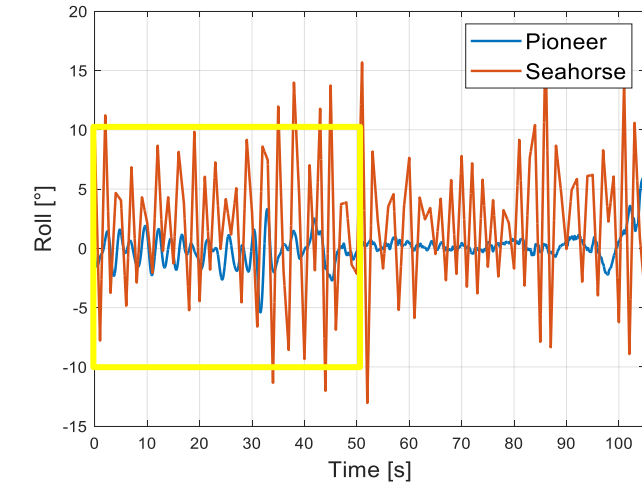
'Natural forces' of main foil & contact reaction point created rolling moment & pushed EF-12 Pilot deck away from 0deg level – not acceptable

Solution

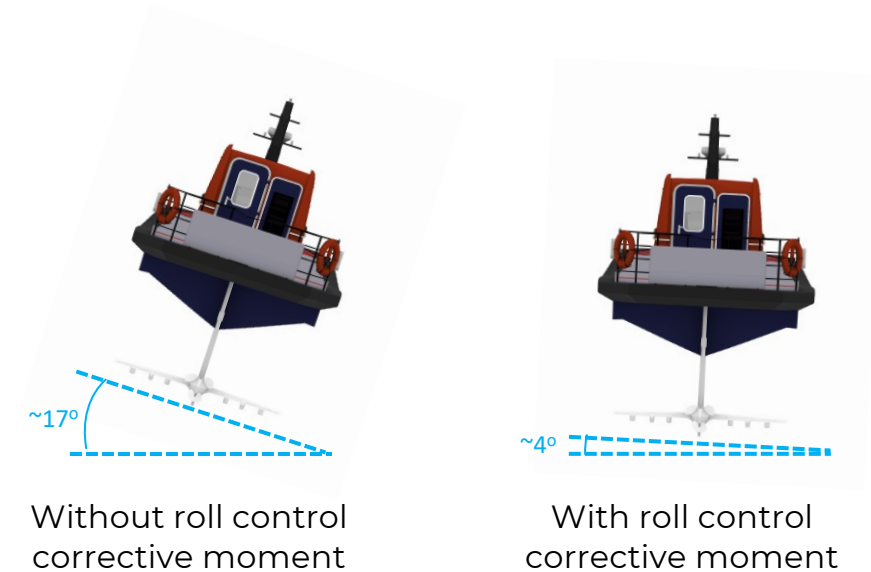
To roll controller in this scenario showed huge improvement & brought back to acceptable level



Depiction of initial rolling moment challenge



Comparison of stability of eFoiler to displacement hull



Deck level in contact before and after roll controller modifications



Made in Belfast

State of the art manufacturing facilities with a workforce of industry experts from aviation, Formula One and maritime.



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THANK YOU