



The Future of Coastal Transportation

At Tidal, we design and build electric amphibious aircraft.

Our vision is to move coastal transportation into an affordable zero-emissions future.



Founding Team

Mark
CE



Jude
CEO



Pranav
CTO



Mark Lau
Chief Engineer

Mark leads development of Tidal's in-house aero and hydrodynamics design and optimization toolchain. He has built and flown multiple aircraft and brings electric aircraft research experience from Georgia Tech. Mark has worked at BETA where he developed aerodynamics models for the ALIA eVTOL aircraft.

Jude Augustine
Chief Executive Officer

Jude leads the commercial and investor relationships for Tidal. His background in electric aviation comes from both his industry experience in the Flight Sciences team at BETA Technologies and his research in the design and analysis of eVTOL aircraft. Jude also has experience at NASA and Pratt & Whitney.

Pranav Krishnamurthy
Chief Technology Officer

Pranav leads the technical development of the Polaris aircraft. He has a strong technical background in electric aviation with a focus on dynamics and control. Pranav previously worked at BETA Technologies analyzing transition of the ALIA eVTOL aircraft and in Northrop Grumman's Vehicle Sizing team.

Advisory Board



Dr. Brian German

NIA Langley Associate Professor
at Georgia Tech

Director of Georgia Tech's Center for
Urban and Regional Air Mobility



William J. Fredericks

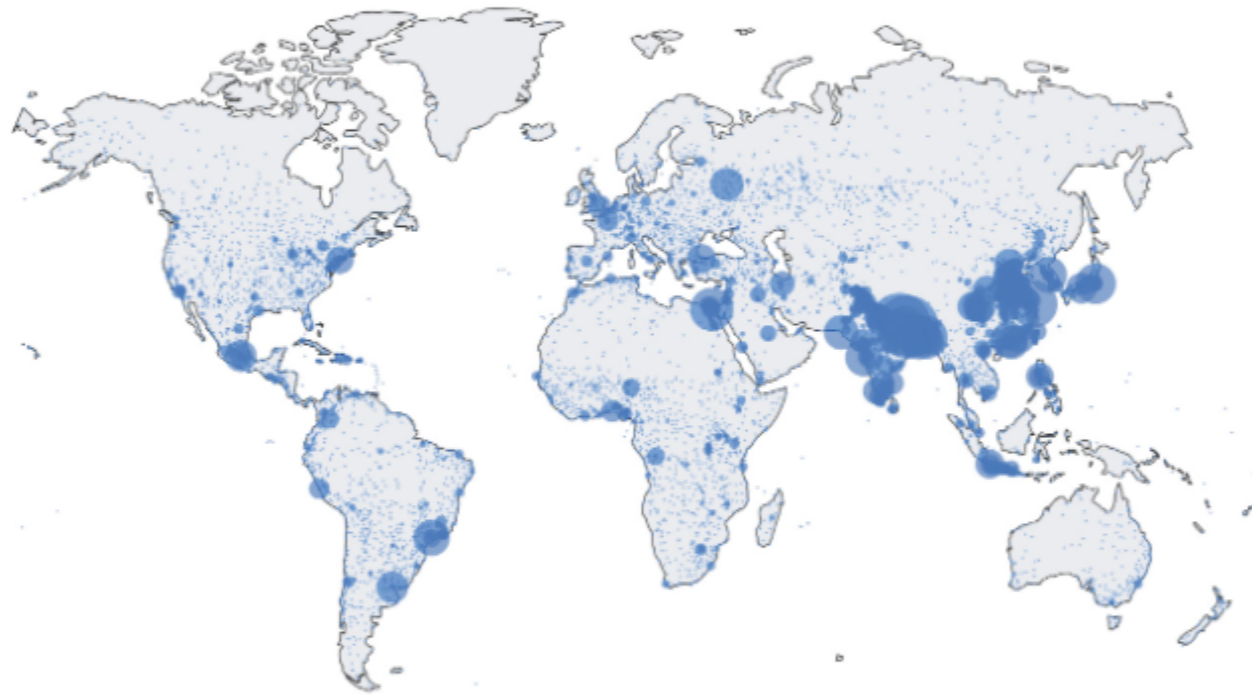
Former Artillery Officer in the USMC

Former Aerospace Engineer
at NASA Langley

Founder and CTO of
Advanced Aircraft Company

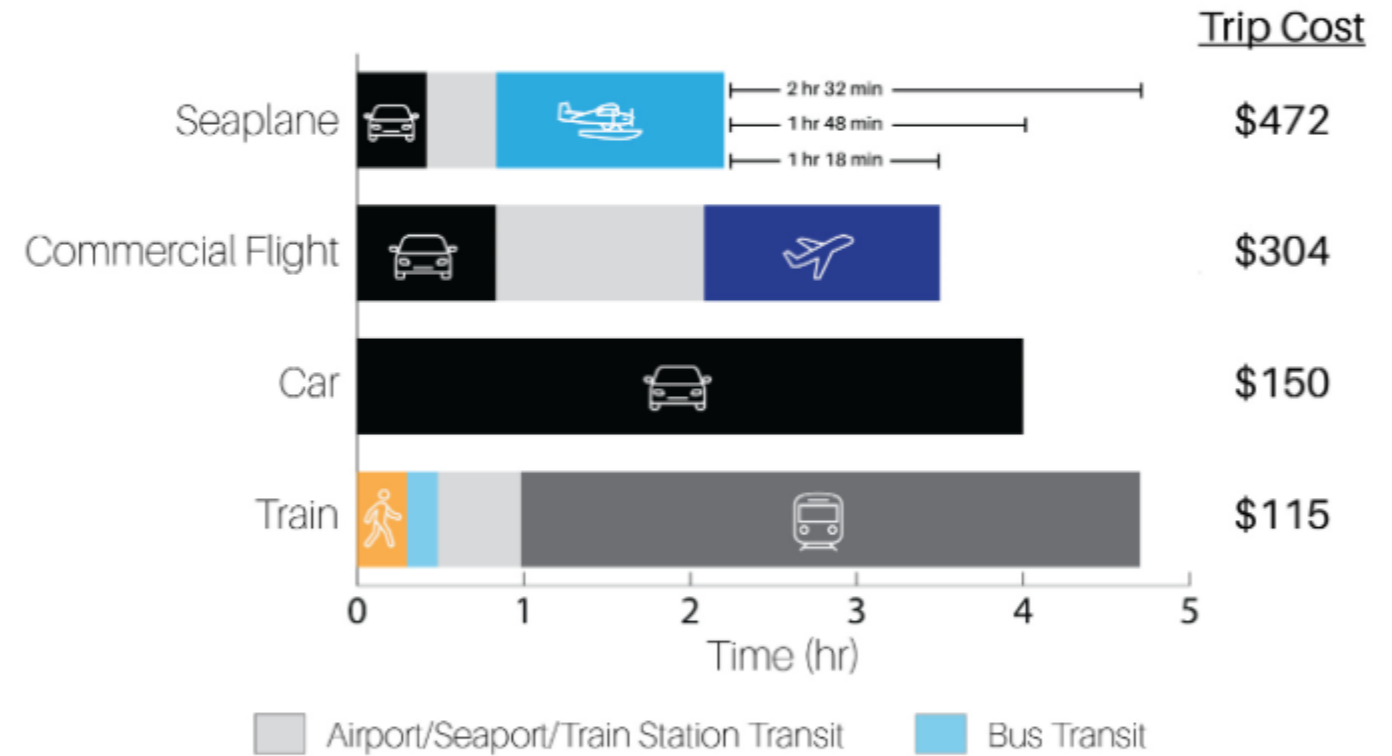


40%
of the world's population
lives in coastal areas



Seaplanes are the **fastest**
transportation mode between
coastal cities

New York Financial District to Boston Financial District



Seaplane aviation is held back by
high ticket prices and **noisy, gas-guzzling aircraft**



Spoken With

20+

Seaplane and Commuter Airlines

We are engaged in conversations with leaders at airlines around the world that operate aircraft in coastal markets to understand the challenges they face



Locations of Operators Spoken With

Direct Operating Cost

Aging, draggy, metal airframes result in higher fuel burn and increased maintenance cost from corrosion, a problem unique to seaplanes

3 Factors Limiting Growth and Raising Ticket Prices

Noise Restrictions

Fuel burning engines with old propeller designs result in noise ordinances against seaplanes, limiting growth into new markets

Regulatory Pressure

International operators are facing increasing pressures with hard deadlines to cut emissions. No current seaplane manufacturers are offering sustainable alternatives to existing aircraft



POLARIS



12 PAX / 180 MI

Competitive payload and range with current-day end-of-life batteries captures vast majority of international high-yield commuter operations

9 PAX / 215 MI

U.S. variant enables "9 or less" Part 135 commuter operators to keep their existing maintenance and training requirements

\$0.33/ASM*

Affordable cost per available seat mile allows for higher demand capture and drives growth in seaplane markets

0 EMISSIONS

100% electric powertrain with 0 tailpipe emissions reduces local environmental impact and enables sustainable coastal transportation

*Does not include ownership costs, landing fees, and indirect costs

Designed for Operation Out of Airports and Waterways



Retractable Wingtip Floats

Retractable floats reduce drag during cruise and allow for easy docking

Fully Composite Airframe

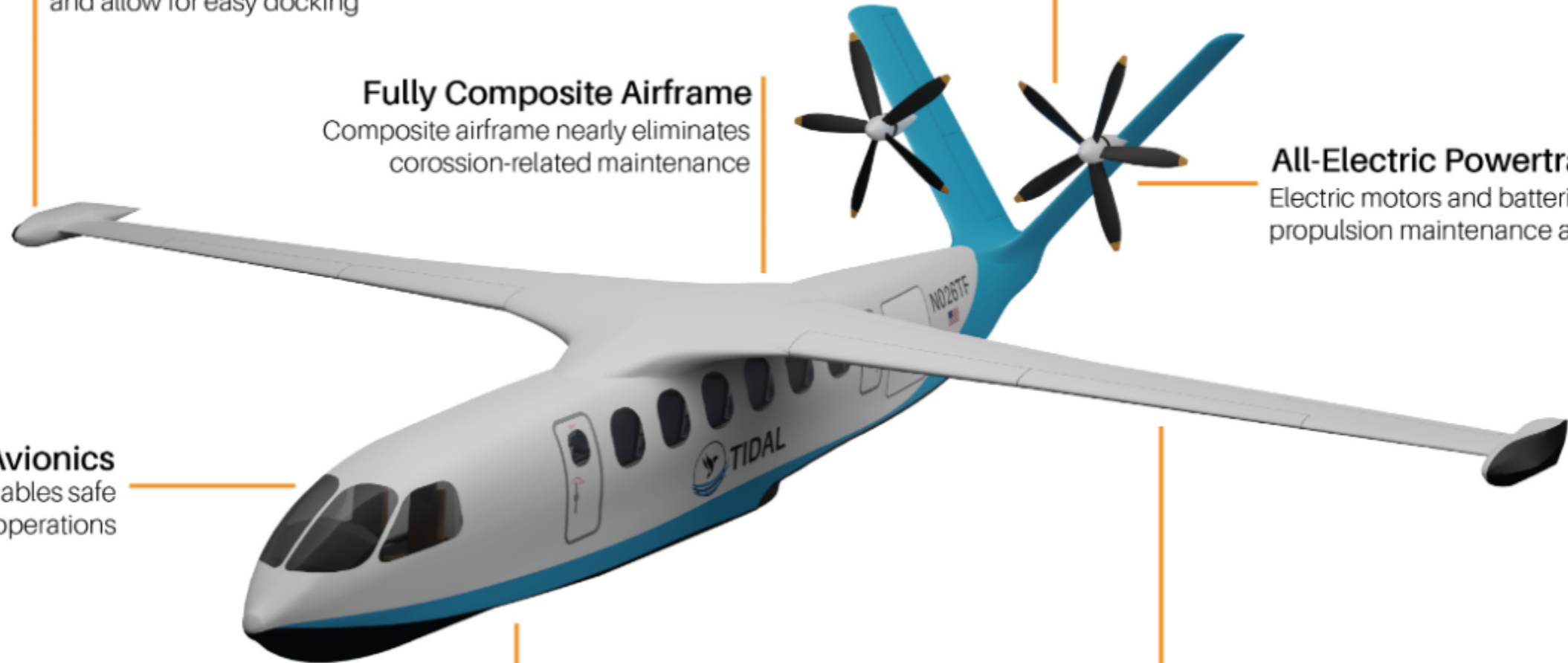
Composite airframe nearly eliminates corrosion-related maintenance

Quiet Tail Mounted Propellers

Tail-mounted high solidity, low tip speed propeller enable quiet operation and enhance harbor maneuverability

All-Electric Powertrain

Electric motors and batteries reduce propulsion maintenance and overhaul cost



Modern IFR Capable Avionics

Modern avionics suite enables safe instrument flight rules operations

Low Drag Hull Design

Hull integrated into the fuselage balances hydrodynamic and aerodynamic needs

Efficient High Aspect Ratio Wings

Optimized high aspect ratio wings provide unparalleled aerodynamic efficiency

Designed for Low Operating Costs



↓ 90%

Fuel Costs

Electric powertrain reduces energy cost and eliminates the impact of fuel price volatility on operations

↓ 60%

Maintenance Costs

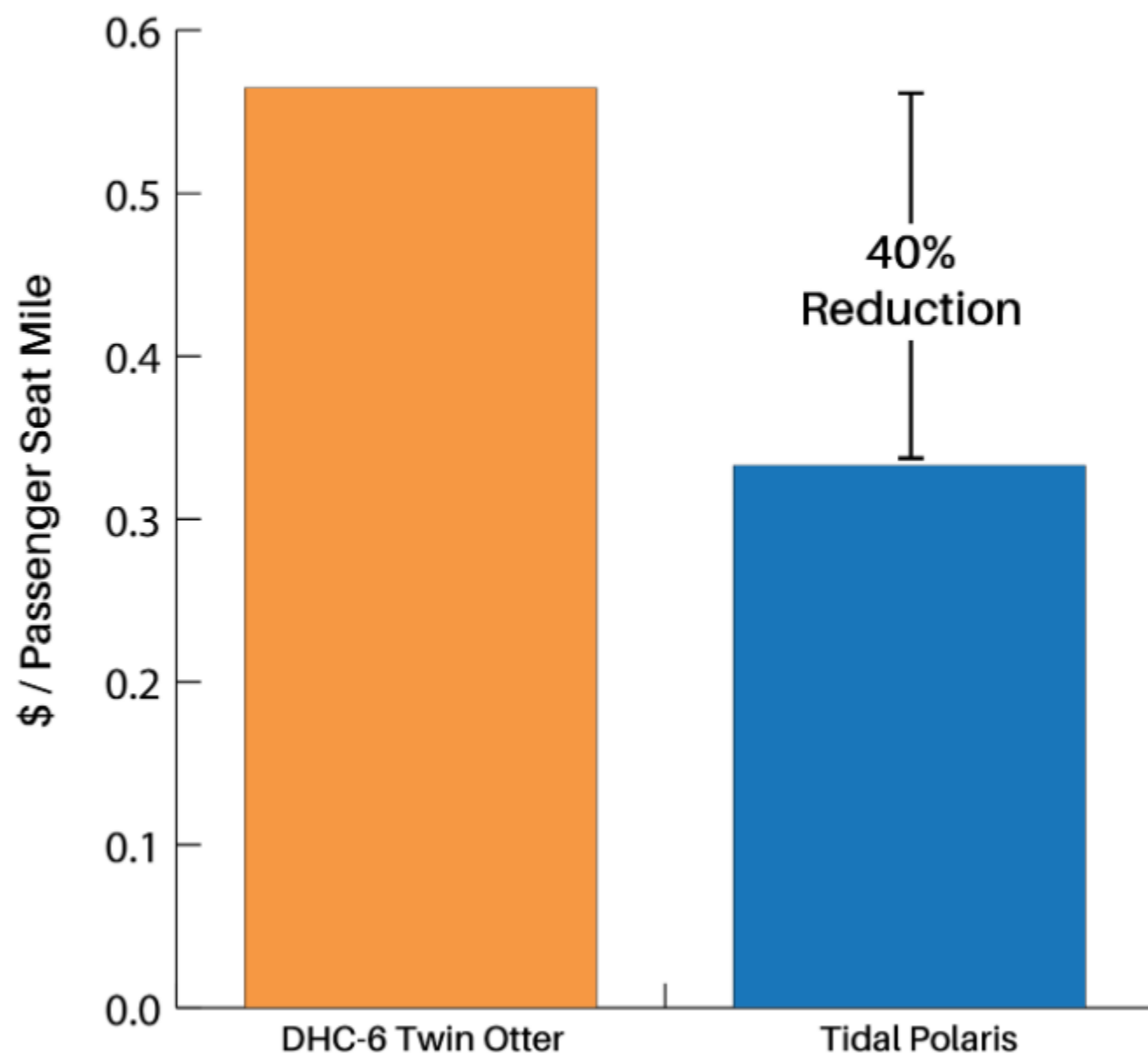
Modern composite airframe reduces corrosion damage and electric motors decrease engine maintenance

↓ 33%

Propulsion Overhaul Costs

Fuel-burning engines require frequent engine overhauls when operating in saltwater environments. Electric powertrains decrease the cost and frequency of overhauls

Direct Operating Cost* per Passenger Seat Mile



*Does not include ownership cost such as facilities, insurance, depreciation, etc.

Source: Twin Otter Brochure ([Viking Air](#)), Pilot Pay ([Cape Air](#)), Electric Aircraft Maintenance ([Toptal Finance](#)), Fuel Prices ([AirNav](#))



Designed for Customer Utility

High-Yield Routes

Many existing high-yield routes are <215 mi and fall within the range reachable with today's battery technology

Direct City Access

Low noise profile enables operations close to cities which reduces the time passengers spend in congestion and in switching transportation modes

Low Infrastructure Needs

Amphibious capability allows direct access to both airports and waterways with limited infrastructure

Future Range Extension

As batteries improve, demand for routes above 300 mi can be captured

Range available to potential operators with today's battery technology



Kenmore Air



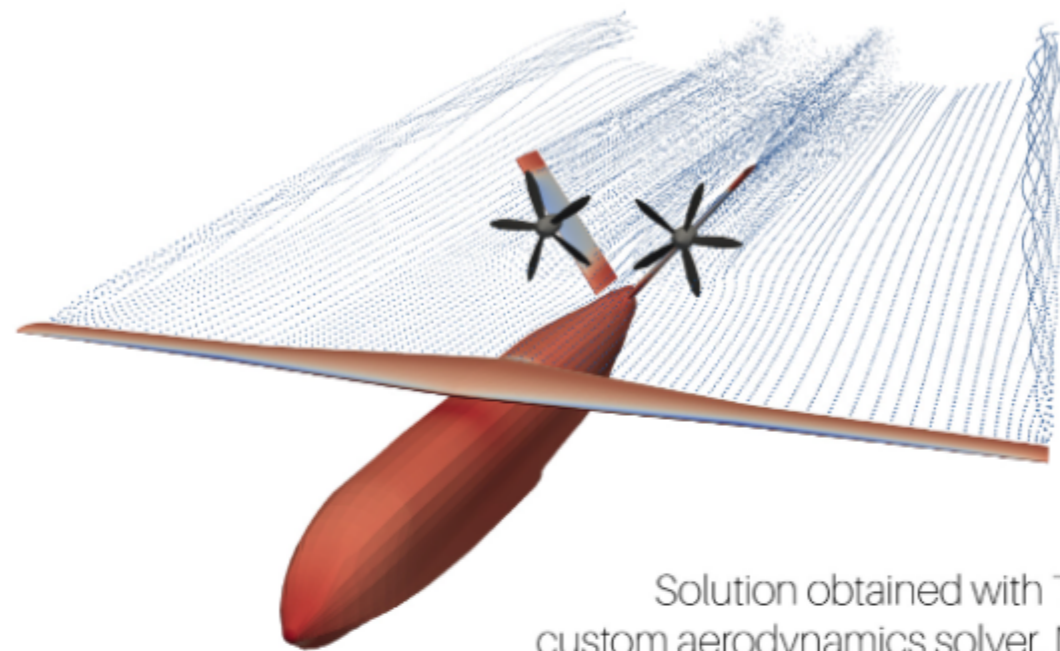
Cape Air

Driving Design with Custom In-House Tools



Optimal Hull Design

Tidal's custom in-house toolchain for seaplane design is being applied to the development of the hull and will drive generation of IP for low aerodynamic drag hull design that maintains hydrodynamic stability during takeoff and landing.



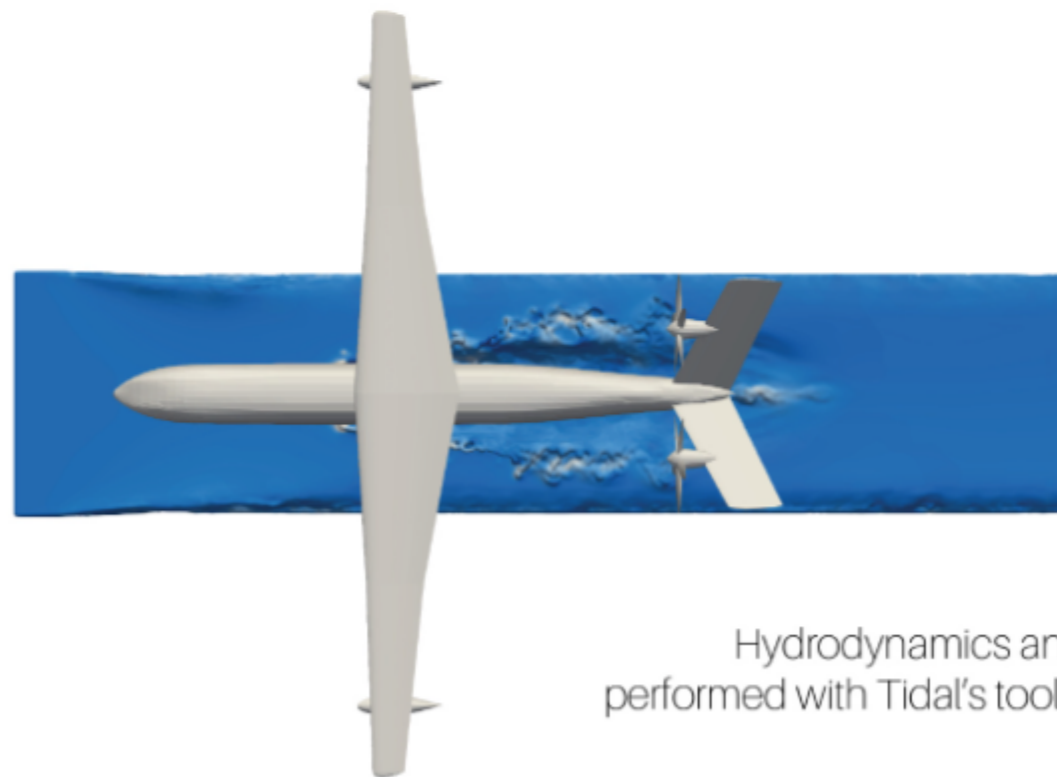
Solution obtained with Tidal's custom aerodynamics solver, MESA

Early High-Fidelity Design

Tidal's optimization-focused physics models (MESA, GHIBLY, PAGE etc.) available early in the design process enable higher performing designs compared to traditional methods.

Rapid Design Iteration

Tidal's toolchain produces accurate solutions at a fraction of the time and cost of traditional CFD methods.



Hydrodynamics analysis performed with Tidal's toolchain

Certification and Technical Milestones



- Develop and fly 1/4 scale aircraft to de-risk and verify design
- Detailed design of full-scale prototype
- Begin working with FAA on G-1 certification basis

2023-2024

Q2/Q3 2024
1/4 Scale
Prototype

2025
Full-Scale
Prototype

2025-2026

- Component and architecture testing on iron bird
- Fabricate and flight test full-scale prototype to demonstrate performance
- Agree to G-1 certification basis with FAA
- Design conforming vehicle for FAA type certification

- Agree to G-2 means of compliance with FAA
- Certification plan submission and acceptance
- Manufacture conforming vehicle and begin flight test campaign
- Expand manufacturing capabilities to prepare for entry into service in 2029

2027-2028

2027
Certification
Conforming
Prototype

2029
Entry
Into
Service

2029-

- Receive type certification for conforming vehicle in 2029
- Entry into service for initial customers
- Scale up manufacturing to meet aircraft sales
- Begin initial design for 50+ passenger aircraft

2030-
Develop
50+ PAX
Aircraft

Polaris Outperforms Competition



	 TIDAL	REGENT Craft	Elfly	Jekta	Existing Aircraft Electrification
Range	180 MI	180 MI	105 MI	94 MI	~50 MI
Payload	12 PAX	12 PAX	9 PAX	19 PAX	<5 PAX
Certification Authority	U.S. FAA	U.S. Coast Guard	Europe EASA	Europe EASA	U.S. FAA
Infrastructure Buildup Required	Low	Medium to High	Low to Medium	Low to Medium	Low
Business Model	OEM	OEM	Own + Operate	OEM	N/A
Direct Flights Over Land	✓		✓	✓	✓
Airport Access	✓		✓	✓	✓
Access to Inland Destinations	✓		✓	✓	✓

Polaris Captures the World's Largest Seaplane Markets



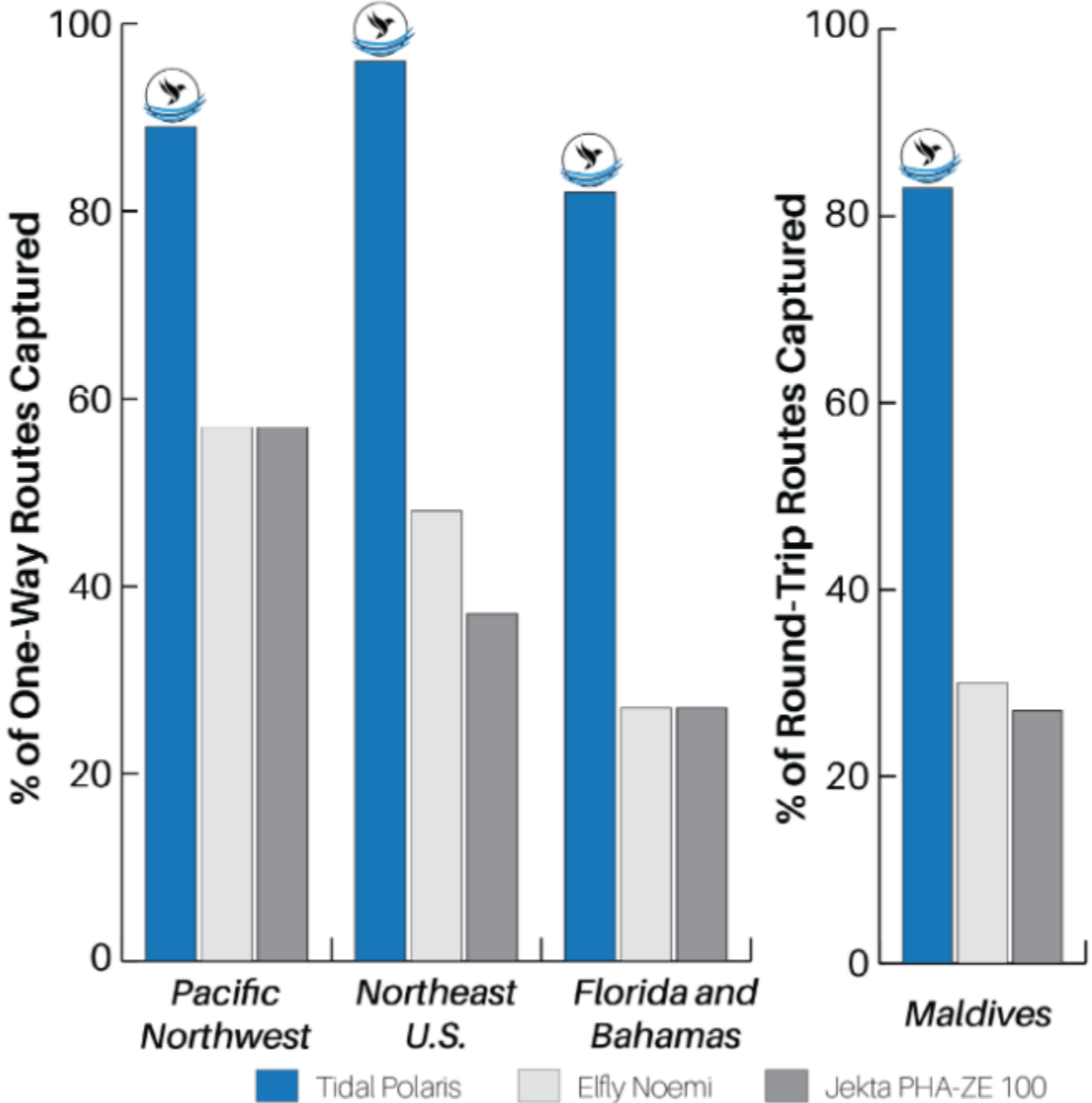
Range Capability Captures Essential High-Yield Commuter Routes

Polaris' one-way range captures the vast majority of existing seaplane routes. Unlike competitors, Polaris captures key high-yield routes like Seattle-Vancouver, New York-Boston, and Miami-Nassau.

Reduced Charge Infrastructure Reliance in Remote Destinations

Polaris' round trip range capability serves island nations and remote destinations well by reducing the need for charge infrastructure at remote outstations where the grid is weak or non-existent.

Routes Captured - Polaris vs. Competitors





\$500B+

TAM

Global Coastal Transportation
Vehicle Sales

\$100B

SAM

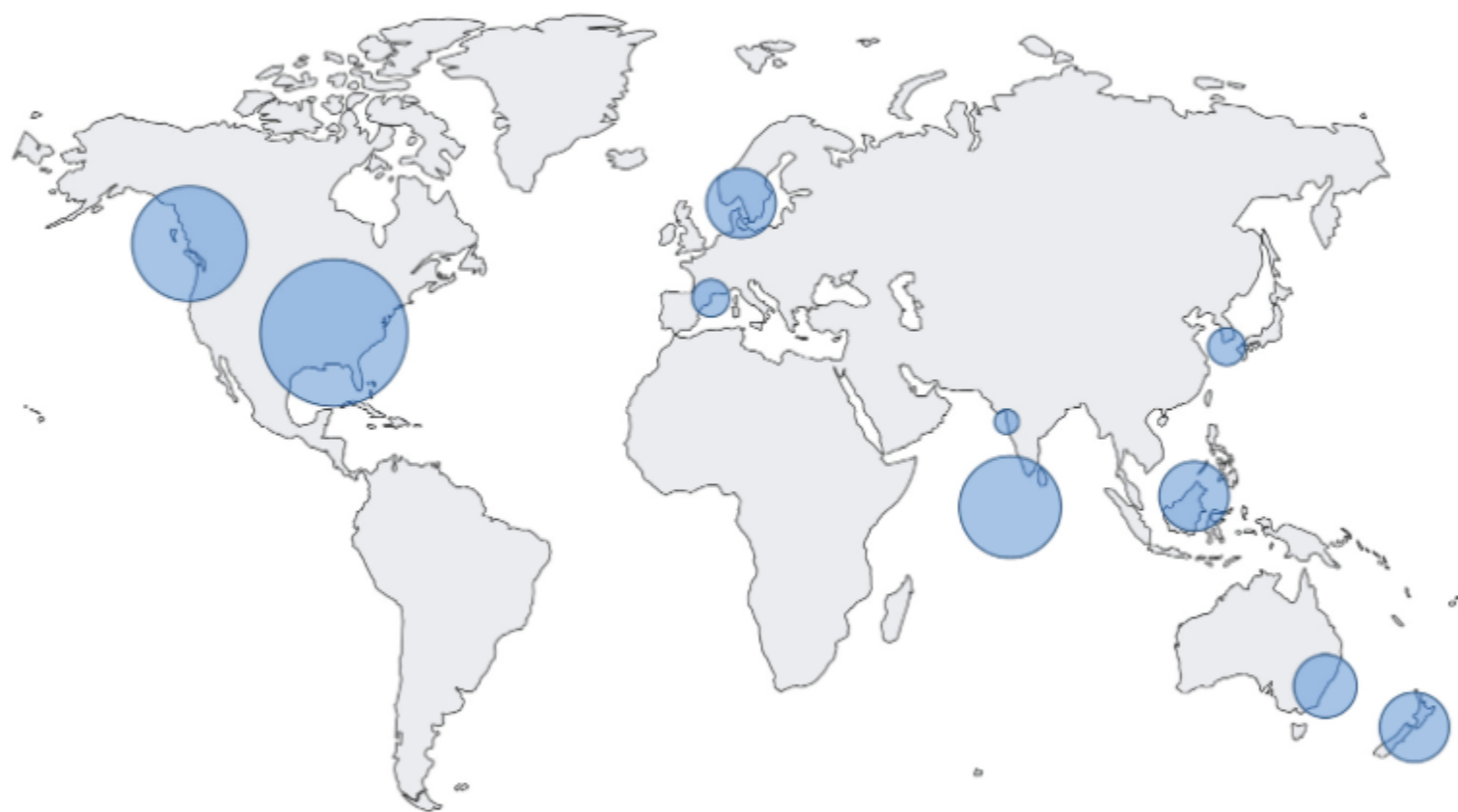
Estimated Global Aircraft Demand for
Coastal Regional Air Mobility

\$8B

SOM

Polaris Demand Estimation for Coastal
Airlines (~700 aircraft in 10 Years)

Market for Polaris in the First 10 Years of Production



Polaris Demand by Region

~700 Aircraft in Demand

Tidal estimates demand using customers' fleet sizes, route maps, recent fleet renewal activity, commitments and regulatory pressure towards zero-emissions operation, and stated interest in electric aircraft.

\$8-9M Unit Price

\$1.5-2M in Parts Sales

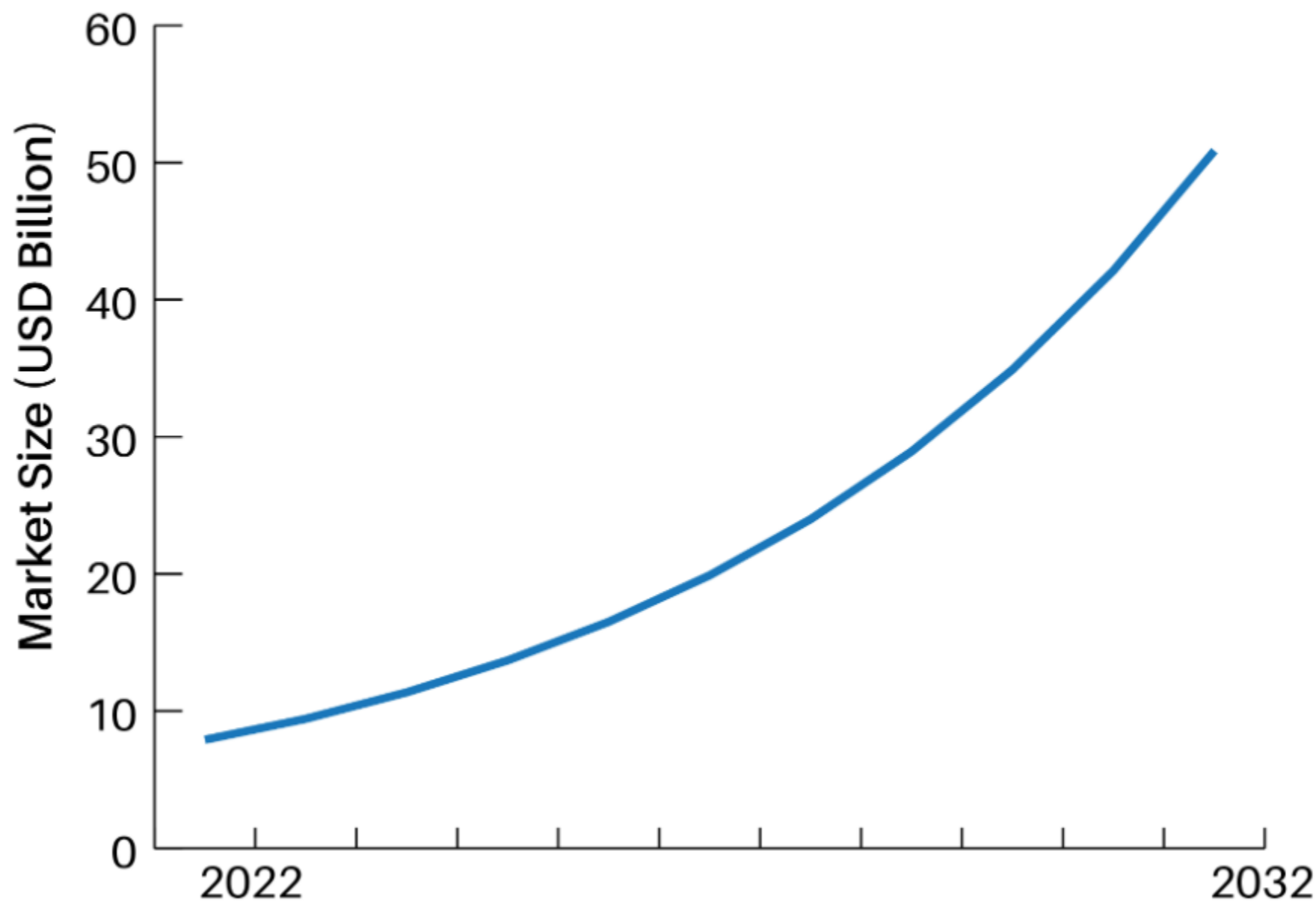
Tidal's internal cost model estimates a sale price of \$8-9M depending on aircraft configuration. Aircraft parts, including motors and batteries, will be sold to the customer throughout the lifespan of the aircraft.

\$7-8B in Revenue

Polaris will generate \$7-8B in total revenue from commercial airframe and parts sales during the first 10 years of production.



Positioned in the High-Growth Electric Aviation Market



20% CAGR

Recent breakthroughs in battery technology have caused the electric aviation market to grow rapidly. Seaplanes are currently being left behind.

Future 50+ PAX Aircraft

New electric propulsion technologies will enable larger aircraft designs that will significantly reduce per-seat-mile costs and increase throughput. These improvements will further catalyze the growth of the seaplane market.

Commercial and Funding Progress



First Letter of Intent Valued at \$17M

Tidal has secured a Letter of Intent with a Southeast Asian seaplane airline for two amphibious Polaris vehicles in 2029.

Secured Letter of Support From Dan Wolf, Founder and Board Chairman of Cape Air

We have secured a Letter of Support from Dan Wolf, Founder and Board Chairman of Cape Air, the largest commuter airline in the United States, describing Cape Air's support for our product and their willingness to provide operational requirements and help with entry-into-service for Polaris.

Working toward LOIs and LOSs with 1 Aircraft Lessor and 2 US Seaplane Airlines

We are working to secure more LOSs and LOIs from seaplane airlines around the United States and an aircraft lessor who specializes in electric aircraft.

Invited to Submit NSF America's Seed Fund Phase I Proposal

Tidal was invited by NSF after a project pitch to submit a proposal for the development of a low-drag seaplane hull, Tidal's main technical innovation.

Testimonials from Customers

"The development of Tidal's fully battery-electric seaplane can address a strong commercial opportunity to provide sustainable and affordable passenger air services to many of [Cape Air's] currently served regions. It could also create opportunities to open new routes, to and from presently unserved communities."

- Dan Wolf, Founder and Board Chairman,
and Jim Wolf, Director of Sustainability, at
Cape Air

"[Tidal's] technology has the potential to change the way people travel between island destinations."

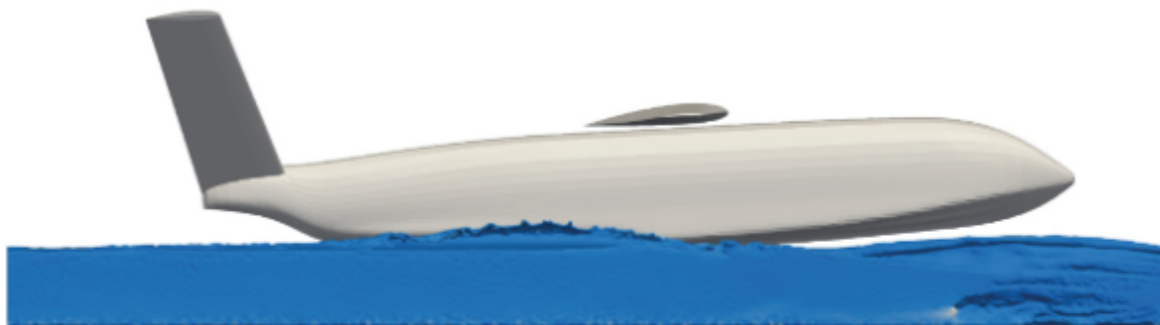
- Andre Hugo, Founder and CEO of
Sama Sama Seaplanes



Technical Progress

Preliminary Vehicle Design

Using requirements derived from customers, Tidal has completed initial design of the outer mold line of Polaris along with key detailed design considerations. This design work has allowed Tidal to gain a preliminary understanding of performance for Polaris. With this design, Tidal has spoken with 20+ customers to garner feedback and additional operational requirements to help further the design of the Polaris vehicle.



Hydrodynamics analysis performed with Tidal's toolchain

Pilotable Physics-Accurate Simulator

Tidal is nearing completion of a pilotable physics-accurate flight simulator built with in-house physics. The completion of this simulator will allow customers to get an early feeling for how Polaris will fly. In addition, this simulator will be a valuable engineering asset to gain confidence in the vehicle in a digital environment before physical testing.



X-Plane visualization of Tidal's Pilotable Flight Simulator