



March 2023

The NEWSLETTER

INTERNATIONAL HYDROFOIL SOCIETY

P.O. Box 8911, Reston, VA, 20195

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President's Report

It's been another good year for the International Hydrofoil Society. Our membership is expanding. Of course, we continue to offer free membership at no cost and no obligation. Prospective new members, simply email your request to: IHSpresident2016@gmail.com.

For our existing members who aspire to become more active, we welcome volunteers who wish to work on any aspect of our Society. A particular need is to have someone who can shepherd over the website by reading it periodically and making certain that all the links are active and the publications listed are in fact it's still linked to the website. Its address: <https://foils.org/>

Scott Weidle, Mark Bebar, and I are primarily responsible for the newsletter twice a year. Of course, it's a challenge to create or find the best articles for the newsletter. Any member with journalistic skills would be very much appreciated if they wish to become a part of this process. For our readers who have a project or special interest or even a product we invite you to submit photos and articles to be published and exposed to our 2,500 members. Naturally, the subject must involve hydrofoils.

In today's newsletter we are particularly stimulated by the America's Cup news. Each succeeding year brings more and more excitement. the America's Cup has become a reliable source of hydrofoil innovation. Wet your taste for the event by first reading the articles that follow. To discover more detailed information, go to their official website: <https://www.americascup.com/news>

Happy hydrofoiling
Ray Vellinga



IHS Business

Support the International Hydrofoil Society and Enjoy Your Coffee

Limited Offer to Purchase an Official IHS Mug

The IHS celebrated its 50th Anniversary in November 2021. In the spirit of membership, we are offering for sale a limited number of 16-oz coffee mugs with these features:

- Double wall stainless steel interior with black plastic interior.
- Push on/off, slide open/close lid.
- Fits most car cup holders.

The mug is pictured below and has both the IHS logo and the Society of Naval Architects and Marine Engineers (SNAME) logo in recognition of our relationship with SNAME Panel SD-5 on Advanced Marine Vehicles.



Pricing is as follows and includes shipping within the U.S. Shipping of mugs overseas will be priced based on destination.

- Single mug: \$27.00
- Two mugs: \$45.00

To order your mugs, place an order at: <https://foils.org/donate-and-merchandise/>

2023 Mandles Prize for Hydrofoil Excellence

The International Hydrofoil Society is pleased to announce that thanks to the continued generosity of Mr. Martinn Mandles, a long-time member of IHS and his wife Connie, we will once again sponsor The IHS Mandles Prize for Hydrofoil Excellence competition. The competition, now entering its 10th year, includes up to \$4,500 annually in IHS hydrofoil achievement prizes for students, with a \$2,500 First Prize and up to two \$1,000 Honorable Mention awards.

In order to open the competition to a wider spectrum of qualified entries, submissions by students based on work completed since 2018 will be eligible for the 2023 IHS Mandles Prize for Hydrofoil Excellence. The due date for application forms (included in the Rules) is May 1st, 2023.

This is an outstanding opportunity for the next generation of hydrofoil developers to be acknowledged for their efforts to advance the state of the art in hydrofoil and hydrofoil-assisted craft engineering, design and construction. Rules for the competition can be downloaded from the our website <https://foils.org/mandles-prize-rules/>

We anticipate a very exciting competition in 2023 and look forward to receiving many high-quality entries. Questions on the IHS Mandles Prize for Hydrofoil Excellence can be e-mailed to

Mark Bebar at: markbebar@juno.com or

Ray Vellinga at: IHSpresident2016@gmail.com

2022 Mandles Prize Paper Published

In December 2022, the American Society of Naval Engineers (ASNE) Naval Engineers Journal (NEJ) published the 2022 Mandles First Prize winning paper. Follow this link to see the Table of Contents and paper as published:

[NEJ Publication Link](#)

We have an excellent relationship with ASNE, which has published a number of First Prize papers in past years. Our sincere thanks go to Ms. Maggie O'Brien, Managing Editor of Naval Engineers Journal, for her continued support.

STUDENT PAPER

Modification of a Lateral MIMO Model for Use as a Hydrofoil Boat Design Tool and Flight Control System with the Addition of Longitudinal Control

Ethan A. Beachy¹, Jonathan B. Stanhope¹

Abstract

A single-track hydrofoil boat is a watercraft with two struts protruding from the centerline of the hull with hydrofoil wings at their lower ends. Such a boat may be steered by turning one or both struts, with the possible assistance of wing-induced-roll. The height and pitch may be controlled using the foils to balance the weight of the boat with hydrodynamic lift. The Cedarville University Solar Boat Team desires to use such a boat to reduce drag and improve race performance. However, such a boat is unstable, motivating work to create an automatic flight control system using multi-input, multi-output state-space control theory and a feedback loop. Previous progress resulted in a model for steering control. This work was modified and extended to allow the use of any valid combination of steering inputs. A height and pitch control model was also developed and the two combined to produce a single flight control system.

Introduction & Background

The Cedarville University Solar Boat team has successfully raced solar-powered boats for years in the Solar Splash competition in the United States, as well as competing in the European Solar Sport One competition, most recently in 2012. Being competitive in Solar Sport One requires the use of hydrofoils to reduce drag and increase speed.

We have a single-track hydrofoil boat, with two struts on the centerline of the hull that support the foils underwater. The front strut supports a single foil, and the rear strut supports the rear foils, which may be separately articulated. Both struts may also be rotated, resulting in a total of five control surfaces: the front strut, the rear strut, the front foil, the right rear foil and the left rear foil. Instead of considering the right and left rear foils separately, it is helpful consider the rear foil deflections as the superposition of the mean angle of attack (used for height and pitch control) and the difference of each foil from the mean (used for roll control as part of the steering system).

The single-track hydrofoil layout requires the use of a multi-input, multi-output (MIMO) feedback control system. Jason Paulus of the 2021 CU Solar Boat team made significant progress in developing the steering portion of the model^[1] to reproduce results published by TU Delft.^[2] Paulus mathematically derived the model, then implemented these mathematics as a Simulink simulation. We carried on his work, adapting it to model our boat instead of TU Delft's, and simulating the performance expected from various steering input combinations. We also added longitudinal (height and pitch) control and are working to install and interface with the hardware and electronics required to fly.

Due to the decision to use a different hull design for weight reasons, manufacturing & design setbacks for the struts and actuated steering mechanisms, and resulting delays in installing

This paper was awarded First Prize in the 2022 International Hydrofoil Society (IHS) Mandles Prize for Hydrofoil Excellence.

¹Cedarville University—Mechanical Engineering

AC 75 Chase Boat

By [Ray Vellinga](#)

The 37th America's Cup races, to be held in Barcelona by the New Zealand Royal Yacht Squadron, will have a new chase boat. Because the hydrofoil configured modern AC75 boats have such high speeds the conventional chase boats are having difficulty keeping up with their prey. The answer to this problem is a motor-powered hydrofoil chase boat. The prototype is being built in Auckland under the design direction of AFCryo, a company located in Christchurch.

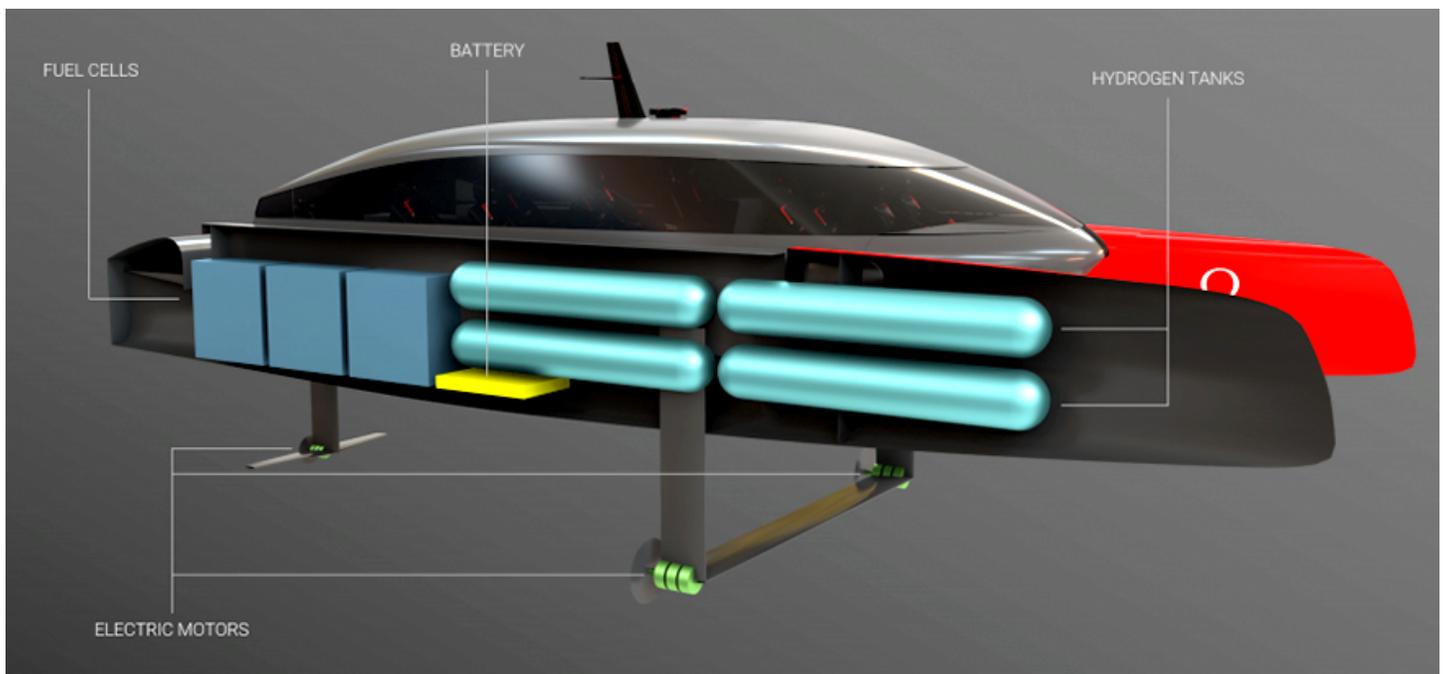
For those of you who think "motor" is a dirty word, not to worry, this Toyota sponsored power-maker is earth friendly. It is fuelled by compressed hydrogen gas. No, it does not burn the hydrogen, rather it is converted to electricity, heat, and water through the process, reverse electrolysis. You recall from high school physics that when a DC current is passed through water two gases bubble up. These are 2 parts hydrogen and one part oxygen.

To power the motor, hydrogen is the fuel and when combined with atmospheric oxygen in the presence of a catalyst, the reverse of electrolysis occurs and a DC current is created. Naturally, even the creation of this hydrogen is ecologically sound because the gasses can be created anytime when clean energy sources are available. For example, during the day when solar power panels are operable, clean, and efficient.

The 11,500 lb., 33 ft boat cruises at 38 mph and tops out at 56 mph. The 6 crewmen can fly 112 miles at cruise speed before pulling on their oars.

The hydrogen-powered chase boat can carry out support duties without releasing emissions.

***Photo: Emirates Team New Zealand
Robb Report Article***



America's Cup Information

The 37th America's Cup will be raced in Barcelona starting on Saturday 12th October 2024

[Yachting World Article](#) - March 29, 2022

Racing in the 37th America's Cup Match itself, which is a best of 13 (first to seven) format will start on Saturday 12th October with two races scheduled, followed by a further two races on Sunday 13th October 2024.

[Yachting World - More Details](#)

Racing will then pause for two days – at the discretion of the Regatta Director and after consultation with both the Defender and the Challenger – and depending on conditions, both of these days could be used to complete two races a day. The schedule as it stands, without the use of the Monday or Tuesday, would recommence on Wednesday 16th October 2024 for one race (race 5) in the Match followed by the final of the Women's America's Cup,

<https://www.americascup.com/the-boats>

Also Check Out This E-Foil Work Boat being produced by AC builder, Artemis Technologies

Source: News Atlas, [article link](#)

[YouTube Video](#) of Work Boat on Foils in Belfast

[YouTube Video](#), explaining how it flies

[YouTube Video](#) with background on Artemis Technologies

From SailGP last year, the following video provides a good explanation of races.

[YouTube Video](#) - 2022 SailGP [CNET]

Here is a peak at where the AC boats are headed:



INEOS Britannia has unveiled its new 'LEQ12' America's Cup test boat, T6, while activity among all the teams has ramped up with two years to go until the 37th America's Cup

[Yachting World Article](#)

AC 40 [YouTube Video](#)



**Artemis Technologies Work Boat
Belfast Maritime Consortium**

The IHS Video Corner and Foiling News

Artemis e-Foiler

<https://www.artemistechnologies.co.uk/ef-24-passenger-ferry/>

The first EF-24 Passenger Ferry is planned to launch in 2024, and operated by Condor Ferries; servicing a route between Belfast and Bangor in Northern Ireland



EF-24 Ferry Rendering, Credit: Artemis

Hydrofoiling jet ski promises record-breaking speed

By Loz Blaine

[News Atlas Link](#)

The Valo Hyperfoil aims to kick off a new class of "ultra-performance" electric personal watercraft, a two-seat jetski that can rise out of choppy water on extendable hydrofoils, and go faster than any other electric or hydrofoiling craft you can buy.



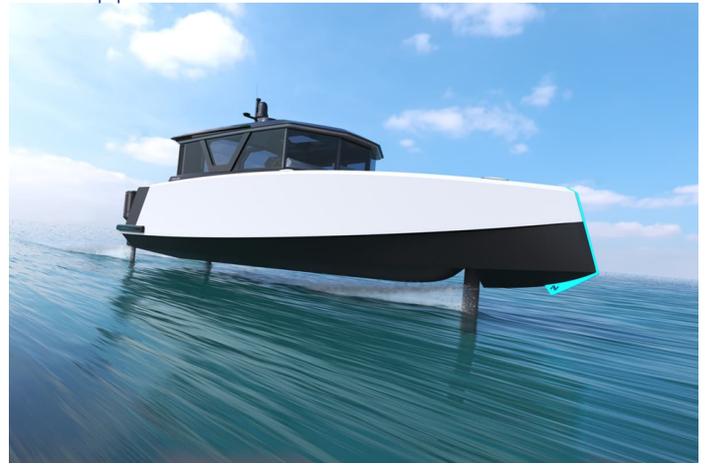
Valo Hydrofoil, foils down, Credit: Valo

Semi-autonomous long-range electric hydrofoil plots course to the future

By C.C. Weiss

[News Atlas Link](#)

Conceived to be the "boat of the future," the all-new Navier 30 adds a little length over the Navier 27 concept that preceded it while remaining true to the vessel's ambitious high-tech approach.



Rendering of the Navier 30 pushing toward its 35-knot top speed Credit: Navier

Student Team Plans to Win Monaco's Open Ocean Green-Power Race

[The Maritime Executive Link](#)

Every year, TU Delft's Hydro Motion program gathers together an elite team of engineering students to design, build and race a sustainably-powered boat that pushes the envelope of existing technology.



The 2022 Hydro Motion race boat (above) took home second place; this year's team wants first, Credit: TU Delft Hydro Motion

The IHS Video Corner and Foiling News

Fliteboard boast "world's lightest" eFoil

[News Atlas Article](#)

By Paul Ridden January 23, 2023

"Furthering the pursuit of the ultimate ride, Series 3 offers record-breaking developments with the world's lightest performance eFoil, lightest ever lithium-ion eFoil battery and the world's first interchangeable propulsion system," said the company's founder and CEO, David Trewern. "These advances will truly change the way we experience the water."



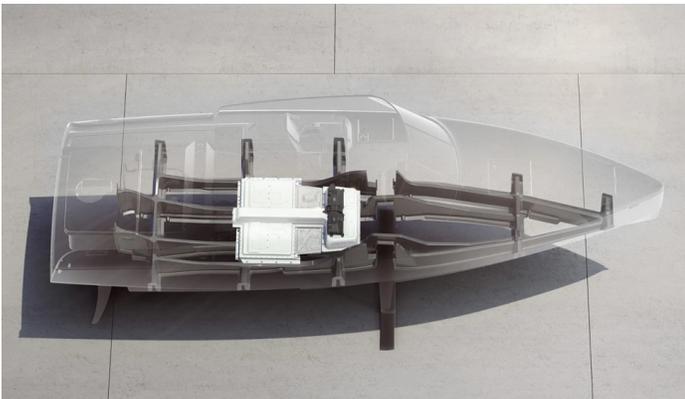
Source: [Fliteboard](#)

Candela C-8 Foiling eboat

[News Atlas Article](#)

By Paul Ridden January 17, 2023

The C-8 "powered by Polestar" edition will replace Candela's current 44-kWh production model when it goes into production this spring.



Its internal layout has been redesigned, to accommodate a 69-kWh battery module and DC fast-charging technology.

Awake aims to make eFoil flying easier with the Vinga 3

[News Atlas Article](#)

By Paul Ridden January 24, 2023

Pitched as the easiest high-performance eFoil on the market, the Vinga 3 features a reinforced carbon fiber/foam board that measures 5.6 ft (1.7 m) in length, and is topped by a grippy full-coverage deckpad. And it sports a 95-liter volume that's "intentionally distributed to accompany beginners through every step of their progression."



<https://youtu.be/F1nt44KfulY>

Product page: [Vinga 3](#)

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OU 32 Homebuilt Version Update

We last received an article from Wayne regarding his home build of the OU 32 Tsunami in the January 2022 Newsletter, Let's see what progress he has made.



By Wayne Butt
New Zealand, wgbutt@gmail.com

.Year three into a four-year project to produce a garage built version of Kotario Horuichi's OU32, as outlined in the Jan 2022 IHS newsletter, I can report that progress has been steady. The canopy is fitted and functioning, and the upholstery and internal furnishings are fitted. The front foil, which retracts into the boat, has been fitting and the retraction method is conceptualized but not yet fabricated.

The mechanical components for directional and pitch control for both the front foil and vertical stem, and the 30 HP outboard motor have been installed, but the electrical portion of the control system (servos and controllers) has yet to be completed.

Progress is pleasing but the canopy did not go as planned. I have used 3mm acrylic and found it difficult to "blow" without a large oven, so have settled for a less aesthetic two dimension curve. I may try again using 2mm acrylic sheet.

OU 32 Update, continued

Some colour stripes are to be added over the white basecoat for appearance, and the boat has yet to be seated on a trailer. The boat is currently slung from the overhead garage beams to allow the front fin to be fitted from below. It doesn't quite clear the canopy to allow for installing from above. Perhaps a design oversight!

Launch date is planned for some time in December 2023, but the project is there to be enjoyed, not hurried.



*Work in Progress
Photos of the
OU 32 Tsunami
Construction*

Flying Fish Update

Foil test setup

In 2022, Flying Fish has supported research groups of MARIN and TU Delft with the development of a scientific test setup for hydrofoil research. The setup uses our custom 3D-printed foils to allow for rapid prototyping and testing. The foils are stiffened with internal structures to avoid deformation during testing. In the planned tests, the lift and drag forces on the foil will be measured and compared with the theoretical calculations. Attached a photo of our engineer Casper Vertregt at the towing tank of TU Delft. For more info on this Joint Industry Project from MARIN, check out: <https://www.marin.nl/en/jips/foil-design>

Zero-emission vessels

Also in 2022, Flying Fish has tested and launched its first 100kW hydrogen-electric water taxi as part of the SWIM consortium. SWIM consists of Flying Fish, Enviu and Zepp.solutions. Together, these companies have shown the viability of hydrogen for heavy duty, fossil-free maritime applications.



Test Photo



CSV Crew Change Plat

With the gained experience on foils and propulsion, Flying Fish now starts working on projects of a bigger scale. A valuable application for modern hydrofoil technology is on seaworthy Crew Transport Vessels (CTV's). Currently, CTV's worldwide are powered by fossil fuels to carry crew and equipment to wind farms. Switching to hydrogen-based energy is expensive, due to the high drag that CTV's encounter at high speeds.

To end this paradox of maintaining green energy with fossil fuels, Flying Fish has set ambitious goals for developing foiling hydrogen-electric CTV's. As the wind-at-sea market is growing rapidly and in urgent need of a fossil-free business model, the market for zero-emission CTV's is growing too. Therefore, Flying Fish aims to deliver a concept design for foiling CTV's by the end of 2023 with fellow companies C-Job, Zepp.solutions, De Haas Maassluis and wind industry partners. Flying Fish is still actively looking for launching customers from around the world, so do not hesitate to get in touch via info@flying-fish.tech or www.flying-fish.tech.

Kometa Model 3D Printing

Yoichi Takahashi answered questions about his experience using 3D printing for hydrofoil models.

By Ray Vellinga

.1. Do you own the 3D printing device?

A: The 3D printer machine has been in use since 2012.

The first model was run on MakerBot for 2500 hours and retired due to aging.

Currently using FLSUN on the second generation model.

2. What image information do you start with?

Do you use a photograph of the boat, or do you use plans and technical drawings?



Painted Model with Surface Piercing Foils

A: Photographs and general arrangement drawings available before the start of 3DCad drawing

receive. Most of them are obtained from the internet.

3. How do you convert these 3D CAD images into a pattern that the 3D printer can utilize?

Undoubtedly there are books that answer this question....

A: When the entire modeling is completed with 3DCad, the inside of the fuselage is hollowed out, divided into sizes that can be output by the printer, and converted into STL data to be passed to the printer with slicing software.



3D Printed Modules, before assembly

Kometa Model 3D Printing

4. In general terms, how much would it cost someone to have this work performed by someone who owns a 3D printer?

A: This Kometa 120 is operated by 3D slicing software and the output operating time of the 3D printer. It takes about 50 hours.

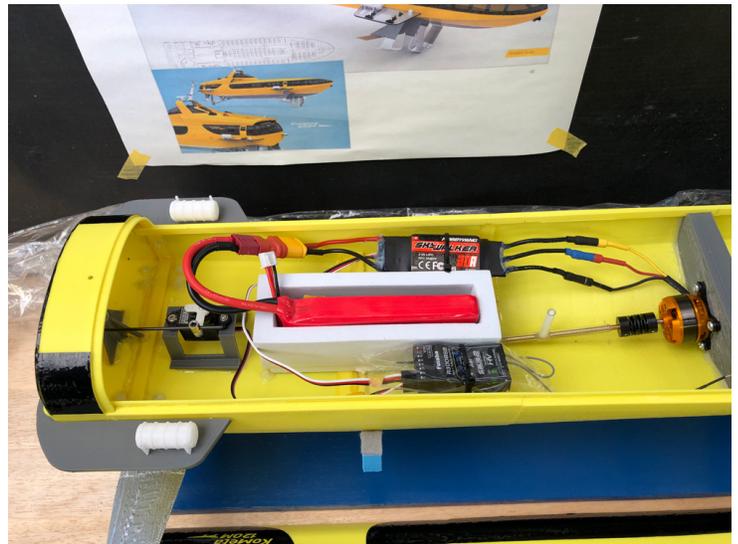
The plastic material cost is about \$ 10



3D Printed Foils and Struts



Assembled Kometa Model



Motor and Battery Assembly

Reprint: Boeing Marine Systems 25th

After 40 years we're reprinting material from the Boeing 25th Anniversary in 1983

THE FIRST FAMILY OF HYDROFOILS FOR 25 YEARS

Boeing military and commercial hydrofoils are the most advanced in the world.

They're safe, smooth, fast and reliable.

Boeing hydrofoils are designed to handle both mil-



Little Squirt 1962

itary and peacetime operations with minimum re-configuration. And years of extensive use and testing have proven their superiority over conventional ships and other advanced marine vessels.

They can do the job and do it right.

A HISTORY OF SUCCESS

Every Boeing hydrofoil in



FRESH I 1963

use today was built on the experience and performance of its predecessors.

In 1962, Boeing's *Little Squirt* was used to prove the feasibility of waterjet propulsion now in service on all Boeing hydrofoils.

Boeing's *FRESH I* flew across the water at a record 84 knots in 1963. It demonstrated the importance of directional and roll stability.

That same year, the first Boeing-built military hydrofoil found its sea legs. The U.S. Navy's *High Point* featured a propeller drive



High Point 1963

system powered by marine turbines.

And in 1967, the *Tucumcari* became the first



Tucumcari 1967

Navy hydrofoil to use waterjet propulsion. As a result of trials in the U.S., Europe and Vietnam, features of the *Tucumcari* were chosen as requirements for the NATO hydrofoil program and today's *Patrol Hydrofoil Missiles*.

THE RIGHT CHOICE FOR ANY JOB

Whether it's protecting national security, carrying

troops or guarding natural resources, Boeing hydrofoils have proven they can handle the job.

Speed, maneuverability, sophisticated electronics and a tough arsenal give the Boeing hydrofoil impressive fire power. Plus it is highly survivable, and it carries a small crew for reduced costs.

The Boeing *Jetfoil* has carried more than 20 million passengers over 800 mil-



Patrol Hydrofoil Missile ship 1971

lion miles since it began operation in 1975.

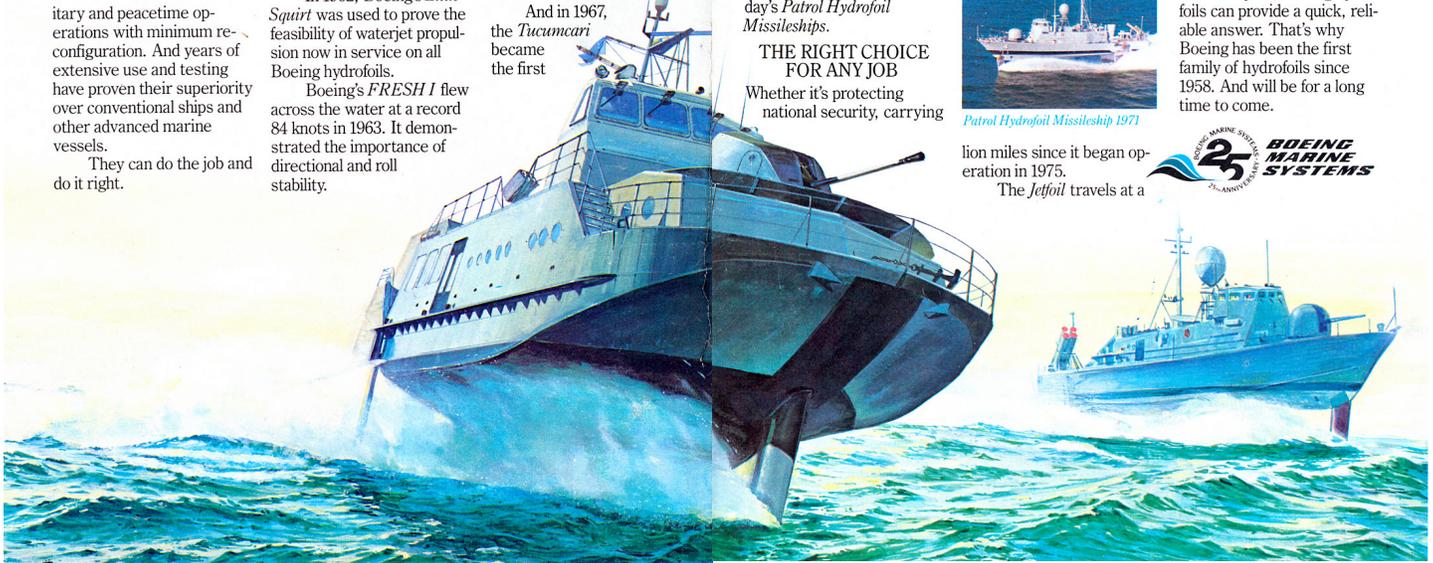
The *Jetfoil* travels at a

smooth 43 knots, even in rough seas. That's fast enough to deliver passengers and cargo in half the time of conventional transports.



Jetfoil 1972

No matter what your needs may be, Boeing hydrofoils can provide a quick, reliable answer. That's why Boeing has been the first family of hydrofoils since 1958. And will be for a long time to come.



THE FIRST FAMILY OF HYDROFOILS FOR 25 YEARS



Little Squirt



High Point



Fresh I



Tucumcari



Jetfoil



Patrol Hydrofoil Missile ship (PHM)

BMS Significant Events

- 1958 ASW DPM established in Seattle Division
- 1959 ASW/USW group established in BAC
- 1960 Navy awards \$2.08M contract for hydrofoil subcarrier USS High Point (PCH-1)
- 1961 Hydrodynamic Test System (HTS), jet-powered hydroplane designed to test foil systems, launched
- 1962 Navy awards \$1.46M contract for jet-powered research boat to test foil systems, Fresh I
- 1962 "Little Squirt," BMS research vessel to test waterjet propulsion systems, launched
- 1963 Fresh I sets new water speed record
- 1965 Navy awards \$3.8M contract for hydrofoil gunboat USS Tucumcari (PGH-2)
- 1967 USS Tucumcari (PGH-2) launched
- 1971 Boeing Aerospace Group, Naval Systems Division, official christening
- 1971 Navy awards \$3.6M contract for Phase I design of patrol hydrofoil missile ship (PHM)
- 1972 Commercial Jetfoil program approved by Boeing board of directors
- 1973 Navy awards \$45.9M contract for Phase II construction of patrol hydrofoil missile ship (PHM)

- 1974 First Jetfoil, MV Kalakaua, launched
- USS Pegasus (PHM-1) launched
- Alinari launches prototype Boeing-designed vessel, Sparviero (Swordfish)
- 1975 First Jetfoil begins service in Hong Kong
- 1976 BMS formed as separate Boeing operating division
- Jetfoils carry 600,000 passengers in first year
- 1977 Navy awards \$178M contract for five PHM production ships
- Longest continuous foilborne flight by PHM, 17 hr, 5 min
- Jetfoil conducts European demonstration
- 1978 Royal Navy buys Jetfoil variant for North Seas fisheries protection
- Jetfoil conducts Puget Sound demonstration for Washington State Ferries
- 1979 Royal Navy Jetfoil, HMS Speedy, launched
- 1980 Seattle-Victoria Jetfoil demonstration for B.C. government
- 1981 USS Taurus (PHM-3) launched, first production PHM
- 1982 USS Hercules (PHM-2) launched, last production PHM
- BMS opens negotiations with Indonesia
- Jetfoil demonstration in Alaska for Alaska Ferries
- USS Hercules (PHM-2) completes INSURV with three brooms; first time that three brooms for superior performance were ever awarded for INSURV
- USS Hercules (PHM-2) delivered to Navy
- Longest continuous foilborne flight by Jetfoil, 11 hr, 8 min
- 1983 PHM squadron complete—all six PHM's operational

BMS Ship Construction

| Launch date | Ship name |
|--------------|--------------------------------|
| JUN 6, 1961 | Hydrodynamic Test System (HTS) |
| AUG 17, 1962 | USS High Point (PCH-1) |
| NOV 27, 1962 | Little Squirt |
| FEB 7, 1963 | Fresh I |
| JUL 15, 1967 | USS Tucumcari (PGH-2) |
| MAR 29, 1974 | Jetfoil Kalakaua (1st Jetfoil) |
| OCT 22, 1974 | Jetfoil Madeira |
| NOV 9, 1974 | USS Pegasus (PHM-1) (1st PHM) |
| FEB 28, 1975 | Jetfoil Kamahameha |
| APR 30, 1975 | Jetfoil Santa Maria |
| JUN 11, 1975 | Jetfoil Kuhio |
| DEC 13, 1975 | Jetfoil Jet Caribe |
| MAY 13, 1976 | Jetfoil Spirit of 76 |
| NOV 1, 1976 | Jetfoil Jet Caribe II |
| DEC 8, 1976 | Jetfoil Okeas |
| MAY 31, 1977 | Jetfoil Flying Princess II |
| JUN 22, 1978 | Jetfoil Mikado |
| JAN 8, 1979 | Jetfoil Normandy Princess |
| MAY 11, 1979 | Jetfoil Jefferly One |
| JUL 9, 1979 | HMS Speedy |
| NOV 14, 1979 | Jetfoil Cuna Mara |
| MAR 11, 1980 | Jetfoil Jefferly Two |
| AUG 14, 1980 | Jetfoil Montevideo Jet |
| NOV 7, 1980 | Jetfoil Princess Guaymarina |
| FEB 12, 1981 | Jetfoil Princess Clementine |
| APR 23, 1981 | Jetfoil Princes Stephanie |
| MAY 8, 1981 | USS Taurus (PHM-3) |
| JUL 7, 1981 | Jetfoil Princess Guacimara |
| SEP 16, 1981 | USS Aquila (PHM-4) |
| OCT 1, 1981 | Jetfoil Bima Samudera I |
| NOV 5, 1981 | USS Arius (PHM-5) |
| FEB 17, 1982 | USS Gemini (PHM-6) |
| APR 13, 1982 | USS Hercules (PHM-2) |



BMS General Managers

- 1958 Noble Bryan
- 1959-1962 Robert E. Bateman
- 1963-1964 Kenneth W. Brown
- 1965-1970 Airo M. Gonnella
- 1971 Robert E. Bateman
- 1972-1973 Hal McClellan
- 1974 Darrel A. Cole
- 1975- Robert E. Bateman

Fleet Operators

- Alimar S. A.
- British & Irish Steam Packet Co. Ltd.
- Compania Transoceanica S.A.
- Far East Hydrofoil Co. Ltd.
- Flying Princess Transportation Corp.
- Georgian Gulf Cruises, Inc.
- Jetlink Ferries Ltd.
- P&O Jefferies Ltd.
- P.T. Pabtek Kapal Indonesia (Pensero)
- Pacific Sea Transportation Ltd.
- Regie Voor Maritimen Transport
- Sado Kisen Kaisha Ltd.
- Turismo Margaria C.A.
- United Kingdom Royal Navy
- United States Navy
- Washington State Ferries

Fleet total underway hours :

179,000

Fleet total passengers:

22,400,000

BMS Designed—Italian Built

- MAY 1973 Sparviero
- MAR 1980 Nibbio
- OCT 1980 Falcone
- JUL 1981 Astore
- DEC 1981 Grifone
- JUN 1982 Gioppio
- JAN 1983 Condor



Bylaw Update

By Mark Bebar

The Board of Directors updated the Bylaws on December 12, 2022 to reflect our current procedures and use of digital communications (Zoom meetings, email) to accomplish our objectives.

We are providing the updated Bylaws to receive feedback. This year we will either have an election for or designate members to the Board,

Please send nominations to

Mark Bebar at: markbebar@juno.com or Ray Vellinga at: IHSpresident2016@gmail.com

[View the Full Update to the Bylaws at foils.org](https://foils.org)



INTERNATIONAL HYDROFOIL SOCIETY

BY-LAWS

GENERAL

UPDATED – 12 December 2022

Section 1. Name

The name of this Corporation formed under the New York Not-For-Profit Corporation Law is the International Hydrofoil Society (hereafter referred to as the Society).

Section 2. Office

The principal office of this Society had originally been defined as within the State of New York. However with the progression of communications technology since its formation, the business of the society, which has membership and Board members throughout the world, business is now typically conducted on-line with no further need for dedicated office facilities.

Section 3. Character

This Society shall be an incorporated, nonprofit, tax exempt, membership corporation. No part of the corporate income shall inure to the benefit of any member or individual.

Section 4. Purpose and Objectives

The purposes for which the corporation is formed are:

- A. to support the individual members in their endeavors to advance the concept of hydrofoils by providing channels for interchanging experiences and available documents;
- B. to assist authorities and organizations in establishing regulations for the safe operation of hydrofoils;
- C. to encourage the expansion of curricula related to hydrofoil technology at the university level;
- D. to identify knowledgeable individuals when requested regarding a specific problem area;
- E. to support other technical societies interests related to hydrofoils and to endeavor to be recognized by these societies as a voice of the hydrofoil community;

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