



11° Monaco Energy Boat Challenge 2024



KUMARAGURU
Institutions



ENERGY BOAT
YALI 3.0

Kumaraguru Institutions

Kumaraguru Institutions, with an enriching history of excellence spanning for four decades, promotes the scientific temper, critical thinking and free inquiry among the scholarly community in education, research and innovation.

Committed to leveraging technology-integrated solutions to scale ecological resilience, Kumaraguru Institutions is a sustainability champion with a unique potential to create a positive impact on the environment.

Kumaraguru Center of Automotive Innovation & Development – KCAID

KCAID established in 2014 aims to be the global hub for research development, molds students into ethical leaders with top notch engineering skills focussing on three major areas: student motorsports, product development and sustainable mobility, has 13 ambitious teams with 100+ titles supported by 20 industrial tie ups has 400+ students from interdisciplinary domain, over the span of decade, it has fostered a community of over 1400+ alumni, establishing itself as the beacon for future student research.

About Event

Monaco Energy Boat Challenge is a decade old annual event hosted by the prestigious Yacht Club of Monaco that welcomes students and professionals from all over the World to race in four different classes:



SOLAR
CLASS



ENERGY
CLASS



OPEN
SEA



SEA
LAB

The event aims at promoting innovation in the nautical world, recognizing the need for more sustainable maritime practices involving alternative energy sources like solar energy, hydrogen, electricity and other renewable energy sources to power boats.

Accredited Commendation

Communication Prize

It honors teams for their outstanding communication efforts, showcasing their projects and innovations to a wider audience.

Spirit Prize

Awarded by the Participants This award underscores the importance of camaraderie, collaboration, and the shared vision of a sustainable future in the maritime world.

Innovation Prize

Awarded for teams with new idea, potential, impact and viability

Eco Conception Prize

It honors teams for Life Cycle assessment (MARINESHIFT report) & fostering/sharing eco conception concept

Best Tech Talk

Awarded with respect of timing, speaker fluidity and pertinence of answers to the jury

New Generation Prize

For the team whose project is the most "start-up material" and which brings novelty to the market

RACE PARAMETERS

PARADE



ENDURANCE
RACE



SLALOM
RACE



CHAMPIONSHIP
RACE

The 11th Edition of Monaco Energy Boat Challenge

Is an international stage for 46 teams of 31 universities from 25 Nations.

01st – 06th

July 2024

@Yacht Club De Monaco,
Monaco, the Capital of
Advanced Yachting

About The Team

Team Sea Sakthi made history as the inaugural and sole Indian team at the Monaco Energy Boat Challenge in 2022. Comprising a dedicated team of 13 students, they crafted India's pioneering energy boat, 'Yali', marking a significant milestone. Building on their success, they unveiled 'Yali 2.0' in the subsequent edition, showcasing their commitment to innovation. Their exceptional journey continues as they proudly showcase India's ingenuity for the third consecutive time on the international platform, reaffirming their status as pioneers in sustainable marine technology.

MISSION

To induce a revolution of electric mobility in the maritime sector by incorporating concepts of cleaner technologies.

VISION

To establish a maritime sector that is environmentally sustainable

Countries Participating In Energy Class

France, Italy, Monaco, Canada, Germany, England, Portugal, Hong Kong, Peru, Argentina, Athens, Chile, Croatia.

(20 Teams from 13 different countries participate in Energy Class)



Team Sea Sakthi – 2022 Accomplishments of Yali

The 13-member student team of Team Sea Sakthi built their first energy boat "YALI" for the 9th edition of the MEBC in 2022, and qualified to become the only Indian team at Monaco. YALI, as a maiden entrant, showcased the potential of maritime sustainability in MEBC 2022, and the team garnered

SIXTH Position in overall ranking among 16 other international teams

Communication Prize worth **2000 Euros** for being the most popular team



Team Sea Sakthi – 2023 Accomplishments of Yali 2.0

Nation's First Hydrogen Powered Boat

Team Sea Sakthi comprising 10 students from diverse engineering domains brought together a perfect blend of knowledge and expertise.

SIXTH Position in overall ranking among 16 other international teams

Communication Prize worth **2000 Euros** for being the most popular team

Winner of
Monaco Town Hall Cup



Team Sea Sakthi – 2024

Lighter, Stronger, Greener: The Future of Catamarans is Here

Yali 3.0

ENERGY SOURCE

Integrating a custom-made Lithium Ion Battery pack with a capacity of 10kW.



PROPELLION SYSTEM

Incorporating a Twin Propulsion system rated at 6.5kW, equipped with the MagPro Locking System to achieve enhanced propulsion capabilities.

SEAT

Crafting pilot seats using a sandwiched combination of carbon fiber and upcycled plastic, prioritizing environmental considerations.

COCKPIT

Constructing cockpits with integrated layers of carbon fibre and pineapple fibre sandwiched together to create a lighter and more eco-friendly alternative.

The Team



Yali 3.0

Enhanced Efficiency Upgrades

THE TWIN PROPULSION TO PROPEL FORWARD

WORLD-CLASS EFFICIENCY

Twin 6500W Propulsion System with MOX-09 Motors (IE5 Rated): These top-tier electric motors deliver exceptional **15%** increased efficiency, keeping you on the water longer.

AGILE MANEUVERABILITY

45% increase in thrust vectoring for precise turns: Navigate confidently and **25%** added maneuverability with ease.

IMPRESSIVE POWER

1668 Newtons of thrust:

Experience strong acceleration and handle challenging conditions with confidence.

INNOVATIVE DESIGN

Smaller propeller diameter: This optimized design delivers a noticeable improvement in acceleration and reduces drag for a smoother ride.

STRATEGIC POWER

Three Preset Modes: **Eco, Normal & Sports**



ECO MODE

Maximize endurance enabling **4.5 hours** covering **40kms**



NORMAL MODE

Optimized cruising **2 hours** of runtime ranging **31 kms.**



SPORTS MODE

Power for exhilarating performance with **1.15 hours** of runtime ranging **20 kms**

NATURE'S STRENGTH: THE POWER OF PINEAPPLE FIBERS

The Cockpit that seamlessly blends high performance with environmental responsibility. That's the driving force behind our innovative design, utilizing a groundbreaking composite material.

SUSTAINABLE CHOICE

Embrace the **power of renewal**.

Pineapple fibres, a natural resource, require less energy to produce compared to traditional materials like fiberglass.

UNMATCHED STRENGTH

Rigorous testing revealed exceptional **strength-to-weight ratios**, making pineapple fibres ideal for the demanding cockpit environment.

ENHANCED WITH CARBON FIBER

LIGHTWEIGHT ADVANTAGE

Carbon fiber's incredible **lightness** further reduces overall weight, potentially increasing **fuel efficiency** and improving catamaran performance.

STRENGTH & STABILITY

A strategic use of carbon fiber adds another layer of **strength and rigidity** to the cockpit structure.

BALANCING PERFORMANCE WITH RESPONSIBILITY

We understand the environmental impact of carbon fibre production. That's why we meticulously minimize its use in our sandwich construction technique. Pineapple fibres form the core, meticulously bonded with strategically placed carbon fibre for optimal performance with a **reduced environmental footprint**.

THE OUTCOME

ENHANCED PERFORMANCE

The reduced weight of the cockpit with the pineapple fibers and optimized propulsion system can lead to improved energy efficiency and overall catamaran

REDUCED ENVIRONMENTAL IMPACT

Our innovative approach significantly minimizes the environmental footprint compared to traditional materials.



Our Patrons

H E JAWED ASHRAF

Ambassador of India to Monaco and France

H E DIDIER GAMERDINGER

Ambassador of Monaco to India

Shri. SHANKAR VANAVARAYAR

President- Kumaraguru Institutions

Mr. SUMEET ANAND

Founder of Indsight Growth Partners

CDR ABHILASH TOMY

Indian Navy Officer, Runner-up Racer at Golden Globe Race (GCR) 2022

Mr. SIDDHARTH SINGH

Office of the Chief Energy Economist, International Energy Agency

Wall of Honour



H.E.JAWED ARSHAF, AMBASSADOR OF INDIA TO MONACO AND
MR. ABILASH TOMY, ICONIC INDIAN SAILOR AT GOLDEN GLOBE RACING(GGR)



H.E. ALBERT II, PRINCE OF MONACO

Team's Outreach with Eminent Personalities



Team's Outreach with Eminent Personalities



Meet with Prof. Dr. Velraj
Anna University Vice Chancellor



Meet with Mr. Arun Roy, IAS,
MSME Secretary



Meet with Mr.N.Muruganandam,
Principal Secretary I to CM



Meet with Mr.P.Umanath, IAS,
Principal Secretary II to CM

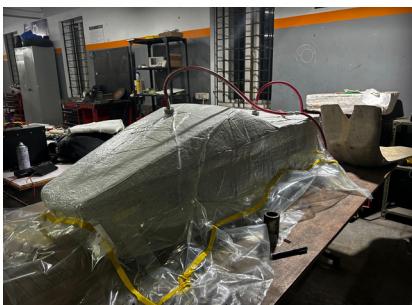


Meet with Mr.Sivarajah,
CEO-StartupTN TANSIM

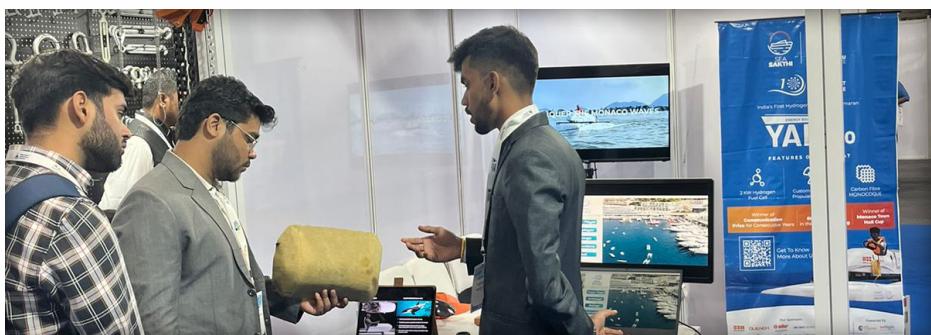


Thiru. Kranti kumar pati I.A.S.,
Prathap M I.A.S.,
Balakrishnan V I.P.S.

Work Phase



Public Outreach



Our Sponsors



UPV SOLAR

RIM DRIVE TECHNOLOGY



POWERED BY



Support Team Sakthi Yali 3.0



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ARE
WELCOME



SPREAD
THE
WORD

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