SailNav
BY GIMASI MARINE

PREVIEW EDITION · 2026

SAILING INSTRUMENTS FOR DINGHIES AND KEELBOATS

Stop guessing.
Sail by the numbers.

A wind-powered masthead sensor and a sunlight-readable display that show you what the wind is really doing, and how your trim changes your speed. For dinghies and keelboats.



COMING SOON TO KICKSTARTER

SAILNAV CLIP · DINGHY

SAILNAV CREW · KEELBOAT

Photo composite, product rendering
Photo: Chris Weiher / Unsplash



Photo composite: product rendering (mast-mounted unit) · Photo: Daniel Stenholm / Unsplash

Trim by data, not by feel.

Feel takes years to build. Numbers make every puff, every tack and every sheet adjustment measurable, so you learn in a season what used to take ten.

Whether you are learning to trim a dinghy or racing a club keelboat on a Wednesday evening, the same questions come back: am I pointing high enough, am I going fast enough, and which way is the wind about to shift? SailNav shows you the few numbers that matter, big and clear, right where you look.

Learn trim faster

Ease the sheet, move your weight, change the vang, and watch speed respond in real time.

True wind, not just a feeling

Apparent wind combined with GPS speed, heading and heel gives true wind speed, angle and direction.

VMG: speed where it counts

Pointing higher or footing faster? VMG tells you which gets you to the windward mark first.

Tacking angles and shifts

See how many degrees you really tack through, and spot lifts and headers before your rivals do.

Win the start

Sync the countdown with one key, ping both ends, then read distance and time to the line, burn time and bias.

Safety and anchor watch

GPS anchor watch with an alarm radius and buzzer, plus a barometer trend that warns you when the weather turns.

Data-driven progress

Session recording on the unit and a companion app to review your day ashore are on the roadmap.

For starting sailors and for owners of 6–10 m keel-boats and club racers.

TWO LINES, ONE PLATFORM

Start on a dinghy. Grow into a keelboat.

Both lines share the same display electronics, the same screens and the same wind-sensor technology. Pick the one that fits your boat today; everything you learn reads the same on the next one.



Product rendering · prototype design

DINGHY

SailNav Clip

A wireless, wind-powered masthead head and a floating display that clips onto the mast. Remove both in seconds when you de-rig.

- **Clip wind head**: wind-powered, wireless, floats, quick-release
- **Clip display**: floating IP68 case (target) on a quick-release mast clip
- Bluetooth LE at 4 Hz, no wiring down the mast
- USB-C charging, GPS, 9-axis motion sensor, barometer

KEELBOAT 6–10 M

SailNav Crew

A wired NMEA 2000 masthead wind sensor and panel-mount displays, with extra repeaters for the helm, the mast or the chart table.

- **Crew panel display**: 4.4" sunlight-readable screen, GNSS, 9-axis IMU, barometer
- **Masthead wind sensor**: cups and vane on a 0.6 m arm (1.0 m option), bus-powered
- **Repeaters** wired on NMEA 2000, or wireless over Bluetooth LE for retrofits
- NMEA 0183 in and out, 12 V boat power, USB-C

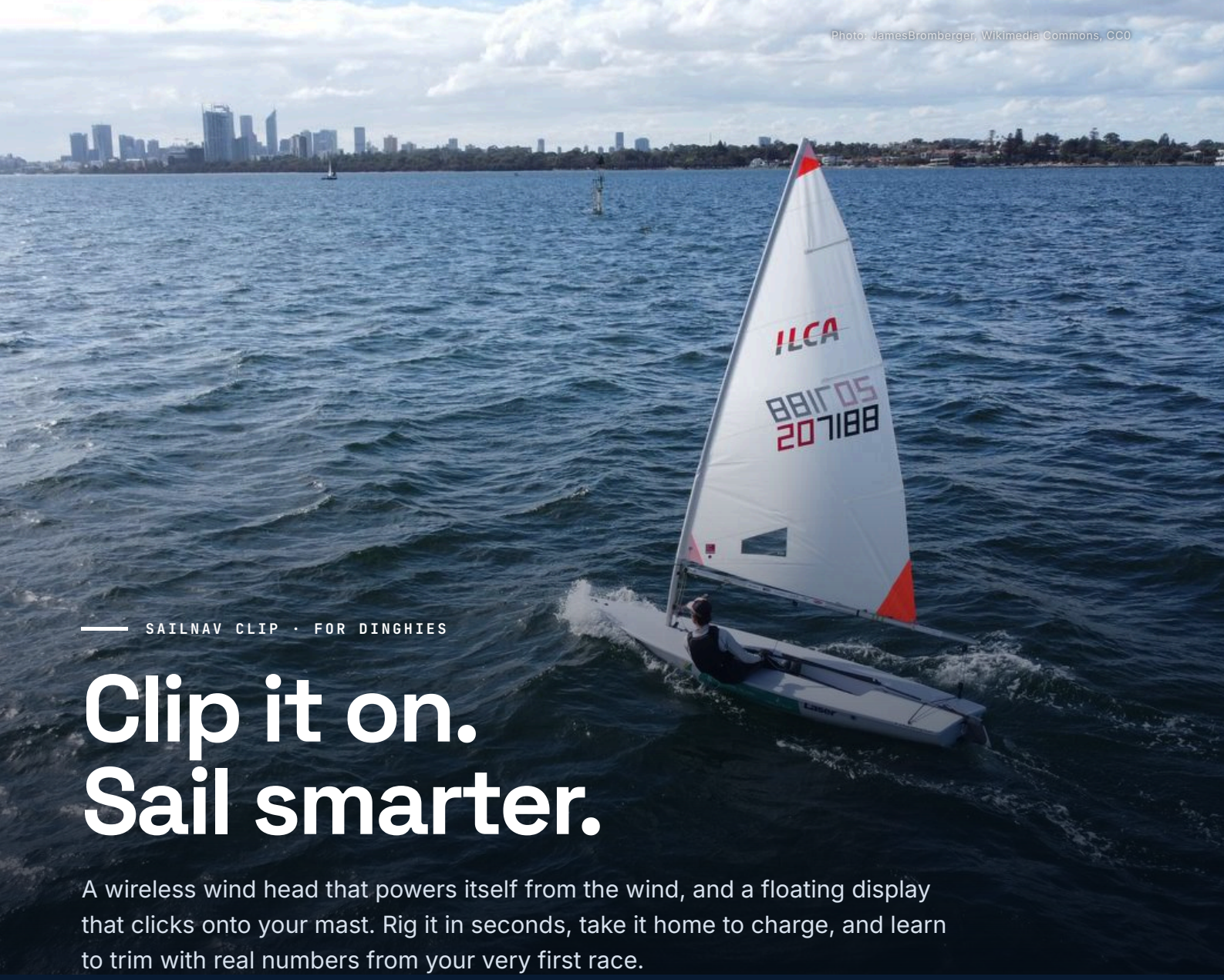


Photo: JamesBromberger, Wikimedia Commons, CC0

SAILNAV CLIP · FOR DINGHIES

Clip it on. Sail smarter.

A wireless wind head that powers itself from the wind, and a floating display that clicks onto your mast. Rig it in seconds, take it home to charge, and learn to trim with real numbers from your very first race.

Learn to trim

Apparent and true wind, heel, speed and tacking angle, in digits big enough to read while hiking. Keep it flat, tack through less, read the shifts.

Drop it. Dunk it. It floats.

Dinghies capsize. The wind head and the display both float, and the head is fully potted: no connectors, no openings.

Powered by the wind

A tiny generator in the propeller hub harvests energy while you sail. No batteries to change, no cable down the mast.

0.5 kn
wind speed read from (start threshold approx. 1 kn)

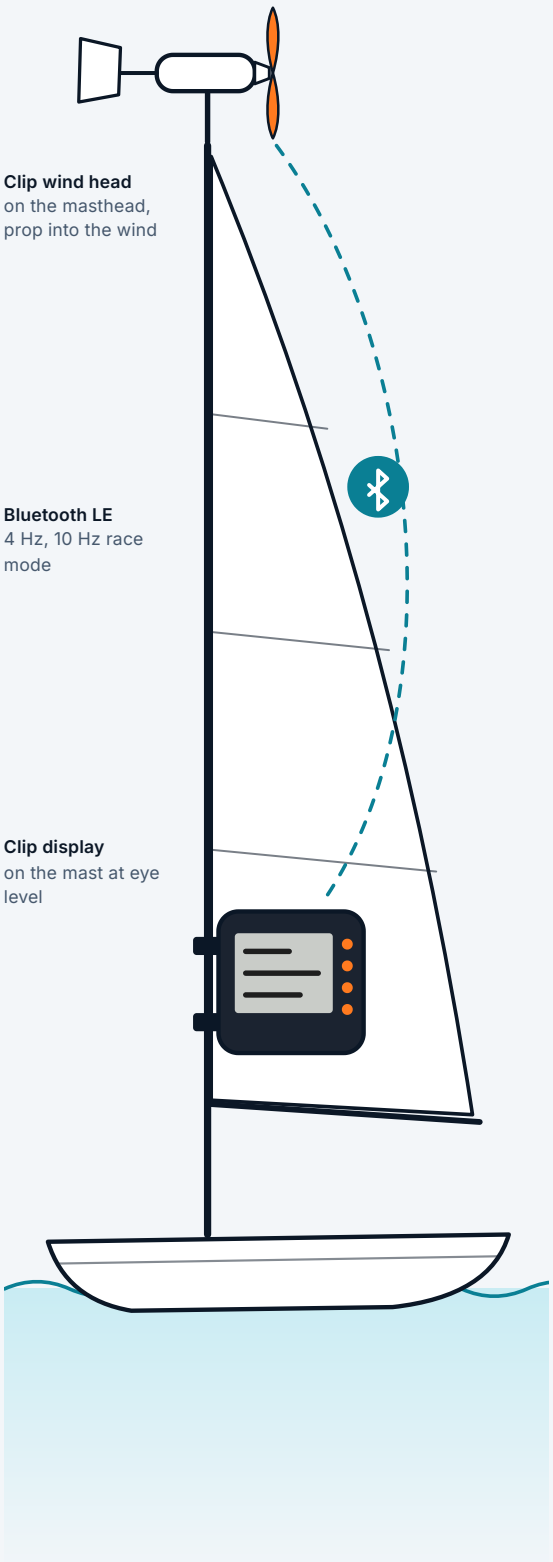
4–5 kn
wind to start charging (target)

66 g
wind head incl. stalk and socket (est., target under 80 g)

0 cables
on the mast: Bluetooth LE at 4 Hz

Figures are design targets and estimates from our design study, to be confirmed on prototypes. Dinghy boat speed comes from GPS (speed over ground); true wind is computed from apparent wind and GPS speed and heading.

CONCEPT · NOT TO SCALE



Clip wind head
on the masthead, prop into the wind

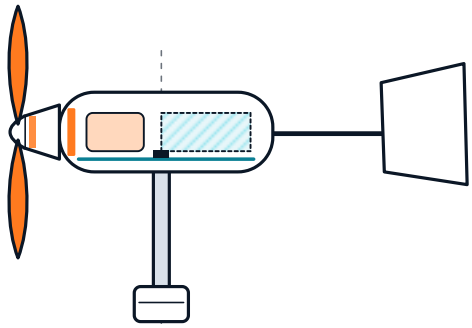
Bluetooth LE
4 Hz, 10 Hz race mode

Clip display
on the mast at eye level

CLIP WIND HEAD

Powered by the wind it measures.

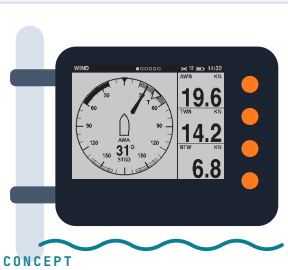
CONCEPT · NOT TO SCALE



- Propeller and vane in one swivelling head: the whole head turns into the wind
- Coreless axial-flux generator in the hub: no cogging, reads wind speed from about 0.5 kn
- Charges from about 4–5 kn of wind (target); over a year asleep, about five weeks of calm with the display listening
- Fully potted with a hermetic cell: no connectors, no openings, and it floats
- Stalk in a tool-free quick-release masthead socket, keyed zero

CLIP DISPLAY

Drop it. Dunk it. It floats.



CONCEPT

- 4.4" reflective screen, u-blox GNSS, 9-axis motion sensor, magnetometer and barometer
- Sealed, buoyant IP68 case (target) with four sealed keys you can press with gloves
- Take it off after sailing and charge it at home over USB-C, like a phone

1 **Fit the mount once.** A slim clamp stays on the mast at eye level and sets the display angle for good.

2 **Click the display in.** Slide it onto the mount until it clicks; pull the release to lift it off for charging.

3 **Push the head on.** The stalk drops into a spring-detent socket on the masthead; keyed flats keep the zero angle.

Photo composite, product rendering · Photo: Marc Wieland / Unsplash



One system. Every crew position.

A masthead wind sensor on NMEA 2000, sunlight-readable panel displays, and repeaters wherever your crew looks: helm, mast, companionway or chart table. Built for club racers and small cruisers.

4.4 in
sunlight-readable reflective screen, 320 × 240

17 mm
behind the panel, flush mount (prototype CAD)

0.6 m
masthead arm, 1.0 m option for taller masts

12 V
boat power or NMEA 2000 bus power

CREW PANEL DISPLAY

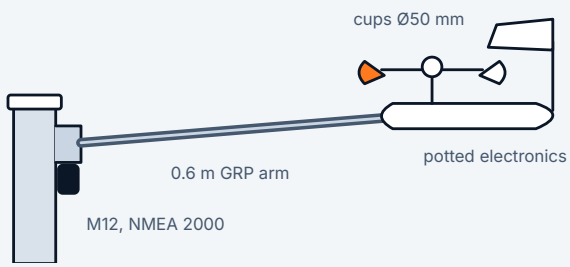
Big numbers. Readable in full sun.

A 4.4" reflective memory-in-pixel screen that gets clearer the brighter the sun, four sealed keys, and a flush panel mount that sits only about 17 mm behind the bulkhead.

- GNSS, 9-axis motion sensor, magnetometer and barometer: a GPS speed, heading and heel instrument even before you connect anything
- Built for the cockpit: sealed front, stainless screws, gasketed panel mount
- Main display or repeater is a firmware setting, so there is no special repeater model
- NMEA 2000, NMEA 0183 in and out, 12 V terminal, Bluetooth LE, USB-C



CONCEPT · NOT TO SCALE



MASTHEAD WIND SENSOR

Cups and vane, out in clean air.

Three conical cups for speed and a separate vane for direction, on a GRP arm that reaches forward of the mast, away from its disturbed air.

- Wired NMEA 2000 version: one cable down the mast, powered by the bus, works on any NMEA 2000 network
- Wireless option for retrofits: the wind-powered head, no cable through the mast at all
- 0.6 m arm, 1.0 m option; the vane sits on the tip, and the display corrects for upwash
- Masthead motion correction from the display's motion sensor

Put the numbers where your crew looks

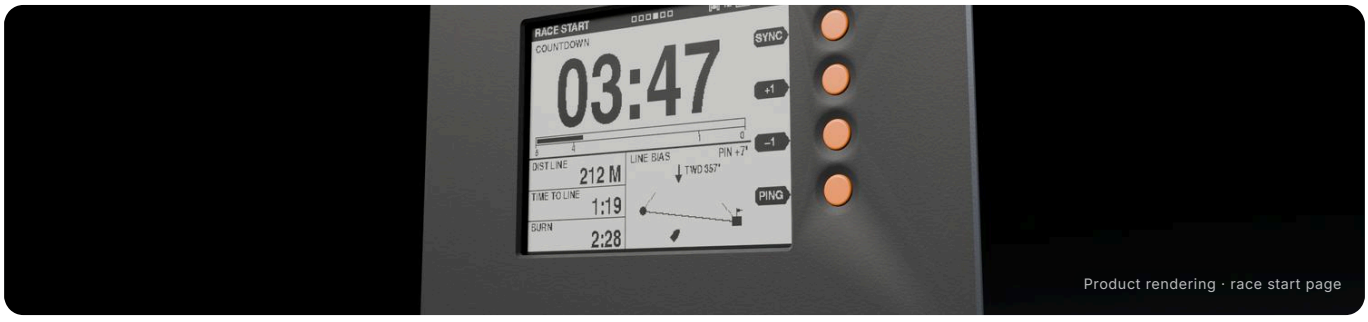
Every repeater is the same display with its own page. Wired on NMEA 2000, or wireless over Bluetooth LE.

Plugs into your boat's network

NMEA 2000 (certification planned) and NMEA 0183 in and out for plotters, VHF, AIS and autopilots.

Boat power

12 V from the NMEA 2000 bus or a dedicated 9–16 V terminal, with an internal backup battery.

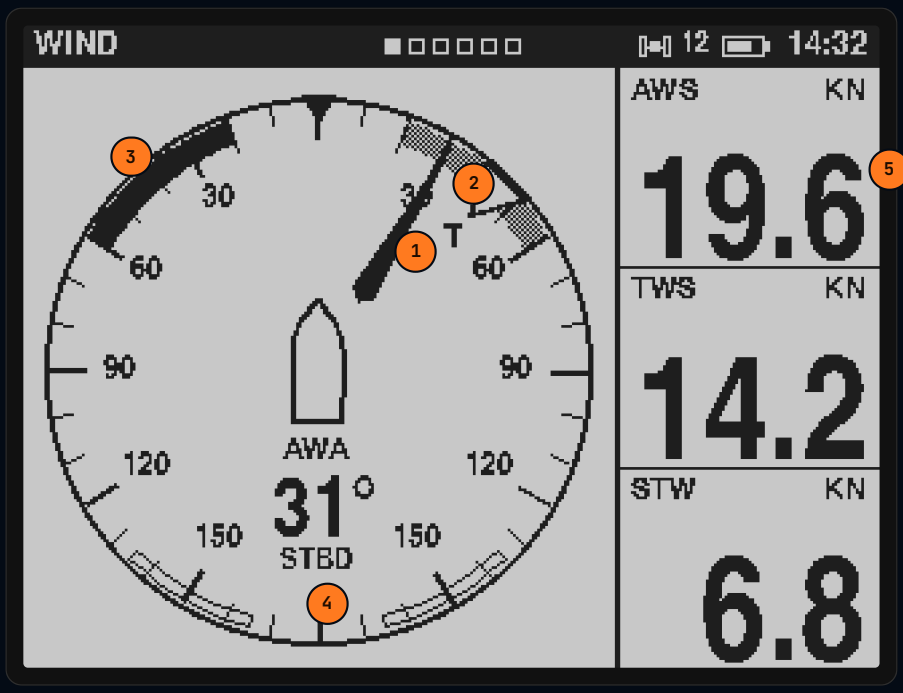


Product rendering · race start page

SIX SCREENS, FOUR KEYS

Your coach at the masthead.

Actual 320 × 240 firmware screens of the prototype. Big, high-contrast digits, one idea per screen, and the same pages on the Clip and the Crew displays.



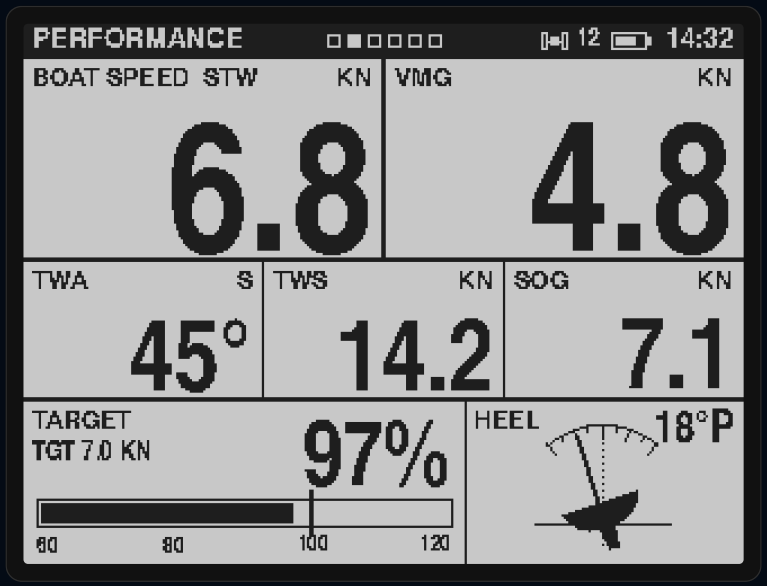
Sail by the wind

The one screen you need to learn to sail to the wind.

1. **Apparent wind needle** and the AWA in large digits
2. **True wind marker**, hollow “T”
3. **Close-hauled sectors**, port solid, starboard shaded
4. **Downwind sectors** for running and gybing angles
5. **AWS, TWS and boat speed** in knots

Performance

Boat speed and VMG in huge digits, with TWA, TWS and SOG below, a target-speed bar and a heel gauge. Change one thing, watch the numbers, keep what works.





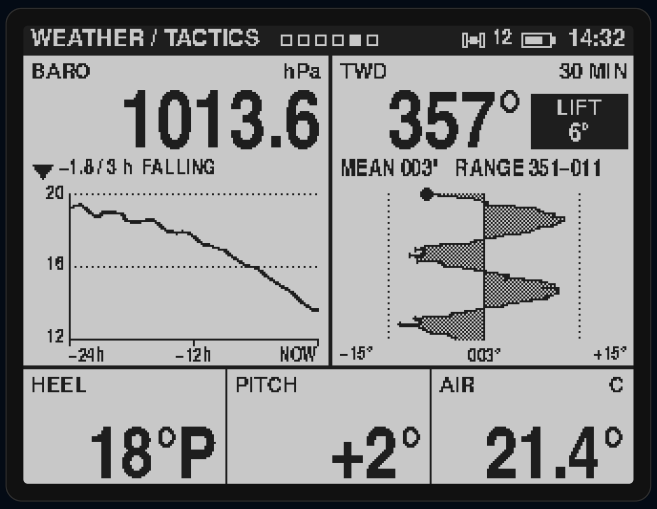
Navigation

Heading tape with course-over-ground and waypoint markers, bearing and distance to the mark, cross-track error, ETA and position from the built-in GNSS.



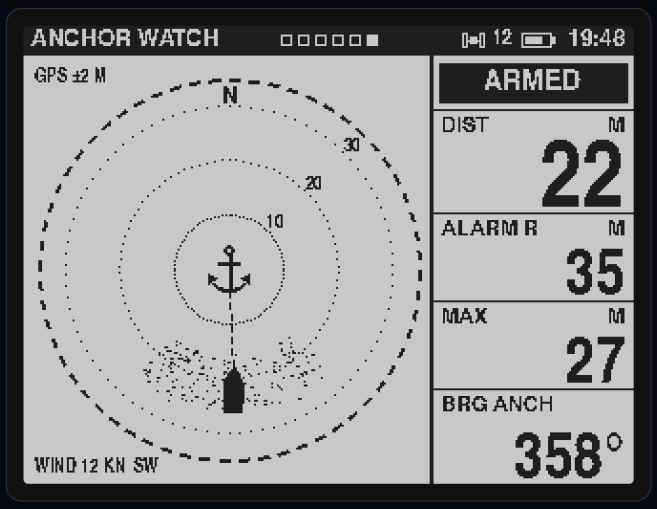
Race start

Countdown with the 5-4-1-0 sequence. The four keys become SYNC, +1, −1 and PING: ping both ends of the line, then read distance, time to line, burn time and line bias.



Weather and tactics

Barometric pressure with a 24-hour trend, and a 30-minute wind-direction tracker that calls lifts and headers for you, plus heel, pitch and temperature.



Anchor watch

Drop the anchor, arm the alarm. SailNav plots your swing circle and sounds the buzzer if you drag outside the radius you set.

Screens shown at actual pixel resolution (320 × 240, one bit per pixel). The display is reflective and reads best in bright sun; it has no backlight in the current design, and night-use options are under evaluation. Pages and data fields may change before shipping.



Product rendering

TECHNOLOGY · SUNLIGHT DISPLAY

The brighter the sun, the better it reads.

Phones and most screens fight the sun with a back-light. SailNav uses a 4.4" reflective memory-in-pixel panel: sunlight is the light source, so contrast stays high in direct sun and at wide angles.

Memory in every pixel: the image stays without refreshing, so the display draws very little power. Designed for glances: huge digits, pure black on light grey, one idea per screen.

Honest note: the panel has no usable backlight. Night-use options are under evaluation.



Product rendering

4.4 in
reflective memory-in-pixel screen

320×240
pixels, crisp 1-bit graphics

Sealed
front, stainless screws, gasketed panel mount

4
sealed plunger keys, usable with gloves

Sealed front

The window is bonded from the inside, so water pressure pushes it onto its seal, not away from it.

O-ring keys

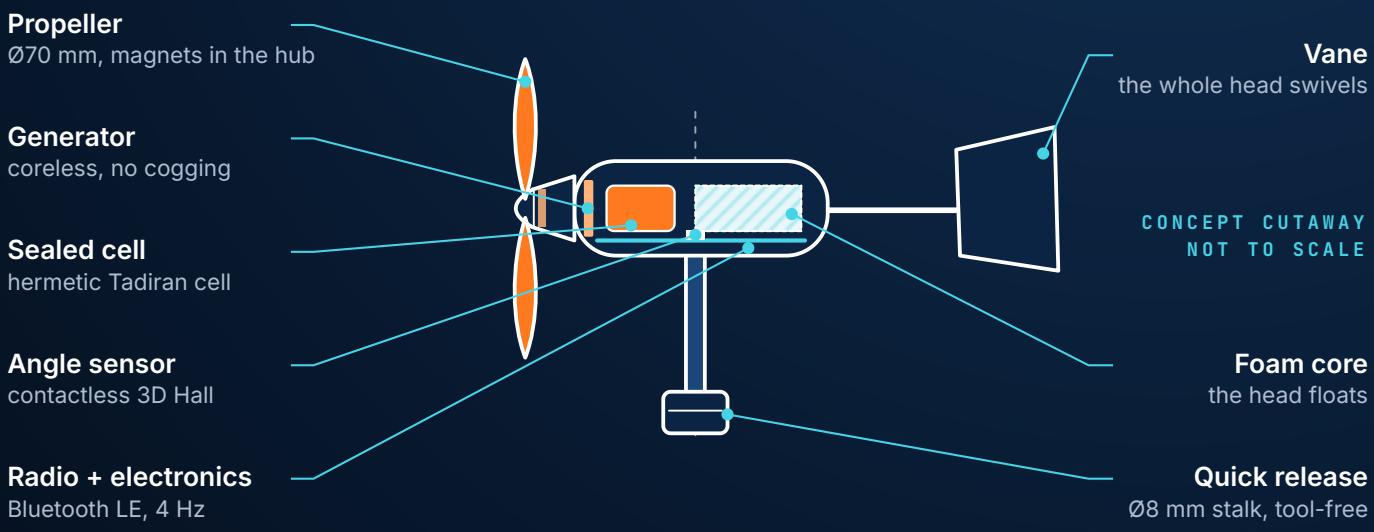
Each key is a plunger with its own O-ring instead of a membrane that can crack in the sun.

Breathing vent

A waterproof membrane vent balances pressure and lets the barometer feel the weather.

A wind instrument that powers itself.

A masthead is the worst place for a battery you have to change and the hardest place to run a cable. So the SailNav wireless head turns a small part of the wind it measures into electricity.

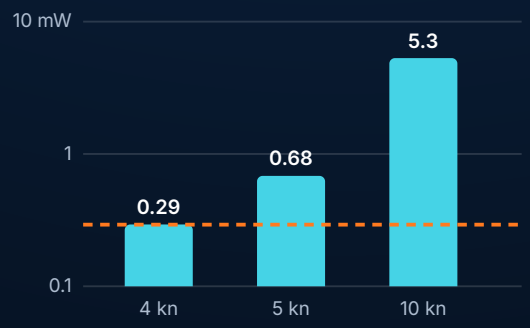


Harvesting without spoiling the measurement

Every milliwatt taken from the rotor slows it slightly. The firmware controls how much energy it harvests, lets the rotor run free when the cell is full, and corrects the wind speed for the measured generator load. An ordinary motor used as a generator "cogs" and ruins light-air readings; our coreless generator has no stator iron, so there is no cogging and no magnetic pull on the bearings.

Direction without contact: a 3D Hall-effect sensor reads the angle of a magnet through the housing wall. No slip rings, no potentiometer to wear out. The same technology serves the Clip wind head and the wireless retrofit head for SailNav Crew.

Power harvested vs apparent wind



- - - power used while sailing at 4 Hz (0.3 mW). From about 4–5 kn the head harvests more than it uses (target). First-order model, to be verified on prototypes and in the wind tunnel.

0.3 mW
while sailing at 4 Hz (model)

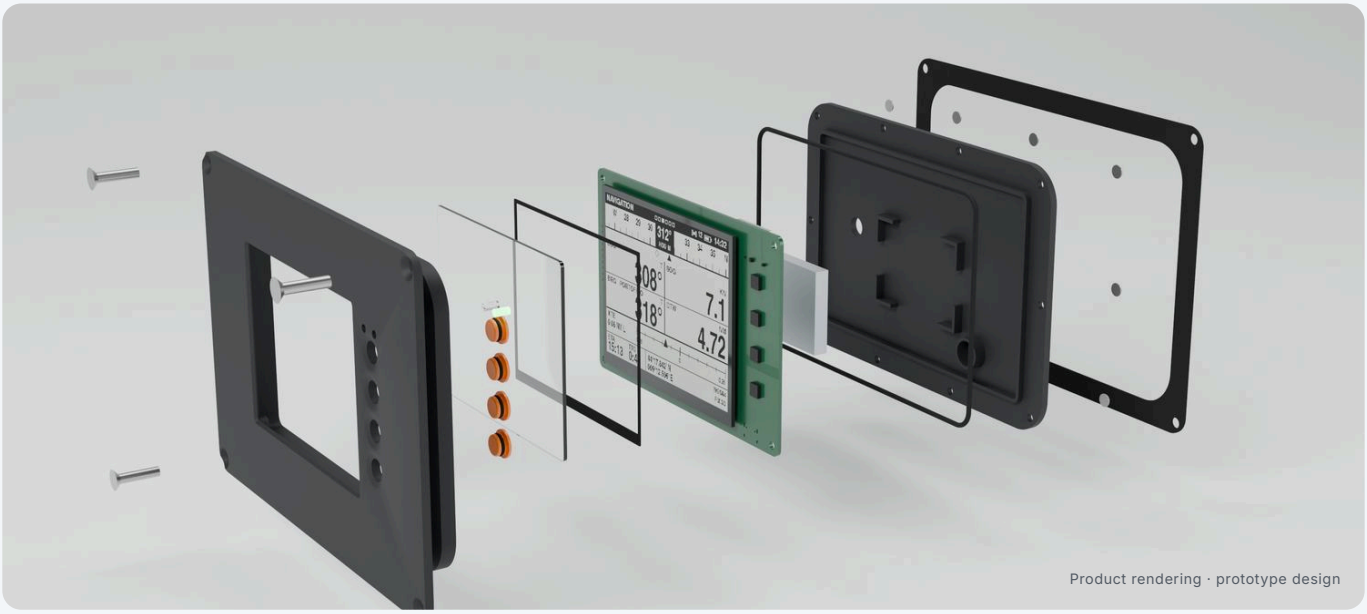
12 µW
asleep, waiting for wind (model)

4–5 kn
wind to start charging (target)

>1 year
asleep on a full cell (model)

Talks to your boat, and to your phone.

Each display carries its own position, motion and weather sensors, and talks to the rest of the boat over open marine standards and Bluetooth LE.



Product rendering · prototype design

SENSORS

GNSS

u-blox MAX-M10S with a built-in antenna and a filter against on-board VHF and AIS transmitters.

9-axis IMU

CEVA BNO085 with on-chip fusion, plus a mag-netometer: heel, pitch, heading, rotation rates.

Barometer

A precision pressure sensor records the trend and warns you of a falling barometer.

Buzzer

Built-in alarm for anchor watch and the start sequence.

CONNECTIVITY

Bluetooth LE

Bluetooth LE 6 on the Nordic nRF54LM20A. The wind head broad-casts at 4 Hz, with no connection to drop.

NMEA 2000

SailNav Crew joins the backbone: M12, LEN 3. Certification planned.

NMEA 0183

Opto-isolated listener, and a talker protected against faults up to ±70 V.

USB-C and updates

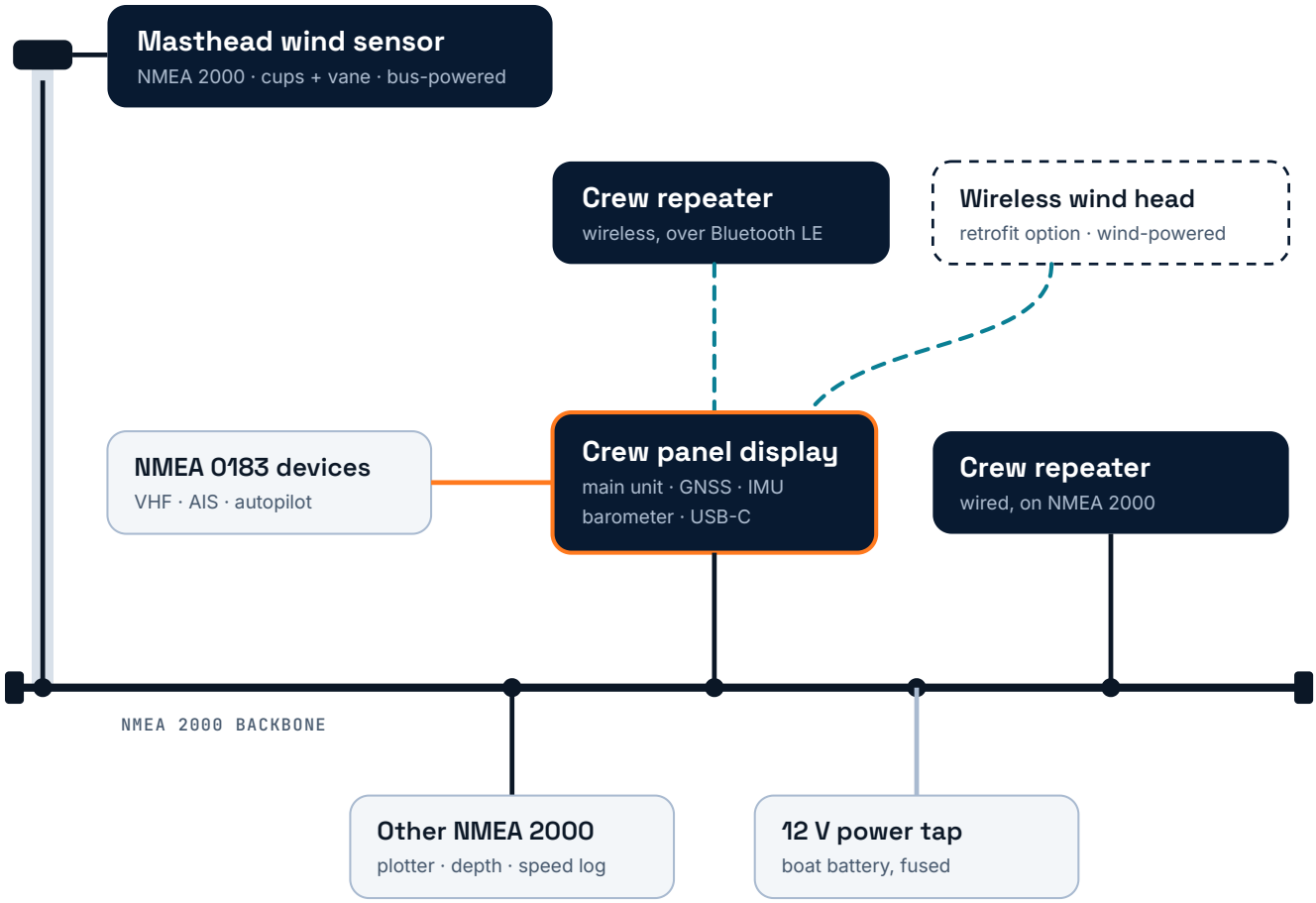
Service and bench power. Signed firmware updates with rollback, over the air to the masthead.

SYSTEM OVERVIEW

Plugs into your boat's network.

SailNav Crew speaks NMEA 2000 and NMEA 0183 and runs on 12 V boat power. Add repeaters on the backbone, or wirelessly where running a cable is a pain. SailNav Clip needs no wiring at all.

SAILNAV CREW · KEELBOAT 6–10 M



Simplified. NMEA 2000 needs a powered backbone with two terminators.
Without a backbone, a display runs from its own 12 V terminal (never both at once).

SAILNAV CLIP · DINGHY



NMEA 2000 · NMEA 0183 · Bluetooth LE · power · SailNav product

Target specifications

Pre-production data. Values are design goals or engineering estimates from our design study, to be confirmed by testing; they may change before production.

Crew panel display SAILNAV CREW

Screen	4.4" reflective memory-in-pixel, 320 × 240 px (Sharp LS044Q7DH01), sunlight readable
Night use	No backlight in the current design; night-lighting options under evaluation
Controls	4 sealed keys, built-in buzzer
Processor, radio	Nordic nRF54LM20A (Fanstel BM20C module), Bluetooth LE 6
Positioning	u-blox MAX-M10S GNSS, built-in antenna (external antenna option)
Motion, weather	9-axis IMU with sensor fusion (BNO085), magnetometer, barometer
Interfaces	NMEA 2000 (M12, LEN 3, certification planned), NMEA 0183 in and out, 12 V terminal, USB-C
Power	NMEA 2000 bus or 9–16 V terminal (survives 33 V and reverse polarity); internal LiPo backup battery
Installation	Flush panel mount, about 17 mm behind the panel; bezel 180.8 × 128.5 mm (prototype CAD)
Role	Main display or repeater, set in firmware; repeaters wired (NMEA 2000) or wireless (Bluetooth LE)

Masthead wind sensor SAILNAV CREW

Type	3 conical cups (wind speed) and a separate vane (direction)
Standard version	Wired, NMEA 2000, bus-powered; Wind Data PGN 130306
Retrofit option	Wireless, wind-powered, hermetic cell, Bluetooth LE broadcast at 4 Hz
Arm	GRP tube, 0.6 m (1.0 m option), pointing forward, stainless bracket
Direction sensing	Contactless magnetic (3D Hall)
Corrections	Heel, masthead motion and upwash corrected in the display
Mass	About 300 g including arm and bracket (est.)

Clip wind head SAILNAV CLIP

Type	Wind-powered swivel head: propeller for speed, vane for direction
Rotor	3-blade propeller, Ø70 mm
Generator	Coreless axial-flux, wound air-core coils (no cogging)
Wind speed	Read from about 0.5 kn; rotor starts at about 1 kn (target)
Energy harvesting	Charges from about 4–5 kn of wind (target)
Wind direction	Contactless 3D Hall; ±2° sensor, ±3° installed (target)
Energy storage	Hermetic Tadiran rechargeable cell, sealed in the potting
Calm reserve	More than 1 year asleep; about 5 weeks with the display on 24 h a day (model)
Radio	Bluetooth LE broadcast, 4 Hz
Construction	Fully potted, no connectors or openings; floats; UV-stabilised light-coloured housing
Mass	About 66 g including stalk and socket (est., target under 80 g)
Mounting	Ø8 mm GRP stalk in a tool-free quick-release masthead socket, keyed zero

Clip display SAILNAV CLIP

Screen, sensors	As the Crew panel display: 4.4" reflective screen, GNSS, 9-axis IMU, magnetometer, barometer, buzzer
Controls	4 sealed keys
Power	Rechargeable LiPo battery, USB-C charging; battery life to be confirmed
Case	Floating, IP68 (target)
Mounting	Quick-release clip-on mast mount

Units: kn = knots, m = metres, mm = millimetres, V = volts, mAh = milliampere-hours. NMEA 2000® is a registered trademark of the National Marine Electronics Association; SailNav products are not yet NMEA certified. Bluetooth® is a registered trademark of Bluetooth SIG, Inc.

ABOUT US

IoT engineers who love to sail.

Gimasi Marine is a division of Gimasi SA, a Swiss company that has designed connected, low-power electronics since 2012. SailNav is what happens when that know-how goes to sea.

Gimasi SA is an IoT engineering company in Mendrisio, in the Swiss canton of Ticino. We design connected products end to end, from electronics and embedded firmware to cloud software, including our own LoRaWAN and NB-IoT modules and the Tuino development board. Together with Swisscom, we worked with Coop on its own IoT sensors on Swisscom's LoRaWAN network, with firmware updates over the air.

Gimasi Marine applies the same discipline to sailing: sensors that run for years on almost no energy, sealed hardware, reliable radio links and firmware that can be updated in the field. Good instruments shouldn't be only for big boats: we want every sailor to learn with real numbers from day one.

2012
founded in Mendrisio (TI), Switzerland

CH
Swiss engineering

LoRaWAN
and NB-IoT modules of our own

E2E
hardware, firmware, cloud

KICKSTARTER

Be first on the water with SailNav.

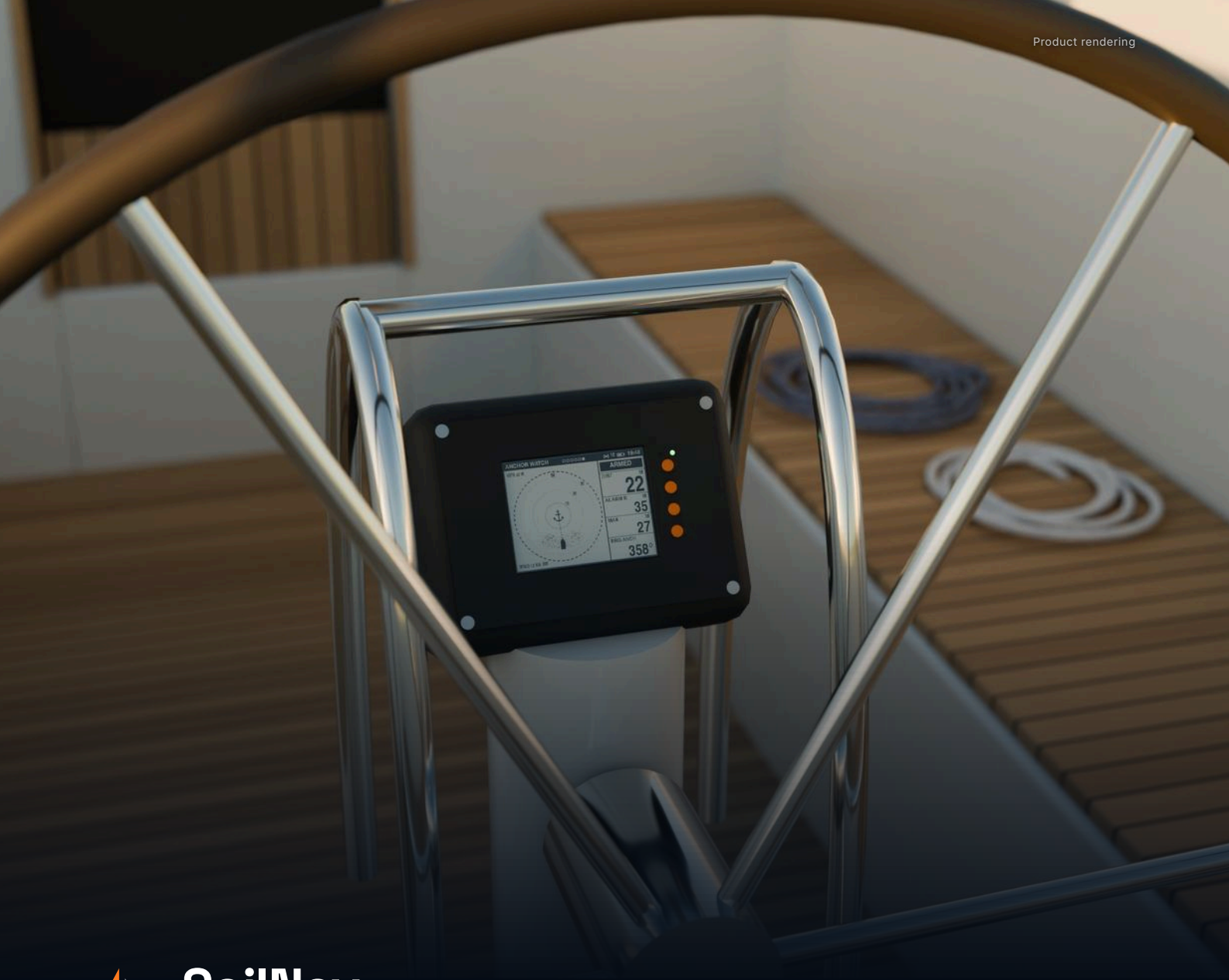
We are preparing our Kickstarter campaign. Follow it and we will tell you the day it goes live, with all the details of the early-backer rewards.

- Early-backer units for SailNav Clip and SailNav Crew
- Sailors, clubs, sailing schools and dealers: we would like to hear from you
- Investors and partners: write to us and we will get back to you personally



kickstarter.com/... · link at launch
(placeholder, not yet live)

info@gimasimarine.com gimasimarine.com



Product rendering

SailNav

BY GIMASI MARINE

Stop guessing. Sail by the numbers.

See the wind. Sail by it. Sailing instruments that teach you to trim.

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Preview edition, September 2026. All specifications are targets and subject to change without notice. Product images are computer renderings of prototype designs; illustrations marked “concept” show designs in development. Photo composites (pp. 1, 2, 6) combine photos by Chris Weiher, Daniel Stenholm and Marc Wieland (Unsplash License) with renderings of the SailNav prototype; they are not photos of real hardware on these boats. Photo p. 4: JamesBromberger, Wikimedia Commons, CC0 1.0. NMEA 2000® is a registered trademark of the National Marine Electronics Association. Bluetooth® is a registered trademark of Bluetooth SIG, Inc. Kickstarter is a trademark of Kickstarter, PBC. © 2026 Gimasi SA.