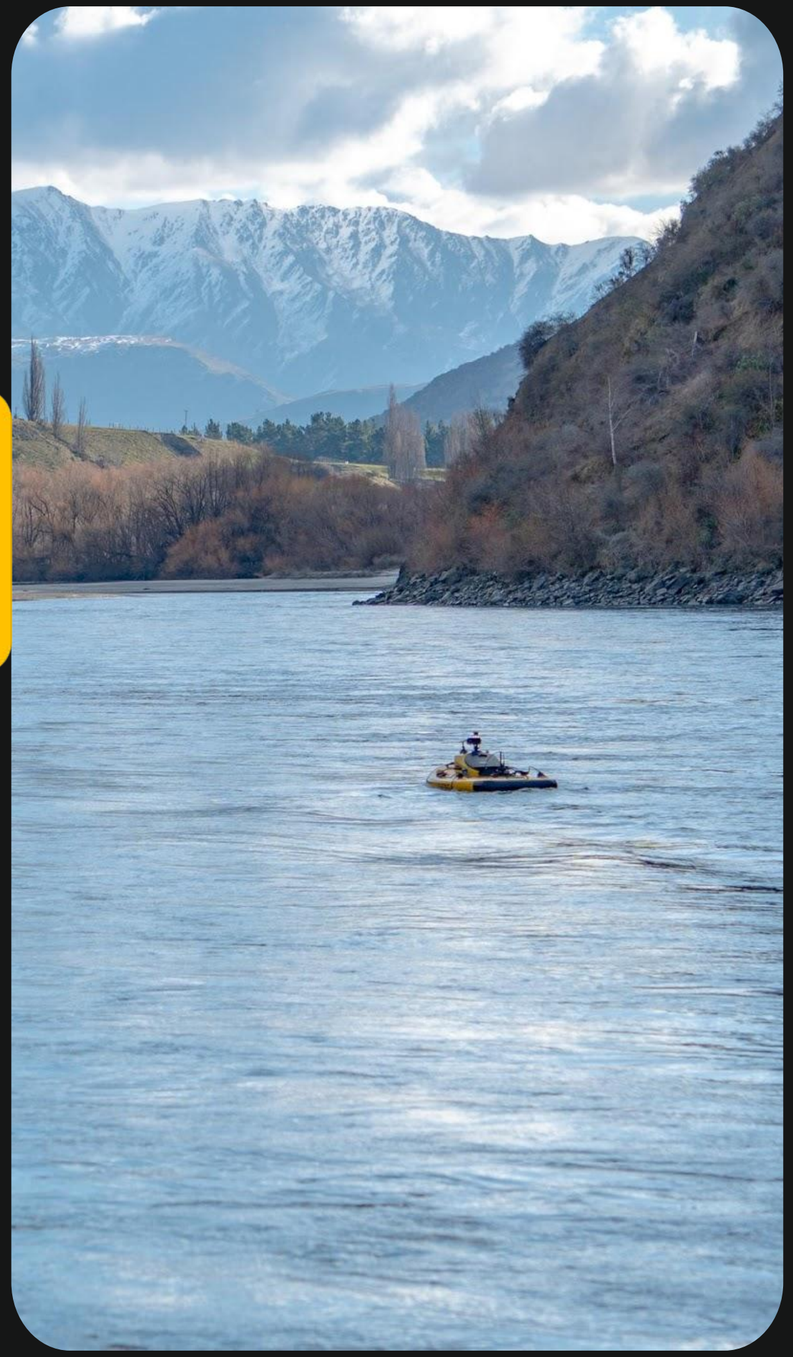


Surfbee

Xylem Dealer Meeting Presentation

Objectives of Presentation

- Surfbee : Who we are and what we are trying to achieve
- Road Map
- Product range
- Vessels
- Accessories
- Payloads

Explore More surfbee.io

Surfbee Who are we??

Background

- USV (Unmanned Surface Vehicle) Manufacturer
- Established 6 years ago constantly grown in that time
- Based out Albury, NSW, Australia
- 6 fulltime employees , 2 part time
- Over 200 vessels in service at this time

Surfbee Hydrobotics

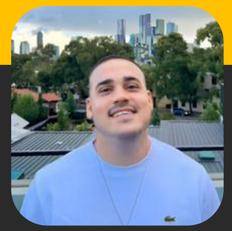
surfbee.io

Our Team

Evan Leahy

CTO

Key innovator behind ADCP and water quality advancements, leading the creation of the Flow series and Stinger WQ Solution. His pioneering work in USVs technology, coupled with a strong sales acumen, has significantly bolstered Surfbee's industry standing. With a rich background as a Hydrographer at WaterNSW and expertise in hydrography, CAD, and product development, Evan has been instrumental in Surfbee's transformation into a marine robotics leader. His integrity, deep industry knowledge, and ability to convey complex concepts have made him a cornerstone of Surfbee's success.



Chrysthian Loiola

COO

Operations and Compliance Expert Spearheaded operational, sales, and compliance strategies, significantly enhancing marine research solutions. As former COO at Ximenes Service, led a team of 80 to triple sales figures and bolster customer satisfaction through innovative product development. Holds a Master of Laws in Compliance,. At Surfbee, played a pivotal role in advancing marine robotics through expert project management and operational governance. Skills include legal administration, CRM, and risk assessment. Fluent in English, Spanish, Portuguese and German, driving global projects in marine robotics and setting

Jack Hurley

Founder and CEO

Key Contributor in $60 Million Greenfield Growth with Trimble: Played a pivotal role in nurturing a nascent business venture into a substantial $60 million success in Australia, demonstrating teamwork and strategic insight.

Instrumental in Securing a $42 Million Deal with Telstra Australia: Showcased collaborative negotiation skills and strategic partnerships in clinching a major deal, significantly boosting the company's market position.

Co-leader in AI and Safety Innovations at Boral Australia JV: Jointly led the development and implementation of groundbreaking AI solutions for worker safety, culminating in a successful JV

Joel Hackett

Engineering

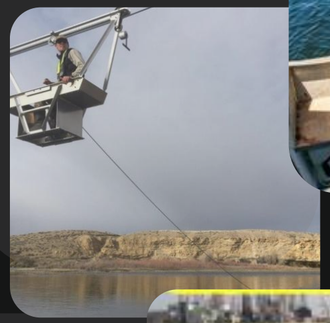
Leading assembly and engineering innovation, Joel has been pivotal in integrating advanced 3D printing technologies and streamlining marine robotics production. With a background as a Project Engineer at Firetail Robotics, he's known for collaboration on the Cyber Cone project and other robotics initiatives. Joel's mastery in coding and software development, alongside his self-taught engineering skills, underpins Surfbee's product advancements. His contributions are critical in enhancing assembly efficiency and spearheading robotic ventures, supported by a strong capacity for technical problem-solving and teamwork.

Chris Tong

Engineering

Boasting a rich career spanning defense, healthcare, and marine electronics, with roles from Senior Target Technician at Australian Target Systems to Service Manager at Ultimate Marine Power. His tenure includes significant contributions in biomedical equipment management, marine electronics projects, and military calibrations, highlighted by leadership in complex technical environments and development of software for equipment management. Holding a Diploma in Electronics Engineering and certifications across biomedical and marine systems, Christopher exemplifies technical proficiency, innovative problem-solving, and adaptability.

Our Mission



Replace High Operational Costs:

Reduce Risks in Hazardous Environments

Replace Inefficient and Outdated Processes

Reduce Complexity & Technological Gaps

We want to normalize USV use in water monitoring by providing innovative, efficient, and Reliable technological solutions.

Our Values

Simplicity

We believe in a user centric design approach from hardware to software. If it’s hard to understand/use, we redesign it

Reliability

Tested from smallest components to full system, build for reliability and real world conditions.

Efficiency

Streamlined ordering process, shipping to deployment. integrated payloads that are fit for purpose, supplementing the water monitoring needs of the client.

Surfbee Hydrobotics

surfbee.io

Flow Series Product Roadmap

TIMELINE OF THE NEXT 18 MONTH OF DEVELOPMENT

ADCP

Water Quality

Data Logger | Surfbee VPS | Surfbee Sampler

Bathymetry

Data Logger SBES
MBES Side Scanning

COMPLETE → ALMOST COMPLETE → UNDER DEVELOPMENT → STARTING DEVELOPMENT → CONSULTING VENDORS →

CUSTOMER DRIVEN USV PLATFORMS FOR SPECIFIC PAYLOADS AND PRICE POINTS

surfbee.io

What we deliver

Easy to use Autonomy

With the Surfbee App, you can deploy entirely autonomous functions, deploying Bathymetry, WQ data collection or ADCP measurements with just one click.

High Quality GNSS System with GNSS Heading as Standard

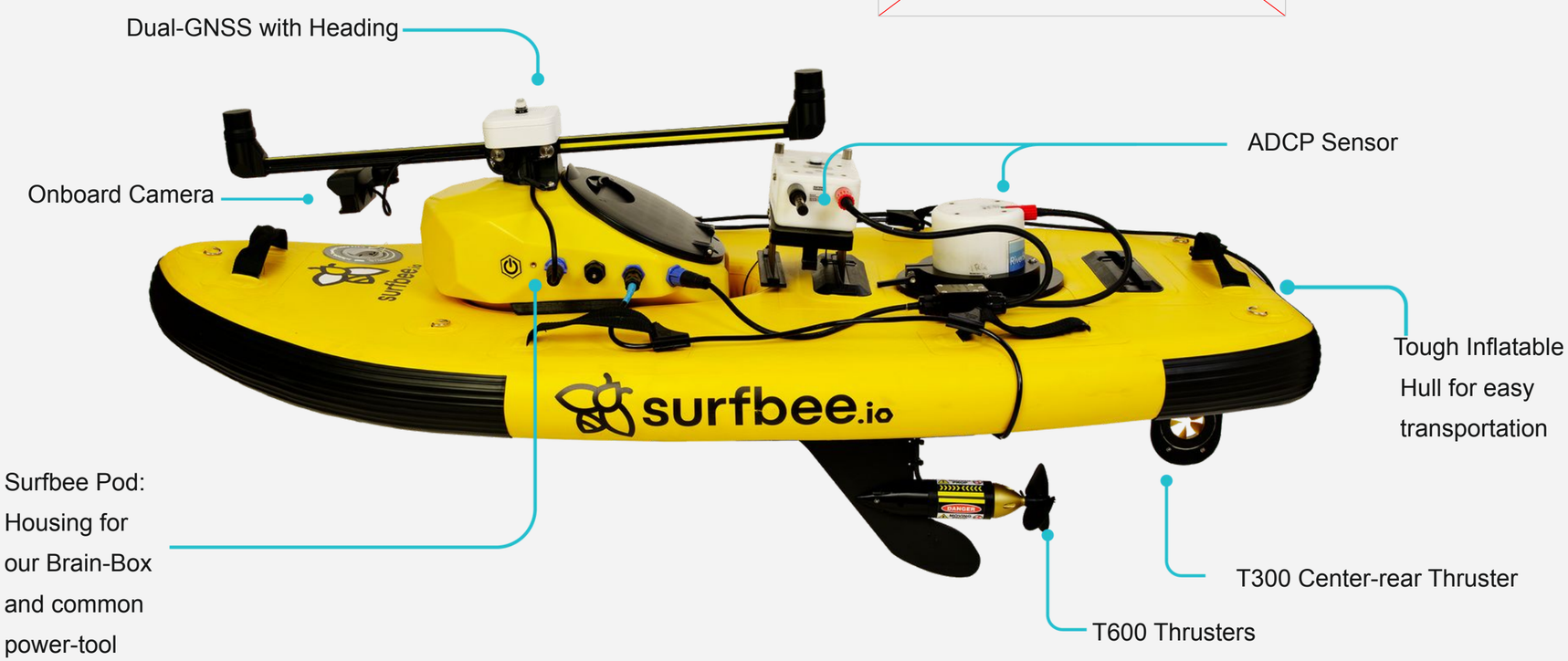
GNSS with heading capabilities as standard. This represents a big step into autonomous operations and payload integration.

Powerful & Portable

With max speed of 4m/s, our vessels are designed for harsh conditions and easy transportation. Our transmitter has long range and it’s dust and spray-proof

Flow Seeker

The daily driver and workhorse of the range, designed for a wide variety of gauging sections and sensor deployments. It's maneuverable, portable, and can handle tricky situations. The inflatable hull allows for easy transportation, storage, and replacement. Autonomous transects and bathymetry as standard.



Flow Seeker Specifications

Top Speed	4m/s
Dimensions	1.65 m X 0.75 m X 0.1 m
Weight	13.5 Kg (no batteries)
Temperature Range	-10C to +45C
Max. Payload	up to 10 Kg
Minimal Depth	0.25 m

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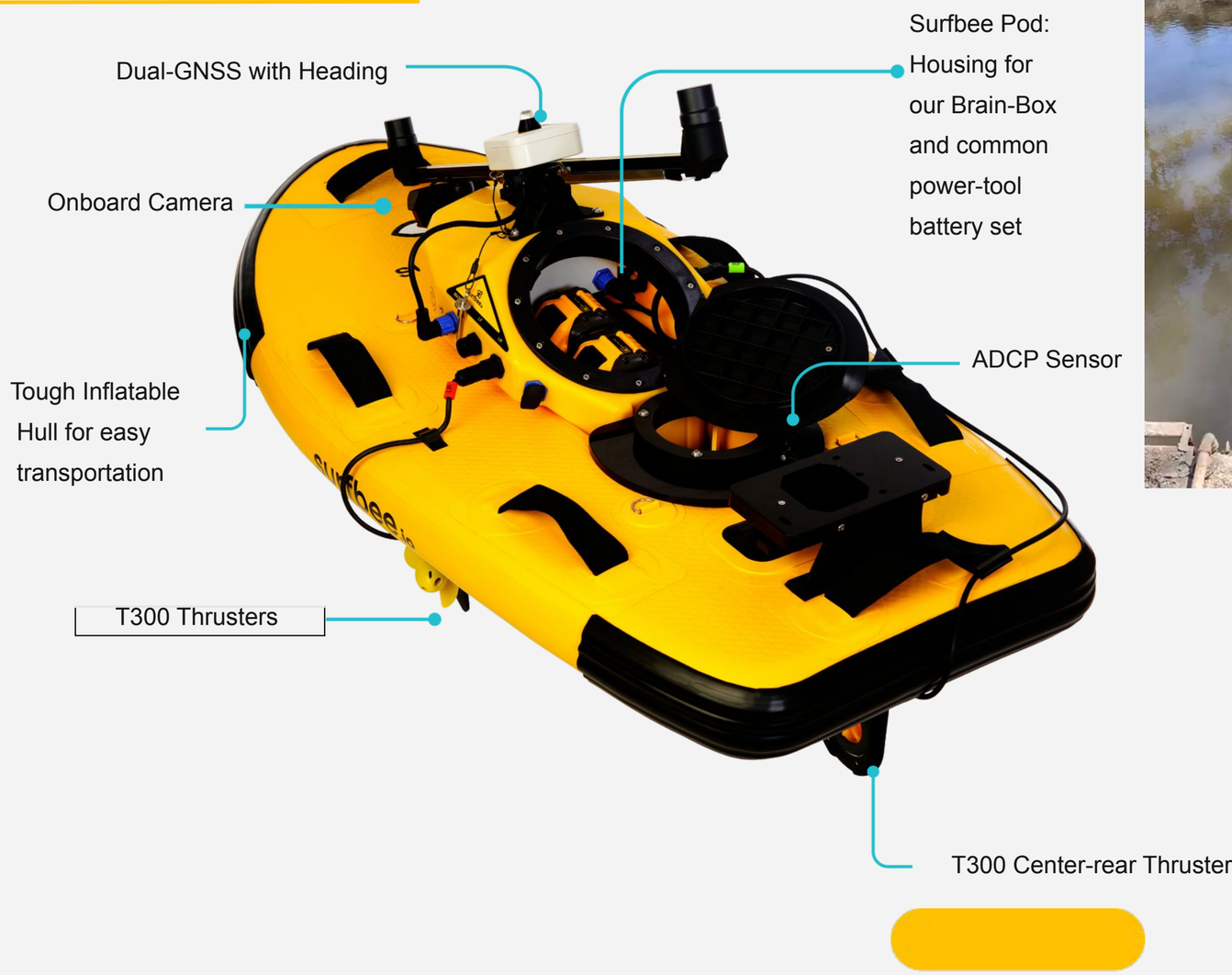
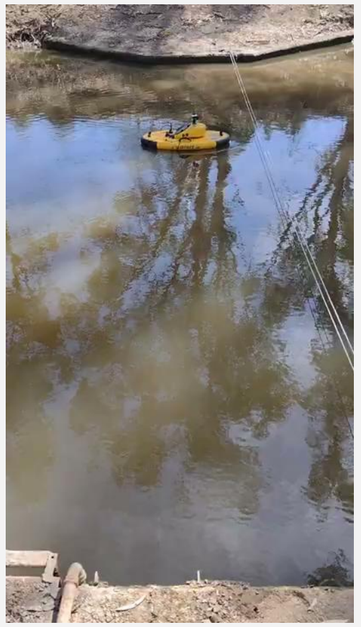
Lateral Movement Capabilities

Flow Scout

Designed for versatility, this vessel excels in shallow waters, equipped with three underwater thrusters for robust propulsion.
It easily adapts to different sensors, ensuring precise control through autonomous lateral movements, even in challenging conditions like windy and slow-moving channels.





Flow Scout Specifications

Top Speed	2 m/s
Dimensions	1.35 m X 0.7 m X 0.1 m
Weight	11 Kg (no batteries)
Temperature Range	-10C to +45C
Max. Payload	up to 7 Kg
Minimal Depth	0.14 m

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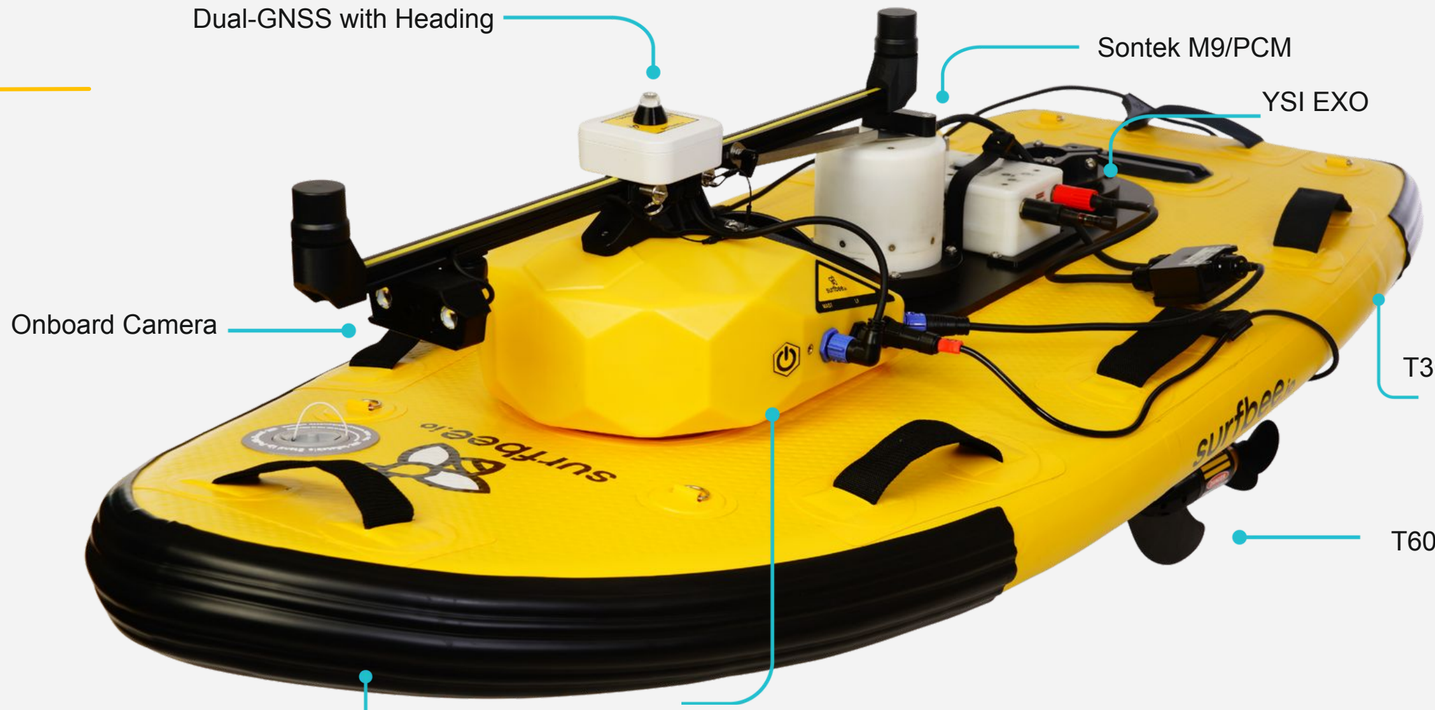
Flow Duet

The versatile platform of the range, built to operate simultaneously with multiple payloads.
Designed for flexibility in the field, it supports combinations like ADCP + WQ Sonde or SBES + Surfbee winch + side scanner.
It’s stable, modular, and powerful enough to handle demanding survey tasks while remaining portable and easy to deploy.



Flow Duet Specifications

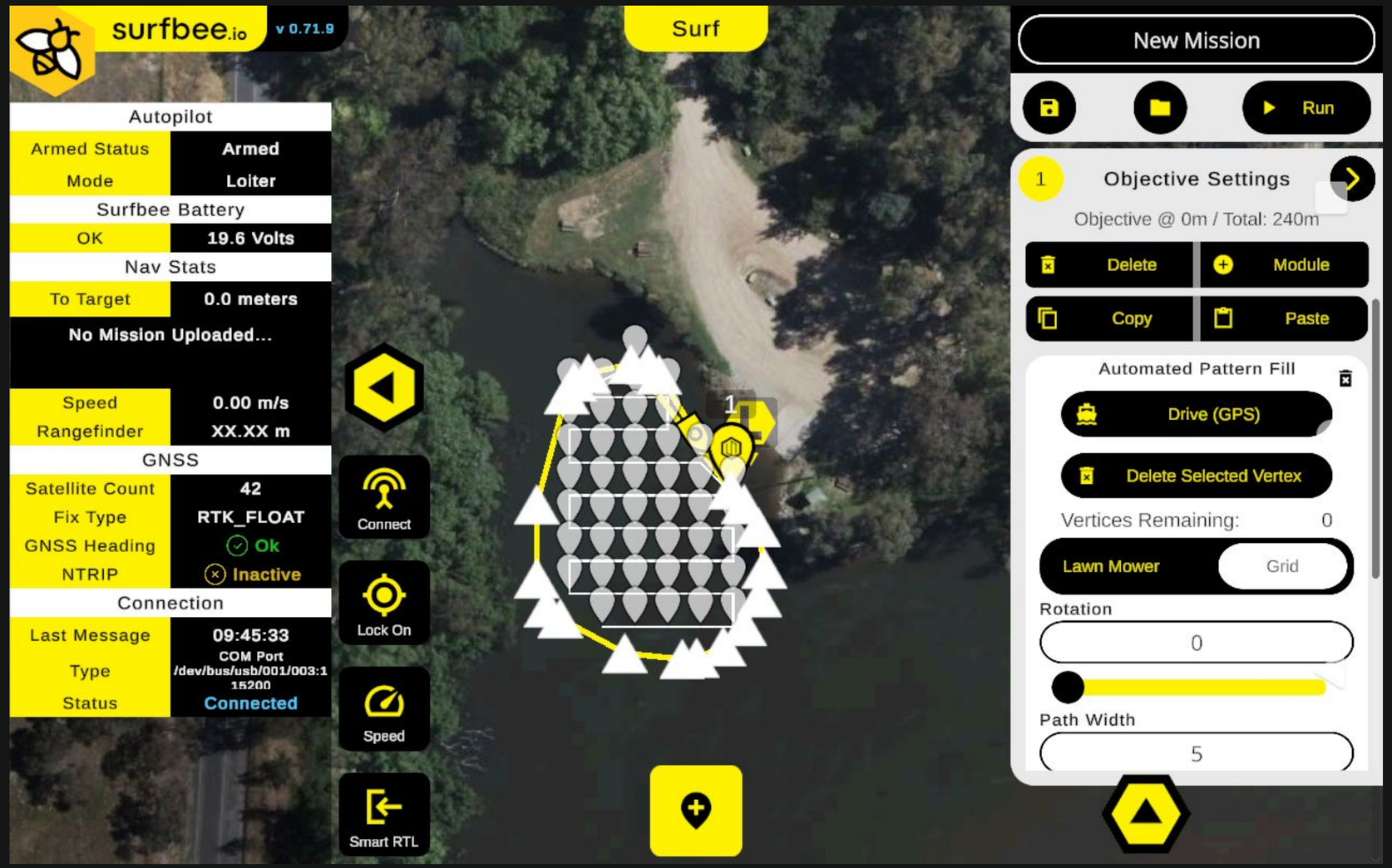
Top Speed	4m/s
Dimensions	1.75 m X 0.75 m X 0.1 m
Weight	15.5 Kg (no batteries)
Temperature Range	-10C to +45C
Max. Payload	up to 15 Kg
Minimal Depth	0.25 m

surfbee.io

Transmitter

- Android based 5.5” screen
- Long range (1+km)
- IP53: Spray/Dust-proof
- USB-C 3.5Hr PD Fast Charging
  12hr Battery Life
- HD Digital Image Transmission
- NTRIP Options for RTK Corrections

Surfbee App

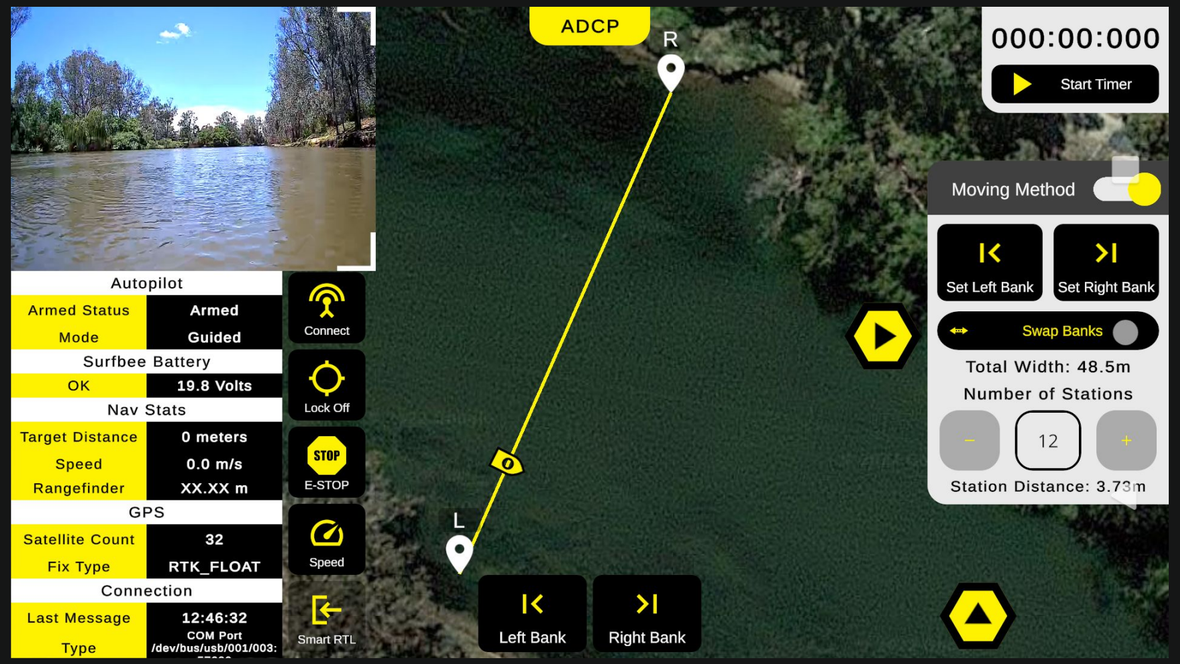


Features

- Easy to use interface
- ADCP mission Planning
- Bathymetry mission Planning
- WQ mission Planning
- RTK Correction Streaming
- Vessel Diagnostics and management
- Android and Window Version
- Hypack Waypoint mission Import
- Camera Integration (Coming Soon)

Surfbee App

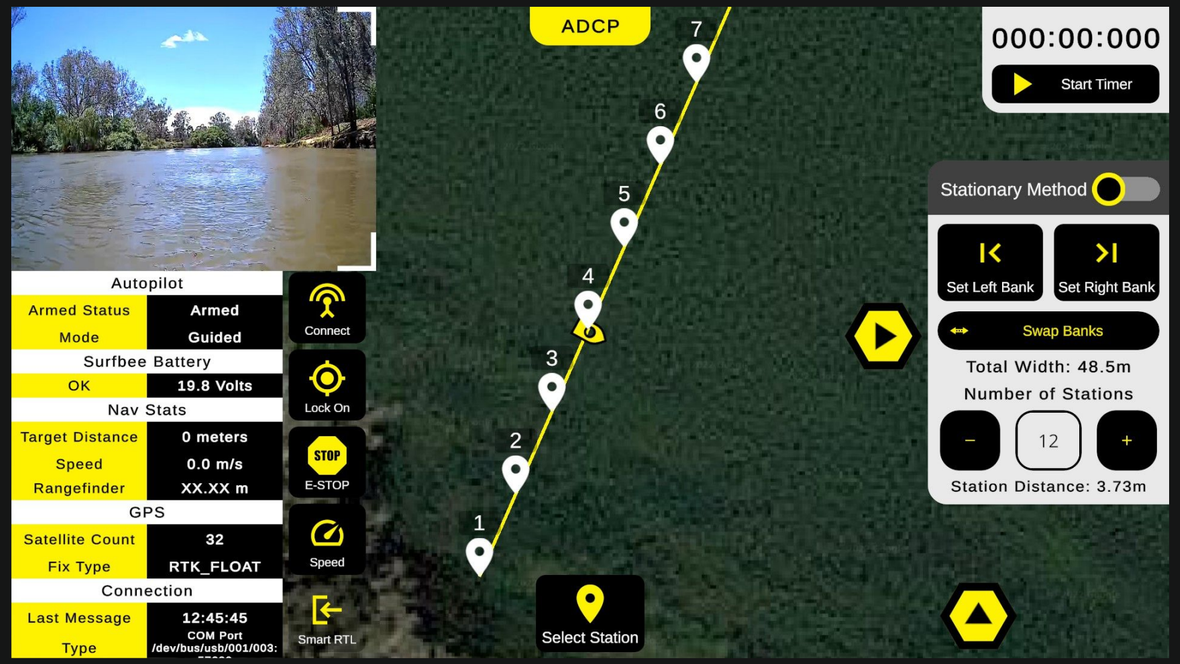
Moving Boat Method



Purpose: Easy setup and planning of moving boat ADCP measurements. Allow quick and precise gaugings with the ability to perform loop test and then progress into moving boat measurements with 1 easy to user interface.

Flexibility: This method allows easy validation of a gauging section with the added ability to quickly move location if needed to obtain the best result from the general gauging area.

Stationary Boat Method



Purpose: Easy setup and planning of Stationary ADCP measurements. Setting total number of stations from the provided total wide is quick and intuitive with the distance between station provided for entering into ADCP software.

Flexibility: Obtaining a cableway type stationary gauging in any section of the waterway from one bank with one person has never been easier.

surfbee.io

FlowSled

Enhance the capabilities of your Surfbee Flow Seeker and Flow Duet with the FlowSled, a robust floating module designed for scenarios demanding the benefits of a larger vessel without compromising on storage convenience. Perfectly tailored to complement the Flow Seeker's attributes, the FlowSled provides improved stability and performance in challenging flow conditions.

RTK BASE STATION

The RTK Base Station enhances the precision of Surfbee USVs by providing Real-Time Kinematic (RTK) corrections.

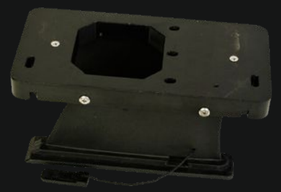
Features:

- Tri-Band
- Tripod mountable
- LORA Radio CE, FCC, RMC, KC Compliant
- Used selectable USB C power source
- Configurable from Surfbee App from Survey-in to Coordinate input (Coming Soon)

GNSS BASE STATION Specification

Horizontal positioning accuracy[1]	Single point	1.5 m (RMS)
	RTK	1 cm + 1 ppm (RMS)
Vertical positioning accuracy[1]	Single point	2.5 m (RMS)
	RTK	1.5 cm + 1 ppm (RMS)
Signal tracking	GPS	L1 C/A、L1C、L2、L5
	GLONASS	G1、G2
	BDS	B1I、B2I、B3I、B1C*、B2a、B2b
	Galileo	E1、E5b、E5a、E6*
	QZSS	L1 C/A、L2、L5、L6* (CLAS)
	L-Band*	Sensitivity: -133 dBm FEC bit: 10^{-5}
Observation accuracy[2]	Carrier phase	≤1 mm (RMS)
	Psudorange	≤0.1 m (RMS)

Accessories：Mount your payload

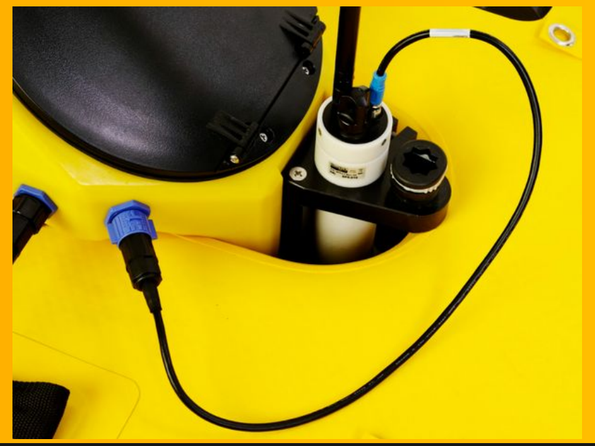


The Sensor Mount is a customizable accessory for the Surfbee system, designed to securely attach your specific sensor or communication board, including Sontek’s PCM, to our Vessel. These mounts are highly adaptable, allowing for quick sensor swaps to meet various project needs in a single vessel. Each mount is precision-engineered for stability and reliability during operations ensuring seamless integration for enhanced flexibility and efficiency.

Currently available for:

- Sontek M9
- PCM
- Sontek RS5
- RDI RiverPro
- YSI EXO 2 and 3 (Whale Mount preferred)

Multiport cables



Various different types of Multiport cables to support payloads :-

- **M9 GNSS Splitter Cable**
- **RS5 GNSS Cable**
- **RDI RIverpro**
- **Surfbee Data Logger**
- **Custom**

Surfbee Data Logger

Surfbee Logger for depth and WQ (EXO) Simple bathymetry and 2D WQ mapping :-

- Simultaneous Water Quality and depth data logging and or separate logging.
- Powered by Multiport, no external batteries for easy deployment.
- 200khz Survey grade transducer supplied if required.
- Webpage hosted on logger for easy wireless downloading of data. Retrievable SD card data storage.
- Live Data displayed on Surfbee transmitter.

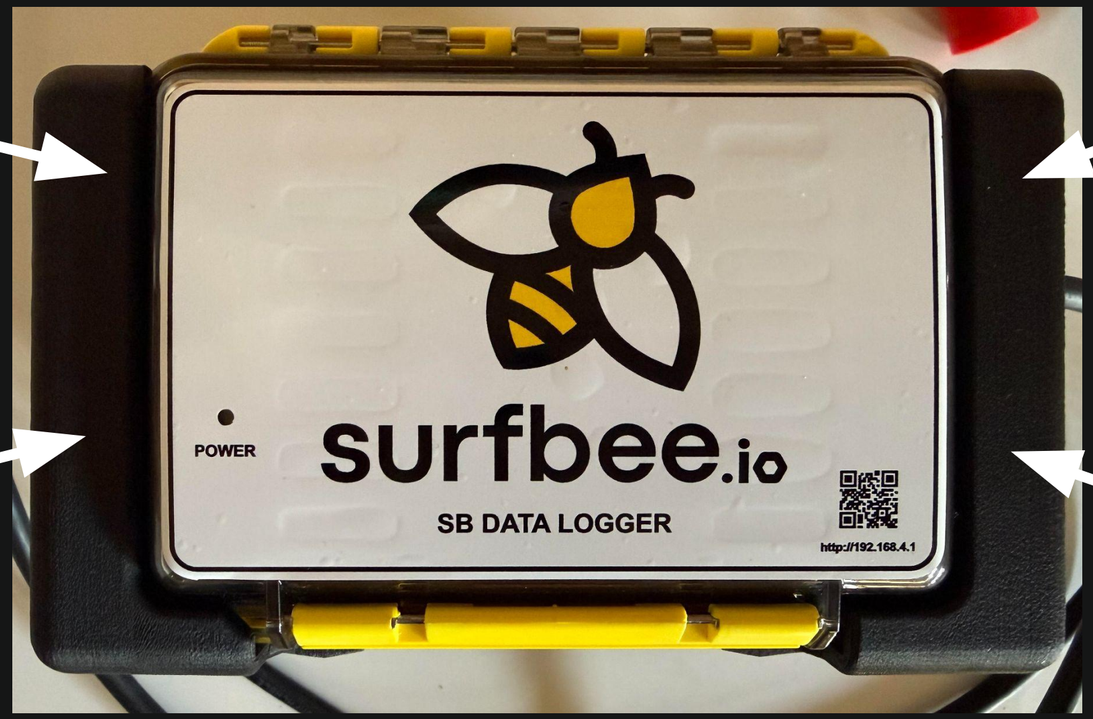
Surfbee Data Logger

OUTPUT RS232 NMEA

Surfbee GNSS passthru for ADCP Payloads

INPUT MULTIPORT

Connection to SB Multiport provides power, GNSS from Vessel and access to ethernet for remote access via SB Transmitter.



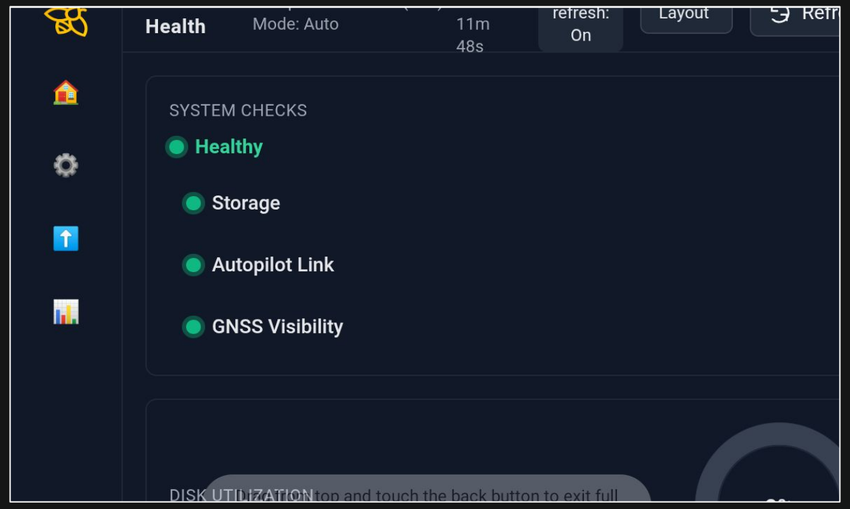
INPUT RS232 NMEA

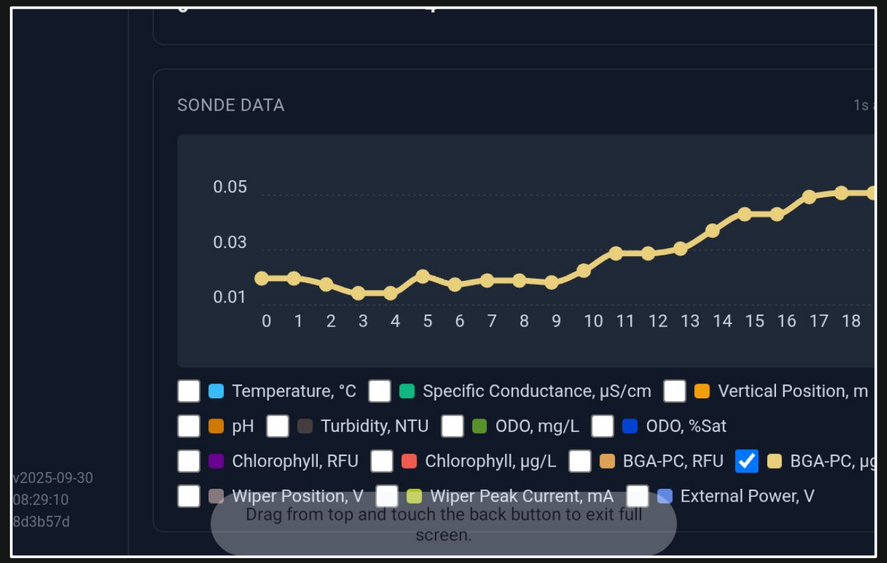
SIngle Beam Echo Sounder SBES

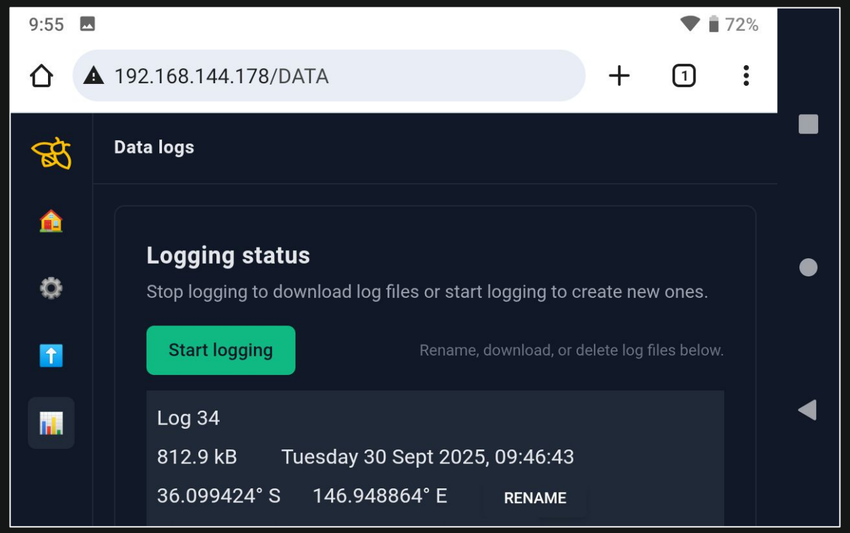
INPUT RS485

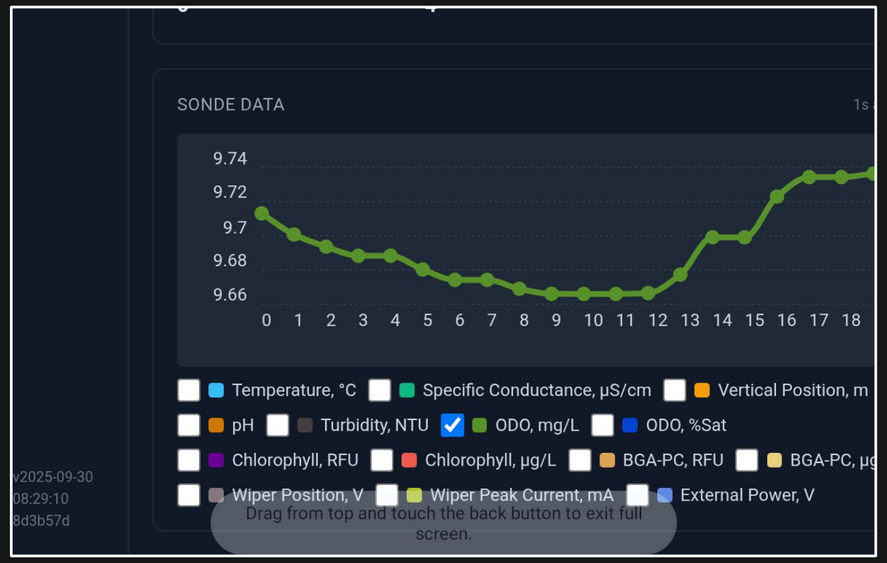
YSI EXO SONDE

Surfbee Data Logger









Surfbee AVPS (Autonomous Vertical Profiling System)

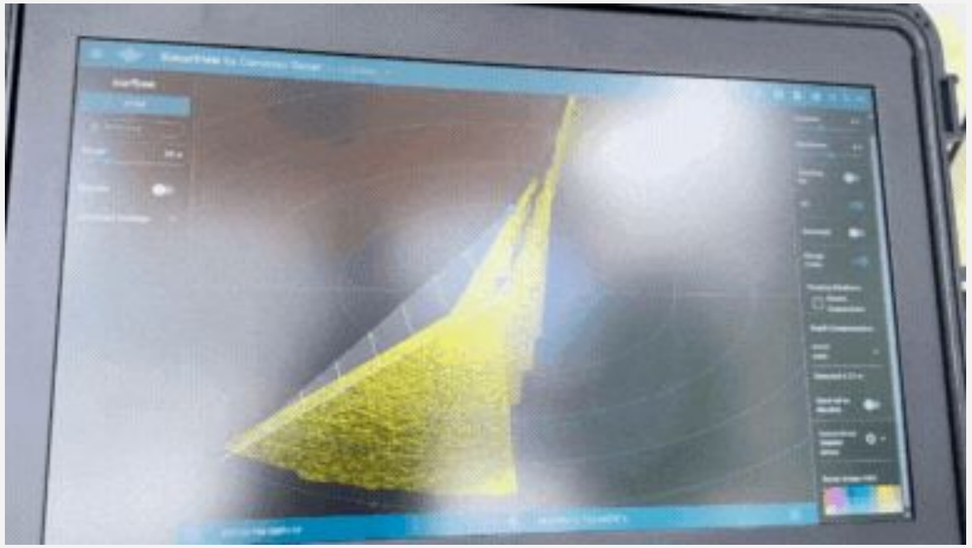
Winch Specifications

Max Depth	100m
Compatibility	Flow Duet
Weight	under 10 Kg
Temperature Range	-10C to +45C
Max. Payload	up to 3 Kg
Max Speed	0.4 m/s
Battery Type	Dewalt

Water Quality Profiling:- Specific to FlowDuet Hull

- Simultaneous Water Quality (EXO) water column and depth data logging
- EXO with Surfbee Mini Logger records water column data then downloads to Master Surfbee logger wirelessly once at surface.
- 200khz Survey grade transducer supplied if required, bottom scan for complex environments for obstacle recognition.
- Webpage hosted on logger for easy downloading of data wirelessly, Data also stored on retrievable SD card
- Near Live Data displayed on Surfbee transmitter. Same interface as SB Data Logger
- Potential other uses include CTD casting, speed of sound correction for Survey work

Surfbee AVPS (Autonomous Vertical Profiling System)



Its our modular platform built on the **Flow Duet**. Designed for operations with the YSI EXO, the AVPS incorporates a **second pod** that houses the **winch control system (“brains”) and additional batteries**, enabling extended operation time and intelligent deployment. Its modular architecture allows for **two distinct configurations**, each optimized for different field scenarios

🟦 **SBES + Winch Configuration**
Ideal for **weirs and man-made sites**, where **single-beam echosounder** data is sufficient. This setup focuses on efficient depth profiling and controlled lowering, perfect for straightforward flow measurements where visualization is not required.

🟧 **SBES + Forward Scanner + Winch Configuration**
Geared toward **more complex deployments**, this setup adds **Forward scan capability**, giving operators enhanced visibility of underwater environments. This additional layer of information ensures **safer and more precise winch operations**, particularly in unknown or debris-filled conditions.

Surfbee Water Sampler

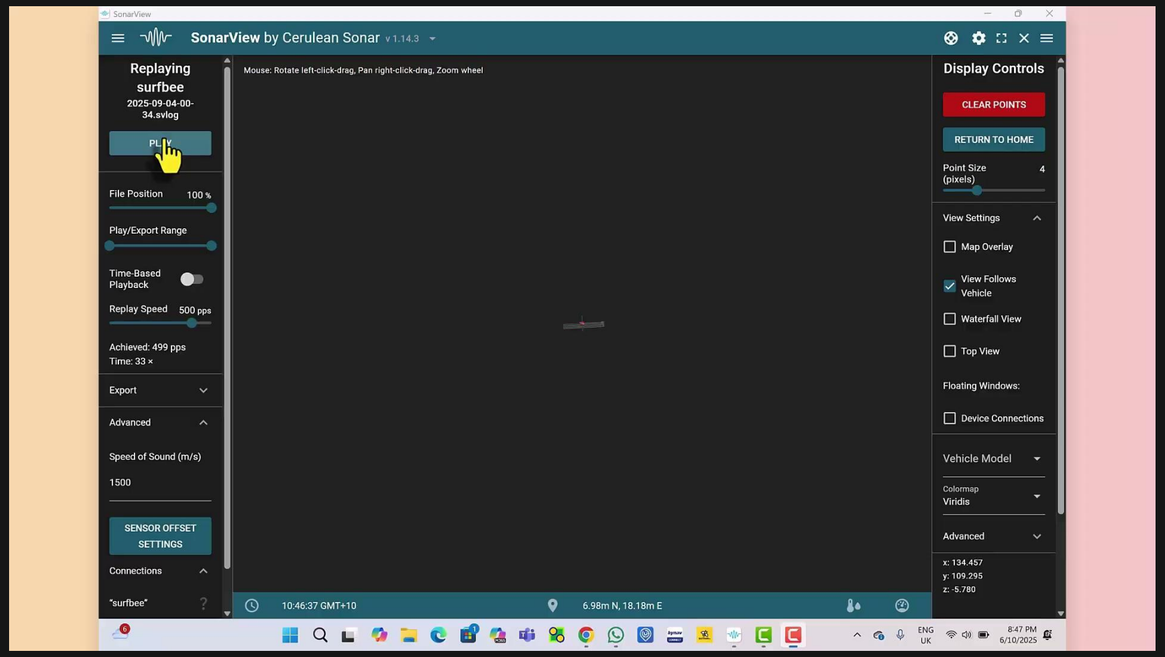
Begin Early next year

The advanced sampler boat, combined with the YSI EXO sensor, revolutionizes water quality assessment with thorough sampling and detailed profiling, offering precise, accurate analysis for comprehensive aquatic environment evaluation.

- Operates in 0.5m depth sampling
- 4m/s current environments. (FlowSeeker)
- Flexible remote or autonomous control via Surfbee app.
- Enhances efficiency and simplicity in data collection.
- Opportunity for reactive monitoring EXO readings and sampling
- Same look and feel of data logger and AVPS

Surfbee Survey

- Plug In Survey equipment with minimal setup time and configuration
- Powered by multiport (no extra Batteries)
- Take advantage of new generation of sensors and software
- Low resolution MBES
- Side Scan Sonar
- Realtime feedback integrated into Surfbee Telemetry Stream



Users Echoes

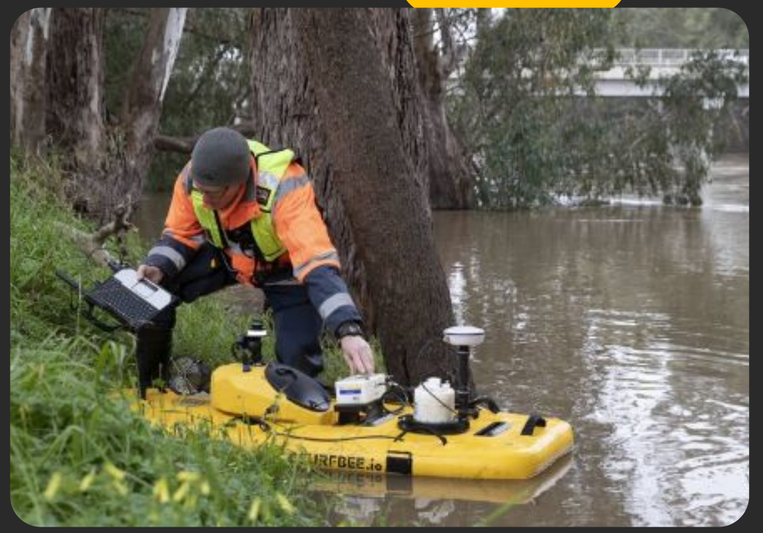
Innovative & Collaborative

“WaterNSW was looking for a remote platform to deploy ADCP’s that would be suited to Australian Conditions, It had to be light, and easily deployable and not add too many additional steps to our current workflows”

The initial Surfbee product ticked many of those boxes straight away, with improved handling and minimal downtime and easy to source spares when required. Evan and the team at Surfbee have been very receptive to our feedback and look to be developing a really good package that will deliver additional functionality than is available on the market currently as well as providing efficiency and most of all good safety outcomes.

Adam Wiggins

Water Monitoring Area Manager (South East)



“Massive Timesaving Mechanism. Once this is set up and ready to go, we could literally pick it up, pop it on the truck, move on to our next site. ”

The Otago Regional Council has adopted a cutting-edge solution to enhance water testing efficiency and safety.

These remote-controlled boats provide a substantial time-saving advantage compared to the previously labor-intensive data collection process. The new technology simplifies the workflow and improves safety, ultimately benefiting the council's operations across multiple testing sites in Otago.

Eve Bruhns

Environmental Monitoring Manager

Thank You

As we look towards the future we want to extend our deepest gratitude to our partners, investors, and the entire team for your unwavering support and belief in our vision. Together, we have laid the groundwork for a year of unprecedented growth, innovation, and impact. We are on the brink of transforming the USV industry. Thank you for being an integral part of our journey. We are excited to embark on this next chapter together, driving towards a future where every drop counts

Address

248 Schubach Street, East Albury, 2640, NSW, Australia

Website

Surfbee.io

Email

sales@Surfbee.io

surfbee.io

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