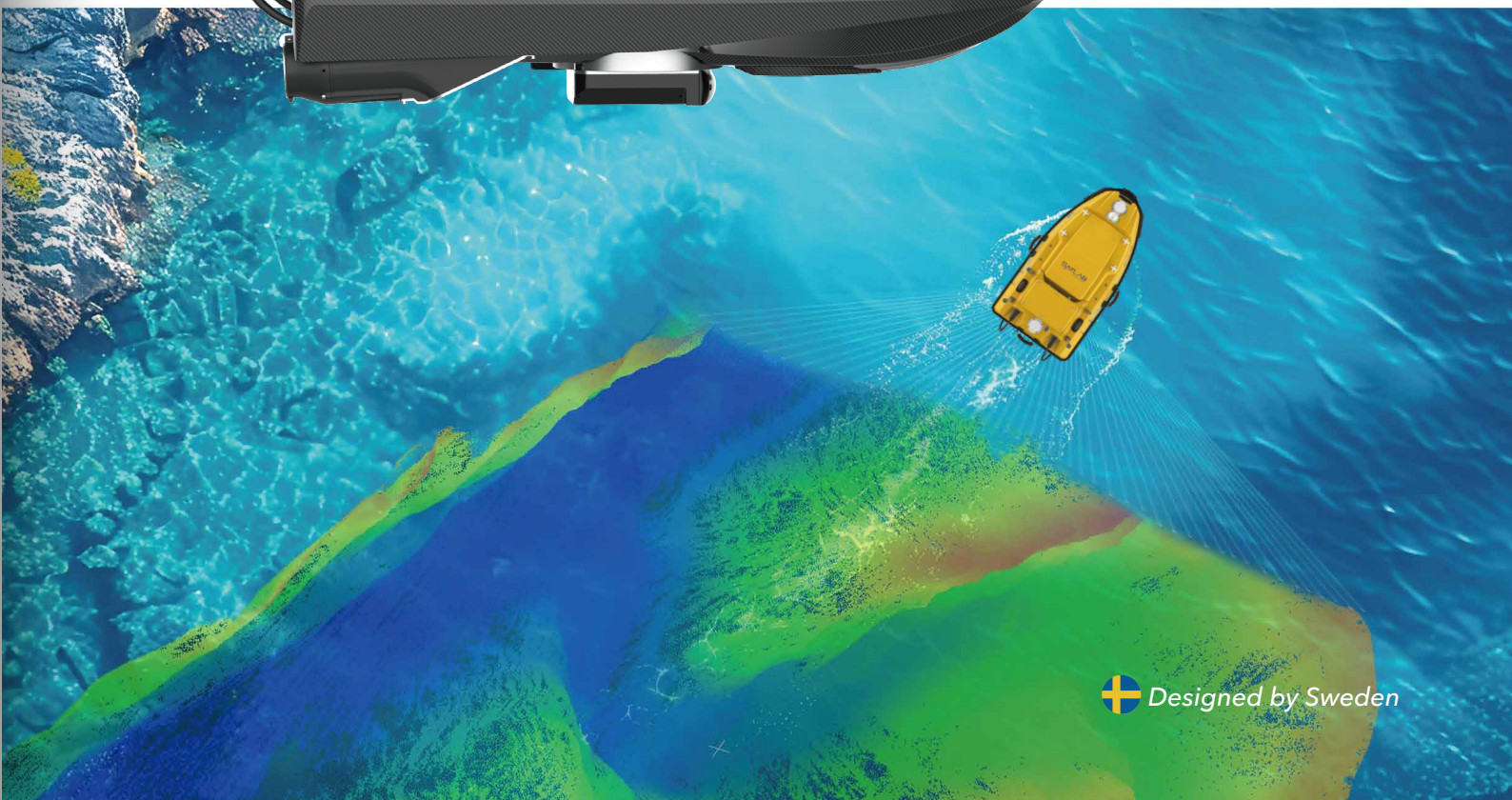


HydroBoat 1200 **GEN2**

Next-generation Multi-functional USV System



HydroBoat 1200 GEN2

HydroBoat 1200 Gen2 is a new generation of compact multifunctional marine surveying platform launched by Satlab. It can be equipped with professional equipment such as the HydroBeam M2 multibeam echosounder, ADCP, side-scan sonar, and water quality parameter sensors. It is widely used in underwater topographic surveying, hydrological data acquisition, and water quality inspection.

Paired with the new version of the SLHydro USV Android application, HydroBoat 1200 automatically performs data acquisition for single-beam, multibeam, and ADCP. The boat features a built-in single-beam echosounder, an overall length of 1.05 meters, and supports single/dual battery operation with hot-swappable batteries. Combined with other upgraded hardware designs, it delivers safer and more reliable surveying operations.

Benefits



Boat Control System

- Smart Auto Mode
- Data Storage
- GNSS+SBES Data Merge
- SIM card for 4G Network
- GNSS+IMU provides stable position data



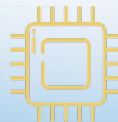
Android Software

- Smart Planning Survey Line
- Auto-Collect Data (SBES, ADCP, MBES)
- Safety (Return, Obstacle Avoidance, Hover)
- Unlimited-range 4G network connectivity
- View live camera images



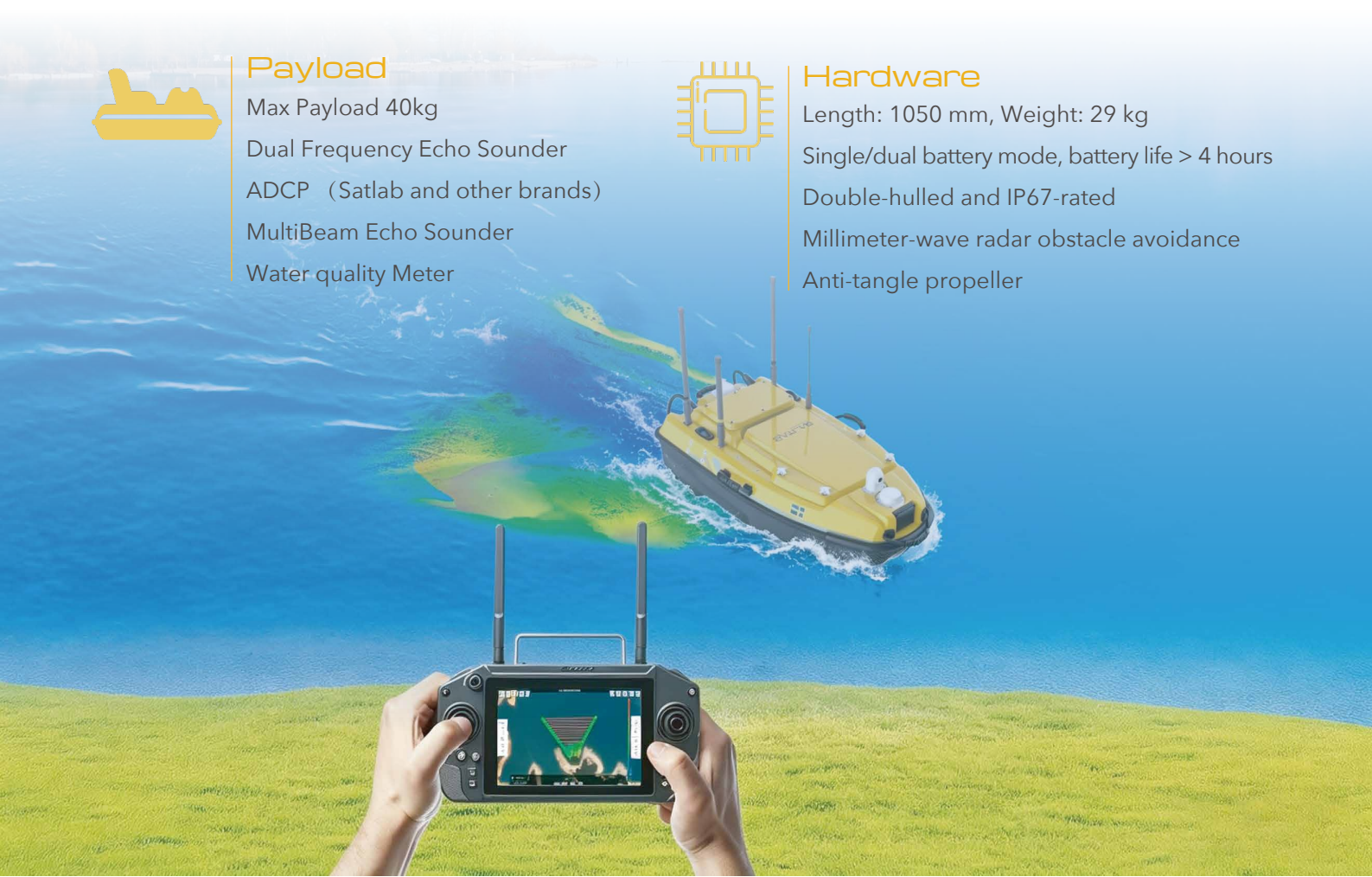
Payload

- Max Payload 40kg
- Dual Frequency Echo Sounder
- ADCP (Satlab and other brands)
- MultiBeam Echo Sounder
- Water quality Meter



Hardware

- Length: 1050 mm, Weight: 29 kg
- Single/dual battery mode, battery life > 4 hours
- Double-hulled and IP67-rated
- Millimeter-wave radar obstacle avoidance
- Anti-tangle propeller



Advantages

| | | |
|---|--|---|
| <p>Supports multiple payloads</p>  <p>Low Frequency Transducer</p> <p>MBES</p> <p>ADCP</p> | <p>Length: 1.05 m</p>  | <p>Sensor & IMU</p>  <p>Temperature sensor</p> |
| <p>Quick installation</p>  | <p>Single/dual battery mode; intelligent battery balance</p>  | <p>Removable wheels for easy transport</p>  |

Multi-device load



MultiBeam Echo Sounder

Comes with a full-featured Android app for parameter adjustment, point cloud display, and data collection

Automatic survey line planning (automatically sets line intervals based on depth)

SPIN technology (Sound Profile Inversion) , automatic calibration of sound velocity profiles

Easy to install; up and running in five minutes.



Single Beam Echo Sounder

Simultaneous measurement at 24 kHz and 200 kHz, depth range 0.1–600 m;

Automatic parameter adjustment with real-time display of stable echoes

Temperature sensor, real-time correction of surface sound velocity

Dual data storage (controller, boat), attitude calibration data



ADCP

Draft: 10 cm, reduce blind at the top

Autopilot + Smart Mode: Quickly measure water velocity

Maximum speed of 6.5 m/s; capable of operating in fast-flowing rivers



Other loads

Side-scan sonar, water quality analyzer, water quality sampler



Specification

HydroBoat 1200 GEN2

| | | | |
|--------------------------------|------------------------------------|---|------------------|
| Hull Specifications | Hull Dimension | 1050 mm × 558 mm × 356 mm | |
| | Weight (Single Battery) | 29 kg (including one battery) | |
| | Maximum Payload | 40 kg | |
| | Wave & wind Resistance | Sea state 2 | |
| | Draft | 110mm | |
| | Moon Pool Dimensions | 24cm | |
| | Camera | Dual cameras, simultaneous 360° imaging | |
| | Anticollision sensor | Millimeter-wave radar;Range: 5–30 m | |
| | IP Rating | IP67 | |
| | Propeller Type | 2*1000W brushless DC | |
| | Battery | 32.4 V, 24 Ah; supports single/dual battery mode; supports hot-swapping | |
| | Battery Endurance | 1 set of batteries: 4 hours @ 1.5 m/s; standard with two sets | |
| | 4G Network | SIM card slot; For controller communication and CORS | |
| | Maximum Speed | 6.5m/s | |
| Positioning parameters | Satellite system | BDS B1I/B2I /B3I、 GPS L1C/A/L2P(Y)/L2C/L5、 Galileo E1/E5a/E5b、 GLONASS L1/L2、 QZSS L1/L2/L5 | |
| | Single positioning accuracy | Horizontal 1.5 m, Vertical 2.5 m | |
| | DGNSS positioning accuracy | Horizontal 40 cm + 1 ppm,Vertical 80 cm + 1 ppm | |
| | RTK positioning accuracy | Horizontal ±8 mm + 1 ppm, Vertical ±15 mm + 1 ppm | |
| | Direction accuracy | 0.1° (1 m baseline) | |
| | IMU accuracy | 2.1°/h, maintaining high-precision position for 30 seconds | |
| | Differential mode | CORS, BASE, PPK, PPP (b2b and HAS) | |
| Single beam echo sounde | Frequency | 200KHz (standard) | 24KHz (optional) |
| | Beam angle | 5° | 34° |
| | Depth range | 0.2-200m | 1-600m |
| | Accuracy | ±1cm+0.1%h | ±1cm+0.1%h |
| | Resolution | 1cm | 10cm |
| | Temperature sensor | -55°C to +100°C; real-time automatic sound velocity correction | |
| Controller | System | Android 13 System | |
| | Communication Range | 2.4 GHz: 2 km / 4G: unlimited range | |
| | Battery Life | 8 hours | |
| SLHydro USV Software | Features | Mission planning; Data acquisition; Auto-navigation Auto-return when contact is lost; obstacle avoidance | |
| | SingleBeam | Automatic parameters | |
| | ADCP Survey | Auto flow measurement, auto-adapting flow rate | |
| | MultiBeam Survey | Auto Design Line (Auto-design next survey line based on depth) Auto SPIN: Automatically calibrates sound velocity without SVP data | |
| Multi Sensor OPTIONAL | External Interfaces | Basic Version: 1×RS232 MBES Version: 1×RS232; 1×M2 Port; 1× Network and External Power Supply Interface | |
| | Payload(Optional) | MultiBeam:MBES, dual-frequency SBES, ADCP, SSS, Water Quality Meter | |
| | Compatible ADCP Models | Hydroflow 600,Hydroflow1200, M9, RiverStar, RiverPro, RiverRay, RioGrande | |



*Specifications are subject to change without notice. We reserve the right of final interpretation.

*All listed parameters are either theoretical values or measured under controlled conditions.



Headquarters:

Geosolution i Göteborg AB
Stora Ävägen 21, 436 34 ASKIM,
Sweden

Regional Offices:

Budapest, Hungary
Ankara, Turkey
Dubai, UAE
New Delhi, India
Scottsdale, USA
Tokyo, Japan
Hong Kong, China

www.satlabgeo.com

