Blue Carbon

oPod Mini™

Bring your ocean online

oPod Mini™ – Ocean Intelligence, Anywhere

The oPod Mini™ — Australia's first environmental prediction platform for ocean industries. It's small. It's smart. It's self-powered.

A compact, affordable buoy that delivers live ocean intelligence and predicts what's coming — for aquaculture, desalination, reef restoration, and marine protection.

No infrastructure. No fuel. No limits.

- **Real-time, high-frequency monitoring** of water quality and ocean conditions.

- **Lightweight & portable** — around 30 kg, deployable by one person.

- **Self-powered** — solar-charged for continuous operation.

- **Live dashboard & automated reports** — no field teams required.

- **Affordable & scalable** — built for remote and multi-site deployment.

oPod Mini™ – From Monitoring to Prediction

oPod Mini™ brings the ocean online: delivering continuous, high-frequency, site-specific data where it's never been accessible before. It transforms monitoring into foresight, putting predictive marine intelligence in your hands.

Key Applications:

- **Supports Climate Smart Aquaculture** – Smart data analytics tool combining in-situ observations and global environmental datasets for improved aquaculture production

- **Acoustic Monitoring** – Coral Reef health, and marine mammal monitoring (coming soon)

- **Harmful Algal Bloom Forecasting** – Chlorophyll + AI/ML models supported by remote sensing datasets predict blooms before they impact operations.

- **DO Crash Alerts** – Continuous dissolved oxygen tracking.

- **Thermal Stress Detection** – Identify heatwaves and stratification early.

- **Water Quality Forecasting** – Predict changes in eutrophication, turbidity, and salinity.

- **Satellite Integration (Optional)** – Overlay with SST, chlorophyll, and current data.

- **Oceanographic & Climate Science** – High-resolution circulation and mixing data.

- **Coastal Monitoring & Disaster Preparedness** – Support resilience planning and emergency response.

- **Marine Domain Awareness & Defense** – Detect abnormal ocean activity or unauthorized vessels.

- **Coral Forecasting** – Reef-specific models to guide MPA management and protection.

Live Data Monitoring

No more gaps. No more blind spots. The oPod Mini™ puts the full picture at your fingertips — delivering uninterrupted, high-frequency ocean intelligence without boots on the ground or reliance on infrequent grab samples.

The oPod Mini™ continuously collects and transmits real-time environmental data for:

- Temperature
- Dissolved oxygen
- Wave height
- Salinity

- pH
- Turbidity
- Blue green algae
- Chlorophyll

Each parameter is visualised through the Blue Carbon live dashboard, with customisable thresholds for automated alerts and integrated reporting tools.
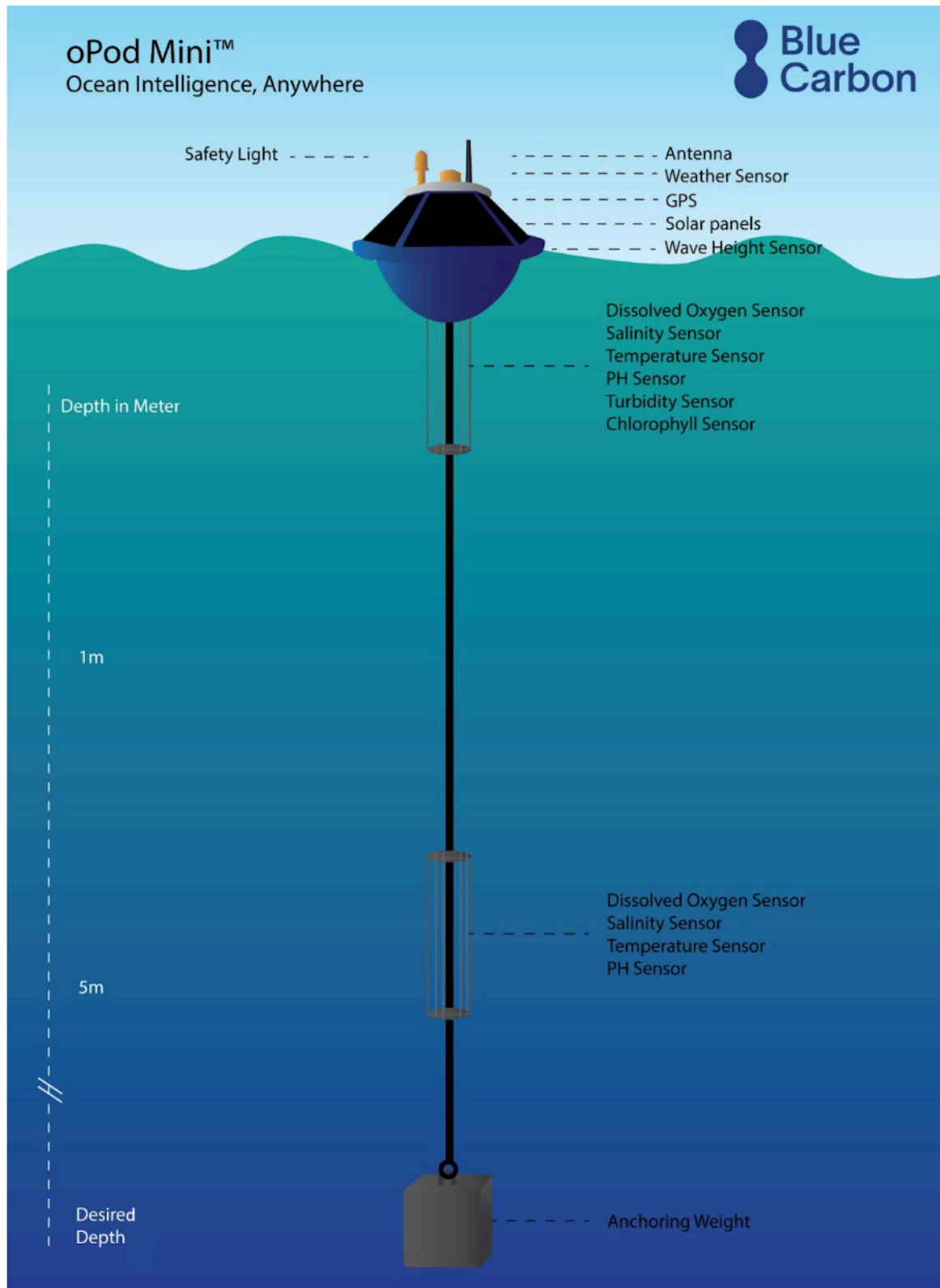
Compliance & Reporting

Compliance doesn't have to be complicated or costly. With the oPod Mini™, it's built in by design.

- EPA/NPI-ready reports
- Structured reporting dashboards and compliance templates
- Secure cloud storage with optional private hosting
- Replaces manual spot sampling with high-frequency, site-specific data
- High statistical confidence with continuous multi-site coverage

Key Features & Capabilities

- **Compact & Lightweight** – around 30 kg for easy deployment anywhere.
- **Self-Powered** – Solar-charged for 24/7 operation, no infrastructure needed.
- **Real-Time Data** – Instant dashboards and automatic archiving for continuous insight.
- **Modular Design** – Plug-and-play sensor interface for quick swaps or upgrades (pH, turbidity, salinity, chlorophyll, etc.).
- **Scalable** – From single units to full coastline networks with seamless integration.
- **High-Value Performance** – Scientific-grade accuracy at a fraction of the cost.

Mooring & Sensor Configuration

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