Ground Control
A CLS Group Company

No GPS? No Problem.

How RockFLEET Assured Delivers Trusted Positioning, Navigation & Timing for Modern Maritime Operations.

The reliance on **GPS and GNSS**

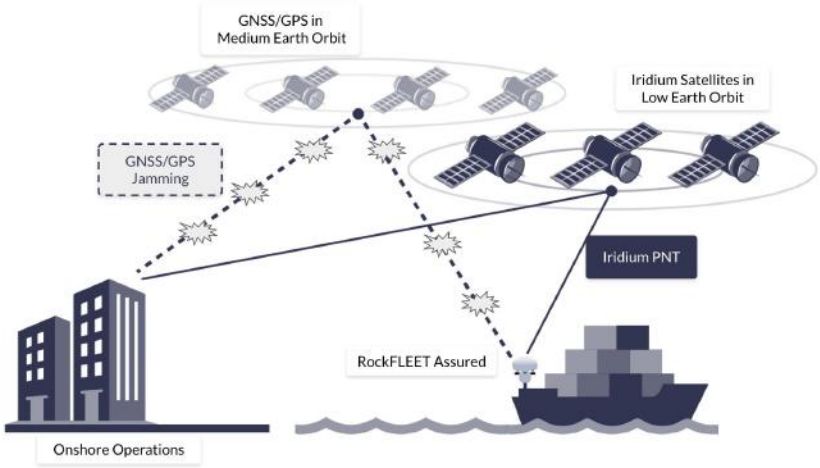
Modern maritime operations rely heavily on GPS and GNSS, yet these signals are increasingly disrupted in busy shipping corridors and contested regions. Low cost jamming devices, coordinated spoofing campaigns, and cyber interference now affect commercial and military vessels alike.

Reports from the Eastern Mediterranean and other jamming hotspots show ships suddenly plotted inland or shifted toward dangerous waters, often without immediate warning to the bridge team.

For crews responsible for vessel safety and schedule integrity, when GPS and GNSS is compromised, having a dependable backup for positioning, navigation, and timing (PNT) is essential.

Building a layered approach to **PNT**

While several satellite-based tools exist to detect spoofing and jamming, Iridium PNT represents a fundamentally stronger layer of defense. **Delivered via the Iridium Low Earth Orbit constellation, its broadcast signal is up to 1,000 times stronger than GPS and transmitted from satellites 25 times closer to Earth.** This makes it far more resilient to interference and exceptionally reliable even when GNSS becomes unavailable.



While Iridium PNT isn't intended to replace GNSS, it significantly reinforces it - equipping ships with a trusted way to confirm their position and maintain continuity of operations.

In terms of integration, many maritime receivers can already accept Iridium PNT, keeping the addition of this layer of tracking, straightforward for operators upgrading fleet systems.

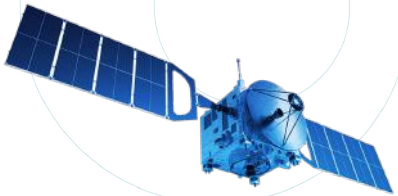
Integrating an **independent, secure solution**

RockFLEET Assured from Ground Control transforms Iridium's assured PNT capability into a rugged, compact maritime solution built for real-world operational pressures. It provides an independent source of secure PNT when GPS is jammed, degraded, or spoofed.

Unlike traditional GPS signals, **Iridium PNT is cryptographically authenticated, and manipulated or falsified signals are rejected before they ever enter the navigation chain.** This end-to-end integrity from satellite to onboard hardware ensures that crews, command centers, and autonomous systems operate only on trusted information.

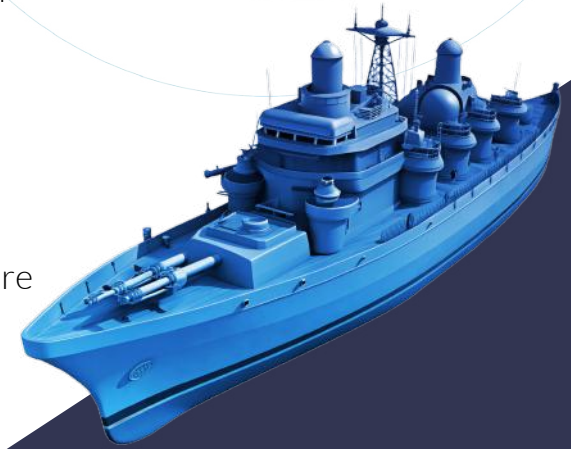
The hardware is also built with vessel operations in mind. RockFLEET Assured is a single above-deck terminal – no below-deck electronics are required without the optional bridge view – and setup / status are provided via a Bluetooth LE mobile app. Its IP67 rated enclosure also handles harsh marine environments, whether mounted on the bridge, mast, or a weather-exposed deck location.

Operational applications **at sea**



The combination of its secure architecture and practical engineering makes **RockFLEET Assured a powerful choice for vessels facing GPS-denied conditions.**

Cargo ships transiting spoofing hotspots can maintain accurate position awareness even when GNSS becomes unreliable, helping bridge teams maintain safe routing. Naval vessels operating amid electronic warfare retain trusted timing and navigation essential for mission coordination. And unmanned surface vessels benefit from uninterrupted PNT in high latitude regions where GPS outages are common.



For operators focused on safety, compliance, and efficient voyages, **RockFLEET Assured delivers a dependable layer of protection against the increasing risk of GNSS disruption.** It provides crews with the confidence that their navigational picture remains accurate, even when jamming and spoofing attacks make GPS unreliable.

Insurance & war-risk: prove where your vessel really is

Marine insurers increasingly rely on operational data to assess risk and review incidents. **RockFLEET Assured** provides an authenticated alternative position and timing source independent of GNSS, helping operators evidence voyage integrity and reduce uncertainty during incident investigation and claims handling.

Premium impact depends on insurer, policy terms and trading profile.

- **Underwriting support:** evidence risk controls and improve visibility during high risk trading.
- **War-risk readiness:** supports operations where additional premiums may apply and voyages are assessed case by case.
- **Claims clarity:** trusted position/timing data helps incident reconstruction when GNSS disruption is suspected.

Technical Highlights

Positioning Resilience

RockFLEET Assured integrates Iridium PNT to support Assured Positioning (A-PNT) workflows and provide an authenticated position source for trusted vessel position reporting in regions where GNSS may be unreliable, spoofed, or jammed.

The system's primary function is to compare A-PNT position vs GNSS and raise an alarm if GNSS is lost (jamming) or appears displaced (spoofing).

On the bridge display (when used), RockFLEET Assured visualises Estimated Position Error (EPE) and an alarm boundary that triggers if GNSS remains outside the boundary for longer than the configured timer.

Communications & Integration

RockFLEET Assured uses Iridium Certus IMT for routine reporting and two way messaging, supporting packet sizes from 25 to 100,000 bytes.

Supported messaging includes position reports, configurable alerts (e.g., geofence, power, tamper), and additional payloads based on the selected size / rate profile.

Configuration can be changed locally via the BLE mobile app or remotely via Cloudloop (including OTA updates and remote management).

For software teams, RockFLEET Assured location and event data can be routed into external systems using Cloudloop's push and pull delivery options (e.g., webhooks/MQTT/cloud destinations; REST retrieval), using a consistent structured JSON format.

Installation & Compliance

RockFLEET Assured is delivered for rapid installation and operation, with parameters adjustable locally (BLE app) or remotely (OTA management).

Installations can be completed as a standalone above-deck terminal for trusted position reporting, or as a bridge view configuration where an additional below-deck / bridge unit is used to provide the chart plotter display.

Where a bridge view configuration is deployed, the above-deck and below-deck units are interconnected by a single combined power / data cable up to 100 m in length.

Power

- DC input: 10 V to 30 V DC (Cable 0-20 m)
  20 V to 30 V DC (Cable 21-100 m)
- AC input (optional): 220 V AC via external power supply (kit/integration dependent)
- Backup battery (optional): Internal battery option for continued tracking/reporting during vessel power interruption (autonomy depends on reporting profile).

Physical & Environmental

- Dimensions: 201 mm diameter, 125 mm height
- Weight: 1,460 g (antenna + mounting bracket)
- Ingress: IP67
- Operating temperature: −40°C to +70°C
- The antenna uses a UV-stable plastic radome; an optional bridge view kit (where used) houses associated equipment in a rugged case.

Note: Specification subject to change

Chart Plotter Support

RockFLEET Assured supports a bridge chart view that displays the A-PNT position alongside GNSS position / track with clear status indicators.

When configured, the A-PNT position can appear as a waypoint and the GNSS position as a "ghost" ship on the chart plotter (via NMEA sentence forwarding).

Ground Control
A CLS Group Company

Email:
hello@groundcontrol.com

Call:
UK: +44 (0) 1452 751940
USA: +1.805.783.4600

Visit:
www.groundcontrol.com

Partnering with Ground Control **for reliable and secure PNT**

Ground Control brings long-standing experience in maritime and satellite communications, along with a strong engineering foundation in Iridium-based solutions. This ensures not only dependable hardware but also reliable support, secure provisioning, and guidance through fleet-wide deployment.

For shipping companies and maritime agencies looking to strengthen their navigation resilience, **RockFLEET Assured is the solution that integrates smoothly into vessel operations and stands up to real-world conditions** to ensure vessels stay on track, maintain awareness, and operate safely, even when GPS goes dark.