

## The Silent Revolution in Maritime Risk Prevention: 5 Human-Centric Tech Hacks That Can Transform Shipping



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In today's volatile maritime world, where global trade, vessel safety, and crew wellbeing are under constant pressure, the smartest investment is not in more steel, but in smarter thinking. At Marasco Marine Ltd, risk prevention is not just a practice—it's our culture.

Our President, Mr. Anastasios Maraslis, established our dedicated Advisors' Board with one clear mission: to support our clients with advanced risk control, loss prevention, and claims reduction strategies that lead directly to premium discounts and long-term profitability.

Here, Marasco Marine

Ltd Advisors' Board member Mr Harilaos Petrakakos shares five actionable, human-focused technological "hacks" that shipowners, managers, and insurers can adopt to enhance safety, reduce claims, and support the people at the heart of maritime operations: the crew.

### 1. Predictive Maintenance with IoT Sensors

**The Insight:** Smart sensors embedded in machinery detect vibration anomalies, heat spikes, or pressure fluctuations before failure occurs.

**The Human Benefit:** Crews like Chief Engineer Nikolaos no longer need to rely solely on instinct at sea. IoT turns machines into sentinels that "speak up" before breaking down. Predictive alerts reduce stress, allow scheduled repairs, and minimize downtime.

**Result:** A 40% drop in unscheduled maintenance in Greek-ownership fleets using predictive tech.

### 2. Augmented Reality (AR) Emergency Drills

**The Insight:** AR overlays simulated crises like fires, flooding, or injuries onto real ship environments.

**The Human Benefit:** Instead of scripted, ineffective drills, crews experience stress-replicating training that builds real reflexes and coordination under pressure. Mistakes are made—and learned from—in a safe space.

**Result:** AR-trained teams resolve incidents 30% faster during simulations.

### 3. Maritime Cyber Hygiene

**The Insight:** Ships rely on software. That software must be protected.

**The Human Benefit:** Cyber risk awareness programs, multi-factor authentication, and routine system updates empower crew to act as digital gatekeepers. But ships also retain manual overrides—a crucial

fallback that respects human autonomy. Mariners are not replaced; they are protected.

### 4. Wearables to Combat Fatigue

**The Insight:** Fatigue is one of the top root causes of maritime claims.

**The Human Benefit:** Smartwatches and health bands track rest, alerting officers before exhaustion becomes dangerous. This builds a new safety culture: one that encourages rest, not machismo. Prevention, not punishment: fatigue alerts support wellbeing.

### 5. AI-Powered Dynamic Risk Maps

**The Insight:** AI fuses live weather data, piracy zones, and satellite movements to generate real-time routing alerts.

**The Human Benefit:** Navigators are no longer flying blind. Instead, they team with technology to make informed decisions that protect

the vessel, cargo, and crew.

**Result:** A Maersk vessel rerouted 24 hours before a Category 4 storm. Crisis averted.

### Final Word: Tools That Respect the Human Element

The shipping industry must resist the narrative that automation is the future. Instead, the winning formula lies in technology that empowers the human onboard, not replaces them. These five hacks are not gimmicks—they are tools that amplify expertise, sharpen instincts, and create safer workplaces. Marasco Marine Ltd and its Advisors' Board commitment is clear: supporting shipowners with solutions that reduce risks, minimize claims, and ultimately lower premiums. We believe that with the right mix of intelligence and empathy, we can help our clients navigate forward with confidence, resilience, and respect for those who make global trade possible.



\* Marasco Marine Ltd, was founded in 1991, by Mr Anastasios Maraslis. Marasco is specialising in Managing Marine Risks and Risk Prevention Planning, serving the last 33 years, Ship Owners, Ship Managers and Ship Operators, with his experienced marine/claims insurance team and the company's Board of Advisors, Internationally Acknowledged. More about Marasco Marine at: [www.marasco-marine.com](http://www.marasco-marine.com)