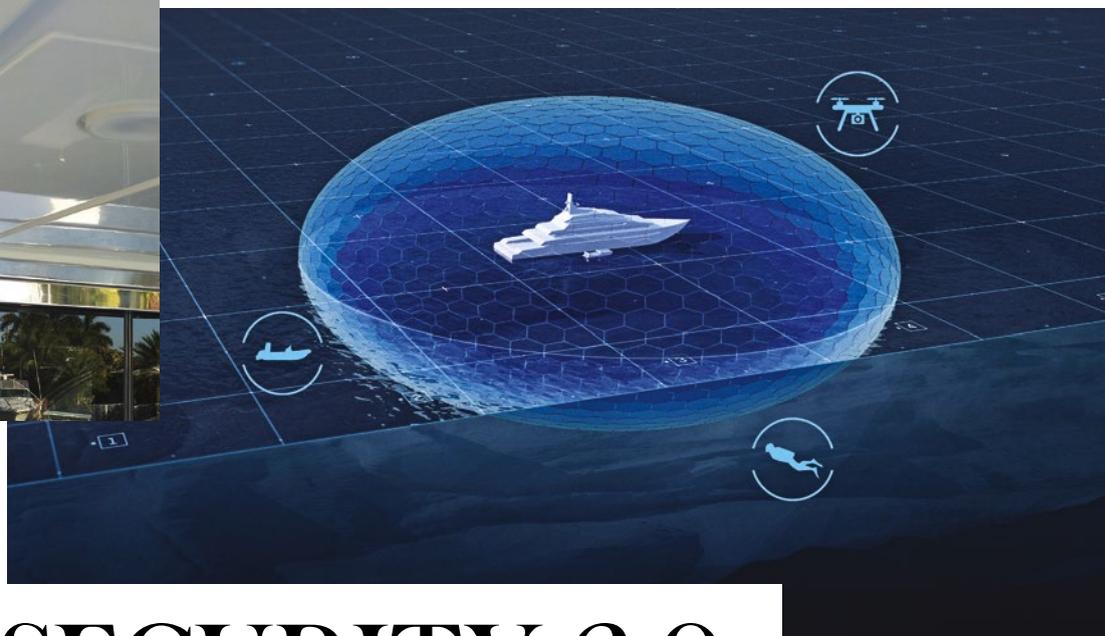




MARSS NiDAR system detecting threats; GOST security camera (inset)



SECURITY 2.0

When a go-fast boat loaded

with people who didn't look like they belonged swept past a

200-foot-plus yacht in the Caribbean, one of the yacht owners' kids gave them the finger. It took only this small affront for the boat's occupants, who were on a drug run, to decide to teach the kid a lesson. They circled back, boarded the yacht, removed the owner's family and crew, and took it. True story.

This is an extreme example of what can go wrong in one of yachting's typical cruising grounds. It's what Tony Sparks of Phantom Services, who recovered the \$22 million dollar yacht in Venezuela, refers to as "high-risk crime."

While technically this is the very definition of piracy, Sparks will never use that word in the superyacht industry outside the pirate-ridden waters of Somalia, Jakarta, and the Suez Canal. "Piracy is the Hollywood term that causes the industry to not take crime on the high seas seriously," he says. "It makes it comical, and owners and captains think it can never happen to [them]."

He classifies maritime crime outside of pirate areas as high-risk, low-risk, and opportunity crime, and it's more common than many want to acknowledge. "Items are stolen off boats as often as cars are broken into. Most captains don't realize it for several days because they have so much going on with their clients," says Sparks.

Low- to medium-risk crime is when someone boards a boat with the intent to steal. Opportunity crime happens when you leave your tender tied up to the back of the boat all night, something Sparks equates with leaving an unsecured bicycle outside: "Of course someone is going to steal it."

Technicians at Global Ocean Security Technologies, known as GOST, have witnessed opportunity crime first hand. "We have nights in the islands when we'll see four or five clients in one canal where our security sensors

Thanks to giant strides in smart software and systems integration, security technology is more automated and powerful than ever. Experts share the tricks of their trade.

By Kate Lardy



– beam sensors, door contacts, sirens, and strobe lights – scare the people off the boat," says Chief

Technology Officer Brian Kane. "We can see them going down a canal just trying to find a softer target. Then the fifth or sixth boat down that doesn't have any kind of security gets stolen."

ASSET TRACKING

Security experts are all in agreement that asset tracking is a prudent practice. Go-fast tenders are so coveted by drug runners and human traffickers that insurance will often require those with three or more outboards to have a tracking system installed.

GOST uses the Inmarsat network for its tracking products. Available in various complexities depending on needs, its Nav-Tracker acts as a geostationary satellite terminal, which gives coordinates, heading, and speed every 15 minutes anywhere in the world except the extreme poles.

But, as Kane puts it, "It's much easier to clean dirty footprints off your boat than to try to recover it from a third-world authority." GOST can also install sensors that trigger sirens, acoustic barriers, and/or strobe lights to ward off potential thieves. Just don't forget to arm the system. Kane tells of a brand-new Intrepid, tender to a superyacht, that pulled into Nassau to meet the boss flying in the next day. In a job-ending moment, the captain didn't arm it that first night at Hurricane Hole Marina and it was gone by morning. "We watched it beeline for Jamaica," Kane says. "It was recovered there, but with the T-top cut off and beat to heck."

Patrick Estebe, head of security firm AFFAIRACTION, is a fan of the GSatMicro, sold by Global Satellite in Fort Lauderdale, the world's smallest Iridium tracker at 1.77 x 1.77 x 1.34 inches.





The GOST detection system helps apprehend a stolen boat



MAST integrated security system dashboard and iPhone display (top and left); NiDAR Mobile situation awareness system (right)



Furthermore, Estebe says, it can be assembled in an even more discreet format and sewn into something like a backpack strap to track the boss during times when keeping a visual on him is intrusive – with his knowledge and permission, of course.

ON BOARD MEASURES

Deck sensors have become smarter in recent years with “intelligent deck sensing.” Coupled to software, it becomes useful when you can actively manage different areas on board, says Alex Waite, commercial director of the technical security division of Maritime Asset Security and Training (MAST). “For example if you’re having a party or event, you can have areas that are being ignored and areas that are considered very sensitive to stop guests from wandering around.” Furthermore, deck sensors can output to PTZ cameras, which can be trained on an event very easily, like someone stepping on the passerelle or out of a hatchway. It’s a big improvement over the time when you had to have crew at the CCTV station trying to control things. “With large-scale recording and analysis performed automatically, crew can react effectively,” says Waite. This equipment integration is a MAST Technology specialty and creates a far more useful security system.

Another trend, says Waite, is remote locking – wireless locks on doors and hatches, all remotely controlled from the crew mess or bridge PC, or even integrated with smart crew radios.

Video documentation has improved alongside access control. “Captains and management want twenty-four-hour viewability of the boat at all entries and exits and accountability trails,” says Kane. GOST’s XVR, working over a cellular network, gives three months of footage for eight cameras with motion-activated push notifications sent to a phone via the app.

At night on anchor, a yacht tends to be lit up like a Christmas tree, shining a spotlight, literally, on those on board. Estebe has a creative solution: glare projection lighting, which casts a beam outwards from the yacht. This blinds outsiders looking in but won’t be noticed by guests on board. It can even be installed rather simply on multiple fender hooks placed over the side when guests are on deck to shield them from bystanders’ vision. Another piece of essential equipment, says Estebe, is night-vision cameras, like those made by industry leader FLIR.

Secure off the drawing board

Yachts designed by Dutch firm Vripack tend to travel the world, presenting some security challenges. Marnix Hoekstra, a director of Vripack, designs them from the get-go to be safer.

The first deterrent to unwanted guests, he says, is to give a yacht a rugged look that belies its true expense. Some owners have even asked him to draw something that resembles a fishing boat. In addition, elements like high freeboard and a closed stern make them more difficult to board.

In the interior, Hoekstra includes a safe in an obvious public area, where captains and owners can place sacrificial items and cash in the event that someone does board.

Incorporating gun safes and hidden lockers is commonplace for globetrotting yachts, and Hoekstra points out that weapons are for all aspects of safety, not only against human beings, but also wildlife in the wildest parts of the world.

Let’s not forget that polar bears can swim.

BEYOND THE BOAT

MARSS looks farther afield from the traditional security systems with its NiDAR system, combining subsea diver detection and tracking with surface small-craft tracking as well as drone and helicopter tracking. “We are able to create a digital moat that extends the security perimeter beyond the hull, which gives crew the ability to monitor an area much larger than the footprint of the boat,” says MARSS’s Johannes Pinl, CEO and founder. “This increases their reaction time to aid decision making.” Scalable and modular, it’s built around a yacht owner’s security requirements and can be based on existing or already specified equipment. Hardware that used to stand alone is integrated into a single automated system driven by smart software that enables the components to talk to each other.

Monitoring, detection, and tracking primarily use sonar, radar, and radio frequency monitoring, but MARSS’s real secret is the advanced software algorithms they’ve devised that decide whether an object is of interest by analyzing size, speed, movement patterns, and direction. This is how divers are distinguished from dolphins. It can even tell the difference between scuba and rebreathers.

Finally, nonlethal countermeasures can be an automatic part of the system in the form of searchlights, laser pointers, and loud hailers with a prerecorded message. All of this is clearly presented to the user on a super-intuitive touch screen. “If you can use a smartphone, you can use the interface,” says Pinl.

RISK VS. INTRUSION

Security measures can be taken as far as an owner wants. “Vessels can be fitted with shielded citadels, planned secret escape routes, and a host of countermeasures. However, for most owners, a robust means of securing the vessel and monitoring the immediate vicinity allows security not to become an intrusion into their lives,” says Waite. “The more security you place around an individual or vessel, the less easy it is to use,” he says. “Somewhere along the curve, people need to make a decision: how much risk they are willing to handle versus how much intrusion into their daily lives they are willing to have.”

Waite believes biometrics recognition and iris scanners go too far. For these to work, you need to scan every person who has vessel access. Furthermore, an iris scanner needs shaded, low-light conditions. “The main users of security on a day-to-day basis are crew, and if it doesn’t work for them, they don’t use it,” says Waite. Once this happens, all security is compromised. He recommends a user-friendly system that provides oversight and allows the security officer to understand the situation at a glance.

NONLETHAL DEFENSE

“If you put lethal equipment on board, the crew will either shoot the boat or shoot themselves before they ever shoot the bad guy,” says Sparks. Given high turnover, he says, crew need products that they can be trained on easily.

Criminals have a heightened sense of awareness that comes with an adrenaline spike. His preferred equipment reduces this by taking away the



“Piracy is the Hollywood term that causes the industry to not take crime on the high seas seriously.”

ability to see and hear. Alarms remove the latter. For visual impediment, dazzler flashlights cause blind spots and at night will distort vision for up to seven minutes. Sparks is also a fan of GOST Cloak, which hyper-fills the yacht with a food additive-based fog that’s harmless to breathe and leaves no residue, while rendering the intruder sightless. GOST has a new version coming out shortly that puts an imprint on the assailant in the fog, which can be later swabbed and used to identify the intruder.

Sparks’ number one recommended item is the sound barrier, a directional product that causes the otolith organ in the ear’s semicircular canal to vibrate, inducing seasickness. “You feel drunk and hungover at the same time on a boat that feels like it’s rocking in four-foot swells,” he says.

For personal defense, he suggests the Flash Launcher made by Pepperball. “Imagine a paint gun in the shape of a flashlight that shoots a round, but instead of paint inside it has pepper powder that is ten times stronger than pepper spray.”

Sparks uses these same items to also rescue children. One hundred percent of the profits go to his nonprofit, Phantom Rescue, who recovers children taken by human traffickers.

It’s important to remember that equipping your yacht to the nines won’t buy complete security. Estebe points out that the most important part of security is and has always been the human element – that’s where the greatest strengths and biggest weaknesses lie. After all, in the aforementioned stolen 200-foot-plus yacht, it was the human element that drew the bad guys’ attention in the first place. ①

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