

# SRN

## Ship Repair Newsletter

### FEATURE – New kit to combat piracy

As man's quest for ocean resources moves into more remote, risky and potentially hostile waters, maritime and energy security is becoming a core feature of project risk analysis. But the complex issue of how best to protect maritime assets is a major challenge. Now, new technology from the US could provide the answer.

A US company, WatchStander, is offering a new system of merchant vessel and offshore asset protection based on non-lethal countermeasures. Developed from US military technology designed to protect warships, the WatchStander system could have wide applications in both the shipping and energy sectors. The military systems are already in use on board many US Navy vessels but WatchStander has been licensed so that the Applied Research Laboratory (ARL) of Pennsylvania State University, a leading R&D establishment for such technologies, can adapt the technology for use in commercial shipping.

Maritime piracy is no longer confined to a handful of regions. A relatively small number of fast skiffs working Gulf of Aden waters off the coast of Somalia have caught headlines but incidents of piracy are being reported in a growing number of regions. Indeed, the potential ransom rewards are now fuelling a global business thought to be costing shipping as much as \$10bn a year.

Despite the efforts of maritime bodies, governments and many shipping companies themselves, piracy is no short-term phenomenon. Experts concede that tackling the issue is extremely challenging – it is, they say, a complex mix of political, cultural, financial, legal, military, economic, social and commercial issues. It is rapidly becoming a challenge that spreads far beyond the global shipping industry.

Harnessing the offshore energy resources necessary to meet demand tomorrow will involve an exponential increase in the number of offshore floating assets in risky parts of the world. Many of these will remain on station for years at a time.

They are effectively sitting ducks. As a result, measures to protect floating assets against pirate attack are a top priority.

New designs of merchant vessels and workboats are increasingly incorporating security features and some existing vessels are being modified in moves to counter the risk of pirate attack. For months, marine engineering firm Goltens, for example, has been offering various combinations of spikes and razor wire in bespoke designs based on its “Anti-Piracy System”. Clients to date include Chevron, Prisco and Teekay. Meanwhile Grandweld is incorporating special security features on board some of the seismic support craft currently under construction in Dubai for offshore energy firm Bourbon.

The WatchStander system, based on radar but linked to sophisticated computer software, recognises and identifies “antagonistic behaviour”. The system builds tracks of every potential target and determines which ones constitute a threat. Any suspicious vessel movement such as ceasing forward propulsion, launching skiffs, circling, following or changing direction triggers an alert. If a vessel is identified as a threat, the master and crew of the merchant vessel are alerted and an automated defensive response follows immediately.

The system can be configured in a variety of ways, but its core elements are based on a combination of sound and light. The closer a suspect vessel comes, the more physically intolerable the sound and light combination becomes. If pirates continue to approach, they expose themselves to a risk of disorientation, temporary damage to their eyesight and a series of sounds at decibel levels which initially produce discomfort, then intolerable pain and ultimately the risk of hearing damage. Anti-personnel lasers can also be incorporated into the system. Pirates become temporarily physically incapacitated long before a potential attack succeeds.

From a shipowner’s viewpoint, WatchStander executives point out that arming a vessel with fixed, non-lethal weapons removes the regulatory hurdles and delays associated with firearms and the deployment of armed guards. “WatchStander makes an attack an untenable option for pirates to take control of a vessel, irrespective of its speed, its freeboard, its cargo, its level of awareness or readiness – or the military capabilities of those on board,” they say.