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ARTIFICIAL INTELLIGENCE

ETHICAL COMMAND DILEMMAS

Italian avalanche response; Public communications during London terrorist attack; IEDs in Iraq; Evolutions in medicine, a tactical medic's perspective; Virtual reality; Scanning risk landscape horizons; Role of lawyers in a crisis; Drones & robotics; Disaster epidemiology; Climate change & security; EENA & Waze pilot project

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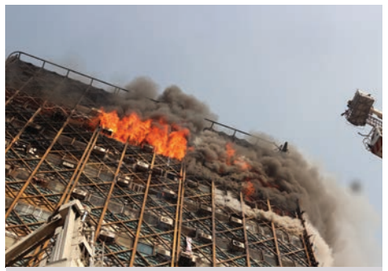

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comment

Since the publication of our last issue in December 2016, exciting changes have taken place. I am delighted to be able to inform readers and subscribers that I am now one of the owners of *CRJ*.

Supported by new business partners and co-owners, David Stewart and Kirsty McKinlay-Stewart, *CRJ* is now part of a new parent company, Crisis Management Ltd.

The new ownership of *CRJ* brings a fresh dynamism and outlook, ensuring that we maintain our position as the foremost international, multidisciplinary platform for practitioners, academics and all other individuals and organisations that are involved in crisis preparedness, planning and response.

We have ambitious plans for the future and there will be constant updates on what we are doing via the *CRJ* website, Twitter feed, Linkedin Group and our monthly e-newsletter.

In addition to publishing *CRJ*, Crisis Management Ltd provides a wide range of services across the crisis management and resilience arena, including consultancy and training services – bringing the talents of some of the finest and most respected experts across the globe to this endeavour.

The future for *CRJ* is a positive evolution rather than a dramatic change, and we want our community to help shape that change. We have started this process with a slight tweak in terms of the publication's format and size, which have been redesigned so that we can include even more information within our pages.

You will find the content and scope are as wide-ranging as ever – from reports on the avalanche tragedy in Italy (p12) and the London terrorist attack (p16), to horizon-scanning articles on the threat landscape (p48) and climate change and security (p44). We discuss technology innovations in the form of virtual reality (pages 30, 34 and 68) and look at resilience more generally with a host of other articles.

The most vital element of the *CRJ* remains its community – our global readers, advertisers, authors and Editorial Advisory Panel – and we are committed to making sure that the quality and relevance of our content are maintained and developed even further.

The new team has already been out and about at various shows and events around the world and hope to meet many, many more of you over the coming months.

Emily Hough

The consequences of piracy

Piracy, which decreased significantly around 2012, has once again been making the news this year, says **Christoph Schroth**. What are the wider consequences of piracy and what is being done on an international level to protect this important transportation sector?

Areas known for growing piracy activities include Africa (Somalia being the most commonly known area), Indonesia, Malaysia, the Philippines, Yemen and Venezuela, but what does this mean for the maritime cargo industry? What are the potential consequences and what is still to come?

The International Maritime Bureau (IMB) defines piracy and armed robbery as: "An act of boarding or attempting to board any ship with the apparent intent to commit theft or any other crime and with the apparent attempt or capability to use force in the furtherance of that act." Holding the vessel and crew for ransom is common practice as the attacks on ships are generally carried out with small boats (skiffs), making it impossible to remove cargo from the vessel itself.

Piracy is an asymmetric style of warfare that has created an entirely new challenge to the cargo industry. The vessels targeted by pirates primarily tend to be slow, have no fortification and provide easy access via a low stern (back of the ship) and via the freeboard (the sides of the vessel that tend to be close to the waterline when fully laden).

A typical pirate attack could look something like this:

- Skiffs approach the vessel, normally from the rear where radar coverage and field of view are limited;
- Shots are fired at the bridge with an assault rifle and/or rocket propelled grenade (RPG) to coerce the captain to slow down or stop;
- At the same time other skiffs come alongside or to the rear and try to board via boarding ladders they carry;
- The plan is to take over the bridge as quickly as possible, while rounding up the crew in a communal area to keep them contained; and
- Once in control, the pirates slow down to hook their mother ship and skiffs to the vessel and tow them along while proceeding to a holding area or utilising it as a mother ship (floating base) to commit further piracy attempts on other vessels.

Demands are generally issued next, and while a few years ago lower amounts were demanded, multiple millions of US dollars in cash tend to be the norm more recently. "Factors such as cargo and crew determine ransom demands," Reuters reported in 2011, adding that: "Ransom demands have risen steadily in recent years. According to one study, the average ransom stood at $5.4 million in 2010, up from $150,000 in 2005, helping Somali pirates rake in nearly $240 million," in 2010.

McNicholas states: "More than half of all pirate attacks reported (...) take place while the vessel is at anchorage." An interview published by Yale Insights in 2011 estimated around 100 ships and crew to be held hostage at the time, which equated to less than one per cent of the world's shipping fleet.

Reliable statistics on piracy are not easy to obtain as over or under reporting are a common problem. Also, it can sometimes be impossible to differentiate whether these acts are committed by pirates with criminal intent, or by fishermen who happened to cross the vessel's way. The NATO Shipping Centre (2013) categorises piracy activities into five categories, namely: Suspicious activity; approach; attack; pirated/hijacked vessel; and disruption. The IMB reported that 92 per cent of all ship seizures had been off the coast of Somalia in 2010, totalling 49 vessels and 1,016 people being taken hostage; 28 vessels and 638 hostages were still being held for ransom at the end of that year.

Gary Blakeley | 123rf

Oceans Beyond Piracy has published reports summarising the *Economic Cost of Somali Piracy* for 2010 and 2011. Total costs for the international economy were shown to be between $7 and $12 billion per year. "The International Maritime Organisation (IMO), a global maritime watchdog, estimated that in 2011, West African countries lost nearly over $1 billion in oil due to piracy," states Christopher (2009). "Piracy and organised crime on cargo vessels and bulk carriers, both at sea and anchorages, cost over $450 million per year." Over and above the value of vessels: "Millions of dollars in ransom payments are paid to pirates. It is believed that these payments are divided between the pirates, their leaders and those who finance them. Intelligence indicates that part of the money is reinvested abroad through Somali emigrants."

While other modes of transportation are available: "The main advantage of maritime transportation is obviously its economies of scale, making it the cheapest per unit of all transport modes." It is, however, an expensive endeavour to enter this market sector, with a purchase price of $75 million and daily operating costs of around $50,000 for an average container ship.

Blue economy

"The EU's blue economy employs roughly 5.6 million people and accounts for a gross value added of almost €500 billion euros. Seventy-five per cent of our external trade is waterborne," Maria Damanaki, the European Commissioner for Maritime Affairs and Fisheries said in a speech in 2013. The most commonly used sizes of containers used in the shipping industry are 20 and 40 foot; these have given rise to the industry standard that measures cargo volume and vessel capacity – the Twenty Foot Equivalent Unit (TEU) and the Forty Foot Equivalent Unit (FEU). Between 2003 and the middle of 2009 total container cargo, including dry freight, insulated and tank containers, rose from about 16.6 million to 26.3 million TEU, with 32.9 million TEU in 2012.

The increased risk of piracy attacks on their vessels in above-mentioned regions has made it necessary for ship operators to take action. Multiple options can be explored, the first of which is avoiding the danger area entirely. However, while sounding simple this is not so easy to accomplish, either because of extended travel times for reasons of cost, or owing to a lack of alternative routes or ports. The route from the Mediterranean Sea to India and Australia lead through the Somali basin, a major piracy area. The only alternative to this route is around southern Africa, extending the journey time and cost significantly.

Another solution is that of using faster vessels to outrun the pirate skiffs, which generally cannot keep up with speeds above 20 knots. This helps operators to avoid problems during transit, but not while vessels are at anchor.

Maintaining awareness is one further measure that can be taken in the form of posting continuous lookout personnel on the bridge – the more people the better – 24 hours per day. Radar monitoring should be maintained and set up to include the rear of the vessel, the most common direction of approach.

With regard to hardening vessel structures (with barbed wire, security gates or similar items), the same concepts as in home security can be employed. Securing windows, doors and minimising access points will slow attackers down.

Another measure is creating a piracy attack plan. The crew needs to be aware of what to do during an attack and

how they will be alerted. This should be practised, same as all other drills aboard, such as fire drills, for example.

Some operators opt to place unarmed or armed security personnel on board during high-risk transits. Numerous companies worldwide offer these services and have successfully fought off or prevented attacks entirely. While armed personnel are often more effective in these tasks, thanks to their weaponry, they are only of benefit in the event of a gunfight; up to that point their skills are identical to unarmed personnel, focusing on avoidance, observation and documentation.

Many vessels have created citadels or safe rooms on board. These tend to be large enough for the entire crew, as well as the security team, and are to be occupied during an attack. The security team will generally join the crew if the pirates have successfully boarded the vessel and can no longer be stopped from taking control. Water, food, medical supplies, independent vessel controls and communication equipment are stored and installed and the room will only be unlocked once the navy or other security teams have boarded and taken control of the vessel back from the pirates.

So, what can the global community do about piracy? Owing to the large ocean areas involved and global financial impacts of piracy, many countries have taken action to prevent such activities off their coast and in their region. NATO formed an anti-piracy initiative in 2009 named Operation Ocean Shield. Its mission was to contribute to international efforts to counter maritime piracy, while participating in capacity building efforts with regional governments. Operation Ocean Shield co-operated closely with other naval forces, including US-led maritime forces, EU naval forces and national actors operating against the threat of piracy in the region. NATO's highest decision-making body, the North Atlantic Council provides political guidance for the operation. The area covered was greater than two million square miles, approximately the size of Western Europe. Its vessels had the permissions and responsibilities listed below:

- Conduct intelligence, surveillance and reconnaissance missions;
- Monitor and escort commercial vessels crossing the area;
- Log and share pirate attacks and activities via the NATO Shipping Centre;
- Board suspected pirate vessels with/without the use of force; and
- Arrest suspects and hand over to designated law enforcement agencies.

Unfortunately, Operation Ocean Shield officially ended on December 15, 2016.

A set of guidelines on dealing with piracy incidents in the Somali basin has also been created. Known as *BMP4*, (*Best Management Practices for Protection against Somali Based Piracy – Version 4*), this provides guidance and advice for ship owners and security personnel alike. Additionally, there is an internationally recognised High Risk Area (HRA) bounded by Suez and the Strait of Hormuz to the North, 10°S and 78°E.

The UK Maritime Trade Operations Office (UKMTO) in Dubai acts as the primary point of contact for merchant vessels and liaison with military forces in the region. UKMTO Dubai also administers the voluntary reporting scheme, under which merchant vessels are encouraged to send regular reports, providing their position/course/speed and ETA at their next port while transiting the HRA. UKMTO Dubai subsequently tracks vessels and the positional information is passed to Combined Maritime Forces and the EU Maritime Security Centre in the Horn of Africa (MSCHOA).

The centre co-ordinates emergency response and NATO or other organisation will be dispatched to assist. Interpol has also joined the fight against piracy and focuses on three areas: Improving evidence collection; facilitation data exchange; and building regional capabilities.

Prosecution of captured pirates is a point of concern, as jurisdictions are not always clearly defined. The various nations of navy vessels adhere to their countries' rules and regulations, as well as to international maritime law.

Vessel operations incur various costs in their daily operations including mortgages, fuel, oil and staff salaries. Security measures need to be factored into this calculation, although their impact is not always significant, especially if compared to ransom, loss of life, loss of the vessel for days to months, or loss of cargo. Insurance providers often stipulate the need for a security team aboard a vessel crossing the HRA, the costs of which have to be covered by the vessel operator, and consequently the client.

Piracy has become an integral part of safety concerns in the shipping industry, even if incidences were on the decline and limited to certain regions. But actions by ship operators and governments can either lead to seizing of piracy or create a shift of piracy towards new regions around the globe if not carried out in an efficient manner. Either way, the financial consequences of piracy are significant and private maritime cargo companies cannot handle this problem without the support of various governmental and international organisations such as NATO.

Regional governments need to be enabled to protect their own territorial waters without dependence on international assistance, as once these initiatives end, a return to the previous state of piracy could be the consequence, making the entire project's achievements appear minor as they were only temporary.

Jurisdictions and the legal foundations need to be in place and clearly defined on an international scale to provide consequences that span across all regions, without the need for courts to rule on a case-by-case basis every time. CRJ

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Members of a visit, board, search and seizure team from USS San Jacinto investigate a suspicious dhow, as part of a deployment in support of maritime security operations

Petty Officer 1st Class Brandon Raile | US Navy Media Content Services

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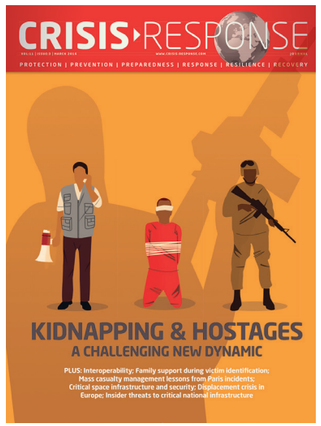

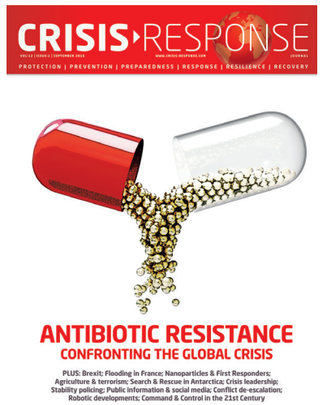

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