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
Contents

News ................................................. 4

Comment ............................................ 8

Incident analyses
The ethics of AI command ..................... 8
Eric J Russell examines the implications of taking orders from machines in the emergency services

Fatal Italian mountain avalanche ........... 12
Luigi D’Angelo describes search and rescue efforts in the aftermath of January’s fatal avalanche

High-risk Iran in 2017 ............................. 14
Navid Bayat describes the incident earlier this year in which 16 firefighters and five civilians died

Crisis communication
Ensuring preparedness ............................ 16
Roger Gomm provides an overview of the terrorist attack on Westminster, London

Tweetering pressures ............................. 17
Media departments should be an indispensable part of the authorities’ response strategy to terrorism incidents and hostile events, says Brian Dillon

Stepping up online crisis response ........... 20
Tom Foy says that a wide gap in preparedness for communications crises still exists across a wide crossection of government departments and agencies

Features
Mine clearance in Iraq ............................ 22
Nigel Ellway provides an insight into the future of mine clearance in Iraq

Psychosocial preparedness ...................... 24
Belinda Bamfield and Nitin Patel Reinhardt describe the features of their work in psychosocial preparedness

A tactical medic’s perspective ................. 26
Emily Hough speaks to Dr Mathieu Langlois, a medic with France’s elite national counter-terrorist tactical unit, about his recently published book

Gamification
Virtual reality for first responders ............ 30
Laurence Marcelli presents an immersive virtual and mixed reality platform that trains personnel to respond to physical threats and cyber attacks

Gamifying cyber security training ............. 34
News of a prototype that aims to transform training for first responders to cybercrime incidents

Threat landscapes
CBRN strategy in Austria ........................ 36
In these times of heightened security tensions planning to manage the consequences of a CBRN has become ever more vital, explains Christian Flesch

The consequences of piracy ................. 40
What are the wider consequences of piracy and what is being done on an international level to protect this important transportation sector? Christoph Schroth investigates

Climate change and security ................. 44
Caitlin E Wemmer and Francesca Ferrara highlight just how serious the threat climate change poses to national security communities is being taken

Global environment risk ...................... 48
Roger Gomm discusses the World Economic Forum’s Global Risks Report for 2017, finding that environmental risks figure on the risk landscape

Role of the lawyers in crisis response .......... 50
Companies – and their legal teams – need to understand that societal and community issues are as important as technical, legal, economic or engineering issues, says Keith Ruddock

Natural partners in city resilience .......... 54
A brand new, urbanised world requires a new approach to sustainability – insurers and insurers must work more closely together, say Butch Bucani and Evagelia Mitropoulou

Humanitarian field exercises ................. 58
Students from the United Nations University Institute of Environmental and Human Security gained invaluable field experience during last year’s Triplet 2016 exercise, according to Joerg Stanislawski

Localising robotics for good ................. 62
In part three of this series looking at the work of WelbioRobotics, Andrew Schroeder describes how the Flying Links – where local people work on how to apply drones for good in their country before a crisis hits – was set up and how the concept has developed in Nepal since the earthquake of April 2015

The nature of hypercomplex crises ......... 66
Clemente Fuggetti and Ian Testa present the achievements of the Spartacus project, which develops robust satellite tracking solutions

Disaster metagenomics ......................... 68
The rapid detection of pathogens can reduce disease and mortality in the aftermath of terror events, natural disasters and in war zones, says Matthew Rustrig. Carly Estevs and Ian Portelli look at developments in disaster epidemiology that could help responders in disasters

Virtual Reality in PTSD and beyond ....... 68
Anna Roselli, Carly Estevs, Matthew Rustrig and Ian Portelli describe how virtual reality is helping people who are suffering from PTSD

EENA and Waze join forces ................. 72
When changing the world seems impossible, let’s try to change the small parts of it that we can, says Petros Kremonas and Alexios Gzikis

Small drones in search and rescue ......... 76
Gemma Alcock and David Lane describe a newly-launched course for emergency service operators that provides familiarisation with the techniques for using UAVs and RPAS in search and rescue

Looking back ................................. 80
Forty years ago the deadliest aircraft accident in the world happened when two aircraft collided at Los Rodeos Airport in Tenerife, resulting in the deaths of 583 people. Tony Moore provides an insight into this tragedy

Crisis & technology
In depth
Early warning systems ....................... 84
The Caribbean island faces repeated hazards on an annual basis, many of which are weather-related, according to Marion Clarke and Danielle Evanson, who say that early warning is the key as they discuss the opportunities and barriers to integrated early warning systems

Disaster metagenomics p64

Drones for good p82

Humane civic control and control
Strategic response
Stepping up crisis communications ... 86
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 world’s best experts to our clients all over the globe.

We will keep you up to date daily as well as bringing you the latest news and trends in our regular monthly newsletter.

In addition to publishing Crisis & Technology, 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 world’s best experts to our clients all over the globe.

We will keep you up to date daily as well as bringing you the latest news and trends in our regular monthly newsletter.

You will find the content and scope are as wide-ranging as ever – from reports on the threat landscape (pages 30, 44, 58 and 72), to horizon-scanning articles on the threat landscape (p44). We discuss technology innovations in the form of virtual reality (pages 38, 54 and 58) 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 is maintained and developed even further.

This 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
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 forecastle (the sides of the vessel that need to be close to the waterfront 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.
- As 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.
- 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 utilizing it as a mother ship (hoisting boats) 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; piracy/hoi/jack 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 1,104 people being taken hostage; 28 vessels and 638 hostages were still being held for ransom at the end of that year.

The consequences of piracy 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, it is the most common form of transportation in the world. Reliable statistics 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; piracy/hoi/jack 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 1,104 people being taken hostage; 28 vessels and 638 hostages were still being held for ransom at the end of that year.

Ocean Beyond Piracy has published reports summarising the Economic Cost of Somali Piracy for 2000 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.”

The consequences of piracy 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, it is the most common form of transportation in the world.

Blue economy

“The EU’s blue economy employs roughly 3.6 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 leads 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.

Maritime 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

Oceans Beyond Piracy has published reports summarising the Economic Cost of Somali Piracy for 2000 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.”

The consequences of piracy 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, it is the most common form of transportation in the world.

Blue economy

“The EU’s blue economy employs roughly 3.6 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 leads 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.

Maritime 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 practiced, 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 control 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 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 Somalil Randed 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/cruisespeed 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 of 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 siting 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.

Source

- http://oceansbeyondpiracy.org;
- www.reuters.com
- www.mc.nato.int;
- http://nato.int/cps/en/natohq/terminal-operations-5332a80a-29ee-11e5-9d28-0029cc6f10e3.html;
- mc.nato.int
- http://oceansbeyondpiracy.org;
- www.mc.nato.int;
- Brandon Raile | US Navy
- NATO (2013): Piracy statistics;
- Interpol;
- www.europe.eu;
- www.worldship.org;
- www.theopim.com;
- www.mira.org;
- www.reuters.com

Author

CHRISTOPH SCHROTH is a Lecturer in Maritime Security at Bournemouth
University, UK, and an experienced paramedic with a keen interest in
emergency management, as well as remote site and wilderness medicine.

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. "Piracy: Not Going To Last" Brandon Raile | US Navy
Media Content Services
Select the package that works for you

The Crisis Response Journal is available by subscription only, making us answerable to our readers for the quality and range of our content. Choose a subscription package below or email us at subs@crisis-response.com

Individual: Quarterly printed editions, plus digital edition and full access to entire CRJ archive

- £100
- US$120
- €118

Digital: Quarterly digital editions only, plus full access to entire CRJ archive

- £60
- US$77
- €70

Student: Quarterly digital edition and full access to entire CRJ archive

- £30
- US$38
- €35

Corporate: Five copies of quarterly printed edition, plus digital edition access for up to 30 members of staff and full access to entire CRJ archive

- £600
- US$770
- €700

Institutional: Five copies of quarterly printed edition, unlimited access from one IP address, plus digital edition and full access to entire CRJ archive

- £350
- US$450
- €410

Visit www.crisis-response.com to subscribe or download a free sample edition at bit.ly/2qztBpa

SUBSCRIBE NOW

Authoritative global coverage of all aspects of security, risk, crisis management, humanitarian response, business continuity planning, resilience, management, leadership, technology and emerging trends.
Strategic Solutions for Global Issues

Our experienced multi-national team bring years of expertise in all aspects of Resilience, Crisis Management, Policing and Security services, making Crisis Management Limited a key resource for any level of related work, whether at a local, national or international level across public, private or voluntary sectors. We do not believe in ‘off the shelf’ solutions but seek to work with all clients to ensure bespoke services that meet clients’ needs and expectations. No projects are too small or too large.

Our multi-disciplined team has vast experience across all sectors and continents. Our experts have the flexibility to provide support at State or Government level for long term work, as well as bespoke niche work on a smaller scale and for short periods. The can-do approach of our team means that we can provide support at short notice if required.

- International Experience
- Bespoke Service
- Flexibility
- Customer Focus
- Communication Expertise
- Breadth of experience

www.crisismanagementlimited.com
info@crisismanagementlimited.com