

Research Paper

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Transatlantic Rifts

Managing the Use of Autonomous Weapons Systems

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Summary

- In October 2016 Chatham House brought together 25 participants to consider US and European responses in a scenario in which China becomes the first country to use autonomous weapons against an adversary – in this case Vietnam. This was the fourth and final in a series of scenario roundtables organized by Chatham House to explore possible areas of divergence in US–European relations and develop recommendations as to what actions could be taken to bridge such differences and build more effective partnerships in the future. (The first three scenarios involved respectively a conflict between China and Japan,¹ a potential breakdown in the Iran nuclear deal,² and a conflict between Turkey and Russia.³)
- The simulation did not reveal a major political or policy split between the US and Europe, or within Europe. It drew out sharply the distinction between the broad humanitarian and geopolitical views about the emergent class of weapons based on autonomous systems. But it also suggested that such divergences for the moment can be handled within the framework of existing intergovernmental arrangements.
- Neither the US nor Europe seems inclined to pursue a ban on autonomous weapons in the near future. However, their divergent views of arms-control measures in general – with the US regarding them in strategic terms and Europeans in more humanitarian terms – could point towards a split if autonomous weapons become commonplace.
- The simulation included the defence industry and the NGO community. The latter was largely at odds with governments and pursued a strategy to bring about a preventive ban on the development and use of autonomous weapons, but it failed to gain traction. By contrast, the defence industry seemed more concerned that the governments would try to enforce a code of conduct on it rather than regulating their own use of autonomous weapons.

¹ Wickett, X. and Parakilas, J. (2016), *Transatlantic Rifts: Asia-Pacific Scenario Case Study*, Research Paper, London: Royal Institute of International Affairs, <https://www.chathamhouse.org/sites/files/chathamhouse/publications/research/2016-02-03-transatlantic-riftwickett-parakilas-final.pdf>.

² Wickett, X., and Parakilas, J. (2016), *Transatlantic Rifts: Stress-Testing the Iran Deal*, Research Paper, London: Royal Institute of International Affairs, <https://www.chathamhouse.org/sites/files/chathamhouse/publications/research/2016-05-18-transatlantic-rifts-iran-deal-wickett-parakilas.pdf>.

³ Wickett, X., and Parakilas, J. (2016), *Transatlantic Rifts: Averting a Turkey/Russia Conflict*, Research Paper, London: Royal Institute of International Affairs, <https://www.chathamhouse.org/sites/files/chathamhouse/publications/research/2016-08-05-transatlantic-rifts-turkey-russia-wickett-parakilas.pdf>.

Introduction

In October 2001 the US carried out the first attack with a remotely piloted aircraft: a Predator drone that had been hastily refitted to carry Hellfire missiles fired at – and missed – Taliban leader Mullah Omar.⁴ In the subsequent decade-and-a-half, armed drones⁵ have both evolved rapidly in sophistication and proliferated, with 11 countries now thought to operate such systems.⁶

The use of these weapons systems is intensely controversial globally. Part of the controversy is the specific ways in which they have been used, especially by the US. Thus far, drones have largely contributed to counterterrorism campaigns, flying through uncontested airspace and firing at targets that effectively have no means to fight back. The use of drones for counterterrorism has caused significant legal and political controversy. But to some degree the controversy has conflated the weapons platforms and the use to which they are put. In other words, the US policy of striking suspected terrorists globally is controversial, whether facilitated by drones or conventional aircraft.

Existing drones are, crucially, remotely operated. They are effectively aircraft whose pilots remain on the ground, but whose automated features are not significantly different from those of modern on-board-piloted aircraft. But as technology advances and drones proliferate, a perceived military need for weapons that can respond more quickly to threats and operate in a wider range of environments has driven speculation about fully autonomous systems, which theoretically would be able to select targets and fire weapons without being commanded to do so by a human.

No country has yet deployed a truly autonomous offensive weapons system.⁷ But given the rate at which the capabilities of autonomous systems in general are advancing, it is probably just a matter of time before the technology exists for such a system. This in turn means that the extent to which such systems are deployed is likely to be entirely dependent on the extent to which states see such developments as being in their interests, and in turn, on what norms and legal implementation mechanisms are placed around them.

Meanwhile, further integration of autonomy into weapons systems continues apace. For instance, BAE's Taranis demonstrator – a prototype of an unmanned aircraft with stealth features that would, if produced, have the ability to carry a significant load of weapons – has demonstrated significantly greater capabilities in terms of autonomous navigation than have unmanned aircraft currently in use. Similarly, unmanned systems continue to demonstrate new capabilities. In 2013, for example, the US X-47B demonstrator executed the first autonomous launch and landing on an aircraft carrier.

⁴ Woods, C. (2015), 'The Story of America's Very First Drone Strike', *The Atlantic*, 30 May 2015,

<http://www.theatlantic.com/international/archive/2015/05/america-first-drone-strike-afghanistan/394463/> (accessed 9 January 2017).

⁵ There is some controversy about the terminology for such weapons. For example, the US uses 'unmanned aerial vehicles' for unarmed aircraft and 'unmanned combat aerial vehicles' for armed aircraft; the UK prefers 'remotely piloted aerial systems'; Germany uses 'unbemannte Luftfahrzeuge' ('unmanned aerial vehicles'), while France sticks to 'drones' or [avions] 'sans-pilotes' ('without pilots'). The term 'drone' is less technically specific but has achieved general popular recognition, so it is used in this paper.

⁶ Davis, L., McNerny, M. and Byman, D. (2015), 'Armed Drone Myth 3: Global Proliferation Demands Blanket Restrictions on Sales', RAND Corporation blog, 19 February 2015, <http://www.rand.org/blog/2015/02/armed-drone-myth-3-global-proliferation-demands-blanket.html> (accessed 4 Jan. 2017).

⁷ Like so much else with this topic, this claim is disputed. Some sources claim that the Samsung SGR-A1 sentry gun and the IAI Harop drone display key features of autonomy, but absent a generally accepted definition of autonomy – and given the general secrecy that pervades manufacturer and military disclosures of their capabilities – this is not yet confirmed. By the same token, commonly deployed close-in weapons systems such as Phalanx and Goalkeeper have autonomous modes, but as these are designed to defend against missiles and attack aircraft they have attracted little negative attention or controversy.

At least in the realm of autonomous aircraft, the difference between remotely operated and fully autonomous largely comes down to software. Therefore, the hardware necessary to enable an aircraft to operate without a human pilot also already exists.⁸

More critically, perhaps, states other than EU members and the US have invested in these technologies. China is moving rapidly to match US drone capabilities, and has begun to export armed drones. It has also displayed concept versions of future autonomous weapons, but their actual status is unknown. Israel has built a reputation as one of the world's leading centres of autonomous and remote technology, and has exported the arguably autonomous Harop and Harpy armed drones.

It is important not to overstate the near-term implications of weapons autonomy. Absent concurrent developments in sensor, engine or weapons technology, an autonomous system is not inherently more capable than its manned equivalent. Rather, autonomy creates new strategic and tactical possibilities. Autonomous aircraft could operate and defend themselves in contested environments where a remotely piloted aircraft might find its communications links jammed. Autonomous watercraft could fundamentally change the strategic balance at sea by following enemy submarines for weeks or months on end without tiring, all while freeing expensive warships for other duties. And increasingly autonomous systems of all types reduce the potential for human casualties in the course of undertaking military operations. These are significant impacts at the tactical level, which means they will ultimately register in strategic calculations.

In October 2016 the US and the Americas Programme at Chatham House brought together 25 experts from the technology and defence industries, the NGO community, academia and the policy world to consider a scenario in which China becomes the first country to use autonomous weapons against an adversary (Vietnam), striking a military target but killing numerous civilians in the process. The simulation took the form an informal meeting among Western countries, convened under the auspices of the UN, to try to agree on a common position on the regulation of autonomous weapons. Members of the group took roles representing European states (Germany, France, the UK, Poland and Sweden), the US and Israel, as well as institutions (the defence industry, NGOs, the EU, the UN and NATO).

Over two days, the group analysed the implications of such a use of autonomous weapons. Starting from a template provided by Chatham House, they negotiated an agreement between the governments, with pressure being brought to bear by participants acting as the private sector and the NGO community.

The workshop explored the various values of the groups represented, the links made between groups (often, for example, between NGO actors in different countries), and the pressure that different actors were able to bring.

⁸ This is less true of autonomous ground and naval systems, which must contend with far more complex operating environments.

Interests and perceptions

Opinions differ on the appropriateness of the use of autonomous weapons systems against humans. To many arms-control advocates, such as the Campaign to Ban Killer Robots, the fundamental question is one of values: that human beings have a right to not be killed by machines.

However, while the idea that there is an inherent breach of morality in the use of autonomous weapons on humans has relatively wide currency, its extension to a pre-emptive ban on autonomous weapons systems is not explicitly shared by most states. To date, 14 countries have signed up to a call for a full ban on the development or use of lethal autonomous weapons systems, but none is a member of the EU or a permanent member of the UN Security Council. European states have made non-binding statements to the effect that they do not seek to develop or deploy fully autonomous systems, with the UK stating that it ‘remains committed to maintaining human oversight and control over the use of force’.⁹ The US has used less restrictive language. For example, in an official statement to an expert group convened under the aegis of the Convention on Certain Conventional Weapons (CCW), the US declared: ‘[W]e believe that it is important to focus on increasing our understanding versus trying to decide possible outcomes. It remains our view that it is premature to try and determine where these discussions might or should lead.’¹⁰

As with other developments in the technology and practice of warfare, different states will perceive the changes differently. In the Pacific theatre, where the US is attempting to manage the rise of an increasingly assertive China, and where naval and air power is particularly important, autonomous weapons could make a significant difference in a potential military campaign. By contrast, in the European theatre, where the US and its European allies face Russia over land, autonomy in weapons is of less significance than the balance of conventional forces and developments in hybrid and irregular warfare strategies. Immediate military risk clearly has an impact on interests.

Beyond the strategic questions, there are also normative differences at play. As one participant in the simulation noted, the US and Europe tend to view arms-control agreements very differently. The US tends to see them as a way to manage the strategic order, and therefore pursues treaties such as the Intermediate-Range Nuclear Forces Treaty and the New START Treaty that are based on building frameworks around strategic arms. Over the past decade, the US has also increasingly resisted any pressure to limit its sovereignty whether on human rights or military issues. (This is perhaps most notable in the refusal to sign the UN Convention on the Law of the Sea.)

⁹ Article 36 (2016), *The United Kingdom and lethal autonomous weapons systems*, <http://www.article36.org/wp-content/uploads/2016/04/UK-and-LAWS.pdf> (accessed 4 Jan. 2017).

¹⁰ Meier, M. (2015), ‘U.S. Opening Statement at the CCW Informal Meeting of Experts on Lethal Autonomous Weapons Systems’, Mission of the United States, Geneva, 13 April 2015, <https://geneva.usmission.gov/2015/04/15/u-s-opening-statement-at-the-ccw-informal-meeting-of-experts-on-lethal-autonomous-weapons-systems/> (accessed 4 Jan. 2017).

By contrast, European states have been more amenable to arms-control treaties based on humanitarian goals, such as the 1999 Ottawa Treaty on landmines and the 2008 Convention on Cluster Munitions – both instances in which the US has declined to sign up to an international norm.¹¹ European governments and citizens also broadly have misgivings about how the US has used drones in recent years. But these Europeans also question whether international humanitarian law will be able to deal with autonomous weapons and whether a human rights perspective is also required. There is an inherently ethical basis to the European thinking on this issue, in contrast to that of the US, which is very reluctant to think in these terms.

Finally, there are questions about the extent to which Europe and the US simply view technology and its impacts on the international order differently. Greater European resistance to US drone strikes (partly as a matter of opposition to the policy and partly as a matter of viewing the technology as fundamentally immoral) is one example, but the ongoing dispute between the two sides over data protection points to a potentially deeper split over questions concerning the proper role of new technology in society (the debate over the EU-US Privacy Shield being one example). European states and the EU itself have been more willing to impose regulatory frameworks on non-military applications of technology, while the US has been far more ready to embrace them.¹²

In the simulation, the split between interests was most notable not between states but between sectors. Thus, the NGO community came together quickly to devise a strategy to bring pressure on multiple countries rather than working individually on their ‘home’ country. Their disagreements were over tactics rather than strategy; NGO representatives appeared unified in opposition to the further development or use of autonomous weapons.

This was less observable on the part of the business community, where there were also splits between the defence and the technology industries based on their different interests. For example the representatives of the defence industry were sceptical of regulation generally but willing to countenance this if it was the unified will of governments. They were, however, entirely resistant to the idea of having the burden of regulation placed on industry rather than shared with governments. By contrast, those from the technology industry took a nuanced view of the situation, resisting overzealous regulation of the mechanisms of autonomy that might imperil their business models but also supporting the NGO cause, albeit quietly.

¹¹ It should also be noted that despite its non-signatory status, the US effectively complies with the vast majority of the requirements of those treaties. It sought exemptions from both for very specific cases but was unable to agree them with the other states-parties. On the European side, the UK has shown a similar critical sentiment with regard to international norms, as its dislike of having to conform to European human rights and other standards was one of the factors that played into its decision to leave the EU.

¹² There is also a possibility that the fact that the majority of the technology originates in the US may play a role in this.

Simulation exercise

The simulation proceeded along slightly different lines than previous ones, which were crisis simulations in the more common sense whereby participants represented the parties to a crisis and attempted to achieve a resolution through negotiations and deploying national assets. This was instead a simulation of a negotiation prompted by, but largely independent of, a crisis.

The scenario imagined a conflict in late 2017 between Vietnam and China over disputed territory in the South China Sea. Following Vietnam's naval victory, China launched an attack against the major naval facility at Cam Ranh Bay using two waves of pilotless aircraft. The attack not only inflicted heavy damage on the facility, but also caused numerous civilian casualties, including staff at a Red Cross medical facility nearby. Investigation of one of the downed aircraft revealed that it was a fully autonomous – rather than remotely piloted – system, as was subsequently confirmed by statements from the Chinese government.

In the wake of this revelation – and in a context of general public outcry – an informal working group was convened by some states, under the auspices of the UN secretary-general, to start to put together a code of conduct for the use of such weapons. Participants were given a draft based on the conclusions of the 2013 special rapporteur's report on drones and lethal autonomous systems,¹³ and were instructed to use it as a template for an agreed text that might become the basis of a legal instrument that their countries could sign up to.

The teams were more diversified than in previous simulations, with the expectation that there would be significant differences of opinion and approach between sectors as well as between states. So the larger teams (principally the US, the UK, France and Germany) included representatives from defence and foreign ministries, civil society and the defence industry. The US team also included a representative of the non-defence tech industry to account for divergences within the private sector.

Some of the participants were given confidential information to direct their view of the situation. While the general scenario statement indicated that the system used by China exceeded anything publicly known in the rest of the world, the government members of the US and UK teams were informed that the US had a prototype system of similar capability. The Israeli team was informed that their country's weapons firms had collaborated with the Chinese government on the development of the weapon – a collaboration that had not been disclosed to the US or to Europe.

Day 1 (Session 1)

The objective was for states to come to national positions (rather than negotiating across borders). So, for example, the US NGO representative lobbied the US government representatives directly, while the British NGO representative was speaking to their own government. Each national team

¹³ UN General Assembly, Human Rights Council (2013), *Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Christof Heyns*, New York: UN General Assembly, http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session23/A-HRC-23-47_en.pdf (accessed 6 Jan. 2017).

was given the objective of presenting their initial negotiating position *vis-à-vis* the draft code of conduct (see Appendix).

None of the states represented was willing to consider a moratorium on the development or use of lethal autonomous systems, and there was widespread agreement that the code of conduct's call for 'metrics' to evaluate the performance of autonomous weapons was incompatible with industrial and military security. Beyond that, the national parties disagreed on the need to include language that would directly constrain the activities of the technology and defence industries, with the US looking for the least restrictive option.

One early question was whether the existing framework of arms-control treaties should be used. Most of the states – though Europe was largely split – argued that the CCW was the appropriate legal framework for any potential regulatory action on autonomous weapons. This received a mixed reception from the NGO community, which – while broadly supportive of the CCW – said the convention would not necessarily be sufficiently ambitious to deal with the issue.

Day 2 (Sessions 2–4)

The simulation moved to a freer format, with representatives authorized to negotiate with whomever they felt appropriate. At the end of each session they were required to update their national or sectoral positions, which the NGOs, international institutions and business representatives began to produce at this juncture. At some junctures, the facilitators disseminated new pieces of information to the participants.

- The NGO community declared early on that 20 new countries were willing to sign up to a ban on lethal autonomous weapons systems, among them South Korea, Japan, Canada and Norway. Simultaneously, they announced a public relations campaign, the major features of which were large demonstrations in major capitals and the co-opting of celebrity spokespeople including Robert De Niro and Arnold Schwarzenegger (the latter reprising his role as the Terminator).
- Tensions started to emerge between the defence industry and European governments in this round, given the movement (particularly in France) to ask defence contractors to sign up to a code of conduct. The defence industry's stated position was that it would comply with international treaties or legislation without hesitation, but that it viewed the attempt to impose a code of conduct as a passing of responsibility from states to private industry.
- One general point of agreement early on was the need for greater clarity. Demands for an independent investigation of the incident were made by virtually all of the governments in the room. The NGO community accused the assembled governments of using calls for an investigation as a pretext not to take action, but this argument fell on deaf ears.
- The European Union convened an ad hoc working group to resolve disagreements among its member states over the text. For the state representatives, this seemed an effective forum and resulted in a document the terms of which were agreeable to all states present as well as to the EU and NATO representatives. But the NGO community viewed the resulting document as toothless and insufficient.

- A declaration by Iran that it would seek to purchase systems to equip a newly formed autonomous weapons division of the Revolutionary Guards Corps, and a corresponding statement by Saudi Arabia and the United Arab Emirates that they would develop and deploy comparable capabilities, led to condemnation from the EU and NATO but little in the way of concrete action.
- Towards the end of the simulation, investigators working on the downed Chinese drone leaked to the NGO community that a significant portion of the code recovered bore the hallmarks of Israeli design, indicating either that Israel had covertly collaborated with the People's Liberation Army on the design of the system, or that the Israeli defence industry had been infiltrated by China and critical data had been stolen. Israel refused to comment on the substance, but declared that all its military systems were compliant with international humanitarian law and would remain that way.
- The US announced actions largely designed to demonstrate that it had comparable systems to China's, including a demonstration of unmanned vehicles using swarming tactics and discriminating between civilian and military targets in close proximity. Meanwhile, congressional pressure against a ban intensified with hearings called by the Senate Armed Services Committee into the 'autonomous weapons gap'.
- The defence industry, working through intermediaries, began a counter-messaging campaign, calling for the US to resist any treaty that would restrict the development and deployment of autonomous weapons systems on the grounds that this would endanger national security and jobs. The non-defence technology industry took a quieter role in the negotiations, refusing to engage in open activism but offering support and funding to the NGO community.

Simulation findings

The simulation did not reveal a major political or policy split between the US and Europe. However, there was a very clear split between governments and NGOs, and to a lesser extent between industry and governments.

The US government took a more hawkish line throughout than did its European counterparts. This is perhaps unsurprising given that existing US statements on autonomous weapons tend to leave much more space for their development and potential deployment than do equivalent statements from major European military powers. The US team was clearly thinking more in terms of the US strategic position in relation to China, while its European counterparts were more focused on the specific legal and ethical issues relevant to autonomous weapons.

European governments largely split on the question of whether future measures to regulate the use of such weapons should take place under the aegis of existing arms-control frameworks (e.g. the CCW) or whether they would consider an entirely new framework for such weapons. The German team made the case that such arms-control measures should primarily be based on the specific humanitarian impact of the munitions used rather than the intent of their operator, and that therefore the discussion should take place within existing frameworks. Given the lack of momentum among the assembled governments to pursue any kind of binding agreement, this seemed like an administrative rather than a political schism.

One interesting side issue for the transatlantic relationship in this context was the potential impact of the Five Eyes intelligence cooperation alliance between the US, the UK, Canada, Australia and New Zealand.¹⁴ Perhaps partially reflecting the June 2016 referendum vote in favour of leaving the EU, the UK was relatively vocal about wanting to work with these allies in the first instance, and, as one participant noted in the discussion afterwards, this relationship might have taken on greater prominence had the scenario focused on cyberwarfare rather than autonomous weapons systems.

The defence industry's strategy took two separate directions. The more predictable approach was a straightforward counterattack against the NGO community, expressed most directly via the industry's late-stage 'security and jobs' media campaign. Given the resistance governments were showing towards a ban from the outset, this served more as insurance policy than as the pursuit of a necessity. The other defence industry strategy was to push back against proposed codes of conduct for it. This hinted that the defence industry perceived the biggest threat to be not a ban on research and development, but rather efforts by governments to shift the burden of compliance from the state to the industry.

The NGO community pushed strongly for an outright ban, but even with the support of state allies like Japan and South Korea they struggled to get most states to consider such a measure. Paradoxically, the willingness of those two states to countenance a ban had the impact of further hardening the US government's position. Given the willingness of Japan and South Korea to pursue

¹⁴ This area was not fully explored in view of the defined nature of the scenario.

a ban even in the face of a potential threat from China's autonomous weapons, the US viewed regaining autonomous weapons parity with China as even more important.

Part of the NGO community's struggle to win converts to its position was simply definitional. Its strategy was to use the playbook that had worked in creating norms against the use of landmines and cluster munitions. But those weapons are clearly and concisely defined, whereas questions of whether the aircraft that had attacked Cam Ranh Bay were 'truly' autonomous persisted throughout the simulation. Moreover, even European governments were inclined to take measures following the incident through traditional international humanitarian law, rather than using it to develop a new precedent based on the question of autonomy.

Implications

The scenario did not cause a significant political rift between the US and Europe, or within Europe. But participants noted that it set conditions that might lead to further divisions in future. In particular, the US counter-demonstration of autonomous weapons systems pointed to the possibility of their eventual use by the US, which might draw greater European condemnation depending on the circumstances.

There were areas where it was possible to discern differing approaches that might drive divergences further down the line. European governments appeared more willing to listen to the positions of NGOs than did the US administration. And while NGO lobbying had little effect on the outcome of the simulation, participants observed afterwards that any successful move towards the control of autonomous weapons would be a longer, more complex process than could be modelled in a relatively short simulation.

Some participants said that there was an underlying philosophical difference between views of technology held in European and American societies. In this reading, Europeans take a rules-based view of the world, making them more susceptible to arguments that humans have an inherent right to not be killed by robots, while Americans take a more pragmatic and strategic view encompassing concepts of deterrence and power-balancing. This is reinforced by different attitudes towards the inevitability of technological change, with Americans tending more to view the development and use of new technologies as inevitable than do Europeans.

As well as philosophical differences across the Atlantic about technology, there are also more pragmatic concerns. The US has a different view of arms control, owing to its greater strategic responsibilities beyond the European neighbourhood, and views developments in Chinese military technology through a more existential lens than do its European allies.

Europe is also acutely aware that the major technology firms are primarily American. Given that developments in artificial intelligence and autonomy have implications in the commercial and military spheres, this is a potential driver of strategic competition between the US and Europe, especially in an era of uncertainty for transatlantic relations. In the scenario, France was the most willing to impose a regulatory burden on industry, and most susceptible to public opinion.

Finally, while the US found little opposition to its approach from European governments, the agreement was framed in terms of convergent interests, not shared values. At a time when US foreign policy is less likely to be based on historically shared values with Western allies, both sides may approach issues of emergent importance from an increasingly interest-driven perspective. However, there was not a clear voice representing 'European' values during the simulation either.

Appendix: Scenario details

The following reproduces, in slightly edited form, the set of instructions presented to participants in the 13–14 October 2016 scenario workshop. The participants were a mix of current and former government officials, academics and think-tank staff. This document was circulated in advance of the workshop. Some assumptions, notably the outcome of the US presidential election in the following month, were not borne out by subsequent events.

Setting

Late 2017

Background

A low-level war between China and Vietnam has broken out over competing territorial claims in the South China Sea. The combat thus far has largely been contained to aerial and naval skirmishes. The US and the largest European countries have not taken sides, and their efforts to broker a ceasefire have hitherto failed to gain traction.

Scenario

Despite the vast size and power disparity between the two countries, Vietnam has been holding its own against China, winning several small skirmishes. To try to reclaim the initiative, China sends its sole operational aircraft carrier and a fleet of supporting vessels into the South China Sea. The carrier group is ambushed by a Vietnamese submarine, which sinks two frigates and manages to escape while the Chinese fleet draws back in disarray.

Vietnam's Cam Ranh Bay naval base is key to its ability to project power in the South China Sea, and in the run-up to the conflict the Vietnamese government had been sending increasingly clear signals that it was considering extending base leasing rights there to the US navy. Because of the facility's strategic importance, the Vietnamese government has deployed Russian-made S-400 Triumf surface-to-air missiles to protect it, making any conventional aerial assault on it impossibly costly.

Shortly after the naval battle, Cam Ranh Bay comes under attack from unmanned aircraft. The attack proceeds in two waves: the first consists of numerous inexpensive aircraft that overwhelm the Vietnamese air defences; the second of fewer but much more sophisticated ones. The second wave destroys the remains of the air defence network and proceeds to sink several Vietnamese naval vessels and destroy command and communications facilities as well as fuel depots and repair facilities. Several hundred people – military and civilians alike – are killed in the assault, and over a thousand are injured.

Among the casualties are many staff (including European and US citizens) and patients at a Red Cross medical facility near the bay, which was clearly marked as a medical facility in keeping with international law.

In the course of the attack, one of the second-wave aircraft is brought down relatively intact. Vietnamese investigators bring in international experts and quickly release an initial report indicating that at least the second-wave aircraft were operating autonomously during the attack. The Chinese government acknowledges that they have deployed an ‘aerial autonomous weapons system’ in proportionate response to the Vietnamese ‘treachery’, and that it was a necessary and appropriate use of force.

Non-governmental observers point out that this is the first undisputed, wide-scale use of an autonomous weapons system. While knowledge of details about the technical specifications of the weapons in question is still limited, based on the Vietnamese government’s report and open-source corroboration, NGOs claim that the civilian casualties were a result of decisions to attack made outside meaningful human control, which would violate the spirit if not the letter of international humanitarian law.

While most American and European high-level diplomatic effort is going into resolving the conflict, discussions are also taking place about the precedent set by the use of autonomous weapons on such a scale.

Process and goal

In response to growing calls by members of the UN General Assembly for an outright ban on autonomous weapons systems – strongly supported by civil society – the UN secretary-general’s office announces that it will push for the adoption of an international legal instrument to regulate the development and use of such weapons. It puts forward the 2013 special rapporteur’s report on drones and lethal autonomous weapons as the starting point of such an implement.

This simulation takes the form of a meeting convened in response to this announcement among Western countries on the sidelines of a UN General Assembly session. The relevant conclusions of the special rapporteur’s document (see below) have been put forward as the core of a possible code of conduct on the development and use of autonomous weapons, and the states and relevant observers have been tasked with determining whether they can support it as written, suggest amendments or reject it entirely.

Scenario timeline

DAY ONE: 4:00 – 5:30 pm

4:00 – 4:30 pm: Scenario introduction, run through scenario roles and divide into teams.

4:30 – 5:30 pm: National teams will meet internally and try to figure out a national position vis-à-vis signing up to a legal instrument following the text of the draft code of conduct. At end of session (approx. 5:20 pm), teams present national positions.

DAY TWO: 9:00 – 12:30 pm

9:00 – 10:00 am: Session begins with public announcements from moderators. Lobbying session between teams/states.

10:00 am (half-way through the second session): Convene for update – public statements and amendments to national positions.

10:00 – 11:00 am: Lobbying session between teams/states.

11:00 – 11:30 am: Coffee break

11:30 am: Convene for update.

11:30 – 12:30 am: Final lobbying session/statements of final national positions.

Country-specific information

FRANCE: Thanks to reforms, the French economy has begun to grow at a faster rate, though the recovery is still fragile. France has maintained a close working relationship with the US in the Middle East, including collaborating in airstrikes against Islamic State of Iraq and Syria. The Front National holds a substantial number of seats in parliament, but did not succeed in winning the presidency.

GERMANY: Despite an uneven economic recovery, Germany remains at the centre of EU fiscal and economic policy. A slowdown of growth in China has increased pressure on German industry, but the country's economy has proven mostly resilient. While Germany has begun to recapitalize its military forces, it remains largely reluctant to participate in international military operations that do not have a clear and widely accepted mandate, and its military still lacks independent power-projection capability. But its defence industry continues to play a significant role in the country's overall industrial strategy.

Germany's government was weakened by growing populist resistance to its refugee policy, and although the CDU-led coalition has survived the most recent elections, it is hanging on to a bare majority after left- and right-wing populist parties make notable gains.

ISRAEL: Israel continues to face domestic and international pressure for a long-term settlement with the Palestinians, which remains elusive. The country's relationship with the US has improved slightly since 2016, but it remains dissatisfied with the US's regional approach and continues to push for a harder line against Iran, which has continued to support and arm Hezbollah. Israeli defence and aerospace firms have built on their reputation as world leaders in autonomous and remote systems, exporting increasingly sophisticated systems to a variety of customers overseas, much to the dismay of the international arms-control community.

POLAND: With an economy that continues to outperform the EU average, Poland has invested heavily in defensive military capabilities and its own military industry, largely as a result of Russia's actions in Ukraine. Poland continues to push for greater European integration, a more integrated European foreign policy and more inclusive free-trade regimes.

SWEDEN: Sweden's economy is stable but down from the unanticipated boom of 2015–16. Contributing to this slowdown has been the underperformance of key exports due to the appreciation of the krona and weak global demand. The minority coalition government remains in power but is under pressure from far-right nationalist and anti-immigration groups. Sweden has not joined NATO despite growing calls for it to do so in response to Russian military assertiveness. The Swedish military has gone through an overhaul, with more than 2.1 billion krona invested in strengthening readiness, which has boosted Sweden's defence industry.

UK: Article 50 has been invoked, starting the formal process of the UK leaving the EU, and the Conservatives remain in power. With economic uncertainty rattling investor confidence, the government has emphasized exports, especially in the aerospace, defence and high-tech industries. With Brexit negotiations dampening political relationships between the UK and the EU, the government is increasingly looking to ad hoc and non-EU international relationships to pursue its foreign policy goals.

US: The 'pivot' to Asia of the previous administration has continued, but the US continues to have substantial engagement with the Middle East and Europe. While fears over terrorism and the potential outbreak of a sizeable war have risen, there remains significant public wariness around getting involved in another conflict overseas, especially where the national interest is not directly threatened. In Asia, deteriorating relationships with some previously key allies (notably the Philippines) have caused the US to seek closer relationships with new partners, including Vietnam.

Following the November 2016 elections, the Democrats retain control of the White House now under President Hillary Clinton; they also hold a very precarious Senate majority, though the House remains under the control of the Republican Party, which has been taking an increasingly nationalist and inward-facing tone as it seeks a better position for the 2018 midterm and 2020 elections.

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