

National Security Law

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This Article surveys 2017 international legal developments relevant to National Security Law.

I. Tensions Between the United States and Russia

Relations between the United States and Russia — already at a low point at the end of 2016 — have continued in a downward spiral.¹ The primary source of tension was the fallout from Russian interference in the 2016 U.S. election, which sparked a series of diplomatic measures and economic sanctions implemented by both sides throughout 2017.² While President Putin continued his firm hold on the reins of power in Russia, the new Trump administration took office in the United States and quickly became embroiled in a series of controversies, including the special counsel investigation into possible collusion between the Trump campaign and Russian officials.³

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1. Yeganeh Torbati & Vladimir Soldatkin, *Putin: Trust Between US, Russia has ‘deteriorated’ Under President Trump*, AOL (Apr. 12, 2017), <https://www.aol.com/article/news/2017/04/12/putin-trust-between-us-russia-has-deteriorated-under-president-trump/22036883/>.

2. Lauren Gambino & Julian Borger, *Senate Approves New Russia Sanctions as Punishment for Meddling in Election*, GUARDIAN (June 9, 2017), <https://www.theguardian.com/us-news/2017/jun/14/senate-proposes-new-russia-sanctions-meddling-election>.

3. See Sonam Sheth, *Trump May Have Gone from the Frying Pan into the Fire: Intelligence Officials Hail Robert Mueller’s Appointment as Special Prosecutor*, BUS. INSIDER (May 18, 2017),

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Weeks after the election, President Obama announced that the United States would retaliate for the Russian intrusion. He stated that “when any foreign government tries to impact the integrity of our election . . . we need to take action.”⁴ On December 29, 2016, the Obama administration imposed a series of diplomatic punishments and new sanctions against Russian organizations and officials.⁵ Vice President Joe Biden hinted at a covert response.⁶ (These responses will be discussed in greater detail in the note below.)

On January 6, 2017, just two weeks before the new administration took office, the U.S. Director of National Intelligence released a declassified report describing Russian cyber-intrusions into the U.S. election.⁷ The report — a shorter, public version of a highly classified report⁸ — found with “high confidence” that the Russian effort “initially sought to undermine public faith in the U.S. democratic process, ‘denigrate’ Democratic presidential candidate Hillary Clinton and damage her expected presidency.”⁹

Despite this cloud over the election, the new administration took office on January 20, 2017, with President Trump promising a “fantastic relationship” with Russia.¹⁰ But these hopes were short-lived. In April, after meeting with President Putin and other officials, Secretary of State Rex Tillerson reported that “[t]he current state of U.S.-Russia relations is at a low point.”¹¹ While the two governments agreed on policy approaches in Syria,

<http://www.businessinsider.com/robert-mueller-trump-russia-intelligence-community-fbi-2017-5>.

4. Julie Hirschfeld Davis & David E. Sanger, *Obama Vows U.S. Reprisal for Moscow’s Meddling*, N.Y. TIMES, Dec. 16, 2016, at A22, available at <https://www.nytimes.com/2016/12/15/us/politics/russia-hack-election-trump-obama.html>.

5. See David E. Sanger, *U.S. Punishes Russia for Election Hacking*, N.Y. TIMES, Dec. 30, 2016, at A1, available at <https://www.nytimes.com/2016/12/29/us/politics/russia-election-hacking-sanctions.html>.

6. *Id.*

7. See *Assessing Russian Activities and Intentions in Recent US Elections*, OFF. OF THE DIRECTOR OF NAT’L INTELLIGENCE (Jan. 6, 2017), https://www.dni.gov/files/documents/ICA_2017_01.pdf.

8. *Id.* at 1.

9. Greg Miller & Adam Entous, *Declassified Report Says Putin ‘Ordered’ Effort to Undermine Faith in U.S. Election and Help Trump*, WASH. POST (Jan. 6, 2017), https://www.washingtonpost.com/world/national-security/intelligence-chiefs-expected-in-new-york-to-brief-trump-on-russian-hacking/2017/01/06/5f591416-d41a-11e6-9cb0-54ab630851e8_story.html?utm_term=.4cf3040b3c9b.

10. Tara Palmeri, *Trump and Putin Connect Over Middle East and Repairing Relationship*, POLITICO (Jan. 29, 2017), <https://www.politico.eu/article/trump-and-putin-connect-over-middle-east-and-repairing-relationship/>.

11. Conor Finnegan, *Tillerson Says ‘US-Russia Relations at a Low Point’ After Meeting with Putin*, ABC NEWS (Apr. 12, 2017), <http://abcnews.go.com/International/Tillerson-meets-with-Putin-amid-tensions-over-Syria/story?id=46738628>.

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counterterrorism, and North Korean denuclearization, he noted that “there’s a broad range of issues where we have differences.”¹²

In July 2017, President Trump gave a public address in Poland in which he called on Russia to stop “destabilizing” Ukraine and Eastern Europe and “[to] join the community of responsible nations.”¹³ Presidents Trump and Putin met in person during the G-20 meeting in Germany, both appearing to want to move beyond past disagreements to forge a relationship built on the two countries’ remaining common goals in the international arena.¹⁴

Later that month, however, Congress forced President Trump’s hand by passing legislation imposing new sanctions on Russia, North Korea, and Iran.¹⁵ Unlike in the past, these new sanctions substantially limited the president’s discretion to make modifications.¹⁶ After the White House announced that President Trump would sign the legislation, the Russian government retaliated, requiring the U.S. diplomatic mission in Russia to cut 755 staff positions and seizing several diplomatic properties.¹⁷ President Trump blamed Congress for placing U.S.-Russian relations “at an all-time & very dangerous low,”¹⁸ but reluctantly signed the bill into law.

The superpowers’ relationship continued to deteriorate through the end of 2017. Following a scaling back of U.S. visas for Russian travelers,¹⁹ the U.S. State Department, in late August, required the Russian government to close its consulate in San Francisco and two trade mission buildings.²⁰ In November, the U.S. Justice Department required Russian English-language

12. *Id.*

13. *G20: Trump and Putin Hold First Face-to-Face Talks*, BBC NEWS (July 7, 2017), <http://www.bbc.com/news/world-europe-40527359>.

14. See Patrick Wintour, ‘It’s an Honor to be with You’—Trump and Putin Meet at G20 in Hamburg, GUARDIAN (July 7, 2017), <https://www.theguardian.com/world/2017/jul/07/donald-trump-and-putin-exchange-handshake-at-g20-summit-in-hamburg>.

15. Robert Rampton & Patricia Zengerle, *Trump Signs Russia Sanctions Bill, Moscow Calls it ‘Trade War’*, REUTERS (Aug. 2, 2017), <https://www.reuters.com/article/us-usa-trump-russia/trump-signs-russia-sanctions-bill-moscow-calls-it-trade-war-idUSKBN1A11Y4>; Peter Baker, *Trump to Sign Bill Imposing Sweeping Sanctions Against Russia, White House Says*, N.Y. TIMES, July 28, 2017, A18, available at <https://www.nytimes.com/2017/07/28/us/trump-to-sign-russia-sanctions-bill-white-house-says.html>.

16. See Baker, *supra* note 15.

17. See Neal MacFarquhar, *U.S. Must Reduce Diplomatic Staff by 755, Putin Says*, N.Y. TIMES, July 31, 2017, at A1, available at <https://www.nytimes.com/2017/07/30/world/europe/russia-sanctions-us-diplomats-expelled.html>.

18. Eileen Sullivan, *Trump Blames Congress for Poor Relationship with Russia*, N.Y. TIMES, Aug. 4, 2017, at A13, available at <https://www.nytimes.com/2017/08/03/us/politics/trump-twitter-congress-russia.html>.

19. Kathrin Hille, *Russian Tourist Hit as US Cuts Back Visa Services*, FIN. TIMES (Aug. 21, 2017), <https://www.ft.com/content/feb249e-866e-11e7-bf50-e1c239b45787>.

20. See Yeganeh Torbati, *U.S. Retaliates Against Russia, Orders Closure of Consulate, Annexes*, REUTERS (Aug. 31, 2017), <https://www.reuters.com/article/us-usa-russia-diplomacy/u-s-retaliates-against-russia-orders-closure-of-consulate-annexes-idUSKCN1BB2CY>.

TV channel RT to register as a “foreign agent.”²¹ In response, Russian lawmakers proposed legislation that would similarly designate foreign media outlets in Russia as “foreign agents” and require them to join a registry, issue disclaimers on articles, and submit regular financial reports.²²

Tensions with Russia also played out on additional fronts. In March 2017, the U.S. Justice Department indicted several Russian hackers and intelligence officials for the 2014 hacking of over 500 million Yahoo! users.²³ Russian war games in Eastern Europe prompted additional U.S. military deployments to Poland.²⁴ Finally, tensions between the two countries increased in Syria, both militarily²⁵ and politically.²⁶

II. Cybersecurity Developments

Several notable cybersecurity developments occurred in the fourteen months since the 2016 presidential election. These include (a) the imposition of sanctions against certain Russian entities in response to the Russian government’s alleged cyber-related interference in the election; (b) congressional and federal investigations into the extent of this suspected interference; (c) massive international ransomware attacks perpetrated by foreign-based hackers using techniques that were developed by the National Security Agency (“NSA”); and (d) the Trump administration’s actions to combat international cyberattacks.

A. SANCTIONS AGAINST RUSSIAN ENTITIES

The Obama administration took three significant actions on December 29, 2016, in response to Russia’s alleged cyber-related interference in the 2016 presidential election. First, it issued Executive Order 13757 (“EO

21. Jack Stubbs & Ginger Gibson, *Russia’s RT America Registers as ‘Foreign Agent’ in U.S.*, REUTERS (Nov. 13, 2017), <https://www.reuters.com/article/us-russia-usa-media-restrictions-rt/russias-rt-america-registers-as-foreign-agent-in-u-s-idUSKBN1DD25B>.

22. Andrew Roth, *Moscow Prepares Retaliation Over U.S. Designation of RT Channel as Foreign Agent*, WASH. POST (Nov. 14, 2017), https://www.washingtonpost.com/world/europe/moscow-prepares-retaliation-over-us-designation-of-rt-channel-as-foreign-agent/2017/11/14/e48d54f8-c951-11e7-b506-8a10ed11ecf5_story.html?utm_term=.88a0218af9ec.

23. See Dustin Volz, *U.S. Authorities Charge Russian Spies, Hackers in Huge Yahoo Hack*, REUTERS (Mar. 15, 2017), <https://www.reuters.com/article/us-yahoo-hack-indictments-fsb/u-s-authorities-charge-russian-spies-hackers-in-huge-yahoo-hack-idUSKBN16N0CO>.

24. See Rachel Roberts, *US Army Tanks Arrive in Poland as Russia Starts Military Drills on Country’s Border*, INDEP. (Sept. 16, 2017), <http://www.independent.co.uk/news/world/us-tanks-poland-russia-war-games-military-drills-belarus-putin-trump-a7949906.html>.

25. See Steve Holland et al., *White House Says it Retains Right to Self-Defense in Syria; Moscow Warns Washington*, REUTERS (June 19, 2017), <https://www.reuters.com/article/us-mideast-crisis-syria/white-house-says-it-retains-right-to-self-defense-in-syria-moscow-warns-washington-idUSKBN19A21A>.

26. See Henry Meyer & Taylan Bilgic, *Russia, Iran, Turkey to Meet over Syria amid U.S. Tensions*, BLOOMBERG POL. (Nov. 16, 2017), <https://www.bloomberg.com/news/articles/2017-11-16/russia-iran-turkey-to-meet-over-syria-amid-tensions-with-u-s>.

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13757”), which amended Executive Order 13694 by expanding the sanctionable types of significant, malicious, cyber-related activities to include those with the purpose or effect of undermining election processes or institutions.²⁷ In accordance with EO 13757, sanctions were imposed on five Russian entities and four Russian individuals for their alleged efforts to interfere with the 2016 presidential election.²⁸ Second, the U.S. government ordered the expulsion of thirty-five Russian diplomats from the United States and informed the Russian government that it would be denied access to two Russian government-owned compounds in Maryland and New York as of noon the following day (December 30, 2016).²⁹ Finally, the U.S. Department of Homeland Security (“DHS”) and the Federal Bureau of Investigation (“FBI”) issued a Joint Analysis Report containing declassified information on the actions believed to have been undertaken by the Russian government to interfere with the 2016 presidential election in an effort to assist entities identify, detect, and disrupt Russia’s malicious cyber activities.³⁰

B. CONGRESSIONAL AND FEDERAL INVESTIGATIONS

In 2017, the House Intelligence Committee, the House Oversight Committee, the Senate Intelligence Committee, and the Senate Judiciary Committee each initiated investigations to determine the extent to which Russian entities may have interfered with the 2016 presidential election.³¹ As of the time of this article, each of those committees had discovered considerable evidence that there had been extensive interference by numerous Russian entities in various ways, some of which may have involved assistance by entities or persons in the United States, although considerable work remains before the committees conclude their investigations.³²

In addition to these congressional investigations, the Department of Justice (“DOJ”) launched its own inquiries into Russian interference in the 2016 presidential election.³³ Led initially by the FBI, this investigation was

27. Exec. Order No. 13,757, 82 Fed. Reg. 1 (Dec. 28, 2016).

28. See Evan Perez & Daniella Diaz, *White House Announces Retaliation Against Russia: Sanctions, Ejecting Diplomats*, CNN POL. (Jan. 3, 2017), <https://edition.cnn.com/2016/12/29/politics/russia-sanctions-announced-by-white-house/index.html>.

29. See Sanger, *supra* note 5.

30. See DEP’T. OF HOMELAND SEC. & FED. BUREAU OF INVESTIGATION, JAR-16-20296A, GRIZZY STEPPE—RUSSIAN MALICIOUS CYBER ACTIVITY (Dec. 29, 2016).

31. See, e.g., Kyle Kim & Priya Krishnakumar, *A Guide to Every Russia Investigation Happening Right Now*, L.A. TIMES (May 30, 2017), <http://www.latimes.com/projects/la-na-pol-russia-investigation-explainer/>.

32. See, e.g., Amber Phillips, *Congress to Trump, Basically: Russia is not Fake News*, WASH. POST (Oct. 5, 2017), https://www.washingtonpost.com/news/the-fix/wp/2017/10/04/congress-to-trump-basically-russia-is-not-fake-news-2/?utm_term=.c6cfc33d0979.

33. See Aruna Viswanatha & Del Quentin Wilber, *Top Justice Department Official Defends Russia Investigation Amid Republican Criticism*, WALL ST. J. (Dec. 13, 2017), <https://www.wsj.com/articles/top-justice-department-official-defends-russia-investigation-amid-republican-criticism-1513182559>.

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turned over to a Special Counsel, Robert S. Mueller III, by Deputy Attorney General Rod Rosenstein, who also expanded its scope to include potential ties between associates of Donald J. Trump (“Trump Associates”) and Russian officials, possible financial crimes committed by Trump Associates, and possible obstruction of justice by President Trump, himself.³⁴ As of the date of this writing, the Special Counsel obtained indictments against two prominent members of Trump’s campaign staff, Paul Manafort and Rick Gates, and has persuaded a Trump campaign foreign policy advisor, George Papadopoulos, to be a cooperating witness.³⁵ It seems likely that the investigation will continue for some time.³⁶

C. INTERNATIONAL RANSOMWARE ATTACKS

The past year is also notable for two major international ransomware attacks. In May 2017, the WannaCry ransomware attack infected more than 230,000 computers in over 150 countries before an effective kill switch was developed to halt the outbreak and before Microsoft released patches to address the problem.³⁷ The NotPetya ransomware attack in June 2017 spread throughout the United States and Europe and cost companies hundreds of millions of dollars to remedy.³⁸ Both ransomware attacks were believed to have been perpetrated by foreign hackers using the Eternal Blue exploit that had been developed by the NSA and leaked by the Shadow Brokers group in April 2017.³⁹

D. TRUMP ADMINISTRATION COMBATS CYBERATTACKS

The Trump administration also took two significant actions to combat international cyberattacks. One was to indict two Russian government officials and two other Russians on charges of cyber-related crimes under the Economic Espionage Act for their alleged role in the hacking of 500 million

34. See, e.g., Devlin Barrett et al., *Special Counsel is Investigating Trump for Possible Obstruction of Justice*, WASH. POST (June 14, 2017), https://www.washingtonpost.com/world/national-security/special-counsel-is-investigating-trump-for-possible-obstruction-of-justice/2017/06/14/9ce02506-5131-11e7-b064-828ba60fbb98_story.html?utm_term=.F1937a1f1037.

35. Matt Apuzzo et al., *Mueller Inquiry Unveils Charges and a Russia Link*, N.Y. TIMES, Oct. 31, 2017, at A1, available at <https://www.nytimes.com/2017/10/30/us/politics/paul-manafort-indicted.html>.

36. See *id.*

37. See, e.g., Hiawatha Bray, *WannaCry Fades, but Worries Remain*, BOS. GLOBE (May 19, 2017), <https://www.bostonglobe.com/business/2017/05/19/wannacry-fades-but-worries-remain/vSTEAKFNWFAGg9ysTxoKiN/story.html>.

38. See, e.g., Lee Matthews, *NotPetya Ransomware Attack Cost Shipping Giant Maersk over \$200 Million*, FORBES (Aug. 16, 2017), <https://www.forbes.com/sites/leemathews/2017/08/16/not-petya-ransomware-attack-cost-shipping-giant-maersk-over-200-million/#6d9e8f6d4f9a>.

39. See, e.g., Nicole Perloth & David E. Sanger, *Hacks Raise Fear of N.S.A. Arsenal*, N.Y. TIMES, June 29, 2017, A1, available at <https://www.nytimes.com/2017/06/28/technology/ransomware-nsa-hacking-tools.html>.

Yahoo! user accounts in 2014.⁴⁰ The other was to mandate that Kaspersky antivirus software be removed from all federal computers due to the alleged ability of Russian security services to penetrate weaknesses in the software to hack computers using the software.⁴¹

III. Surveillance

The primary developments in national security law related to surveillance, those pertaining to the amendment and extension of Foreign Intelligence Surveillance Act of 1978 (“FISA”) and the Supreme Court grant of cert in *Microsoft Corp. v. United States*, 829 F.3d 197, 2016 (henceforth “Microsoft Ireland”), remain to be determined as of the date of this writing. Although some of the chief issues are discussed below, the practitioner is urged to ascertain the state of the law at the time he or she is consulting this article.

A. FOREIGN INTELLIGENCE SURVEILLANCE ACT (“FISA”)

The provisions FISA amended in 2008 by the Foreign Intelligence Surveillance Act of 1978 Amendments Act of 2008 (“FISA Amendments”), including § 702 collection, were due to sunset at the end of 2017.⁴² The result was a flurry of congressional activity in the final quarter of the year aimed at either extending or amending the FISA Amendments.⁴³

Much of the debate surrounding FISA’s evolution has focused on re-evaluating the current balance between national security concerns and Americans’ liberty interests. Civil liberties groups and members of Congress have expressed concern about two practices.⁴⁴ The first is “about”

40. See, e.g., Ellen Nakashima, *Justice Department Charges Russian Spies and Criminal Hackers in Yahoo! Intrusion*, WASH. POST (Mar. 15, 2017), https://www.washingtonpost.com/world/national-security/justice-department-charging-russian-spies-and-criminal-hackers-for-yahoo-intrusion/2017/03/15/64b98e32-0911-11e7-93dc-00f9bdd74ed1_story.html?utm_term=.f6e3e20021aa.

41. See, e.g., Matthew Rosenberg & Ron Nixon, *Kaspersky Lab Software is Ordered Wiped from Government Computers*, N.Y. TIMES, Sept. 14, 2017, at A14, available at <https://www.nytimes.com/2017/09/13/us/politics/kaspersky-lab-antivirus-federal-government.html>.

42. See FISA Amendments Act Reauthorization Act of 2012, Pub. L. No. 112-238, § 2, 126 Stat. 1631, 1631 (2012) (extending the FISA Amendments Act of 2008 for an additional five years).

43. See Jenna Liphits, *Surveillance State: FISA and the Section 702 Fight*, THE WEEKLY STANDARD (Jan. 10, 2018), <http://www.weeklystandard.com/surveillance-state-fisa-and-the-section-702-fight/article/2011087>.

44. See Open Hearing on FISA Legislation: Before the Select Comm. on Intelligence, 115th Cong. (2017); *All About “About” Collection*, ELECTRIC FRONTIER FOUND., <https://www.eff.org/pages/about-collection> (last visited Feb. 8, 2018); *Fix a Surveillance Law to Stop Backdoor Searches of Americans*, L.A. TIMES (Nov. 13, 2017), <http://www.latimes.com/opinion/editorials/la-ed-fisa-reform-20171113-story.html>; Michelle Richardson, *USA Liberty Act Needs a Real Backdoor Fix for FISA 702*, CDT (Oct. 19, 2017), <https://cdt.org/blog/usa-liberty-act-needs-a-real-backdoor-fix-for-fisa-702/>; Chinmayi Sharma, *The USA Liberty Act: House Judiciary’s Proposed Reauthorization of Section 702*, LAWFARE (Oct. 13, 2017), <https://www.lawfareblog.com/usa-liberty-act-house-judiciarys-proposed-reauthorization-section-702>.

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collection, i.e., searching for a term within the body of a communication not just an identifier in the “to” or “from” field.⁴⁵ The second is “backdoor” collection, where information about a U.S. citizen located in the United States is collected as part of surveilling a person located outside of the country.⁴⁶

The USA Liberty Act (H.R. 3989) would reauthorize FISA Title VII until September 30, 2023, and prohibit “about” collection, i.e., searching for a term within the body of a communication not just in the “to” or “from” line.⁴⁷ It does not, however, close the “backdoor loophole.” The USA RIGHTS Act (H.R. 4124 / S. 1997) prohibits both “about” and “backdoor” collection.⁴⁸ At the time of this writing (November 8, 2017), only the USA Liberty Act has passed the committee by a vote of twenty-seven to eight.⁴⁹ The USA RIGHTS Act has been referred to the committee, but no hearing has yet been scheduled.⁵⁰

B. STORED COMMUNICATIONS ACT (“SCA”) AND MICROSOFT IRELAND

The Supreme Court granted certiorari to hear the government’s appeal from the Second Circuit in the Microsoft Ireland case.⁵¹ The chief issue is what constitutes the jurisdictional hook for purposes of the Stored Communications Act (“SCA”) § 2703: the location of the server on which the information is stored, the place where the company that exercises control over the infrastructure is registered, the jurisdiction in which the alleged illegality occurred, or some other factor.⁵² This case has far-reaching implications for criminal and national security investigations conducted under the authority of the SCA.

On December 4, 2013, the U.S. government obtained a search warrant issued under § 2703 of the SCA for electronic communications and records

45. See *All “About” About Collection*, *supra* note 44.

46. See *Backdoor Search*, ELECTRONIC FRONTIER FOUND., <https://www EFF.ORG/PAGES/backdoor-search> (last visited Feb. 8, 2018).

47. See USA Liberty Act of 2017, H.R. 3989, 115th Cong. § 102(a)(4) (2017).

48. See USA Rights Act of 2017, S. 1997, 115th Cong. (2017).

49. See *All Information (Except Text) for H.R. 3989 – USA Liberty Act of 2017*, CONGRESS.GOV, <https://www.congress.gov/bill/115th-congress/house-bill/3989/all-info> (last visited Feb. 8, 2018).

50. See *S. 1997-USA Rights Act of 2017*, CONGRESS.GOV, <https://www.congress.gov/bill/115th-congress/senate-bill/1997> (last visited Jan. 31, 2018).

51. Orin Kerr, *Opinion: Supreme Court Agrees to Review Microsoft Ireland Warrant Case*, WASH. POST (Oct. 16, 2017), https://www.washingtonpost.com/news/volokh-conspiracy/wp/2017/10/16/supreme-court-agrees-to-review-microsoft-ireland-warrant-case/?utm_term=.0d1122c0abe0.

52. See *United States v Microsoft Corp Gets a Supreme Court Hearing*, CONST. LAW REP., <https://constitutionalawreporter.com/2017/10/26/united-states-v-microsoft-2017-2/> (last visited Feb. 8, 2018).

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stored in or associated with an individual user's Microsoft account.⁵³ Microsoft determined that some of the requested information was stored in a data center located in Ireland.⁵⁴ Although it disclosed responsive information stored on servers located in the United States, it did not disclose information stored in Ireland.⁵⁵ Noting that the server was located outside of the United States, and asserting that the SCA did not apply extraterritorially, Microsoft filed a motion to quash in the Southern District of New York.⁵⁶ The motion was denied and Microsoft appealed to the Second Circuit in the summer of 2015.⁵⁷

Citing *Morrison v. National Australia Bank*, 561 U.S. 247 (2010), and *RJR Nabisco, Inc. v. European Community*, 136 S. Ct. 2090 (2016), the Second Circuit held that the SCA was not meant to be applied extraterritorially.⁵⁸ In finding for Microsoft, the court highlighted as dispositive the fact that the e-mail account in question was stored on servers "exclusively in Ireland."⁵⁹ For its part, the government asserts no extraterritorial application of the SCA is required: Microsoft is a U.S. company that has control over the data.⁶⁰ Moreover, the government maintains, the "conduct relevant to [the SCA's] focus" occurred in the United States making it a domestic concern.⁶¹

IV. Nuclear Arms Control (Generally)

In 2017, a United Nations Conference, previously established by the General Assembly,⁶² adopted by a vote of 122-1-1 a treaty prohibiting the acquisition, possession, transfer, use or threatened use of nuclear weapons.⁶³ The treaty opened for signature on September 20, 2017⁶⁴, and will enter into force ninety days after fifty states deposit instruments of ratification.⁶⁵ All nine of the states possessing nuclear weapons boycotted the proceedings.⁶⁶

53. See *Microsoft Corp. v. United States*, 829 F.3d 197, 200, 203 (2nd Cir. 2016), *cert. granted*, 138 S.Ct. 356 (2017).

54. See *id.* at 204.

55. See *id.*

56. *Id.* 200-01.

57. See *id.* at 205.

58. *Microsoft Corp. v. United States*, 829 F.3d at 210, 222.

59. *Id.*

60. See Petition for Writ of Certiorari, *Microsoft Corp.*, 829 F.3d.197 (No. 14-2985), at 18.

61. *Id.* at 16.

62. See G.A. Res. 71/258 (Dec. 23, 2016).

63. *Conference to Negotiate Legally Binding Instrument Banning Nuclear Weapons Adopts Treaty by 122 Votes in Favor, 1 Against, 1 Absenteeism*, UNITED NATIONS (July 7, 2017), <https://www.un.org/press/en/2017/dc3723.doc.htm>. See also Treaty on the Prohibition of Nuclear Weapons, July 7, 2017, <http://undocs.org/A/CONF.229/2017/8>.

64. Treaty on the Prohibition of Nuclear Weapons, *supra* note 63, art. 13.

65. See *id.* art. 15 § 1.

66. Narjas Zatat & Edith Lederer, *More than 120 Nations Adopt Treaty to Ban Nuclear Weapons at UN Meeting*, INDEP. (July 7, 2017), <http://www.independent.co.uk/news/world/politics/g20-summit-120-countries-adopt-nuclear-weapons-ban-treaty-arms-war-prohibition-disarmament->

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The United States, United Kingdom, and France issued a joint statement that “[w]e do not intend to sign, ratify or ever become a party to it.”⁶⁷

All nuclear weapon states continued to modernize their arsenals during the year.⁶⁸ In October 2017, the Congressional Budget Office estimated that the thirty year U.S. modernization program would cost \$1.2 trillion in 2017 dollars.⁶⁹ A report by the United Nations Institute for Disarmament Research (“UNIDIR”) found that advances in technology, which have made nuclear delivery systems more rapid and harder to detect⁷⁰, have shortened warning and decision times and, thereby, increased risks of miscalculation and unintended escalation.⁷¹ The UNIDIR report also concluded that investments in arsenal modernization “have enhanced rather than decreased the likelihood of an intentional or inadvertent detonation event.”⁷² The nuclear arms race between India and Pakistan continued with both sides updating and adding to weapons systems.⁷³

The New START Treaty,⁷⁴ which requires the United States and Russia to reduce strategic nuclear arsenals to 1,550 deployed warheads and 700 delivery vehicles by February 2018, will expire, but can be renewed for up to five years.⁷⁵ The Russian Foreign Ministry has suggested talks for renewal, but no such talks have yet taken place, and no new U.S.-Russian talks on nuclear arms reductions are currently scheduled.⁷⁶ At the State Department, the positions of Under Secretary for Arms Control and International Security and Assistant Secretary for International Security and

a7828581.html, (with the states that boycotted being the United States, Russia, China, United Kingdom, France, India, Pakistan, Israel and North Korea).

67. Press Release. U.S. Mission to the United Nations, , Joint Press Statement from the Permanent Representatives to the United Nations of the U.S., U.S & Fr. Following the Adoption of a Treaty Banning Nuclear Weapons (July 7, 2017) (on file with author), *available at* <https://usun.state.gov/remarks/7892>.

68. Shannon N. Kile & Hans M. Kristen, *Trends in World Nuclear Forces, 2017*, SIRPI: FACT SHEET 1 (2017), https://www.sipri.org/sites/default/files/2017-06/fs_1707_wnf.pdf.

69. MICHAEL BENNET ET AL., *APPROACHES FOR MANAGING THE COSTS OF U.S. NUCLEAR FORCES, 2017 TO 2046* 1 (Christine Bogusz ed., 2017), <https://www.cbo.gov/system/files/115th-congress-2017-2018/reports/53211-nuclearforces.pdf>.

70. MARC BARNETT ET AL., *UNDERSTANDING NUCLEAR WEAPON RISKS* (John Borrie et al. eds., 2017), <http://www.unidir.org/files/publications/pdfs/understanding-nuclear-weapon-risks-en-676.pdf>.

71. *See id.* at 57.

72. *Id.* at 9.

73. *See* Hans Kristensen & Robert Norris, *Indian Nuclear Forces, 2017*, 73 *BULL. ATOMIC SCIENTISTS* 205, 205 (2017), <http://www.tandfonline.com/doi/pdf/10.1080/00963402.2017.1337998?needAccess=true>; *see also* Barnett, *supra* note 70, at 26.

74. Treaty Between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms, Russ.-U.S., Apr. 8, 2010, 80 Stat. 271.

75. *See id.* art. III, ¶1(b),art. XIV, ¶ 2.

76. *See* Julian Borger & Ben Jacobs, *Trump Denounced Nuclear Arms Treaty in Phone Call with Putin – Sources*, *GUARDIAN* (Feb. 9, 2017), <https://www.theguardian.com/world/2017/feb/09/trump-putin-call-nuclear-deal-new-start-treaty>.

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Nonproliferation had not been filled as of October.⁷⁷ The State Department's annual report certified Russia to be in compliance with the terms of the treaty.⁷⁸

In 2017, the United States and Russia continued to exchange accusations of violations of the Intermediate Nuclear Forces (“INF”) Treaty.⁷⁹ That treaty prohibits the development, testing, and possession of ground-launched cruise missiles (“GLCMs”) with a range capability of 500 km to 5,500 km, or launchers for such missiles.⁸⁰ The United States believes Russia has deployed a prohibited-range GLCM and denies Russian allegations that the treaty is violated by some aspects of U.S. missile defense programs.⁸¹ Neither side indicated an intention to withdraw from the treaty, and the U.S. Secretary of Defense stated that “our effort is to bring Russia back into compliance.”⁸²

Declaring that Iran had violated “the spirit” of the Joint Coordinated Plan of Action (“JCPOA”), President Trump declined to re-certify Iranian compliance.⁸³ Rather than withdrawing from the agreement, he left it to Congress to decide whether to re-impose sanctions.⁸⁴ The Director of the IAEA certified that “the nuclear-related commitments undertaken by Iran under the JCPOA are being implemented,” and that “[a]t present Iran is subject to the world’s most robust nuclear verification regime.”⁸⁵ Secretary of State Tillerson stated, “[w]e don’t dispute that they[] [Iran] [are] under technical compliance.”⁸⁶ The United Kingdom, France, and Germany issued a joint statement expressing “concern” and asking Congress to

77. Sharon Squassoni, *Through a Fractured Looking-Glass: Trump’s Nuclear Decisions so Far*, 73 BULL. ATOMIC SCIENTISTS 370 (2017), available at <http://www.tandfonline.com/doi/full/10.1080/00963402.2017.1388667?scroll=top&needAccess=true>.

78. See U.S. DEP’T OF STATE, ANNUAL REPORT ON IMPLEMENTATION OF THE NEW START TREATY 4 (2017), <https://www.state.gov/documents/organization/270613.pdf>.

79. Julia Manchester, *Russia Accuses US of Violating Arms Control Treaty*, THE HILL (Dec. 28, 2017), <http://thehill.com/policy/international/366688-russia-accuses-us-of-violating-arms-control-treaty>.

80. See Treaty between the United States and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate Range and Shorter-Range Missiles, Russ.-U.S., Dec. 8, 1987, T.I.A.S. No. 12,101.

81. See U.S. DEP’T OF STATE, ADHERENCE TO AND COMPLIANCE WITH ARMS CONTROL, NONPROLIFERATION AND DISARMAMENT AGREEMENTS AND COMMITMENTS 11 (2017), <https://www.state.gov/documents/organization/270603.pdf>.

82. *Mattis Looking at Ways to Bring Russia into Compliance with Arms Control Treaty*, REUTERS (Nov. 9, 2017), <https://www.reuters.com/article/us-usa-nato-russia/mattis-looking-at-ways-to-bring-russia-into-compliance-with-arms-control-treaty-idUSKBN1D91N5>.

83. Scott Horsley & Tamara Keith, *Trump Calls Iran Nuclear Deal ‘Unacceptable,’ but Leaves U.S. in it for Now*, NPR (Oct. 13, 2017), <https://www.npr.org/2017/10/13/556664338/trump-to-put-iran-nuclear-deal-in-limbo-by-refusing-to-certify>.

84. *Id.*

85. *Statement by IAEA Director General Yukiya Amano*, INT’L ATOMIC ENERGY AGENCY (Oct. 13, 2017), <https://www.iaea.org/newscenter/statements/statement-by-iaea-director-general-yukiya-amano-13-october-2017>.

86. Horsley & Keith, *supra* note 83.

consider “implications for the security of the U.S. and its allies before taking any action that might undermine the JCP[O]A, such as re-imposing sanctions on Iran lifted under the agreement.”⁸⁷

V. International Reaction to North Korea’s Nuclear Weapon and Missile Tests

The relationship between the international community and North Korea became more strained in 2017 due to Pyongyang’s continued efforts to develop nuclear weapons and intercontinental-range ballistic missile capabilities.⁸⁸ North Korea’s testing regime progressed more rapidly than previously estimated.⁸⁹ Further, the unprecedented level of bellicose rhetoric between President Donald Trump and North Korean Leader Kim Jong-Un exacerbated an already-strained situation.⁹⁰ Added provocation came in August when, without international notice or consultation, North Korea launched a test ballistic missile over Japanese territory.⁹¹ Diplomatic efforts made little progress toward a de-nuclearized Korean Peninsula in 2017, and the possibility of military conflict in the near future has increased.⁹²

In September, North Korea conducted its sixth nuclear detonation and claimed the device was a hydrogen bomb.⁹³ Concomitantly, the North Korean state news agency released photos of Kim Jong-Un standing

87. Anne Gearan & Abby Phillip, *Trump Sets New Conditions for U.S. to Stay in Iran Nuclear Deal, Tossing Issue to Congress*, WASH. POST (Oct. 13, 2017), https://www.washingtonpost.com/politics/trump-to-set-new-conditions-for-us-to-stay-in-iran-nuclear-deal-tossing-issue-to-congress/2017/10/13/39ac3894-af82-11e7-9e58-e6288544af98_story.html?utm_term=.b9ba9ca55e20.

88. See Associated Free Press, *Trump Leads International Condemnation of North Korea Nuclear Test*, DIGITAL J. (Sept. 3, 2017), <http://www.digitaljournal.com/news/world/international-community-condemns-north-korea-nuclear-test/article/501523>.

89. *North Korea’s Missile Program is Progressing Faster than Expected: South Korea*, NBC NEWS (May 16, 2017), <https://www.nbcnews.com/news/north-korea/north-korea-s-missile-program-progressing-faster-expected-south-korea-n759921>.

90. See generally Anne Gearan & Simon Denyer, *Trump Escalates a War of Words with North Korea, Calling Leader Kim a ‘Madman’*, WASH. POST (Sept. 22, 2017), https://www.washingtonpost.com/world/asia_pacific/china-tightens-banking-screws-on-north-korea-but-denies-trumps-talk-of-total-ban/2017/09/22/0533a168-9f08-11e7-b2a7-bc70b6f98089_story.html?utm_term=.7e8651954d1a.

91. Michael Elleman, *North Korea’s Hwasong-12 Launch: A Disturbing Development*, 38 NORTH (Aug. 30, 2017), <http://www.38north.org/2017/08/melleman083017>.

92. See Will Ripley et al., *North Korea Rejects Diplomacy with US for Now, Source Says*, CNN POL., <https://www.cnn.com/2017/10/16/politics/north-korea-negotiations-trump-tillerson/index.html> (last updated Oct. 17, 2017).

93. Based on the publicly available seismic data, a number of experts assessed the tested device had an explosive yield in excess of 100 kilotons. The higher yield could be indicative of more advanced weapons. *Chronology of U.S.-North Korean Nuclear and Missile Diplomacy*, ARMS CONTROL ASS’N, <https://www.armscontrol.org/factsheets/dprkchron> (last updated Jan. 2018).

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alongside a purportedly “missile ready” thermonuclear device.⁹⁴ North Korea conducted at least ten ballistic missile launches over the course of the year⁹⁵ and, consistent with its stated long-term goals, demonstrated a capability for progressively greater ranges.⁹⁶ Most critically, it completed a test of its Hwasong-15 ballistic missile, with a projected range to 13,000 km (8,000 miles), placing much of the continental United States, depending on payload, within range of a potential North Korea missile strike.⁹⁷ Combined with the reports of North Korea’s progress in miniaturization of nuclear payloads, this technological leap presents a real, near-term elevation of threat to the U.S. homeland.⁹⁸

In response, the U.N. Security Council imposed additional economic measures. Resolution 2371⁹⁹ banned all imports and exports of “coal, iron and iron ore,”¹⁰⁰ seafood¹⁰¹ and “lead and lead ore.”¹⁰² This resolution also levied economic penalties on nine high-ranking North Korean officials and froze the assets of four North Korean corporations (two banks, an insurance company, and trading conglomerate).¹⁰³ Resolution 2375¹⁰⁴ imposed a trade ban on “condensates and natural gas liquids”¹⁰⁵ and a ban on North Korean export of textiles, such as fabrics and apparel products.¹⁰⁶ Resolution 2375 also prohibited trade of “all refined petroleum products” beyond 500,000 barrels during an initial period of three months (October through December 2017) and exceeding two million barrels per year during a period of twelve months beginning in January 2018 and annually thereafter.¹⁰⁷ In addition, it restricted trade in crude oil to North Korea in excess of the amount supplied, sold or transferred by that state in the twelve-month period prior to the adoption of the resolution.¹⁰⁸

94. *North Korea ‘has Missile-Ready Nuclear Weapon’*, BBC (Sept. 3, 2017), <http://www.bbc.com/news/world-asia-41138834>.

95. Elizabeth McLaughlin & Luis Martinez, *A Look at Every North Korean Missile Test this Year*, ABC NEWS (Sept. 14, 2017), <http://abcnews.go.com/International/north-korean-missile-test-year/story?id=46592733>.

96. See Michael J. Zagurek Jr., *A Hypothetical Nuclear Attack on Seoul and Tokyo: The Human Cost of War on the Korean Peninsula*, 38 NORTH (Oct. 4, 2017), <http://www.38north.org/2017/10/mzagurek100417>.

97. See Michael Elleman, *North Korea’s Third ICBM Launch*, 38 NORTH (Nov. 29, 2017), <http://www.38north.org/2017/11/melleman112917>.

98. See *id.*

99. See S.C. Res. 2371 (Aug. 5, 2017).

100. *Id.*, ¶ 8.

101. *Id.*, ¶ 9.

102. *Id.*, ¶ 10.

103. See *id.*, Annexes I & II.

104. See S.C. Res. 2375 (Sept. 11, 2017).

105. *Id.*, ¶ 13.

106. *Id.*, ¶ 16.

107. *Id.*, ¶¶ 14 & 15.

108. See *id.*

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In the United States, North Korea had already been (and continues to be) subject to a comprehensive economic and trade embargo.¹⁰⁹ In early September, the U.S. Department of State imposed restrictions on travel by U.S. citizens to North Korea.¹¹⁰ Several weeks later, President Trump issued Executive Order 13810, adding additional sanctions on North Korea while reiterating many activities that were already proscribed.¹¹¹ Most critically, this executive order created new methods for sanctioning additional parties, “prohibit[ed] vessels and aircraft that have called or landed at a port or place in North Korea in the previous 180 days, and vessels that engaged in a ship-to-ship transfer with such a vessel in the previous 180 days, from entering the United States.”¹¹² It also provided criteria for sanctioning foreign financial firms.¹¹³

To remedy some concerns with a new provision under that executive order, the Office of Foreign Assets Control (“OFAC”) issued a new general license.¹¹⁴ The license authorizes certain vessels and aircrafts “to call or land at a port or place in the United States” where those vessels and aircrafts “have [previously] called or landed at a port or place in North Korea within the previous 180 days, and vessels . . . that have engaged in a ship-to-ship transfer with such a vessel within the previous 180 days.”¹¹⁵ In September, OFAC also extensively updated its public website to provide new interpretative guidance.¹¹⁶ Finally, the president signed the Countering America’s Adversaries Through Sanctions Act (“CAATSA”), which amended existing executive orders and statutes to strengthen sanction laws concerning North Korea, as well as other states (Iran and Russia).¹¹⁷ CAATSA also made mandatory several secondary sanctions previously in place under statute or executive order.¹¹⁸ Moreover, CAATSA enacted additional discretionary secondary sanctions for persons who knowingly engage in a variety of commercial, financial, or business transactions with North Korea.¹¹⁹

109. See North Korea Sanctions Regulations, 31 C.F.R. § 510 (2017).

110. *OFAC FAQs: Other Sanctions Programs*, U.S. DEP’T TREASURY, https://www.treasury.gov/resource-center/faqs/Sanctions/Pages/faq_other.aspx#nk (last updated Jan. 19, 2018).

111. *Compare* Exec. Order 13,810, 82 Fed. Reg. 184 (Sept. 25, 2017), *with* 31 C.F.R. pt. 510 (2017).

112. *OFAC FAQs: Other Sanctions Programs*, *supra* note 110.

113. Exec. Order 13,810, 82 Fed. Reg. 44,705, § 4(a) (Sept. 25, 2017).

114. OFFICE OF FOREIGN ASSETS CONTROL, GENERAL LICENSE NO. 10, CALLING OF CERTAIN VESSELS AND LANDING OF CERTAIN AIRCRAFT AUTHORIZED (2017), *available at* https://www.treasury.gov/resource-center/sanctions/Programs/Documents/nk_gl10.pdf.

115. *Id.*

116. See *OFAC FAQs: Other Sanctions Programs*, *supra* note 110.

117. See Countering America’s Adversaries Through Sanctions Act, Pub. L. No. 115-44, 131 Stat. 886 (2017).

118. *Id.*

119. See *id.* § 311(a)(14).

VI. Drones: Air Traffic Management and Security

A real danger with drones, which in this context refers to remote-controlled or artificially intelligent pilotless aircraft weighing less than fifty-five pounds, is their potential when utilized by bad actors. Currently, it is feasible for a bad actor to strap a bomb to a drone and target a crowd, individual person, critical infrastructure, or vehicles.¹²⁰ The challenge is to distinguish between the good drones and the bad drones, and then quickly react to neutralize the potential threat.

Current air traffic control systems use a combination of radar and transponder systems to determine the location of aircraft.¹²¹ Though advances in automation helped alleviate the workload on human operators, the advent of commercial drones has the potential to significantly increase air traffic.¹²² Further, the small size of drones and their essentially below-radar flight path mean a new system should be adopted to monitor and autonomously coordinate drone air traffic.

Currently, drones are permitted to fly in airspace below 400 feet.¹²³ Without a reason to increase this height limit, an air traffic control system could be designed for below 400 feet operations. Though at high altitudes, aircraft are typically out of range of the commercial cellular networks¹²⁴; when operating below 400 feet, drones can tap into the cellular network to not only relay their position to the system, but also to transfer higher bandwidth data, such as real-time video and mapping data.¹²⁵ This may provide an ideal method to safely monitor and coordinate drone traffic.

The FAA, DOT, and FCC can coordinate with industry to develop a centralized real-time database to control all drone traffic operating beyond line-of-eyesight. In addition to working with companies such as Verizon and Sprint to enable communications on cellular networks, companies such as Comcast have blanketed the country with Wi-Fi hotspots that can add redundancy to the cell towers while providing a higher bandwidth at ground level.¹²⁶

120. See Stop Autonomous Weapons, *Slaughterbots*, YOUTUBE (Nov. 12, 2017), <https://www.youtube.com/watch?v=9CO6M2HsoIA&feature=youtu.be>.

121. Arun Reddy, *The Science and Technology of Air Traffic Control*, ARS TECHNICA (Mar. 2, 2010), <https://arstechnica.com/science/2010/03/the-science-and-technology-of-air-traffic-control/3/>.

122. See Divya Joshi, *Commercial Unmanned Aerial Vehicle (UAV) Market Analysis- Industry Trends, Companies and What You Should Know*, BUS. INSIDER (Aug 8, 2017), <http://www.businessinsider.com/commercial-uav-market-analysis-2017-8>.

123. See *Airspace Restrictions*, FED. AVIATION AUTHORITY, https://www.faa.gov/uas/where_to_fly/airspace_restrictions/ (last updated Oct. 4, 2017).

124. See Shellie Nelson, *How and When Cell Phones Work on an Airplane*, WQUAD 8 (Apr. 15, 2014), <http://wqad.com/2014/04/15/how-and-when-cell-phones-work-on-an-airplane/>.

125. See Attila Takacs et al., *How Mobile Networks Can Support Drone Communication*, ERICSSON: RESEARCH BLOG (Nov. 16, 2017), <https://www.ericsson.com/research-blog/how-mobile-networks-can-support-drone-communication/>.

126. See XFINITY WIFI, <http://wifi.xfinity.com> (last visited Feb. 8, 2018).

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Drones operating beyond line-of-eyesight can also be equipped with a transponder that broadcasts the drone's identification, GPS coordinates, altitude, and direction of travel in real time. If the centralized database goes offline, this could provide an additional layer of redundancy to prevent mid-air collisions. The broadcast could also relay important information to ground-based tracking systems looking to validate authorized drone traffic. For instance, an individual with a mobile phone could use an app to identify a suspicious drone similarly to stargazing apps that identify stars and satellites.

The combination of drones enabled with a robust communications infrastructure and autonomous flight navigation means that improved predictability can be fused into the drone air traffic control system. Drones could instantaneously provide detailed flight plans to a centralized database that automatically coordinates all drone traffic and broadcasts GPS fencing parameters to restrict airspace. When a drone either does not have an authorized flight plan or significantly deviates intentionally or by mistake, then the system can automatically deploy countermeasures to quarantine or destroy the offending drone. This infrastructure is important for areas such as Washington D.C., and all critical infrastructure across the country.

Because artificial intelligence (AI) is still in its infancy, assuming the bad actor lacks state-sponsored AI sophistication analogous to the joint US and Israel development of Stuxnet,¹²⁷ and due to low barriers to execution; the drone will likely be remotely operated or will use crude GPS based navigation; will lack the proper flight plan credentials; and will fail to communicate its position. By comparing actual drone traffic to the centralized drone traffic database, it is possible to parse out the needle from the haystack. To accomplish this, there must be a means of actively monitoring the non-authorized drone traffic. A possible solution is to equip populated areas and critical infrastructure with machine vision-enabled cameras that monitor the sky.¹²⁸ When linked to the centralized drone air traffic database, these systems could detect a potential threat and alert personnel.

This anti-drone infrastructure is attractive for prisons and borders where drones are being used to smuggle drugs and other contraband. For instance, in August 2017, border patrol agents seized a drone carrying "more than 13 pounds of meth which they estimated to be worth \$46,000 on the streets."¹²⁹ Further, among many other documented incidents, in 2016 "a recently released inmate and two accomplices were convicted of smuggling drugs and

127. See William J. Broad et al., *Israeli Test on Worm Called Crucial in Iran Nuclear Delay*, N.Y. TIMES (Jan. 15, 2011), <http://www.nytimes.com/2011/01/16/world/middleeast/16stuxnet.html>.

128. See *Sensor and Countermeasure Extensions*, DEDRONE, <https://www.dedrone.com/products/hardware/extensions/overview> (last visited Feb. 8, 2018).

129. Stephen Dinan, *Drones Become Latest Tool Drug Cartels use to Smuggle Drugs into U.S.*, WASH. TIMES (Aug. 20, 2017), <https://www.washingtontimes.com/news/2017/aug/20/mexican-drug-cartels-using-drones-to-smuggle-heroin/>.

porn in Maryland's Western Correctional Institution via drone."¹³⁰ With easily accessible consumer drone technology advancing faster than the counter-measures to stop them, the nation is currently vulnerable to drone-based activities.

Some notable drone countermeasures under development are net guns¹³¹ to tangle the drone blades, radio jammers¹³² for remotely operated drones, directed electromagnetic pulse guns¹³³ to fry the drones' circuit boards, and anti-drone drones. The military is also working on laser-based solutions to quickly neutralize enemy drones.¹³⁴ As these devices continue to flood the commercial market with more enhanced capabilities, counter-measures must be quickly developed to combat these threats both at home and abroad.

VII. Drones: Use in International Military Operations

President Donald Trump loosened the limitations on the use of military force in counterterrorism operations outside of the United States imposed by the Obama administration in 2013.¹³⁵ These changes give on-scene military commanders increased autonomy to call in airstrikes, including strikes by armed drones.¹³⁶ President Trump also expanded the areas designated as "areas of active hostilities" so that the more stringent 2013 rules regarding operations conducted outside of areas of active hostilities would not apply.¹³⁷

130. Waseem Abbasi, *Inmates Fly Mobile Phones, Drugs and Porn into Jail - Via Drone*, USA TODAY (June 15, 2017), <https://www.usatoday.com/story/news/2017/06/15/inmates-increasingly-look-drones-smuggle-contraband-into-their-cells/102864854/>.

131. See *SkyWall Capture Drones-Protect Assets*, OPENWORKS, <https://openworksen지니어.com/skywall> (last visited Feb. 8, 2018) (discussing the various net guns the company sells).

132. See *DroneGun MKII*, DRONESHIELD, <https://www.droneshield.com/dronegun/> (last visited Feb. 8, 2018).

133. See *EMP Electro Magnetic Pulse*, INFO. UNLIMITED, <https://www.amazing1.com/emp.html> (last visited Feb. 8, 2018).

134. See *Directed Energy*, BOEING, <http://www.boeing.com/defense/missile-defense/directed-energy/> (last visited Feb. 8, 2018); *Laser Weapon Systems*, LOCKHEED MARTIN, <https://www.lockheedmartin.com/us/what-we-do/aerospace-defense/directed-energy/laser-weapon-systems.html> (last visited Feb. 8, 2018).

135. See PROCEDURES FOR APPROVING DIRECT ACTION AGAINST TERRORIST TARGETS LOCATED OUTSIDE THE UNITED STATES AND AREAS OF ACTIVE HOSTILITIES (2013), <https://fas.org/irp/offdocs/ppd/ppg-procedures.pdf> [hereinafter "PROCEDURES"] (discussing the procedures used during the Obama Administration for when lethal and non-lethal force is used).

136. See Helene Cooper, *Trump Gives Military New Freedom, a Direction with Perils of Its Own*, N.Y. TIMES, Apr. 5, 2017, at A12, available at <https://www.nytimes.com/2017/04/05/us/politics/rules-of-engagement-military-force-mattis.html>.

137. See Paul D. Shinkman, *'Areas of Active Hostilities': Trump's Troubling Increases to Obama's Wars*, U.S. NEWS (May 16, 2017), <https://www.usnews.com/news/world/articles/2017-05-16/areas-of-active-hostilities-trumps-troubling-increases-to-obamas-wars>.

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By temporarily designating specific regions in Somalia as areas of active hostilities,¹³⁸ President Trump allowed the U.S. military to apply the principles embedded in the law of armed conflict to those regions.¹³⁹ These principles require that incidental civilian injuries must not be clearly excessive in relation to the anticipated military advantage of attacking that target – a much lower standard than provided by the 2013 guidelines, which established that “direct action will be taken only if there is near certainty that the action can be taken without injuring or killing non-combatants.”¹⁴⁰

In the late summer and early fall of 2017, reports emerged that the United States planned to change the criteria which established whom could be targeted, and also, to eliminate the high-level approval process for targeting individuals established under the Obama administration.¹⁴¹ The new rules named “Principles, Standards, and Procedures (PSP)”¹⁴² would, in addition, permit an increase in the role of the Central Intelligence Agency in armed drone strikes.¹⁴³ The proposed policy would continue the expansive view of war zones established by the previous administration.

These proposed changes of targeting criteria are, in part, the reason why the continued use of armed drones remains controversial. As a weapons system, “(t)here is nothing inherent about drones that renders them unlawful. Like the majority of weapons, their use is lawful if it accords with all applicable international laws.”¹⁴⁴ But, it is the very adequacy of these laws to address the challenges posed by armed drones that has been challenged; in particular, the elements employed to determine whether the use of force is permissible (*jus ad bellum*). “(B)y lowering political, practical, and technological impediments to the use of force,”¹⁴⁵ the use of armed drones potentially undermines international security by making it more likely that nations will resort to force to settle their differences.

138. Charlie Savage & Eric Schmitt, *Trump Eases Rules in Somalia Protecting Civilians in Strikes*, N.Y. TIMES, Mar. 31, 2017, at A1, available at <https://www.nytimes.com/2017/03/30/world/africa/trump-is-said-to-ease-combat-rules-in-somalia-designed-to-protect-civilians.html>.

139. Shinkman, *supra* note 137.

140. PROCEDURES, *supra* note 135, at 1.

141. Charlie Savage & Eric Schmitt, *Trump Likely to Ease Limits on Terror War*, N.Y. TIMES, Sept. 22, 2017, at A1, available at https://www.nytimes.com/2017/09/21/us/politics/trump-drone-strikes-commando-raids-rules.html?_r=3.

142. Luke Hartig, *Trump's New Drone Strike Policy: What's Any Different? Why it Matters*, JUST SECURITY (Sept. 22, 2017), <https://www.justsecurity.org/45227/trumps-drone-strike-policy-different-matters/>.

143. Ken Dilanian & Courtney Kube, *Trump Administration Wants to Increase CIA Drone Strikes*, NBC NEWS (Sept. 18, 2017), <https://www.nbcnews.com/news/military/trump-admin-wants-increase-cia-drone-strikes-n802311>.

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The European Union has been the site of some of the most vocal discomfort to the U.S. position on the use of armed drones.¹⁴⁶ Opposition to the U.S. drone program has been cited as one of the reasons Germany canceled a \$1.1 billion deal in which Germany would lease armed drones from Israel in June 2017.¹⁴⁷ In July 2017, the European Center for Constitutional and Human Rights filed a judicial complaint in an administrative court in Rome to obtain documents regarding the use by the United States of a naval and air base in Sicily to support drone strikes.¹⁴⁸ The Subcommittee on Human Rights of the European Parliament issued a report in the same month that identified legal standards for a future European Union stance on the use of armed drones.¹⁴⁹

Other countries, however, embraced the potential of armed drones in 2017. In September, the French Defense Minister stated that France would arm the six Reaper surveillance drones his country purchased from the United States.¹⁵⁰ The following month, Turkey announced that its defense industry began the mass production of “kamikaze drones,” whose explosive payload would detonate upon impact with a target.¹⁵¹ In November, Ukraine indicated that it would begin to deploy drones, which could carry up to four bombs each.¹⁵² According to one source, over thirty nations have developed or are developing armed drones.¹⁵³

146. See Ulrike Esther Franke, *A European Approach to Military Drones and Artificial Intelligence*, EUROPEAN COUNCIL ON FOREIGN REL. (June 13, 2017), http://www.ecfr.eu/article/essay_a_european_approach_to_military_drones_and_artificial_intelligence.

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