

## The Future Security Environment: An Emerging View

### Budoucí bezpečnostní prostředí: Nový pohled

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**Abstract:** The future security environment through 2035 and beyond will likely be increasingly complex and both present challenges and offer opportunities to NATO military forces. Analysis of the future security environment indicates that forces will likely face challenges that could unfold in an exponentially accelerated and increasingly complex fashion. As trends converge in the future, there are twelve likely instability situations that could reach a threshold requiring the Alliance's use of military forces. However, there are also many opportunities that NATO military forces could seize in the future, including building and strengthening relationships, addressing emerging challenges, capitalising on innovative technology and ideas to maintain the military edge, and understanding and influencing the human aspects of conflict.

**Abstrakt:** Budoucí bezpečnostní prostředí do roku 2035 a poté bude pravděpodobně stále složitější a bude pro vojenské síly NATO přinášet výzvy i příležitosti. Z analýzy budoucího bezpečnostního prostředí vyplývá, že ozbrojené síly budou pravděpodobně čelit výzvám, které se mohou rozvíjet s exponenciálním zrychlením a stále složitějším způsobem. Na základě budoucího směřování trendů lze identifikovat dvanáct pravděpodobných případů nestability, které by mohly dosáhnout mezí vyžadujících použití vojenských sil aliance. Existuje však také mnoho příležitostí, které mohou ozbrojené síly NATO v budoucnosti využít, například budování a posilování vztahů, řešení nově vznikajících problémů, využití inovativních technologií a myšlenek k zachování vojenské výhody a porozumění lidských aspektů konfliktu s možností je ovlivnit.

**Keywords:** NATO; Future Security Environment; Framework for Future Alliance Operations; Strategy.

**Klíčová slova:** NATO; budoucí bezpečnostní prostředí; rámec budoucích aliančních operací; strategie.

## THE FUTURE SECURITY ENVIRONMENT: AN EMERGING VIEW

Today, NATO military forces face a challenge in that they must adapt, evolve and innovate to constantly address an ambiguous, complex, and rapidly changing security environment. To help inform the discussion options on how best to change, the NATO Long-term Military Transformation Programme seeks to identify the abilities of the future Alliance's pool of forces to meet the potential demands of the security environment today, through the near future, into 2035 and beyond. This paper describes a summary of working-level discussions and workshops held between January 2016 and April 2017 and sponsored by Allied Command Transformation as an emerging view of the challenges and opportunities NATO may have in the future as a baseline for organizational adaptation and innovation.

## FUTURE CHALLENGES

In the study of war and armed conflict, there are some factors that change over time and some that remain the same. By its nature, war has always been a contest of wills driven by fear, honour and interest. War remains a phenomenon where three key factors interact: (1) primordial violence, hatred, and enmity; (2) the play of chance, fog, and friction, and (3) its use for political purposes.

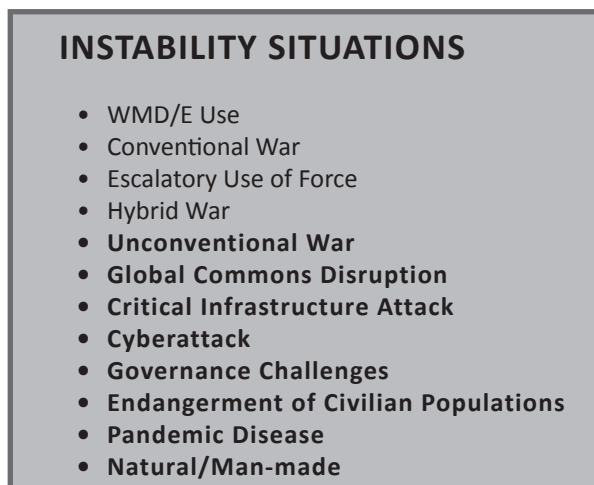
However, as evidenced by current threats involving non-state actors, each instance of armed conflict is different from the last as the character of conflict changes over time. Factors such as technological advances, new operating concepts, changes in the security environment, and shifts in the geopolitical landscape will greatly influence the security environment of the future.

Since its founding, NATO has seen many shifts in the character of armed conflict. Although it is impossible to determine with absolute certainty what conflict will be like in the future, analysis of trends indicate that conflict in the future may be characterised by:

- a) An increasing pace of the emergence and escalation of armed conflict.
- b) Greater complexity of armed conflict where the dense linkages could result in cascading instability, and gray zones blurring the lines between military and non-military aspects of conflict.
- c) Increased interconnectivity across the operating environment and the domains of warfare (air, land, sea, cyber, and space) and strategic communications.
- d) A compression of the traditional levels of war where strategic, operational, and tactical events become difficult to differentiate.
- e) Rapidly emerging technologies in areas such as cyber, autonomous systems, robotics, hypersonic weapons, digital data, artificial intelligence, communication, surveillance, electronic warfare.

- f) Increased likelihood of human enhancement through mechanical and biological means to improve military performance and the increasing importance of the human-machine interface.
- g) Over time, the use of automated systems in warfare may increase and eventually may not directly involve humans in the decision cycle.
- h) Smaller numbers of forces may fight over greater distances.
- i) New classes of weapons of mass destruction/effect may emerge.
- j) Increased numbers of sensors and the ubiquitous “internet of things” could influence operational security and increase the impact of social media on the battlefield.
- k) An increase in the likelihood of armed conflict involving global commons, space, densely populated areas and subterranean areas.
- l) The widely accessible and cheaper technologies are increasing the role of individuals, giving separate persons or groups the ability to produce uncontrolled and hard to predict effects.
- m) Increased access to knowledge could enhance and speed up the emergence and mobility of threats. This will likely include an increase in the use of innovative ways and means to exploit the weaponization of information activities to influence populations alone or in support of the armed conflict.
- n) Increasing overlap between criminal activity and war/armed conflict.

*Instability* is a state of likely change. Not all instabilities in the security environment will result in a need and decision by the Alliance to employ military forces. Therefore, to focus on the specific operational impacts on NATO’s military forces in the future, it is critical to clearly define and differentiate between *instability drivers* and *instability situations*. Instability drivers are defined as any conditions, events, or circumstances that increase the tendency for the security environment to be unpredictable, changeable, or erratic. Some instability drivers represent visible trends, others are slow emerging, underlying conditions that lead to unstable situations progressively over time. Others may act as catalysts that quickly change the security environment. For example, climate change, mass migration, and competition for resources may cause instability, as might differences in beliefs, value systems, and disruptive technologies. Disintegrating political, economic, rule of law, social systems and increasing population density could further complicate the security environment. Arguably, the greatest drivers of instability are the activities of hostile state and non-state actors. Such activities span a wide range, from isolated terrorist attacks, continued nuclear proliferation to the escalatory use of force.



**Figure 1:** Instability Situations

Instability situations are defined as generic descriptions of possible future events of critical significance that could reach the threshold requiring the Alliance's use of military forces.<sup>1</sup> Instability situations are not mutually exclusive and could occur in isolation or at the same time as others, resulting in a compounded effect, or hyper-instability. In the future, a wide range of instability situations may exist, including:

- a) Weapons of Mass Destruction/Effect (WMD/E) Use:** Hostile state and non-state actors could seek access to and use WMD/Es to cause widespread devastation and loss of life against targets such as political leadership, population concentrations, the global financial system, or locations of symbolic importance.<sup>2</sup> This could include Chemical, Biological, Radiological, or Nuclear (CBRN) weapons or weapons of mass destruction based on new technologies.
- b) Conventional War:** State-on-state war between conventional forces will remain within the realm of the possible. This could include two or more states in an open confrontation where the forces on each side are well-defined and fight using weapons that primarily target the opponent's military.<sup>3</sup>

<sup>1</sup> NATO-ACT, *FFAO Bydgoszcz, Poland Conference Report 2016*, <http://www.act.nato.int/futures-ws-5>, (November 2, 2016).

<sup>2</sup> UN, "Weapons of Mass Destruction: Threats and Responses," <http://www.un.org/sustainabledevelopment/blog/2015/01/weapons-of-mass-destruction-threats-and-responses/>, (November 2, 2016); NATO, *AAP-6 Edition 2015*, <https://nso.nato.int/nso/sPublic/ap/aap6/AAP-6.pdf>, (November 2, 2016).

<sup>3</sup> David Barno and Nora Bensahel, "The Irrelevance of Traditional Warfare?" *War on the Rocks*, <http://warontherocks.com/2015/01/the-irrelevance-of-traditional-warfare/>, (November 2, 2016).

- c) **Escalatory Use of Force:** Hostile actors may use threats or force increasingly over time to destabilise the security environment. This could lead to a strategic miscalculation or increase the likelihood of a wider conflict.<sup>4</sup>
- d) **Hybrid War:** Hostile state actors will likely use a combination of conventional and unconventional means to avoid being held directly accountable for their actions while retaining the option to employ conventional forces, if directly threatened. One of the major characteristics of hybrid warfare is that it often aims to leverage all elements of power while limiting the conflict below the threshold of a conventional war, thus complicating the timely and effective use of rigid collective defence mechanisms.<sup>5</sup>
- e) **Unconventional War:** Hostile state and non-state actors may conduct military activities through or with underground, auxiliary or guerrilla forces to enable a resistance movement or insurgency to coerce, disrupt or overthrow a government or occupying power.<sup>6</sup> In unconventional conflicts the use of propaganda could be utilized in an attempt to influence populations. In the future, terrorism is one of the widely used tactics that adversaries may use to pursue unconventional war. Hostile non-state actors may unlawfully use or threaten the use of force and violence against individuals or property at an increased scale, scope or duration in an attempt to coerce or intimidate governments or societies to achieve political, religious or ideological objectives. Terrorism can be used to create fear or terror in an attempt to gain control over the population. Additionally, hostile states will likely continue to use proxies that employ terrorism to further their own interests.<sup>7</sup>
- f) **Global Commons Disruption:** Hostile actors may directly challenge international laws and norms in the global commons through threat or use of force.<sup>8</sup> Increased competition for resources and commercialisation of space may lead hostile actors to directly challenge international treaties in new ways. Additionally, space disruption could be executed by kinetic or non-kinetic means, such as direct attack, jamming or cyberattacks.<sup>9</sup>
- g) **Critical Infrastructure Attack:** Some physical and virtual infrastructure nodes and installations remain essential to the enduring interests of the Alliance (e.g., energy

4 ICRC, *Violence and the Use of Force*, [https://www.icrc.org/eng/assets/files/other/icrc\\_002\\_0943.pdf](https://www.icrc.org/eng/assets/files/other/icrc_002_0943.pdf), (November 2, 2016).

5 NATO, International Staff Memo, IMSM-0043-2016, (January 15, 2016).

6 NATO, *AAP-6 Edition 2015*, <https://nso.nato.int/nso/sPublic/ap/aap6/AAP-6.pdf>, (November 2, 2016).

7 Melissa Clarke, "Globally, Terrorism is on the Rise," *ABC News*, <http://www.abc.net.au/news/2015-11-17/global-terrorism-index-increase/6947200> (November 2, 2016).; NATO, *AAP-6 Edition 2015*, MC-472/1 "Military Committee Concept on CT", endorsed by MC and approved by NAC, December 2015) <https://nso.nato.int/nso/sPublic/ap/aap6/AAP-6.pdf>, (November 2, 2016), Institute for Economics and Peace, *Global Terrorism Index 2015*, November 2015, <http://economicsandpeace.org/wp-content/uploads/2015/11/2015-Global-Terrorism-Index-Report.pdf>; NATO, PO(2015)0045, (November 2, 2016).

8 Gerald Stang, *Global Commons: Between Cooperation and Competition*, [http://www.iss.europa.eu/uploads/media/Brief\\_\\_17.pdf](http://www.iss.europa.eu/uploads/media/Brief__17.pdf), (November 2, 2016).

9 Lee Billings, "War in Space May Be Closer than Ever," *Scientific American*, <https://www.scientificamerican.com/article/war-in-space-may-be-closer-than-ever/>, (November 2, 2016).

hubs, port facilities, etc.). Hostile actors could attack these nodes in an attempt to disrupt vital societal functions and global stability.<sup>10</sup> This could also include an attack to deny the electromagnetic spectrum, position navigation and timing, radar, and other key systems. Such attacks can occur as physical attacks or in the form of cyber-attacks.

- h) Cyberattack:** Hostile actors could conduct a cyberattack of significant scale, scope or duration to disrupt, deny, degrade, modify, steal, or destroy information resulting in a large physical, emotional or financial impact.<sup>11</sup> Hostile actors could use cyberattacks in isolation or in support of conventional, hybrid, or unconventional approaches.
- i) Governance Challenges:** Some governments may fail to provide administration and basic functions that could threaten internal and external security and destabilise the security environment. Furthermore, ungoverned spaces may exist where there is no legitimate rule of law resulting in a security vacuum and increasing the chance of an armed conflict. Additionally, the future migration and population flows could contribute to the emergence of governance challenges.
- j) Endangerment of Civilian Populations:** There is a potential for hostile actors to conduct large-scale acts of violence directed against civilian populations. These events could include mob violence, post-conflict revenge, insurgency, predatory violence, communal conflict, government repression, ethnic cleansing, destruction of cultural property, and genocide.<sup>12</sup>
- k) Pandemic Disease:** There is a possibility of an outbreak of a disease that occurs over a wide geographic area and affects an exceptionally large proportion of the population exceeding response capacity.<sup>13</sup>
- l) Natural/Man-Made Disaster:** There is a possibility of a sudden large-scale man-made or natural event that could result in serious damage, widespread death, and injury that exceeds response capacity. These events could occur as a culmination of several smaller individual disasters in a way that may have an effect similar to a large-scale disaster.<sup>14</sup>

<sup>10</sup> Sarah Kuranda, "Experts: Recent Critical Infrastructure Attacks a Sign of Major Security Challenges Coming in 2016," *CRN*, <http://www.crn.com/news/security/300079278/experts-recent-critical-infrastructure-attacks-a-sign-of-major-security-challenges-coming-in-2016.htm>, (November 2, 2016).

<sup>11</sup> Jason Healy, *The Five Futures of Cyber Conflict*, [http://journal.georgetown.edu/wp-content/uploads/2015/07/110\\_gj124\\_Healey-CYBER-20111.pdf](http://journal.georgetown.edu/wp-content/uploads/2015/07/110_gj124_Healey-CYBER-20111.pdf), (November 2, 2016).

<sup>12</sup> Stian Kjeksrud, Alexander Beadle, and Petter Lindqvist, *Protecting Civilians from Violence*, <https://www.ffi.no/no/Publikasjoner/Documents/Protecting-Civilians-from-Violence.pdf>, (November 2, 2016). NATO Policy for the Protection of civilians [http://www.nato.int/cps/en/natohq/official\\_texts\\_133945.htm?selectedLocale=en](http://www.nato.int/cps/en/natohq/official_texts_133945.htm?selectedLocale=en) (July 9, 2016)

<sup>13</sup> Regina Parker, "Prevent Disease to Prevent War," *The Strategy Bridge*, [http://www.thestrategybridge.com/the-bridge/2016/10/6/prevent-disease-to-prevent-war\\_](http://www.thestrategybridge.com/the-bridge/2016/10/6/prevent-disease-to-prevent-war_)(November 2, 2016).

<sup>14</sup> Peter Baxter, "Catastrophes – Natural and Manmade Disasters," *Conflict and Catastrophe Medicine*, [http://link.springer.com/chapter/10.1007%2F978-1-4471-0215-1\\_3\\_](http://link.springer.com/chapter/10.1007%2F978-1-4471-0215-1_3_)(November 2, 2016).

## FUTURE OPPORTUNITIES

Despite the many challenges anticipated in the future security environment, there are many opportunities that NATO Forces could seize upon to improve the security environment.<sup>15</sup> Innovation and technological changes during this time period will offer military advantages that NATO forces or adversaries could capitalise on. Innovation is not only the adoption of new technologies but could include the combination of old technologies in novel ways. In this period, developments are likely to be the greatest in five broad areas, or BRINE: (1) biology, biotechnology and medicine; (2) robotics, artificial intelligence, new smart weapons, and human enhancement; (3) Information and Communication Technology (ICT), surveillance and cognitive science; (4) nanotechnology and advanced materials; and (5) energy technology. These developments could have an impact on organisational structures, culture, and processes.<sup>16</sup>

Although states will continue to develop new technologies, in many areas, the greatest advances will likely come from civilian entities. As such, relationships with academia and industry may become more critical to maintain the military advantage. Additionally, the Alliance has an opportunity to harness the creative thinking of its forces and society to develop innovative solutions to problems. The key here is experimentation and the ability to embrace failure as a way to learn and grow.<sup>17</sup>

Increased interconnectedness and globalisation offers military forces new opportunities to build and strengthen relationships.<sup>18</sup> By taking a proactive stand towards achieving increased partnership and cooperation NATO Forces could better address the emerging multidimensional threats.<sup>19</sup> To help balance hard and soft power, military forces should also improve upon their ability to coordinate a wide network of trusted relationships and partnerships with other international organisations around the globe. This would serve to increase situational awareness, to help ensure regional security, deter conflict, and deescalate conflict situations.<sup>20</sup>

Increased complexity, rapid changes in the security environment, and advances in awareness may create opportunities for military forces to address challenges and provide a stabilising presence in an unstable world. The capacity of military forces to respond to global events in a timely manner enables management of emerging issues which pose a threat to the security of territory and populations. Military forces may also have more

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<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

<sup>18</sup> NATO-ACT, *Strategic Foresight Analysis 2015 Update Report*, <http://www.act.nato.int/strategic-foresight-analysis-2015-report>, (November 2, 2016); NATO-ACT, *Strategic Foresight Analysis 2013*, <http://www.act.nato.int/futures-ws-1> (November 2, 2016); NATO-ACT, *Strategic Foresight Analysis 2017*, Currently under Development.

<sup>19</sup> NATO-ACT, *FFAO Bydgoszcz, Poland Conference Report 2016*, <http://www.act.nato.int/futures-ws-5>, (November 2, 2016).

<sup>20</sup> Ibid.

opportunities to engage in a wide array of activities, deter and prevent conflicts, or help resolve conflicts, all of which could change the future security environment for the better. Additionally, NATO Forces in the future may find themselves in a supporting role to assist non-traditional partners in addressing the root causes of instabilities.<sup>21</sup>

NATO Forces will likely have many opportunities in the future to help influence the human aspects of conflict. NATO Forces will be able to seize upon these opportunities if they are able to develop and adopt a mind-set that recognizes that, even in our technological age, war is primarily a human endeavour. Properly cultivated and applied, this mind-set could serve to improve how the forces visualize the environment and interact with relevant actors within the context of the situation.<sup>22</sup>

## CONCLUSION

Overall, the future security environment through 2035 and beyond will likely be increasingly complex and both present challenges and offer opportunities to the NATO's military forces. The analysis of the future security environment indicates that the NATO's military forces will likely face challenges that could unfold in an exponentially accelerated and increasingly complex fashion. A wide variety of drivers could lead to instability situations resulting in the Alliance's decision to employ military forces. However, the NATO's military forces could seize many opportunities in the future. These include building and strengthening relationships, addressing emerging challenges, capitalising on innovative technology and ideas to maintain the military edge, and understanding the human aspects of the conflict. To keep the operational edge today and in the future, NATO joint forces and partners may need to evolve, adapt, and innovate continually to improve their ability to act together comprehensively across all domains to communicate and achieve the political-military objectives of the Alliance.

*The views expressed in this article are the author's own and do not represent the views of the U.S. Army, NATO, the Department of Defense, or the U.S. Government.*

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<sup>21</sup> Ibid.

<sup>22</sup> U.S. Joint Concept for Human Aspects of Military Operations, <http://nsiteam.com/social/wp-content/uploads/2017/01/20161019-Joint-Concept-for-Human-Aspects-of-Military-Operations-Signed-by-VCJCS.pdf> (April 10, 2017).



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