



**NORTH ATLANTIC TREATY ORGANIZATION**

**SUPREME ALLIED COMMANDER  
TRANSFORMATION**

**SACT's keynote address**

**NITEC 17**

**Ottawa, 24 April 2017,**

**As prepared**

**Général d'armée aérienne Denis MERCIER**



## NORTH ATLANTIC TREATY ORGANIZATION

### SUPREME ALLIED COMMANDER TRANSFORMATION

*Mr Minister of defence,*

*Generals, admirals,*

*Ladies and gentlemen, [to be updated according to the audience]*

- Thank you for your invitation to participate in this conference.
- It is an excellent opportunity to reflect on the evolutions of our world and the new solutions we have to find to overcome these challenges.
- On this topic, a renewed partnership between the civilian world and the defence world is a necessity.
- However, before addressing this, it is critical to define properly the environment, in order to state the problem.

#### 1. Evolution of the security environment:

- Before addressing the future of NATO, understanding the security context is essential to frame our discussion.
- The strategic environment today is evolving at a rapid pace, but several defining trends can be identified:
  - The interrelation of crises: every event in a regional crisis can have an impact on another crisis in another region (example of Russian actions in northern Europe that can influence their actions in Syria and their relations with other countries).
  - The interrelation of threats: state and non-state actors present in different crises and following a different agenda.
  - The variety of threats, sometimes simultaneously present in one region (example of the Balkans, confronted to Russian influence, rise of radical Islam, massive migrations, organized crime).
  - The emergence of new operational domains (cyber, but also space and information)
  - The blurred transition from peace to crisis.
  - Finally, the easier access to technology, which tends to increase the potential danger posed by any threat.
- Consequently, we have transitioned from a “complicated” world to a “complex” world.



## NORTH ATLANTIC TREATY ORGANIZATION

### SUPREME ALLIED COMMANDER TRANSFORMATION

- Complicated meant interacting with many factors, but that we could analyse them, and draw reasonable conclusions to drive our decisions.
- Complex means that there are so many factors interacting with each other that it is impossible to comprehend all the possible outcomes, thereby making surprise more possible, decision-making based on imperfect information more commonplace, and failure an option – thus making resilience a necessity.

#### 2. Parallels from the civilian world:

- To understand this environment and develop options to build more stability, we can look at how the civilian world has adapted.
- Because the most innovative companies – especially in the technology sector – have adapted more rapidly to the 21<sup>st</sup> century than the defence sector.
- Of course, they have different objectives than us. Nevertheless, they have to deal with the same environment – and to adapt to the same complexity.
- I visited some of them in the Silicon Valley last month, and we discussed some of the principles they have adopted for this adaptation:
  - No organization holds alone the ability to solve any problem.
  - Strategic awareness and understanding the evolution of the environment are essential.
  - Even with strategic awareness and understanding, the complexity of the environment renders surprise inevitable and permanent – hence the need for resilience, agility and adaptation.
  - Successful organizations are the ones that federate with a broad range of partners, through architectures that are quickly adaptable and flexible by design.
  - Data is now a main strategic resource. Processes for collecting, sharing, exploiting and distributing data are the main drivers to adapting organizations.



## NORTH ATLANTIC TREATY ORGANIZATION

### SUPREME ALLIED COMMANDER TRANSFORMATION

- Operate and adapt simultaneously is a constant requirement. Failing organizations are the ones that renounce adaptation.
- On the contrary, successful organizations are the ones that adapt faster than the others do – and not necessarily the ones with the best capabilities.
- Finally, even in a technology-centric environment, human capital is essential, perhaps even more than it used to be.
- All these principles can apply to the defence sector and to our work in NATO – and among them, the necessity to operate and adapt simultaneously is a constant driver of our action in ACT.

### 3. Application of these principles to the defence sector

- No country nor organization has the capacity to solve a crisis alone: it might have been possible in the past, but today, NATO has to work and connect with other partners, nations or organizations like the EU, and not leveraging these relations would be a mistake.
- Consequently, we must develop a culture of networking and partnerships within the Alliance. Access to partners in a broad sense and to their capacities and expertise is not tied to a logic of contract, but to a dynamic of networking. This is the adaptation we are trying to realize in NATO: not to expand our command structure, but to enhance our ability to connect with an ever-increasing number of partners. \
- The increasing importance of strategic awareness applies to defence as well, and it must be conducted across all domains and not limited to traditional military intelligence, but also include a large part of the information space, which resides in publically available information. I have had the opportunity to see that some companies have developed solutions that military organizations could only dream of, in order to feed their strategic awareness, using only publically available information.
- The ineluctability of strategic surprise requires that we develop our resilience in a whole-of-government approach. This is not just a military



**SUPREME ALLIED COMMANDER  
TRANSFORMATION**

problem, and it requires cooperation between the military and the civilian public and private sectors.

- The strategic value of data will be central in the adaptation of our military capacity. The way our organizations collect, share, exploit and distribute data in the context of military operations will drive both our command and control architectures, but also our operational concepts. This is a requirement of our operational agility, also linked to the emergence of cyber as a domain.
- Operate and adapt simultaneously is a constant in NATO's history, but will constitute a challenge at a time of high operational commitment and in a complex environment.
- And finally, our human capital will remain at the core of our military capacity. The role of military personnel has not changed with the current technological revolution, but we need to adapt the way we educate and train our soldiers to interact with this new technology, bearing in mind that machines do not replace humans, but assist them.
- These principles must drive our adaptation and the evolution of our operational concepts, in which the lines between peacetime and crisis are blurred.

4. Interoperability

- A key issue for the adaptation of the Alliance is interoperability. It has been a constant through NATO history to try to ensure that national forces shared standards, doctrine, and education, to be able to operate together.
- Interoperability is not a new issue, but with military capacities more focused on networks and amidst technological evolutions, it is critically important.
- This became obvious in Afghanistan, when NATO contingents from different nations realized they could not exchange data through a common network, prompting the development of the Afghan Mission Network.

## NORTH ATLANTIC TREATY ORGANIZATION



### SUPREME ALLIED COMMANDER TRANSFORMATION

- This raises the question of norms and standards on which we must build our networks.
- Using our lessons learned from Afghanistan, NATO is developing the Federated Mission Networking, or FMN, which aims precisely at establishing standards for our command and control systems.
- The developing principles are not to modify each system's features – this would be close to impossible, and extremely costly – but to create the “highways” connecting independent systems together, if possible based on open-source technology, in order to facilitate its future evolution, define common languages and applications. For example, devices using different operating systems – Windows or Apple, among others – are able to exchange data through the internet.
- We are using an incremental approach in the development of FMN, starting from land systems and expanding progressively to the other domains. And we use specific events that we organize, such as Tide Sprint and CWIX, in order to define the problems, the requirements, and to experiment operational architectures.
- I insist on the fact that these projects have to be focused on operational ends, and that we cannot develop them without the support of industry.
- By industry, I also mean “non-traditional defence industry,” as future evolutions of FMN will consider cloud-based architectures, for example.

#### 5. Capability development:

- Another critical aspect of our adaptation is capability development – both in the short term and long term requirements.
- We just achieved a major step in the current cycle of the NATO Defence Planning Process, where we distributed targets among the nations in order to meet NATO's level of ambition.
- For some of these capability targets, the development phase will require between 15 and 20 years.



**SUPREME ALLIED COMMANDER  
TRANSFORMATION**

- We need to integrate long-term views in our cycle, and think in terms of effects, because there might be game-changers in the meantime, likely to change the way we mitigate identified shortfalls.
- And a part of this long-term adaptation requires that we share our long-term plans with the nations and with industry.
- This has led us to initiate a different approach the development of NATO-funded capabilities, as illustrated by the Alliance Future Surveillance and Control (AFSC) programme – which is the future replacement of the AWACS.
- The AWACS fleet owned by NATO will end its operational life around 2035. We are already working on its replacement, and, last year, ACT was tasked to define the requirements.
- Rather than going for a new radar on a new plane, we described the main functions an AWACS is performing: surveillance and command and control. We have begun to think of how we will perform these two functions at the 2030 timeline, following this agenda:
  - First, define the needs, not in terms of platform, but in terms of functions and effects.
  - Second, design architectures able to support the execution of these functions. This is an important step, for which we currently lack expertise.
  - Third, wargame these proposed architectures. Appropriate wargaming tools are actually missing today in NATO, by the way.
  - Then, once the architectures have been defined, begin to work on technical solutions and platforms. And I believe that for this last step, NATO should focus on funding the networks and standards, and let the nations provide the platforms.
- To achieve this, we need to “get outside our walls,” and engage with a wide spectrum of industry – again, including companies outside of the traditional defence sector.
- But there is also a need for short-term capability development, and currently, there is no collective process within NATO to achieve this.
- Nevertheless, it should not prevent us from looking at innovative solutions across our nations and within the industry.

## NORTH ATLANTIC TREATY ORGANIZATION



### SUPREME ALLIED COMMANDER TRANSFORMATION

- The US has created the Defense Innovation Unit Experimental, or DIUx, for example. They created these defence units in critical locations in the country where hi-tech companies abound: Austin, Boston, and the Silicon Valley. Their objective is to keep track of the innovative solutions emerging in real time, in a very competitive environment.
- Once they identify something of interest, they build a prototype and experiment with it immediately with their forces. If the idea is good, then they engage on a more consistent process with the company. This is a way to engage more efficiently with the fast-paced environment of hi-tech companies, while assuming risk management differently.
- I am aware of the difficulties of translating such a model in a multinational alliance that has limited resources. But there are innovative ideas to be found – and in this perspective, we have requested a study to capture the best practices for rapid acquisition, which will hopefully fuel our discussion.
- The results of this study may lead to policy changes in NATO that are necessary if we are to keep pace with the context of the 21<sup>st</sup> century. And in any case, this calls for the expansion of our partnership with industry and the civilian sector as a whole.
- This partnership must include what I call “non-traditional defence companies,” with whom we have been increasingly engaging over the past months.
- These companies, while having different objectives, share our complex environment, and that they have outpaced us in understanding this environment and building innovative solutions.
- These companies are usually not interested in working with the defence sector, because our time lines are too long for them – that is, unless we adapt our policies.
- Bridging this gap, and adaptation to short-term and long-term requirements will be essential.
- In both cases, partnering with industry is key.



## NORTH ATLANTIC TREATY ORGANIZATION

### SUPREME ALLIED COMMANDER TRANSFORMATION

#### 6. Conclusion

- Our strategic context is defined by complexity, and the technological revolution we are experiencing raises important questions.
- The defence sector, and NATO, must acknowledge this complexity, but also seize the opportunities to adapt faster and be able to respond to current and future crises.
- Among these opportunities, a closer cooperation with the civilian world in its broadest sense will allow us to remain relevant and to continue to adapt to the future challenges.
- We must also never lose sight on two key considerations:
  - Operational requirements must guide the whole process – we do not transform NATO for the sake of transformation only.
  - Human capital remains at the core of our organization. The digital revolution has not altered the value of soldiers, marines, airmen and sailors. It has changed their interaction with technology.
- Looking at our 28, soon to be 29 nations, even without considering partners, we have the most powerful industry in the world.
- Let me finish with the fact that innovation is not having an idea, it is the execution of an idea. We must start now!
- Thank you for your attention.