NORTH ATLANTIC TREATY ORGANIZATION

SUPREME ALLIED COMMANDER
TRANSFORMATION

SACT's opening remarks to the NAC/MC Away Day

Genval, 22 Mar 2018

Général d'armée aérienne Denis MERCIER

Thank you Secretary General, and General Pavel for your introductions.

Mr Secretary General,
Ambassadors, members of the North Atlantic Council,
Generals, Admirals, members of the Military Committee,
Ladies and Gentlemen,

Secretary General, when you were asked at the Munich Security Conference about the main security challenges facing NATO, you identified constant cyber-attacks as one of the most dangerous threats.

This is only one of many examples where disruptive technologies can change the nature of warfare, the same way they have changed our lives.

Artificial intelligence, big data analytics or robotics to name a few, are now part of our daily lives and have already had a significant impact on our societies, businesses and economies. Our Smartphones, for instance, are great examples of how technology can profoundly transform the way we plan, prepare, and execute our personal activities, especially when we have more computer power in our pocket than NASA had available to put a man on the moon.

It is also these same technologies that have become widely available to all, including non-State actors who are harnessing low cost commercial off the shelf available systems and are already using them against us.

State actors around the world have initiated large efforts to take a leading role in the fields of autonomy or artificial intelligence, in support of their military capacity. This creates a risk to offset NATO's technological advances.

For example: the Chinese National University of Defence and National Supercomputer Centre are making significant breakthroughs in building a conventional supercomputer by 2020 that will be 10 times faster than today's mainframe processors. Russia is also investing massively in innovation and plans to have 30% of its military capacity robotized within the next decade.

Mr Putin recently said: *"The nation that leads in Artificial Intelligence, will be the ruler of the world"*, the so what for NATO is this expansion of technology could accelerate operational obsolescence of our current capabilities, either directly or in a Hybrid sense. For instance, an aircraft carrier could be challenged by the saturation of an adversary swarm of explosive drones or autonomous systems, and the combination of networked active and passive sensors, could challenge the stealth capacity of aircraft or submarines.

But if they present threats, these technologies present opportunities as well, providing that we understand that they are revolutionizing the nature of warfare.

One of my predecessors at ACT, the current US Secretary of Defense, James MATTIS, put it this way: *"(…) I spent my entire career being absolutely convinced that the principles of war were set in stone and would*

never change (…) but now, I believe that we have to be extremely agile and open-minded when considering future challenges, because they are likely to transform profoundly the way we operate".

Understanding these changes is more urgent than ever, but when we combine the strength of our 29 nations and partners Research and Technology to fully explore the opportunities associated with this new "technological race", nobody can compete with us.

And race is the right word, for this strategic competition has already started, and not only in the defence sector.

Google recently demonstrated that by analysing flu data they could accurately anticipate an imminent risk for an epidemic, and much faster than screening the growing number of people that were physically checking in for medical assistance.
It is this capacity to analyse huge amounts of data that forms the game changer for predicting events. The same process could apply to predict an emerging crisis, and allow enough time to avoid or de-escalate it, providing that we are able to scan the information environment, and share that knowledge.

Today we will focus our attention on artificial intelligence. Let me present a few examples of practical areas where this technology could considerably improve how we build our capacity, as an Alliance of 29 nations.

- I have already mentioned the value to improve our capacity to scan huge amounts of data in the information environment.
- We updated the Strategic Foresight Analysis last November and are starting a new cycle for the edition 2021. In the new research phase, the « man-brained » analysis of thousands of national and open source documents will now be supported by computer-powered analytical tools to improve the quality of the analysis and to deliver better and faster output. A first testing workshop will take place next month.
- In the NDPP, the results of the national surveys provide us with huge amounts of data. Although we use scenarios to test the collected data against the minimum capabilities requirements, the division of them in the 29 so called blue books is largely still purely a manual human process. The ability to leverage artificial intelligence could assist our staff in better aligning the national targets to the national plans and priorities, and determine if all these targets require an investment of 2% of the national GDP's. Moreover, based on this data provided by nations through the NDPP cycle, artificial intelligence tools could improve our analysis and understanding of what we need to "enable SACEUR's AOR". It would also change the way we implement Lessons Learned in real time when necessary, or offer a great capacity to enhance our A2AD study.

But none of this can be made possible without the focussed use of data analytics and artificial intelligence. The opportunities to enhance our human machine teaming to conduct current operations and develop new capabilities for the future are enormous.

It is these disruptive technologies that can dramatically improve the Alliance's ability to improve the reactivity and responsiveness of our decision making.

These examples show us that we are just at the beginning of the journey to modernize our Alliance differently, and they can provide us the opportunity to speed at all levels of the decision making process and military action, to react timely and effectively to the new forms of threat.

And in our world, speed has become a key parameter.

Several nations are already developing their own initiatives for the use of new technologies and anticipate how to leverage them for defence purposes. We must consider how we ensure the coherence of all national initiatives because technological developments are happening at different speeds within our Alliance, presenting an additional challenge for our interoperability. This once again underlines the urgency of sharing initiatives developed by our nations to maintain the highest level of interoperability in the future.

And interoperability is not only technical. Legal, ethical and political considerations, in particular regarding the level of confidence in new technologies could also lead to different levels of adoption and endanger our capacity to operate together.

Our aim today, is to raise your awareness about these issues and develop a common understanding on how to explore the opportunities and tackle the

challenges associated with these new technologies in both our policies and our military capacity.

By starting to work on these issues, we will highlight the changes required in policy to manage data coming from our nations. My example related to the NDPP raises many questions: to what extend can we utilise this data? Is it owned by NATO, or by the nations? Are there restrictions?
The private sector would offer immense opportunities to develop quick solutions by managing this data digitally, but what would be the restrictions you foresee, to develop algorithms for it?

These are just some questions that will be raised when we start working on this specific issue. As such it may lead NATO to consider the need for the development of an artificial intelligence strategy. This will guide alliance work on using these technologies when we start working on the decision making process, teaming up humans and machines. And keep in mind that it will not be human versus machines but human and machines working together. Here the human capital aspect will remain essential.

Finally I would also like to stress that these technologies will change our concepts and the way we work. We must be prepared for it.

As you will soon move to the new Headquarters building equipped with new IT systems, you will have to learn to work differently as these new systems will offer greater and faster access to information. This new infrastructure will require you change routine to get the maximum out of it. It is an excellent

illustration of the necessity to understand new technologies and be flexible enough to adapt our organization.

Future technologies are already an integral part of ACT's programme of work, and we will continue, with our adapted structure, to support NATO's modernization through innovation. As much as there are challenges, it also and foremost allows us to identify new opportunities. We will be able to discuss these opportunities during our second session later this morning.

As an eye opener, you will soon meet Sophia the robot. Today, she operates at the level of a "9th grader", but imagine in a couple of years, when she and other robots like her operate as "college students". It is only by looking at these future opportunities, that we will be able to make the most of them when we need to.

Thank you for your attention.