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SACT's speech at

Berlin Security Conference

**“Future Security Challenges and the Capabilities of the
Alliance – SACT's vision.”**

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As delivered

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Ambassadors,

Admirals, Generals,

Distinguished guests,

Ladies and Gentlemen,

It is a real pleasure and a privilege for me to take part in this year's Berlin Security Conference, and its 15th Congress on European Security and Defence.

Before providing you with my vision regarding the future security challenges and the capabilities of the Alliance let me come back quickly on our current security environment.

The Euro-Atlantic area faces an unprecedented range of security challenges. Emergence or resurgence of state actors as potential peer competitors coupled with increasing threat of terrorism has generated a renewed emphasis on deterrence and defence while at the same time underscoring the need for stability operations. Persistent transnational challenges such as organized crime, climate change or economic instability further deepen the uncertainty and complexity of our security environment. Furthermore, identification of and response to challenges becomes more demanding without extended awareness and extensive cooperation, often well beyond the Euro-Atlantic area. This holds true, particularly as the same actors are involved in multiple crises or conflicts, challenges are increasingly interrelated and lines between peacetime, crisis and conflict are progressively blurred.



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Finally, when used by our adversaries, high-speed disruptive technological innovation can threaten our superiority, but also creating new opportunities for NATO when leveraged to our advantage.

Last July, at the Warsaw Summit, this new security environment triggered NATO to adapt its posture in a 360° approach whilst the three core tasks (Collective Defence, Crisis Management and Cooperative Security) laid out in the Strategic concept 2010 remain valid.

Yes, the strategic concept remains valid, but the complexity of crises as described earlier, makes these core tasks more interrelated than ever.

In this context, NATO has decided a wide range of adaptations such as the deployment of an enhanced and a tailored forward presence, a renewed cooperation with the European Union, the declaration of cyber as a domain, the implementation of a training mission in Iraq, the extension of Resolute Support or the reinforcement of partnerships to name but a few.

This requires a lot of work, but there is a strong need to place these decisions in perspective and connect today's adaptation efforts with a longer-term strategic vision.

The key question is: how NATO can maintain its military edge to meet challenges and threats of any kind, from any direction, today, but also in the future?

Let me quote Peter Drucker: "*shaping the future is not preparing future decisions but the future of today's decisions*". For us the aim is to enhance



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today's forces and capabilities, understand and shape tomorrow and bridge the two.

To do so, we must identify the potential game changing elements and breakthroughs NATO's posture will require to maintain our superiority against any future potential adversary.

Prerequisite for this is a networked command control and force structure that is operationally agile and flexible, strategically aware, networked with partners, resilient and able to exploit innovation and technological advancement, while being cost effective and sustainable. Our military instrument must have the ability to contribute to and work with other instruments of power, organizations and partners, while being supported by effective strategic communications.

These five principles, operational agility, strategic awareness, security networking, shared resilience and strategic communications guide the adaptation of NATO's posture.

A posture is a combination of forces (for NATO a mix of conventional, nuclear and missile defence forces) with levels of readiness. The credibility of a posture is determined by our military capacity, our resolve and a robust strategic communication. But I would like to stress that only forces, even with the highest level of readiness do not provide a robust military capacity.

Based on the five previous principles, let me describe six areas, in which we have identified those game changing elements that will be essential for the credibility of our military capacity and posture today and in the future.



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First Command and Control.

In Warsaw, the heads of state and government have decided to conduct a functional assessment of the NATO Command Structure. This recognizes the need for adaptation of our structure. But we cannot disconnect this adaptation from a longer-term vision of the overall Command and Control architecture. By C2, I mean Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance, what we call C4ISTAR.

NATO is the only organization of its kind that has a permanent Command and Control Structure. Command and Control is the backbone of NATO's political and military capacity and relies on networked systems.

The future power of these networks will not only reside in their ability to collect and redistribute massive amounts of data, but foremost to maintain an enhanced strategic awareness allowing to anticipate and support timely political-military decision-making. It will include the potential for increased flexibility and more decentralization in operational control of forces and will require a change of mind set of military leaders across the chains of command.

These new architectures will benefit from innovative progress in digital communications, advanced sensors, faster data processing and artificial intelligence in a model fusing publicly available information and traditional intelligence expertise. Federated networking should become the new norm to create focussed awareness within an enhanced 360° perspective, while preserving agility and flexibility.



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To give an example, we are developing the Federated Mission Networking which aims at becoming the norm for associating all existing systems and enable a wide distribution of data throughout the decision making process. This norm is not limited to NATO and the latest country that joined it, is New Zealand. To illustrate what FMN will look like, let us look at what exist in the civilian world: we can link very different platforms, Apple smartphones, Android tablets or Windows computers – whether they are brand new or outdated – not directly to each other, but indirectly through the Internet. This is this Internet of the things that we intend to build for our military capacity.

I insist on this vision of federation of existing capabilities. We have recently conducted an exercise named Unified Vision 16 to explore ways of intelligence sharing. Conducted in 10 locations, with 400 participants from 17 nations, the aim was to work together and share tasks of analysing and processing a huge volume of data through a cloud-like architecture. It was the first time we exercised such a federated network and the results were much better than expected.

Our vision of the C2 area would require a long development but I wanted to provide a few insights. This vision should be an integral part of the functional assessment of the NATO Command Structure and it could influence the potential decisions to adapt it.

Second, Logistics and Sustainability

Both the Enhanced Forward Presence in Poland and the Baltic States, and the Tailored Forward Presence in the Black Sea region, constitute what we can call a “first wave or line of forces” contributing to deter a potential



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aggression. Credible, combat-ready forces will enable the deterrent aspect of this renewed presence of forces.

NATO is adapting its plans for the timely efficient deployment and the ongoing sustainment of forces across the Euro-Atlantic area taking into consideration the reinforcements that could be necessary in case of an emerging crisis.

Let me stress that, beyond the military aspects, this requires a whole-of-government approach for host nations. The credibility of the posture of these forces will rely in their combat ready status as well as on the preparation of the populations to be resilient and prepared to implement emergency situations. And I must say this is true for the Alliance as a whole.

But how can we do better in this domain?

Shifting sole logistics responsibilities from separate Nations to shared logistics responsibilities across NATO will be necessary to gain unity of effort, improve efficiency of scarce resources and maximise the required support. We must leverage the global reach and networked infrastructure of commercial enterprises. Improving the effectiveness of civil-military interfaces, while recognizing their inherent interdependencies, will be key as the Alliance seeks to both improve resilience and civil preparedness and sustain operations. This will demand further adaptation building on existing NATO logistics vision while enhancing federation with the logistical capabilities of nations.

You see: here federation, networking, standardization or agility are also key principles as well as developing hubs, establishing Federated Logistic Clusters with pre-set contracts, leveraging innovation in 3D productions to



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create spare parts on demand or using unmanned aerial vehicles to transport them, just to give a few examples.

Third, Capability Development

The accelerating pace of technological innovation and its applications will drastically continue to change the way we will conduct warfare in the future.

The capabilities based on future requirements must be driven by a functional analysis approach, in line with the vision of future Command and Control I have presented. We must switch from a “platform approach” to a “system approach”, as new capabilities are connected objects. The value of a connected object does not lie in the object itself but in its built-in capacity to be connected into dynamic networked federations to fulfil operational functions.

To meet this level of innovation and implement advanced and emerging new technologies applicable to the military domains, a closer relationship with industry is essential to inform and to shape capability design. More than ever, a dynamic and open engagement with industry will give us the prospective of the art-of- the-possible. This is a strength as no single organization in the world has a more powerful industry than our Alliance.

A perfect example is the Alliance Future Surveillance and Control (AFSC) Capability, aimed to be a new capability after AWACs in the +2035 timeframe. We have not focused the requirements analysis on a platform – new aircraft and radar –, but on the capability to operate in the complex future operational environment, stressing the need for agnostic surveillance and control to seamlessly integrate forces, taking advantage of all sensors and



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communication networks for the execution of mission-oriented tasks. This includes a wide range of functions, such as early detection, collection of information, recognition – identification – tracking of targets, with the ability to be rapidly deployable in all conditions, scalable, redundant and protected. Those functions will be an integral part of the configurations used in the further development of this networked capability. Once we have defined these functional requirements, we must now develop potential architectures in partnership with industry and wargame them. This will lead to define what architecture and combination of platforms will meet the requirements.

Four, Partnerships

As I mentioned in my presentation of the strategic context, as no single Nation nor organization has all the abilities to manage crises on its own, the complexity of the new global environment requires the involvement of a wider variety of actors and organizations that can work together.

That said, our challenge is to streamline the multiple existing partnership initiatives, whilst expanding the community, consisting of both traditional and non-traditional partners.

This would build on the already existing networks with Nations, Partners and Organizations through their structures in place, enlarged with non-traditional entities such as academia and industries.

NATO is currently developing a Capstone Concept that will define mechanisms and practices to produce Individually Tailored Roadmaps. But this is a first and limited step.



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From my perspective, we could be more ambitious and analyse how we could – through a broader framework – better integrate existing Defence Capacity Building initiatives as well as other Partnership initiatives with Individually Tailored Roadmaps, in a more comprehensive approach. I would stress that key to projecting stability will be our ability to meet this challenge in order to offer clear medium-term perspectives to nations such as Iraq or Afghanistan.

This also requires a renewed cooperation with other international organizations, in particular the European Union.

The Joint Declaration between NATO and the EU at the Warsaw Summit is one of the main efforts to enhance this broader approach, based on mutual trust, and complementarity.

Five, Human Capital

The cohesion of NATO is built on its ability to cope with a variety of national, regional, political and cultural interests and perceptions. We consider this diversity to be a strategic attribute. Human capital is the Alliance's greatest asset.

To ensure the success of future operations, we will build new architectures, including new technologies, such as artificial intelligence and autonomous systems. However, in this approach we must consider the human role to remain the central piece of decision making.

Technology will revolutionize how we conduct analysis of huge amounts of data. The potential of machines and autonomous systems will by far overstretch the potential of human capacity.



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In this technological revolution, we must find the right balance between man and machine. This will again require a change of mind set to accept that decisions could be automated to a certain extent. But virtual barriers will be needed to integrate the “human-in-the-loop” to persistently identify and mitigate risks, and allow a human-based decision making process.

In addition, the complexity of this strategic environment, including technological advances, will require a specific focus on education for our political and military leaders, to provide the necessary levels of awareness to harness the full potential of innovation in all domains.

Six, Training and Exercise

Responsiveness relies on interoperability and the ability to operate together. This is the aim of Training and Exercises. We need to “train as we fight”, so all aspects of the “real operational world” must be an integral part of it.

NATO’s approach to training and exercises is evolving to cope with today’s complex and increasingly dynamic operational environment.

However whilst training requirements will continue to grow in scale and diversity, the resources will likely not grow in the same order of magnitude.

So we must train differently, and use the modern networking facilities to efficiently combine training field exercises with virtual and constructive simulation in a distributed manner.

We can leverage those exercises to experiment new objectives or assess new concepts specifically aimed at addressing the operationalization of new capabilities.



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Finally, we must also use these exercises to send clear messages inside and outside our organization as an important part of our Strategic Communications.

NATO's key messaging and themes must be continuous, and characterized by accuracy, clarity and conviction to reach out to the total span of internal and external audiences. It is important to anticipate and integrate the messaging in an early stage of planning of all events and exercises.

In Conclusion...

After a first phase focused on collective defence during the Cold War, a second turned towards enlargement and cooperative security following the fall of the Soviet union, with a strong emphasis on crisis management in response of the 9/11 attack in the third phase, NATO is now entering a fourth phase of its history. This fourth phase is characterized by more interrelation between the three core tasks defined in the Strategic Concept. The Alliance has made important decisions in Warsaw to face challenges of this new strategic environment.

An innovative mind set is required to continuously adapt existing structures, capitalize on technological breakthroughs and adjust resources to constantly maintain the ability to face an unpredictable future.

Transformation is not an end on itself. The role of my Command is to be the architect of the adaptation of NATO's military capacity to conduct the current operations (short term), but also to be ready in the future (medium and long term) and keep the edge against any adversary.

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Following the five principles I have described, **a federated approach** would allow to leverage the full power of each of the member nations and a wide range of partners, as no single nation or actor dominates the sphere of international security. This requires more reliance on national or multinational initiatives such as the Framework Nation Concept developed by Germany.

We are conducting the NATO Command Structure functional assessment. Do we want to increase the structure in accordance with functions that are not or insufficiently taken into account, or move up in a comprehensive and forward looking manner towards a new, more agile, strategically aware, resilient and networked approach that will integrate what exists already in our nations, in multinational initiatives or in the private sector? I offer it to you as food for thought.

Thank you for your attention.