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The 2021 NATO industry Forum
A Call to Arms and Technology

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After the interruption due to Covid 19 the NATO Industry Forum (NIF), held its eighth meeting in Rome in November 17-18. The year 2021 has seen many defence related events; in this one, the NIF, the atmosphere and the content, without wanting to be magically predictive, was surely an informative and thoughtful preparation for the events of 2022. The NATO Brussels Summit of June 2021 clearly oriented the NIF and many of the points of the Communiqué, especially those on the Threat and Technology were useful inputs for the Rome discussions. It is then appropriate to revisit that document. On the Threat, for example, Russia was mentioned 25 times while China only 5. As it is now usual, Russia was repeatedly mentioned as aggressive (how true!) while China only assertive, a convenient adjective with a vast spectrum of meanings. The rapid and destructive technological evolution was brought up as a part of the Threat in view of the rapid progress made by China and Russia, and also other countries.

In view of the topics mentioned and the time elapsed, the Nations asked the Secretary General to update the NATO Strategic Concept, the last one being that of 2010. It was for this reason that the theme chosen for the 2021 NIF was the industry contribution to that new Strategic Concept. In addition to the Summit, the other pillar was the document dated November 2020 “NATO 2030: united for a new era” whose intended scope was to contribute ideas for the new Strategic Concept. It is certainly obvious that both those pillars will have to be reassessed and modified after the Ukraine invasion of the 24th of February 2022. As relevant events that also preceded the NIF, it is worth mentioning the final preparation of the EU Strategic Compass and the yearly Warsaw Security Forum (Sept. 2021 where the Russian threat to Ukraine was extensively discussed).

The Agenda of the NIF 21 followed with little change the well tested structure of similar previous editions: a series of speeches by top NATO and National authorities, starting with the Secretary General (SG), the Supreme Allied Command Transformation (SACT), the Assistant Secretary General Defense Investment (ASGDI) and the Italian Minister of Defence. The speeches were interspersed with six Plenary Sessions, covering six topics of relevance in the dialogue NATO-industry and the new Strategic Concept.

The speech that set the stage and contained the main messages to industry were the Keynote Address of the SG and the SACT Opening Remarks. The SG, after reminding the audience of the significant increase in defence spending of the NATO Nations (an addition of \$260 bn in the last seven years) spent a good part of his speech on the technological threat, especially from China and Russia, due to their large and increasing investments in new Emerging and Disruptive technologies (EDTs) and the resulting challenge to NATO’s technological dominance. Artificial intelligence, hypersonic technology, cyber capabilities, quantum systems and space were mentioned as the main areas of competition.

In order to improve the Alliance's position, he announced two new Initiatives, the Defense Innovation Accelerator for the North Atlantic (DIANA) and the Innovation Fund, a \$1 bn venture Fund for high-tech start-ups in dual use technologies. He strongly invited industry to share the Alliance's awareness of the technological threat and to match NATO in its increase in attention and investments.

The transformation challenge in fuel and energy was then addressed, and he called the audience attention to the tremendous threat that climate change poses to defence and security and asked industry to join NATO in combating that threat just as industry has done against COVID 19. Finally, he reminded that the Strategic Concept is the theme of the NIF and invited industry to contribute through the discussions in the Plenaries. In this respect, after many statements on the strategic and operational importance of the Alliance's relation to industry, he closed by saying that technology and a strong relation to industry should be mentioned in the new Strategic Concept.

The SACT speech also mentioned the need for a considerable technological effort to react to the "fundamental shift in the technology paradigm" and reminded the audience that now the civilian sector acts as the lead innovator especially in the domain of data and computation. A large part of the speech was dedicated to describe the complexity of the threat and stressed that we face "an entire spectrum of warfare to include". Among the various new faces of the threat and new ways to react, he mentioned the concept of "unrestricted warfare" developed in China in 1999, revived recently, and the importance of the NATO Warfighting Capstone Concept (NWCC), indicated as a very important way to conduct contemporary warfare. The message to industry was clear: dark clouds are approaching, prepare adequately for rapid changes and invest more in new technologies, it is urgent.

The six plenaries that constituted the backbone of the Forum were centred on six thematic priorities relevant in developing a new Strategy:

- 1) Innovative Acquisition to Maintain Military Edge,
- 2) Combat Cloud-Opportunities and Challenges,
- 3) Autonomy and Artificial Intelligence,
- 4) Strategic Challenges considered by the New NATO Strategic Concept,
- 5) Emerging Technologies and Innovative Strategies for Defence,
- 6) Defence Capabilities for the Future NATO.

Each session was structured with a scene setter, a moderator and a panel of six people. The 36 panellists were from NATO and industry; the 20 industrial representatives were all of the highest level, CEO or GM, and were both from the defence and civil industry (14 and six respectively), three of the six being from Silicon Valley. The discussion was centred on questions available in the read ahead documentation; each moderator had to write the "Moderator Notes" to summarize the results. Then, it will be the task

of the staff, both ACT and DI (Defence Investment) to transform those results in key points for the new NATO Strategic Concept to be approved in the next Summit.

In my opinion industry should take the warnings very seriously, since the scenario envisioned will most likely shape the future of industrial life. The present industrial structure should be revisited according to the new expected landscape, both at the macroscopic and microscopic level, and changes should reflect all aspects of the new Strategic Concept. Special attention should be given to Technology, especially EDT, and a special effort should be made to attract young talent, an area where we seem to have a deficit vis-à-vis the competition.

In fact, the leaders in the EDT sectors of Data and Computation and Artificial Intelligence (backbones of the Digital Battlefield) are to be found in the civil industry. The interaction between this industry and NATO is mostly limited to the role of a supplier, certainly a very important one: for example, the Joint Warfighting Cloud Capability, a \$9B bn bid to be awarded by December 2022. Nevertheless, Silicon Valley is essentially absent from a large body of precompetitive activities, STO and NIAG example, that are so important for the NATO-industry dialogue, the *raison d'être* of the NIF. It is only a small consolation that the US seems to be in the same situation (Richard Waters: Pentagon effort to tap Valley information machine earns no medal, Financial Times, 18/3/2022, p. 18).

To conclude, the Secretary General's Keynote Address underlined that the new Strategic Concept should include "the importance of technology, of working with industry....." Thus, this notion repeated for many years that the dialogue with industry is essential for both partners, should find recognition in the new Strategic Concept (it was not present in the 2010 edition) and therefore ratify at the highest level the role of industry as a true strategic partner.

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