

TRANSATLANTIC DEFENCE TECHNOLOGICAL
AND INDUSTRIAL COOPERATION

TADIC

NIAG HIGH LEVEL ADVICE STUDY SG-180 TADIC

March 2014

North Atlantic Treaty Organisation

Report



Maintaining a strong defence industry in Europe and making fullest possible use of the potential of defence industrial cooperation across the Alliance remain an essential condition for delivering the capabilities needed for 2020 and beyond.¹

¹ Chicago Summit Declaration on Defence Capabilities.

Foreword by the Chairman of the Conference of National Armaments Directors

The effort to improve Trans-Atlantic Defence technological and Industrial Cooperation (TADIC) is a long-standing undertaking of the Conference of National Armaments Directors (CNAD). The timeline which follows attempts to trace the history and major efforts of TADIC over time. It can serve as a basis for reflection on past achievements and inspiration for continuing efforts to improve this essential activity.

2000 The CNAD commissioned a team of experts from industry, through the NATO Industrial Advisory Group (NIAG), to study and provide advice to NATO on TADIC.

2001 Heavily impacted by the 9/11 attacks in the United States, the report offered recommendations on how to enhance the ability of industry to cooperate more effectively and provide cost effective and interoperable solutions to meet Alliance and national defence needs, while pursuing a defence against terrorism agenda.

2003 NATO, together with the George C. Marshall European Center for Security Studies, held a conference on US transatlantic defence industrial cooperation. The conference concluded that dialogue with non-US industry and government representatives was important and necessary to contribute to a better understanding of the intentions, difficulties and opportunities of US policies and options to address possible difficulties. For US officials, it was an opportunity to take account of NATO, European and industrial views when finalising the update of the US export control legislation. Following this conference, the North Atlantic Council agreed on a series of recommendations aimed at enhancing Transatlantic Defense Industrial Cooperation via periodic briefings and conferences.

2004 In June the Istanbul Summit Communiqué¹ stated: “NATO’s armament activities must meet the Alliance’s evolving military needs. We therefore reaffirm the importance we attach to mutually advantageous trans-Atlantic defence industrial cooperation.”

2007 The CNAD commissioned the NIAG with a further study on Trans-Atlantic Defence Industrial Cooperation, with the mandate to identify measures that Allies could implement to bring about improvements in this area and not to propose changes to existing laws or regulatory mechanisms within the Member States. The study offered 18 separate recommendations for NATO, the United States, European Union Member States of NATO, and industry, both respectively and collectively. These recommendations, which included a number of detailed proposals together with defence trade initiatives in the United States and the EU, sought to improve the “playing field” governed by US and European policies.

The Report, delivered in 2008, focused on two particular impediments to more efficient and effective transatlantic defence industry cooperation: national export licensing processes and national technology transfer policies. It concluded that if NATO is to meet the ambitious but vital transformational and partnership capacity objectives articulated in the Comprehensive Political Guidance and underscored in the U.S. Quadrennial Defence Review, its Member States must not only commit sufficient resources to match the requirements, they must also remove barriers to enhanced transatlantic cooperation among defence industries on both sides of the Atlantic.

2008 The Bucharest Summit² declaration stated: “Supported by the defence planning processes, we will enhance our efforts to develop and field the right capabilities and forces, with the greatest practicable interoperability and standardisation. This will be furthered by improving trans-Atlantic defence industrial cooperation.”

That same year the CNAD joined efforts with the Royal United Services Institute (RUSI) and organised a Conference on Trans-Atlantic Defence Industrial Cooperation under the banner “Challenges and Opportunities in Trans-Atlantic Defence Industrial Cooperation”. The Conference produced a range of recommendations, the most salient being: to encourage and stimulate US-EU dialogue on defence industrial matters; to improve the understanding of export control procedures and processes; to develop a forum where senior industry and NATO leadership, both political and military, can engage formally.

1 28 Jun. 2004 - Istanbul Summit Communiqué Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council

2 03 Apr. 2008 - Bucharest Summit Declaration - Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Bucharest

2010 The Strategic Concept adopted in Lisbon stated a core principle: “The political and military bonds between Europe and North America have been forged in NATO since the Alliance was founded in 1949; the transatlantic links remains as strong, and as important to the preservation of Euro-Atlantic peace and security, as ever. The security of NATO members on both sides of the Atlantic is indivisible. We will continue to defend it together, on the basis of solidarity, shared purpose and burden sharing.”

The CNAD launched another NIAG effort to prepare a conference in 2011 with participation from export control legislators and other significant TADIC stakeholders.

2011 Under the banner “Smart Defence, Smart TADIC”, the CNAD organised a TADIC Conference at NATO HQ to consider the implications of the new NATO Strategic Concept and the opportunities provided by NATO transformation initiatives for advancing TADIC; to review the developments in reforming export control processes in Europe and the United States, and discuss the resulting implications and opportunities, particularly with regard to multinational programmes supporting NATO capabilities and interoperability; and to review the TADIC issues and considerations from an industrial point of view, particularly in support of NATO programmes and capabilities such as Alliance Ground Surveillance, territorial missile defence, and cyber-security.

2012 The Chicago Summit stated: “Maintaining a strong defence industry in Europe and making fullest possible use of the potential of defence industrial cooperation across the Alliance remain an essential condition for delivering the capabilities needed for 2020 and beyond”³.

During the late-October NATO Industry Day, co-organised for the first time by Allied Command Transformation and the NATO International Staff, participants from NATO and industry addressed “Chicago Summit as a game changer”. The entire event, as well as a full breakout session, debated the impact of decisions taken at the summit on the NATO-Industry relationship and made recommendations for the future.

2013 The CNAD launched a NIAG study on TADIC (SG-180) with the aim to take stock of previous TADIC studies, reports and conferences and for the purpose of identifying measurable elements to characterise the progress of the transatlantic relationship.


Building upon the momentum of the Chicago Summit declaration on capabilities and on the recommendations of the 2012 NATO-Industry Day, NATO has taken specific actions to improve its relationship with the defence and security industry: a NATO Business Portal allows interested companies to more easily identify procurement opportunities at NATO; the North Atlantic Council acknowledged the “Framework for NATO-Industry Engagement”, a document developed with the help of industry that details principles and guidance for improving the NATO-Industry relationship; we rebranded NATO-Industry Day to the “NATO-Industry Forum” and elevated it to the capstone event for strategic debate between NATO, industry and governments.

2014 The NIAG delivered the final report of SG-180 to the CNAD in March. The report that follows in this brochure identified for the first time elements to quantify the evolution of the transatlantic relationship. The report led to a call for a TADIC roundtable in June where government, industry, and think-tanks will join the International Staff to debate the successes of transatlantic cooperation and draw a plan for future efforts to remove remaining barriers to our common success.

TADIC today

Continued progress in addressing barriers to and misunderstandings of transatlantic defense industrial cooperation will only be possible with open dialogue from stakeholders on both sides of the Atlantic. Leaving the discussion to technicians and specialists will doom it to failure as ultimately the solutions are as much political and diplomatic as they are technical. Convincing our political leaders that solutions to TADIC challenges are both technically feasible and diplomatically necessary is the work for all interested to see the continued health and relevance of NATO.

Sincerely yours,



Patrick Auroy

³ Chicago Summit Declaration on Defence Capabilities



NIAG SG-180 HIGH LEVEL ADVICE STUDY

Transatlantic Defence Technological and Industrial Cooperation

Final Report

March 2014

This final report is offered by the NATO Industrial Advisory Group (NIAG) as a contribution to the improvement of Transatlantic Defence technological and Industrial Cooperation in support of the Alliance efforts to develop and field the right capabilities for Alliance operations.

Disclaimer

This final report expresses the views of the NIAG. These views do not necessarily reflect the views of other NATO Bodies or NATO member countries.

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1. EXECUTIVE SUMMARY

The NIAG was invited by NATO's Conference of National Armaments Directors (CNAD) to provide them with advice on how to improve the Transatlantic Defence technological and Industrial Cooperation (TADIC¹). Explicitly, for 2013, the CNAD invited the NIAG Study Group (SG) 180 to provide the following:

- a review and examination of the implementation status of recommendations and conclusions from past studies and reports (Chapter 2.1);
- examination of developments in the political and regulatory context relevant to TADIC (Chapter 2.2);
- development of metrics and means for monitoring TADIC (Chapter 2.3);
- lessons learned from a number of selected major Transatlantic projects (Chapter 2.4);
- actionable recommendations complementing all of the above.

The full NIAG SG-180 report also includes a set of supporting - non publicly releasable – documents, as listed in Chapter 4.

TADIC GENERAL TRENDS

During NATO's May 2012 Chicago Summit, the Heads of State and Government declared: *"Maintaining a strong defence industry in Europe and making the fullest possible use of the potential of defence industrial cooperation across the Alliance remain an essential condition for delivering the capabilities needed for 2020 and beyond."*

This is essential for retaining operational advantage, both within the Alliance and within the NATO Nations. The NIAG believes NATO member countries stand to gain from aligned public policies in Security and Defence.

In most bi-lateral/multi-lateral agreements between NATO member countries, the possibility of developing TADIC is a reality, and in some cases is already in place; but it is the opinion of the NIAG that the "TADIC content" can be improved and this will be beneficial for all: member countries, industries and NATO itself. In all nations where governments and companies engaged in export markets are under great pressure to agree to the transfer of technologies, maintaining a technological lead requires investment to refresh the technological base. Furthermore, the NIAG strongly supports the EU objective to further develop its Common Security and Defence Policy (CSDP), as this promises to reinforce the transatlantic security relationship. Technology and programme investment in Europe is essential both to meet new military requirements and to preserve the conditions for balance in transatlantic industrial cooperation.

The present transatlantic financial situation reinforces the importance of cooperation, creates an opportunity for its expansion and, more broadly, underscores an imperative for TADIC. Security and Defence industries are "globalizing" with emerging markets investing significantly in their security and defence industrial bases.

The international economic and financial crisis continues to influence political agendas and defence budgets on both sides of the Atlantic. Defence budgets are generally decreasing and most are already below the agreed NATO objective of 2 % of GDP. In 2007, only five Allies spent more than two per cent; in 2013 this number had declined to three². In addition, in too many nations, an excessive proportion of the budget is devoted to manpower, rather than to developing technology and acquiring or upgrading equipment. Where major equipment expenditures are concerned, many Allies are falling short of the 20 % guideline.

There is already a very considerable degree of TADIC, as manifested, for example, by the substantial presence in Europe of U.S. companies and their subsidiaries and, to a lesser extent, vice versa. However, the "quality" of TADIC tends to be very dependent on its position within the development life cycle. At low Technology Readiness Level (TRL), where regulatory and commercial issues tend to be less important, this is relatively successful - witness both bi-laterals (e.g., UK/U.S. research and technology cooperation) and the work of the Research and Technology Organisation / Science and Technology Organisation (RTO/STO) in NATO. At higher TRL levels, the relationship is more "hands-off" or "off-the-shelf". Exporting less expensive off-the-shelf U.S. systems to European nations could lead to a certain level of harmonisation of supply and free up European resources for other investments or purchases; it should not be in contradiction to the desire to strengthen the European DTIB.

¹ TADIC in this report is used both with the sense "the NIAG Study Group" and the transatlantic defence technological and industrial cooperation.

² NATO Secretary General's Annual Report 2013

These trends challenge NATO to arrive at a balanced approach for TADIC and to leverage best practices and success cases for future NATO multinational transatlantic programmes and, possibly benefit from the experience gained from European DTIB development as required by the EU. To assist in this, the NIAG SG-180 team has evaluated both a set of best practices and a set of metrics to track the progress of TADIC implementation. These are both described below.

TADIC REGIONAL TRENDS

There are four essential aspects which affect TADIC and determine the measures to improve TADIC, and these need to be considered in a holistic fashion. These are the:

- fragmentation of the security and defence industry within Europe;
- large differential of investment in defence capability and technology between the U.S. and its Allies,
- domestic industrial policies and preferences, and
- export control and technology transfer regimes.

In **Europe**, the year 2013 was marked by the December 19th European Council meeting, where EU Heads of State and Government gave a fresh boost to European defence matters. The European Council will assess progress in June 2015. As regards the strengthening of Europe's defence industry, the European Institutions will develop proposals to stimulate further dual use research, to develop defence industrial standards and a roadmap for a comprehensive EU-wide Security of Supply regime. In addition, the Council identified the need for continued constructive engagement with NATO, including avoidance of duplication. The NIAG believes Europe will need to continue to consolidate before it can truly benefit from TADIC in the scope of NATO's Smart Defence and Connected Forces initiatives.

The process of the **U.S.** export controls reform, undertaken by the Obama Administration in 2009 and still ongoing, provides a certain measure of improvement in the outlook for transatlantic defence trade and TADIC and gives hope of further improvements in effectiveness and efficiency, once the review process is finished. By the end of 2014, all the items the U.S. Administration can accomplish without legislation should be complete. What remains is uncertainty over whether or not the U.S. Administration will be able to engage the U.S. Congress on those items that require legislation. For the moment, the prospects for legislation are not optimal, but the groundwork is being laid and after the mid-term U.S. elections in the fall of 2014, it remains to be seen if these prospects improve.

Recognizing the twin importance of innovation and exports to the competitiveness and productivity of the **Canadian** economy in general, and to the defence and security sector in particular, the Canadian government is taking steps to bring greater and more targeted support to key industrial sectors of the economy. The Canadian government stresses the importance of having access, during conflicts, to capabilities, which have been developed within the scope of a transatlantic defence programme. The Canadian government is reviewing its Controlled Goods programme with an eye to making it no less competitive than export control regimes in other Alliance countries. Canada invites other NATO member countries to be as open to foreign competition in their domestic markets as Canada is.

Transatlantic defence industrial cooperation (TADIC) is high on **Turkey's** agenda. Turkey is actively pursuing a policy of military self-reliance; however, opportunities for foreign companies to supply components or engage in joint ventures are likely to be available for several more years. Unlike much of the EU, Turkey is still experiencing economic growth of more than 3 % (2012) annually. Turkey developed a comprehensive defence industry and is still keen to explore alternatives supply arrangements, enter into new partnerships and import technology.

ACTIONABLE RECOMMENDATIONS FOR TADIC IMPROVEMENT

In addition to reviewing the above trends, the NIAG SG-180 also, as requested, considered lessons learned from a number of past and existing transatlantic defence projects. These are described below and in the annexes.

The previous six NATO TADIC-related study/conference reports outlined a total of 122 recommendations. The NIAG SG-180 team examined these and evaluated if, due to the changes in the overall global transatlantic scenario, they are still applicable and/or of interest.

In doing this, the team identified the main categories of stakeholders such as industry in general, the NIAG in particular, the U.S. Government, the non-U.S. Governments (in Europe and Canada), and NATO Staff/Bodies/Agencies.

The NIAG SG-180 team considers still relevant today 19 of the previous recommendations and, in developing its own conclusions, defined and proposed 10 new actionable recommendations which are:

With respect to Organisation:

1. Establish a high-profile “Group of Personalities” - drawn from governmental, institutional and industrial entities - to take ownership of TADIC, to review progress of current TADIC activities and to agree on new priorities. This Group should be tasked to consult and report to the NATO Secretary General within one year on how to implement the TADIC improvement recommendations most efficiently and effectively.
2. Include TADIC issues as well into the work of the Framework for NATO-Industry Engagement (FNIE) as one of its implementation measures.

With respect to Regulations:

3. Acknowledge that collaborative defence projects, not classified NATO, but between Nations that are part of NATO, should have the possibility of being considered equivalent to a NATO programme from the technology transfer point of view.
4. Explore solutions for achieving “Transatlantic” cross-border assurance of supply, whether related to non-dependencies, supply chains or (cross-border) investments in key technological and industrial capabilities. European and North-American Governments should recognise the potential for a certain degree of mutual interdependence of supplies needed for national security. Interdependency is not necessarily in conflict with desired levels of strategic autonomy.
5. Harmonise the export control lists of military and civil technologies among NATO member countries³.
6. Suggest that the U.S. Government evaluates and freezes the ITAR status of products at the start of a transatlantic defence contract. Defence system integrators require predictability of the export status of components⁴. A reclassification of products and components will not touch the ITAR status of products integrated in systems under contract and in delivery.
7. Take measures among NATO Nations to move towards a more coordinated TADIC approach to technology transfer, serving both North American and European needs. National technology transfer policies should be streamlined within the Alliance.
8. Reduce the number of required export licenses. Licenses could be approved per Nation or Organization with provisos that might limit some technology transfer to certain governments and/or industries. Some successful practices along these lines can be found within the Letter of Intent (LoI) Framework Agreement Treaty framework.
9. Take advantage of best practices, if NATO programmes have a mixed civilian/military architecture. Regulatory compatibility between civilian and military is paramount for interoperability. These issues need to be examined early in the process of any programme.

With respect to TADIC progress tracking:

10. Monitor and measure indicators, such as: (a) the financial volume of transatlantic defence programmes, both under and outside NATO management; (b) the number of participating companies [primes, suppliers (tier 1, tier 2, ...), ...] in transatlantic defence programmes; (c) defence export trade; (d) defence import trade; (e) level of cross-border investments; (f) level of work share; and (g) level of defence R&D investment. This data collection effort should be synthesised and analysed by NATO or external subject matter experts to produce a cohesive and coherent data set.

The full list of the 19 previous plus 10 new recommendations is available in Appendix 1 to this document.

The NIAG, being one of the stakeholders, is ready to support any further development and implementation of the recommendations in this report.

³ Example: only the U.S. regards civilian SatComs as military. However, recently, the U.S. has moved commercial satellites to the jurisdiction of the U.S. Department of Commerce with more relaxed export control criteria.

⁴ Example: Since February 2013 in the U.S., this has worsened following the U.S. State Department's Directorate of Defence Trade Controls' policy announcement that a product, reclassified as ITAR, must be treated as such immediately, even if it is already integrated in a product for non-ITAR-controlled export.

2. TADIC: STATE OF PLAY

2.1. IMPLEMENTATION STATUS OF PREVIOUS TADIC RECOMMENDATIONS

The following 6 reports have been produced on the subject of TADIC since 2001:

- NIAG report to the CNAD (2002);
- NIAG SG-114 report to the CNAD (2008);
- "Challenges and opportunities in transatlantic defence industrial cooperation" CNAD - RUSI conference report (2009);
- "Smart Defence - Smart TADIC" NATO conference report (2011);
- NIAG SG-154 report to the CNAD (2012);
- Joint NATO ACT - RUSI Workshop on Industrial Contribution to Smart Defence: Summary Report (2012).

A total of 122 recommendations were listed as a result of all the above mentioned TADIC reports. The NIAG SG-180 team listed all recommendations separated by target groups such as Industry, NIAG, Non-U.S. Government, U.S. Government, and NATO Staff, Bodies and Agencies.

The NIAG SG-180 team has reviewed and examined the implementation status of these 122 recommendations and has concluded that some of the recommendations are still relevant. The list of the 19 most relevant and practical recommendations can be found in "Appendix 1 – *Previous and Actual Recommendations still relevant*".

2.2. DEVELOPMENTS IN THE POLITICAL AND REGULATORY CONTEXT RELEVANT TO TADIC

2.2.1. Introduction

At a NATO conference on transatlantic defence industrial cooperation in 2003, then-Secretary General Lord Robertson said:

"Export licensing reform is not a "Europe versus U.S." issue. I strongly believe that both sides of the Atlantic stand to gain by working together towards a more level and acceptable playing field in this sphere, and I acknowledge the part the European allies have to play in getting their own act together."

Since then there has been a continual series of initiatives, conferences, reports and summits reiterating the need for transatlantic and international cooperation to achieve NATO capability needs. Smart Defence and Connected Forces are the latest initiatives in this series and the conclusions of NIAG SG-114 bear repetition, as they are still pertinent today. NATO member countries must not only commit sufficient resources to match the requirements, they must also continue to remove barriers impeding enhanced transatlantic cooperation among defence industries on both sides of the Atlantic.

Effective TADIC must be focused on realistic practical approaches. Some civil market approaches and good practices could be used for the implementation of programmes. On the regulatory side, the NATO member countries should continue to reform their export control regimes in order to protect selected key technologies within the NATO community while at the same time allowing industries within the NATO community to cooperate more easily in the international defence and security market. However, it is recognized that TADIC touches the core of nations' sovereignty and exclusive competences in security and defence, on both sides of the Atlantic.

As a practical measure, the U.S. Government could, for instance, consider developing an approved/trusted community of European companies that would be certified according to the new European Directive 2009/43/EC⁵. Common guidelines on the description and best practices of internal compliance programmes should be established. Also, TADIC could merit from a strong and robust global Arms Trade Treaty (ATT).

⁵ Directive 2009/43/EC of the European Parliament and of the Council of 6 May 2009 simplifying terms and conditions of transfers of defence-related products within the Community (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:146:0001:0036:en:PDF>)

The NIAG fully appreciates the dangers and risks inherent in the 21st century security environment and is in full accord that our advanced weaponry and most sensitive technologies must be denied both to our opponents and to terrorists who wish us harm. Strong, effective and targeted export controls, together with rigorous compliance and end-use monitoring mechanisms, including cooperation in intelligence sharing and law enforcement, are now, and are expected to remain for the indefinite future, an indispensable element of transatlantic defence industry cooperation.

In order to maximise the potential of the reforms being introduced within the Alliance and to lay the ground for future improvements, the NATO member countries must co-ordinate their efforts and develop more mutual trust.

2.2.2. U.S. Political and Regulatory Context

a) Summary of Recent Reforms of the U.S. Export Control System

Shortly after the start of the first term in office of the Obama Administration, on August 13, 2009, President Obama directed a broad-based interagency review of the U.S. export control system be undertaken. By January of 2010, the National Security Staff Task Force created to deal with this review had issued findings and proposed specific areas for amendment.

In April 2013, with the publication in the U.S. Federal Register of the first in a series of final rules revising the U.S. Munitions List (USML) and the Commerce Control List (CCL), the U.S. Administration has established a pathway for the most far-reaching reforms of export control rules in recent U.S. history. With the cooperation of the U.S. Congress, the Administration is on track to implement a complete revision of the USML by the spring of 2014. Nine of 21 USML categories have been reviewed, amendments proposed, and published for comment by the public. More categories are under review, and others are being lined up. On July 8, 2013, the second set of rules implementing Export Control Reform (ECR) was published. The U.S. Departments of State and Commerce websites now have the new versions of these rules available online, and they took effect after 180 days, on January 6, 2014.

Under the Arms Export Control Act, the President must notify Congress 30 days before removing items from the U.S. Munitions List. The U.S. Government agencies involved in the continuing review of USML categories have proceeded to consider industry and public comments on the nine completed proposed rules in an effort to develop final rules. The rules are not effective, however, until the Congressional notification process is complete. A House Foreign Affairs Committee (HFAC) hearing last spring revealed some substantive questions and concerns but no open hostility to the Administration's ECR agenda. Congress' assent marks a dramatic departure from the contentious post-Cold War ECR efforts of the last twenty years that pitted certain members of Congress against trade and industry advocates.

With respect to the impact of U.S. ECR on non-U.S. companies within NATO, it is as yet too early to judge the results. The completion of the ECR process will spur a rebalancing of the industry as certain categories of U.S. products become more readily available in the world market. However, the shifting of products from the USML to the CCL will also create the need in both U.S. and non-U.S. companies to revise their own procedures and processes for handling these items. The NIAG considers ECR to support the aims of TADIC.

b) Implications for TADIC of NIAG/Industry Recommendations on Export Control

In the context of open transatlantic markets and a globalized world economy, the defence sector is still unique to some extent, in the sense that international regimes clearly tend to limit proliferation of weapons and corresponding know-how rather than push for the widest possible exchanges and business flows. Nevertheless, defence business is subject to common constraints and challenges which have been created by the internationalization of economies and industry alliances especially between Europe and the United States. The defence sector can no longer prosper in a tightly controlled bubble and the defence industry landscape shows an ever-growing commercial-like common technology supply chain with multiple transatlantic investment models.

By far, the largest number of NIAG and Industry recommendations made with respect to transatlantic defence trade fall in the category of export controls. For example, here is a selection of recommendations (some have been abbreviated):

- NATO should promote technology discussions in support of interoperability and efforts to reform control regulations to facilitate as free as possible flow of technology between Allies.
- Common guidelines should be established on the description and best practices of internal compliance programmes.

- A survey should be conducted to determine the impact on capability gaps and the impact on Coalition interoperability from extant export control processes.
- The EC and NATO member countries should continue to reform their export control regimes, to protect key technologies while at the same time allowing industry to be more competitive in the international defence and security market. The U.S. could consider developing an approved/trusted community of European companies that would be certified according to the new European Directive 2009/43/EC.
- A North American and European high-level forum could be established within which transatlantic export licensing issues could be discussed between governments and industry.

The U.S. is undertaking the most wide-ranging reform of export controls in decades. It has been a top priority of the first term of the Obama Administration, and the effort has continued in the second term in office. If all the goals of U.S. export control reform are achieved, it will go a long way toward improving the ability of U.S. companies to export in the defence field, especially to NATO and EU countries, but it will not satisfy all recommendations made. Some recommendations can be accomplished with minimal effort: a set of common guidelines under NATO leadership, a survey of the impact on capability gaps of export controls, and a North American-EU high-level forum to discuss export control issues. Other recommendations will be much more difficult, especially any that touch on law and regulation. It will be worth the effort to press ahead on the more easily accomplished suggestions, as first steps towards tackling more difficult issues.

2.2.3. European Political and Regulatory Context

NATO nations, which are members of, or are affected by the legislation of the EU, must take into consideration and leverage the impact of the transatlantic programmes in the defence industrial policies at national and EU levels.

R&D programmes are potentially the key to keep TADIC and, probably all the European Defence Industry, alive. R&D efforts will help to maintain the technological critical mass and to reduce the transatlantic gap, facilitating TADIC in return.

The year 2013 was marked by the December 19th European Council meeting, where EU Heads of State and Government gave a fresh boost to European defence matters. The European Council will assess progress in June 2015. As regards the strengthening of Europe's defence industry, the European Defence Agency (EDA) will work closely with the European Commission to develop proposals to stimulate further dual use research, to develop defence industrial standards and a roadmap for a comprehensive EU-wide Security of Supply regime.

According to the European Defence Agency's Effective Procurement Methods (EPM) concept, off-the-shelf procurement, because it is not focused on the development phase, ensures a higher level of harmonisation of supply/demand. However, maintaining a strong European Defence Technological and Industrial Base (DTIB) requires a certain degree of autonomy from non-EU governments and non-EU industries in terms of technology.

The Lol Framework Agreement and OCCAR are excellent candidates to explore the implementation of variable geometry collaborative programmes and TADIC initiatives.

The EDA Pooling & Sharing initiatives are quite similar to the NATO Smart Defence initiatives and potentially synergies for TADIC exist. Collaboration with the EDA through CNAD and CNAD bodies as Main Armament Groups (MAGs) and NIAG should be seriously considered.

Although out of the scope of this SG-180 analysis, it is recognised that TADIC would benefit from the:

- review of industrial policies of the NATO nations, the EU and the intergovernmental organizations in order to identify synergies, overlapping, potential conflicts;
- definition of a defence industrial policy framework to be used for impact analysis of TADIC;
- development of a NATO/EU collaboration mandate and expectations;
- improved alignment of EU defence R&D programmes;
- continued tracking of European Commission initiatives for potential TADIC impact
 - Regional Smart Specialization, European Structural Funds (ESF), ...
 - R&D Framework Programme (Horizon 2020), CSDP Preparatory action;
 - SME support.

- Alliance cooperation opportunities after the 19 December 2013 European Council meeting:
 - Support the nations, in building a cooperation programme with potential for transatlantic contribution. Dialog with EDA.
 - Define Cross Certification.
 - Define common sets of EU/NATO standards.
- Assessment of the social impact (jobs, technological development, growth, multipliers ...) of the defence industry and defence programmes (national and collaborative - TADIC).

2.2.4. Canadian Political and Regulatory Context

The Canadian Government is developing a defence procurement strategy that would provide best value to Canadian taxpayers and timely and affordable equipment to the Canadian Armed Forces. Changes have been made to Canada's offset programme, known as Industrial and Regional Benefits (IRB), and additional policy and programme changes are currently being contemplated to increase the domestic industrial return on investment in Canada from defence spending. The changes were mostly brought back in 2009, including banking, and one more recently this year with respect to providing 10x multiplier for technology transfer related activities. The Canadian Government is also not convinced that the IRB programme is delivering desirable economic outcomes and so is considering additional measures which they call "value proposition" to try and increase the amount of direct Canadian content and higher value work for Canadians through defence procurement.

Recognizing the twin importance of innovation and exports to the competitiveness and productivity of the Canadian economy in general, and to the defence and security sector in particular, the Canadian government is taking steps, as outlined in its 2013 federal budget, to bring greater and more targeted support to key industrial sectors of the economy.

The Canadian government is reviewing its Controlled Goods programme with an eye to making it no less competitive than export control regimes in other Alliance countries and is doing so mindful of the U.S. Administration's intention to amend its own Munitions List.

The Canadian Government has a committed plan to recapitalize the Canadian Armed Forces, with an upcoming focus on its naval and coast guard fleets, and intends to build its fleets at Canadian shipyards with a mix of foreign and domestic suppliers of mission and weapons systems.

Canada will remain an open market with which to do business and no doubt a more attractive one in the coming years to foreign suppliers due to defence budget reductions in the U.S. and European markets. Canada invites other NATO member countries to be as open to foreign competition in their domestic markets as Canada is.

2.2.5. Turkish Political and Regulatory Context

a) Introduction

Defence industry in Turkey is a key strategic sector which is constantly growing and it includes a large number of sub-sector business segments such as land, air, and sea platforms and their equipment, missile, rocket and ammunition systems, defence and security systems, software, electronic warfare systems, support systems and logistic services, R&D, engineering, and manufacturing services.

The Turkish defence industry has reached the product development phase within country, having secured a major place in the national economy as a result of its high value added, R&D investments, and contribution to employment.

Due to recent developments in the defence industry, export control regulations are becoming increasingly important. Many countries are in the process of revising their export control regimes. It is crucial that Turkish companies are aware of the practical implications of such changes and any new restrictions on export operations. See, for instance, the European Council Regulation 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

b) Current status of the Turkish Export Control Regime

After publication of new export regulations, the export control regime in Turkey has been thoroughly revised and well defined. In 2012, the Turkish Ministry of Defence (MoD) and the Ministry of Customs and Trade established an electronic system. For all kinds of defence procurement the sole authority for awarding export licenses in Turkey is the MoD. The time to provide an export license in Turkey is 45 days on average, including the involvement of the Turkish General Staff and Ministry of Foreign Affairs.

For export licences and other export documents, the responsible Ministries are:

- MoD for defence-related exports
- Ministry of Economic Affairs: for other exports (other than sensitive and very sensitive)

c) Management of import/export in Turkey

Task Force on Import/Export

The Ministry of Foreign Affairs established a Task Force Group to work on case studies. Members of this group are the Ministry of Foreign Affairs, the MoD, the Turkish General Staff, and the Ministry of Economy.

The Defence and Aerospace Industry Exporters Association

The Defence and Aerospace Industry Exporters Association has been founded in 2011. This Association has 180 members. The main objective of this union is to increase defence exports and to develop cooperation with foreign defence companies.

The Association searches for conferences, creates solutions for common defence export problems, gives feedback to the Ministry of Economy and MoD, attends fairs, supports Turkish industry on export and cooperation with foreign companies.

Foreign Direct Investment (FDI) in Turkey

The MoD can provide facility security certificates (NATO Confidential) to foreign companies (only NATO member countries and NATO programme participants).

Turkey is a country offering significant opportunities for foreign investors with its geographically advantageous position functioning as a gateway between Europe, the Middle East and Central Asia. The opportunities exist not only in the dynamic domestic market, but also throughout the region.

2.2.6. Relevancy of TADIC for the development of NATO initiatives “Smart Defence”, “Connected Forces”, “Multi-National Approaches” and the “Framework for NATO-Industry Engagement”

a) Introduction

Today NATO is trying to balance its long-term ambitions against the financial realities across the Alliance. In order to support this endeavour several initiatives have been launched. Smart Defence, launched in February 2011 and now including the Multinational Programmes initiative, has evolved to the level where nations systematically can propose cooperation opportunities across the DOTMLPFI⁶ spectrum of capability development. In 2012 the Connected Forces Initiative was agreed upon to promote the full capability spectrum of interoperability and to try to ensure that lessons learnt during coalition operations in Afghanistan were not lost as nations returned home and reverted to a more normal operational scenario based much more heavily on national training.

Having recognised that industries are also balancing ambitions and financial realities, together with the view that industries need also be involved in the earlier stages of capability development, the Framework for NATO-Industry Engagement (FNIE) was initiated in 2013, as was noted by the NATO Council in October 2013. This marks the beginning of a process, which aims to rationalize the interaction between NATO and defence industries in NATO nations.

⁶ DOTMLPFI - Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities, Interoperability

Initial follow-on discussions took place during the NIAG Plenary meeting on 13 November 2013. From those discussions it followed that TADIC is important, but much more important is to focus on the issue actually raised in the first paragraph of the Framework Document – “*making fullest possible use of the potential of defence industrial cooperation across the Alliance.*” Thus, besides transatlantic issues, it is of equal importance to address the disparity of investment and widely differing government/industry models in different nations.

The NATO Industry Forum (NIF) held in Istanbul on 14 November 2013 revealed that measures to improve TADIC are of critical importance to the trust Allies can build in transatlantic cooperation. If not pursued, commercial/industrial considerations can drive seemingly divisive political decisions.

As part of its 2013/2014 work on this TADIC study, the NIAG has been tasked to review and examine the aforementioned initiatives with a view to identifying the role TADIC will have in their implementation.

b) General observations

In general, NATO and NATO member countries are responsible for setting capability requirements. Therefore one could question the relevance of this task, which pre-supposes that industry can influence issues (e.g., by unsolicited proposals) that are fundamentally under the responsibility of governments and NATO. However, at the NATO Industry Forum 2013, on November 14 in Istanbul, Deputy Secretary General of NATO, Alexander Vershbow, stated that:

“It is often claimed that, if nations decide, industry will follow. I see that as a blatant underestimation of the role of industry, and frankly as a bit of an insult. We need our defence industry to play its full part in all the different stages of capability development – and not least in the early stages, when we are defining our requirements and capability goals, where we need innovation and creativity to help clarify a sometimes uncertain, challenging and politically sensitive way ahead.”

While NATO has an admirable record of consultation and cooperation with our defence industry, it is fair to say that we have sometimes taken a rather transactional, arm’s length approach. At a time of increasingly complex security challenges, growing risks, and mounting costs, we need, and we want, to take our relationship with industry to a new level.⁷”

There are two specific reasons why the voice of industry should be heard early in the capability development process:

- Industry is the repository of technology and, as the pace of technology development increases, the voice of industry becomes increasingly important;
- Industry is best positioned to propose suitable industrial cooperation schemes, whether in the technology development phase or in the production phase.

For both these reasons, the voice of industry becomes relevant, and essential to understanding the impact TADIC might have on the three initiatives.

Smart defence and CFI are more about a philosophy and a methodology than actual programmes. Policy developers, military contracting authorities, and others throughout the Atlantic Alliance are stimulated to think in international terms when they first embark on new defence projects.

If nations are discussing common issues this is already a step forward; if nations are operating together and developing a common Concept of Operations (CONOPS), then they are on the road to success. Factors making cooperation easier or more difficult will influence whether smart defence and CFI are successful or not. Factors that are influential include TADIC, the regulatory environment, harmonisation and synchronisation of requirements, common CONOPS, need for interoperability in coalition operations, agreed industrial policy, e.g., in cyber defence, in industrial participation agreements, and so forth.

Industry will measure success by the value and number of cooperative programmes (R&T or production) launched. Governments and NATO will measure the overall success of Smart Defence and CFI over a much broader spectrum than industry will, since industry has a very different perspective.

The size of the U.S. market means that cooperating with the U.S. gives economies of scale that may not exist otherwise. From a strictly financial efficiency perspective, TADIC can be helpful in Smart Defence/CFI.

7 http://www.nato.int/cps/en/natolive/opinions_105013.htm

The political issues, such as the need for a strong EDTIB as well as a North American DTIB, the need for the EU to procure its own military capabilities, tend to make TADIC more challenging. Recognizing European interests is a fundamental condition for successful transatlantic exchanges and an essential precursor to a balanced TADIC. The NIAG believes that Europe will need to continue to consolidate before it can truly benefit from TADIC in Smart Defence and CFI. The European Council meeting in December 2013 certainly confirmed the degree of urgency the European leadership feels is necessary to cooperate among them; certainly the initiatives and ideas being proposed by the EU are encouraging a stronger EDTIB with practical plans on how to achieve this.

c) Smart Defence

The Smart Defence Initiative (SDI) is now being cited in the media regularly.

Examples of SDIs with TADIC relevance are:

- Immersive Training Environment;
- Pooling and Sharing Multinational Medical Treatment Facilities (Role 2);
- Multinational Aviation Training Centre.

The continuing development of the SDI list requires monitoring from industry in order to evaluate potential TADIC involvement.

d) Connected Forces Initiative (CFI)

The analysis of the CFI is based on the Council-approved document describing the CNAD and C3 Board Roadmap. The document outlines the technological aspects of CFI. It has been assumed for the purpose of this paper that the document covers the potential industrial involvement in CFI to an acceptable degree. Nevertheless, it is recognised that other CFI activities with TADIC relevance may exist, for which insufficient documentation is available.

The analysis reveals that four recommendations in the referenced report have TADIC relevance from an industrial, and therefore NIAG, view; i.e.:

- Standards to be applied by nations;
- Further work stemming from the NATO Universal Armament Interface;
- Ships Mission Modularity;
- Harbour Protection.

The actual results from Smart Defence and CFI are not yet there to see. But this should not keep industry from pursuing the goals and objectives of these initiatives. Smart Defence and CFI thus far have not produced much value for industry in terms of potential investment opportunities by the governments. They are much more geared towards basic principles of operating together, training together, and exercising together, as well as the possibility of sharing logistics. TADIC, as a subset of industrial involvement, could therefore be regarded of limited importance for the initiatives mentioned.

e) Framework for NATO-Industry Engagement (FNIE)

The FNIE document, as noted by the NATO Council, aims at streamlining NATO-Industry relations and improving the way NATO engages with industry in a mutually beneficial, coherent, consistent and transparent way. It embraces relationships across the Alliance as a whole and therefore TADIC is a subset of this overall scope. Initial follow-on discussions took place during the NIAG Plenary meeting on 13 November 2013, based on a list of proposed measures provided by NATO International Staff (IS). TADIC is amongst the measures proposed. From the discussions, it follows that, while TADIC is important, it is much more important to focus on the issue actually raised in the first paragraph of the Framework Document – “*making fullest possible use of the potential of defence industrial cooperation across the Alliance.*” Thus, besides transatlantic issues, it is of equal importance to address the disparity of investment and widely differing government/industry models in different nations. The risk of TADIC is that it invites too much focus on specific aspects of U.S. technology export controls and ITAR. The U.S. is but one example of a national model, and there are issues in other nations that merit equal attention. It will require further study outside the TADIC purview to analyse the conditions under which industry (and thereby TADIC) can support the objectives of the FNIE.

2.2.7. TADIC Implications of Different Industrial Ownership & Control Policies in Europe and North America

According to the Egmont Institute Security Policy Brief (No. 41 dated December 2012) on “Safeguarding the EDTIB: the Case for Supervising non-EU Foreign Direct Investment in the Defence Sector”⁸, “the outright prohibition of FDI would be rightfully discounted, but serious thought should be given to approval and supervision mechanisms over the longer-term. The ‘selling-off’ of critical defence infrastructure to non-EU investors is no longer a purely national concern. As the name suggests, the EDTIB is a mutual strategic concern.”

According to the European Commission’s 24 July 2013 Communication⁹ “Towards a more competitive and efficient defence and security sector,” “Security of supply depends also on the control and ownership of critical industrial and technological assets. Several Member States have national legislation for the control of foreign investment in defence industries. However, the more international industrial supply chains become, the more can a change of ownership of one company (also at lower tiers) have an impact on the security of supply of other Member States’ armed forces and industries. It is also an issue affecting the extent of the autonomy Europe has, and wishes to retain, in the field of military capacity, as well as the general question of control of incoming foreign investment in that sector. A European approach may be needed to cope with this challenge.”

In that same Communication, the European Commission states they will issue a Green Paper on the control of defence and sensitive security industrial capabilities. It will consult stakeholders on possible shortfalls of the current system, including the possible identification of European capacities, and explore options for the establishment of an EU-wide monitoring system, including mechanisms of notification and consultation between Member States.

Security of Supply remains essential within a TADIC environment. The NIAG recognises the value of dialogue, consultation, and arrangements that facilitate the supply of defence articles and services within a collaborative programme. The NIAG believes it is particularly important for contracting authorities/entities to ensure their Security of Supply requirements comply with the principle of non-discrimination between European, Turkish and North-American suppliers and fully comply with the respective laws in place.

The NIAG also agrees with the following analysis, published in the “*Fondation pour la Recherche Stratégique Note*”¹⁰ on “*Security of Supply Challenges and EDTIB: Debates & Dilemmas*”:

“In relation to Security of Supply, it is worthy to reflect whether the idea to identify a ‘defence economic operator in Europe’ to be protected and supported by European and national institution does fit or not the reality of EDTIB. First, civilian industries may enter the defence market to provide some dual-use technologies because in certain sectors the innovation is more advanced in the civilian field than in the defence one. At the same time, some large European defence industries are active in the civilian market, and may even generate the majority of their turnover through civilian activities.”

Dual-use technologies connect defence, security and civilian markets worldwide in an unprecedented way. The very same radar component may be sold to the Qatar navy, the Indian coast guard, the EU Frontex agency, and a U.S. aerospace industry. Finally, the aforementioned internationalization of national DTIB implies that European defence companies may delocalize industrial and/or R&D activities outside the EU, and may rely on non-European suppliers. As a result, a rigid approach based on the entity – the ‘defence economic operator’ – may result ineffective both because it is difficult to identify which are those entities and because the issue of their SoS is not addressed by an entity based approach.”

An obvious way for European and North-American companies to become more attractive in each other’s foreign security and defence markets would be for these companies to establish a geographic presence in each other’s markets through direct foreign investment. In order to allow these companies to “buy” into each other’s foreign security and defence markets through mergers, acquisitions and joint ventures, any restrictions on foreign/transatlantic investment in these markets must be limited on both sides of the Atlantic.

Protectionist practices must also be avoided. In order to seriously reduce equipment prices, industrial fragmentation must be tackled on a transatlantic basis. In the very long term, sharing more NATO projects to reduce costs may create an environment in which the NATO member countries and its companies invest in shared capability clusters, allowing them again to focus investment in certain areas and buy off-the-shelf from other clusters within the transatlantic community.

8 <http://www.egmontinstitute.be/papers/12/sec-gov/SPB41.pdf>

9 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2013:0542:FIN:EN:PDF>

10 No 26/13, dated October 2013 <http://www.frstrategie.org/barreFRS/publications/notes/2013/201326.pdf>

Foreign investment, through partial or full ownership of a local company with connectivity to the customer, can lead to more interoperability with coalition partners and to competition in consolidating defence markets. Effective TADIC requires reciprocal market opening to FDI in national defence industries. The NIAG acknowledges that the “selling-off” of critical defence infrastructure to non-NATO investors is a mutual strategic concern within the NATO community.

2.3. EVALUATION OF THE PROGRESS OF TADIC

2.3.1. Introduction

TADIC should be put in the context of overall transatlantic trade. From the EU-U.S Transatlantic Trade and Investment Partnership (TTIP) information it follows that, in 2012, the transatlantic trade (U.S.-EU) was as follows¹¹:

- From the EU to the U.S.: 292 Bn EUR (= roughly 397 Bn USD), mainly cars, car components, medicines, engineering and fuel.
- From the U.S. to the EU: 206 Bn EUR (= roughly 280 Bn USD), mainly cars, car components, medicines and their raw materials, fuel and scientific equipment.

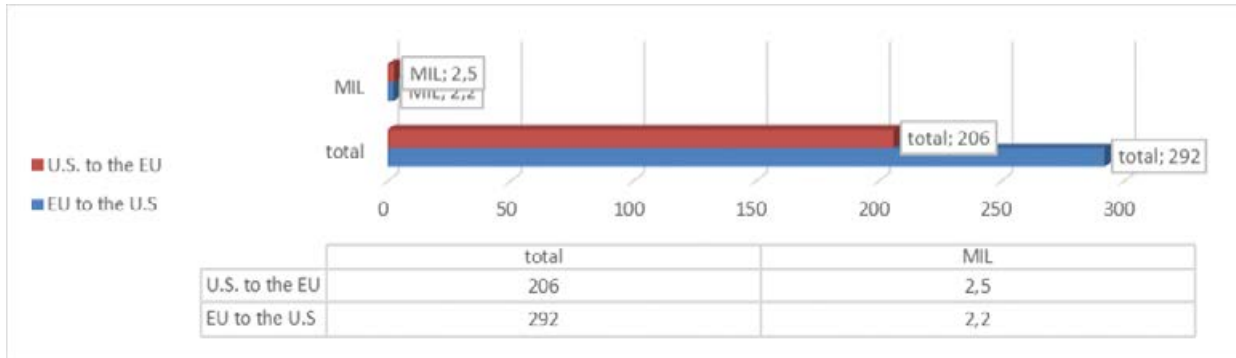


Fig. 1 - Military Transatlantic Trade vs General Trade

The 2013 statistics, published by EURODEFENSE¹² taking into account U.S. Census Bureau data, indicate the following for 2012 with respect to commercial military trade:

- From the EU to the U.S.: 3 Bn USD (= roughly 2.2 Bn EUR at the Dec 2013 exch. rate)
- From the U.S. to the EU: 3.4 Bn USD (=roughly 2.5 Bn EUR at the Dec 2013 exch. rate).

These figures indicate that military trade is between 0.75 % and 1.2 % of total bilateral EU-U.S. trade. It is a niche market. Therefore, one can conclude that the defence sector's financial volume in absolute terms is not the major benchmark, although the defence sector is crucial for national security reasons and it provides jobs and growth in a high technology domain.

Another indicator is the percentage of the military transatlantic trade with respect to global military expenses¹³.

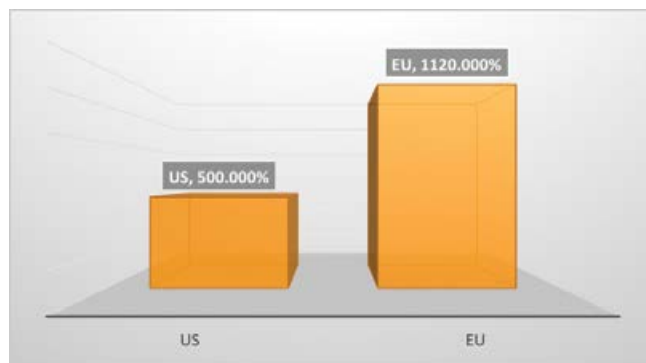


Fig. 2 – Percentage of transatlantic trade vs global military expenditures

These figures indicate only a very small portion of total defence expenditures can be considered as the basis for the military transatlantic defence cooperation.

11 http://trade.ec.europa.eu/doclib/docs/2006/september/tradoc_113465.pdf

12 <http://eurodefense.fr/efforts-de-defense-2013/>

13 EU-U.S. Defence data 2011, published by European Defence Agency (EDA) in September 2013

Indeed, not the quantity but the quality of TADIC is likely to be more important. In recent history, the quality of TADIC has been described as commensurate with the removal of barriers, mainly on the U.S. side.

Also, the NIAG SG-114 in 2008 addressed the question whether an appropriate balance has been struck by Allies between their compelling interest in protecting sensitive technologies at the national level and achieving maximum interoperability in vital NATO operations at the multinational level.

Moreover, increased quality could only be one factor influencing the quantitative volume of transatlantic military trade. More overarching - political - policies/strategies on both sides of the Atlantic may have a much higher impact on the quantitative factor, such as, for instance, increased awareness that an autonomous European DTIB is of essential security interest. U.S. awareness on this subject remains at the same high level. TADIC needs to be mutually supportive of both objectives, thereby providing a balanced way for NATO to promote capability development. Also, increased focus on third market¹⁴ development on both sides of the Atlantic will have a bearing on transatlantic defence trade.

Moreover, metrics will trigger the question: "What is a European/Canadian/U.S. source (Defence Economic Operator)?" This question has been discussed, inconclusively, within European circles. The main measure seems to be to what extent a company involved can be an autonomous player within the (Canadian, U.S. or EU) DTIB. This includes, at least, unrestricted use of technology for the purpose of the DTIB, including its export dimension, where the company is located (Canada, U.S. or Europe).

Acknowledging this essential qualitative/political character of TADIC adds a challenging element to the effort of trying to quantitatively measure TADIC.

2.3.2. TADIC and TADIC progress measurement

The quality of TADIC cannot be measured by one parameter alone. A set of parameters may be useful, albeit the interpretation of that data remains very subjective.

In general and from the introduction above, one can conclude that measuring TADIC and TADIC progress is *not only* the measurement of:

- number of FMS cases, signed by the U.S. Government and European Nations;
- volume of parts and services, sourced by U.S. companies from European companies;
- volume of parts and services, sourced by European companies from U.S. companies.

The NIAG SG-180 believes that some important indicators could be:

a) Quantity

- financial volume of transatlantic programmes, both under and outside NATO management;
- number of participating companies [primes, suppliers (tier 1, tier 2, ...), ...] in transatlantic defence programmes;
- number and volume of defence systems co-developed by companies from NATO/PfP countries;
- number and volume of Transatlantic cooperative defence-related research projects between companies from NATO/PfP countries;
- number of the NATO technical interoperability standards (STANAGs), implemented by NATO countries, without imposing additional national specifics/restrictions in bidding document;
- number of agreed upon and implemented test methods within the NATO Alliance;
- number of TADIC-free cooperative defence projects;
- number of transatlantic defence-related joint ventures, mergers and acquisitions in the defence industrial sector.

b) Quality

- level of European/Canadian/U.S. Transatlantic cross-border investments by industry in the defence sector;

¹⁴ Non European and non North American markets

- level of European/Canadian/U.S. Transatlantic cross-border defence R&D investment by industries;
- level of European/Canadian/U.S. R&D/Production/Through-Life Support work share in transatlantic defence-related programmes;
- number of STANAGS to support interoperability due to differing (industrial) standards in the U.S., Canada, and Europe, with the aim of reducing complexity;

c) Procedural

- number of export license (ITAR & EAR) requests;
- number of granted export licenses from European NATO/PfP nations to U.S. and Canadian companies and vice-versa, generated by a defence-related transatlantic programme;
- number of days required for defence-related export license procedures per NATO/PfP country;
- number of TAAs;

d) Industrial Integration & Employment

- percentage of usage of young personnel¹⁵ in transatlantic defence-related programmes;
- number of Transatlantic competitions targeting SMEs from all NATO/PfP countries;
- number of contracts in the performance of which SMEs are included and identified by location within NATO/PfP;

¹⁵ In the scope of the April 2014 ASD convention, young professionals are "Up to 30 years old"

2.4. SUCCESSFUL PRACTICES FOR NATO TADIC PROGRAMMES

The NIAG endorses NATO's report on "Building Capability Through Multinational and Innovative Approaches" which describes lessons learned from previous multinational projects, and which suggests that critical success factors for multinational acquisition include:

- harmonising military requirements, timing and specifications for equipment purchases to the greatest extent possible, consistent with national capability requirements, to increase commonality, minimise variation and reduce cost;
- buying "off the shelf" when feasible and cost-effective, taking into account the possible effects on research and development of doing so;
- being open to requirements being filled by alternative solutions (i.e., specifying output, not solely input);
- optimising research and development to help overcome negative trends in expenditure (greater coordination and cooperation in R&D offers a means of delivering more for less);
- being fully open to competitive tendering (in accordance with legal instruments) and the benefits it brings such as reducing cost and increasing quality, (while taking into account one's own industrial base);
- harmonising legislative requirements in different countries or successfully managing the impact of any differences.

The NIAG SG-180 team reviewed and examined some major multinational defence programmes and highlights following successful practices and suggestions:

- Common system engineering and project management guidelines are a critical key element in TADIC success in NATO programmes. Clear rules and common communication paths should be created to define and control the partnership between the key players in the NATO TADIC programme development.
- The NATO Agency, acting as the Host Nation, can be the broker/facilitator to ensure U.S. ITAR/EAR issues are less intrusive, causing smaller delays in implementation of NATO programmes.
- Challenges presented by U.S. export authorization delays could be mitigated by receiving, from the U.S. Department of State, a global project authorization (GPA), being an "umbrella" export authorization that allows the U.S. supplier on the programme to enter into agreements with many partner suppliers to transfer certain unclassified technical data.
- Partner countries and companies, participating in NATO transatlantic programmes, should be aware of any existing expedited U.S. Government export license review processes for NATO transatlantic programmes and take advantage of them.
- Multinational programmes with balanced and active technical/industrial participation, could produce economical returns and technological development in both Europe and North America.
- U.S. export control regulations (ITAR/EAR), at an industrial level, could be addressed by dividing a NATO TADIC programme into two parts:
 - One part could be procured from U.S. companies only;
 - Another part could be procured from Europe and Canada and be ITAR-free.
- The connectivity and interoperability between the two segments can be assured by the use of common regulations/procedures (STANAGS, ...).

3. ACTIONABLE RECOMMENDATIONS FOR TADIC IMPROVEMENT

The previous six NATO TADIC-related study/conference reports outlined a total of 122 recommendations.

In 2013, the NIAG SG-180 team examined these and evaluated if, due to the changes in the overall global transatlantic scenario, they are still applicable and/or of interest.

The NIAG SG-180 team considers still relevant today 19 of the previous recommendations and, in developing its own conclusions, defined and proposed 10 new actionable recommendations.

In doing this, the team identified the main categories of stakeholders such as:

- Industry in general;
- The NIAG in particular;
- The U.S. Government;
- The non-U.S. Governments (in Europe and Canada), and;
- NATO Staff/Bodies/Agencies.

Furthermore the team identified also some categories of applicability:

- Collaborative Programme Development;
- Export / Technology Control;
- Harmonisation of Requirements;
- Market Access;
- Offset / Industrial Partnerships;
- Standardisation;
- Supply Chain.

In appendix 1 to this document the full list of previous recommendations (in italics) and new recommendations (in bold), with definition of the associated stakeholders, is given.

The NIAG, being one of the stakeholders, is ready to support any further development and implementation of the recommendations in this report.

4. LIST OF ANNEXES

Note: the full NIAG SG-180 report includes a set of supporting - non publicly releasable - documents - "Annexes" - which is available to governmental institutions and the NIAG community through the NATO/DI web portal, accessible at <https://diweb.hq.nato.int/niag/Pages/TADIC.aspx>. The list below provides the titles and numbers of the Annexes.

- **NIAG SG-180 TERMS OF REFERENCE**

- Annex 01 - CNAD & IS/DI Study Objectives for NIAG SG-180

- **PREVIOUS RECOMMENDATIONS** - from Previous NATO TADIC Reports & Conferences – this Annex contains the 122 recommendations collected from:

- NIAG report to the CNAD (2002);
- NIAG SG-114 report to the CNAD (2008);
- Post NATO CNAD - RUSI conference report (2009);
- Smart Defence Smart TADIC NATO conference report (2011);
- NIAG SG-154 report to the CNAD (2012);
- Joint NATO ACT - RUSI Workshop on Industrial Contribution to Smart Defence: Summary Report (2012).

The NIAG SG-180 listed all recommendations separated by target groups such as Industry, NIAG, Non-U.S. Government, U.S. Government, and NATO Staff, Bodies and Agencies (Annexes 2a to 2f):

- Annex 02a - Recommendations Reference List
- Annex 02b - Recommendations for Industry
- Annex 02c - Recommendations for NATO Staff Bodies Agencies
- Annex 02d - Recommendations for NIAG
- Annex 02e - Recommendations for Non-U.S. GOV
- Annex 02f - Recommendations for U.S. GOV

- **NIAG HEAD OF DELEGATION (HOD) QUESTIONNAIRE**

In order to better understand the overall position among NATO Nations, the NIAG SG-180 did not limit its inputs to the ones of the NIAG SG-180 members only, but also collated a summary of national industrial views across the Alliance. To that end, the NIAG SG-180 requested the NIAG Heads of Delegation (HoDs) to develop a short summary of their national position towards NATO TADIC with the help of their national industry and government, including specific aspects of national defence industry policies that could be relevant and answer the questions:

- What do you believe is the definition of "successful TADIC"?
- What do you believe are the key success factors?
- What do you believe are the key hindrances?
- What do you believe are suitable metrics that could be used?

Annex 3a and 3b contain the requests and the answers, grouped by topic:

- Annex 03a - Letter to NIAG HoDs
- Annex 03b - National NIAG Heads of Delegation Position On TADIC

- **PROGRESS ON EXPORT CONTROL AND PROCUREMENT**

The U.S. is undertaking the most wide-ranging reform of export controls in decades. If all the goals of U.S. export control reform are achieved, it will go a long way toward improving the ability of U.S. companies to export in the defence field, especially to NATO and EU countries. Non-U.S. companies will also benefit from this reform. European NATO nations, which are affected by the legislation of the EU, are influenced by the impact of the transatlantic programmes in the defence industrial policies at national and EU levels.

- Annex 04 - U.S. Export Control Reform Initiatives
- Annex 05 - European Defence Industry Development
- Annex 06 - Turkish Defence Industry Development

- **EVALUATION OF TADIC PROGRESS**

The quality of TADIC cannot be measured by one parameter alone. A set of parameters may be useful. The NIAG SG-180 team defined a set of elements to consider in terms of Quantity, Quality, Procedural and Industrial Integration & Employment.

- Annex 07 - The Transatlantic Defence Trade
- Annex 08 - The Importance of Metrics in TADIC

- **MULTINATIONAL PROGRAMMES**

The NIAG SG-180 team reviewed and examined some major multinational defence programmes and analysed critical success factors for multinational acquisition. To this purpose the NIAG SG-180 also analysed non-NATO defence transatlantic programmes that are still very important for their value, industrial implication and that can also take benefit for possible NATO TADIC.

- **Smart Defence Multinational Programmes**
 - Annex 09 - TADIC Relevance of Smart Defence Tier 1 Programmes
- **Nato Transatlantic Programmes Experience (Best Practices)**
 - Annex 10 - ACCS and Missile Defence
 - Annex 11 - AMN & FMN
 - Annex 12 - The Strategic Airlift Capability (SAC)
 - Annex 13 - NATO E-3
 - Annex 14 - Turkish F-16 Programme Experience
- **Non-NATO Relevant Transatlantic Programmes**
 - Annex 15 - F-35 Programme Experience
 - Annex 16 - Spanish F-100 AEGIS Frigate Program

5. APPENDICES

5.1. APPENDIX I: PREVIOUS & ACTUAL RECOMMENDATIONS STILL RELEVANT

The tables below list (a) the recommendations from previous NATO TADIC Reports/Conferences which are still relevant (in italics) and (b) the new recommendations proposed by the SG-180 team (in bold).

For each recommendation the associated stakeholders are given.

0	Recommendation for =>	NIAG	Industry	NATO Staff & Agencies	U.S. Gov	Non-U.S. Gov
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5.1.1. Collaborative Programme Development

1	Establish a high-profile “Group of Personalities” - drawn from governmental, institutional and industrial entities - to take ownership of TADIC, to review progress of current TADIC activities and to agree on new priorities. This Group should be tasked to consult and report to the NATO Secretary General within one year on how to implement the TADIC improvement recommendations most efficiently and effectively. A representative of the NATO Parliamentary Assembly, the Chairman of the CNAD, the Chairman of the NIAG and other relevant stakeholders should be incorporated into this effort. This ensures that TADIC will remain one of the two essential “2012 Chicago Summit” conditions for delivering NATO’s collaborative capabilities needed for 2020 and beyond.	x		x		
2	Include TADIC issues as well into the work of the Framework for NATO-Industry Engagement (FNIE) as one of its implementation measures.	x		x		
3	Take advantage of best practices, if NATO programmes have a mixed civilian/military architecture. Regulatory compatibility between civilian and military is paramount for interoperability. These issues need to be examined early in the process of any programme.		x		x	x
4	<i>Smart Defence, Multinational Approaches and Connected Forces are powerful concepts that NATO, NATO member countries and Industry should leverage to develop actual and pragmatic TADIC opportunities. Each TADIC opportunity could be initiated by at least two contributing NATO member countries, which can invite other NATO member countries to join. Common project management guidelines will be a critical key element to TADIC’s success.</i>	x	x	x	x	x
5	<i>Industry should have a formal involvement in all negotiations leading to the agreement and signature of MOU’s, where they could lead to a collaborative programme. A “boiler plate” MOU could be agreed upon to form the basis for negotiation. This would save all parties considerable time and expense.</i>		x	x	x	x

6	<i>While recent European legislation has removed national barriers and opens up markets within Europe, a level transatlantic playing field is needed. The May 2012 NATO Summit in Chicago will centre on transatlantic security cooperation, during which NATO can develop a vision for transatlantic cooperation.</i>		X		X	X
7	<i>In the NDPP, provide more visibility and transparency to industry while developing specific requirements, capability packages and multinational projects (whether under Smart Defence or NDPP Priority Shortfall Areas). Such early involvement by industry can lead to more cost-effective and timely capability solutions such as Commercial Off the Shelf (COTS) or 'Plug and Play' technologies.</i>			X	X	X

5.1.2. Export / Technology Control

8	Harmonise the export control lists of military and civil technologies among NATO member countries¹.			X	X	X
9	Suggest that the U.S. Government evaluates and freezes the ITAR status of products at the start of a transatlantic defence contract. Defence system integrators require predictability of the export status of components². A reclassification of products and components will not touch the ITAR status of products integrated in systems under contract and in delivery.			X	X	X
10	Take measures among NATO Nations to move towards a more coordinated TADIC approach to technology transfer, serving both North American and European needs. National technology transfer policies should be streamlined within the Alliance.				X	X
11	Reduce the number of required export licenses. Licenses could be approved per Nation or Organization with provisos that might limit some technology transfer to certain governments and/or industries. Some successful practices along these lines can be found within the Letter of Intent (LoI) Framework Agreement Treaty framework.				X	X
12	<i>Effective TADIC must be focused on realistic practical approaches. Some civil market approaches and best practices could be used for the implementation of programmes. National and multinational regulations that affect defence trade and technology exchanges should be considered as parameters for acquisition arrangements, but never as reasons to not engage in defence cooperation. On the regulatory side, for instance, the European Commission and the NATO member countries should continue to reform their export control regimes, in a way that will protect selected key technologies within the NATO community while at the same time allowing industries within the NATO community to be more competitive in the international defence and security market. The U.S. Government could, for instance, develop and approved/ trusted community of the European companies which will be certified according to the New European Directive 2009/43/EC¹. Common guidelines on the description and best practices of internal compliance programmes should be established.</i>	X		X	X	X
13	NATO should promote efforts to reform export control regulations to facilitate as free as possible flow of technology between Allies.	X		X		
14	Encourage all parties to consider technology transfer and interoperability as design features during the early stage of development of a new equipment/system.		X	X	X	X
15	TADIC must take into account the export potential of the final products and systems. Some future systems for NATO-Land, Sea & Air- might be considered for export outside the NATO area. Some methodologies, used by the Letter of Intent (LoI) countries and the Joint Armaments Cooperation Organisation (known by its French acronym OCCAR), may be helpful.		X		X	X

16	Acknowledge that collaborative defence projects, not classified NATO, but between Nations that are part of NATO, should have the possibility of being considered equivalent to a NATO programme from the technology transfer point of view.		x		x	x
17	Develop a training programme for executors of export control procedures to ensure a common understanding of the export control processes.				x	x

5.1.3. Harmonisation of Requirements

18	There needs to be continued emphasis on the harmonization of military requirements- between NATO and the nations. This is done routinely in the civil worlds. Perhaps EC/EDA can assist NATO in this harmonisation process.			x	x	x
19	Achieve a “harmonised implementation” of NATO-wide security policy. If the government agencies, providing security clearances to companies and their employees, could do this, it would enhance the competitiveness of the Transatlantic Defence Industrial Base and the cooperation between NATO member countries. The NATO-wide security policy is outlined in the NATO document “Security within the North Atlantic Treaty Organisation” and its supporting Directives.			x	x	x

5.1.4. Market access

20	Industrial objectives should be included in the NATO council agenda. NATO member countries, at political level must establish the conditions for cooperation. Fairness, mutual market access (reciprocity) and balance must be the norm. TADIC needs risk management rather than total risk aversion. NATO should also consider how non-NATO countries’ defence spending and industrial policy trends will affect the industrial, technology and market policies and priorities of businesses within NATO member countries.			x	x	x
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5.1.5. Metrics Analysis

21	Monitor and measure indicators, such as: (1) the financial volume of transatlantic defence programmes, both under and outside NATO management; (2) the number of participating companies [primes, suppliers (tier 1, tier 2, ...), ...] in transatlantic defence programmes; (3) defence export trade; (4) defence import trade; (5) level of cross-border investments; (6) level of work share; and (7) level of defence R&D investment. This data collection effort should be synthesised and analysed by NATO or external subject matter experts to produce a cohesive and coherent data set.	x		x		
22	TADIC should be an item on NATO’s agenda.	x		x	x	x
23	TADIC progress must be monitored and measurable. The transatlantic defence/commercial balance is dynamic and should be addressed by permanent bodies, such as the European Parliament, the European Commission, the NATO Parliamentary Assembly, the CNAD and the NIAG. Measures for increasing transatlantic defence trade and TADIC to strengthen the Alliance’s military capability and economic position in the world, should be identified. These permanent bodies’ targets could include a range of possible initiatives, from enhanced regulatory cooperation to recommendation for bi-or-multilateral defence trade agreements addressing the issues mentioned in this report. NIAG could be instrumental in defining objectives and metrics.		x	x	x	x

5.1.6. Offset / Industrial Partnerships

24	Adopt common Industry Partnership policies, based on commercial practice.			x	x	x
25	<i>Legislatures (Congress and Parliaments) need to be engaged and included in the TADIC dialogue.</i>	x		x	x	x
26	<i>There needs to be a concerted effort in both Europe and North America to seek political support for the benefits that TADIC provides to our mutual national security, economies and respective industrial bases. An educational effort to inform the legislatures of both sides of the Atlantic would greatly enhance both compliance of export control reform initiatives as well the security objectives of Smart Defence for our Alliance. Any opportunities to educate the U.S. Congress and European Parliaments on TADIC and capabilities important to NATO, such as, AGS should be taken.</i>	x		x	x	x

5.1.7. Standardisation

27	<i>Transatlantic standardisation of security and defence equipment is an important basis for the opening-up of transatlantic markets and the gradual creation of a single European defence market. It will optimize effectiveness, efficiency, and interoperability. It will also be mutually beneficial for the Alliance to move towards a better harmonized transatlantic approach to certification and standardisation of security and defence equipment and services in order to nurture a healthy transatlantic security and defence industrial base. Therefore, NIAG recommends close coordination between the European Defence Agency and the NATO Standardization Agency.</i>	x		x	x	x
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5.1.8. Supply Chain

28	Explore solutions for achieving “Transatlantic” cross-border assurance of supply, whether related to non-dependencies, supply chains or (cross-border) investments in key technological and industrial capabilities. European and North-American Governments should recognise the potential for a certain degree of mutual interdependence of supplies needed for national security. Interdependency is not necessarily in conflict with desired levels of strategic autonomy.				x	x
29	<i>A “globalized” supply chain needs new policies and processes.</i>				x	x

5.2. APPENDIX 2: NIAG SG-180 PARTICIPANTS AND CONTRIBUTORS

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Rudy Priem	BELGIUM	United Technologies Corporation (UTC)	Co-Chair
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5.3. APPENDIX 3: LIST OF ABBREVIATIONS

ACCS	Air Command and Control System	IT	Information Technology
AGS	Alliance Ground Surveillance	ITAR	International Traffic in Arms Regulations
ALTBMD	Active Layered Theatre Ballistic Missile Defence	JPC	Joint Planning Committee
ASG-DI	Assistant Secretary General for Defence Investment	JSF	Joint Strike Fighter
ATT	Arms Trade Treaty	LOI	Letter of Intent
AWACS	Airborne Warning and Control System	LRR	Long Range Radar
BMD	Ballistic Missile Defence	MoD	Ministry of Defence
CBRN	Chemical Biological Radiological & Nuclear	MOU	Memorandum of Understanding
CCL	Commerce Control List	MRO	Maintenance Repair Overhaul
CFI	Connected Forces Initiative	MS	Member State
CFSP	Common Foreign and Security Policy	MTCR	Missile Technology Control Regime
CNAD	Conference of National Armaments Directors	NADREP	National Armaments Director's Representative
CoE	Center of Excellence	NATO	North Atlantic Treaty Organisation
CSDP	Common Security and Defence Policy	NDPP	NATO Defence Planning Process
C2	Command & Control	NEXTGEN	Next Generation Air Transportation System
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance & Reconnaissance	NIAG	NATO Industrial Advisory Group
DoD	Department of Defence	NIF	NATO Industry Forum
DTC	Defence Technology Center	NORDEFCO	Nordic Defence Cooperation
DTIB	Defence Technological and Industrial Base	NSA	NATO Standardisation Agency / National Security Agency
EAR	Export Administration Regulations	O&M	Operations and Maintenance
EC	European Commission	OCCAR	Organisation conjointe de coopération en matière d'armement
ECR	Export Control Reform	PAA	Phased Adaptive Approach
EDA	European Defence Agency	P&S	Pooling and Sharing
EDEM	European Defence Equipment Market	R&D	Research and Development
EDTIB	European Defence Technological and Industrial Base	RUSI	Royal United Services Institute
EP	European Parliament	SAC	Strategic Airlift Capability
EPM	Effective Procurement Methods	SD	Smart Defence
EU	European Union	SESAR	Single European Sky Air Traffic Management Research
EU MS	European Union Member State	SG	Study Group
EW	Early Warning	SME	Small and Medium sized Enterprises
FDI	Foreign Direct Investment	STANAG	Standardisation Agreement
FFCI	Framework for Collaborative Interaction (with Industry)	TAA	Technical Assistance Agreement

FMF	Foreign Military Financing	TADIC	Transatlantic Defence Industrial Cooperation
FMS	Foreign Military Sales	TBMD	Territory Ballistic Missile Defence
FNIE	Framework for NATO-Industry Engagement	TEC	Transatlantic Economic Council
GALILEO	EU initiative for a global satellite navigation system	TFEU	Treaty on the Functioning of the European Union
GDP	Gross Domestic Product	TTIP	Transatlantic Trade and Investment Partnership
HLA	High Level Advice	TRL	Technology Readiness Level
HLG	High Level Group		
HQ	Headquarters	UK	United Kingdom
IAMDS	Integrated Air and Missile Defence	U.S.	United States
IPR	Intellectual Property Rights	USA	United States of America
IRB	Industrial and Regional Benefits	USML	United States Munitions List

