UNIVERSITY OF NATIONAL AND WORLD ECONOMY
Department "National and Regional Security"

The International High-Level Conference

on

Smart Defence – Pooling and Sharing:

Eastern European View on Multinational and Innovative

Approaches for Capabilities Development

2 – 3 April, 2012

Sofia

This publication is supported by:

The International High-Level Conference on "Smart Defence – Pooling and Sharing: Eastern European View on Multinational and Innovative Approaches for Capabilities Development"

was held on 02-03 April 2012 under the patronage of the President of the Republic of Bulgaria Mr. Rosen Plevneliev.

The Conference was funded by NATO's Public Diplomacy Projects grant and was kindly supported by IBM-Bulgaria and SAP-Bulgaria.

The Conference was organized by the Department "National and Regional Security" of University of National and World Economy - Sofia. The organisation of the Conference was supported by the Rector Prof. D.Sc. (Econ.) Statty Stattev.

The Conference Organisational Committee was chaired by the Minister of Defence Mr. Anu Angelov and also included following Committee members: Prof. Dr. Dimitar Dimitrov – Head of Department "National and Regional Security", UNWE-Sofia; Assoc. Prof. Dr. Svetoslav Spassov – Adviser to the Prime Minister; Prof. D.Sc. Stefan Vodenicharov - Director of the Institute of Metal Science, Equipment and Technologies with Hydroaerodynamics Center "Acad. Angel Balevski", Bulgarian Academy of Sciences; Ilia Nalbantov - George C. Marshall Associations – Bulgaria and Dr. Georgi Penchev - Department "National and Regional Security".

The organisers would like to thank for support and active participation to Col. Dr. Holger Bahle - NATO Defence Planning and Smart Defence Team and to Georges D'Hollander - General Manager NATO, NC3 Agency, as well as to all participants and guest to the Conference.

You may find more information and pictures on http://sfp.e-dnrs.org

The International High-Level Conference on Smart Defence – Pooling and Sharing: Eastern European View on Multinational and Innovative Approaches for Capabilities Development

Editors: Prof. Dr. Dimitar Dimitrov
Dr. Georgi Penchev

ISBN 978-619-160-101-1
Publisher Avangard Prima

Sofia, 2013

Contents

Opening by Mr. Svetoslav Spassov, PhD, Adviser to the Prime Minister of the Republic of Bulgaria

Dear Mr. President, Mr. Defence Minister, Ladies and Gentlemen Deputy Ministers, Excellencies, Ladies and gentlemen,

Good morning to everyone and welcome to the International Conference "Smart Defence: pooling and sharing – Eastern European view on multinational innovation approaches to capability development", financially supported by NATO Public Diplomacy Division, IBM and SAP. I want to stress the role of some of our participants.

It is great honor to me to introduce to you Mr. Rosen Plevneliev, President of Republic of Bulgaria, under whose auspices this conference is held. Mr. Plevneliev focused on the topic of smart defence at his first public statements as President, including to the National Assembly and the meeting with NATO Secretary General Mr. Rasmussen in Brussels at the end of January. Here is the Minister of Defence of the Republic of Bulgaria, Mr. Anu Angelov, Chairman of the Organizing Committee and main supporter and consumer of the results of the conference. Rector of the University of National and World Economy Professor Statti Stattev, who is supporting this event from the very beginning. Here is our friend Dr. Holger Bahle from NATO Headquarter, whose advice on the organization and conduct of the Conference were of big help for us. Mr. Andrey Kovachev, Vice President of the Foreign Policy Committee of the European Parliament and Prof. Dimitar Dimitrov, Secretary of the Organizing Committee and Head of the Department "National and Regional Security" at the University of National and World Economy. Prof. Dimitrov was the engine of the project team. Before I give the floor to our guests, I want to say that we are satisfied with the preparation of today's event. One of the aims of the conference to provide wide public debate from the perspective of civil society with the participation of our partners from NATO and the EU has been achieved. We have over 110 participants from

Bulgaria and abroad, officials, representatives of science, industry, NGOs, students and journalists. I hope that the discussions at the conference will be focused on regional cooperation on defence and security, using the concepts of NATO and EU – smart defence and pooling and sharing. This event will help to determine the opportunities and tools for regional multinational projects in Southeast Europe. Why not consider the opportunities of establishing a coordination mechanism for defence cooperation in Southeastern Europe? The three pillars of smart defence are prioritization, specialization and cooperation through international projects. European Union initiative for pooling and sharing has been recognized as a priority for NATO too. The history of NATO has over 20 successful examples of bilateral and multilateral project of sharing resources to create capabilities. As President Plevneliev said in Brussels, Bulgaria can be a leading nation in the region within defence cooperation. We must have the confidence of the third largest country by teritory, after Poland and Romania from new 12 member states of NATO after enlargement in 1999 and the third largest of the 12 new EU member states of the European Union since the last expansion. Ladies and gentlemen, it is my honor to give the floor to Mr. Rosen Plevneliev, President of Republic of Bulgaria.

Address by Mr. Rosen Plevneliev, President of the Republic of Bulgaria at the International Conference on

"Smart Defence – Pooling and Sharing: Eastern European View on Multinational and Innovative Approaches for Capabilities Development"

Dear Minister of Defence Angelov,

Ladies and Gentlemen, Deputy Ministers, Generals, commissioned officers. Dear representatives of over 20 nations who today will be discussing with us, your hosts, the important topic of our cooperation and interaction.

I would like to address the distinguished representatives of all partner institutions and especially you, Mr. Chancellor, with a word of gratitude for the opportunity I have been given to speak here today in my capacity as Commander-in-Chief of the Armed Forces of the Republic of Bulgaria and to congratulate you on the opening of this International Conference. The focus is very clear: these two days we shall be talking about "smart defence", we will discuss how it can find its due place and how it could be realized in the South Eastern part of the European continent. Furthermore, we will debate what the possible visions for "smart defence" as such are, and what are the prospects for it in Southeast Europe.

I have accepted this invitation, as well as the very idea of extending my patronage to today's conference with great pleasure. I would like to thank all the initiators of this forum – not only the University of National and World Economy as the engine of such an important discussion, but also all the rest of our partners in the event. I am especially grateful to the Ministry of Defence, the Bulgarian Academy of Sciences and the "George Marshall Bulgaria Association for providing this platform, which today and tomorrow will surely produce numerous interesting ideas and solutions for the future develop-

ment of the region in general and for the development of its defence capabilities in particular.

This initiative is also a wonderful way of marking the eighth anniversary of Bulgaria's accession to NATO. It was NATO's Secretary General, Mr. Rasmussen, who first launched the very idea of "smart defence" -- an idea which later received broad support in both NATO and the European Union. There have been serious and objective reasons for this. The global economic and financial crisis has led to a significant reduction in the defence and security spending. The problematic situation which has emerged as a result, evoked the need to look for innovative ways through which better results are to be achieved with fewer resources. Thus, in a most natural way, the concept of "smart defence" has been conceived. 'Smart defence' is a policy and allied strategy that offers an alternative for neutralizing the negative impact of the dwindling defence budgets of the member states. In essence, "smart defence" means pursuing a reasonable approach for achieving better results by pooling and sharing our capabilities, so that we can compensate for the resource scarcity we are facing. To that end, capabilities must be prioritized, specialized and we must cooperate with each other. Prioritization, specialization and cooperation are therefore the three key words that each one of us should remember.

The "smart defence" strategy provides the algorithm for building military capabilities adequate to the dynamic security environment in times of financial austerity. The key to the success of the "smart defence" concept is in the pooling and joint use of capabilities, in setting the right priorities and in the better coordination of allied efforts. Both alliances, NATO and the European Union, have adopted this approach of sharing resources and capabilities while at the same time making efforts to lead the Member States towards building and using more multinational and allied military capabilities.

These issues will be the centerpiece of the Chicago Summit of the Alliance in May this year. At that meeting, the NATO's Allied Command Transformation is expected to present a list of 46 projects regarding all spheres of defence capabilities. Attempting to fulfill

the requirements of "smart defence", our priority should be to pool together the capabilities of the states in Southeast Europe.

My own vision of regional cooperation in the field of defence and security is clear, for I have set it forth both before the Bulgarian public and in my meeting with the NATO Secretary General. In the meeting with Mr. Rasmussen on February 26th I stated Bulgaria's strong willingness to play a leading role in certain initiatives in the defence and security field in this region. Taking into account the 'Center of Excellence in Crisis Management and Emergency Relief' initiative, as well as the project supporting the competitive role which women in senior positions in the security and defence sector play, Bulgaria may well be defined as a leading actor in the region responding to international trends.

The countries of Southeast Europe have so far failed to pursue military cooperation through their own initiatives. Therefore the issue of cooperation through specialization of the defence industries of the countries in the region is very relevant. It is high time that we start cooperating with one another and generating our own initiatives for the region. That is why we are gathered here today. I support the launch of multinational joint projects. It is through innovative multinational approaches and through strengthening our cooperation and coordination that the capabilities for greater security in the region and the community will be built.

I want to make something clear: the time is ripe for the heads of state in Southeast Europe to sit down together and figure out how best to cooperate, on what priorities, who will be specializing in what area and on what projects will we be working jointly. Personally I am more than willing to initiate and host a meeting of the region's heads of state. Bulgaria has the capability to specialize in optical and electronic equipment, as well as in the manufacture of small arms. Why not in shipbuilding and aircraft repairs as well? In this context, it is necessary to have prioritization, communication and coordination. Our policy must be based on the rationalization of costs, the abolishment of duplicating programs, the integration and the sharing of resources and capabilities.

Like with every innovation, "smart defence" is aimed at cutting the costs for making a given product, while at the same time improving its quality. This requires a radically new form of political interaction in the region, joint and synchronized implementation of multinational projects and maintenance of military capabilities.

An extremely promising area for the promotion of military cooperation in the region is the implementation of the European Union's projects and programs in the security sphere. The EU financial framework for 2014-2020 will apparently focus on innovations, scientific research and technologies. To that end, the European Union formulates very clear priorities while creating policies that encourage the setting up of joint research facilities by several states.

Bulgaria is a nation of great scientific potential, examples of which are the Bulgarian Academy of Sciences and the numerous high-quality universities. In this light, we are liable to criticism for the underused research and development potential. Therefore, we need a strategy for the promotion of scientific research of defence and security related technologies. Placing our bets on the promising areas of multinational and innovative project development, we must seek to end to the detrimental tendency of cutting the funds allocated for science and innovation.

In 1989, the Bulgarian defence industry employed about 150 thousand people. Today, their number is barely 15 thousand. Bulgaria's defence industry continues to rely on obsolete Russian licenses and old markets. This negative trend can, however, be reversed through modernization, regional cooperation and specialization. Southeast Europe is lagging behind the Baltic States, the former socialist countries of Central Europe, the Benelux nations and many other regions when it comes to regional military cooperation. Through joint regional initiatives, however, it is quite possible to negotiate much lower delivery prices for defence equipment, as well as to set up factories to have such equipment assembled and repaired in the region. This would develop our defence industries and increase our capacity while creating many jobs. The countries of the region can work together for the modernization of their armies. This will reduce costs while increasing capabilities.

All this can be realized successfully if efforts are made to build mutual confidence and trust between the countries of Southeast Europe, so that mutually advantageous cooperation is promoted and balance, international sovereignty and allied solidarity are achieved.

In conclusion, I wish to express my deep confidence that this Conference will be a success and will attain the goals it has set itself. I wish you every success.

Address by Prof. D.Sc. (Econ.) Statty Stattev,
President of the University of National and World Economy

Dear Mr. President of the Republic of Bulgaria,

Honourable Minister of Defence,

Dear Sirs, generals and officers,

Dear participants and guests,

Dear Colleagues,

I am honored today to open an international high-level conference on "Smart Defence – Pooling and Sharing: Eastern European View of Multinational and Innovative Approaches for Capabilities Development", organized by the Department "National and Regional Security", University of National and World Economy under the patronage of the President, Mr. Rosen Plevneliev.

I would like to thank for the personal support of the Defence Minister Anyu Angelov, the Ministry of Economy and Energy, the Association of Bulgarian Defence Industry, Academy of Sciences and the scientific community, Association "George Marshall" and our other friends and partners who helped us a lot in organizing the conference.

The main focus of this respectful forum is the regional cooperation within the concept of "Smart Defence" of NATO. The other topics are multinational projects for Central, Eastern and Southeastern Europe, sharing experiences and lessons learned, tools and structures for cooperation, the need of regional policies within NATO and EU security and defence and developing a regional strategy or strategies for Central and Eastern Europe and Southeastern Europe.

I am convinced that the debate on these hot topics initiated by our academics will have great importance for future decisions and actions related to security not only in our region but also worldwide,

and it will be a valuable contribution to the theoretical concept for Smart Defence.

This forum is an excellent example of the relationship between science and practice. Life has repeatedly proven that the voice of science must be heard clearly and distinctly and politicians and statesmen must listen to this voice. Not surprisingly, Smart is the concept of smart, intelligent defence. There is a need for application of this concept in science and research at national and regional level under the auspices of NATO and the EU and our university is ready to contribute to this.

I welcome the efforts of our university researchers and salute them for their contribution in the security field, to generate new ideas that will contribute to the development and maintenance of military capabilities of the Atlantic Threaty will give reasoned and scientifically sound answers to current problems of security accordance with the strategic concept of NATO.

I would like to note with satisfaction that the Department "National and regional security" of the University of National and World Economy represents Bulgaria as a member of the alliance at high academic level.

Sincerely I wish all participants fruitful work and good luck!

Address by Mr. Anu Anguelov
Minister of Defence of the Republic of Bulgaria

Ladies and Gentlemen,

Please allow me to extend my gratitude to the organizers for their intensive work and to congratulate them on introducing to public discussion the topic which is even more relevant under the contemporary conditions of severe economic and financial austerity.

In fact, the crisis has translated the topic of ensuring NATO member-states' security into a key issue in conditions of, let me put it this way, restrictive defence budgets. The solution to this problem was precisely addressed in the Smart Defence Concept which envisages the possibility to not only keep the existing military capabilities but to permanently acquire new ones, aiming at effective prioritization while taking into account national interest. The Chicago Summit will further add to the "Smart Defence" concept recognizing it as a valuable tool for the achievement of such "affordable security" common goal as all member-states, both of NATO and the EU, could accommodate within their means.

Presently defence budgets are so restrictive that countries can hardly allow to acquire new capabilities individually let alone the difficulties in ensuring the already existing ones. There is a trend inferring that the process will not be brought to an end with states' exit from the financial crisis as, due to reasons of diverse character, national Parliaments tend not to be prone to automatically resetting defence budget levels to their pre-crisis state. Thus, Smart Defence has no true alternative and will have no such for a long period of time.

The Smart Defence Concept did not appear out of nowhere. NATO Allies have enduring experience in joint military capabilities building and defence budgets optimization, a potent example for which are the NATO Security Investment Programme, the Strategic Air-

lift Programme, the AWACS Programme, based on joint investments in military infrastructure and joint employment of facilities.

As a matter of fact, Smart Defence is one of the main characteristics of Collective Defence and to this effect it isn't a purely novel concept; however, the reason for its being placed in the focus of the Institutions' attention ensues from the dramatic cuts in defence budgets. The Concept calls for promotion of cooperation to a new level. Its essence is not just and only to save and spend available resources in the most purpose-oriented way, since not a single business in the area of defence is an ordinary commercial operation. It aims at "adding value" to national defence and thus has to meet high political criteria and pursue projects concluded with maximum responsibility and sense of duty to the nations. That is why the pooling of efforts of individual NATO allied states for the acquisition of certain capabilities is most of all a manifestation of close political cooperation and an act of trust. Such new approaches will lead to the introduction of new coalition culture among states which in turn will boost the institutional and political capacity of the Alliance itself and, no doubt, we will depart from the financial crisis stronger as an Alliance, more agile as capabilities and wiser regarding the ability to make hard and prompt decisions.

Furthermore, we can recognize another aspect to this approach – the joint acquisition of capabilities will also contribute to building integrity in procurement procedures as they will be overseen by several nations and, figuratively speaking, will be performed on a prominent "stage" while the control over them will be more comprehensive and exhaustive.

In this vein, I would like to directly address Bulgarian business. Actually, in the Ministry of Defence, we have created a tradition in this respect.

The International HEMUS Defence Products Exhibition is held every two years. Recently I had also had a special meeting with representatives of the Defence Industry to listen to their problems and to propose ideas for mutually beneficial solutions.

The next important step is to consolidate the efforts and attract allies and partners to the implementation of joint projects, namely,

defence capabilities development projects featuring the whole life cycle of the products. We should set as priority to address concrete proposals to the countries from South-East Europe based on mutual interest. Because, as I already mentioned, integration is possible only where there is mutual trust calling for explicit political will and support for these efforts. Only in this way can commitments be made on long-term development basis in areas of critical need and shortage of capabilities. As an example of a working multinational project with the participation of Bulgarian companies I would like to propose NATO's Allied Ground Surveillance (AGS) Programme. Bulgarian companies selected as subcontractors in the development of the system are *Bianor AD and TechnoLogica*, Sofia, specialized in the area of software and communication services, and *Telecom ZTA* – Bansko, specialized in subassemblies, which have signed the required agreements. The project is a good example of pooling of states for the building of critically important systems.

Here I would like to refer to the hard decision-making process on the common provision of necessary for the operational costs and maintenance of this (AGS) system funds which has meant a couple of wasted years for NATO. The reasons for this are:

- Firstly, the assertion of national economic interests by some member states which has led to seeking a compromise through the so called contribution-in-kind to common burden sharing;
- Secondly, the attempts at sharing the costs and the *post factum* tailoring of this principle to already existing projects;
- Thirdly, on the grounds of the previously mentioned difficulties, comes the hard to achieve necessary level of political trust among the Allies.

It is highly probable these reasons to be articulated in other projects. For example, in the case of joint acquisition of new type multirole fighter by several countries, one of the parties would like to acquire a brand-new fighter but doesn't have the means, another party cancels the project due to lack of funds while a third party may prefer "second hand" equipment to make such acquisition affordable

Speaking of such approaches, regional cooperation in the Balkans region is to be promoted on a large scale.

Bulgaria already participates and has declared interest to a number of multinational projects in the framework of NATO. We anticipate, through their implementation, to acquire the needed defence capabilities at a reasonable and first and foremost, affordable for the Bulgarian tax-payer price. This is an opportunity to overcome the shortfalls in critically important capabilities, making savings at the same time. Then, the spared funds we could invest in the building of other vital capabilities, such as the Battalion Battle Group for Bulgaria.

Speaking of NATO's Smart Defence, the total number of projects from the first, second and third tier with possible Bulgarian participation comes up to seventeen, six of which are projects from the so-called Tier One (T1). This Tier's projects, featuring a Leading Nation or NATO Structure, are of highest priority and their number has already reached nineteen. There are good reasons for us to expect that in the course of NATO Chicago Summit there will be decisions on this tier's projects and, after their approval, their practical implementation will be commenced. We have formulated priorities for the participation of our country in Tier One Projects, an example of which is the "Female Leaders in Security and Defence" Project. In the period July 9 – 11, 2012, Sofia will host the first Conference on its practical implementation. Another project, at which Bulgaria would aspire to assume the leading role, is the establishment of a NATO Center of Excellence on Crisis Management and Disaster Relief (CM/DR CoE) in Bulgaria.

Deputy Minister Dr. Radev will give further details on our participation in Tier One Projects, so presently I will spare the details.

It is also important to join efforts and resources on the three above mentioned principles for the future promotion of the EU Pooling and Sharing initiative. However, we are challenged by a serious obstacle to its development: the lack of common defence fund within the European Structural and Cohesion funds. It is not the first time that I have voiced this concern. Presently, in the course of the next period planning process, it is vital to promptly bring the attention of

the EU leadership bodies to this poignant pending issue bearing in mind that the focus of the new US National Security Strategy has been shifted from Europe to Asia.

In conclusion, I would like to once again drive your attention to the forthcoming NATO Chicago Summit. We, as well as our Allies, are doing our best in the course of its preparation. Together with the Ministry of Foreign Affairs, we are developing our national position on the Draft Documents reflecting all topics and projects on the Summit's agenda. The position will be delivered by the President of the Republic of Bulgaria and will cover to the fullest our national interests and the interests of the Alliance. The forthcoming NATO Ministers of Defence and Ministers of Foreign Affairs' meeting in April will mark the finalization of the main stage of the preparation for the Summit. That is why we share the heightened optimistic expectations for its outcomes. We are convinced that all Allies will take part in the Alliance defence capabilities building through the Smart Defence initiative contributing to capabilities building and opening new opportunities for cooperation with industries. The extent of the practical implementation of these opportunities is up to us.

I wish you every success in your endeavours.

Thank you for your attention!

Address by Dr. Holger Bahle,
NATO Defence Planning and Smart Defence Team

President Plevneliev,
Minister Angelov,
Professor Stattev,
Ministers, Excellencies, Ladies and Gentlemen

I am honoured and very delighted to address this distinguished audience on behalf of the Assistant Secretary General of the NATO HQ International Staff Public Diplomacy Division, Her Excellency Ambassador Kolinda Grabar-Kitarovic.

With one a half month to go, we are well on our way to Chicago, where Allied Heads of State and Government will meet at the end of May. This will be a crucial Summit at a crucial time.

We will want to confirm the strategic guidance set out at our last Summit in Lisbon. We should underline our commitment to match the Alliance's level of ambition with the appropriate set of capabilities, even if our economies are going through turbulent times.

Our economies may be badly weakened. But we cannot allow today's economic crisis to become tomorrow's security crisis by taking decisions that are purely driven by savings. The decisions we make today will have long-term implications for the capabilities that we can make available to the Alliance.

We need to focus on key priorities; seek maximum efficiencies in the way we build capabilities; and enhance cooperation within the Alliance as well as with the European Union and other partners. This all is part of our Smart Defence agenda.

NATO is proud to support this High Level Conference which is held under your Patronage, Mister President. This is a visible sign to all NATO Allies and partner nations to actively contribute to and promote multinational cooperation in the region. Undoubtedly

this event will be beneficial for the Alliance cohesion and solidarity in providing the Alliance with the capabilities it needs even in times of economic austerity. And it will contribute to the NATO-EU cooperation.

From the outset NATO would wish to thank and congratulate the Rector of the University of National and World Economy, Professor Stattev and his organizing team led by Associate Professor Dimitrov for the balanced program. This should provide ample opportunities to discuss the initiatives of smart defence and pooling and sharing amongst diverse and interesting stakeholders. We encourage the host and participants to have this followed by further activities supporting multinational cooperation in the region with the aim to deliver capabilities.

Thank you.

European Security and Defence in a Time of Crisis

Mr. Andrey Kovatchev

Vice-chair of the European Parliament Committee on Foreign Affairs

We are in times of crisis and this could be felt across the board – from NGOs to big business to SMEs to the government sector. Everybody understands that the times of rising defence budgets and low borrowing costs are gone.

In some spheres tangible results take long years and lack of political will at the beginning can postpone the outcomes with a generation.

Defence is a sector where traditionally we have very targeted spending but we are currently squeezed by the circumstances to make it even more targeted. Many say that this means trading some capabilities for others. I do not think so. We have smart solutions which can help us mitigate the negative effect of the crisis on our budgets and lay the foundations of the future of the armed forces both in Europe and across the Atlantic.

Smart Defence, or Pooling and Sharing – the way we call it in the EU – is an intelligent way to strengthen cooperation and maintain technological and military supremacy globally. However, there is a catch – it is called trust. We need more than ever to trust into our transatlantic and European alliance to pool resources together and share their use in times of need. This can happen only through further developing the political and institutional cooperation we have built so far. Again, conferences like today's one can only facilitate this process.

No country in the world can deal alone with the multitude of security challenges. Our friends from the US often remind us that Europe should take the lead in its own neighbourhood and become

a security provider, rather than a security consumer. At the same time the US is still engulfed in various operations worldwide, notably in Afghanistan, while it is shifting more and more focus on East and South East Asia, in particular the South China Sea.

The current economic crisis is a huge challenge for our defence sectors, but if we act smart, if we act together, we can find ourselves even stronger after the crisis. Today's challenges should wake up Europe to the fact that we have neither the time nor the means to maintain our global supremacy. Let's be honest – it is in the past and we need to spend much more cautiously and targeted, especially in sensitive fields such as defence.

We should have no doubt – Europe can be a global player only if it has the institutional and military capabilities for this. And it can happen only though pooling resources together.

Indeed, some steps have already been made. Despite the lack of permanent staff and multi annual budgetary framework the European Defence Agency has achieved progress and concrete cooperative initiatives such as on Air-to-Air refuelling, Medical Support, Training and Maritime surveillance.

The Ghent and Weimar initiatives from the end of 2010 and the beginning of 2011 gave a strong push to the idea of pooling and sharing in the European Union. Since then there has been discussions at highest level in the Council and EEAS to intensify work in this direction. I hope that the last doubtful member states will soon overcome their reluctance and give a way to a more integrated Common European Security and Defence Policy.

Further steps are needed to strengthen the European Defence Agency and its cooperation with member states and NATO.

The Common Security and Defence Policy needs to reform its financing mechanism and to strengthen its strategic autonomy. In this respect I welcome very much the current decision to activate for the first time the EU operation centre, which will bring together command and liaison elements of two existing and one planned mission in the Horn of Africa (operation Atalanta, the EUTM Somalia and the Regional Maritime Capacity Building mission). Much

time and know-how is lost when the Headquarters travel around Europe, so it is high time we opened and sustained a Joint Operations Centre at a European level, which can be used for operations in the Balkans or in ones like that in Libya.

Currently there are several CSDP operations in different stages of preparation – in Libya, in the Sahel region and in the Horn of Africa, and many ongoing ones. The economic crisis has not stop EU's policies, and in some way it may even stimulate them to deepen integration for the sake of the common good.

Altogether the EU member states spend around 200 billion euro for defence each year. This is less than one third of the US defence budget. Despite this large sum the EU faces serious difficulties in executing complex military tasks. The US still pays for 75% of the expenses for NATO military operations.

The defence market in the EU is very fragmented and still does not function as a single one. France and the UK spend about half of the money in the EU for defence and 75% of the funds for research and technology.

There are more than 1 million men and women in boots in the EU and this costs a lot to the European tax payer. We cannot afford to pay the price for non-Europe and the missing common security and defence policy.

And while we are preoccupied with how to spend defence budgets most efficiently, budgets skyrocket elsewhere. China doubles its defence expenditures every 5 years. This year alone India raised its defence spending with 17% to nearly 40 billion euro, close to that of the UK. Singapore accounts for 4% of the world's total arms imports.

Military analysts say the defence spending of South East Asian countries together increase in 2011 by 13,5%. Indonesia's budget on defence grew 3 times since 2006. With the same dynamics in a few years it will spend as much as Italy. In some new EU member states such as Bulgaria and Poland defence budgets have grown with up to 50% over the last 5 years. Yet this is not enough to keep Europe on the fast track. Moreover EU spends only 1% of its de-

fence money for research and technology while in some countries 85% of the spending go to personnel only. Overall, figures show that this year Asia overtakes Europe in defence spending.

Let's imagine a hypothetical situation in which this arms race in Asia heats up. What can we do if our major trade routs and supply chains are interrupted and the operations of our businesses are jeopardised. Can Europe do anything apart from diplomacy? Yes, diplomacy is the best tool to solve disputes but as Carl von Clausewitz advises diplomacy is sometimes continued with other means.

The Arab spring brought and it is still bringing fresh examples that diplomacy is not almighty. Crimes against humanity and massacres against one's own people can sometimes be stopped only with force.

The operation in Libya showed many deficiencies in European defence. First and foremost, it continues to be very fragmented between different member states. This is the reason we lack enough surveillance and reconnaissance, satellite coverage and smart ammunitions. Another area, where Europeans should work more is a more efficient common and control structure for the Common Security and Defence Policy.

Media and academics often portray the military establishments as very conservative and unwilling to change. I recall my visit to the Headquarters of Eurocorps in Strasbourg, where I learned that military leadership is sometimes ahead of politicians. Common defence structures, such as the one in question, are in existence already and can represent embryonic European forces. The battle groups of the EU remain unused, but their concept has laid the groundwork for intensifying military to military relations in Europe.

I have to underline that NATO remains the backbone of the Trans-Atlantic relations. This backbone has to carry the increasingly heavy burden of international security not only in Europe, but globally. I recall the words of then US secretary of Defence Robert Gates who last year said it clearly in Brussels: NATO needs more from its European allies. For me, and I can say that this is the predominant view at the European Parliament, the European allies can deliver

more only if they work together, when they carry out optimisation plans in close cooperation, when they pool together resources for new technologies and have joint procurement under unified rules. Member states of the EU and NATO should work more to find synergies and to create common pools of resources for joint programs and research. In the long run joint technology will bring together the fragmented military-industrial base and eventually will deliver common standards in more types of capabilities.

We should welcome the initiatives in Smart Defence and Pooling and Sharing because they indicate the right direction for developing and modernising our armed forces in the twenty-first century. We have to take resolute steps now if we want to be a credible security provider tomorrow and to be able to act efficiently and swiftly away from home. I hope the EU and NATO have the courage and political will to take these necessary steps because their results will be visible only after years.

Here lies the difference between a politician and a statesman. A politician looks to the next elections. A statesman looks to the next generation.

The NATO Smart Defence Priorities

Georges D'Hollander,
General Manager NATO, NC3 Agency

President Plevneliev,
Minister Angelov,
And I hope my pronunciation is about right
Ministers, Excellencies, Mr Chairman, Ladies and Gentlemen,

Thank you for the invitation to speak on Smart Defence less than two months before NATO's Chicago Summit. As we all know, Smart Defence will be one of the main topics on the Agenda.

It is also a pleasure to be in Sofia again. It is actually my third time in my current position: the first was to sign an agreement on advanced cooperation with Deputy Minister Radev, the second was an AFCEA conference in 2011 and now this high level international conference under your patronage, Mr. President. It is good to see Bulgaria playing such an active role on smart defence debates in the Alliance and in particular in the area of C4ISR that we as an agency operate in.

The timing of this conference is "just right". One of the key discussions in Chicago will be: how do we move Smart Defence from a concept to a mindset, how do we make it the default way of doing business for the Alliance and its member states? In other words, how do we put theory into practice and more importantly, how do we sustain this effort?

History tells us to be moderate in our optimism. Already in 1999, the then NATO Secretary General Lord Robertson said that he had just 3 priorities: capabilities, capabilities and capabilities. Since then, we have had the Defence Capabilities Initiative, then the Prague Capabilites Commitment and most recently the Lisbon Critical Capabilities. It is more than time to ask ourselves the question how

much we have realized as a result of all those initiatives. I know that Dr. Holger Bahle from the NATO Defence Planning and Smart Defence Team will address this question and therefore I will not elaborate on it.

So how do we ensure that Smart Defence actually becomes the way of doing business and not just another NATO acronym?

I see regional cooperation as one critical factor for success. Why? Countries in the same region often have a similar threat perception and a long tradition of cooperation. So it is easier for them to prioritize, specialize and work together on capabilities.

Second, I believe that NATO Agencies, already now but even so after the reform, can play a significant role by lowering the long-term of costs projects to Nations, and ensuring that the various solutions remain coherent and interoperable.

And I do not think there is (or will be) any competition between NATO Agencies and the European Defence Agency – certainly there is enough to do.

So I believe this conference is very important in preparing for Chicago. I hope that the results will be reflected in two statements in the communiques from the April Ministerial and the Chicago Summit:

- one, that regional cooperation could be considered as one of the roads that will bring us to Smart Defence;
- and two, that the reformed Agencies can be a key enabler for Smart Defence.

Before I expand on the two points above, let me briefly explain why I believe it is relevant for you to hear the NC3A perspective.

We are one of 14 NATO Agencies, after the reform to be one of three. Together with other Agencies, we will become the NCIA.

Our core business is (and will remain) C4ISR – the "glue" that binds National capabilities into a coherent, interoperable Alliance.

Missile defence is one example; Nations provide the sensors and shooters, NATO provides the command and control system that links them together into one capability.

Because of the growing role of C4ISR in the Alliance's security investments, we are responsible for approximately 30% of total NATO Security Investment Programme expenditures. We are involved in 9 of 11 Lisbon Critical Capabilities, and are now working very hard to deliver the interim missile defence, one of the main deliverables for Chicago.

And the Secretary General considers missile defence to be a flagship example of Smart Defence.

We also have a long experience in supporting multinational projects, including major efforts like MAJIIC which stands for Multi-sensor Aerospace-ground Joint Intelligence Surveillance Reconnaissance Interoperability Coalition.

We not only support operations which has our highest priority of course but we also support transformation and we support Nations in their efforts. This means we can often leverage work done in one area to support another area at a lower cost.

Cooperation with Nations, and regional groupings has been expanding under the leadership of Dr. Velizar Shalamanov from Bulgaria who is my Director Sponsor Account NATO and Nations.

Very soon we will issue a Catalogue – a kind of App Store –where you will be able to find capabilities that have been developed within NATO that Nations can use free of charge, either as they are or as a basis for further development with their Industries.

So much for introductions and let me now go back to my two main points – regional cooperation as an enabler for Smart Defence, and the role of Agencies.

I will not spend too much time on Smart Defence as a concept.

First of all, the Secretary General is already an excellent spokesperson for the concept and you have probably heard his speeches.

Second, other speakers are much more qualified.

It is worth, however, repeating that the concept in essence rests on three planks:

Prioritization – The Secretary General wants the Alliance to be very focused on identifying those areas in which NATO allies need to keep investing. He gave the Lisbon Critical Capabilities Commitment as an example;

Specialization, but really by design – introduced by the Defence Planning Process. The central idea is that not all Allies need all capabilities and after all NATO's core purpose is collective defence. And also let me be honest, I come from a small nation namely Belgium, how many of our Nations could defend themselves on our own;

And finally Cooperation – this is mostly referring to multinational projects, but with different formats:

- between NATO-nations and when possible including partners;
- regional cooperation;
- between NATO-EU, and;
- cooperation with industry, which I will address separately.

The Secretary General has also launched this year the Connected Forces initiative, to emphasize the importance of interoperability.

Under the pressure of war in Afghanistan we have made more progress on interoperability than we have in the past 60 year; the aim is now not to lose those gains.

There is one reason why the Secretary General's focus on Connected Forces should be of interest to Nations. He has said that interoperability does not mean we all need to buy the same equipment; but our equipment does need to work together.

I think this is an important message for Industries from small and medium-sized countries.

It is possible and we already have very good experience with this. For example, in the MAJIIC programme – Nations agreed on one standard for UAV information sharing, but it is being implemented by various National industries. This can be one of the contributing factors of the Agencies to Smart Defence – to be an honest broker in the development of open standards that can then be used by various

National industries to develop solutions that will plug and play in an operational environment.

Currently, there are 3 very important examples of potential regional projects as a demonstration of the value of Smart Defence and connected forces – all of them supported by NC3A in cooperation with other NATO bodies:

1. First the Balkan regional approach to Air defence, called BRAAD which was introduced by the Adriatic Charter countries and is led by Albania. The aim is to achieve synergies and lower-costs in the procurement of radars, Ground-Air-Ground communications and Command and Control systems.

2. Second, the South-Eastern Europe CAX Support package developed on regional basis for South Eastern Europe Defence Ministerial. Here the aim is to establish a permanent training network, led by Bulgaria and to be used as a pilot for multinational training and exercises – a great initiative to consolidate training & exercises support for NATO and National requirements.

3. Finally, the South Eastern Europe BRIGade C4ISR package in order to provide a capability for the regional brigade in South Eastern Europe for effective participation in NATO led exercises and operations and which is based on our Afghanistan Mission Network experience. This is a test case for a multinational C4ISR toolset based on AMN experience and contributing to bottom up solutions of the FMN.

In the regional context, there might be a special role of the new Land component command in Izmir in the area of training, especially after redeployment from Afghanistan and having in mind the excellent training facilities in the region. It is why strong regional cooperation, supported by agencies could bring a lot of value in implementing Connected Forces initiative in South Eastern Europe.

Smart defence from the very beginning was presented as a tool for nations to achieve more by working together. It is considered initially as over and above both common funding (common targets) and national funding (national targets) with focus on multinational

targets as part of the NDPP. In reality all common targets are decided by Nations and of course in correlation with their National targets, so MN targets are for areas not eligible for common funding but are also not achievable on just national level for one or another reason.

It is clear now that the most difficult aspect of the SD concept is specialization and reliance on critical capabilities owned by other nation, as well as NATO reliance on national capabilities for critical aspect of operations.

Currently most successful examples are available mostly on regional basis like BENELUX, NORDEFCO and Baltic Defence Cooperation.

There are other regional formats as Franco-British cooperation, DACH (Germany, Austria, Switzerland), A5 (Adriatic Five), SEDM (South Eastern Europe Defence Ministerial) with potential to provide a basis for successful SD projects, but again key are sovereign decisions of the nations involved.

Other aspect, of obvious concern to Nations is the interest of their defence industry. Even smaller nations with limited classical defence industry have Small and Medium Size Enterprises (SME) in niche capabilities areas that have to be consulted and included in the decision making process in order to expect a positive result.

In addition to all that, we have the Pooling and Sharing initiative of the EU and the role of EDA in initiating and management of the MN projects in security and defence area.

Also, we have to acknowledge that some large nations prefer bilateral cooperation as more flexible and agile.

In such a complex environment we have to define the role of industry but NATO Agencies could play a catalyst role to define and initiate the project.

So, let me now turn to how Agencies can support.

First, the NATO Reform and in particular the Agency Reform will already be a big step forward – Nations will only have one point of

contact for C4ISR, and the new NCIA will be able to address the entire lifecycle.

Secondly, I know that there is a concern of many Nations who are thinking about becoming lead Nations. Will they be able to cope with the administrative burden of leading projects?

There is also the concern of how various multinational initiatives will connect in practice.

We have recently, completed a two-year study of multinational projects, where we saw that Agencies acting as executive support to Nations (or groups of Nations) can lower effort and long-term costs.

Some of the benefits we have found are:

- Cost avoidance because Agencies have a good overview of what solutions are already available;
- Maintaining and sharing knowledge within the Alliance;
- Reusing of governance and legal frameworks;
- Leveraging existing common-funded solutions and capabilities;
- Combining executive, technical and acquisition support;
- "Honest broker" role between nations;
- "Born interoperable" solutions; and
- Involvement of national industry and research and development bodies;

Finally, a word on relationship with National industries. I have two important messages here.

If we go for a standards-based approach, then – as I have described before – this does not mean that smaller Industries lose out. We have seen this very well demonstrated in MAJIIC – one common standard, National implementation through National industry. And the end solutions plug and play because they are tested and verified.

That brings me to the second point – tried and tested interoperability, our extensive battle labs are a chance for Nations and Industry to test the interoperability of their solutions before they come to exercises, or before they deploy, significantly lowering costs.

During last several years we have identified many opportunities for improving the capability development in cooperation with Nations. Some of them were effectively explored and further developed – now, after the Summit in Chicago we need consolidation of this experience.

Synchronization between the 3 new NATO Agencies, the Science and Technology Organisation, the NATO Industrial Advisory Group and regional initiatives for maximum effectiveness, efficiency and savings in capability development could happen with the new mindset called on in preparation of the Summit.

One opportunity is related to the Capability Development Executive Board (CDEB) and its role for coordinated approach to Smart Defence – especially if Agencies are represented accordingly.

A joint or Comprehensive NATO approach to Smart Defence in the context of "We NATO" brand could bring together One Team for Success in NATO capability development.

Because of the financial crisis, I believe that Smart Defence is not just another NATO acronym but I hope is here to stay with us for long time and be a platform of change in NATO and Nations in many areas. Perhaps most visibly this change will be in capability development and service provision – the main mission of CI Agency in the C4ISR domain.

During my 3 years as GM of NC3A I am proud to stress on a big shift in our focus – not just from common funding to direct support to Nations, while moving more from the West to the North and the East. We have established many Memoranda of Understanding with NATO Nations and Partner Nations like Sweden, Finland, Poland, the Czech Republic, Slovakia, Hungary, Lithuania, Latvia, Estonia, Bulgaria, Albania, Croatia, Slovenia, Romania and very soon also with Serbia. We even support the NATO Advisory team in Pristina. Engagement with Afghanistan, Mongolia, Qatar and the United Arabic Emirates was started and gives results. The same effort could be seen in initiation of new MN and regional projects.

And of course all this is linked with our main effort to support operations, being a combat support agency as well as our focus on

transformation, being an agent of change and innovation in C4ISR Area.

The smartest part of our effort however is in our role of a bridge between NATO and Nations, members and partners, support to regional and other MN initiatives, involvement of industry in capability development.

Actually, my agency is practicing Smart Defence already for a while and we are willing to share our experience with Nations. In all these efforts,priority number one for me has always gone to our people – because they bring success to concepts. People in my agency are yours as well. I acknowledge that we could use better the talent of young people from the South Eastern European region and the expertise of your small and medium enterprises.

Your excellencies, Ladies and Gentlemen, this brings my remarks to a close and I am happy to take questions if time allows.

Pooling and Sharing: Ideas Whose Time Have Come?

Prof. Dr. Žaneta Ozoliņa
University of Latvia
(Presentation)

Issues to be addressed

- What does pooling and sharing mean?
- Why now?
- What has been congratulated so far?
- Issues of concern.

Is it a new concept?

- …"there is need for burden sharing, adequate defence expenditures, and increased cooperation."
    - When was it stated?
    - 1988

What does Pooling and Sharing mean?

- Sharing of capabilities: Member States provide national capabilities to common use without multinational overhead or integrated structure;
- Pooling of capabilities: National capabilities for common use with multinational overhead or integrated structure.
- Pooling through acquisition: National capabilities do not exist and are substituted in favour of multilateral capabilities, and the multilateral organization owns the assets;
- Role sharing: National capabilities are relinguished on the assumption that another country will make it available when necessary.
    - Pooling of EU Member States Assets in the Implementation of ESDP, 2008.

Is there something new? Two substantial questions.

- Operational effectiveness – Does the common activity lead to the same or higher degree of operational effect;
- Economic efficiency – Does the common activity lead to an economically constant or even more efficient use of resources compared to a national approach?

What is the position of Member States?

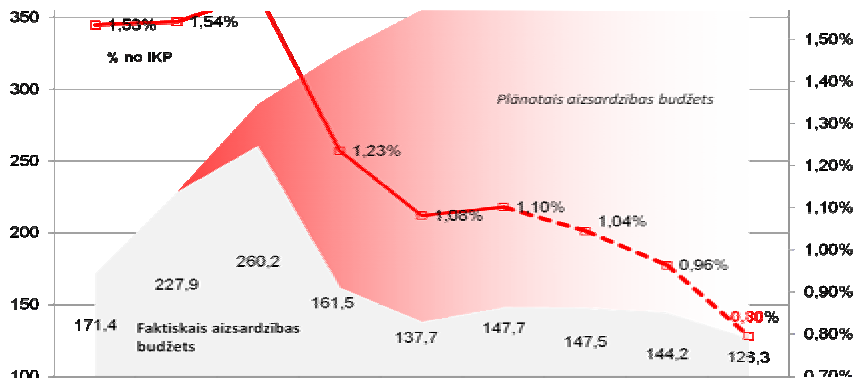
- France – supportive and critical about EU nations that "slash military spending";
- Britain hesitant and skeptical (EDA);
- Majority neutral – "wait and see" policy;
- All critical about Mrs. Ashton.

Why now?

- Financial crisis;
- In-put/out-put logic;
- Increasing tasks/decreasing funds;
- Transformation of defence forces;
- Transformation of institutional arrangements and their responsibilities;
- Strengthening national capabilities.

One example of the impact of financial crisis.

Crisis – perspective is lost



What has been congratulated so far?

- Regional initiatives (NORDEFCO);
- List of common projects;
- Audit of capabilities.

Top 10 priorities defined.

- Counter Improvised Explosive Device (C-IED);
- Medical Support;
- Intelligence Surveillance and Reconnaissance;
- Increased Availability of Helicopters;
- Cyber Defence;
- Multinational Logistic Suppor;
- CSDP Information Exchange;
- Strategic and Tactical Airlift Management;
- Fuel and Energy;
- Mobility Assurance.

Issues of concern.

- Diversity of views on CSDP – ranging from criticism that the Member States are not delivering the military capabilities they have promised, to concern about the creeping militarisation of EU crisis management.
- The EU has never deployed the EU Battlegroups. Capability generation and force generation are still not linked up.
- The success of the EDA is limited.
- Started with a broad mandate, but the Member States imposed range of limitations.
- The tiny operational budget – gives limited room for maneuver.
- The EU is losing its strategic scope. Member States still answer the question "why European security?" in different ways.
- EEAS does not help to answer this question.
- Cooperation with NATO is decisive.
- What is the added value?
- How strategic is EU CFSP and CSDP?

Instead of conclusions

Each Member State should consider three key questions:

- Can national objectives be achieved without a common EU defence capacity?
- How should growing interdependencies be addressed?
- What is the price to pay to preserve national sovereignty through national capabilities?
- How to ensure effective cooperation with NATO?

Future Transatlantic Bargains: Implications for Smart Defence?

Dr. Graeme P. Herd

Geneva Centre for Security Policy, Switzerland

(Presentation)

NATO 2012: In Search of Reset

Growing Strategic Heterogeneity

- **Perception of NATO's Utility:**
  - Europe declining importance (DoD guidance);
  - US strategic competence/credibility questioned.
- **Regional/Global Orientation Dissonance:**
  - US pivot to "Pacific Century": crisis management and collective security focus vs. European collective defence?
  - Primacy, power-shifts, interdependence – unclear strategic effects: inherently contradictory?
- **New threats (cyber, terrorism, energy):**
  - Different impact: collective action consensus?
  - Non-military: NATO institutional centrality?

NATO in an "Age of Austerity".

- ***18 Allies lower*** defence expenditures than 2008; further reductions announced/anticipated;
- ***US share grown*** from 63 to 77% – 82.4% US increase; NATO European nations 5.7% decrease;
- ***3 Allies*** at/above recommended 2% GDP 2011; 15 Allies less than 1.5%;
- ***8 Allies*** spend recommended 20% or more on major equipment; 6 spend less than 10%;
- Majority face difficulty in maintaining proper balance between short-term operation and longer-term investment expenditures.

"Smart Defence" as a Solution?

Acquiring and maintaining capabilities

- **Mitigation:**
  - "streamline our structures, enhance our effectiveness and reduce our costs";
  - Doing better with less by working more together – "spend better";
  - Greater intra-NATO collaboration/coherence of effort – better solidarity and cohesion.
- **How?**
  - Prioritization of capabilities – 11 areas (Lisbon summit);
  - National specialization;
  - Multinational solutions: acquisition (e.g. Strategic Airlift Capability; BMD), training, logistic support;
  - Greater EU coordination to avoid overlap with EU initiative on pooling and sharing.

Adaptation Catalyst Assumptions:

Structure-Primacy; Grand Strategy-NATO;

- Structural IR changes (global power distribution power) create multi-, bi- or uni-polar systems;
- US Grand Strategy: constant adaptation to maintain ***global prime actor status*** **and** ***stable Euro-Atlantic order*** within given system;
  - ***Primacy*** through strategic leadership of modern international liberal order (free trade, democracy, social advancement, rules and norms, alliances);
  - ***'Transatlantic Bargain"*** adapt and renew NATO to best serve this end;

1948-49: "Transatlantic Bargain" – I

From Multi-Polarity to Bi-Polarity

- **Drive US Grand Strategy to:**
  - ***Secure Euro-Atlantic stability and lead liberal international order:*** European and East Asian defence

alliances, free trade, democracy, social advancement, rules and norms etc.
  - ***"Transatlantic Bargain" – creation of NATO:***
- European support for US global order hegemony ("alliance in being" – compact)
- US regional territorial "guarantee" via conventional forces and nuclear umbrella ("alliance in doing" – contract).

1989-90: "Transatlantic Bargain" – II

From Bi-Polar to Uni-Polar

- **Drive US Grand Strategy to:**
  - ***Secure "arc of instability" and promote leadership in global market-democratic order:*** Promotion of shared values and democratic peace – "En-En" doctrine
  - ***"Transatlantic Bargain" – adapt and revitalize:***
- Continued US support for collective defence of European NATO;
- European acceptance of wider collective security and crisis management roles and NATO enlargement.

Alternative Global Futures:

Competitive Bi- or Multi-Polar World?

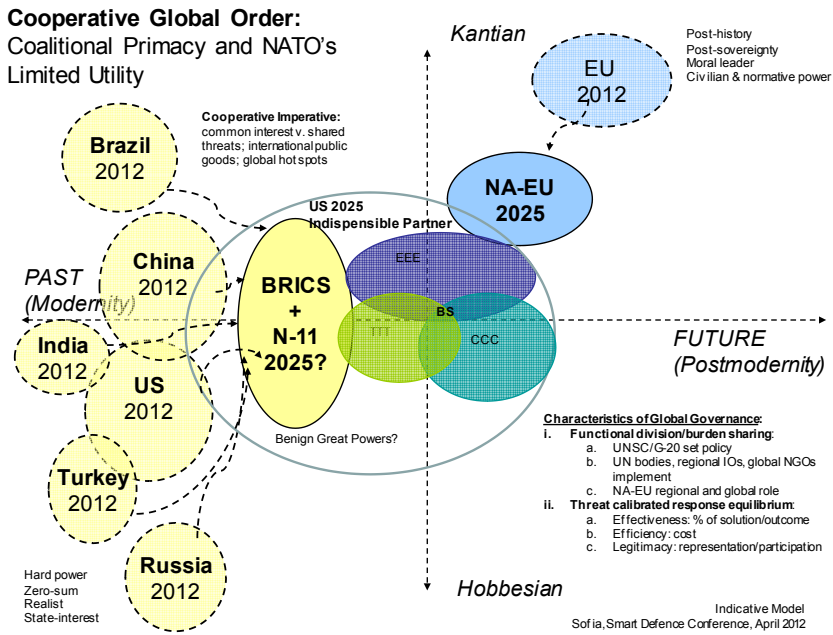
- **Characteristics: NATO Utility?**
  - China seek to remake global institutions, norms/rules of the IR game?
  - NATO as forum for allied security debates; Art. IV more relevant in competitive/rivalry atmosphere;
  - Proxy wars between blocs via partners; normative battles in global commons.
- **Nature of the Transatlantic Bargain:**
  - ***Euro-Atlantic stability to buttress global leadership***
- For US NATO's institutional weight/political legitimacy ***more*** important than member state military efficiency and effectiveness (via NATO partnerships);
- For Europeans: US political support in return for economic/military security commitments.

– ***Paradox: in a competitive world order "Smart Defence" is not necessity; Europeans maintain US strategic partnership via political support?***

Alternative Global Future:

Cooperative Bi- or Multi-Polar World?

- **Characteristics: NATO Utility?**
  - "Multinational solutions to global issues"; normative convergence
  - NATO as a coordinating core of globalised cooperative security and crisis management system;
  - Enlargement (Russia) and partnerships (China) ***vs. transnational and non-state threats, fragile states, regional crises.***
- **From Transatlantic to Global Bargain:**
  - Regional compacts to buttress global coalitional leadership:
    - For US military efficiency and effectiveness of NATO *more* important than political legitimacy as common values and approaches widely shared



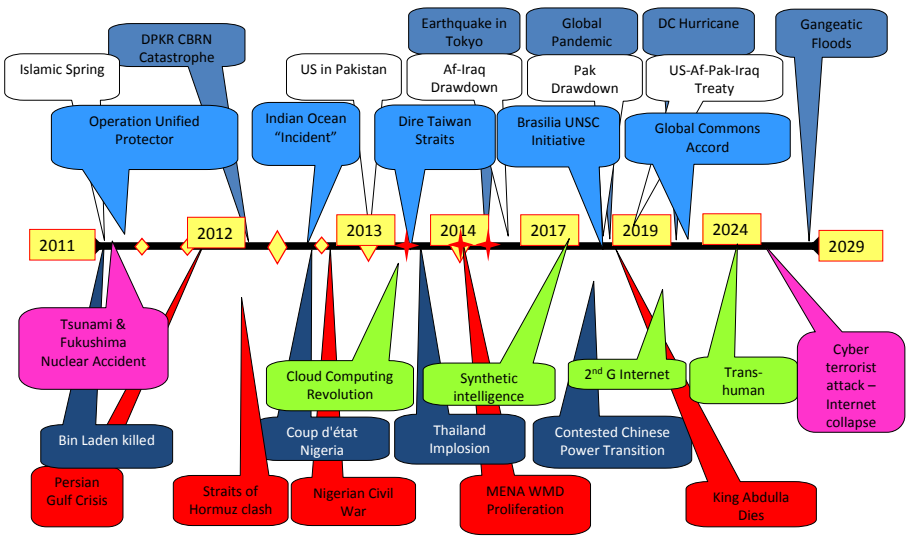
- For Europeans support for US-led operations the only means to gain strategic influence

– ***Paradox: in cooperative world order "Smart Defence" leading to operational deployment is a necessity as European political support to US less relevant?***

NATO Business as Usual:

Extrapolate Forward?

- **No Clear Structural Change:**
  - No catalyst for new understanding of common challenges and interests – no NATO bargain/reset;
  - Primacy, power-shifts, interdependence continuity – the Global Puzzle paradigm.
- **Implications for "Dead Alliance Walking":**
  - Collective defence role redundant; collective security and crisis management role under-resourced;
  - NATO wither on the vine; progressively splintered and pessimistic West; strategic marginalization of West;
  - But …



Black Swans and Non-Linearity:

"Events, dear boy, events …"

Participation of Bulgaria in Multinational Projects in the Area of Defence

Dr. Valentin Radev

Deputy Minister of Defence of the Republic of Bulgaria

Ladies and Gentlemen,

It is my great pleasure to attend an international conference dedicated to one of the most topical issues on NATO and EU agenda which will keep its relevance both for the present day and the future: the **multinational initiatives on joint acquisition, build-up and development of defence capabilities** embedded in NATO's Smart Defence concept and the EU Pooling of capabilities and Sharing of costs initiative. Within this subject matter, I welcome the discussion of the perspectives for the implementation of these initiatives in South-Eastern Europe and recognize their long-term implications for the security and defence of the member and partner states in the region.

The dynamics which underlines the geo-political environment and the serious challenges security is facing call for new decisions on the more efficient and effective spending in a situation of constrained resources. Collective approaches and actions, pooling of capabilities and sharing of costs have no sensible alternative. The understanding of multinational solutions as the driving force of effective defence capabilities development is what has motivated our current policy. Yet, this new approach also sets the requirement to adopt a new strategic culture of concerted efforts and enhanced interdependence.

NATO and EU are the foundation of European security architecture and it is only natural that their efforts should go together. The above mentioned initiatives which suggest synchronization of efforts to avoid duplication are another confirmation of this will and

should share a unified vision of the new road to be taken to defence and security building at times of financial austerity.

Now we are on the threshold of NATO Chicago Summit where vital decisions on the future of the Alliance are expected to be made including those on the priority capabilities the Alliance is to build considering the modern and complex geopolitical environment. The most significant long-term political outcome will be the enhanced trust and integrity among the member and partner states of the Alliance. This in turn will foster the Trans-Atlantic defence cooperation, will demonstrate the European commitment to fair burden-sharing and will affirm the enduring principles embedded in collective defence – solidarity, equal partnership and coherence of security.

In Chicago we will reiterate the strategic value of the Smart Defence initiative for the future of the Alliance, will declare our support and long-term commitment to its implementation. Our preparation for the Chicago Summit embraces clearly formulated priorities for the participation of the country in the declared package of projects of the initiative, including the leading packages of top priority for the development of the critically needed by the Alliance capabilities which are: (1) the Joint Intelligence, Surveillance and Reconnaissance project (JISR/ISTAR); (2) Ballistic Missile Defence; (3) Air Policing.

The Republic of Bulgaria has already declared interest in six projects included in Smart Defence highest priority projects.

Bulgaria is the Leading Nation in one of them – Female Leadership in Security and Defence. This project was proposed by Bulgaria in October 2011 within the South-Eastern Defence Ministerial Process (SEDM) framework and reflects our active policy in the promotion of regional cooperation. The project aims at improvement of operational capabilities, support for the integration of NATO's Equal Opportunity and Diversity policy in the national Armed Forces and the security and defence sector. During the period July 09 – 11 2012 Bulgaria will host a Conference on these issues where the big picture and the concrete parameters of the concept will be analyzed.

Speaking of joint projects, we have to acknowledge that a host of successful multinational initiatives, to which Bulgaria contributes, already exist within NATO: the Strategic Airlift Capability C-17, the Allied Ground Surveillance programme which we recognize to be the key element underpinning the Allied Joint Intelligence and Surveillance system architecture. Bulgaria is among the countries working towards the establishment of C-27J Spartan User Group.

We see considerable potential in the regional dimension of multinational approaches to capabilities development. Sustaining cooperation and mutual trust among the states in South-Eastern Europe is a good premise for further advance along Smart Defence line.

I would also like to drive your attention to the already concluded Agreements on Air Policing within the Integrated NATO Air Defence System with Greece and Romania. Under way are talks with Turkey on such agreement. In the field of logistics, we have finalized a Host Nation Support Memorandum of Understanding with Romania. Together with Romania we work intensively to provide full operational capabilities for the Multinational Integrated Logistics Unit for logistics infrastructure (IEL MILU). The idea of shared employment of the joint facilities in Bulgaria and Romania established together with the USA also falls in line with the Smart Defence context.

Another project of high national and regional importance is Bulgaria's ambition to set up Crisis Management and Disaster Relief Center of Excellence (CM&DR COE). This Bulgarian initiative is fully in line with the Connected Forces Initiative introduced by NATO Secretary General at the Munich Security Conference this year.

Bulgaria strongly supports the EU Pooling and Sharing of defence capabilities initiative. In this framework we have already identified EU Battle Groups and military education and training as areas of our interest.

Recognizing the important role of the European Defence Agency (EDA) in the development of European defence capabilities, in May 2011 Bulgaria, along with 17 other EU member states, signed the European Air Transport Fleet (EATF) Program Arrangement for

capabilities development. We are also discussing possible concrete parameters of our participation to EDA projects within the Pooling and Sharing initiative, and more precisely, Maritime Surveillance (MARSUR Networking), European Satellite Communication (SATCOM) Procurement Cell and the Helicopter Training Programme. Our long-term vision goes along Future Military Satellite Communications, Pilot Training and European Transport Hubs.

Ladies and Gentlemen,

I firmly believe that in the course of the implementation of NATO's Smart Defence and the EU Pooling and Sharing of defence capabilities initiatives, new opportunities for cooperation will open for all of us. Whether we will make the best of them wholly depends on our ability to think strategically and unite our efforts at seeking the answers to the challenges of today.

In this context I would like to express my support for the idea to establish the Joint Office of NATO Agencies – EAST in Bulgaria. Its mission will be to facilitate the employment of NATO's capacity for capabilities development within NATO's Defence Planning Process converting it into an element of the regional approach to the implementation of Smart Defence for the East European states.

I believe that today's international conference has marked a good start. I am convinced that through their diverse experience and vast expertise, the participants will contribute to a constructive discussion on the multifaceted and complex issues on the Conference agenda.

Thank you for your attention!

Defence and Industrial Cooperation at the Regional Level in NATO

Svetoslav Spassov, PhD

Adviser to the Prime Minister of the Republic of Bulgaria
Secretary of the Interagency Council on the Military Industrial Complex and Mobilization Readiness of the Country

Security environment in Europe and in the world becomes more and more dynamic and difficult to predict. The ongoing financial and economic crisis has a particularly great influence. So, now more than ever, we must be adaptable to evaluate this environment and to take timely measures to address the challenges these changes require, to ensure European and global security and to develop adequate defensive potential of the EU and NATO.

Last December the European Parliament adopted **the Report of the Committee on Foreign Affairs and the Subcommittee on Defence regarding the impact of the financial crisis over the defence sector in EU Member States.**[1]

The conclusion the report imposes that in any Member State of EU defence can not continue to be sustainable only on a national basis and warns Member States that reduction of investments in defence could possibly put Europe's defence industries and technological innovation at the risk of falling under the control of third powers with different strategic interests. Also, the report highlights that **the harmonization of military requirements through a process of coordinated reviews of security and defence** should lead to harmonization of the acquisition of equipment in the EU Member States, which is the first prerequisite for creating conditions

[1] REPORT regarding the impact of the financial crisis over defence sector in the EU Member States (2011/2177(INI)) стр. 10-12 – http://www.europarl.europa.eu/

in terms of demand for successful transnational restructuring of defence industry in Europe.[2]

The document welcomes the initiative of NATO, "Smart Defence" announced in March 2011 by the Secretary General Rasmussen, and again confirms the importance of continued coordination and avoidance of conflicts between the EU and NATO at all levels, in order to avoid unnecessary duplication. Emphasized is the need to strengthen practical partnership between the EU and NATO, particularly in responding to the challenges of the financial crisis and calls on the European Defence Agency and the United Command Transformation (Allied Command Transformation) of NATO to cooperate closely to ensure that projects for pooling and sharing of the two organizations are complementary and always be applied in the frame with the highest added value.[3]

In November 2010 in Lisbon was adopted the new Strategic Concept of NATO, which provides an opportunity to increase efforts to transform and modernize the defence capabilities of the Alliance, evaluating existing allied capabilities while maintaining necessary, releasing excess and developing new skills needed in the next 10 years. Given the dwindling defence resources of Member States in this crisis period, the construction of new defence capabilities and related reforms is urgent. The new measures taken by NATO will be based on efficiency, common approaches, national expertise and existing capacity.[4]

The concept testifies that today NATO has the ambition, willingness and ability to reinvent itself and to counteract the new threats that are not only military. NATO takes a broader approach to guarantee security – through cooperation and consultation, through strategic partnerships, by developing flexible capabilities and mechanisms for early identification of threats. The document strikes a balance

---

2 Ibid.

3 Ibid.

4 Sabev, S., The new Strategic concept and the development of military capabilities of NATO in the next decade, http://www.atlantic-bg.org/images/news/Round%20Table%20Discussion%20on%20NATO%20New%20Strategic%20Concept%20and%20Bulgarian%20National%20Security,%20Sofia,%20Central%20Military%20Club,%20November%2029,%202010/docs/NATO_new_sc_military_capabilities_devt_ss.pdf

between the traditional role of the Alliance in Europe and its new commitments in the world between the policy of strategic deterrence and the policy of disarmament, between the classical tasks of the Alliance and the relations with expanding range of partners.[5]

The essence of the "Smart Defence" initiative consists of active international cooperation and close coordination between allies and partners in various joint initiatives, regional cooperation and solutions in the acquisition of skills as costly purchase of weapons and equipment, maintenance, repair, training of staff and others.[6]

The three pillars of "Smart Defence" are – setting priorities, specialization and cooperation through international projects. The EU's "Pooling and Sharing" is recognized as a priority for NATO as well. Regional cooperation is regarded as the most natural and effective, but differs by region. Within NATO there are more than 20 successful examples of bilateral and multilateral sharing of resources to create capabilities. More important are:

Consortium of four European countries – Belgium, Denmark, the Netherlands, Norway – cooperation, that allowed the negotiation of what is known as "Deal of the century" contract to purchase 348 F-16 fighter jets worth 2.8 billion dollars in 1975. In exchange for the transaction parties get involved in the production of F-16.[7] Planes are divided between the parties within the European Air Force participation (EPAF), as follows: 116 for Belgium, 58 for Denmark, 102 for the Netherlands and 72 for Norway.

Nordic/North defence cooperation – The four Nordic nations Denmark, Finland, Norway and Sweden have a long tradition of cooperating in Peace Support Operations (PSO). It all started back in the 1950s with the United Nations peace-keeping operations in

---

[5] Official website of the Ministry of Foreign Affairs of the Republic of Bulgaria, NATO Summit in Lisbon, Results of NATO Summit in Lisbon, http://www.mfa.bg/bg/pages/view/5767

[6] Tsvetkova, A., International conference – „The Development of Air Forces in the Smart Defence Concept", 06. 10. 2011 r., http://www.mod.bg/bg/doc/ministry/DeputyMinister1/20111006_AFCEA.pdf

[7] Gueorgui Ianakiev and Nickolay Mladenov, Offset Policies in Defence Procurement: Lesson for the European Defence Equipment Market, http://aspheramedia.com/v2/wp-content/uploads/2011/02/Ianakiev1.pdf

the Middle East and continued through the cold war with Nordic cooperation in UN and subsequently NATO operations like the SFOR/IFOR and ISAF. During the first decades of peacekeeping the Nordic cooperation was focused on training activities and coordination of UN Standby Forces, also including different UN courses and information exchange. Following Finland's and Sweden's entry into the NATO's Partnership for Peace in 1994, the Nordic nations established the Nordic Armaments Cooperation (NORDAC) to coordinate development and procurement programmes. Also the coordination and cooperation in the growing number of PSOs was enhanced by establishing a Nordic Coordinated Arrangement for Military Peace Support (NORDCAPS) in 1997. NORDCAPS offered joint Nordic training for PSO, as well as coordinated Nordic contributions to capacity building and security sector reform. In 2003 Iceland became a member of NORDCAPS. In June 2007 the armed forces of Norway and Sweden published a joint study outlining a partnership to increase cost-efficiency and to enable their militaries to retain the full range of military capabilities. The envisaged cooperation would become a complement to the countries' close cooperation within NATO and the EU. In November 2008, as follow up on the June report, Norway, Sweden and Finland were joined by Denmark and Iceland in establishing the Nordic Supportive Defence Structures (NORDSUP). The aim of Nordic cooperation is to strengthen national defence of the parties involved and to obtain synergies and facilitate effective joint solutions. Nordic cooperation accepts a 5-year plan for joint Nordic study. It creates a Centre for gender equality in military operations. The parties have technological cooperation and establish a Council for logistical coordination in Afghanistan.[8] This defence cooperation is an example of successful cooperation between NATO Member States and Alliance partners.

Baltic military cooperation – from the early 90s the Baltic States – Estonia, Latvia and Lithuania retained closer political and cultural relations, pursuing similar foreign policy goals. Baltic States concerned about common security threats emerging from the East and threatening their well-being, sovereignty and even independ-

[8] NORDEFCO annual report 2011, www.nordefco.org

ence, encouraged by Western powers, announced a regional military cooperation. In 1994, the Baltic Assembly (a forum of parliamentary representatives) offers the Baltic Council of Ministers to prepare a defence agreement between the three Baltic countries. A year later, the commanders of the armed forces expressed their support for the establishment of a "Baltic States military union." Thus, external pressure, practical interests and lack of alternatives push Baltic countries to include military issues in the wider Baltic volume of interactions. Shortly thereafter, due to unresolved political controversy, such as undefined maritime boundaries, differences in national interests and policies and reluctance to slower integration into NATO, the Baltic Assembly rejected the idea of a "Baltic State military union." This presses to have doubts about the future of "Baltic unity". However, Estonia, Latvia and Lithuania remain in agreement on many issues of security and defence. In 2004 the Baltic States became members of NATO. After joining the Alliance the three countries continue to implement regional cooperation projects in the field of defence and security – joint rapid reaction forces, airspace control, cyber security, energy security, military training and others. However, we can say that the dynamics of Baltic defence cooperation has declined significantly in recent years. Some joint projects are stagnant or closed; the reasons for this vary from chaotic foreign military aid in the early 90s to mismanagement of cooperation projects. Some countries direct themselves to cooperate on a bilateral basis within NATO and ESDP: Lithuania with Poland and Denmark, Estonia with Finland, etc.[9]

Defence cooperation within the Visegrad Group/Four (V4) – it comprises of four countries – Poland, Czech Republic, Hungary and Slovakia. It bears the name after two meetings in 1991of the leaders of Poland, Hungary and Czechoslovakia in the Visegrad 14th-century castle, located in present-day Hungary. In 1993 the Visegrad Three becomes the Visegrad Four after the split of the Czech Republic and Slovakia. The original purpose of the group is to promote the accession to the EU and NATO. Once these targets

[9] Molis, A., Baltic Military Cooperation: Past, Present and the Future, pp. 28-30, http://www.lfpr.lt/uploads/File/2009-22/Ar%C5%ABnas%20Molis.pdf

are met in 2004, many expected the group to fall apart, but it did not happen – on the contrary, regional cooperation has continued to expand into new areas such as the EU enlargement in the Balkans, the energy policy and the development of cooperation in the defence sector.

In May 2011 Visegrad announced the establishment of a "battle group" under the command of Poland. Battle group should be ready for action in 2016 as an independent military force, which will not be under the command of NATO. In addition – in 2013 the four countries will begin joint military exercises under the auspices of the NATO Fast Response Force.[10]

Visegrad countries are realizing that money for defence is lacking and would have greater potential for cost savings, if they act jointly and not individually. Thus, they rely on joint military development programs, for the modernization of the army and for military training. The Parties shall establish and carry out joint procurement of military modernization, and relying more on regional defence industry, which can lead to increased employment, development of research and technology and maintaining the industrial base. Fighter jets, transport aircraft, main battle tanks, helicopters, air defence systems, artillery, antitank systems and small arms will be upgraded or replaced by joynt efforts.[11]

French-British cooperation – at the end of 2010, British Prime Minister David Cameron and French President Nicolas Sarkozy signed two agreements on military cooperation for the first time in the history of both countries this agreement included assistance in experiments with nuclear warheads. The agreements between Britain and France will lead to a series of significant steps, including the creation of a joint Army and joint use of aircraft carriers and nuclear facilities. The contract for nuclear warheads provides a UK based center for study of tests of nuclear warheads and another center based in France for such testing. The global financial cri-

[10] Fridman, D., Visegrad: The New Military Force in Europe, "Stratfor" agency, 25. 05. 2011 г., http://argumenti-bg.com/4836/vishegrad-novata-voenna-sila-v-evropa/

[11] http://csis.org/blog/eastern-european-defence-review-defence-cooperation-within-visegrad-group-unexplored-opportunit

sis prompted London and Paris to sign agreements. Both countries have huge ambitions to remain the world's leading nuclear powers, but can not afford it alone.[12]

Canada-US defence cooperation – The North American Aerospace Defence Command (NORAD) is a United States and Canada bi-national organization charged with the missions of aerospace warning and aerospace control for North America. Aerospace warning includes the monitoring of man-made objects in space, and the detection, validation, and warning of attack against North America whether by aircraft, missiles, or space vehicles, through mutual support arrangements with other commands. Aerospace control includes ensuring air sovereignty and air defence of the airspace of Canada and the United States. The renewal of the NORAD Agreement in May 2006 added a maritime warning mission, which entails a shared awareness and understanding of the activities conducted in US and Canadian maritime approaches, maritime areas and internal waterways.[13]

German-Swedish initiative on pooling and sharing capabilities. In November 2010, Germany and Sweden propose a new initiative – Pooling and Sharing – for the development of European defence cooperation, having in mind the reduced military budgets, while at the same time continually increasing investments and operating costs in the defence sector, without which it would be difficult for some nations to maintain their military capabilities. Both sides believe that positive results can be achieved by finding ways to jointly share the costs and burdens. This is evident from the existing bilateral and multilateral defence cooperation within the EU and NATO. After a discussion in Ghent to enhance European military capabilities using existing examples, Germany and Sweden stated intention to identify areas of cooperation for more effective use of resources in Europe and maintaining a wide range of military

[12] Henry, K., French-British Military Cooperation, 02.11.2010 г., http://bnt.bg/bg/news/view/40035/flameCandle70x80px.swf

[13] Official website of NORAD, http://www.norad.mil/about/index.html

options for strengthening the national political ambitions, and also enable Europe to act adequately to crises.[14]

The Summit of NATO in Lisbon in November 2010 clearly calls upon Member States for joint action to improve the efficiency of utilization of scarce resources for development of capabilities. The global economic crisis is affecting all countries. Defence budgets are limited, while the cost of military capabilities increases. Armed forces are transformed from garrison deployed for territorial protection to mobile and expeditionary. The idea is to consider the possibility of nations to cooperate and make greater use of more and more decreasing resources allocated to defence.

The armed forces will be increasingly required to achieve better results with fewer resources. At one point it will become clear that there are capabilities we simply can not continue to maintain at our own terms. Due to financial difficulties there comes the time to decide and unite the efforts of two or more countries in order to maintain a military capability or else everyone would lose it. (Such for example is the fate of submarines of Romania and Bulgaria).

Very often political reasons prevent successful use of such multinational capabilities, although at first glance they were well organized and provided. Even countries like Norway, Germany and Britain share the bitter experience of cases of multinational defence initiatives. Multinationality makes things more difficult, but the judgment is that there will be no other alternatives.

There is a big difference between the specialized role of a nation and multinational solutions. Common is that both decisions are imposed by lack of funds.

Centers for research and development (Centers of Excellency – COEs) are examples of multinational approaches and solutions. Over 700 people from NATO Member States are working today in the 19 centers for the improvement of NATO. Parties prefer them because they are several times cheaper and these organizations of-

[14] Pooling and sharing, German-Swedish initiative, Berlin and Stockholm, November 2010, http://www.europarl.europa.eu/meetdocs/2009_2014/documents/sede/dv/sede260511deseinitiative_/sede260511deseinitiative_en.pdf

fer more products per unit of resource. Most centers include several countries, which provides easier decision-making processes.

Multinational solutions are facing with some difficulties. They are mostly associated with concerns about loss of sovereignty, perceived difficult specialization, which basically boils down to the development of some skills over others or deny them and thus "imbalance" of the composition and structure of armed forces of various allied countries; trust, transparency, cultural differences and language barriers. The costs for personnel located abroad for the majority of countries are many times more expensive than if they served in their own country. In discussions led so far, are detected some risks of a specialized role – a country, highlighting political reasons may refuse participation in support of operations of the Alliance. If there is no alternative to all other nations then the collective will become hostage to a small nation. It is believed that the decision in this case is the signing of preliminary agreement. Considered a failure are the negotiations between several allied countries for the joint acquisition of capabilities in flight refueling. After two years of unsuccessful negotiations, the initiative had failed because of the cost of the project. Such concerns are now springing up around the so called project AGS (Allied Ground Surveillance), in which Bulgaria is also involved. After the last meeting of the representatives of the countries in this initiative we learn that Denmark withdraws, thus still active members are 14, i.e. these are half of our allies who agree to acquire skills that will be used by all 28 NATO member-countries.

A need to establish a coordination mechanism for the South-east-European defence cooperation. What is missing in the region, despite the various defence initiatives, is the creation of a formal coordinating body to facilitate cooperation between member states of NATO and its partners in South East Europe in the field of defence and security.

Regional cooperation may be associated with the development of common capabilities through multinational projects in the areas of: missile defence, cyber defence, crisis management, expeditionary operations, military education and training, the modernization of

national armies, strategic transport, logistic support, medical care, maritime surveillance, unmanned aerial vehicles, CBRN defence, intelligence, research, ICT, e-Government and development of defence.

Bulgaria could be the leading nation in **Southeast-European defence cooperation**, considering its confidence of the third largest country by area, after Poland and Romania, of the newly affiliated 12 member states of NATO (after the enlargement in 1999) and the third largest of the newly affiliated 12 member states of the EU (after the enlargement in 2004).[15]

Bulgaria already participates and has stated its participation in several multinational projects within NATO, EU as well as at the regional level. Established cooperation and trust between countries in the region in this area is a good basis on which to build further the potential of its Member States that participate in the process of the Defence Ministers of Southeast Europe (SEDM).[16]

Previous experience in regional military cooperation is the following:

- Agreement with Romania for joint action in the implementation of protection of airspace – **"Air Policing"**. Ongoing are negotiations with Turkey for signing of such an agreement.
- Agreement with Greece on Air Policing, signed in 2010. Possible future decisions can be also made for joint crew training, exercises and training, optimization of logistics in ensuring common participation in operations and others. Bulgarian Air Force gave some of the best examples in this regard.
- Participation to the Task Force for Naval Cooperation BLAKCSEAFOR;

---

[15] NATO, http://bg.wikipedia.org/

[16] Speech by the Minister of Defence Anyu Angelov during the National Conference on "Collective and national security and defence in the context of the dynamic changes in the geopolitical environment and the rational use of reduced defence spending in NATO and the EU" www.atlantic-bg.org/.../20120130_Atlantik_angelov.pdf

- Participation to the Turkish operation BLACK SEA HARMONY;
- Establishment of the Cooperation Agreement between the departments for Border/Coast Guard, whose Border Coordination and Information Centre is located in Bourgas;
- Participation to the Organization for Black Sea Economic Cooperation;
- Participation to the multinational peace force brigade for Southeastern Europe SEEBRIG. It is our firm belief that the brigade should be operational and be used to its capacity in real missions. Practical step in this direction is to stop the rotation of the brigade headquarters in different countries and to establish its permanent deployment in one country. Bulgaria proposed a permanent place for the deployment of staff to be in Bulgaria, in the town of Plovdiv. This Bulgarian initiative is supported by most countries participating in the initiative.[17]
- Participation to the initiative for strategic air transport by co-acquired with other 11 countries, including non-NATO countries (Finland and Sweden), transport aircrafts C-17, based in Hungary. Our share in this program is for 65 flying hours, which we use for the rotation of our troops in Afghanistan.
- Actively negotiating with Romania and Croatia to seek joint solutions to enhance the capabilities of the armed forces of each country while reducing costs, for example in the acquisition of new multirole fighter, but also in forms of enhanced cooperation between naval forces of both countries;[18]

Along the initiative of "Smart Defence" Bulgaria has an interest in six projects to be approved at the NATO Summit in Chicago and we are the leading nation in one of these projects, namely:

---

[17] Ibid.

[18] Lecture by the Minister of Defence Anyu Angelov when opening the international conference – "Improving the naval security in the Black Sea region – cooperation and capabilities", 12th April, 2011
– www.mod.bg/bg/doc/minister/speeches/20110412_Varna.pdf

- "The role of women in leadership positions in security and defence";
- Training in a virtual combat environment (Leading – ACT).
- Center of Competence (ACT).
- Individual training and preparation (ACT)
- Participation in groups to provide modular deployment of front air bases (Italy) Multinational headquarters in Ulm, Germany.

Another important project with national and regional dimensions is the Center for the study, construction and development of NATO capabilities for crisis management and providing disaster relief (Center of excellence)[19]

Bulgaria's experience can be utilized by our neighbors to develop Regional strategies for development of defence industries of the participating countries, as well as for developing research and technology in defence and security, since our government prepared the national documents in line with the two initiatives – "Pooling and Sharing" and "Smart Defence". In this spirit, I consider appropriate, and suggest within the work of the upcoming "Industrial Forum" organized by the Ministry of Defence to invite representatives from neighboring countries with interests in cooperative military manufacturing and repair, and maintenance of military equipment and weapon systems. This will contribute to making contacts at the working level, will increase the trust between the partners, and will enhance regional opportunities to acquire capabilities.

In line with the process of transformation of NATO, Bulgaria adopted a White Paper on Defence, the new National Security Strategy, the National Defence Strategy, and very soon the Armed Forces Doctrine of the Republic of Bulgaria.

In the context of both initiatives of NATO and EU, "Smart Defence" and "Pooling and Sharing", it is necessary to include ourselves to the fullest extent and at the earliest stage in a number of multinational initiatives for joint acquisition, construction and develop-

[19] Ibid.

ment of defence capabilities. Thus, we will not allow the budget to prevent the building of these capabilities and the financial deficit to be trasformed into a deficit of security. We should not be guided only by financial conditions, but also by the vision that it is the only way we can fulfill our obligations to collective defence and turn the crisis from a challenge into an opportunity.

Challenges for the Smart Defence Initiative on Regional Level

Dr. Holger Bahle

NATO defence planning and smart defence team

1. During the next couple of minutes I would like to share with you considerations about "Challenges for the Smart Defence Initiative on Regional Level", and offer some food for thought for a practical way ahead. Those do not reflect a formal NATO position, but notions of consultancy and honest brokering in a facilitating role.

2. The center of gravity to all my views are at the core of the Alliance: Cohesion and solidarity of sovereign nations.

[In case 3. The Smart Defence initiative, building on new and innovative approaches to capability acquisition, offers Allies a way to acquire capabilities that they could not otherwise afford individually. Multinational cooperation is of importance; it should be shaped through a strong long term political commitment to meaningful consultation about Defence plans. The willingness to think of multinational cooperation as the rule and a positive mindset on the provision of national capabilities for operations and missions is essential.]

[In case 4. The Connected Forces initiative presents an opportunity to build on the lessons learned from recent operations to ensure that Allies retain the ability to work effectively together into the future. The Alliance needs to ensure that it retains the valuable gains in interoperability between Allies and with partners that have been achieved in part as a result of NATO's recent operations. The linkages and interaction should be enhanced between the NATO Command Structure, the NATO Force Structure and national headquarters, including by further strengthening regional focus and understanding.]

[In case 5. Both initiatives are important complements to ongoing efforts such as the Lisbon package of NATO's most pressing capability needs and various NATO reform initiatives. All capability strands are inextricably linked to the NATO Defence Planning Process.]

6. After intense debate among Allies a common understanding of "Smart Defence" has been developed. A consensus based narrative is being debated in NATO which will find its way into a declaratory part of the next NATO Summit in Chicago. The same might apply to the Connected Forces initiative.

There are a few important issues outside the official message which should not be underestimated in their relevance:

- NATO is concerned that the initiatives follow political intent as a NATO Summit deliverable and cannot be sustained as a long term effort. NATO is seeking for supporting mechanisms to maintain momentum.
- NATO has not exploited all opportunities and mechanisms to reach out to partner nations. Their potential to contribute and benefit needs to be pursued much more ambitiously.
- Nations are concerned that they declare interest in participating in a project or even take the lead, but that they are left alone and NATO from top level will jump to a next summit driven initiative while leaving smart defence and connected forces to a self synchronising effort. The outcome of which can be predicted without much imagination. NATO is about to establish facilitating roles in close coordination with Allies and partner nations.
- Nations accept Smart Defence provided that unnecessary duplication with the EU Pooling and Sharing Initiative is avoided. Some nations do not make a difference between the NATO Smart Defence and EU Pooling and Sharing Initiatives. Some would wish to strengthen their support by the European Defence Agency with a lowered or low interest in NATO Agencies. Some duplicate their effort to get output and the "best bang for the buck". Some stress segre-

gation of NATO EU cooperation which sets limits in terms of inviting partner nations to projects.

- Elements mentioned by the General Manager of NC3A are used to state that Smart Defence is nothing new; multinational cooperation has been happening all the time, with more or less success; "less success" in many cases implied increasing costs or delivery of out dated solutions. This is reality and therefore we should be careful in expectation management and not be too excited.
- For some Allies Smart Defence since its inception in 2011 has been implying additional burden on already approved defence budgets. So, the flexibility to adjust defence plans is tending to zero, the more so as Smart Defence in principle is not about savings. Therefore on going projects are ring fenced and not linked to the initiative. Smart Defence should not deal with huge modernisation of forces or intensive investment and procurement programs or projects.
- Smart Defence on the other hand could be misinterpreted as a means to justify further budget cuts. This would have a negative impact on the NATO Defence Planning Process. NATO might expect Allies' reluctance to accept new targets which will be consulted over the next months to come until 2013. From a NATO staff perspective there is no advice arguing against the binding commitment of Allies who have signed the Washington Treaty accepting all obligations.
- Smart Defence requires skill sets in a collaborative professional project management culture, notably if a lead nation declares responsibility for a project. Political ambition and intent are not always backed-up by the essential and underpinning executive level in Ministries and Staffs and Services who might not be used to jointly cooperate and coordinate in an all-governmental approach and adapt reliable business processes outside the normal routine of planning systems and bureaucracy. In addition hierarchies, stovepipes and partial interests prevail and hamper progress. This has been true for the NATO Defence Planning Process since approval in 2009 in NATO and in nations. Why should it be different in case of complementary initiatives?

- Allies fear that they are forced to specialise and hence loose their sovereignty and access to capabilities. They would overly rely on the good will of dominant project lead nations, who have more industrial base weight than others. Where are the limits of sharing, cooperation and integration? There is a tendency that instead of lead nations, Strategic Commands or Agencies take the lead instead, which ensures impartiality and better national control through committees.
- How can Allies be sure that a fair share of domestic enterprise and industrial participation is guaranteed; should multinational cooperation allow offsets? Can there be a realistic demand for return on investment in defence capabilities? Under circumstances of economic crisis this usually is a showstopper from a Finance Ministry perspective. There are differences between enterprise/business and public sector planning, but we may digest at a defence sector return on investment in kind through defence planning reinvestment targets.
- By the way, do nations and stakeholders allow transparency on acquisition bidding and brokering processes, cost drivers and benefits? Are there controlling mechanisms in place to which all project partners provide input and have access? I am sure that "Transparency International" has a valid interest in bringing inconsistencies to the public attention, and that the EU would welcome progress in member countries.

7. One underlying assumption of both initiatives is that the best chance of success can be envisaged through a regional approach involving groups or a group of nations bound together by strategic proximity. Determining elements could include geography, cultural affinity, common equipment, language, national levels of ambition, history, economic interests beyond defence cooperation. In theory that should build trust and ease the entering into binding commitments related to improved and innovative delivery of defence capabilities.

8. I would like to drop the question: are we all clear what we mean by "regional"? Can we assume that SEE is a "region" which implies elements of strategic proximity? It seems that we state the obvious, common sense and understanding in Central and South Eastern Europe and simply state "yes". Or: We might admit that this is just a construct which in the end does not need to be operationalized, because it does not really help to produce output of relevance in capability terms. To be honest with you: I have no clear position and appreciate your views.

9. A regional approach should not lead to fragmentation of the Alliance by design, a la carte and toolbox mentality, and draw dividing lines jeopardising cohesion and overall solidarity. And it might be fair to assume that the reality of nations' interests would express quite the opposite, i.e. exclude being constraint to a "region", but have the will to go beyond and global. Hence it may well be the case that geographic proximity is an argument, not to cooperate in capability terms. Nations might wish to escape those kind of geographical limitations and interact outside "regional" limits. It is up to the sovereign nations to decide on how and with whom they would wish to cooperate. The link outside the region could even offer more opportunities to enrich a program or project. Would it not be helpful to reach a common understanding amongst all relevant stakeholders through dialogue and discourse before they enter programs and projects?

10. Let me suggest that we look at the issue from a capability delivery perspective and focus on some basic parameters which should be shared amongst interested nations from the outset. Agreements should be documented and communicated in a transparent way to avoid misunderstandings. Flexible cooperation requires certainty at a minimum about:

- "Length of time: is a particular initiative designed to set up a temporary or permanent small group cooperation?
- Location: is small group cooperation designed to take place within NATO structures or outside of them?
- Scope: does mini-lateralism cover a specific capability area or does it have a wide scope?

- Membership: is small group cooperation inclusive, in that sense that Allies, (and let me add partner nations) who wish to participate are allowed to do so, or is it restrictive?"[1]

11. With this allow me to move to pratical aspects. Signs in that neither "region" nor "strategic proximity" tend to be drivers for Smart Defence are obvious when looking nations' choices of projects of interest for them. How can we deal with the overwhelming number of projects on the market? Well, I suggest that we change the perspective as we judge the added value of single Smart Defence projects. Instead of an isolated, scattered pick and choose way of showing interest, bailing out or participating we could do something else. Can't we develop a South Eastern European commonly agreed concept about finding innovative options of cooperation available to transform existing capabilities? This question in itself might justify a project in and for the region.

12. It should be no surprise that I propose the regional capability "SEEBRIG" to serve as a common denominator and an agent for change in and for SEE. Without reinventing the wheel, but with a good and established framework there is a chance for further developing existing capabilities. Those are visible, well experienced and bear the potential be enriched and transformed for both: for the benefit of the Alliance and also the EU. The targets for change and transformation could be the SEEBRIG HQ and all designated or affiliated units and formations from Allies and partner nations. Observers might alter their status and others could be invited to join.

13. I felt encouraged by a recent Bulgarian-U.S. activity. Bulgaria recently agreed on enhancing strategic cooperation with US European Command. Deputy Defence Minister Tzvetkova is quoted to have highlighted on 14 March 2012 "that the joint experience gained so far in the course of the activities carried out at the Novo Selo Field Training Area forms a good basis for the enlargement of the scope of future trainings and participants therein. Involving countries from the region in the trainings and exercises may turn

[1] IISS, Dr Bastian Giegerich, NATO's Smart Defence Initiative, February 2012 (www.iiss.org).

out to be a significant contribution on the part of the U.S. and Bulgaria to NATO's Smart Defence initiative. She added that the facilities can be used for pre-deployment training of contingents which would participate in international operations, for training of military formations from countries in the region, as well as for training of personnel participating in the MPFSEE."[2]

14. Following the same logic I looked at all Smart Defence Tier 1 projects and selected most of them as being relevant. Conceptually the same could be done for all Tier 2 projects, Connected Forces, Pooling and Sharing or potentially other projects which have not yet been mentioned and could serve that purpose of common interest (for example: "smart energy" which is advancing under the lead of the NATO Emerging Security Challenges Division).

15. The slide shows on the top row all SEEBRIG participating and observer nations. On the left column you see Tier 1 projects. The text in some boxes indicates the lead and participating nations in a Smart Defence project. In some cases I selected SEEBRIG nations randomly for explanatory text, when no SEEBRIG nation assumes a lead role. The crosses in the boxes show that SEEBRIG members and observers until today declared to participate in a project.

What does that indicate?

- Interest for a project is not driven by regional considerations only;
- some SEEBRIG nations will gain insight, expertise, gather lessons learned and best practice from isolated projects which others will not have unless there is a shared ground of interest.

What could we do?

- With a "SEEBRIG perspective" cross fertilisation, sharing and contributing to capability improvement could be offered or requested and achieved even, if other SEEBRIG nations do not enter into a specific project;

---

[2] See more information on:
http://www.defpro.com/news/details/33586/SID=620b3dfdeda6faa5436c25ee13c3489d

- other SEEBRIG members may support project participants and share the burden of involvement;
- some SEEBRIG members may grab the opportunity and reconsider their project interests and participation;
- a partner nation, not member of SEEBRIG, could offer cross pollination from an attractive project which may for example link to the C2 structure of operational HQs. Connected Forces might be the incentive for Austria to be invited to SEEBRIG and share recent best practice from the fully deployable Joint Force HQ in ULM, which potentially could command the SEEBRIG.

16. Along those lines I suggest that this becomes part of a wider scope to launch a project. SEEBRIG members, observers and invitees might agree upon launching a new Tier 2 or even Tier 1 project for that purpose.

17. I could envisage a practical way ahead on how the South Eastern European Region (plus or enhanced) could turn challenges into real opportunities. Here is my proposal: This conference could be a milestone event to kick off the start of a project which looks at supporting structures and potential to improve capability delivery. We could name it

Multinational Project "Support Defence Cooperation in SEE"

18. What might be some essentials of the project?

- Objectives of the project need to be SMART (specific, measurable, achievable, realistic, timely)
- the project should be temporary and forecast the time horizon (0 / 1 / 3 / 5 years) with clearly defined phases, workpackages, and milestones;
- the project could be designed with phases as follows:

1) Before entering into any solutions, SEE should take the time and engage with many stakeholders to develop a concept (capture/evaluate the "as is" – develop the "to be"). This would have to include Business Cases / recommendations / consultation process / decision making in the appropriate fora. Worthy of note: The concept requires recognition of stakeholder views, interaction, dialogue and deals with

acceptance of an integrated approach; in my view the prerequisite of fertile cooperation.

Guiding motto: Do not fix, if not broken!! It is important to stress that there is no intent to add any costly and bureaucratic structures or plan investment without return or benefits.

The concept phase should cover two areas:

a) SEE multinational cooperation support structures and mechanisms (review initial project management team / office; it may be decided to turn the project office into a program (SEEBRIG transformation) office and have projects (capability areas) managed from within existing structures.

b) SEEBRIG is the regional agent for change and transformation. It drives the evaluation of selected Smart Defence, Connected Forces, Pooling and Sharing, and other existing projects in order to promote synergies potentially for areas like

– C2/C4ISR
– Sustainment and Deployability
– Education/Training/Exercises/Evaluation
– Certification
– Research and Development / Technology

2) Planning and implementation of support structures and mechanisms

3) Planning and implementation of SEEBRIG (Smart Defence / Connected Forces) pilot cases (test runs) in line with the concept.

4) Evaluation and improvement of measures

5) Full validation (enhanced Final Operating Capability)

6) Termination and handover of project

19. What might initially be required to run the project?

- Initially a small, professional project management team (impartial, unbiased) in one office should be established

with authorised access to all stakeholders: only one responsible project manager; he/she leads 5-10 core project team members from interested nations, staffs/university, NGO. The team would reach out to a wide network of Allies, partner nations, stakeholders, communities of interest, administrations, academia, industry, NATO HQs and staffs, NATO Agencies. In time contributions to project phases and work packages are key; let me underline that NATO Delegations and Missions need to be fully aligned to this effort. This team has to be reviewed as part of the conceptual phase. If better mechanisms are available or can be arranged, get rid of the team.

- the project management will follow recognised and internationally certified standards;
- therefore and if there is a need, the team should enjoy education and training in project management with the aim to establish self sustaining skill sets within the governments; selected staff of stakeholders should be aligned to the same management approach;
- the project requires a responsive governance structure.
    - It would need one government sponsor (preferred a [host] lead nation) which by authority ensures consistent strategic government oversight and directing authority and is acting on behalf of a steering mechanism;
    - the appropriate body to assume the steering role should be identified. We may think about SEDM, or SEEGroup. It is important to have all participating nations on board.
- all activities need to be visible, transparent and shared with all stakeholders, hence up to date communication is key;
- as industry/enterprises are involved, from the outset (even in pre competitive phase) Transparency International will be invited to track all steps and interactions, in order to avoid corruption and that any benefit from interaction with industry will fall to governmental officials or any other stakeholder. Should there be any event indicating that ille-

gal activities happen, this will be announced immediately with the expectation that the project is not jeopardised;

20. The project team should be allowed to build its own temporary and visible identity. It should express the special nature of this challenging and future oriented task, dedicated to the transformation of the Multinational Peace Force South Eastern Europe. "The soldier who brings peace" is quite nicely symbolised by this hand painting in by the Bulgarian artist Todor Popov in January 2012. The original is registered in the Bulgarian Ministry of Culture.

21. Summary: Challenges for the Smart Defence initiative on regional level can be turned into opportunities. Personally I am convinced that there is potential for change and meaningful transformation in substantial areas. This requires time, stamina, patience and most of all high level support, by many stakeholders, not just their good will or intent.

Thank you for your attention.

Potential practical areas for multinational cooperation (sustainment)

A further range of very practical sustainment (meaning logistics, maintenance, infrastructure) topics can illustrate the benefits and added value in fostering regional cooperation. Those are proposed by the NATO staffs and could promote an initial discussion between stakeholders. The topics are an offer, food for thought, and neither intended to be authoritative nor complete in its coverage.

Those could become part of the conceptual analysis of the project

Multinational Project "Support Defence Cooperation in SEE"

a) Pooling and Sharing. Have you considered joining:

- all multinational strategic lift organisations?
- the Multinational Logistics Coordination Centre (MLCC)?
- the NAMSA (future Support Agency) Operational Logistics Support Partnership (OLSP)?
- A multinational integrated logistics unit?

b) Stockpiles, including munitions. Would you consider:

- for nations with similar weapons systems, consolidated munitions procurement?
- one shared regional civil-emergency and crisis management stockpile ?
- better sharing of spares, tools and test equipment at home and while deployed?
- regional stockpiles held by contractors?

c) Equipment Procurement. Would you consider;

- multinational procurement and life-cycle management of the same or similar equipment?
- agreeing role specialist areas among the group of nations?

d) Regional Contracting (Static and Deployed). Would you consider:

- implementing a short-notice regional contracting capability for deployed operations?
- reviewing all equipment refit and maintenance work to assess what can be contracted?
- reviewing all static base support (shared services) to assess what can be contracted?

e) Partial Capabilities.

Are there any partial capabilities in your nation that could be developed with the assistance of other nations? For example, one nation has provided Role 2 hospital equipment and another has provided the medical staff. In addition, smaller nations have also provided a complete rotation of staff for a mentor nation.

f) Military infrastructure.

That topic is closely linked to capability development. Have you considered improved sharing of:

- military schools?
- warehouses, in particular expensive special warehousing? (e.g. refrigerated, anti-static benches, munitions storage…)
- headquarters and offices?
- information networks?
- military ranges and training areas?

Bridging the collaboration gap. Results from a global defence survey on collaboration during coalition operations

By Alan Baldwin, Frans Picavet and John Reiners

IBM Global Business Services,
IBM Institute for Business Value

IBM Institute for Business Value

IBM Global Business Services, through the IBM Institute for Business Value, develops fact-based strategic insights for senior business executives around critical industry-specific and cross-industry issues. This executive brief is based on an in-depth study by the Institute's research team. It is part of an ongoing commitment by IBM Global Business Services to provide analysis and viewpoints that help companies realize business value. You may contact the authors or send an e-mail to iibv@us.ibm.com for more information.

Many coalition operations perform below expectations because of a collaboration gap – a mismatch between the demands of the mission and the combined capabilities of the coalition members. Defence forces can take practical steps to close this gap by understanding the factors that influence their coalition's effectiveness and by enhancing collaborative ways of working, sharing information and exploiting technology. In the longer term, they will need to make fundamental changes to adapt to the demands required for effective collaboration.

Executive summary

Results from our global defence survey of over involved. For example, coalitions that share 100 respondents demonstrate that there has a language, similar societal cultures and a been little noticeable improvement in coalition history of working together tend to perform effectiveness over the last 15 years. We think better than

those that do not. Other factors this is because innovation and improvements relate to the nature of the operation. For have only kept pace with the increasingly example, shorter, more focused operations complex and diverse nature of coalition tend to demonstrate more effective collabooperations. ration than longer, more complex operations.

To improve coalition performance, defence forces first need to understand the factors that help or hinder effective collaboration. Our survey results point to several contrib-utory factors. Some of these relate to the composition of the coalition (i.e., the countries, forces, functions, roles and individuals involved). For example, coalitions that share a language, similar societal cultures and a history of working together tend to perform better than those that do not. Other factors relate to the nature of the operation. For example, shorter, more focused operations tend to demonstrate more effective collabo-ration than longer, more complex operations.

By understanding the operation's needs and their coalition's collaboration capabilities, defence forces can measure the gap between the two. They can then take practical steps to tailor their collaborative approach to the demands of the mission by either improving or simplifying their capabilities.

To bridge the collaboration gap, defence forces can take action in three main areas:

Collaborative ways of working: Aligning policies and procedures, developing new skills and a collaborative organizational culture, improving leadership competencies and implementing flexible command structures.

Sharing information: Implementing data standards, overcoming language and security concerns plus improving information management capabilities – so the right information is presented to the right decision makers at the right time in the right format.

Exploiting technology: Building a shared technical infrastructure and implementing collaborative technologies, including language translators, dynamic directories and compatible applications.

To help ensure continuous improvement in collaboration performance, fundamental changes in how defence forces operate are required. Based on our research, we identified four areas where defence forces should focus in the years ahead. We recommend they:

1. Greatly increase their understanding of the nature of collaboration by focusing on leading practices (whether from other defence forces or the commercial sector), assessing current strengths and weaknesses, and identifying how different operations with different coalition partners require different collaborative capabilities.
2. Implement practical solutions to improve collaboration capabilities, either by continuing existing programs or implementing new approaches, perhaps enabled by some of the latest technologies that aid information management and collaboration.
3. Improve coalition planning so that coalition capabilities can adapt to the dynamic demands of an operation, reducing the collaboration gap. This requires that coalition planners use their deeper understanding of the demands of operations and the collective collaboration capabilities of the coalition partners. It also requires flexibility, so that command structures, for example, adapt to the changing demands of an operation.
4. Provide the leadership, sponsorship and support necessary to help raise the priority of coalition demands in national defence forces and help ensure these demands are reflected in strategies, plans, policies, procurement decisions and the development of leaders. Leadership is also needed to facilitate the organizational culture changes required, build trust in relations with coalition partners and make sure the importance of improving collaboration is recognized on the ground.

These efforts to improve collaboration must recognize the nature of coalitions – and help ensure that proposals are consistent with the approaches and interests of all defence forces involved. Progress made in these areas should facilitate an upturn in the effectiveness

of coalitions, an improvement in the relations between national defence forces and, above all, more successful operations.

The importance of improving coalition operations

Coalitions are, of course, not new to defence forces – they have been a feature of military history from the earliest days. They have often been seen as problematic, as defence forces have to reconcile the demands of the coalition with their nation's own priorities. A recurring theme involves coalition partners being viewed with suspicion and information being shared reluctantly out of fear for national security.

What is new is that coalitions are increasingly pervasive and more complex. Plus, defence forces have increasingly sophisticated technologies at their disposal – which should offer improvements in productivity, but instead often add to the complexity of getting coalitions to work together.

For nearly all nations, any significant operational commitment for defence forces in this day and age involves working in a coalition with a range of partners, usually including defence forces from other nations. There are many factors driving this phenomenon, such as the changing nature and increasing complexity of operations, the need for multilateral political action when intervening in international affairs and the need to spread the burden of resources often involved in large-scale, multiyear operations.

At the same time, the nature of these coalitions is becoming more complex. As defence forces become engaged in a wider range of mission types, such as nation building, peacekeeping, antiterrorism, stabilization and disaster relief, they find themselves working in coalitions with more partners. These could include other defence forces, government agencies (e.g., security), nongovernmental organizations (e.g., international aid agencies) and private companies (increasingly involved as part of the defence supply chain).

New technologies should provide solutions to the dynamic challenges of working in coalitions. For years, defence forces have been investing in network-centric operations (NCO), a range of technologies that aim to provide the flexibility and interoperability required

by coalitions. Yet, often we hear of technology adding to the complexities of operations. There is a feeling that NCO technologies have not yet delivered the benefits anticipated, and stories filter back from the front lines about information overload and antiquated communications.

Since the trend toward working in coalitions will likely continue, defence forces must learn from their experiences and make the best use of the technologies and other techniques available to improve their performance. Collaboration with external partners is increasing in other industries as well. The private sector is using new technologies to increase interoperability and is achieving dramatic improvements in productivity and service quality as a result. The challenge for defence forces is to deliver a comparable improvement in coalition effectiveness.

IBM Global Defence Survey

IBM conducted its global survey of defence forces to help derive practical suggestions for improving coalition effectiveness. In conducting this survey, we sought the perspective of different nations, both on their own effectiveness working in coalitions and their views on the effectiveness of others. Above all, we wanted a wide range of individuals to share their experiences regarding what makes working in coalitions difficult and, more important, what could be done to improve it.

Our survey included over 100 interviews during which individuals from 12 nations shared their experiences relating to operations with 340 coalition partners from 62 nations. Their direct experiences in the field cover a wide range of coalition operations from 1994 to 2009 in Iraq and Afghanistan, as well as other parts of the world including Europe, the Pacific and Africa. They also represent the diversity of military operations, including combat operations, stabilization operations and disaster relief. Some were relatively short and focused missions, while others were large, enduring and complex multinational coalition operations.

We are conscious of the problems associated with jumping to conclusions on such a complex subject or applying recommendations

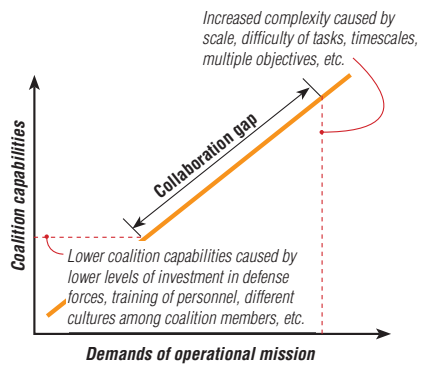
across all types of coalition and mission types. There may be many ways to explain particular survey results. We offer our interpretations and suggest some practical actions for defence forces. However, we do not see this report as providing categorical answers, but rather starting a productive discussion on how to improve coalition effectiveness.

We have shared the survey results with three respected commentators on defence matters to get further independent perspectives. We thank Mr. Fred Stein, coauthor of Network Centric Warfare; the Royal United Services Institute; and the Hague Centre for Strategic Studies for their commentaries on the results, which you will find throughout this report. Above all, we thank all who took the time to take the survey and to share their experiences and passion to improve the effectiveness of coalition operations.

Minimizing the collaboration gap

Poor coalition effectiveness results from a mismatch between collaboration capabilities and the needs of the operation, what we are calling a collaboration gap. This gap could be either positive or negative, representing either insufficient collaborative capability to meet the operation's objectives or too much capability – which can lead to both poor effectiveness and excessive use of resources (see Figure 1).

FIGURE 1.
Measuring the collaboration gap.



Source: IBM Global Defense Study.

When planning coalitions, the objective for all partners must be to match the coalition's capabilities with the needs of the particular operation, diminishing the collaboration gap and optimizing both the effectiveness of the coalition and the use of resources. Our particular focus in this survey was initially to understand the factors that influence the size of the collaboration gap. We saw these as either relating to the composi-

Commentary

by Fred Stein, Colonel,
U.S. Army (retired), coauthor of Network Centric Warfare

It is clear that the world is engaged in a critical period of unrest brought on by the onset of the Information Age. This age, like the Industrial Age, brings great opportunities to those who embrace the new and revolutionary capabilities and threats to those who fight to keep their populations isolated.

This study is very timely, as it address many of the important issues facing the world as it becomes increasingly connected. One major challenge that applies to all military and many civilian organizations is how to successfully operate in a coalition environment. This, too, is timely given the steady movement from unilateral service operations, common in the 1970s to 1980s, to joint operations in the late 1990s to combined operations in early 2000. Presently almost all operations are now coalition. In fact in both Iraq and Afghanistan, it is national law that all operations have host nation forces present. In order for these coalitions to work, they must share information, and the better their sharing, the more effective they are.

It is essential that these coalitions leverage information in a manner to achieve, at a minimum, transitory information superiority and ideally welling-over information superiority at the time and place of the coalition choosing. In order to achieve this information superiority, the commander and his staff must be able to obtain, store, fuse, exploit and distribute the information across staff organizations and between multiple echelons. Successful information sharing is a product of the supporting technology, staff training, commander's direction, policies, culture, process and organization.

The more that is understood about the dynamics of information sharing, the better developers and engineers will be able to design systems, tools and processes.

These wide-ranging interviews provide significant insights on the impact of technologies, organizations, training and command priorities on information sharing. Some are expected and some are eye-opening, but all are well documented. This documentation will assist developers, engineers and trainers in providing more effective technologies, more effective organizations and more effective processes.

During my decade of working with units, developing operational concepts and implementing processes to utilize information systems, I have seen many examples of successful and unsuccessful coalition information sharing. I have also tried over the last seven years to gather lessons learned or, more accurately, lessons observed that would inform the general community on how information impacts operations. Unfortunately, there are relatively few formal studies that focus on this vital subject. This study and the older ones from the now disbanded Office of the Secretary of Defence's Office of Force Transformation add to the community's understanding. I commend IBM for taking the initiative to further our understanding in the vital area of information sharing.

tion of the coalition (who is involved) or the nature of the operation (what they are doing).

We then wanted to understand the actions that coalition members could take to reduce the gap. Planners rarely will be able to change the nature of the operation; therefore, they need to concentrate on making improvements in areas they can control. We identified three main areas where defence forces can take specific actions to improve effectiveness:

1. Collaborative ways of working: Define roles and responsibilities, policies and procedures, and organizational and command structures. Develop new skills through training and development programs.

2. Sharing information: Create a Common Operational Picture (COP) through improved sharing of information among coalition

members. Develop and implement common standards and policies to overcome security, language and other constraints to information sharing. Build trust in partners' data.

3. Exploiting technology: Implement NCO and the latest technologies to improve interoperability. Create a shared infrastructure and the technical tools to support more effective coalition operations.

Overall survey findings

From the survey responses, we calculated an index of collaboration effectiveness (see Measuring collaboration effectiveness sidebar) so that we could track how effectiveness varied over time and was influenced by a variety of contributory factors.

We would expect the effectiveness of collaboration to increase over time, as nations learn through experience and apply the latest technologies. In fact, the survey results indicate that there has been no significant improvement (see Figure 2). Further analysis shows that there has been no noticeable improvement in any of the identified key areas: collaborative ways of working, sharing information or exploiting technology. There could be many explanations for this disturbing finding. One interpretation could be that there is a ceiling of coalition effectiveness that cannot be breached despite the efforts of coalition members. However, this is not supported by respondents' comments, the majority of which indicate dissatisfaction with the current level of effectiveness and propose specific areas for improvement. A more plausible explanation is that improvements are being offset by the increasing complexity of more recent operations. Respondents also may have higher expectations of more recent operations and adjust their scoring accordingly.

To explain variations in coalition effectiveness, we analyzed two different groups of contributory factors: 1) the composition of the coalition (who they were) and 2) the type of operation (what they were doing).

Coalition composition

From analyzing the top 20 and bottom 20 performing coalitions, it is clear that sharing a language and similar social cultures and hav-

Measuring collaboration effectiveness

We calculated a collaboration effectiveness index from respondents' subjective ratings of the overall effectiveness of their coalition partners on a scale from one (very poor) to five (very good). To measure the effectiveness of a coalition, we averaged the ratings of all of the coalition partners. The score is therefore a reflection of the combined capabilities of the coalition and how well the coalition partners worked together on the operation, rather than the effectiveness of the operation itself.

ing a history of working together on operations, on exercises and in training all help to improve coalition effectiveness. The four- and five-eyes nations (the United States, the United Kingdom, Canada, Australia and New Zealand), have a history of working together on operations and collaborating on shared exercises and other initiatives.[1] Unsurprisingly, they feature strongly in the top 20 performing coalitions, as do other coalitions that have shared language and cultural backgrounds (Pacific nations, for example). Coalitions comprising a diverse mix of nations with different languages and cultures feature at the bottom of the performance table.

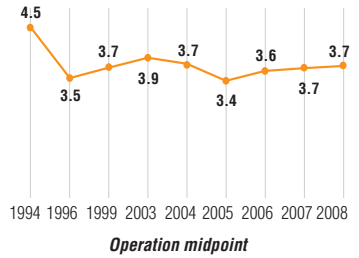
Coalitions comprising mostly more mature defence forces with relatively sophisticated technologies also tend to score as more effective. Even when there are less sophisticated coalition members, there seems to be an uplifting effect on the performance of the coalition as a whole, perhaps through exploiting the lead nation's more advanced technologies and processes.

However, there are some more complex factors at work here. The participation of four- or five-eyes nations in a coalition is no guarantee of a successful coalition, particularly if there are other coalition members that feel they are unequal partners. As one respondent comments, "The four-eyes nations hampered the information exchange among the other coalition partners. This resulted in a

[1] Four-eyes countries are the United States, the United Kingdom, Canada and Australia. The five-eyes countries include the previous four and the addition of New Zealand.

poorly informed COP, with information held by four-eyes HQs only." There are also some coalitions comprising only four- or five-eyes nations that ranked among the lowest performing coalitions. Perhaps these are examples of excess capabilities compared with the needs of the operation.

FIGURE 2.
Trends in coalition effectiveness.
Average coalition effectiveness
(1 = very poor; 5 = very good)

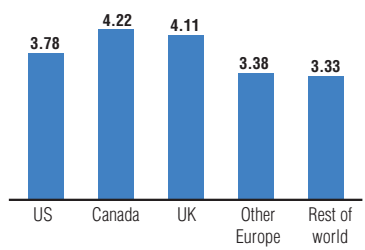


Source: IBM Global Defense Study.

It is interesting to compare the performance of different nations as coalition partners (see Figure 3). It is not surprising that four-eyes countries are viewed on average as the most effective, as they represent three-quarters of all respondents. But interestingly, Canada and the United Kingdom are rated as more effective coalition partners than the United States. This suggests there are difficulties in being the dominant or lead partner in a coalition (as the United States generally is). Perhaps the tendency to lead and use U.S. systems and processes could foster resentment, or maybe being the dominant partner can lead to a less conciliatory attitude with partners. One respondent comments, "The United States encourages collaboration, but using its standards and policies – not all nations can agree, and secure collaboration is still a pipedream with all but a select few."

We carried out further analysis to compare how nations see themselves with how others see them. Generally, coalition partners tend to overestimate their own effectiveness at information sharing (the only exception being the United Kingdom). In terms of exploiting technology, however, the United States underestimates its strong technical leadership.

FIGURE 3.
Average effectiveness of coalition partners.
Average coalition effectiveness
(1 = very poor; 5 = very good)



Source: IBM Global Defense Study.

And, in all areas, the United Kingdom appears to have a more modest appreciation of its own performance compared with how others rate it.

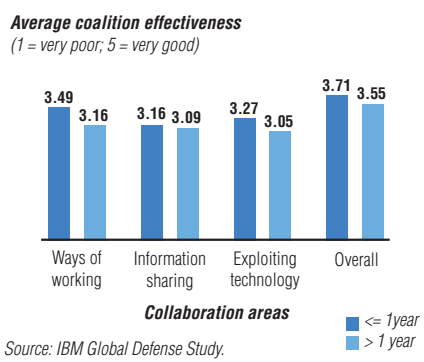
We also analyzed the responses by function of respondent. Those working in intelligence rate their coalitions as significantly more effective than other functions (operations, command and control, logistics and other). This is not surprising since intelligence operations rely heavily on effective collaboration and, as a result, have collaborated longer and developed more effective processes and systems for doing so. Logistics functions, on the other hand, have historically often operated on a national basis with little collaboration needed.

The more junior officers tend to rate their operations as more effective than the very senior ranks. There may be many factors at work here. Senior officers may have higher expectations or be closer to some of the political and bureaucratic constraints visible at headquarters. Age could also be a factor, with younger officers more optimistic (or more naïve).

Operation types

We analyzed the survey data comparing different mission types and found no noticeable trends in effectiveness among combat operations, other military operations, exercises and civil operations. Similarly, at an aggregate level, there are no trends explained by operation scale, complexity or whether the collaboration was strategic, operational or tactical in nature.

FIGURE 4.
Effectiveness of coalitions according to duration.



Source: IBM Global Defense Study.

A surprising result is that operations of longer duration are rated as less effective (see Figure 4). This trend is even more pronounced in collaborative ways of working and exploiting technology, areas in which one

Commentary

from the Royal United Services Institute

This study shows that there has been no discernable improvement in the effectiveness of coalitions since 1994, although coalitions were perceived to be most effective in 1995 and 2003, coinciding with periods of high-tempo operations for U.S. allies. Key indicators of coalition performance – collaborative Ways of Working, Information Sharing and technology exploitation – were all perceived to be better in Afghanistan than in Iraq, which indicates that an established military alliance (NATO, in this case) is likely to prove more effective than ad hoc coalitions.

would expect to benefit from experience and more time to implement more rigorous solutions. Possible explanations could be that shorter missions are less complex and benefit from greater focus and intensity, while longer operations might suffer from greater complexity, the need for more bureaucracy, less intensity and rotation of roles. Also, there is more that can go wrong and expectations are higher with more sophisticated solutions.

Many respondents' comments also indicate that shorter, simpler, more task-focused missions are more effective than the more complex, longer operations. Many complain about the difficulties of gaining international agreements at senior levels and the suffocating effect of coalition bureaucracies. However, when coalition members are focused on particular tasks at the working level, collaboration often seems to just happen. As one respondent notes, "Currently, in theater, interagency collaboration is excellent at the lowest tactical levels but lacks integration at the higher levels of command."

There is a need to understand more about how particular operations' characteristics influence the effectiveness of coalition working. As an example, we compared the experiences from Afghanistan with those from Iraq (each represented one-third of the overall survey sample). Afghanistan is viewed as more effective, particularly for exploiting technology and sharing information (the ratings on collaborative ways of working are marginally better but not significant). These results could be explained by the composition of

the coalition (NATO led in Afghanistan compared with the United States and the United Kingdom working with predominantly Iraqi forces in Iraq) and the approach to coalition operations (in Afghanistan, great care was taken at the planning stage to involve coalition members in developing command structures and operating procedures, whereas in Iraq, the leading coalition partners' structures and procedures were used).

Actions to improve coalition effectiveness

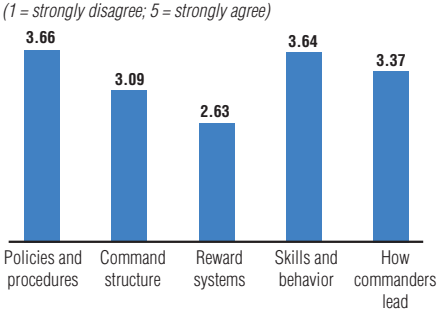
To understand what coalitions can do to reduce the collaboration gap and improve overall coalition effectiveness, we asked the survey respondents to comment on the practical actions they could take to improve performance in each of the three areas: collaborative ways of working, sharing information and exploiting technology.

Collaborative ways of working

To improve collaborative ways of working, there are a number of interventions that defence forces can make:

- Adapt policies and procedures.
- Change command and organizational structures.
- Utilize incentives or rewards.
- Develop new skills and behavior patterns.
- Make changes to leadership competencies and behavior patterns.

FIGURE 5.
Average effectiveness of coalition partners.



Source: IBM Global Defense Study.

Survey respondents recognize that each of these interventions will impact different collaborative behavior patterns and that they need to be used in combination. Adapting policies and procedures is rated overall as the most important followed by developing new skills and making changes to leadership competencies and behavior patterns. Incentives and rewards, widely used in the private sector, are

Commentary

from the Royal United Services Institute

Collaborative Ways of Working have not significantly improved or deteriorated over time but peak during periods of high-tempo operations and dip during stability operations. This variation may be indicative of the amount of collaborative training and live exercises dedicated to each of these tasks. The assumption that if one can perform high-tempo operations, one will also be able to undertake lower intensity operations may, in fact, be false in this respect.

seen to have much less impact than the other listed interventions (see Figure 5).

An effective coalition needs to overcome differences in national policies and procedures and agree on common ways of working. A balance needs to be struck between detailed documentation – for example, the use of registers to identify who does what and how you contact them – and the dangers of bureaucracy from excessive documentation. In practice, the optimum approach is likely to depend on the nature of the operation and the composition of the coalition, so it should be defined at the coalition planning stage.

A combination of hard and soft skills is needed to improve collaboration. Leadership and decision-making skills are highlighted as important, as are language skills and social cultural awareness. A number of respondents highlight the value of joint exercises and staff colleges with coalition partners to help build cultural understanding.

Leadership competencies and organizational culture set the tone from the top and can help or hinder collaboration. Defence forces should encourage collaborative conduct in their future leaders through leadership development training or the use of performance measures that recognize coalition success as important. Perhaps specific collaboration responsibilities should be included in leaders' roles and responsibilities. Collaboration champions could be identified, with specific responsibilities to facilitate coalition effectiveness.

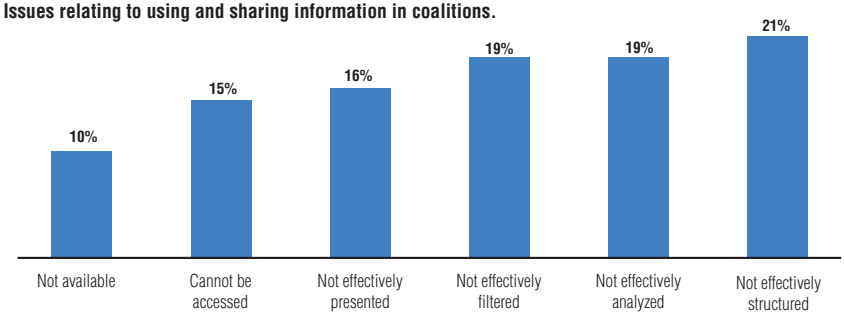
Respondents were asked which organization structure they favored to support coalition operations. The clear leaders are a hierarchical structure with few levels followed by a partially networked organization. Emphasized above all is the need for flexibility – to adapt the structures according to the mission needs, the team and the tasks at hand. Others saw organizational structure as an evolution. According to one respondent, "You start with a hierarchical organizational structure and move toward a full networked organization. You have to build your organization to that kind of effectiveness – you are not able to start there."

Sharing information

For a coalition to be effective, it needs to develop a COP to facilitate coalition decision making. However, to get to this point, coalition partners first need to overcome a number of significant hurdles. In addition to the challenges relating to different languages and data standards, some coalition forces have also experienced a perceived reluctance to share information, either because of security reasons or because of a lack of trust in partners' data. This kind of failure can have serious repercussions. "Some important coalition partners are "sitting" on their data without caring that this attitude can kill coalition soldiers," remarks one respondent.

There is also a problem of information overload. Over half of the respondents indicate that the volume of information is greater than their capacity to process it. The greatest issue, however, appears to be that information is not supplied in a way that is conducive

FIGURE 6.
Issues relating to using and sharing information in coalitions.



Source: IBM Global Defense Study.

Commentary

from the Royal United Services Institute

Information sharing was also typically better in 1995 and 2003, which coincides with periods of high-tempo operations. There needs to be greater alignment of security policies, particularly outside the four-eyes community. However, despite the problems surrounding the passing of information, respondents indicated that there was a need to analyze, filter and present the information more effectively. Information sharing decreases slightly during longer operations, which may mean that military forces become more parochial over time. The issue may also relate to the loss of experience when units are replaced in theater during long operations involving force roulements.

to decision making. Respondents highlight problems with the way that information is accessed, filtered, structured, analyzed and presented. According to one respondent, "What we really needed was all necessary available information clearly visually presented. The remaining information should be simply accessible. The necessity is level dependent and availability should be multinational and joint." These findings point to the need for more effective information management, improved analytical tools, more consideration about how information is presented to the user and a better balance between information push and pull.

Fundamental difficulties undoubtedly remain in encouraging the free flow of information among coalition members. Many respondents believe these problems stem from social and cultural differences and a lack of trust in coalition partners, the quality of one another's data or in how data will be used. Security concerns, either perceived or real, also obstruct information sharing. As one respondent notes, "The key element in sharing information is not technical – it is the absolute honesty and openness of revealing one's national position."

There are many concrete actions that defence forces can take to improve information sharing with coalition partners. For example, new multilevel security systems with proper partitioning and access control of sensitive data can help overcome security constraints. Work can also continue to align security policies and procedures. Standardization of data definitions and rigorous information governance procedures will build confidence in data quality. High-quality language translators are now becoming available and can be built into applications and communications systems, such as instant messaging. More can also be done at the planning stage to define and communicate the coalition's approach to information sharing, removing unnecessary restrictions.

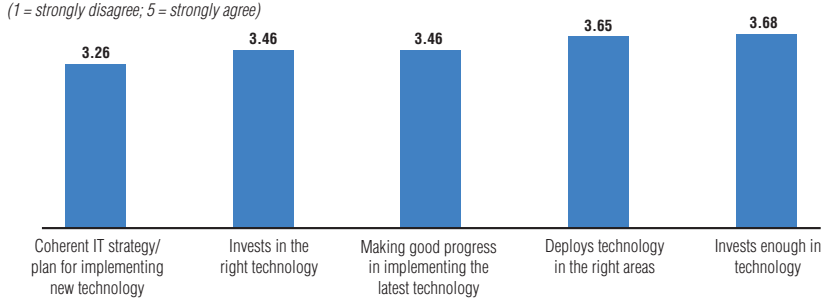
In addition to new procedures, tools and techniques, there is clearly a need to create new skills in language and information analysis, as well as an organizational culture change. Several respondents mention that there is a long way to go to turn "duty to share" from a concept into reality on coalition operations. Leaders and those who work in coalitions need support, training and other encouragement to recognize the importance of information sharing as a core competence.

Exploiting technology

Defence forces have benefited from rapid technological innovation. Nearly all defence forces surveyed have a commitment to the concept of NCO and have invested heavily in new technologies. Among the benefits promoted for NCO are increased flexibility and interoperability – core requirements of coalition working. The latest Web 2.0 collaboration technologies, including social networks, wikis, blogs and file sharing, are starting to be used by defence forces. However, with new technological advances come new challenges. New tools often take considerable time to become widely established. In addition, new information-hungry technologies, such as video streaming, put additional pressure on bandwidth and technical infrastructures.

Respondents appear to be quite satisfied with the levels of investment in technology and indicate that the technology was deployed in the right areas (see Figure 7). However, their ranking of their

FIGURE 7.
Attitudes regarding levels of investment in technology.
Average agreement
(1 = strongly disagree; 5 = strongly agree)



Source: IBM Global Defense Study.

progress relative to others in implementing technology is marginally lower, suggesting that the investment is not properly coordinated as part of an overall strategy (the lowest score of all). Some respondents note that procurement of technology is still more suited to delivering platform-based solutions for single forces than satisfying the needs of working in coalitions.

Many technologies are proving effective for coalition operations. Respondents express a preference for traditional forms of communica-

Commentary

from the Royal United Services Institute

Technology exploitation was perceived to be more effective in Afghanistan than Iraq. With regard to IT effectiveness, NATO specified and rolled out its own network infrastructure, which has since been adopted by all partner nations. This mandated approach, born out of operational necessity, has provided greater interoperability between the different national architectures than 20 years of trying to enforce NATO Standardization Agreements (STANAGs). This may indicate some fault in the process of developing NATO STANAGs, but it is more likely that the urgent demands of operations drive progress. If the STANAGs had been implemented nationally, there would have been no need to adopt a different architecture.

The most widely used technologies are the simplest: e-mail, voice, chat and data links. This should not be surprising because there is a need for fast, reactive communications. Blogs, wikis, etc. tend to be time-intensive activities both for the authors and the readers.

The priorities for improvement also focused on the more basic issues, such as connectivity, common standards and bandwidth, indicating that it is important to get these simple things done first. However, there appears to be a lack of appreciation of the benefits of battlespace management software. There will be no improvement in information processing until this is rectified.

Finally, IT effectiveness is much higher for shorter operations. This may be due to the sheer numbers of deployed forces, which are typically larger for longer operations, or simply because there is a greater possibility that something will go wrong during longer deployments.

In summary, coalitions seem to be better at short, high-intensity operations, which is the focus of their training. Established military alliances are usually more effective, and it will be interesting to see if the International Security Assistance Force mission will improve the overall rating for coalition effectiveness in the future. Technology is being rolled out in theater and is making a difference to coalitions, but military operators prefer to rely on simple solutions that work.

tion, such as phone, e-mail and chat, rather than the latest technologies. Some respondents see potential uses of Web 2.0 technologies and have used them effectively, but others report frustrations and initial problems. What is clear is that different technologies will find different uses dependent on the different roles and tasks carried out by individual coalition members.

We also looked at how the rating of different technologies varied with length of service (this is also an approximation to age). Interestingly, the prioritization of the different technologies was almost

the same, though those with less than 20 years of service scored all technologies higher.

From an analysis of technical priorities, it appears that the immediate priority for many coalitions is implementing a compatible infrastructure with sufficient bandwidth to support coalition applications. Achieving a shared infrastructure is a difficult challenge. Often the preferred solution is to use the lead coalition partner's technical standards and systems (in practice, only the United States is able to fulfill this role). However, this approach is not favored by all respondents. Alternatives include building a new infrastructure based, for example, on NATO standards or adopting open architectures, standards and commercial off-the-shelf (COTS) software, which is more likely to be interoperable with coalition partners' systems.

Once a functional technical infrastructure is in place, attention will turn to getting the best out of shared applications and potentially collaborative technologies. Some of these technologies, such as language translation and dynamic directory integration technology, can help improve coalition effectiveness right away. The Web 2.0 technologies, on the other hand, are probably at the "early adopter" stage but likely will find valuable uses in the future. Getting the most out of technology, therefore, requires actions in many areas: establishing technical standards, building infrastructure and adding collaborative applications. For these actions to succeed, the technology needs of the coalition should be properly considered at the planning stage. National defence forces' IT strategies and procurement policies must respond to the demands of coalition opera-

Commentary

from the Hague Centre for Strategic Studies (HCSS)

Military campaigns have always ranked among the most complex forms of collective human action. In recent years, additional layers of complexity have been added because of the hybrid (regular and irregular) nature of most current military endeavors, because of the opportunities and challenges presented by the transition toward a post-industrial concept of "armed force,"

and also because we now collaborate in entirely novel and far more intricate ways with (highly diverse) coalition partners. Virtually all military operations today are carried out by multinational coalitions, yet our knowledge about the coalitional aspect of these operations remains disappointingly limited.

There is (quite modest) theoretical literature on (certain aspects of) coalition operations. Much of the more policy-oriented literature is especially pathos and far richer on normative prescription than on rigorous evidence-based empirics. It is against this background that IBM Global Business Services set out to collect a new dataset to better understand what influences effective information sharing and to identify best practices for effective collaboration in a coalition environment.

The survey is not perfect. It is virtually impossible to create a perfectly representative sample for the issues at hand, and there appears to be a "five-eyes" bias in the IBM sample. As always with such efforts, it is also extremely hard (and sometimes dangerous) to compare answers across different cultures, definitions, languages, changed expectations over time, etc. Yet, the IBM team clearly went to great lengths to poll a wide range of participants over time and across countries, services, ranks, functions, types of operations and levels of activity (tactical, operational AND strategic). This new dataset therefore offers a uniquely rich insight into how officers from various countries participating in different recent operations rated their experiences with several coalition partners.

The survey certainly yielded a number of findings that struck us as being interestingly counterintuitive:

That average midpoint effectiveness of coalitions (AND of technology!) was perceived to be higher in 1994 (i.e., during the Yugoslav wars) than today – despite significant efforts to boost it in the intervening period. The survey formulates some (plausible) explanations for this depressing finding, but however one interprets it, this finding is certainly a criticism decision makers should take to heart.

That a recurrent theme throughout the survey is technology solutions may be necessary, but are far from sufficient. Responses to various questions highlight the critical importance of other factors such as policy, language, skills, cultural sensitivity and leadership.

That hierarchy is still preferred over networked forms of organization (although flat hierarchies are preferred over steep ones).

That the real "leaders" in collaboration are Canada and the United Kingdom. Hidden in the data are also some quite baffling differences within the (non-United Kingdom) "Europe" group in terms of perceived collaboration ability, which certainly deserve closer policy attention.

The findings do provide certain glimpses of hope. A new generational change may be afoot, with promises of more openness and willingness to embrace new collaborative technologies and ways of working (although we observed that – with some exceptions such as chat, wikis and datalinks – the technology gap between senior and less senior officers is not as great as we had expected). We can also take heart from the finding that Afghanistan is seen as a more successful example of a coalition than Iraq – certainly on technology and information sharing (though not in strategic planning).

But overall, the message from this study is clear and troubling. There continues to be a significant collaboration gap – EVEN among the more "advanced" force providers. Most of us are painfully aware of the large capability gaps that exist within our coalitions. But not all of us may have been as aware of the worrying collaboration gap this study reveals. And interestingly enough, the "leaders" in overall capability are not the same ones as the "leaders" in collaboration. One could argue that the value for money in terms of overall coalition effectiveness would be much higher if all nations started orienting their capability development processes beyond their own national stovepiped capabilities and toward putting more emphasis on partner-nation capability AND on the ability to collaborate.

The larger defence community (operators, policymakers, analysts and the interested public) owes a debt of gratitude to IBM Global Business Services for compiling these data, analyzing them and sharing them with others. We can only hope that policymakers at the national level, as well as in institutions such as NATO's Allied Command Transformation and the new European Union military bodies, will follow IBM's lead by starting to collect and track such information more systematically and by drawing the right conclusions from it.

tions. Furthermore, training and support will be needed to help ensure that individuals have the skills to use the technology. As one respondent indicates, "Everything is critical, but you have to implement it in the right order."

The path forward

The pervasive and increasingly complex nature of coalition operations means that all nations need to improve how they collaborate with their partners. Little improvement in overall coalition effectiveness is evident over the last ten years or so. However, there is justification for optimism. Our survey respondents discuss many examples of highly successful operations and show great commitment to understanding the root causes of poorer performance. It is also clear that many respondents recognize the value of new techniques and technologies that could improve their capabilities to work in coalition, even if it takes time for them to be widely embedded. The operational necessity to collaborate effectively, in demanding situations, in realtime and with a large number of partners from different nations and cultures has led defence forces to find ways to make coalitions work. And in particular areas, defence organizations are probably world leaders in effective collaboration, with much to teach the commercial sector.

However, the results of the survey indicate that in a great many cases, there is a disturbing collaboration gap, where the effectiveness of the coalition is not what it could be and does not match the demands of the operation. This collaboration gap applies, to varying

degrees, to all defence forces, in all types of coalitions and for all types of operations.

Coalitions, by their very nature, are supranational. Military forces are organized, trained and equipped to meet specific national defence and security requirements. The gap between these often mutually exclusive approaches must be addressed up front to begin to address the fundamental ongoing challenges this survey revealed. There is no legislative solution to that challenge, as there was with the U.S. approach to forcing the services to embrace joint operations through the Goldwater-Nichols Department of Defence Reorganization Act of 1986.[2] Therefore, defence forces need to be encouraged to improve collaboration in ways that clearly help and in no way hinder their national interests. For long-term improvements in collaboration capabilities, defence forces need to make progress in four main areas.

1. Deeply understand collaboration performance.

Defence forces need to build a detailed understanding of the features of excellent collaboration, their current capabilities and the actions they can take to improve performance. They also need to develop or adapt their approach to measuring the effectiveness of collaboration on operations. Only then can they develop a rigorous plan to improve coalition performance.

That said, more work is needed to clearly define collaboration excellence for defence forces. Much of this evidence is being compiled by national defence forces and NATO, which are aiming to learn from past experiences. In seeking leading practices, defence leaders should look beyond their own forces and understand lessons from others who may be more advanced in particular areas. They can also look to the commercial sector – which is increasingly exploiting the latest technologies in innovative ways to collaborate better internally and externally.

---

[2] "Goldwater Nichols Department of Defence Reorganization Act of 1986." National Defence University Library. http://www.ndu. edu/library/goldnich/goldnich.html

Defence forces should develop a far more detailed understanding of their performance in coalitions, supported by rigorous data analysis. It is important too that they build up a more comprehensive understanding of how they are viewed as coalition partners by others. Perhaps coalition members could agree on common collaboration performance metrics at the outset and share the results over the course of operations. The sharing of collaboration effectiveness data would also help build an understanding of the factors that influence coalition performance – the demands of different operation types and different coalition partners – making it easier to match collaboration capabilities to the needs of the mission.

Building an understanding of collaboration capabilities will help identify those areas where there is greatest potential for improvement (for example, functions such as logistics or particular demographic groups).

2. Implement practical solutions to build collaboration capabilities.

The survey highlights a number of specific issues that make collaboration difficult. Some of them (such as the need to harmonize policies, procedures, and technical and data standards, as well as the need to overcome security constraints) are well-known, longstanding issues that have been investigated in depth by many international working parties. The survey results are a reminder that these issues remain unresolved and efforts to overcome these constraints need to continue.

Other issues reflect the changing nature of collaboration in a digital, information-rich world. Many of the difficulties concern establishing the technical basics – such as a shared technical infrastructure with sufficient bandwidth to support information sharing. Respondents also highlight the difficulties of coping with vast volumes of data and then structuring, analyzing and presenting it in ways that are of greatest value to the user.

Defence forces are unique because of their demanding requirements relating to mobility, security, high availability and realtime decision making. Yet, many recent technical advances can be applied in

a defence context and are supported by survey respondents. Solutions that may help address collaboration obstacles include:

- Shared or compatible technical infrastructures that use open architectures and common open standards.
- Net-centric principles (including open architectures) to improve interoperability and the use of commercial software when possible.
- Technical infrastructures with increased bandwidth to handle the demanding requirements of video and sophisticated applications.
- Multilevel security systems with proper partitioning and access control of sensitive data.
- Information management approaches and software widely used in the commercial sector to process, manage, structure, analyze and present information more effectively.
- As they build a deeper understanding of collaboration performance and implement solutions to build capabilities, defence forces also need to focus on improvements in coalition planning and leadership development.
- Language translators built into applications.
- An increasing number of collaboration tools (e.g., dynamic directory technologies) that can help users identify the right person, build networks and share information.

3. Improve coalition planning to adapt to dynamic operational requirements.

The survey data clearly indicates that different operations require coalitions to work in different ways. For example, it appears that shorter, more focused operations will benefit from simpler coalition organization, systems and procedures, whereas longer-term operations will benefit more from documented policies, procedures, structures and systems to facilitate optimization of the coalition network.

For this reason, we have introduced the concept of the collaboration gap. Coalition planners can use their understanding of the demands of the operation, as well as their own and coalition partners' capabilities, to tailor their approaches and optimize coalition per-

formance for any given operation. The agreed approach in all areas (processes, information sharing and use of technology) can then be documented in shared concept of operations/standard operating procedures (CONOPS/SOP).

However, above all, survey respondents indicate a need for flexibility, so that capabilities can adjust to the dynamic nature of changing operational demands. For example:

- Coalition information standards need to define a base level of authorized data to deliver a trusted common operational picture, on which the rest can then be built.
- Command structures should, in most cases, be flat (hierarchical or networked) and flexible to adapt to the demands of the mission.
- Information and security standards should aim to reduce restrictions in sharing tactical, nonrestricted data.

4. Provide leadership and support.

The actions described above will only succeed in bridging the collaboration gap if military leaders are fully committed to improving coalition performance and ensure this commitment is reflected in their defence forces' strategies, plans, policies, procurement decisions, command structures and leadership development.

Technical investments need to be part of a coordinated strategy to improve collaboration performance and need to be actively sponsored. If they are not, survey results suggest they may suffer compared to more traditional service-based equipment procurements.

Defence forces should continue their work with partners in defining common technical, data and security standards and operating tactics techniques and procedures (TTPs). There then needs to be effective communication and training in these approaches at all levels. These standards and the education process must help enable the various national forces to continue to operate within their established TTPs, recognizing the differences that coalitions, by their very nature, bring to the table.

Leadership is particularly important in developing collaborative behavior and building trust in coalition partners. Many respond-

ents talk about the need to appreciate different national cultures. Training and development through multinational staff colleges and training exercises can help build these competencies. However, it is equally important that these skills are recognized and encouraged. For example, collaboration skills should be identified in leaders' responsibilities and collaboration "champions" could be identified for each operation.

To bridge the collaboration gap and optimize the use of resources and the performance of future coalition operations, defence forces need to make progress on all fronts and be committed to a long-term improvement plan. Coalition planners need to understand the demands of particular operations and compare these with the combined capabilities of the coalition. Targeted actions then can be taken in the areas of collaborative ways of working, sharing information and exploiting technology to tailor the coalitions' capabilities more closely to the demands of the missions. Training to a common standard and superlative leadership will help ensure these plans are executed.

As defence forces take these actions to improve coalition performance, they should benefit from continuous improvement in the effectiveness of their coalition operations. This, in turn, will help sustain long-term relations among defence forces and, most important, lead to increased success on operations.

About the authors

Alan Baldwin, Colonel (retired), is the market and solution development leader for the IBM Global Defence Industry and its Network-Centric Operations initiative, focusing on global defence and intelligence organizations. He has served as an executive consultant since leaving the Marine Corps in mid-2004. Colonel Baldwin's Marine Corps career culminated with his role as the Senior Intelligence Officer for both the initial combat operations in Operation Enduring Freedom and Operation Iraqi Freedom. He served in a variety of command and staff positions during his 32-year career. He commanded infantry, reconnaissance and intelligence units and served in senior intelligence officer positions in both Marine and Joint commands. He also held key strategy and education leader-

ship positions. He holds three master's degrees. He can be contacted at alan.baldwin@us.ibm. com.

Frans Picavet, Major General (retired), is the IBM Global Network-Centric Operations "Ambassador." As a senior subject matter expert, he contributes to the development of IBM NCO policy, concepts and implementation guidelines. He has particular responsibility for working with NATO, where he previously worked as Director of the NATO Consultation, Command and Control (C3) staff and covice chairman of the NATO C3 Board. He has 37 years of experience with the Netherlands Army, reaching the rank of Major General. He is a frequent speaker at conferences on subjects relating to network-centric operations, in particular focusing on the technological, behavioral and organizational transformation required to achieve NCO. He can be contacted at frans.picavet@be.ibm.com.

John Reiners is a senior managing consultant with 20 years of experience directing and working on business improvement projects for both the public and private sector. He has several years' experience on consulting projects with the U.K. Ministry of Defence, working on business transformation projects for Land, Sea and Air Front Line departments. He now works for the IBM Institute for Business Value, where he researches, writes and deploys studies on issues of strategic importance to the Public Sector. He can be contacted at john.reiners@uk.ibm.com.

About our contributors

Fred Stein, a retired Colonel of the U.S. army, is one of the original thinkers at the outset of network-centric warfare (NCW); co-author of the book Network Centric Warfare; holder of the Arthur K. Cebrowski Award; and contributor to the advancement of NCW theory, NCW engineering development and NCW support to operational units.

The Royal United Services Institute (RUSI) is an independent think tank engaged in cutting-edge defence and security research. A unique institution founded in 1831 by the Duke of Wellington, RUSI embodies nearly two centuries of forward-thinking free discussion and careful reflection on defence and security matters. RUSI con-

sistently brings to the fore vital policy issues to both domestic and global audiences, enhancing its growing reputation as a "thought-leader institute," winning the Prospect Magazine Think Tank of the Year Award in 2008.

Elizabeth Quintana is Head of Technology and Acquisition at the Royal United Services Institute in London. She is the author of the 2007 white paper "Is NEC Dead?" which analyzed the United Kingdom's move to network enabled operations through the lens of the U.K. Ministry of Defence's industrial partners. She has a number of other research interests, which include the ethical and legal implications of automation on the battlefield, cyber security and the military use of space.

The Hague Centre for Strategic Studies (HCSS) conducts strategic research and analyses on issues of international peace and security, geopolitical developments and global trends, conflict management, defence transformation and terrorism. HCSS was established in 2007 as an independent think tank by the Netherlands Organisation for Applied Scientific Research (TNO). HCSS combines the technological know-how of TNO with strategic expertise, enabling policy-oriented analysis and research. It translates conceptual thinking into solution-oriented policy and operational recommendations.

Stephan De Spiegeleire is Senior Defence Scientist at the The Hague Centre for Strategic Studies. He has worked for a number of think tanks on both sides of the Atlantic (ten years for RAND) in various areas of defence and security planning. He has just published "Closing The Loop. Towards Strategic Defence Management."

Key IBM contributors

Stephen M. Bahr senior managing consultant; Global Defence/Network-Centric Operations; IBM Global Business Services; Colonel, U.S. Army (retired)

Michael L. Clifford, Asia Pacific defence subject matter expert, IBM Global Business Services

Barry Eldridge, Network-Centric Operations enterprise collaboration solutions leader, IBM Global Business Services

John Palfreyman, Network-Centric Operations solutions leader, IBM Global Technology Services

John Park Jr., Network-Centric Operations solutions business development executive, IBM Global Business Services

Lawrence Sellin, business solutions partner, Nordic region, Network-Centric Operations, IBM Global Business Services

Mike Small, intelligence leader, Network-Centric Operations, IBM Global Business Services

Fred Streefland, Defence and Network-Centric Operations solutions professional, Benelux, IBM Global Business Services

William Timme, Navy/Marine Corps coaccount leader, IBM Global Business Services

Contacts

William R. Phillips Global defence industry leader IBM Global Business Services

william.r.phillips@us.ibm.com

Leendert van Bochoven EMEA defence leader Network-Centric Operations IBM Global Business Services

L_van_Bochoven@nl.ibm.com

Shaun Watson Asia Pacific defence business development executive IBM Global Business Services

shaun.watson@au1.ibm.com

The right partner for a changing world

At IBM, we collaborate with our clients, bringing together business insight, advanced research and technology to give them a distinct advantage in today's rapidly changing environment. Through our integrated approach to business design and execution, we help turn strategies into action. And with expertise in 17 industries and global capabilities that span 170 countries, we can help clients anticipate change and profit from new opportunities.

Album

Barriers to the Implementation of the 'Smart Defence' Concept

Todor Tagarev, Venelin Georgiev

Associate professors, Centre for Security and Defence Management, Institute of Information and Communication Technologies, Bulgarian Academy of Sciences, www.IT4Sec.org, www.defencemanagement.org, Practical experience in defence policy and planning, programming, armaments policy

Outline

- 'Smart Defence' highlights
- Background
- Barriers
- Critical steps

'Smart Defence' highlights

- Prioritisation – 'core capabilities'
- Specialisation – within NATO and EU, 'pooling and sharing' within the national security sector
- Multinational acquisition and maintenance of defence capabilities
- Focus of efficiency
- Comprehensive approach – "Do that at what you are best; cooperate with others."

Background

- Difficulties in adapting Bulgaria's defence establishment to the post-Cold war realities during the 1990s
- Missed opportunities for advancing defence management upon NATO membership
    - Limited emphasis of 'high priority' deployable capabilities
    - No visible specialisation
    - No cohesion among component defence policies

- Integration of the defence technological and industrial base
- High expectations, but meagre outcomes of the offset policy
- Anecdotal experience in managing industrial participation in multinational projects

- Defence budget framework
  - Nominal budget
  - Defence expenditures, PPP, per personnel

Barriers

- Rational, objective comparison of options; selection of options that are more efficient
- Efficiency: effective operation as measured by a comparison of production with cost; ratio of the result to the energy, time, and money used to deliver it

- Do we know how to measure results? Which results? In what timeframe?

'Juste Retour'?

- Strong expectations that investments in defence will be beneficial to 'society' as well
- Changing one essentially administrative mechanism (offset) with another one – managing participation in multinational projects
- On the 'upper' or 'lower end' of technological and industrial contribution?

Accountability and Oversight

- While not entirely mature, the capacity of society and parliament for democratic oversight of defence has been growing for two decades
- 'Smart defence' – transfer of decision making on substantial defence policy issues to a multinational framework
- How to preserve transparency and accountability?

Pooling and sharing

- Psychological aspects of 'relying on others' in situations less demanding than an Article V scenario
- Commitment to assist others
- Can we credibly reconcile potentially urgent operational demands and political decision making processes?

Critical steps

- Define promising 'towers of excellence'
- Decide on specialisation
- Advance an environment for 'pooling and sharing' (laws, procedures, training, exchange, multinational exercises, joint units, incl. in operations, …)
- Open the defence establishment for cooperation with national and international partners
- Increase substantially investments in defence R&D, with focus on participation in multinational projects and programmes

Conclusion

- A promising concept
- Number of challenges need to be addressed so that it could be implemented

- Questions?

Human Dimension of Smart Defence

Cap. (N) Prof. Yantsislav Yanakiev, D.Sc.
Col Assoc. Prof. Zaharin Markov, Ph.D.
G.S. Rakovski National Defence Academy,
Defence Advanced Research Institute

1. The Idea of the human dimension of "Smart Defence"

There are a lot of papers published and activities conducted recently dedicated to the issue of "smart defence". Here are some of them:

- NATO Defence Ministers Plan for NATO Forces 2020 – 2012;
- National Armaments Directors Discuss Smart Defence – 2012;
- Smart Enough? NATO's Response to the Fiscal Crisis – keynote remarks by the NATO Deputy Secretary in Slovakia, 2012;
- NATO 2020 – Shared Leadership for a Shared Future – Speech by the Secretary General at the Brussels Forum, 2012.

This is only a very small part of the articles and activities on the topic, but it is quite clear that "smart defence" is something which is considered to be crucial for NATO's stability and survivability as organisation. If it is necessary to give a more convincing example of the importance of the situation we may compare it to the process of NATO's transformation, introduced in the early 90s of the 20th Century and, again, like in those days, it is about NATO's future and development. Certainly, the question which could be asked, most probably, by many people, would be "Why is it so important after all?"

There might be a great number of approaches to answer this question but perhaps the most convincing one would be to point out the challenges which NATO faces at the moment and which might have

a long-term effect on its functioning and after that to define "smart defence" as a tool to tackle these challenges.

In his Annual Report for 2011 NATO Secretary General identifies a number of challenges for NATO – tackling emerging security challenges (cyber defence, missile defence, terrorism etc.), modernizing NATO (structures and capabilities), cooperative security (mutual solutions to global issues) (NATO Secretary General's Annual Report, 2011). In the beginning of the new century NATO has found itself in a very complicated situation – rapid political changes (Arab world), economic crisis, greater demand for available capabilities and at the same time – lack of resources – human and financial. If we look at the defence budgets of NATO member states for 2011 we can see that 18 out of 28 nations had lower budgets in comparison to 2008. Only three Allies still keep their budget at the required 2% of GDP level "This budget cut leads to cancellation or delay of equipment and projects. At the same time the equipment is aging and wear as a result of use in operations. There is also reduction in training rates and redundancy of personnel" (NATO Secretary General's Annual Report, 2011).

The majority of Allies are facing difficulty in maintaining the proper balance between short-term operation and long-term investment expenditures in light of decreasing defence budgets and increased expenditures rising from the cost of contributions to current operations. So, the idea is that the current approaches and solutions are not effective enough and quite understandingly – not appropriate in this situation. It seems quite logical in this case to look for something new. The new approach is considered to be the smart defence approach. In some documents it is described as "a new way of acquiring and maintaining capabilities" (NATO Secretary General's Annual Report, 2011). The anticipated result would be building greater security not with more resources but with greater collaboration and coherence of effort among member nations and partners. In doing this nations are supposed to focus on few very important issues:

- prioritizing the capabilities needed most;
- overcoming shortfalls;
- specialization – coordination of decisions;

- multinational solutions over national – including acquisition, training and logistic support;
- avoiding overlap with EU initiative on "pooling and sharing";
- a long-term vision for a new way for delivering capabilities.

In another speech NATO Secretary General says that the smarter way is to prioritize, specialize and to coordinate (NATO 2020 – Shared Leadership for a Shared Future, 2012). The point here is that nations should focus not only on what to cut but also on what to keep, and to choose multinational solutions instead of unilateral solutions, as well.

Back in 2011, in Brussels there was a conference about smart defence. At that conference the topic was discussed from a point of industrial and technological cooperation. The participants came up with the definition that "Smart defence covers any, or every, phase of capability development – from research and development, to production, procurement, maintenance and training" (Smart defence smart TADIC, 2011). Further they say that nations will be able to provide capabilities together that they can't afford to provide alone. It is important for NATO to have the right capabilities and the key is not ownership – the key is availability.

As it could be seen from the examples the political background of "smart defence" is prioritization of capabilities needed most, specialization and cooperation. The practical outcome is expected to be capabilities – available, affordable and applicable (usable). And there comes the next question: "How can we achieve these capabilities?"

First of all, it is necessary to say that the extensive approach to developing capabilities is not acceptable and not possible any more. The examples quite clear tell that there is no chance to think of extra money and resources allocated for defence purposes. This is a signal that it is high time to try to develop intensive approaches and to utilize what has been given in the best effective manner. In this case it would be very appropriate to say that we need to work smarter, not harder.

Secondly, it might be useful to bring the point that usually, when people speak about capabilities they have in mind cutting edge technology, smart weapons, and high-tech devices. This is partly

true. However, this is not the whole truth. Besides the technological part there is another, very important component, as well and this is the human component of the product bearing the name of capabilities. Certainly, from a theoretical point of view, there is a great number of explanations of capabilities in the continuum between purely technical to purely human centric approaches. We think that neither of the extremes is productive enough. So, the approach which could be considered to be effective and efficient should be a twofold balanced approach – human and technological (material) components interacting. This interaction leads to the required performance (individual or collective) and finally produces affordable, applicable and available capabilities. In order to get the right product (capability needed) this human-technology interaction needs appropriate processes to be developed and certain set of organization to be established. Having this in mind it could be argued that the human part or as we call it the human dimension of this interaction is defined by people, processes and organization while the technological (material) part consists of platforms, high-tech devices, resources and other tools, operated or used by people.

When we say people it should be quite clear that we are talking about education and qualification of the human component. This means having the right people (properly educated and trained) for the job. To meet this requirement we need education system capable to produce competent people for scientific and research sector, for schooling purposes and certainly people, competent enough to carry out their tasks.

Processes are actually expressing the individual performance and when we talk about organization we mean having those people working together, their coherence in the organization and the level of collaboration.

Of course these ideas and assumptions need to be tested and validated and having this in mind we dedicated the second part of this paper to the findings and analysis of the research data focused on the idea of the human dimension of „smart defence".

2. Smart Defence: Human Dimension – Research Findings

2.1. Main focus of the paper (general overview of the research work)

In this part of the paper we suggest a view about the concept of smart defence which is different from the traditional technical or mechanical understanding of defence capabilities development where the terms armaments "production", "procurement", "maintenance" and "savings" dominate.

In our understanding the attention to several core elements of defence capabilities transformation such as "organization", "training", "leadership development" and "personnel" is significantly underestimated both in the policy speeches and academic debate. This could become a barrier to the successful implementation of the concept of smart defence as far as the smart defence is only possible if we rely on smart people united in smart teams and smart organisations.

Therefore, we decided to use the umbrella term "*Human dimension of smart defence"* to introduce the topic of all these important non-material elements of defence capabilities development which are still outside of the policy-makers' and public's attention. Having said this, we in no case underrate the role of the technological elements of defence capabilities development. On the contrary, we think that in the context of changed operational environment, limited defence resources and increased requirements to organizational performance, the focus of the efforts should be to find the balance between the human factors and technology, i.e. we need human-systems integration approach which will provide synergy effect as the best possible way to implement effectively smart defence concept in the practice.

In addition, our understanding is that *the core idea of the smart defence concept is to plan and carry our effective and efficient coalition operations*. It is wide-accepted that multinational coalitions are complex assemblies of people, structured in teams of teams and networks, representing diverse national and organizational cultures, with different education and training, doctrines and con-

cepts, organizational structures, decision-making procedures, level of technological advancement, etc. Therefore, we decided to focus the research on identifying existing shortfalls for effective collaboration between coalition partners. In addition, we will summarise some lessons learned and suggestions for improving operational effectiveness. In the end, we will formulate some priority under-researched areas from the Bulgarian viewpoint that could be covered in the framework of Science and Technology (S&T) Cooperation in NATO in order to improve effective collaborative working.

2.2. Levels of analysis

Following our understanding of the concept of smart defence and the structure given above, we will organise the analysis in the paper in three levels: (1) Identified shortfalls related to individual performance; (2) Shortfalls related to organizational effectiveness; and (3) Shortfalls related to the effective collaboration and achieving coherence among nations.

2.3. Empirical Data Sources

The paper utilizes some of the results of two focus group discussions with Subject Matter Experts (SMEs) from the NATO School in Oberammergau, Germany, and the NATO Allied Command Transformation (ACT) in Norfolk, Virginia, USA, as well as SMEs interviews with key personnel at Kosovo Force (KFOR) Head Quarters (HQ), carried out in the framework of NATO Research and Technology Organization Task Group "Improving Organizational Effectiveness of Coalition Operations". These events were conducted under the direction of one of the co-authors correspondingly in 2008, 2009 and 2010. The goal of these discussions and interviews with SMEs was twofold: (1) to identify barriers and enablers of effective collaboration in multinational operations; and (2) to summarize some suggestions for improving operational effectiveness of coalition operations with particular focus on NATO HQs.

During the group discussions and interviews the SMEs responded to a set of pre-defined questions about their experiences related to: (1) impediments and enablers of operational effectiveness in multinational environment; (2) proxy measures of mission success; (3)

characteristics of an effective multinational HQ, and (4) suggestions for improving operational effectiveness.

3. Results

3.1. Human dimension of smart defence: shortfalls identified with respect to individual performance

One of the most important problems regarding the individual performance in coalition operations appears to be the process of *cultural adaptability and adjustment in multinational setting*. The existing research findings indicate that the lack of skill in multinational teamwork is a specific barrier to effective performance in coalition operations (Pierce, 2002); (Pierce & Pomranky, 2001); (Sutton, & Pierce, 2003).

The term cultural adaptability is defined as "the ability to understand one's own and other's cognitive biases and to adapt as necessary, to ensure successful team performance" (Sutton, Pierce, Burke & Salas, 2006). This is a very important issue because the cultural differences may not be only a direct or causal factor for effective integration in multinational military setting. It can also have more indirect impact and can put its imprint on the other components of effective cooperation in multinational coalitions.

In this regard, the analysis of our data reviled several possible cultural barriers for the successful collaboration in coalition operations that deserve particular attention. First of all, there exist *different mental models of overcoming uncertainty* in the complex operational environment. This is related to culturally based biases in the need for information to make a decision. On the other side, one can identify culture of fear for making incorrect decision which might affect the unwillingness to take a decision at all. Both situations could undermine operational effectiveness. Additional potential barrier which is also a result of the different national cultures can be defined as *task orientation vs. the need to spend time building and maintaining relationships*. The first situation is more typical for the so the nations from the Anglo-Saxon cultures, while the second type of behaviour could be recognised, for example, among the representatives of the South East European cultures. The next

essential cultural barrier is related to *different leadership styles* (for example: direct vs. indirect) which could lead to misunderstandings or misperceptions of the intention of the leader. The SMEs are unanimous about the role of the leadership as a factor that shape the organizational culture and thus influence the effectiveness of coalition operations. The role of the leader and specific leadership capabilities in a multinational environment are critical factors regarding the establishment of shared vision and shared awareness with respect to goals and tasks.

Last but not least, one should point out *the language barrier – oral and written communication* as an obstacle for effective collaboration in multinational operations. The problem is certainly multifaceted. On the one hand, non-native English speakers often do not comprehend the meaning or context of English speech. The respondents explain the situation in such way "the main difficulties are with the mission language because every nation speaks its own version of English language". In the same time, the level of English language proficiency is related with the situational awareness and the quality of task performance. On the other hand, native English speakers also have difficulties with non-native speakers and therefore, sometime assume incompetence on the part of non-native English speakers. Moreover, there exist the basic problem with the use of NATO abbreviations and so-called "NATO slang" which add to linguistic confusion across the various languages in the NATO HQ.

3.2. Human dimension of smart defence: shortfalls identified at organizational level

The identification of shortfalls in effective collaboration at organizational level is very important as far as the existing research in the area of business as well the military organizations shows that approximately 80% of performance issues are attributed to environmental factors such as manpower, systems, and processes. This means that the organizational issues are more likely to present a barrier to effective human performance than individual-focused issues, such as knowledge and training (Quiram, 2008).

The analysis of our data confirms that *different national, military and service cultures* which reflect in different organizational norms,

procedures and national work ethics can undermine operational effectiveness and the process of formation of unique organizational culture within the coalition. The problem is that the different organizational norms and procedures sometimes can induce perception that the representatives of the other nations behave in improper way. In addition, there exist *divergences in decision-making processes* in the coalition. For example, in some nations there exists high level of centralisation of decision-making, while others follow quite de-centralized model.

Another important barrier to effectiveness of coalitions appears to be the *lack of organizational knowledge* because lessons learned are not systematically passed on. This is related to the organisation of the process of the handing-over of positions in the multinational HQs and the willingness of the representatives from different nations to share information with their successors.

Next barrier which should be carefully analysed is *the lack of adequate manning*. The SMEs shared the opinion that frequently, "individuals are not qualified for their assigned role" and that "some nations never contribute, but merely ride out their time". This situation generates problems with respect to reasonable distribution of tasks and responsibilities among coalition partners as well as the development of internal social networks in the organisation.

Last but not least, the SMEs identified as a problem the *lack of cultural awareness training* of the personnel, participating in NATO multinational operations and Cross-Cultural Competencies building.

3.3. Human dimension of smart defence: shortfalls identified in collaboration and coherence among nations

One of the most important organizational factors that create tensions in multinational forces is *nation-centric politics, related to imposing restrictive caveats to employ the troops during the operation*. In this regard the SMEs share the opinion that *the existence of national caveats is directly related to the trust among coalition partners* and mission effectiveness. The problem is multidimensional. On the one side, in the extreme circumstances "some countries' soldiers would not participate in dangerous activities". They are concerned that "in many times the reactions and decisions are

taken with delay" because "the authorization takes such a long time that the armed response is given late". Therefore, SMEs think that "the political power must rely much more on the commanders on the field". The restrictive caveats undermine mission effectiveness and personnel security.

Other important problem acting as barrier for effective collaboration in multinational environment is *the lack of individual, organizational and national trust.* The most frequently discussed dimension of distrust is related to the "perception of superior behaviour on behalf of the representatives of some nations, bad treatment as second-hand people, or application of double standards". What is important, these perceptions are comparatively wide-spread among many nations. In addition, there exists a perception that some people coming "from the major powers behave as dominating and arrogant, mostly working in the interest of their own countries, and not for the mission" Next, the distrust among the representatives of different troop-contributing nations on the field is related to the perception of "different goals and that some colleagues are working generally in the interest of their own countries, not for the success of the mission". Another important element of distrust in multinational environment is related to "the difficulty to overcome the weight of history". Despite that this is not wide-spread attitude, it deserves attention.

A third and particularly important barrier to effectiveness of coalition operations appear to be the *lack of effective and timely sharing of information.* The problems with the lack of communication and poor information sharing process are multidimensional, both from technological and human nature. Some of the typical explanations given by the respondents are "people not wanting to share information", "lack of social networking opportunities", "lack of info sharing systems" and "lack of understanding of team members' information needs".

Next most frequently discussed factor of operational effectiveness is related to different *rotation timeframes among national positions in the coalition HQs and the lack of synchronisation of national rotations.* In this regard, the SMEs concur that different rotation cycles hurt organisational effectiveness because it creates difficulties in

the adaptation among the national representatives and development of social networks.

Another important organizational barrier for effective cooperation in multinational environment is related to different *national professional military education and training and different amounts of experience in multinational operations*. In this regard, the SMEs concur that "different national and NATO education and training systems, along with differing levels of experience in multinational operations" hinder their effectiveness. The SMEs agreed also that "there is still a lack of NATO pre-deployment training". One can speculate that probably the reason for these perceptions is the different approaches in application of the education and training procedures in diverse troop-contributing nations. For example when the military follow the same procedures, the colleagues from these countries collaborate easily. The other issue is related to individual vs. collective training. Individual training is responsibility of each troop-contributing nation, whereas the collective one must be done strictly according to the procedures of the international organization or framework nation responsible for the operation. A specific gap in the pre-deployment training according to some respondents is the preparation for work with non-military actors in the field.

Last but not least, one should mention the *lack of a comprehensive approach to doctrines & concepts in the coalition operations*. Among the most frequently mentioned problems are "unclear and unstable goals, changing tasks and lack of common understanding of goals and mission end state" among coalition partners. Additionally the SMEs' indicate that a "lack of a comprehensive approach to doctrines and concepts" is a major problem concerning effectiveness of coalition operations.

4. Lessons learned and suggestions for improving operational effectiveness

One of the most important lessons is related to political-military decision-making when multinational operations are planned and executed. First of all, clear and stable goals and tasks as well as comprehensive approach to doctrines and concepts are a must to

ensure common understanding of mission end-states among coalition partners. In addition, the effectiveness of coalition operations strongly depends on reducing the capability and technology gaps amongst the coalition partners and enhancing the technological interoperability in national systems to improve information sharing and cooperation among different troop-contributing nations in the coalition. Last but not least, the decision-makers should minimize the restrictive national caveats in the employment of the troops during the operation. This is an important issue that directly influences the level of trust among the coalition partners.

On the second place are suggestions regarding professional military education and training for multinational operations and missions. Having in mind the nature of current military operations, one can identify joint, multinational and interagency education of the military leaders as a key factor for coalition operations effectiveness. Cohesion and a common understanding can be created by joint, multinational pre-deployment training when possible for all members of the organization to include leadership. Joint efforts and shared experiences create the power. Besides, it would be useful for the officers to receive education in broader scale that develops their social competencies and builds new skills corresponding to the new tasks performed in these operations. This includes knowledge and skills how to interact with civilian agencies; how to work with local population and local authorities in the host country; how to react in hostage situations; how to restore public order; how to handle media, etc. It is very important to promote understanding among the military professionals and to help them identify many actors (diplomatic, military, NGOs, media, etc.) They should be prepared to assist the work of the civilian organizations and to understand the way these organisations work. This is in practice application of the comprehensive approach to crisis management operations. Furthermore, development of cross-cultural competencies should be incorporated as an essential part of the professional military education and the pre-deployment training.

The most important components of the cultural awareness training are related to the coalition partners' national and organizational culture; understanding different leadership styles; mission

area local population culture and history; adversary culture, etc. Briefly, the cultural adaptability education and training should become a necessary pre-requisite to take an international assignment. Some tools have been already developed to improve the quality of cross-cultural education and training such as GLOBESMART®COMMANDER (www.globesmartcommander.com; www.defenseculture.org).

Finally, particular attention should be focused on further improvement of language skills of the military to work in multinational environment. The language training should focus not only on the language issues themselves like difficulties in comprehension as a result of fast speaking on behalf of native English speakers, using slang, abbreviations, etc., but also on the culturally based cognition biases and perceptions. Only after overcoming the abovementioned shortfalls a common understanding will be assured, which we believe is fundamental for the successful integration in multinational teamwork.

The third important conclusion concerns specific leadership abilities in multinational operations. The good leadership is critical to operational effectiveness. There is a need of strong leader who listen to people, who can make decisions quickly, and who can make the best of a bad situation. The leader in multinational operation must be adaptable to change i.e. to develop the ability to learn from mistakes and quickly adjust to the situation.

The fourth group of suggestions is focused on the ways to enhance the individual, organizational and national trust among coalition partners. The analysis of our data confirms that the professionalism and responsibility leads to respected on behalf of the colleagues. It is important everyone to communicate with respect, regardless of the size of the national contingent, rank and the previous experience in international missions. In addition, honesty and openness in relations with foreign colleagues contributes to the increasing of mutual trust. Moreover, mutual understanding and support among the colleagues from different nationalities will be achieved by stimulating social networking and the development of informal networks as a key factor for improving successful task accomplishment.

4. Conclusion

We initiated the debate about the importance of the human dimension of smart defence because we strongly believe that in order to make the step from the theoretical debate to practical implementation of the concept we need first of all a change of the mental models of the people in the defence organization at all levels. Briefly, a transition from a concept to mind-set and building new coalition culture are the key factors of success in the practical implementation of the smart defence concept.

Therefore, we recommend focusing more attention to several core elements of defence capabilities transformation such as "organization", "training", "leadership development" and "personnel". In the context of very dynamic operational environment and limited defence resources, one possible solution to respond to the increased operational requirements is to improve the individual performance and the effectiveness of defence organizations. Moreover, special attention is needed to improve individual, team and organizational trust among coalition partners. Last but not least, a key factor of success in multinational operations is cross cultural competencies building and development.

Finally, we believe that in order to find solutions to improve effectiveness of coalition operations we need coordinated and shared research efforts in the framework of S&T Cooperation in NATO. The development of joint research activities in NATO framework is the right way to streamline the Bulgarian research and development institutions, in order to have access to the best available information and advice and thus, to support national decision making. Despite limited resources, we should be proactive and take leadership in joint projects on prioritized topics where Bulgaria can provide expertise for the Alliance.

References:

Klein P. & Haltiner K. (2005) Multinationality as a Challenge for Armed Forces, In: Military Missions and their Applications Reconsidered: the Aftermath of September 11th, Giuseppe Caforio and Gerhard Kümmel (Eds.), ELSEVIER Ltd.

NATO 2020 – Shared Leadership for a Shared Future – speech by NATO Secretary General at the Brussels forum, 2012.

NATO Defence Ministers Plan for NATO forces 2020.

NATO Secretary General's Annual Report 2011.

Pierce, L. G. (2002), Barriers to adaptability in a multinational team. Proceedings of the human factors and ergonomics society 46th annual meeting, 225–229.

Pierce, L. G., & Pomranky, R. (2001). The Chameleon Project for adaptable commanders and teams. Proceedings of the human factors and ergonomics society 45th annual meeting.

Quiram, T. J. (2008). U.S. Coast Guard HPT Workshop Proceedings.

Smart defence smart TADIC – conference to address Trans-Atlantic Defence Technological and Industrial Cooperation (TADIC), 2011.

Soeters, J. & Tresch Szvircsev, T. (2010). Towards Cultural Integration in Multinational Peace Operations. Defence Studies, 10:1, 2010, 272-287.

Stewart. K., et al. (2004) Non-technical Interoperability in Multinational Forces, http://www.dodccrp.org/events/2004/ICCRTS_Denmark/abstracts/130.pdf, accessed on 21 April 2007.

Sutton, J. L., & Pierce, L. G. (2003). A framework for understanding cultural diversity in cognition and teamwork. Proceedings of the 8th international command and control research and technology symposium, www.dodccrp.org/8thICCRTS/Pres/track_1.htm, accessed on 15 May 2006, 513–517.

Sutton, J.L., Pierce, L.G., C. Shawn Burke, & Salas, E. (2006) Understanding adaptability: A prerequisite for effective performance within complex environments. Advances in Human Performance and Cognitive Engineering Research, 6, 143–173. doi:10.1016/S1479-3601 (05)06005-4.

Internet sources:

http://www.globesmartcommander.com/, last accessed on Nov 29, 2011.

http://www.defenseculture.org, last accessed on Nov 29, 2011.

Preliminary Results of Interagency Working Group on Cybersecurity Problems in the Republic of Bulgaria

Gen (Ret.) Roumen Milanov

Secretary of the Security Council
at the Council of Ministers of Republic of Bulgaria

The Bulgarian membership in NATO and the EU imposed fulfillment of certain requirements for protection of critical communication and information NATO and EU infrastructure. At the Lisbon Summit cybersecurity was defined as one of main priorities for the Alliance. In this respect there are developed key documents to enable practical implementation of NATO cybersecurity policy.

At the same time, the NATO Consultation, Command and Control Agency (NC3A) launched initiative for cooperation in multinational cyber security in order to pool efforts of Member States to protect NATO critical communication and information infrastructure. In this regard, it is proposed to Member States to join the implementation and financing a multinational project to acquire cybersecurity capabilities.

In addition, over the past few months several high-level forums were held on the NATO cybersecurity policy as the main objectives were aimed at consolidating the efforts of Member States to achieve full operational capabilities at short notice in accordance with the priorities and decisions of the Lisbon summit.

This requires according responsibilities also for Republic of Bulgaria in the field of cybersecurity for accelerated development of operational capabilities. For that reason the Republic of Bulgaria is required to execute Armed Forces Goal NQ 2781 – Cyber Defence and Information Assurance (cyber and information security).

Building such capabilities in NATO Member countries is at a different stage of development. In states which are leaders in this area

(U.S., Britain, France, Germany, Canada, etc.) there are separate structures built at a strategic level – cybercommands, specialized national agencies and others. Simultaneously, there is striving for national and international legal regulation of all activities related to cybersecurity.

In the European Union there are developed methodological guidance of the European Network and Information Security Agency (ENISA) (WP2006/5.1 (CERT- D1/D2), which describes the establishment and operation of Computer Security and Incident Response Team (CSIRT) in Member States. Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Critical Information Infrastructure Protection – "Protecting Europe from large scale cyber-attacks and disruptions: enhancing preparedness, security and resilience" {SEC(2009) 399} {SEC(2009) 400} assigns individual countries for availability of full current national centers of action in relation to incidents in the area of information security, working in continuous mode.

There is a well-known decision of the Government of Bulgaria to speed up the construction of infrastructure of e-government. Expanded use of information networks and technologies in the country governance and providing electronic services to citizens significantly increases the risk of cyber attacks that could be with severe consequences. To address this risk it is necessary to create in synchrony capabilities to protect communication and information resources. In this respect the Minister of Defence made a proposal to the Prime Minister to set up an interdepartmental working group to analyze the current state and problematic issues in cybersecurity in Bulgaria with representatives of MoD, MoI, Ministry of Economy, Ministry of Transport, State Agency "National Security', State Commission on Information Security and Bulgarian Academy of Science. It should be noted that the Secretariat was provided by the Ministry of Defence, whose employees have significantly contributed to the constructive and successful spirit in the working group.

Analysis and evaluation of current status showed that there are number of problems. Legislation of the Republic of Bulgaria has

not treated issues of cybersecurity of critical communication and information infrastructure. There is insufficient coverage of regulated processes and responsibilities assigned to a particular body (structure) to implement the government policy in this area. We do not have developed national strategy (concept) for cybersecurity.

The Classified Information Protection Act (CIPA) only regulates public relations in classified Information, and the Law on e-governance covers a limited area of information security.

Responsibility for developing and implementing Policy for interoperability and information security of communication and information systems of state administration (processing unclassified information) are assigned to the Ministry of Transport and Communication, as well as organization and functioning of Governmental National Computer Security Incidents Response Center (Team).

The State Commission on Information Security and State Agency "National Security" exercise their statutory powers only in field of classified information. There is no regulation providing a unified coordination to protect both types of information.

There is a the lack of a national interdepartmental body to coordinate and consolidate the efforts of the state administration, academia, the research departments and industry organizations in order to develop a National Cyber Security Strategy, which will cover both public networks and classified information networks in accordance with the policies of NATO and the EU in this area. The crucial fact is there is still slowly evolving national system for Computer Security Incidents Response on incidents of cyber attacks.

In result of the working group analysis there is a proposal to establish a structure for cybersecurity, in order to perform the functions of national authority and to assist the Prime Minister on cybersecurity. It should have two lines of responsibility. The first is coordination and management of a national system for Computer Security Incidents Response to cyberattacks. In this sense it is appropriate in constituted structure to has National Center for responding to computer incidents that will interact with centers in networks, but also with similar structures of NATO and the EU. The second field of activity is the development and implementation of the policy of

Republic of Bulgaria in cybersecurity and to interact with state and local authorities, NGOs, academic sector and international authorities and organizations (NATO, EU, ITU, etc.).

The development of options for rational development of the national system/ structure on cybersecurity will be discussed with the institutions of state administration, Internet service providers, banks, business representatives, academics and others. In this sense we see this presentation on the cybersecurity issues at this forum. We believe that your comments and opinions will be useful for rational functioning of our system of cybersecurity.

Thank you for your attention!

Mechanisms for Regional Cooperation in the Area of Defence and Security

Assoc. Prof. Dr. Dimitar Dimitrov,
Head of Department "National and Regional Security", UNWE-Sofia

Dr. Georgi Penchev,
Deparment "National and Regional Security", UNWE-Sofia

Introduction

The Lisbon summit agreed on how NATO member states can prioritize, specialize and share multinational projects to improve their security capabilities in a time of defence budget constraints under Rasmussen's "smart defence" initiative. Exploration of potential pooling and sharing projects must begin with an analysis of the obstacles to integration. These will differ from region to region.

A sensible pooling and sharing policy will take into account these regional differences and produce strategies tailored for discreet parts of Europe, especially for CEE/SEE countries. Small and medium-sized countries are likely to have stronger bonds of trust and solidarity, which will allow them to integrate more deeply than the big states. They also have less choice; they face a "share it or lose it" moment: unless they can cut cost of certain military skills and activities through collaboration they stand to lose them in the current round of budget cuts.

That's why the role of the multinational projects and initiatives under NATO umbrella with close cooperation with EU is very important. The countries involved benefit from saving development and procurement costs by employing economy of scale, standardization and interoperable solutions

The recent Report by the Multinational Approaches Task Force has identified nearly two hundred multinational proposals. They are grouped into three tiers, reflecting the maturity and level of interest in the proposals, but still they are NATO projects.

The multinational regional projects in SEE countries have potential of more synergy between partners because of their different statute in regard of NATO and EU, different needs and starting point of their defence and security transformation in time of crisis.

Something more, smart defence and comprehensive approach, by highlighting the role of multinational projects and regional cooperation, through established NATO processes and structures could achieve also a synergy between the Ministries of Defence, the Ministries of Interior, the Ministries of Economy and other Security bodies of the government, shaping part of e-governments.

The main focus of the report is the regional cooperation. The countries in the SEE region needs faster and convenient ways to communicate their specific needs in the area of security and defence in harmonization with NATO and EU priorities and accounting for their specific national interests. Thus the experience of NATO structures and countries is of great importance. The study is developed in comparison of three different regional co-operations within the NATO and EU – co-operation of Nordic Countries – NORDEFCO, the Vishegrad countries – V4 and countries of SEE Brigade – SEEBRIG.

Possibilities for Co-operation

The potential of cooperation is hidden in various small national project – in training, simulations, logistics, education, exercises and especially R&D and defence industrial cooperation, but also in relatively big (for SEE countries) procurement projects.

Internationally recognized regional body is one of possible ways to achieve better co-operation. It will support faster transition of the region to e-Government in addition to integrated C4ISR systems (to start with air and missile defence, cyber defence, crisis management, expeditionary operations / mission network), but at the same time will be key factor in consolidation and integration of ICT and defence industry in the countries involved and in the region as well as development of

their competitiveness for larger NATO/EU market. Regional body is important, because establishing Multinational Projects requires significant consultation and liaison with the NATO Strategic Commands, Agencies and other entities to ensure coherence with other NATO programs and activities in the area of multinational project.

Smart defence is based on capability areas that are critical for NATO, in particular as established at the Lisbon summit in 2010. For the purposes of smart defence, the Alliance nations must give priority to those capabilities which NATO needs most, specialize in what they do best, and look for multinational solutions to shared problems.

Aligning national capability priorities with those of NATO has been a challenge for some years. Smart defence is the opportunity for a transparent, cooperative and cost-effective approach to meet essential capability requirements.

With budgets under pressure, nations make unilateral decisions to abandon certain capabilities. NATO should encourage specialization "by design" so that members concentrate on their national strengths and agree to coordinate planned defence budget cuts with the Allies, while maintaining national sovereignty for their final decision.

Acting together, the nations can have access to capabilities which they could not afford individually, and achieve economies of scale. Cooperation may take different forms, such as a small group of nations led by a framework nation, or strategic sharing by those who are close in terms of geography, culture or common equipment.

Based on successful multinational projects such as Strategic Airlift Capability, the Alliance should also cooperate with Partners on a case by case basis, in accordance with its principles and procedures. Smart defence also presupposes innovative multinational cooperation by industry.

Smart Defence in the long term

Chicago Summit in May 2012 will be a first but essential step in implementing this smart defence concept, with possible agreement between the Allies on a series of concrete multinational projects,

and a commitment to a new approach and a new mindset as regards the acquisition, procurement and logistics.

Secretary General Rasmussen's speech to the Annual Munich Security, Feb 4, 2011 stressed on the following topics:

- How to build security during an age of budgetary austerity;
- Introduced "Smart Defence – how NATO can help nations to build greater security with fewer resources, but more coordination and coherence, so that together we can avoid the financial crisis from becoming a security crisis.";
- Sees three ways to get more security with available resources as follows:
  - Pooling and sharing
  - Reduce structures and slim down the bureaucracy
  - Strong NATO-EU strategic partnership;
- Sees Smart Defence as a vital priority for the Alliance, and a key objective of his tenure as its Secretary General.

The analytical materials and policy documents showed also that the EU crisis shall be set as one of the factors that prompted the non-standard cooperation. These projects are not aimed only to obtain the weapons but they will be something like instruments that can benefit the defence industry. Countries in other regions in Europe have travelled this road to cooperation. But Smart defence gives the opportunity to enter into smaller regional projects that do not start now, because the resources of small countries are not enough. Also in the Balkans, unfortunately, has traditionally race which will be a leading project nation, which is slowing cooperation. Smart defence projects under the auspices of NATO or the EU allows countries to unite, without conflicts to emerge from someone's leadership.

The Information Sources and the Framework of the Study

Researching on International Arms Trade can show some important aspects:

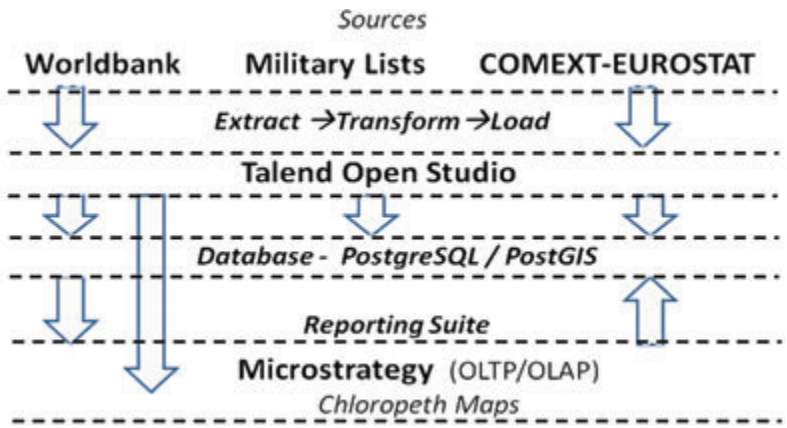
- The trade can shift the Production-Possibilities Frontier (Defence Capabilities) ;
- Indicates economics relations (and co-operations);

- If the trade is rational it can give additional rationality in domestic production and resources allocation;
- In long-term it can bring a specialization.

Some methodological remarks also have to be noted:

- Too many aspects of cost and benefits;
- The picture very often is blurred by other factors, secrecy and lack of information;
- Different types of statistical information (where it is available);
- Different formats of reporting and classifications;
- Changes in the formats and even changes of the countries.

The analysis benefits from the new Business Intelligence (BI) concept of binding data within new logical schema, layouts and visualisation. In brief, the elements of BI used are organized from the starting point of Extract-Transform-Load process to the final spatial visualisation. The framework of information processes and software used in analysis is shown on Graph 1.



Graph 1: Business Intelligence Elements – Data

In order to find the best information sources of the analysis preliminary survey was conducted and the following sources were examined:

- **Worldbank** – two databases on arms export and import: TRAINS-UNCTAD and World Development Indicators[1];
- European Commission's Reports on arms control and data on ***22 Military Lists***[2];
- **COMEXT-EUROSTAT – CN8** (Combined Nomenclature), **Groups 88,89 and 93**[3].

Finally the database EUROSTAT-COMEXT was chosen because it is most detailed, full and coherent on arms transfers. Data is collected on arms Import-Export for **all EU27** since 1988 on 80 parameters related to defence production for army, navy and the air force (**368 064 rows**).

In order to present properly the used information some data considerations from COMEXT have to be done as follows:

- The data is organised on Time-Partner-Reporter-Product basis (UNCTAD, SITC Classification[4]);
- **Reporters** are 27 EU member states;
- **Partner-Reporter-Import** means Reporter import products from Partner;
- **Partner-Reporter-Export** means Reporter export products to Partner;
- Data on Reporters is collected since theirs accession to EU;
- Reporters can make information secret on rows and columns and report without classification;
- Since 2006 data on military aircrafts is merged into civil aircrafts.[5]

The Comparison

The object of the Comparison is to find the similarities and dissimilarities of the analysed countries in order to find whether the trade

---

1 DataBank site of the WorldBank – http://databank.worldbank.org/ddp/home.do

2 EU External Action, Security-related export controls II – Military equipment – http://consilium.europa.eu/eeas/foreign-policy/non-proliferation,-disarmament-and-export-control-/security-related-export-controls-ii.aspx?lang=en

3 EasyComext, EU27 Trade Since 1988 By CN8, http://epp.eurostat.ec.europa.eu/newxtweb/

4 UNCTAD Handbook of Statistics, http://unctad.org/en/Docs/tdstat36_en.pdf

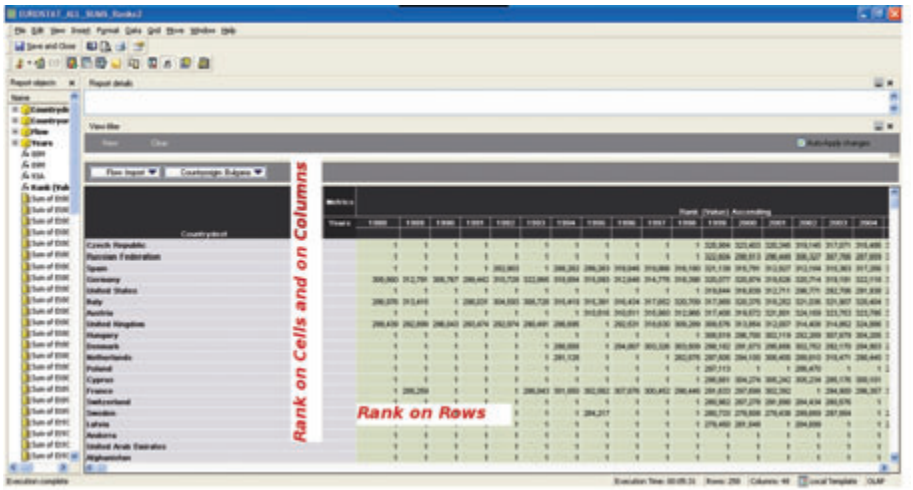
5 Easy COMEXT, External trade metadata, ttp://epp.eurostat.ec.europa.eu/newxtweb/setuplistmeta.do?keepsessionkey=true

between them is sustainable or it is not. If there is a amount of trade of goods and services and this amount is significant and time-stable it can be used as an indicator for on-going co-operation. The comparison is organised in three main steps as follows:

First, finding the data and the time trend of the amount of weapons trade;

Second, comparing the amounts between the studied countries;

Finally, the amounts of trade within the framework of the country's trade as whole are ranked.



Picture 1: Ranking the countries trade

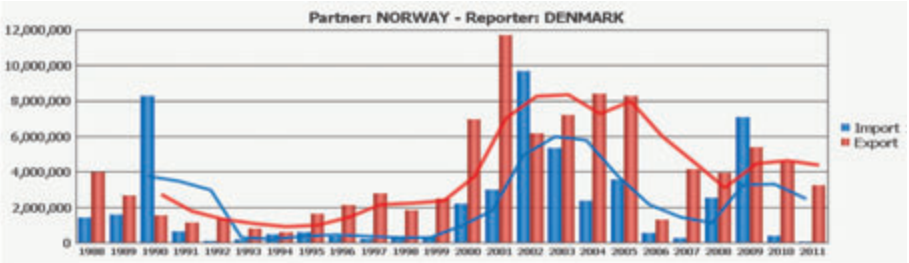
The ranking process is shown on Picture 1. The ranking process starts by inserting a new rank metrics in MicroStrategy Reporting Suite[6]. This metric assigns ranks for all country partners according to their respective trade values, first by years on columns and then sorting the rows according to the values for all years. The rows show value of ranks for a country-partner to the studied country.

[6] MicroStrategy Reporting Suite site, http://www.microstrategy.com/freereportingsoftware/

NORDEFCO

The countries involved in Nordic Defence Co-operation – NORDEFCO – are Denmark, Finland, Iceland, Norway and Sweden.[7] The co-operation is developed within the relatively homogenous countries – economically, socially, historically, culturally and politically.

Data presented at Graph 2 and 3 shows stable relationships in international trade between some of NORDEFCO countries. Graph shows relatively consistent trade which probably is affected by different other factors as defence budgets, various projects, economic crises and expansions, etc.

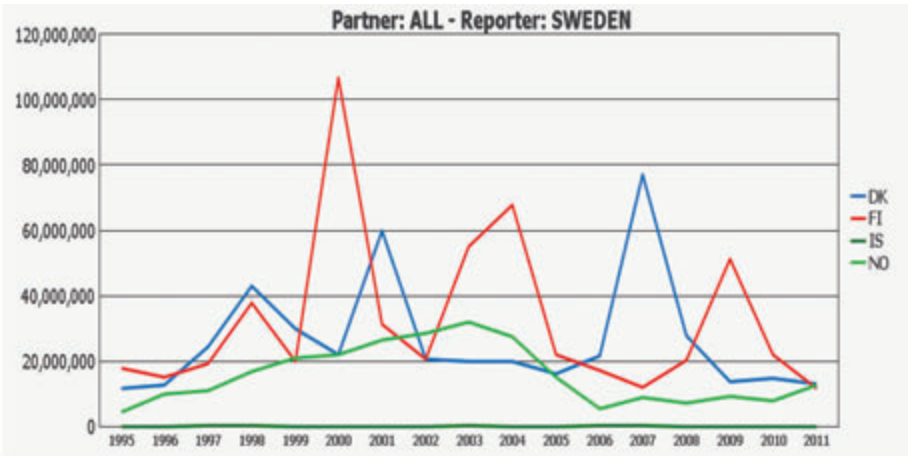


Graph 2

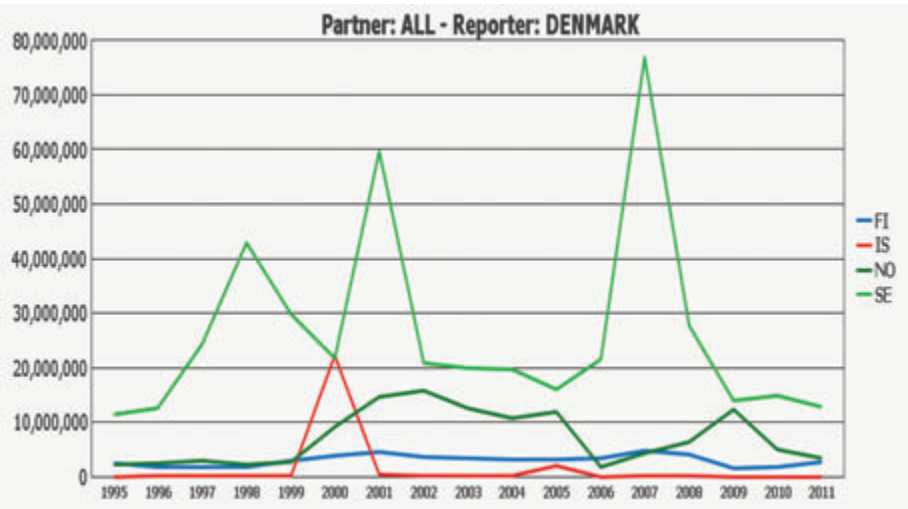
Graph 3

Graph 4 and 5 shows other section of trade (import and export) between NORDEFCO countries, which are related to amount of trade and significance of other partners in this co-operation.

[7] Facts about NORDEFCO, http://www.nordefco.org/facts-about-nordefco/



Graph 4



Graph 5

Import	Sweden	Denmark	Finland
1	UK	UK	USA
2	Denmark	Sweden	UK
3	USA	Netherlands	Sweden
4	France	USA	Russian Fed.
5	Finland	Germany	Italy
6	Belgium	France	Germany
7	Germany	Belgium	Canada
8	Italy	Italy	Israel
9	Portugal	Spain	Belgium
10	Canada	Finland	France
11	Norway	Japan	Austria
12	Austria	Austria	Czech Rep.
13	Netherlands	Portugal	Norway
14	Czech Rep.	Norway	Spain
15	Switzerland	Ireland	Ukraine

NORDEFCO
EU12
EU15
EU25
EU27
NATO non EU
Other Countries

Table 1: NORDEFCO – Ranks – Import

Exp.	Sweden	Denmark	Finland
1	UK	Sweden	USA
2	Finland	UK	Sweden
3	USA	USA	UK
4	Japan	Germany	France
5	Denmark	Netherlands	Germany
6	Austria	Belgium	Italy
7	Norway	France	Norway
8	Germany	Greenland	Denmark
9	Thailand	Norway	Belgium
10	France	Ireland	Switzerland
11	Netherlands	Canada	Bosnia and Herzegovina
12	Switzerland	Portugal	Canada
13	Switzerland	South Africa	Spain
14	Portugal	Italy	Netherlands
15	Canada	Estonia	Poland

NORDEFCO
EU12
EU15
EU25
EU27
NATO non EU
Other Countrie

Table 2: NORDEFCO – Ranks – Export

Finally, Table 1 and 2 represents the ranks in Import and Export of countries of NORDEFCO.

It is obvious that other countries of these co-operative organisations have the highest ranks both in defence export and import in their counterpart lists.

Visegrad Countries

Visegrad Group is the name given of the group of countries formed during their NATO and EU accession.[8] These countries are Poland, Slovakia, Czech Republic and Hungary. Visegrad Group is less formal type of co-operation – there are some agreements concerning group actions regarding EU and NATO accession and membership, but these agreements hardly could be considered as a stable, well-developed framework for defence co-operation such as NORDEFCO agreement.

Data presented at Graph 6 and 7 shows stable relationships in international trade between some of Visegrad countries.

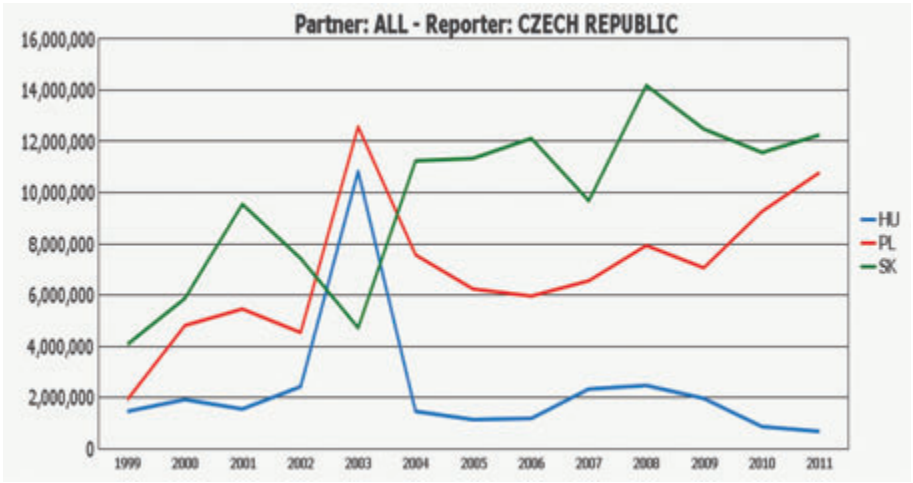
Graph 6

Graph 7

The trade (export and import) between closer as economic and social development countries – Czech Republic and Slovakia is more

[8] Visegrad Declaration 2004 on EU Accession, http://www.visegradgroup.eu/documents/visegrad-declarations/visegrad-declaration-110412-1

stable and more intensive than relatively distant countries such as Poland and Hungary.



Graph 8

Graph 9

Graph 8 and 9 shows that, probably within Visegrad Group there is one well recognized leader – Czech Republic which has closer relationships to other countries. Poland is bigger than Czech Republic as a market and as a budget, but its position is less developed.

Import	Czech Rep.	Slovakia	Poland	Hungary
1	UK	Sweden	UK	France
2	Russian Fed.	Czech Rep.	Germany	Italy
3	Austria	Germany	Czech Rep.	UK
4	USA	Austria	Spain	USA
5	Germany	Italy	Netherlands	Germany
6	Finland	Hungary	Italy	Czech Rep.
7	Italy	UK	Austria	Russian Fed.
8	Bulgaria	Spain	Ireland	Austria
9	Netherlands	Netherlands	Finland	Netherlands
10	Israel	France	Hungary	Spain
11	Sweden	Finland	France	Uzbekistan
12	Slovakia	Cyprus	Denmark	Lithuania
13	France	Lithuania	Sweden	Finland
14	Lithuania	Slovenia	Lithuania	Slovakia
15	Spain	Andorra	Portugal	Denmark

Visegrad Group 4
EU12
EU15
EU25
EU27
NATO non EU
Other Countries

Table 3: Visegrad Countries – Ranks – Import

Exp.	Czech Rep.	Slovakia	Poland	Hungary
1	Germany	Czech Rep.	Italy	Germany
2	USA	Germany	Germany	USA
3	Yemen	Hungary	UK	Netherlands
4	UK	France	Netherlands	Austria
5	France	UK	Finland	UK
6	Austria	Austria	Czech Rep.	Yemen
7	Slovakia	Netherlands	Sweden	Ethiopia
8	Bulgaria	Italy	Hungary	Italy
9	Italy	Spain	Denmark	Sweden
10	Poland	Cyprus	Austria	Finland
11	Georgia		France	Poland
12	Mexico		Bulgaria	Croatia
13	Hungary		Spain	France
14	Algeria		Belgium	Norway
15	Finland		Lithuania	Slovakia

Visegrad Group 4
EU12
EU15
EU25
EU27
NATO non EU
Other Countries

Table 4: Visegrad Countries – Ranks – Export

Table 3 and 4 confirms the above arguments that co-operation between Visegrad countries is less developed and less structured than co-operation in NORDEFCO.

SEEBRIG Countries

South-Eastern Europe Brigade "SEEBRIG" is not a form of economic or political co-operation.[9] It is a mainly military agreement for formation of a region brigade in order to achieve a regional military force, trust and co-operative training. These objectives do not suggest any resource co-operation other than sharing military personnel and military spending. The SEEBRIG Countries are Albania, Bulgaria, FYR of Macedonia, Greece, Italy and Turkey.

The countries are very different as history, economy, culture and even as religion.

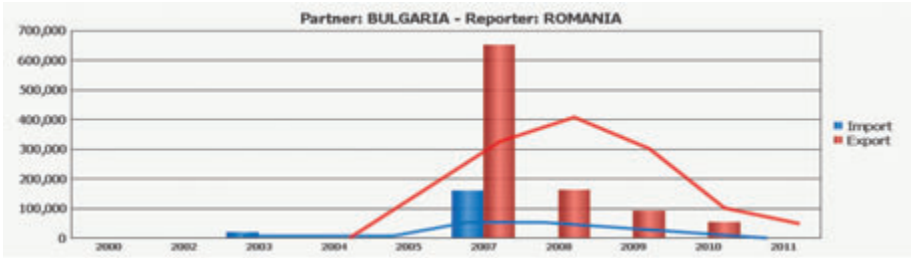
Graph 10

Graph 11

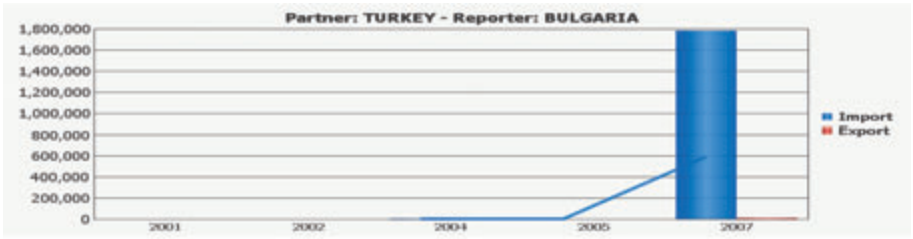
The data presented in Graph 10 and 11 shows that in this type of co-operation there are stable relationships and probably closer co-operation between the regional leader – Italy and its main regional counterparts – Turkey and Greece.

---

[9] Agreement on the Multinational Peace Force South-Eastern Europe, http://www.seebrig.org/publications/info-booklet/doc_download/48-mpfsee-agreement.html



Graph 12



Graph 13

Graph 12 and 13 shows that there are some sporadic trade relationships between other countries within SEEBRIG format.

Graph 14

Graph 14 represents the amounts registered by the leader in defence-related trade in the region – Italy. Table 5 and 6 confirms the weak relationships and co-operation within SEEBRIG Countries.

Import	Bulgaria	Greece	Italy	Romania
1	Czech Rep.	USA	USA	UK
2	Russian Fed.	Italy	UK	USA
3	Spain	France	France	India
4	Germany	Israel	Germany	UAE
5	USA	UK	Belgium	Israel
6	Italy	Germany	Austria	France
7	Austria	Belgium	Spain	Germany
8	UK	Netherlands	Switzerland	China
9	Hungary	Spain	Portugal	Spain
10	Denmark	Canada	Canada	Russian Fed.
11	Netherlands	Czech Rep.	Greece	Italy
12	Poland	Portugal	Netherlands	Hungary
13	Cyprus	Russian Fed.	Denmark	Czech Rep.
14	France	Austria	Turkey	Austria
15	Switzerland	South Africa	Japan	Netherlands

SEEBRIG
EU12
EU15
EU25
EU27
NATO non EU
Other Countries

Table 5: SEEBRIG – Ranks – Import

Exp.	Bulgaria	Greece	Italy	Romania
1	Czech Rep.	Russian Fed.	USA	India
2	Russian Fed.	USA	UK	UK
3	UK	Italy	France	Israel
4	Austria	France	Germany	UAE
5	Italy	Germany	Spain	Russian Fed.
6	Germany	UK	Belgium	Ukraine
7	France	Netherlands	Virgin Islands	France
8	Sudan	Cyprus	Switzerland	Austria
9	Switzerland	Austria	Greece	Italy
10	Ukraine	Canada	Portugal	Jordan
11	Macedonia, F	Turkey	Turkey	Pakistan
12	Lithuania	Jordan	Brazil	Hungary
13	Sweden	Malta	Sweden	Germany
14	Netherlands	Belgium	Japan	Portugal
15	Greece	Albania	Austria	Czech Rep.

SEEBRIG
EU12
EU15
EU25
EU27
NATO non EU
Other Countries

Table 6: SEEBRIG – Ranks – Export

Conclusions

Which requires the use of the concept Smart Defence? Modern weapons and defence technologies are becoming more expensive, more knowledge-intensive. Economic and financial crises also have a "contribution" for using this approach. At the same time there are many good examples and best practices where regional or multinational cooperation works. National approach to problem solving in the field of defence and security in some cases is quite costly. We conclude that the Balkans or South-eastern Europe have almost no defence or defence-industrial cooperation.

Currently states are faced with difficult choices and many defence projects were postponed or cancelled. Smart Defence concept makes it possible to use the experience of NATO and ensure clear procedures, rules and transparency of the processes of acquisition and competition, leading to fair market prices. The question is how to move on. Countries of the region have their own national priorities in defence. These priorities can be achieved at a reasonable cost through regional cooperation and regional projects. The region of Southeast Europe is interesting in the presence of countries – NATO members and EU candidate members and partners, which provides many new opportunities:

- The defence co-operations leads to increased levels of arms transfers and mutual benefits;
- The Co-operation is a long-term effort;
- There is a potential for cooperation in SEE/CEE Regions;
- NATO-EU Framework could facilitate closer co-operation among SEE/CEE Countries;
- Suitable mechanisms for co-operation should be identified (Smart Defence Approach).

Therefore, one of the ideas, which are to be discussed, is to create a regional office of NATO in the region of Southeast Europe. The potential of this office is the coordination of projects among countries in the region and/or some large countries to small projects. This provides opportunities for synergy both between countries and between defence and security and improves compatibility uniform standards.

NATO

Centre of excellence

Crisis Management for Disaster Response

Bulgarian Contribution to NATO Smart Defence Initiative

Col. Prof. Mitko Stoykov, Dr. Sc.

Director NATO CMDR COE

"Modern security environment contains a broad and evolving set of challenges to the security of NATO's territory and populations. In order to assure their security, the Alliance must and will continue fulfilling effectively three essential core tasks, all of which contribute to safeguarding Alliance members, and always in accordance with international law:

a. Collective defence

b. Crisis management. NATO has a unique and robust set of political and military capabilities to address the full spectrum of crises – before, during and after conflicts. NATO will actively employ an appropriate mix of those political and military tools to help manage developing crises that have the potential to affect Alliance security, before they escalate into conflicts; to stop ongoing conflicts where they affect Alliance security; and to help consolidate stability in post-conflict situations where that contributes to Euro-Atlantic security.

c. Cooperative security……..." [1]

[1] Active Engagement, Modern Defence – Strategic Concept for the Defence and Security of the Members of the North Atlantic Treaty Organization, 1010

New and unknown risks, challenges and threats require adequate NATO and Nations capability to ensure the security of the modern world. The Smart Approach to the security and defence is aimed to develop and implement new policies for improving collective security while reducing costs.

The established practice of NATO collective knowledge and capability building and sharing is relevant to all member states, and vital for the Alliance interaction with other major players. In the context of the need of prioritization, specialization and cooperation, Bulgaria is widening its contribution to collective capabilities' building for crisis and emergency management with establishing a NATO Centre of Excellence.

In response to the downtrend in the global economy and continuous changes in the security environment, the Alliance and Nations are searching new ways to improve their operational capabilities to maintain collective security. Today NATO, Nations and Partners are focused on the identification of proper multinational solutions, based on collective building, pooling and sharing operational capabilities with other major security players. This requires a coordinated effort of defence budget expenditures. Collaboration between and among NATO and Nations will help delivering capabilities from a new, common acquisition culture with earliest possible involvement of the industry through greater sharing of information and expertise.

The Smart Defence initiative involves cooperation to achieve economies of scale through greater reliance on each other in the capability development process. Smart Defence also requires coordination among NATO, Nations, Partners, and external stakeholders to ensure appropriate measures to develop the needed operational capabilities. To help achieving the necessary cooperation and coordination, Smart Defence approach requires an improved communication to ensure the transparency of effort and to realize cost-effective solutions. However, collaboration encompasses each of these to effectively capture the differences from the diverse cultures among the stakeholders and create the solution for the identified capability shortfalls.

Combining examples from academia, industry, and governments describes the need of NATO to develop innovative solutions based

upon a shared view of the capability requirement created from the diversity within potentially differing National perspectives. Since after Lisbon it is a formalized process, collaboration must not be seen as a brainstorming activity but sharing of a common aim with potentially differing perspectives.

The definition of a NATO centre of Excellence is set by MCM 236-03:

"A Centre of Excellence is a nationally or multi-nationally sponsored entity, which offers recognized expertise and experience to the benefit of the Alliance, especially in support of transformation. It provides opportunities to enhance education and training, to improve interoperability and capabilities, to assist in doctrine development and/or to test and validate concepts through experimentation. A Centre of Excellence is not part of the NATO Command Structure, but forms part of the wider framework supporting NATO Command Arrangements."

Development of NATO COE Network started after Prague Summit. In 2003 a concept for NATO centres of excellence was adopted.

Following decisions formed a new NATO command structure that clearly separated responsibilities – forces' operations under one Strategic Command (of Operations), transformation and interoperability under the other – AC Transformation. At the Bucharest Summit, NATO focused on the implementation of a comprehensive approach to capability building. NATO Strategic Concept of Lisbon set three core tasks for the Alliance – Collective Defence, Crisis Management, and Cooperative Security.

To date on NATO map have 21 Centres of Excellence -18 accredited, 3 in the process of development.

Centres of Excellence are part of a broad Intellectual Platform for management NATO transformation. This platform is an integrated mechanism for implementing the scientific-expert approach and methodology in the practice of management complex systems of systems. The Intellectual platform is a specialized, adaptive to the development of science and technology and applicable to the security systems management domain of political, expert and scientific structures, and forms a complex system of scientific expertise and management practices for research, analysis, planning, managing and

balancing capabilities development. By analogy with IT semantics, the platform is composed of hardware, software and interfaces.

The platform hardware is formed by an integrated management structures, research and expertise bodies of the Alliance. It includes NATO Strategic Commands, particularly ACT, organizations that provide subject matter expertise, education and training, research and technology agencies, including NATO COEs. NATO CMDR COE will be part of it.

The platform software is built on intellectual and scientific expert methodology that incorporates all specialized methods, techniques and procedures for capability building and transformation management.

All formats that are used for research, analyses, education, and training – like special teams, working groups, workshops, courses, seminars, conferences, workshops, exercises, form the needed interoperability interfaces of the Intellectual Platform.

When operational, the platform supports self-upgrading with Intellectual Frameworks. Each of these frameworks – like schematically presented: Knowledge Management, Expert, Education and Training are built on a unique set of sound practices for conceptual research that generate and manage knowledge and expertise for the process of NATO capability building and implementation.

Operational requirements for establishing NATO Crisis Management for Disaster Response Centre of Excellence:

"Security through Crisis Management:

20. Crises and conflicts beyond NATO's borders can pose a direct threat to the security of Alliance territory and populations. NATO will therefore engage, where possible and when necessary, to prevent crises, manage crises, stabilize post-conflict situations and support reconstruction.

21. The lessons learned from NATO operations, in particular in Afghanistan and the Western Balkans, make it clear that a comprehensive political, civilian and military approach is necessary for effective crisis management. The Alliance will engage actively with other international actors before, during and after crises to encourage collaborative analysis, planning and conduct of activities on the

ground, in order to maximise coherence and effectiveness of the overall international effort.

22. The best way to manage conflicts is to prevent them from happening. NATO will continually monitor and analyse the international environment to anticipate crises and, where appropriate, take active steps to prevent them from becoming larger conflicts.

23. Where conflict prevention proves unsuccessful, NATO will be prepared and capable to manage ongoing hostilities. NATO has unique conflict management capacities, including the unparalleled capability to deploy and sustain robust military forces in the field. NATO-led operations have demonstrated the indispensable contribution the Alliance can make to international conflict management efforts.

24. Even when conflict comes to an end, the international community must often provide continued support, to create the conditions for lasting stability. NATO will be prepared and capable to contribute to stabilisation and reconstruction, in close cooperation and consultation wherever possible with other relevant international actors.

25. To be effective across the crisis management spectrum, we will:

- *enhance intelligence sharing within NATO, to better predict when crises might occur, and how they can best be prevented;*
- *further develop doctrine and military capabilities for expeditionary operations, including counterinsurgency, stabilization and reconstruction operations;*
- *form an appropriate but modest civilian crisis management capability to interface more effectively with civilian partners, building on the lessons learned from NATO-led operations. This capability may also be used to plan, employ and coordinate civilian activities until conditions allow for the transfer of those responsibilities and tasks to other actors;*
- *enhance integrated civilian-military planning throughout the crisis spectrum,*
- *develop the capability to train and develop local forces in crisis zones, so that local authorities are able, as quickly as possible, to maintain security without international assistance;*
- *identify and train civilian specialists from member states, made available for rapid deployment by Allies for selected*

missions, able to work alongside our military personnel and civilian specialists from partner countries and institutions;

- *broaden and intensify the political consultations among Allies, and with partners, both on a regular basis and in dealing with all stages of a crisis – before, during and after."* [2]

Following the NATO and Nations effort to meet the new security challenges with Smart Defence and comprehensive approaches, Bulgarian Ministry of Defence works to improve operational capabilities of National Defence System as well to broaden Bulgarian contribution to the collective Euro-Atlantic defence and security.

For the last years, the Bulgarian Armed Forces was provided with number of basic strategic documents – National Security Strategy, Force Structure Review, National Defence Strategy, White Paper on Defence and the Armed Forces, and Armed Forces' Development Plan.

With the work of their implementation, MOD initiates number of important projects, aimed to improve Defence and Armed Forces capabilities and management.

The geopolitical advantages of establishing NATO CMDR COE means to bring together and master available geographical and political perspectives.

Last decades, South-Eastern Europe is one of the most changed places in the world and as results the region has a new geopolitical reality: new states, NATO Nations, Partner Nations, EU countries, Regional Cooperation Initiatives. The Balkans are an active crossroad between Europe and Asia, Caucasus and Middle East.

Republic of Bulgaria is a safe and secure place. As a member of both NATO and EU, Bulgaria might serve as a bridge among NATO Nations and neighbouring countries for building and sharing crisis and emergency management capabilities that are developed and used based on the proved NATO policies and standards.

The CMDR COE subject matter expertise and core competencies determine its position in the National, Allied and International Se-

[2] Active Engagement, Modern Defence – Strategic Concept for the Defence and Security of the Members of the North Atlantic Treaty Organization, 1010

curity Systems. The proposal for establishment of CMDR COE reflects a Bulgarian priority to support NATO capability building by forming a specialized body for combining the institutions' expertise and science. It is a subject matter Intellectual Platform for generating and managing knowledge and expertise, focal point for CMDR Community of Interest.

In Euro-Atlantic context, the Centre will be an operational node of NATO and EU common capability building architecture, specialized in one of the contemporary Alliance strategic priorities.

In International format, the NATO CMDR COE will be a focal point for communication, cooperation, and collaboration of subject matter knowledge and expertise for the International Organizations, Non-Governmental Organizations, universities, research centres, and business organizations.

The project started with the researches and analyses of a broad National Interagency Working Group, followed by the development of CMDR COE draft concept. Like similar NATO documents, the concept's framework includes presented areas. Briefly, we are presenting some of the basic elements of the CMDR COE Concept.

With references to basic NATO documents, the Centre's functionality is based on several guiding principles:

- CMDR COE is open to participation as Sponsoring Nations for all NATO member-states;
- The Partners have access to all CMDR COE products;
- The Centre value added is formed with avoiding duplication and competition with other NATO Education and |Training institutions and Centres of Excellence;
- Resources and expenditures (including budget) are shared between CMDR COE's Sponsoring Nations;
- All activities of the Centre are based on proved NATO tactics, techniques, procedures, and standards;
- CMDR COE management and functional relationships are established by Memoranda of Understanding and Technical Arrangements.

Our vision is the Centre to become a recognized NATO CMDR expert in support of the Alliance transformation with providing certified subject matter knowledge management, expertise, education and training, scientific researches and Lessons Learned. The centre will be an operational bridge between Alliance and the other major security players to support CMDR capability building and implementation, as well a focal point for a broad international subject matter expertise Community of Interest.

The Centre mission is support of NATO, Nations and Partners crisis response capability building and the Alliance's transformation, based on several

- Generating and providing a subject matter knowledge and expertise;
- Providing education and training, based on NATO policy and standards;
- Support of NATO doctrine and concept development and experimentation;
- Providing scientific researches, analyses and Lessons Learned.

The main products of NATO CMDR COE are:

- Courses;
- Workshops;
- Seminars;
- Symposia;
- Exercises;
- Participation in working groups for developing the Alliance and Nations strategic documents;
- Conducting subject matter researches and key studies;
- Providing expertise and analyses;
- Specialized electronic, printed and media products.

CMDR COE is located in Sofia. It will be managed by a Steering Committee, composed of the representatives of Centre's Sponsoring Nations.

The basic components of its structure are departments:

- Education and Training
- Transformation
- Capabilities
- Support

Bulgarian flag shows the Centre's Framework Nation positions; NATO flag positions are open for CMDR COE Sponsoring Nations.

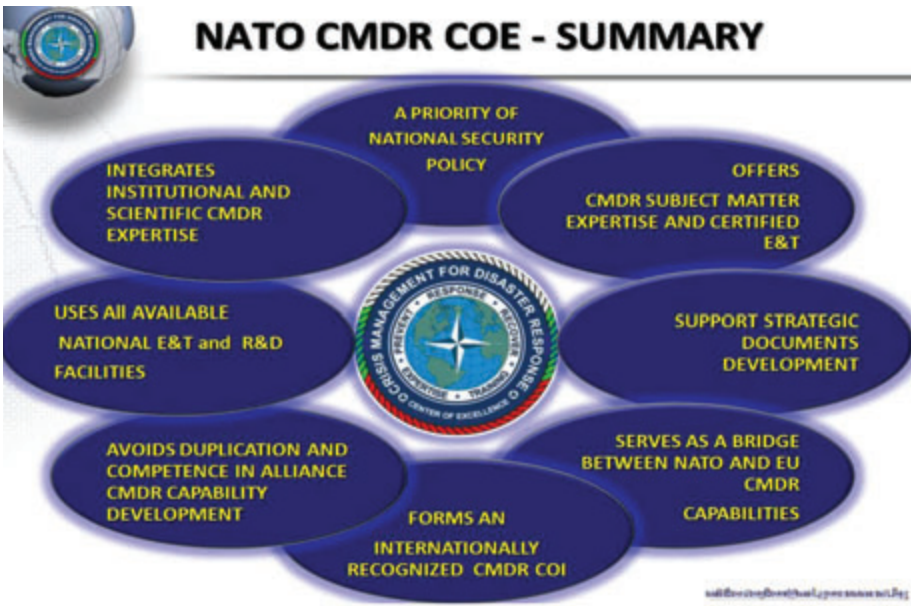
The NATO CMDR COE is establishing with making the best usage of the national expertise, military and civilian education and training facilities.

Since the beginning, the project involves the expertise of all Bulgarian institutions, including modelling and simulations environment, the science, Governmental and Non-Governmental Organizations. To complete Centre's international operational platform, we will follow the same approach with our Allied Nations and Partners.

CMDR COE functional relationships will be established by Memoranda of Understanding and Technical Agreements.

All other relationships will be organized in coordination with the ACT.

Technical Agreements will also provide links to NATO agencies, education and training institutions, NATO Centres of Excellence, Partners, and Non-Governmental Organizations.



The main benefits from the project are subject matter expertise support to the collective CMDR capability building process.

The project highlights the priority to establish a recognized subject matter focal point for CMDR Community of Interests that is attractive for all NATO and Partners Nations.

For NATO and CMDR COE Sponsoring Nations it means more common ways and capabilities for crisis and emergency management, both civilian and military, based on proved Alliance policy and standards.

The implementation of the project requires active participation of the national and Alliance expertise. The project team is grateful for the extended and timely institutional support of ACT and NATO HQ, and we will rely on the future closer cooperation with all NATO Nations, NATO COEs, Partners across the globe, academia, IOs and NGOs.

Achieving Efficiencies and Interoperability through Long-Term Human Capital Investment: The Role of Information and Communications Technology

Arnold C. Dupuy
Research Associate

Introduction: Multiple Challenges

- Maintaining operational proficiency and readiness;
- Strengthening regional cooperation;
  - Southeastern Europe/Black Sea;
- Addressing a variety of threats:
  - Terrorism;
  - WMD Proliferation;

- Organized Crime;
- Narcotics Trafficking;
- Human Trafficking;

Introduction: Multiple Challenges (Cont'd)

Goal is to find broad based economies of scale while maintaining or enhancing standardization and interoperability in an environment of dramatically diminishing resources

Long-Term Investment in Human Capital

Renewed emphasis on:

- Human capital with a concentration on two focal points:
  - Military/civilian education;
  - Military-to-Military Contacts (MMC);

Information and Communications Technology (ICT) as the enabler

Long-Term Investment in Human Capital (Cont'd)

Consideration of the junior officers and mid-level NCO:

- In the mid to late 20s age group;
- Can operate with considerable autonomy;
  - Decisions are increasingly pushed to the tactical levels;
- Mold their performance and behavior over the long term;
- Will have decided on a military career;
- Generation that has grown up in the digital age.

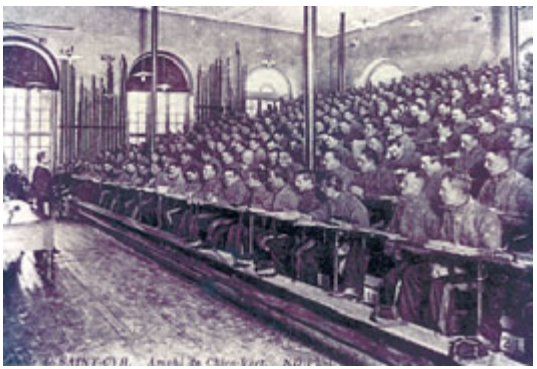
Civilian and Military Education

The value of an educated soldier:

- Think critically;
- Adaptive;
- Resilient;
- Better communicator.

Civilian Education:

- Advanced education;
- Adult education training/lifelong learning programs;



Military Education:

- Officer and NCO professional development;
- Advanced specialty schools.

Infuse a true intellectual dimension in military training and education

Military-to-Military Contacts

Military-to-Military Contacts (MMC):

- Predictability;
- Interoperability;
- Differing viewpoints;
- Enhance standardization;
- Multiplier effect
  - Lessons learned/best practices are brought back to home units.

Encouraging precedents in BLACKSEAFOR, South-East European Defence Ministerial (SEEDM) Process, SEEBRIG

Focus on the Existing Technological Environment

Information Communication and Technology

Distributed availability:

- On-line coursework;
- Joint scenario development and conduct;
- Crowd sourcing;
- Open source research;
- Social technology.
- Reliance on Commercial Off The Shelf (COTS):
- Reconfigure existing game engines and platforms that allow

future generational applications.

Common Denominator (Human Capital/ Efficiencies)

Smart Defence cannot happen by itself

Identify quality people as early as possible:

- Mentor them;
- Educate/train them;
- Challenge them;
- Promote/reward them.

Final Thoughts

ICT cannot be a substitute for tough, realistic training

- It can only be a supplement

Allows leaders to make mistakes in a controlled environment

- Setting the stage for enhanced and strenuous field or command post exercises

Accentuate joint and multinational environment

Multinational Approach to Medical Support in Operators and Missions – the Experience of Military Medical Academy

Col. A. Parashkevov, MD; MG Prof. S. Tonev, MD, PhD; Col. Assoc. Prof. K. Ramshev, MD, PhD; LtCol. K. Kanev, MD

Military Medical Academy – Sofia

Military Medical Academy is the successor of the Garrison General Hospital in the city of Sofia, founded in 1891 by Dr Georgi Zolotovich. Trough the years the Military Medical Academy had grew from Divisional Hospital, Army Hospital, and Military Hospital to become High Military Medical Institute in 1960 and Military Medical Academy in 1989. As a hospital treating military personnel nowadays our academy is leading hospital in the Public Healthcare care system and place for training and education of students and specialists.

The Military Medical Academy is an integrated complex for medical care, education and scientific research with the commitment to develop the military medical science, and to provide training, specialization and qualification of the military medical staff for the purpose of ensuring the fighting strength and combat readiness of the Bulgarian Armed Forces, preservation and recovery of the military servicemen's health.

According to the Decree of Counsel of Ministers No 41 of 21 February 2001 for defining Military Medical Academy as a health care establishment and its specific functions, the MMA comprises the following structures of out-patient and in-patient support: Multiprofile Hospital for Active Treatment – Sofia, Hospital Facility for Active Ttreatment (HFAT) – Varna, HFAT – Plovdiv, HFAT – Sliven, HFAT – Pleven, Hospital Facility of Balneology, Rehabilitation and Prophylaxis (HFBRP) – Hissar, HFBRP – Pomorie, HFBRP – Bankya, medical services in Military Academy "G.S.Rakovski", and Higher Military Schools,

"Security, Military Police and Military Counter-Intelligence Service", military units of Bulgarian Armed Forces.

The Military Medical Academy includes further the Center of Military Medical Expertise and Aviation Medicine, the Military Medical Detachment for Emergency Response, Research Institute of Radiobiology and NBC protection, Center of Military Epidemiology and Hygiene – Sofia, with units in Plovdiv, Sliven, and Varna.

Mission: To provide the whole spectrum of high quality medical care (preventive, curative, restorative, dental, mental and physical) to our soldiers, families and all beneficiaries in peace time and crisis.

Vision: To become a leading national health care organization, providing quality health care in support of all types of armed forces missions.

All medical personnel including battalion and brigade level are under command of the Surgeon general and Chief of the Military medical academy. In their every day duties as sick call, medical support of training the medical troops follow plans and orders of a Commander to whom their detached. This is a sequence of state lows and regulations requiring all medical specialist to work in a certified by low medical facility.

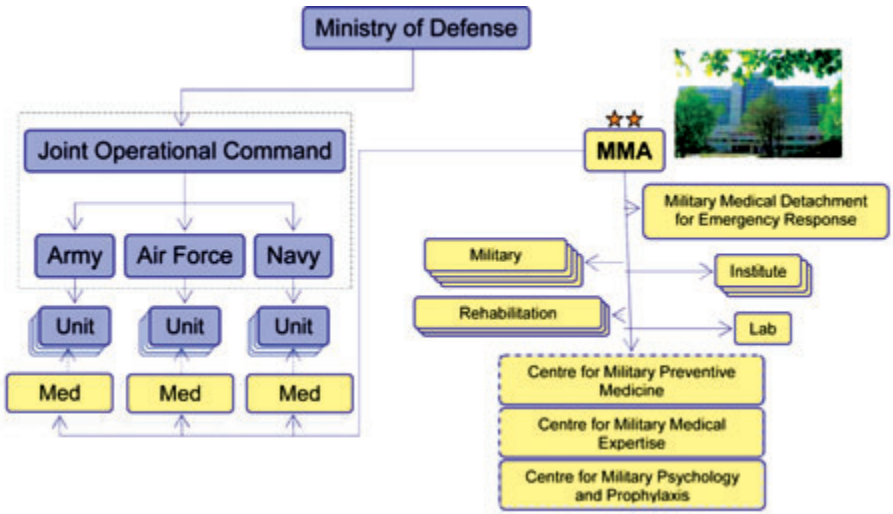


Figure 1. Structure of Military Medical Academy and Medical Service within Military command structure.

The most important international event in MMA is the establishment of the Balkan Military Medical Committee (BMMC). It is founded in 1995 on initiative of the Military Medical Academy – Sofia as an organization of the Military Medical Services of Bulgaria, Greece, Romania, Serbia and Turkey. The congresses are held annually in each of the member countries where actual problems of military medicine are discussed as: multiple trauma, emergency surgical care, aviation medicine, navy medicine, nursing care in military hospitals, medical support of peacekeeping operations, disaster situations, terrorist attacks and etc.

Picture 1. Balkan Military Medical Committee, meeting in Bulgaria.

Military Medical Missions

Bulgarian armed forces have more than hundred years experience in multinational operations. First mission of Bulgarian medical personnel in multinational environment is Manchuria in 1904. This was a humanitarian mission in Russian-Japanese war. Bulgaria sent a medical brigade to the Far East (Manchuria) to help Russian Red Cross. The brigade was lead by LtCol Dimitar Kiranov, MD who was the chief of the Sofia First Divisional Hospital, successor of which is the Military Medical Academy. The brigade had medical equipment for 30-bed hospital. The medical brigade was staffed, equipped and financially supported by the Bulgarian Red Cross. The hospital was opened to meet its first patient on July 19th, 1904 in the town of Harbin. Because of the large number of injured and sick soldiers the Russian command suggested to increase the hospital capacity with 30 beds, necessary equipment and medical staff. This established the beginning of more than 100 years of experience in multinational environment of Bulgarian medical service. During the whole time the Bulgarian hospital provided care for 601 wounded and sick and almost 15 000 days of hospitalization. The Bulgarian government spent 157 000 levs and another 52 000 were raised

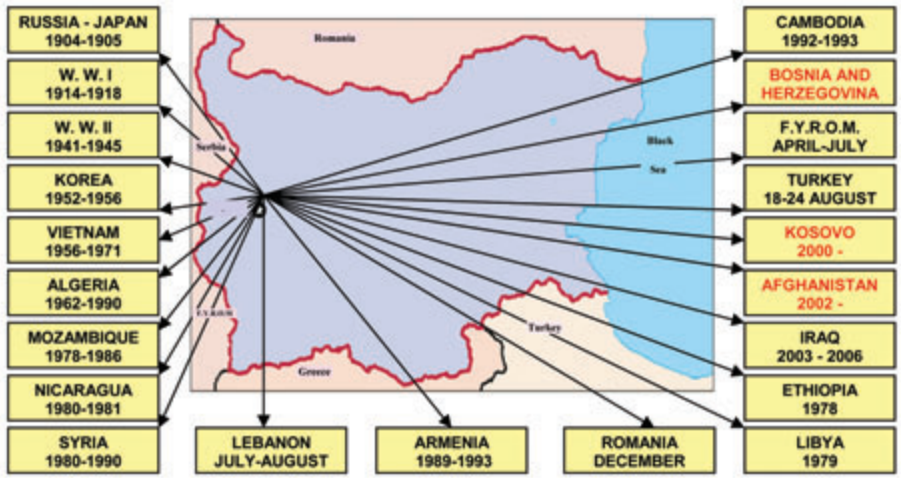


Figure 2. Military Medical Missions

trough charity. This first mission of the military medics ended on November 10th, 1905.

Among other multinational missions is that in WWI when one medical brigade was deployed near Ekaterinodar, Russia in 1914 and treated more than 800 wounded and sick, as more than 150 surgeries were performed. Bulgarian medics have taken part in humanitarian missions in Korea, Vietnam, Algeria, Mozambique, Nicaragua and etc.

After becoming NATO member in 2004 a new era in multinational cooperation for Bulgarian medics began. Former enemies now become allies. Actually cooperation in medical field had started years ago in SFOR, KFOR and Operation Iraqi. For many years Bulgaria participates with 3 surgical teams in ISAF – Afghanistan. Two teams of 10 people work in the Spanish hospital in Herat and another team in French hospital at the Kabul airport. This is very important experience for our medical service in view of cooperation on Role 2 and Role 3 medical support. Apart from the missions focused on medical support, Military medical Academy takes part in Medical Training Advisory Group, which mission is to mentor, assist, and strengthen the Afghanistan National Security Force healthcare system to provide sustainable, quality healthcare to all Afghan security personnel, their family members, and other eligible beneficiaries. This new challenge for our medics to train Afghani colleagues. Training

is performed in English with local interpreters who speak English and Dari. So far Bulgarian medical professional are involved on a brigade and battalion level as Operational Monitoring and Liaison Teams (OMLT) and as Embedded Training Team (ETT) in Kandahar Military Hospital. The OMLT's are manned only with Bulgarian medics and their support respective medical service. The ETT consists of several doctors and nurses who train in their respective specialties Afghani medics. The team is staffed with Bulgarian specialist as well as with Americans, Australians' and British medical specialists. This mission brings to the higher lever our capabilities to operate in multinational environment.

Now we have medical officers and nurses who are well acquainted with NATO standards and protocols and are readily available for NATO multinational operations in short notice.

The principal Cold War role of NATO's medical cervices was to be prepared for the treatment and evacuation of large numbers of battle casualties, with a principle focus upon the movement of those casualties rearwards from the battle area. Most nations were dependent upon conscription and large numbers of reserves; multinational solutions to medical support were not considered necessary or practical. Whilst the Alliance still requires the ability to produce medical support for war fighting, this is no longer the only focus and the context in which military medical support is provided has changed fundamentally. There have been a number of significant changes in the make-up of Alliance's military and medical forces. The end of the Cold War changed the focus of NATO to peacetime security and crisis response operations; operations undertaken from a home base that rarely feels threatened. Forces are becoming smaller as fewer people produce more fighting power, consequently there is a large loss of capability if and individual becomes unfit for duty. Regular forces have found it increasingly difficult to recruit and retain medical professional and expensive medical equipment has been more difficult to fund from restricted budgets. In many nations, medical shortfalls have become a severe limitation upon their operational capability. Consequently, multinational medical support options become increasingly necessary and require more complex coordination at each staff level, especially after the change

from long-established Cold War planning to current strategic and operational planning.

NATO now faces the thread of asymmetrical conflict and terrorism, with the civilian society, rather than just military, at risk of attack. Although in many countries, civil protection is primary the responsibility of civilian authorities, military medical support continues to developed unique and special capabilities, in areas such as Weapons of Mass Destruction diagnosis and care, and may be called upon to assist civilian authorities.

At all times, nations retain their legal duty of care as an employer of their military. However, upon Transfer of Authority, the NATO commander shares that responsibility. Increasingly, due to national shortfalls, medical support, and particularly secondary health care, is delivered by a multinational solution, therefore becoming more the responsibility of the NATO commander.

Medical assets are scare and of high value. Multinational medical solutions have considerable potential to reduce the burden of their provision upon individual nations. However, the existence of national differences, such as varying clinical protocols, different languages and legal restrictions, can make this complex. Joint multinational training in peace will pay many dividends for NATO operations in the future – reaching high levels of medical interoperability and cooperation necessary for multinationality to work well on operations.

NATO provides support to International Disaster Relief Operations. As "disaster relief" includes humanitarian assistance, refuge care, ands similar missions not directly related to combat or peacekeeping. The major contribution of medical support to such and operations is threefold: support to the NATO force, replacing or supplementing the existing assets and assisting with their regeneration or development. Multinational solutions are also sought by contributing nations in such operations.

From the medical viewpoint, crucial aspects of the most likely types of future operations are:

- Joint
- Combined

- High degree of flexibility and mobility
- Medical support equating to best medical practice
- Medical force protection
- Preventive medicine based on accurate health information
- High level of media coverage
- Adequate medical support and more influence on morale of troops and public support
- Requirement to support humanitarian emergency situations together with International Organizations (IOs), Governmental and Non-Governmental Organizations (NGOs)

Military Medical Detachment for Emergency Response is a structure of the Military Medical Academy with following tasks:

- Medical support in Crisis Response Operations in peace time to the civil population in Bulgaria and the SEE countries
  - Rapid deployment in the disaster zone
  - Triage
  - Stabilization and evacuation of casualties
- Predeployment training of medical teams for military operations
- Medical logistics.

Military Medical Detachment for Emergency Response has been deployed in:

- Armenia – 1989, Earthquake
- Radusha, FYROM – 1999, BGR Refugee camp
- Adapazari,Turkey – 1999, Earthquake

Picture 2. Radusha Refugee Camp – 1999.

Picture 3. Adapazari, Turkey – 1999.

Picture 4. Haiti – 2010.

As the last humanitarian mission in Haiti – to provide help after the devastating earthquake on 12 Jan 2010:

- Magnitude 7.0, Casualties 220 000
- 25% of government employees are killed
- Critical infrastructure is damaged
- No electricity and water supply

- Critical Medical situation:
  - 30 out of 49 hospitals destroyed
  - Most of the medical personnel not available
  - Very high dead/injured rate
- 1,3 Mil people displaced
- Bad public sanitation and hygiene
- Large number of dead bodies
- Shortage of medical supply
- Problematic medical evacuation and logistics
- Weak medical/rescue teams co-ordination
- 134 countries offered humanitarian assistance
- 40 countries provided medical facilities (field hospitals or medical teams)
- BGR offered surgical medical team (5 persons – surgeon, trauma surgeon, anesthesiologist, 2 nurses)
- Deployed on the 10-th day after the disaster

Picture 5. Haiti – 2010.

Characteristics:

- Short notice
- Short planning period
- Military medical personnel, experienced in NATO/EU led

military missions (international environment)
- Last minute change of mission – instead of the island Martinique – Port-au-Prince
- BGR team was the only surgical team in the hospital of Canape-Vert
- Close co-operation with the French medical personnel (Les Pompiers)

Picture 6. Haiti – 2010.

Medical Challenges:

- Work in half-destroyed buildings
- 70-80 patients per day
- 9-10 working hours (no day off)
- For 25 days
- 1 630 medical check-ups
- 157 major surgical operations
- Lack of medical supplies (everything provided by the French team)
- Prevalence of complicated trauma cases over surgical (3:1)
- 20% children pathology
- No radiology equipment for follow-up
- 3 different hospitals – co-ordination with teams from different countries, different standard operation procedures
- Language barrier – Creole and French
- Secondary infections
- Risk of infectious diseases

Military Medical Academy has gained a lot of experience in operations and missions abroad. During last decade our biggest contribution is Multinational Medical Units with surgical teams and recently with medical mentors in Afghanistan. Military Medical Detachment for Emergency Response plays significant role in training of military medical personnel for missions and disaster relief operations.

Conclusions:

- Modern armed forces execute all type of operations, both in home land and expeditionary;
- Nowadays Medical support is very complex and demanding activity – crucial for the success of the armed forces missions;
- Multinational solutions to medical support – the best possible way to overcome the shortages.

Bibliography:

1. MC 326/2 NATO Principles and Policies of Operational Medical Support

2. AJP 4.10 (A) Allied Joint Medical Support Doctrine

3. Някои изводи от дейността на българския военномедицински екип в Хаити, Полк. д-р Александър Парашкевов, Военна медицина бр. 1/2012

4. История на военномедицинска академия, под редакцията на бриг. ген. доц. Стоян Тонев, 2004

5. 100 Military Medical missions, Prof. St. Tonev, MD, PhD; M. Kadurina, MD

6. Medical Mentor/Trainer/Advisor Manual, ISAF, 1st ed., 2010

Capabilities of Institute of Metal Science, Equipment and Technologies with Hydro-aerodynamics Centre to Contribute, Cooperate and Participate in MN Projects

Professor Stefan Vodenicharov, Dr. Sc.

Mission

The Institute of Metal Science, Equipment and Technologies with Hydro- and Aerodynamics Centre (IMSETHC-BAS) is a complex Institute that carries out fundamental and applied researches in the fields of:

- metal science and heat treatment, casting, crystallization, structure and properties of metals, alloys and composites on metal base, plasticity and fracture of materials;
- functionality and reliability of constructions;
- ship hydrodynamics, and aerodynamics, water transport, ocean and coastal engineering, marine and river disasters and crises, environmental protection, renewable energy;
- national security and defence.

High-tech equipment and protection systems for national security

Team of scientists and specialists of the IMSETHC, working in various fields of the engineering sciences, has a long-years experience in creating, development and manufacturing of high-tech security and defence systems and products.

Wide range of basic developments for protection by sea, air and land and adaptability of the mechanical constructions, sensor and communication systems enable creating of complex protection of various objects in accordance to the customer requirements.

National Center for Anti-terrorist Advanced Systems

A Centre of excellence "Anti-terrorist Advanced Systems" was founded in year 2008 at the IMSETHC for development of high-tech products and systems for providing security and protection of critical infrastructure objectives.

Main Goals:

1. Investigations and developments of technical and operative conceptions for promising projects and technologies against terrorism. Carrying out investigations, development and experimentation of new technologies;

2. Providing adequate participation in national and international programs and projects for defence against terrorism;

3. Providing synergy of the expertise and the results obtained in result of participation of Bulgaria in NATO projects from the Program for Defence against terrorism (POW DAT);

4. Training of operative and technical personnel on national level and specialists participating in NATO missions.

As a result of close collaboration with the Bulgarian MoD several families of highly effective products and systems were developed by the IMSETHC and were accepted for use with in the Bulgarian Armed Forces.

The IMSETHC developments confirm to the contemporary achievements of the defence industry and international quality standards.

The Institute has certification to the NATO quality assurance system AQAP-2110 and the ISO 9001:2008 quality management system.

The Institute is a part of the Bulgarian Defence Industry Association – BDIA, an organization where the main Bulgarian manufacturers of defence products and systems are presented.

1. Smart Defence – Reducing the Gap

From 2008 the world economy has been facing its worst period since the end of the Second World War. Governments are applying budgetary restrictions to tackle this serious recession, which is having a considerable effect on defence spending.

In these crisis times, rebalancing defence spending between the European nations and the United States is more than ever a necessity. The other Allies must reduce the gap with the United States by equipping themselves with capabilities that are deemed to be critical, deployable and sustainable, and must demonstrate political de-

termination to achieve that goal. There must be equitable sharing of the defence burden.

Smart defence is NATO's response to this. Smart defence is a concept that encourages Allies to cooperate in developing, acquiring and maintaining military capabilities to meet current security problems in accordance with the new NATO strategic concept. That means pooling and sharing capabilities, setting priorities and coordinating efforts better.

Specialization and Cooperation

Aligning national capability priorities with those of NATO has been a challenge for some years. Smart defence is the opportunity for a transparent, cooperative and cost-effective approach to meet essential capability requirements.

With budgets under pressure, nations make unilateral decisions to abandon certain capabilities. When that happens the other nations fall under an increased obligation to maintain those capabilities. Such specialization "by default" is the inevitable result of uncoordinated budget cuts. NATO should encourage specialization "by design" so that members concentrate on their national strengths and agree to coordinate planned defence budget cuts with the Allies, while maintaining national sovereignty for their final decision.

2. Why Pooling and Sharing?

It is an EU flagship initiative aiming to increase further multinational cooperation among European Union Member States. Pooling and Sharing can take various forms, like common training, common logistic support solutions or combining transport capacities, but all have one thing in common: the aim to use decreasing resources in a more efficient and effective way through collaboration and prevention of redundancies.

Europe's defence expenditure has been declining steadily since 2005. The current crisis will continue to have a significant impact on European military capabilities. Yet Europe collectively still spends around 200 bn Euros per year. The challenge is for Member States to invest in a more efficient way, so that Europe can retain

and sustain the effective military capabilities – it needs to play its role in the world.

Pooling and Sharing will allow access to capabilities that are not affordable for a Member State alone; it will promote savings, efficiencies and rationalisation; and consequently, more capabilities for the countries.

The main challenge now is how to respond to austerity and to rethink defence cooperation, strategic priorities for the European Defence Technological Industrial Base and measures to increase the efficiency and cost-effectiveness of the defence market. In other words : implementing the concept of Smart Defence.

French General Stéphane Abrial, NATO's Commander of Allied Command Transformation, defines it as "a long-term vision." Indeed, he adds, "Smart Defence" means committing to implementing long-term strategic initiatives and developing capabilities which are essential to achieve this mission, which is based on focused multinational cooperation".

EDA has proposed several areas for cooperation:

- Medical Field Hospitals;
- Air to Air Refuelling;
- Intelligence Surveillance Reconnaissance (ISR);
- Pilot Training;
- European Transport Hubs;
- Smart Munitions;
- Naval Logistics and Training;
- Helicopter Training Programme;
- Maritime Surveillance Networking;
- European Satellite Communication Procurement Cell (ESCPC).

On the base of their capabilities Bulgarian research and development bodies can identify their role and potential opportunities to take part in these MN projects.

3. Our Experience in a Multinational Projects

- ***NATO Defence Against Terrorism Program*** – Protection of helicopters against RPGs – IMSETHC was leading organization;
- ***NATO Program for harbor protection against terrorist actions*;*NATO Program for development of anti-personnel mines alternative*;**
- ***European Commission, Directorate-General "Home Affairs" – model for decision making in a multilateral terrorist attack.***

3.1 Helicopter protection against RPGs project

In 2004 NATO launched the Conference of National Armaments Directors (CNAD) Defence against Terrorism Program of Work (DAT POW). The aim of the program was to quickly identify available and emerging technologies for defence against terrorism.

Out of the nine initially identified items, the Item 3 "Helicopter Protection against RPGs" (DAT 3) – was one of the most challenging arid complicated. As all the allies were urged to assume leading roles under DAT POW, at the October 2004 CNAD meeting the ***Republic of Bulgaria volunteered to take up the leading role*** on helicopter protection against RPGs supported by ***Greece, Poland and France.***

The following conclusions were made:

- Helicopter protection would continue to be one of the key challenges to the Allied rotary-wing aircraft in operations, confirmed by the NATO Military Requirements for DAT POW;
- Bulgaria achieved significant progress in developing different modifications of lightweight protective panels that offered effective protection against RPGs;
- The objectives of DAT 3 have been met by the leading, participating and supporting nations. Protective panels that offer sound protection and are light enough to be installed to medium and heavy transport helicopters have been developed.

3.2 Development of anti-personnel mines alternative

In 2006 a contract between IMSETHC and Bulgarian MoD has signed with a subject ***„Development of anti-personnel mines alternative".***

The project results (as a complex) are intended for protection of critical infrastructure such as roads, oil pipelines, boundaries, electric installations, camps, etc. elements of logistic support against unauthorized infantry invasion.

The complex is deployed for security and protection of areas or objects prepared in advance and are intended for relatively long term operation in various climatic conditions. The deployment is carried out manually, thus enabling precise deployment of the means and achieving optimal conditions for their operation. The means for non-lethal impact kinetic shots with rubber damaging elements are used. The lethal means consist mainly in using kinetic shots with metal damaging elements, e.g. fragments. All means for impact may be reloaded for multiple uses.

3.3 Model for decision making in a multilateral terrorist attack

Project reference number:HOME/2010/CIPS/AG/19

The Project is in the framework of the ***Prevention, Preparedness and Consequence Management of Terrorism and other Security-related Risks Programme – European Commission, Directorate-General "Home Affairs".***

The programme contributes to the protection of citizens and critical infrastructures against terrorist attacks and other security-related incidents.

It fosters prevention and preparedness, particularly by improving the protection of critical infrastructures. The programme focuses on consequence management to ensure the smooth coordination of crisis management and security actions, in particular regarding terrorist attacks.

Main Goals of the Project

- Increasing the capacity of energy and transport infrastructure objects of key importance to the country's economy and development, to counteract against terrorist threats;
- Improving the management in the decision-making process in presence of multi-variant terrorist threat.

Modules:

1. ***Module*** "Business Impact Analyze of the "Kozloduy" NPP' System for removing the heat, its transforming into kinetic power of the Steam Turbine Rotation and Increasing the System Protection Against Terrorist Threats";

2. ***Module*** „Anti-terrorist gas depot's protection – CHIREN";

3. ***Module*** „Increase of the protection capacity of „Sofia" airport against terrorist threats by raising the security of the adjoining localities;

4. ***Module*** "Development of operational measures and tools for management of high-level risky environment of complex terrorist threats and exercise implementation"

***Duration*:** 2 years, 08.06.2011 – 08.06.2013

4. Conclusions

My opinion is that we are still at the starting point, but the interest and feedback from Member States concerning Pooling and Sharing is encouraging and are proof that we are on the right track.

One by one, pilot cases will show the benefits and more and more Member States will acknowledge the advantages of European cooperation. This will further reduce fragmentation to the point where we create a real European Defence Equipment Market and a significant European Defence Technological and Industrial Base.

Pooling and Sharing is not always straightforward. Nor is it risk-free. We have seen the enormous potential to unlock significant financial and military benefits – EDA's task is to help Member States deliver them. That will require imagination, innovation, risk-taking and hard work.

Thank you for your attention!

View on development of Romanian military and Industrial capabilities in relationship with NATO and EDA

Viorel Manole (M.Sc)
Patromil Executive Director

Patromil & MoD

- Patromil is the strategic partner of the Romanian MoD in developing the military capabilities in relation with NATO and EDA

Vision & Mission

Vision:

– PATROMIL will become the main technical consultant for national/regional and international decision makers for the Romanian Industry of Defence.

PATROMIL Mission Statement:

– To be the "specialist" in defining, initiating and implementation of defence strategies in Romania/SEE Region.
– To encourage and to develop trusted and mutually rewarding relationships with our members, clients and partners.

Presentation of the PATROMIL Association

PATROMIL – Romanian Business Association of the Military Technique Suppliers – was founded by the free consent of the founding members expressed during the assembly on 27.04.2001.

Founding members:

- C.N. ROMARM & its branches (100% State Owned)
- C.N. ROMTEHNICA (100% State Owned)
- UTI Systems S.A. (100% Private)
- Cobra Security S.R.L. (100% Private)

Directorate of the PATROMIL:

- President - General Manager ROMARM
- Vice-President - General Manager Tohan
- Member - General Manager Elletra Communications
- Member - General Manager IEMI
- Member - Director UTI Group
- Member - General Manager Automecanica Moreni
- Member - Commercial Manager IOR
- Executive Director - Viorel MANOLE

Employees in Romanian Defence Industry Sector

Year 1989 – 200.000 employees

Year 2000 – 60.000 employees

Year 2009 – 20.000 employees

* 2012 – PATROMIL 40 Members 10.000 employees

Capital structure:

- 37% state owned or mainly state owned companies (15 companies)
- 63% private companies (25 companies)
- Annual budget by monthly subscription of the members, sponsors ships, donations, etc

PATROMIL – the Association:

- Represents directly or indirectly the interests of over 100 Romanian suppliers, specialized in military technique production of goods, parts, technologies and services.
- Its affiliate members military production is set up to the NATO requirements, and both civil and military products are made according to ISO-9001 quality standards.
- Represents the Romanian DEFENCE sector suppliers in domestic (government, trade unions) and international relationships (with similar associations around the world).
- Ensures the handling of foreign commercial proposals to the affiliated Romanian companies, according to their profiles.

- Represents the Romanian Defence Industry at NATO and EDA as National Defence Industry Association (NDIA).
- Ensures – every year – the management of the international fairs and exhibitions participation proposals for the interested companies.
- Organizes – every 2 years – together with ROMEXPO S.A. and other entities, the international exhibition of military technique – EXPOMIL in Bucharest.
- Cooperates with The Romanian Foreign Trade Center for the domestic and international distribution of the "Romania – The Defence Industry" catalogue – updated every 2 years, mainly for the information regarding the companies represented in it.

Main events

- 2003: Signing the Memorandum of Collaboration with DMA (United Kingdom);
- 2004: Signing the Memorandum of Collaboration with DMA (Poland);
- 2006: Participation of the Annual Convention of ASD;
- 2010: Signing the Memorandum of Collaboration with BDIA (Bulgarian Defence Industry Association);
- 2010: Signing the Memorandum of Collaboration with the Romanian MoD (Department for Armaments).

PATROMIL Objectives:

- Integration of Romanian industry of Defence into the EDTIB;
- Participate in the 31 Programs through the total of 168 NATO Smart Defence Programs, Romania expressed its strategic interest;
- Sizing the DEFENCE production facilities according to the real needs of MoD, EU and NATO;
- Generate, promote and facilitate cooperative programs to meet capability needs;
- Evolving use of offsets;
- Ending the privatization processes;

- Long term extension of alliances & partnerships with the companies in the purpose of facilitate the access to the high technologies, know how transfers and NATO top level programs participation.

Opportunities &Threats

Opportunities

- might help solving the legal offset aspects of supplying contracts for the Romanian MoD;
- profit generating partner both in the Romanian and Regional Market for complex military products / services;
- through its specialized members, important partner for developing new military products / services;
- specialized association with important NATO members/ ASD members.
- Threats
- aggressive development strategies from international military products manufacturers / associations;
- dissolution, due to inadequate financing, mirroring the financial difficulties of many of its members;
- Global and national economic crisis.

Strengths &Weaknesses

Strengths

- comprehensive knowledge of the Romanian and Regional Market in the field of military products / services;
- best contacts in the Romanian Market for military products / services
- covers many areas of interest for international military products /services suppliers;
- expertise in design, engineering, project management, contract management, manufacturing, repair and maintenance of military products.

Weaknesses

- members' technology level not very competitive, but improving;

- members still state owned companies (SOE) but decreasing through new privatization wave;
- man hour wage / salary package still not attractive for highly skilled & specialized employees (risk of brain drain);

Anti-Crisis Actions

- Reduce costs through increasing efficiency, process reengineering and stop work for limited periods of time;
- Resizing the defence production facilities according to the real needs of MoD, EU and NATO;
- Subcontract SMe's, priority with PATROMIL members;
- Join European Cooperative Projects (Pooling & Sharing);
- Develop synergies within PATROMIL;
- Improve communication with Unions and Government.

National Harmonization of European Defence Package

- Elaborate a Law for Romanian Defence Industry according with EU Defence Package and Romanian priorities;
- Improving communication inside PATROMIL and outside, with Government, Unions, Media;
- Proactive approach with Brussels (EDA, EC, European Parliament) through a coherent action of all Romanian representatives;
- Join ASD.

Considerations

- Develop the national defence industry in order to support the Romanian MoD acquisition Programs;
- Establishing the strategies for harmonization of R&D activities with the national security (on a national interests basis);
- Harmonization of the concepts and procedures for acquisitions and R&D with NATO and EU procedures and concepts;
- The necessity of mentioning the right technological level in order to avoid the obsolete military equipments;
- Identification of cut costs methods in order to increase the efficiency of capability development processes;

– Calibrating the R&D processes in order to have NATO/UE interoperability;
– Integration of COTS in military equipments and technologies.

Romanian Participation in UE/EDA capabilities

- Combat Equipment for Dismounted Soldier:
– Development of a modular platform for combat dismounted soldier
– UTI Group; IOR S.A; INTERACTIVE S.A. PROOPTICA S.A & METRA (MoD) participates in kind (Observation Under Reduced Visibility);
- Maritime Mines Counter Measures:
– Identifying technological solutions for surveying and protecting the coastal areas;
- Countermeasures for improvised explosives devises (C-IED);
– Prediction,prevention,detection, neutralization, reducing the effects and exploit of IED actions through recording and analyzing the relevant information;
- European Transportation Air Fleet;
– Acquisition and utilization in common of transport aircrafts and making available to the partners of airport infrastructure;
- European Satellite Communication (SATCOM) Procurement Cell

Romania on EDA Platform – EDRC

- Romania is the 2-nd most representative Member State on EDA;
- Data Base Platform for R&D capabilities:
- SC TeamNet International SA (TeamNet) (IT&C);
- AEROSTAR S.A. (Aviation & Artilery Systems);
- MarcTel S.I.T. S.R.L. (MarcTel) (IT&C);
- Army Center for Medical Research (ACMR) (Government);
- Naval Academy "Mircea cel Batran" (ANMB) (Government);
- SYSCOM18 SRL () (IT&C);

- "HENRI COANDA" AIR FORCE ACADEMY (afahc) Aviation;
- National Insitute for Aersopace Research "Elie Carafoli" (INCAS);
- ROMSYS SRL (ROMSYS) IT&C;
- S.C MIRSAND S.R.L. (MIRSAND)- IT; Fuses;
- UTI Defence & Security Engineering (UTI DSE) – IT&C;

Systems Integrator, TEMPEST; Cyber Defence; Critical Infrastructure;

- Nicolae Balcescu Land Forces Academy (NBLFA) – Government;
- S.C. IOR S.A. (IOR) – Optronics;
- S.C. PRO OPTICA S.A. (PRO OPTICA) – Optronics, Anti-terro, Border Security;
- ROMAERO S.A. – Aviation, Fleet maintenance;
- Romradiatoare S.A. – Cooling Systems;
- S.C. STIMPEX S.A. (STIMPEX) – Anti-terro (ballistic protection);
- Military Equipment and Technologies Research Agency (METRA);
- Military Technical Academy (MTA);
- National Research Institute for Textile and Leather (INCDTP);
- INTERACTIVE SYSTEMS & BUSINESS CONSULTING; (INTERACTIVE) – IT&C; Systems Integrator.

Romanian participation to NATO capabilities

- ***AGS***:

– Getting informative superiority through allocation, integration and operating systems of sensors, UAV`s, launchers and ground systems;

- ***Early Warning and Control NATO Airborne Force***

– Airborne multinational capability for air surveillance, early warning and command and control of weapons;

- ***The NATO Air Command and Control System*:**

– Radar integrated system, data centers and adequate software for planning and conducting air missions;

- ***Ballistic Missile Defence System – BMD***
  - Combat short and medium range ballistic missiles through the integration of sensors and interception systems;
- ***Dismounted C&I Module.***

Core capabilities of PATROMIL members

- Professional Project Management Services (Microsoft Project implemented at the enterprise level);
- System Design & Development;
- Equipment Selection and Supply;
- Special Equipment Design and Production;
- Software Design & Development;
- System Operation, Maintenance & Support;
- Test & Evaluation;
- Through life support and interoperability for the systems/networks delivered;
- Comprehensive training courses tailored on the customer requirements and needs, covering all equipment delivered;
- Logistic services & Support.

Areas of expertise

- Custom vehicular communications and information system on commercial, military, armored & non-armored platforms;
- Battle Management Systems;
- Navy & Shipboard integrated communications system;
- Secure Automatic Military Messaging System;
- Secure voice and data communications on the HF, VHF and UHF radio;
- Tactical data link communications;
- Military audio systems for psychological operations;
- Military satellite communications;
- Mobile VSAT solutions;
- Ground to Air Communications System for final approach, landing, en-route and take-off and air intrusion;
- Voice/data/video processing and exchange for mobile applications;

- Command Center outfitting with communications infrastructure and information processing, dissemination and display systems;
- Radio Remote Command, Control and Monitoring system;
- Vehicle Tracking System;
- PSYOPS special vehicles – audio broadcasting system;
- Vehicle Electronics (VETRONICS) and sensors integration in the BMS;
- Geographic Information System (GIS) Integration;
- Intrusion Detection and Protection Systems;
- Broadcast systems – AM, FM broadcast, fixed, mobile or transportable;
- Counter terrorist systems – voice, data networks, special applications;
- Real time applications development.

Conclusions

- Romania is supporting Smart Defence and Pooling&Sharing Mechanism using as interface the Romanian NDIA – PATROMIL;
- Every year PATROMIL is strengthening its capacity and level of expertise as sole Romanian representative Association;
- PATROMIL through its members might become long term partner in developing highly profitable businesses, both in Romania and in the Region;
- PATROMIL's good knowledge of Central Eastern Europe and its needs (similar for most of the former Warsaw Treaty countries) could be a key for doing business in the Region;
- The crisis will end and we must be alive!

PATROMIL – YOUR PARTNER OF CHOICE in the major acquisition programs of the Romanian MoD, in the Region and in Multinational Programs

New Challenges and Philosophical Issues of Strategic Thinking

Nikolay P. Atanasov, PhD
UNWE – Sofia

ABSTRACT: There are presented new challenges and philosophical issues that are concerned to problems of strategic economical thinking and strategies Europe 2020, NATO 2020 and of Bulgaria. The diversity of strategies proposes search for effective professional solutions about crisis phenomena and emergency economies, risks and threats of strategic backgrounds. There is considered a new strategic concept of EC for „Innovation Union" in keeping the strategy Europe 2020 and development of innovations. There are generalized conclusions that proceed from the problems, strategic novelties and challenges for strategic innovation cooperation in the context of „Smart Defence" and „Pooling and Sharing".

The second decade of XXIst century starts with ten-year strategies in the EU (Europe 2020: A strategy for smart, sustainable and inclusive growth) and NATO (NATO 2020: Assured Security; Dynamic Engagement) [2, 4]. But it is darkly and hard to be prognosticated in spite of availability of strategies.

The contemporary strategic environment keeps hard with foresight and asymmetrical risks, threats and tendency of limitations for defence in the budgets of states from Euro-Atlantic community. The participation of Bulgaria in the applying of panel method of approach by building of capabilities as „Smart Defence" of NATO and „Pooling and Sharing" in the EU depends on conducting of researches that secures and facilitates the implementation of next strategic requirements and measures for increase opportunity of systems and technologies for defence and security.

The „Smart Defence" requires to build capabilities by limited resources and cooperation, agreement and effectiveness that to preordain systematic successes through new strategically compatibility,

which has innovative characteristics and participation in the innovation systems for increase of management quality in the emergency economies. For it the development of initiative „Pooling and Sharing" of the EC could be help by support and contribution to the Defence and Security through real inclusive growth.

The term „strategy" has historically military origin and contemporary putting into practice as management of modern economy. Therefore the historical role of military forces grows up by development of strategic systems and technologies and innovative character of the society through improving the quality of their composition, capabilities and management. Along with the development of their strategic compatibility in terms of economy crisis it requires new tools for economic, financial stability and independence. It also outlines other needs and issues (trends), as following:

- Systematic examination of strategic heritage and the universal periodic review of all officially adopted national strategies and measures by which we have to analyze and improve practices for strategic growth and competitiveness;
- New solutions and adopting a new strategic document for special strategic initiative for industrial development that meets the aspirations and expectations for contributing both to the „Innovation Union" and in the context of „Smart Defence" within high ambitions and specificity of projects and programs for cooperation;
- Fundamental and applied scientific research for quality, compatibility and strategic management systems and innovative technologies in administration, education and business need for coordination of their restructuring and the creation of departments and centers for research and applications of future technologies, products and services;
- Improving the quality requirements of investment in research and innovation systems and technologies need early visibility of compatible prototypes-models for modernization, participation and implementation of investment projects of national, NATO and the EU;

- Integration and coordination of multiple strategies and documents through strategic application of new information systems and technological applications, updating information, programs and models for research, innovation and education;
- New mechanisms of motivation to foster innovation and constant adaptation of research and innovation systems and technology to rapid change and a new kind of strategic culture.

Further, by the development of strategies, information and communication systems and technologies appears necessary to develop a strategy for Information security in the country, and regulations that are related to finding solutions to the ownership of the information and it to be suitable for development of innovation systems and cultural heritage also. This will create transparency for partners and involvement of stakeholders in the projects of the EU and NATO. It will provide clear boundaries for their relevance and realism of strategic documents and others in action (laws, doctrines, ordinances, guidelines, procedures, etc.).

Problems and challenges of strategic thinking

One strategy is as accurate as the information on which it was founded and submitted, evaluated and applied. For information unit, this is formed by the idea and concept of an object. It is universal ratio and base, by which the experience of the subject means and read, and considers and passes also. On the other hand, reliability or truth strategy is represented by the practices by which it is implemented. So in these both cases it should not leave gaps, at least with the information that unity is the ontological question and cognitive problem of the origin and sources of information.

The past and present decades show that the scientific and technological development creates conditions for overestimation of strategies and underestimation of strategic thinking as a matter of searches and inventions. It is so because there is a new kind of strategic crisis that emerges from the most power economies and countries. Maybe for it there exists phenomenon of emergency economy.

The emergency economy determines unknown differences between the human matter and techniques that produces a huge plurality for relations of production and means of production. It has cost and issues not only for economical life but for all aspects of the meaning of life. Therefore it has strategic sense that goes on within social, political and economical systems.

Philosophical and scientific aspects of information and knowledge require redefinition and new evidence for multidimensional performance indicator and system identification of the objects of observation. It is very important it to be within the reliability of technical systems, automatic and automated information technologies that form the information and professional knowledge in accordance to the high moral qualities of users, managers and leaders also. Simultaneously, there is a need to reinforce the strategic ambition and specificity in the decade extending communication and cooperation based on research and innovation.

A strategy can be realized if the subjects understood the concepts and assess their importance before they actually show their true worth and value. Because what is not understood, it is not noticed, it is not desirable and will not be protected.

Strategic thinking has certain information and knowledge level of realism. In this sense it is a bilateral problem. This means that it may depart from the objectivity of the information and use as a prerequisite to unrealistic predictions in the absence of objective information and evaluations of cognitive self-assessment of strategic risk.

Information and knowledge mediate the effects of strategic thinking and knowledge and the strategic orientations, because they do not derive from them simultaneously. This feature of ontological discontinuity in strategic thinking is a prerequisite for cognitive diversity, which is overcome through creative opportunities and learning experiences of the subjects.

There exists an essential difference between a strategic sign and information unit that are connected within relations, plans and interactions on varied hierarchic levels of strategic thinking, management and leadership. The information production, recognition and

practices create surroundings and issues to philosophical economic questions concerning future and strategies.

The world is increasingly connected and the customer of information has many profiles and information faces. How consumer behavior is evolving in the society by information is question from which depends on the future of messaging or communication strategies. The human and technical information evolution has fundamentally changed the way people do business – and how it provides new opportunities to create customer value. But it determines markets with rival strategies.

The meaning and the question of loss or gain of a kind of strategic perspective becomes very sensitive and it requires a new quality of research, translation of innovative practices, entrepreneurial interaction and communication between the individuals and organizations. Our decade is time to communication strategies of innovations in the area of Crisis management. It is real strong perspective of existence and guide value within all areas of the fundamental and applied research plurality and practices because it gives always at least information between subjects.

Information, computer and communications systems and technologies accelerate and diversify communications, decisions and transactions. They operate in milliseconds. So a huge challenge is when they determine the information or set the speed and quality of information, and solutions on the first or last choice and expense also. A real prospect of strategic thinking and achieving from them depends on information and knowledge, innovation and research, the dynamics of enrichment and growth rate. But it depends on the strategic thinking and innovation systems interaction researchers and innovators, the motivation and markets.

Smart Specialization Strategy

It is a new concept of EC for the illustration of innovative restructuring in EU regions by developing competencies and the role of EU funds in support of restructuring processes. Smart specialization is a condition for well-performing national and regional research and innovation systems. It is a key element of the reformed cohe-

sion European policy and is proposed as ex-ante conditionality for the use of the European Regional Development Fund in the next programming period of the Structural Funds 2014-2020. A Smart Specialization Platform was launched in June 2011 and will assist regions and Member States in developing such strategies in the sense as Innovation Union's self assessment tool. [3]

In spite of extremely adverse market and financial situations, companies and organizations could engage creatively in restructuring processes that have been constructive, effective and instrumental in limiting job losses, through innovative arrangements. The role of "smart specialization strategy' is to rise social dialogue, legal instruments and innovation support measures in the field of national and regional cooperation. The lessons learned in recent years on anticipation and management of change and restructuring give a new view and strategic issues of Knowledge Society.

The concept outlines a challenge that provokes interest to a new strategic thinking and smart activities. It is useful, for example to develop strategic project management and regional searches to innovations. It is a nice step for intelligent people and modern subjects who are responsible to the European future as researchers and creators of it.

The Department „National and Regional Security" of Faculty „Economics of Infrastructure" in UNWE – Sofia could properly be a coordinator of search regional project about „Smart Specialization Strategy for South-East Europe" in the area of Defence and Security.

Conclusion

Bulgaria continues to change. But the strategic management of change must be at least as systematic effective as real, as in the West-European countries.

Over the past two decades the country has gone through crises that complicated economic and social life. Solutions and measures for assessing and risk management require more accurate and comprehensive concepts, models, approaches and methods for strategic management of the economy crisis (emergency economy), and global environmental crisis, war or armed conflict, and performance

of acquired obligations of membership in NATO and the EU in all spheres of society and state. This is because the positive transformations are much less negative than that is the basis of shortages, bottlenecks and new challenges for the future.

Since the beginning of Bulgaria's membership in NATO and the EU emphasis on risk taking. But the risk-taking appears to be linked to specific strategic ability to restructure, organisation, setting standards, flexible policies, cooperation and inclusion of appropriate changes in the environment, communities and the state of crisis economies. Bulgaria is a good regional example of peaceful transition to a market economy and democracy. By its conservative policy on financial management, it shows a successful version of the transition crisis in a high and variable domestic and international environment. But this is all on account of decline in living standards of citizens, huge social deprivation and suffering, sustained low growth potential and a modern economy.

The country's entry into NATO and the EU limit the risk of a possible armed conflict and war in the country or with their neighbors. But the transfer risk and its partners by sharing required to maintain reserves to prepare and manage modules and troops of the Bulgarian Army and the armed forces in independent and joint operations, defence and security. All this is impossible without strategic thinking and researches.

The decade 2010-2020 brings new opportunities and challenges through wide strategic specialization partnership by innovation, knowledge, systems and technologies. In the science and Philosophy it continues to reveal new dimensions and levels to improve governance. In the Information society (Digital agenda) they represent and expand to more information than in the cognitive and value, because the dynamics of transformation is innovative in the wider information and communication technologies. Therefore, even in the context of asymmetry of information and knowledge, such as quality of life, the question of optimal and rational use of information and knowledge depends on solving problems associated with such sources of information and property, uniform standards and procedures and more. For all that strategic planning and man-

agement are successfully systematic applied consistently over time only for decades. [1]

It is likely to be a global strategic crisis that could improve the crisis management of societies and emergency economies. The different markets and societies presume prospecting of successful or partial effective strategies that could reply to needs of future oriented systems and technologies.

The social and technological innovations are special challenges and cost edges for economical life and a necessity for strategic thinking to national, regional, European and world markets. In this context, the strategies bring more questions than issues. Nevertheless the strategic cultural heritage increases.

The emergency economy requires strategic thinking and models for cooperation and inclusive growth with living frugally.

Major challenge is the man, organizations, companies and societies to compete with the strategic economic thinking, planning and strategies that grow up in number, complexity and diversity in the world. Today is important what strategy get first there and in the future. It is impossible without the dimensions of philosophical strategic thinking in whatever emergency economy it to be.

Literature

1. Atanasov, N. 2010-2020: Decade for growth or shocks. ECSEC, Burgas, 2011.

2. Europe 2020 A strategy for smart, sustainable and inclusive growth. EC. COMMUNICATION FROM THE COMMISSION. COM(2010) 2020, Brussels, 3.3.2010.

3. GREEN PAPER Restructuring and anticipation of change: what lessons from recent experience? Brussels, 17.1.2012 COM(2012) 7 final.

4. NATO 2020: Assured Security; Dynamic Engagement. Analyses and Recommendations of the Group of Experts on a New Strategic Concept for NATO, 17 May 2010.

The International High-Level Conference on Smart Defence – Pooling and Sharing: Eastern European View on Multinational and Innovative Approaches for Capabilities Development

Editors:
Prof. Dr. Dimitar Dimitrov
Dr. Georgi Penchev

Print size: 160x230 mm
Print sheets: 12,5
Print BPS Ltd.

ISBN 978-619-160-101-1
Publisher Avangard Prima

Sofia, 2013