EDA Bulletin

European Defence Agency

SPECIAL EDITION

EDA'S ANNUAL CONFERENCE

helicopters '09

key to mobility

Opening addresses

By Alexander Weis, Chief Executive of the European Defence Agency

EDA's Chief Executive, Alexander Weis, pointed out that there is no shortage of helicopters as such. "The Member States of the European Union have 1735 helicopters of 22 different types in their military inventories". But, he said, "they are only deploying about six to seven percent of their helicopters in crisis management operations elsewhere in the world". During his speech, he asked what could be done to increase the number of available helicopters before setting out the EDA's short-, medium- and long-term actions in this area. He called on all Conference participants to focus on concrete next steps.

I would like to welcome all of you to this Annual EDA Conference and in particular the High Representative and Head of the Agency, Dr Javier Solana, and the other two keynote speakers: Henri Bentégeat, Chairman of the EU Military Committee and Allan Cook, the President of the AeroSpace and Defence Industries Association of Europe.

This is the fourth EDA Annual Conference. Its topic is high on EDA's agenda.

The lack of available helicopters for crisis management operations is a burning problem, well-known to politicians, military commanders and civilian operators.

The European Union, NATO, the United Nations and other organisations - they all face the same problem.

But there is no shortage of helicopters as such.

Let's look at Europe. The Member States of the European Union have 1735 helicopters of 22 different types in their military inventories.

Yet, today they deploy together only a very small number of these helicopters in crisis management operations.

In the ESDP operations in Bosnia and Chad, 22 helicopters are deployed.

In NATO's operation in Afghanistan EU Member States have about 80 helicopters flying.

Even taking into account that there are probably a few more flying around elsewhere in other operations, it seems that European countries are only deploying about 6 to 7 percent of their helicopters in crisis management operations elsewhere in the world.

So, the first fundamental question is - what are the reasons for the lack of deployed helicopters?

The more target-oriented subsequent question is what can be done taking into account the number of 1735 existing helicopters in order to increase the number of available helicopters?

Without pre-empting our discussion today, the answer to the first question is - we are suffering from a lack of helicopters in ESDP operations because very often the existing helicopters and the aircrews are not "fit for flight" in demanding operational scenarios.

Under the political impetus from the Franco-British Summit in March 2008, the European Defence Agency has developed activities for the short-, medium- and long-term.

For the short-term, EDA's agenda is focussed on training. Our objective is to construct at European-level a Helicopter Tactics Programme, to be launched in 2010.

For the medium-term, the Agency is exploring the potential for upgrading helicopters by grouping those Member States operating the same type of helicopter.

Finally, EDA's long-term activity will be the Future Transport Helicopter, once two Member States – France and Germany – have brought this project to EDA.

The transatlantic aspect of the Future Transport Helicopter is an important dimension. In that respect, I cordially welcome the participation of Al Volkman, from the US Department of Defence, as one of our panellists.

"...The first fundamental question is - what are the reasons for the lack of deployed helicopters?"

Alexander Weis, Chief Executive of the European Defence Agency

But, let's start with the main speakers. I am very pleased that we have three distinguished speakers this morning and I would like to thank all of them for their participation.

I am also looking forward to the more detailed contributions and discussions in the two panels which will follow the keynote speeches.

At the end of the day I hope to conclude with some useful next steps, resulting from today's debate. The EDA Annual Conferences have by now a well-established record of follow-up in terms of strategies and practical activities. Today's Conference should not be an exception. So, I call on all participants, including the audience, to keep very much in mind this orientation on practical steps during their contributions.

Keynote Speech

By Javier Solana, Secretary General - High Representative and Head of the European Defence Agency

Javier Solana pointed out that EDA's work on helicopters offers huge potential for European co-operation, EU-NATO coordination and for transatlantic cooperation. On the latter, he said EDA has been tasked to talk directly to the United States to explore opportunities for co-operation, in particular on the Future Transport Helicopter. Referring to the financial-economic crisis, Solana concluded more generally that "Defence cannot stay outside the European integration processes anymore. It is politically desirable and economically necessary".

This year we celebrate the European Security and Defence Policy's tenth anniversary.

Has ESDP achieved what European leaders expected when they launched it in June 1999 at the Cologne Summit? ESDP has indeed delivered positive results. We began in the Balkans. Since then, the European Union has contributed to security in four continents. ESDP is one part of a tool kit of instruments that the European Union can deploy to bring stability to turbulent regions.

Our military and civilian missions operate in sometimes inhospitable terrain: from our police reform mission in Afghanistan and the monitoring mission deployed in Georgia, to the Security Sector Reform mission in Democratic Republic of Congo, our military operation EUFOR in Chad and in the Central African Republic, or the counter-piracy naval operation in the Gulf of Aden, EU NAVFOR Atalanta.

Helicopters are thus essential to our operations because they offer tremendous flexibility, mobility and the capability to respond quickly. Let me give you some examples from our current missions.

In Chad helicopters are essential to allow us to operate in the remote, vast and difficult terrain. The area of operations is more than half the size of France. The seasonal rains make ground movement impossible. Helicopters allow us to survey the terrain, to supply our troops with water and ammunition, and they are vital for medical evacuation. When refugees came into southern Chad from Central African Republic recently, helicopters enabled EUFOR to rapidly secure the area and transport UNHCR personnel to the area.

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Javier Solana, Secretary General - High Representative and Head of the European Defence Agency

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In the Gulf of Aden, the area of operations of EU NAVFOR covers 3000 miles of coastline. Helicopters launched from our frigates give us the capability to cover large areas quickly. The arrival of helicopters at attempted pirate attacks has a strong deterrent effect.

Despite the importance of helicopters, we have a significant shortfall in their availability. This is a problem for NATO and the European Union alike. **The European Defence Agency has made a quick start to improve the availability of helicopters for ESDP.**

This follows the proposals launched by France and the United Kingdom at their bilateral summit in March last year. We are all aware that there is no shortage of helicopters in Europe. Inventories are high in numbers but the problem is that they are not deployable outside Europe in sufficient numbers. Third state partners assist in our ESDP operations. We are grateful to them for their contributions, but we must not be dependent on them for key capabilities such as helicopters.

The Agency is producing short and longer term solutions.

In the **short term,** European-level training will help to adapt the skills of helicopter pilots not yet trained to fly in more challenging environments, such as deserts and mountains. Initial training of Czech helicopter crews will take place this spring.

For the **medium term,** the Agency is looking at options for upgrading existing assets, in particular the MI-type helicopters, hundreds of which are in the inventories of Central and East-European countries. European helicopter industries will have to be closely involved to provide upgrade packages at reasonable cost. Many of them are represented here today.

For the **long-term, beyond 2020,** the French-German project for the Future Transport Helicopter offers an excellent opportunity for wider participation in Europe. I hope this project comes to EDA soon. It also offers potential for transatlantic cooperation. The market for such an expensive heavy transport helicopter is simply too small in Europe alone. Combining forces would strengthen the helicopter industrial base, both in Europe and in the United States.

Today's Conference on helicopters comes at the right moment. The EDA project offers huge potential for:

- European cooperation
- for close EU-NATO coordination
- and for transatlantic cooperation.

We need all these three elements. Why?

European defence cooperation is the answer to fragmentation and duplication of efforts in Europe. The scale of improving the Member States' capabilities will exponentially grow if we do more together. The costs will be lower through economies of scale. It also supports the realisation of a true European defence industrial base.

EU and NATO are cooperating at the political level and coordinating at the operational level in the field. On capability improvement the Agency and NATO work closely together to improve the Member States' capacities. This is beneficial to both sides. Helicopters are a good example. NATO is focussing on addressing immediate needs for Afghanistan, while EDA is working on more structural solutions.

With the arrival of the new American administration there are new opportunities for EU-US cooperation. We should use them. European and American security can only gain from closer cooperation. **The regular EU-US dialogue should be used to the maximum extent.** I have tasked EDA to establish a substantial dialogue with the US to explore concrete opportunities for transatlantic partnership.

ESDP is entering its second decade. I am optimistic, despite the economic crisis. Defence cannot stay outside the European integration processes anymore. It is politically desirable and economically necessary.

Let me say a word on the future. Increasingly, the distinction between civilian and military will become less relevant. The focus will be more on whether a mission is executive or not. We are currently reorganising our strategic planning capability in this way. We are exploring how the development of our capabilities can be used for both civilian and military purposes. We must continue to work dynamically and creatively in this direction.

What is EDA doing about the helicopter shortfall?

- **Short-term**
  the EDA is developing a European-level helicopter tactics training programme, to be launched in 2010.
- **Medium term**
  the EDA is looking into the potential for upgrading helicopters by grouping those Member States operating the same type of helicopter.
- **Long term**
  the Future Transport Helicopter, once France and Germany have brought this project to the EDA.

Keynote Speech

By General Henri Bentégeat, Chairman of the European Union Military Committee

General Bentégeat also pointed to the shortfall of helicopters, which he described as "too serious for the smooth conduct of our operations". He outlined the many activities that helicopters can carry out, including transportation, reconnaissance, protection, attack missions and urgent evacuations. He pointed out that helicopters can be useful for the rapid movement of troops or equipment without having to depend on even the most rudimentary of airstrips. "The helicopter can also be the only effective means of moving about, because the network of roads or tracks is impracticable, or because of weather conditions, or even because of a too high level of risk," he explained.

One of his key points was that helicopters need to be flexible in terms of their usage. "The ability to convert a utility or attack helicopter into a means for a medical evacuation provides a force commander with essential reassurance as to the raised morale of his troops and ensures that he has greater flexibility in the use of his airborne capabilities," he said.

Looking to the future, he said he hoped that the Franco-German Heavy Transport Helicopter project (around 13 tonnes or 70 men with a range of 1,000 kms according to the latest figures he had) would come into being and be shared by other EU Member States. "Programmes for developing heavy helicopters that can lift significant loads of freight of the order of tens of tonnes or a number of troops equivalent to two combat sections are essential," he said.

I would like firstly to thank the European Defence Agency and its Chief Executive for having organised this Conference devoted to a topic which, as all of you know, has been a cause for concern to the European Union Military Committee for several years and, unfortunately, will no doubt continue to be so for some time to come. I know you have clearly pinpointed the issue, judging from the titles of your two round table discussions: a clear military need exists here, which is not being fulfilled in the current state of affairs, and we thus need to find and apply solutions.

As already mentioned, the European fleet consists of around 1700 helicopters, 70 % of which belong to only one quarter of the Member States. These helicopters are for the most part old, with some airframes having been in service for over thirty years, often under severe conditions of use.

Spare parts for them are in short supply, and there is an increasingly urgent need to maintain them. All in all, barely 50 % of the aircraft are available at any one time. Of this volume of aircraft available, a proportion must also be used for training and schooling aircrew. Finally, aircraft that have been deployed for several months require increasingly lengthier and more costly operational overhauls.

"European fleet consists of around 1700 helicopters, 70 % of which belong to only one quarter of the Member States."

By General Henri Bentégeat, Chairman of the European Union Military Committee

Our common problem is that all ESDP operations require helicopters to be present in the field in sufficient numbers. Everyone will have in mind the difficulties experienced at the time of the EUFOR Chad/RCA force generation, which echoed roughly the problems encountered with the NATO operation in Afghanistan. The same concerns exist regarding operation Althea in Bosnia. And it would seem to me that helicopters were also a key issue when planning the deployment of the observer mission in Georgia.

Those of you who, in uniform, have been more or less closely involved in operations are well aware of the strong points of helicopters in any theatre.

They make it possible for resources to be transferred swiftly from one place to another, sometimes covertly, for reconnaissance, protection or attack missions to be carried out, and, finally, for urgent evacuations to take place. The full range of capabilities of this type of aircraft was showcased, on a relatively small scale (but admittedly it was for the first time), during the French operations in Algeria at the end of the fifties and then, on a much grander scale, by the Americans in Vietnam. To give you an idea, at the start of operations in Algeria the French land forces had 35 helicopters; five years later, at the end of the conflict, they had a fleet of 400. In Vietnam, numbers of these aircraft were in the tens of thousands, and their sorties were numbered in millions. The helicopter used as a means of transport – or the utility helicopter – has at least two fundamental advantages.

On the one hand, it enables rapid movements of troops – small special forces units, for example – or of equipment, without having to depend on even the most rudimentary of airstrips and, on the other hand, it reduces the visibility of troop movements.

Besides the military value of covert movement, this can be genuinely important where one of the decisive factors for victory lies in winning over the "hearts and minds" of populations. A few helicopters at high altitude in the night skies will not have the same effect on minds as a convoy of armoured transport vehicles, clearly armed, making its way along a busy road.

The helicopter can also be the only effective means of moving about, because the network of roads or tracks is impracticable, or because of weather conditions, or even more and more often because of too high a level of risk.

This is frequently the case in asymmetric operations, where there is no frontline and where there is a proliferation of improvised explosive devices and landmines.

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The option to use utility helicopters will thus be dictated by striking a balance between three requirements: the mobility, visibility and protection of our forces. But it is essential that the operation commander be able to make that choice, and therefore he should have a sufficient range of means at his disposal and he will be ultimately alone in judging that they are used effectively, depending on the military effect he is seeking to achieve.

This permanent need for mobility within a given theatre, whether for logistical missions or to deploy troops, is a characteristic of modern operations and will not decrease. This is why programmes for developing heavy helicopters that can lift significant loads of freight of the order of tens of tonnes or a number of troops equivalent to two combat sections are essential. I genuinely hope that the Franco-German Heavy Transport Helicopter project (13 tonnes or 70 men with a range of 1000 km) will come into being and be shared by other Member States.

I personally remember the participation of 2 heavy lift South African helicopters in operation ARTEMIS in 2003. Given the poor state of the runway in BUNIA, this contribution happened to be a key enabler for the deployment of EUFOR: 1200 troops in less than 15 days.

The helicopter used in combat mode – or attack helicopter – has precise reconnaissance, attack or protection missions. For this type of mission, polyvalence is an asset, whereas over-specialisation can rapidly become a handicap. The battalion of American Apache helicopters deployed in Albania in 1999 was unable to adapt to air-to-ground combat duties against forces that were dispersed, camouflaged and embedded in the civilian population, whereas eight years earlier, the same aircraft very effectively destroyed the Iraqi armoured forces in actions coordinated with ground forces.

Similarly, in a hostile environment, the protection of utility helicopters or of a road convoy by a few attack helicopters, in support of ground troops, the security of an exfiltration after an engagement and, more generally, rendering transit

routes and drop zones secure, will be enhanced by aircraft armed with cannon, rockets or machine-guns, particularly where the enemy is equipped with light weapons. In attack tactics, the surprise effect of a low altitude approach at least partially offsets increased vulnerability due to proximity to the ground.

In 2004, the only break-through that the Ivory Coast government forces were able to achieve against the rebel lines were carried out with two MI 24. Unfortunately for them, their Infantry companies were not able to exploit the break-through. In other terms, the effectiveness of attack helicopters relies on combined actions. They cannot act separately.

Lastly, the capability to reconfigure helicopters is an important criterion. The ability to convert a utility or attack helicopter into a means for medical evacuation provides a force commander with essential reassurance as to the raised morale of his troops and ensures that he has greater flexibility in the use of his airborne capabilities. I remember when I was a student at the French War College, there was a Israeli student, who had taken part in all the Israeli-Arab wars, who was extremely critical of our balance between attack helicopters, transport helicopters and medical evacuation helicopters. What he said to us at this time was that in the Israeli Armed forces in fact 70% of the helicopter fleet was devoted to medical evacuation, because it was extremely important to keep at the highest level the morale of the troops. I would not say that this the right balance, I have just mentioned that at this time the Israeli's judgement was the best possible for their own operations.

A helicopter fleet is well balanced if it can meet all these military needs.

Since the conflicts I referred to a moment ago, the use of helicopters in operations has clearly remained unchallenged. I say "clearly" since the type of operations in which we are engaged – and this trend will certainly not change for a long while – constantly calls for great mobility in order to counter such threats as action carried out by small enemy groups widely dispersed over large areas, and generally benefiting from knowledge of the terrain and the assistance, whether or not willing, of the local population.

Here I am naturally thinking of Afghanistan, but the problem is the same in Chad, although the mission and objectives may differ.

It is very good for our debates that General Nash could join us today.

An adjunct to manoeuvring on the ground which is regarded as essential, the helicopter now forms a basic part of the equipment programmes of modern armies.

Although its military benefits are unchallenged, its disadvantages must also be considered in order to understand the current situation. Flying lower and slower than a fighter aircraft, the helicopter will always remain vulnerable to some degree, which has increased since the appearance of ground-to-air missiles that can be carried and used by a single man. Hence the American Stinger missile caused the Soviet forces engaged in Afghanistan in the '80s to lose the advantage of air superiority.

This is an important issue. Whatever the courage and the training of the crew, self-protection is now a prerequisite for effective action for all types of helicopters.

The military helicopter is by definition a sophisticated tool. It is a complex piece of machinery, control of which calls for heavy investment in terms of resources, whether human or financial. You will certainly know better than I do, but I believe

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that I am not far off the mark in putting the cost of the NH 90 at a little more than twenty million euro a piece, and the cost of one flying hour at around 7000 euro.

In other words, in the overall cost of owning the helicopter, the purchase price will once again be reached after 15 years of use at the rate of 200 flying hours a year – which corresponds to the norm, at least in order to maintain the qualifications of pilots, whose training can be put at EUR 100.000 each. Here we are well into the realm of fairly considerable levels of costs! This is not surprising, as the machine is a complex one, involving all the key technologies in its design and construction, and therefore costly to develop and manufacture. All the dynamic constraints generated by the rotors (vibration, centrifugal force, etc.), like the aerodynamic constraints, impact to varying degrees on the whole of the machine in flight (fuselage, engine, transmission systems, equipment, etc.).

As each part is thus subjected to severe constraints, its lifespan is limited, and its replacement is an absolute pre-condition for flight safety. In addition to this series of structural constraints, there are the constraints caused by operational use in aggressive weather or environmental conditions (temperatures, sand, etc.) which will cause the machine to age prematurely.

As the level of costs does not allow fresh overall programmes to be launched frequently to renew fleets, preference has been given over the last few decades to reconditioning the aircraft, rather than purely and simply replacing them. While the managers of military budgets tend rather to make do with this short-term strategy, the same does not always apply to the users. In fact, the older the airframes become, the more quickly they wear out and the more spare parts and maintenance hours they require.

All in all, a Chief of Staff is often faced with the following dilemma:

- either heavy engagement in terms of operations, which is the very reason for armies to exist, but which will give rise to overstretched management of the fleet,
- or limiting operational engagements to what is strictly essential, particularly in a climate of austerity, to improve the average rate of availability of the fleet, which drops inexorably with the ageing of the aircraft.

The latter option obviously tends to have the upper hand when renewal programmes are delayed. And this corresponds to the situation we are in.

The human resources dedicated to using helicopters, whether experienced pilots or maintenance crews, are also becoming rare. In parallel with the development of the military helicopter, over the last few decades we have witnessed the constant growth of the civilian helicopter market. A few years ago the civilian market was confined to State administrations such as the police, customs or civilian security, but it was opened up very swiftly to commercial uses, and even today small leisure helicopters abound.

All our armies know that it is very difficult for them to resist the constant attraction of the qualified aeronautical jobs on offer on the market. The average salaries on this market are generally higher, living conditions are less demanding and the equipment is not subjected to the same constraints, and therefore requires less effort.

Availability for operations thus depends on all these factors: whether the aircraft is suited to the conditions of its use, the availability of spare parts, the number of qualified pilots and the size of maintenance crews.

Quite apart from any political considerations that might hold Member States back from supplying helicopters for operations, I am convinced that these ideas explain a good proportion of the difficulties we have in meeting the need for helicopters in our force generations.

However, do we have to be fatalistic and wait passively for fleets to be replaced with new or newly developed aircraft such as the NH 90 or the Tigre? The answer is certainly no, as operations do not follow the same timescales as programmes! It is therefore our duty to carry out a stocktaking and make the best use of all the possibilities for rationalisation, synergies and opportunities to share the heaviest investments.

In this regard, I would like to welcome the Franco-British initiative of March 2008, supported by a trust fund, and aimed at increasing the number of operational aircraft by measures involving modernisation, operational training for pilots and improving the availability rate. Several countries have already said that they could both contribute to this initiative and draw benefit from it, either by contributing to the trust fund or, like the Czech Republic, Bulgaria and Hungary, by supplying helicopters. I must tell you that I had the opportunity, last week, to visit LOM industries in the Czech Republic with the PSC, and I was impressed by the importance and the quality of the ongoing reconfiguration program. I am glad to see the Agency effectively take over the baton, with studies launched immediately to allow crews of MI-type helicopters to benefit from the best tactics suited to this type of machine, and which could lead later to a genuine training project: the HTP (Helicopter Tactics Program). The training courses in Germany and France – flight training for mountainous terrains, in particular – for Polish and Czech crews and for the associated maintenance crews, before operational deployment in Afghanistan, is a very satisfactory concrete spinoff of this initiative.

Now, I am about to conclude and I realize that I forgot to mention the crucial role played by helicopters in Counter-piracy operations. As you can guess, our warships are not quick enough to catch pirates riding speed boats and small skiffs without their embarked armed helicopters.

All the arrests of pirates since the beginning of the operation were due to the involvement of our helicopters.

In the course of your two round table discussions, you will be going over all this in detail, and analysing the situation, certainly better than I could. I should merely like to conclude by strongly reaffirming that here we are faced with a shortfall, which may be temporary, but is already too large, and too serious for the smooth conduct of our operations. And everything must be proposed, studied and eventually done to ensure that the soldiers whom we order to conduct operations can do so intelligently, with all the military effectiveness that we should expect of them.

Thank you for devoting your best endeavours to this matter.

(left to right) General Henri Bentégeat & Javier Solana

Keynote Speech

By Allan Cook, President of the AeroSpace and Defence Industries Association of Europe (ASD)

Allan Cook expressed optimism that Europe would be able to find solutions to challenges such as its lack of helicopter-based tactical mobility and the development of the next generation of heavy transport helicopters. He was concerned about the lack of political willingness to make the required capabilities available to Europe and felt that the current economic crisis will make things even harder.

"Even in fair economic weather, Europe's willingness to invest in defence is relatively low. But the testing, uncertain environment we are now living in will make it even harder for governments to maintain their level of defence spending. This will be true also for those countries which today provide the bulk of Europe's defence investments," he said.

He suggested various initiatives, such as maximising the development of dual-use products, increasing the purchase of 'off the shelf' products where applicable, outsourcing more non-core activities from the armed forces, optimising research and technology efforts at European level, increasing the number of collaborative projects and programmes and improving transatlantic cooperation.

I am delighted to address this year's annual EDA Conference in my capacity as President of the AeroSpace & Defence Industries Association of Europe (ASD).

I feel particularly honoured to have been given the opportunity to deliver a "keynote" address, thereby contributing to setting the scene for the upcoming detailed discussions.

Setting the scene is always important, but particularly so today, in the context of an economic crisis which seems to prompt many stakeholders to favour a short-term approach, and to neglect the long-term objectives that we had set ourselves only yesterday.

I am of course hinting at the re-emergence of protectionist tendencies, and at the ever stronger appeal of doing things alone rather than together.

If we let those tendencies prevail, the consequences for Europe - and for the rest of the world – will be disastrous.

I will return to this theme, but let me first underline the importance that previous EDA Conferences have had. They have been landmarks in their own right, leading up to important strategic decisions:

- The results of the first Conference on Research & Technology in 2006 were a significant input to the R&T strategy subsequently underwritten by EDA "participating Member States". Today, this strategy is fuelling all individual initiatives that are undertaken in this field. Over time, it will hopefully return Europe's defence R&T efforts to the central role that they should have never ceased to play. And let me add: this is the one strategic area that must absolutely not suffer from the effects of the current crisis.

- The following EDA Conference in 2007 on the "European Defence Technological and Industrial Base" was the prelude to the eponymous strategy endorsed by the Member States. This strategy is the essential framework underlying the development of a coherent European Defence Equipment Market. It has yet to be followed by concrete implementation steps. Even before that, a careful detailed analysis has to clearly set out which capabilities exist and which ones are necessary, but don't yet exist, and each member State has to state which industrial capability it supports at the national or European level.

These Conferences have helped us understand that the goals of the European Security & Defence Policy - while difficult to reach through a mere addition of individual contributions by Member States - can be within reach if Member States pool their efforts in a harmonized and complementary way.

In keeping with that tradition, today's Conference should therefore allow us to clearly identify elements of convergence for a common European strategy – this one in the specific area of helicopters, considered as "Key for Mobility".

Some claim that CSFP and ESDP goals are not ambitious enough for Europe to shoulder its global responsibilities. Yet the ability of Europe to meet these supposedly limited objectives is being undermined by a lack of common capabilities, in particular by a lack of helicopter-based tactical mobility. This situation, as well as the difficulty to set in motion the development of the next generation of Heavy Transport Helicopters, are the drivers for today's event.

I should immediately say that I am very confident in Europe's ability to find the solutions to these challenges. Europe's industrial capabilities in helicopters are

world-leading and globally competitive, as is shown by the success stories of our two leading helicopter companies.

Today's Conference will, I am sure, provide ample opportunity to debate different ideas and solutions. It is not my role as the leader of our industrial association to point to one direction or the other. My colleagues from industry are here to support you in your quest for answers.

Personally, I would just like to further "set the scene" as a preamble to your discussions.

The gap between Europe's missing capabilities in this area and the extraordinary know-how of our helicopter industry can certainly at least partially be explained by one important element, namely a lack of political willingness to make the required capabilities available to Europe.

The present economic crisis will make it difficult for us to recover.

Even in fair economic weather, Europe's willingness to invest in defence is relatively low. But the testing, uncertain environment we are now living in will make it even harder for governments to maintain their level of defence spending. This will be true also for those countries which today provide the bulk of Europe's defence investments.

Some pundits reckon that defence budgets will be impacted only as an aftershock, as a result of the major budgetary impact of support packages for the financial sector and others.

I on the contrary believe that the impact on defence outlays could be much swifter, unless we find a collective way to "sanctuarize" those investments that preserve our essential capabilities.

We are already receiving the first indications that because of pressing operational needs, here and there governments consider cutting their level of R&D spending - which is already insufficient today. I think we can all agree that this would be absolutely disastrous.

So, what would be the best way forward?

The case has been made in the past, and indeed is already part of EDA's raison d'être: what we need in Europe is more coherent efforts, more cooperation and less duplication. This will allow us to make wiser use of taxpayer's money and to increase the efficiency of our spending on defence. Things have started moving in the right direction, albeit timidly, and we now absolutely need to move up a gear in the face of worldwide economic distress.

This is a clear mandate for our politicians.

And then there are additional initiatives that should be considered:

- Develop the convergence between defence & security, therefore maximizing dual-use;
- Increase the recourse to "Commercial-Off-The-Shelf" where applicable, in order to reduce cost;
- Increase the outsourcing of non-core activities from the Armed Forces, offering opportunities for rationalization through the offering of services by industry;
- Dramatically optimize R&T efforts at European level, thereby reducing redundancies and duplication;
- Dramatically increase the rate of projects & programmes done in cooperation, while admitting that we must collectively find new, streamlined and more cost-effective ways to execute them;
- And, last but certainly not least, develop a carefully reasoned approach where we Europeans can engage at eye level with our American friends in balanced, mutually-beneficial partnerships.

This is the context in which I place today's conference. Some of the tentative solutions that I have just outlined might well be applied to the questions that you are about to try and answer.

This Conference demonstrates that there is a real need for industry and governments to prove their ingenuity to find ad-hoc, short-term solutions that represent the "sweet spot" of the right technical and financial solutions, combined with a proper definition of what is in the best strategic interest of Europe. I have done my best to stimulate you ahead of your discussions. I hope, and I am sure, these will be fruitful and will make a lasting impact on the future of the European helicopter industry.

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Panel 1: Setting the Scene

Operational needs, current situation, lessons learned

The first panel of the Conference, chaired by *Michael Codner* (Royal United Services Institute), looked at the problems faced on the ground by users of helicopters. The purpose of this session was to identify the operational requirements, the scope and the scale of the challenges we are facing, allowing better solutions from both national, intergovernmental and industry sides.

Lieutenant General Pat Nash, Operations Commander of the EUFOR mission in Chad/Central African Republic, explained the potential usefulness of helicopters given the operations' environment. "Conditions featuring extreme heat and violent sandstorms but also flooding, vast distances (just five fuel stations in the whole country), dispersal of units, poor or even non-existent land routes and security threats from other forces, generate dramatic effects and create a challenging environment for helicopter operations".

He pointed to the usefulness of helicopters for a range of tasks, from patrolling to reconnaissance to close air support (armed helicopters have a deterrent effect, preventing conflicts from escalating). He also explained that the EUFOR mission had at times been reliant on helicopters for logistics and that civilian helicopters can play a useful role in logistics operations – taking into account the specific conditions of such operations.

He added that helicopters play an important role in medical evacuation *(medevac)*. "The EU has a 'two hour rule' – that it must provide for the evacuation of casualties to a medical facility within two hours," he said. "This can raise dramatically the morale of our troops."

From his broad experience in Chad, Lt. Gen. Nash pointed also to lessons learned:

- Helicopters provide a critical capability in a number of important domains: operations, patrols and quick reaction forces, logistic support in extended theatres and medical evacuation;
- Prudent planning is required – and planning must address alternative solutions;
- Range as a key factor: in a theatre like Chad, identifying the type of helicopter required is fundamental;

"The availability of helicopters has brought many advantages to the EUFOR mission."

Lt. Gen. Pat Nash, Operations Commander of the EUFOR mission in Chad/Central African Republic

- Civilian helicopters played a very useful role in pre-planned logistics and even in pre-planned routine patrol operations;
- Military helicopters are essential for operations such as quick reaction forces, close air support and medical evacuation.

The EUFOR Chad/RCA's ideal solution, in his view, would be one fleet of interchangeable, all weather, long-range helicopters with sufficiently suitable crews, which could be used for tactical troop lift, close air support (fitted with weapons stations), able to do *recce* (reconnais-

Key words addressed in this session:

- Civilian & military helicopters
- Caveats
- Competencies, training and proficiency
- Aviation interoperability
- National and multinational
- Pooling & co-operation
- Hybrid scenarios and requirements
- Range
- Critical capabilities

Problems encountered – by Lt. Gen. Nash

- Availability: in the first place, the greatest problem was to get the helicopters; there was great uncertainty on the assets EUFOR could receive
- Range of helicopters: it was critical that military helicopters had a sufficient range, to allow a significant degree of autonomy before refuelling
- Civilian helicopters: in the planning phase, contracting of civilian helicopters was considered; the difficulty was to count on this sort of helicopters for operational type tasks (as landing in a very hostile landing zone). But for routine planned operations, civilian helicopters can play a very useful role
- Aerial Medical Evacuation Teams (AMETs): this capability requires more than just an aerial platform
- Rotation of helicopters: would be easier if EUFOR had access to one larger fleet (instead of three small fleets)

sance) with all-weather imagery, medical evacuation (*medevac*) and logistics support. "That's not a small shopping list," he acknowledged.

Colonel Ron Hagemeijer, Head of Combat Plans Division/NATO Response Force, gave a presentation on the use of helicopters for NATO's International Security Assistance Force (ISAF) mission in Afghanistan. "And this scenario", he said "can be projected also in other countries".

Caveats: spectrum and description

- Different systems
- Lack of interoperability
- Lack of competencies
- National rules – against multinational requirements

Col. Ron Hagemeijer presented the challenges ISAF faced, the lessons learned and his personal opinion on how helicopters community should proceed.

On the challenges side, Hagemeijer addressed first the environmental conditions like terrain and weather. Extreme climate conditions, enormous distances and the inappropriate road conditions determined the need for helicopter capabilities; and support, attack/protect, medevac and personnel recovery, he said, are present at ISAF. "It is crucial to have protection against attacks by opponents like a direct attack with small armed fires or RPGs (Rocket Propelled Grenades) or (their favourite method of attacking us), improvised explosive devices (IEDs)". "And we need to have protection against that".

Contractors would be continually challenged by the speakers of this first session. Hagemeijer included their role in this list of challenges: "we have contractors supporting our mission", he said. The adequate outsourced intra-theatre capability allows military assets to focus on manoeuvre tasks and deliberate operations. So, civilian contractors are useful as they can plug the shortfall and free up military assets.

"This is not a luxury. We are saving people's lifes – not only military but also locals. We need to have aviation interoperability."

Col. Ron Hagemeijer, Head of Combat Plans Division/ NATO Response Force

On the other hand, contractors support, he said, raise questions: should contractors' helicopters be armed? Should they be protected against small arms fire? Do they have the right security clearances? Can they transport dangerous cargo?

"We are really lacking transport helicopters and medical evacuation helicopters."

Col. Ron Hagemeijer, Head of Combat Plans Division/ NATO Response Force

Col. Ron Hagemeijer then challenged the audience on the "national caveats". "We have a certain amount of assets. Does it solve the problem? Well, actually no". "If we focus a little bit deeper, you will see there are caveats". He identified the following tangible examples:

- Regulations: how do we transport heavy cargo? Do we have a standard for that? Or do we maintain the rules of the western world?
- Limitations: when can we fly? With what kind of light levels do you fly?
- Tactics: for instance, in the case of helicopters flying at different altitudes;
- Procedures: do we have an agreement on national guidelines for people transport?
- Training levels: there is a difference between "currency" and "proficiency" in a combat zone like Afghanistan.

Considering the scenario where different entities (like ground forces with their own organic assets, national assets, Afghan National Army Air Corps and civil contractors) are flying around, Hagemeijer dedicated the last minutes of his presentation to command and control. "Who is controlling that pool of helicopters?", he asked.

His lessons learned included the following:

- Helicopters are crucial for military operations, logistics, reconnaissance and *medevac;*
- But maintainability is crucial - and inspections done on the spot work much better than in the home country;
- Commonality of spare parts – Col. Ron Hagemeijer stressed that it should not be confused with "multipurpose heli-

copters" and he added that the way RC South centralized the pool of helicopters could be used as an example; and

- Collaboration during early planning and execution phases (both international and national levels; and between military and civilian) brings more efficiency.

> *"There are more helicopters in EU peace time environments than where we need them."*
>
> *Col. Ron Hagemeijer, Head of Combat Plans Division/ NATO Response Force*

For the future, he stressed the importance of **expanding helicopter capability**, which means filling the *Combined Joint Statement of Requirements* (CJSOR), **encouraging task forces** (he pointed out that NATO is building-up a HIP Task Force, with the Czech Republic as the lead nation), **expanding the capabilities of the Afghan National Army Air Corps** (which is being supported by NATO) and finally **promoting collaboration between headquarters** (national and international) and **among helicopter users** on how the requirements can be filled.

> *"We had Dutch Apaches and Dutch Chinooks in the area. But our forces were sometimes re-supplied by British Chinooks or American Black Hawks – or other helicopters. It does not matter, as long as it suits the mission. It's much more effective and efficient. (…) We have to have a pool and to centralize command and control."*
>
> *Col. Ron Hagemeijer, Head of Combat Plans Division/ NATO Response Force*

Rear Admiral Tony Johnstone-Burt, Commander of the UK's Joint Helicopter Command, explained that all battlefield helicopters were brought together under a single, joint, unified command in 1999, as part of the UK's strategic defence review.

He presented UK's assets and the current operations the JHC are involved in – including six overseas training areas (Morocco, Norway, Brunei, Spain, Kenya and Turkey) that are utilised for essential pre-deployment training. The environmental conditions in these countries allow tangible environmental training before going to theatre, he said.

Joint Helicopter Command's assets

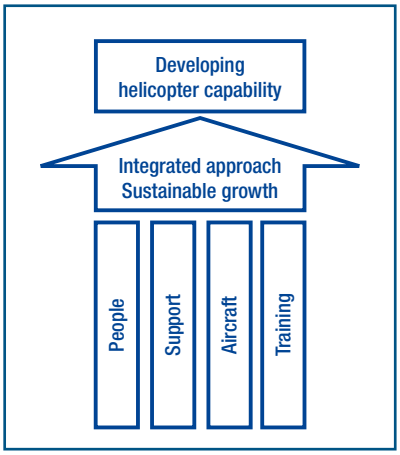
- Around 280 helicopters
- 15,000 personnel
- Used for the Royal Navy, the Army and the Royal Air Force
- 64-70 helicopters deployed on operations
- 25-30% of command is permanently on operations;
- Budget of over 100m £
- Equipment budget of over 1bn £
- 47 crews + 500 personnel deployed
- Routinely: between 25% and 30% of JHC is deployed in operations

He stressed that the **'hybrid warfare'**[1] concept (connected to simultaneity, convergence and combination of means and resources), featuring a very wide range of types of warfare, is a "strategic challenge" that modern armed forces have to face. While sharing theatres' experiences with the other panellists, his view is that we are facing these "hybrid warriors" today in Afghanistan and Iraq: "The enemy can explore the cyberspace (using the latest technology) and, at the same time, he reverts to a medieval level of conventional warfare. It is this extraordinary spectrum of conflict which we are facing and **we need capabilities that can cope with this diversity of warfare** – which ranges from major combat operations right through stabilization operations and humanitarian relieve". "This concept", he added, "helped us focus on what we should do for future warfare, because it's going to be everything, just as we had from Iraq to Afghanistan. That's our challenge". He said also that **"the binary debate on major combat operations (MCO) or stabilization operations is over"**. So in his view, it is important to combine both types of operations, or to switch from doing major combat operations to humanitarian relief very quickly and "to do both in the same afternoon" – which means a need for speed, force protection, agility, reach and lethality.

"Where is aviation fitting in the context of the future land warfare?", he asked. In his view, aviation provides an "instant response", being thus the **"ideal antidote" to the hybrid warrior's strengths.** Referring to the two previous speakers, who stressed the medical evacuation capacity in humanitarian operations, Rear Admiral Tony Johnstone-Burt said he would like to see "helicopters forces in the future swing from a symbol of fear to the enemy to one of hope to civilians and friendly forces".

He also pointed out that, in terms of helicopter capability, people, support, aircraft and training are interconnected and must all come together to provide capability:

The integration of four lines of development, as suggested by Radm. Tony Johnstone-Burt



"If we strengthen only one of these elements, we will have no increased helicopter capability". In the particular case of the JHC, Johnstone-Burt emphasized his main priorities:

[1] Given by Frank Hoffman, *Conflict in the 21st Century: the rise of hybrid wars.*

- **Strengthen people,** through equally increasing personnel (air and ground crew and engineers, for instance) and improving sustainability and retention of staff;
- **Strengthen aircraft** by additional Theatre Entry Aircraft and reducing types and variants of aircrafts within the fleet;
- **Strengthen training** (or optimising and balancing the output) by the availability of Theatre Entry Aircraft for training and throughout pre-deployment training/environmental training; and
- **Strengthen support,** by resilience (at home, when training and when in theatre), improving non-operation reliability (particularly reliability in depth) and improving repair and overhaul of spares.

"We all understand our role in this complex picture – and we need to talk a lot more" – he said. He concluded facing up both governmental and industry participants with a similar challenge. He stressed the **critical need of development of joint or combined models of co-operation,** an idea widely shared in this first panel. On the relation between Ministries of Defence and industries, he believed it is "time for a rethink". "Something needs to change. Ministries of Defence can do better, we know. What about Defence Industry? **It's also time for a rethink of how Defence industry does its business.** When was the last time (and Allan Cook nearly got there) both collectively and individually Defence industries looked at themselves in the mirror? When do you [Defence industries] think it is time for a change? I think we need to do far more together, both in a joint and combined ways; we need to co-operate more. We could do far more in training and far more in theatre", he concluded.

Philippe Martou (Deputy Chief of Aviation Service – OMLA - UN World Food Programme), offered the view of **an international organisation that shares the experience of flying helicopters in inaccessible areas for humanitarian purposes.** He explained that helicopters were key to humanitarian relief, as a means of transport of food and non-food items in remote environments. For this purpose, the UN does not own any aircraft but relies on commercial air carriers from different countries.

World Food Programme (WFP)

- 2008 – 4m tonnes of food distributed to over 107m of the poorest in the world in 79 countries
- Over 10,000 employees (3000+ in logistics; 95% of these in the field)
- Work with over 3,000 international and local NGOs
- Administers all air transport services for all UN agencies in human itarian operations
- Helicopter operations in 2008: total of 18 helicopters, transporting over 22.000 passengers and 6800 metric tons of cargo (mostly MI and Puma types).

Martou said that if compared to fixed wings aircraft, helicopters have limited payload, range and speed. He added this is offset by the unique capabilities to go wherever required, and quickly. However, the limited capabilities are there – and these limitations bring a high cost per transport. He also referred the **downdraft as a limitation,** as the repositioning of the helicopters (when helicopters have to be transported in cargo aircraft, which means additional time and money). Therefore, he said, "helicopters are used as a last resource and only when required", restricted to whenever other transport means are not possible due to security, accessibility or reaction time. WFP puts in place solutions to reduce the limited payload, range and speed, for instance, using refuelling modules (as in Sumatra's post-tsunami operations). "The use of sling and netting operation is also a force multiplier, as it reduces the time required to load and offload cargo, increasing the rotation we can perform in the allocated time".

In order to overcome the high costs, Martou said that rationalising the use and coordination with the providers are key issues. WFP is also engaged in developing alternatives, fitted to their mission's requirements: **Unmanned Aerial Vehicles (UAVs) and satellites are becoming important sources for gathering information for assessment and intelligence, which reduces personnel requirements.** Gradually, he said, the WFP is incorporating these new tools. The Programme is running a project on the use of UAVs for loads (up to 250 kg) transport, as well.

"We do use helicopters a lot during emergencies and nothing can currently replace them."

Philippe Martou, Deputy Chief of Aviation Service – OMLA - UN World Food Programme

Still in the scope of fitting solutions to needs, Martou presented the "K-MAX", an example of a newly built helicopter, based on their lessons learned; this aircraft has no internal load (or passenger) capability – but it is a practical solution tailored to reduce the operating costs.

This is why the **WFP is also investing in a long-term solution, and seeking alternatives to helicopters:** the Programme is looking for possibilities to use airships, tailored for heavy cargo, together with the University of Manitoba (Canada). They aim at demonstrating the feasibility of the use of airships for cargo for delivery and maintaining aid. However, Martou said, the available ships do not have the required airlift capability.

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Questions & Answers Session

Do we have enough helicopters in the inventory?

Rear Admiral Tony Johnstone-Burt: We might have them. But even if we do have enough, we don't necessarily have enough in terms of people to fly and maintain them, training capacity and support. That's the key element of your question. The next is "what can we do about it?". It's what keynote speakers pointed out today: greater collaboration is the answer. And the next questions are "how?", "what more can Defence industry do?" and "what more can we, as donor nations, do?" That is where I would like to take the conversation next.

Colonel Ron Hagemeijer: If you look to western helicopters, you can see differences and complexity. What kind of training do we need for the spectrum of missions we have to accomplish? If two countries own training facilities, why not pool them to free-up assets? Currently there is too much focus on national requirements or on a specific scenario like Afghanistan, why don't we pool our resources? EDA and NATO can play a crucial role in solving the problem of a lack of helicopters.

What is happening about the HIP Task Force? When will it operate? And what is the percentage of the shortfall of troop transportation?

Colonel Ron Hagemeijer: There is no Task Force yet as we're in the early stages of development. Training is involved. Mountain training is involved. It's a beginning. In a Task Force like this, we should not look at how many helicopters you bring in, but we should look at the organisation and at the mechanism - how to build the Task Force, maintenance, training and other issues. So, the creation of the Task Force is very important. We should look at how to build a Task Force and see which countries will take part in maintenance and training.

On your other question: it's difficult to answer. If you go to ground forces and ask them to go from A to B, they want to fly. That is the optimal solution. But then, again, it is not always possible. So you have to balance what the real requirement is and what the real necessity is for a certain amount of helicopters. 50 years ago we had different ways of operating. We are so used to have our own stuff – and if we take away our gadgets, we are not able to operate anymore. And sometimes (but this is a political signal), if we do not have the assets, we can still accomplish the mission by other means – but it will have consequences. So, to answer to your question: how much are we lacking? I think at least half of it. But it is not only troop transport, and that's where the contractor world can come in – since we have a certain number of contractors to transport our goods (so we can free up our assets to transport people back and forth). And on the other hand, my last point, for Afghanistan. My personal opinion is that there is a temporary solution to work with the helicopters. If we are realising a peaceful situation in Afghanistan (…) and if the Afghan people and government can stay on their own, how will they run their country? They will not have the enormous amount of helicopters we have right now in place. So, how will Afghanistan run its own course without this support?

Philippe Martou: If I can add an example on practical requirements: indeed, the helicopter mission requirements should always be co-ordinated – a good example is Pakistan's earthquake in 2005. A lot of helicopters flew around over there and there was one service provider which was not tasked within our UN system; and they transported, with helicopters, food and non-food items, to accessible areas. So what is the point of having reports on flying hours, if you could do the same thing with a couple of trucks? This is to say that mission requirements should be co-ordinated and centralized.

Can Lieutenant General Pat Nash elaborate on his idea of having one larger fleet?

Lieutenant General Pat Nash: Four or five providers of helicopters are welcome. But we have to deal with four sets of rules at the moment. We would have more flexibility with one large fleet under one command. That was the particular context of my comment.

If we train people to be more competent, strengthening that pillar (one of the integrated elements referred by Rear Admiral Tony Johnstone-Burt), what is competent enough? What is capable enough? What is proficient enough? How do we set that standard? How is proficiency in terms of pilot training defined as flying hours do not seem to be a good metric? And this is happening now, because

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we are allowing troops to fly other nations' helicopters. So, how are we saying that the crew is sufficiently proficient and how do we draw a line to say "actually, in this case, it's not"?

Rear Admiral Tony Johnstone-Burt: Well, the answer is based on what we call "military judgement", partially based on processes and procedures we have in documenting and managing that risk. And secondly, is based on the requirements in theatre. In the UK, the Aircraft Operating Authority has the responsibility, delegated by the Secretary of State (through Commanders in Chief of the Army, Navy and Air Force) for the safety, capability and preparedness of all my aircrew and aircraft. That is a tricky job – and there is a legal responsibility within which they perform. If a task goes beyond these boundaries, the military commander on the ground can ask for permission to go ahead with that flight and a decision is taken. That's why we do it. But you are absolutely right, as standards vary from nation to nation so there needs to be close cooperation in theatre.

But how to decide in theatre which helicopters are safe for them to get on, when it's another nation who turns up with an MI or with a Cougar, having their training system you do not get to validate (they may have taken risks that you are not comfortable with)? How do you then decide it is safe to your people to get on those helicopters?

Rear Admiral Tony Johnstone-Burt: The truth is I do not see that. I accept that because we pool our aircraft capability within the command of RC-South – and I trust my commanders to make that judgement for me.

We are talking about standardisation now; NATO has a 4445 STANAG which defines minimum equipment requirements for peace support operations and so on – so there is some standardisation on equipment for helicopters. NATO has also a wide range of doctrine concerning helicopters. But what NATO has not achieved was setting standards for aircrew training. It should be something for EDA to develop, standardisation of some air crew training and mechanics. Requirements are out there.

Colonel Ron Hagemeijer: We have been discussing those minimum requirements within the scope of the new HIP Task Force; the idea is that the type of mission is determined – e.g. civilian scenario (perhaps only day time flying and in good weather), military scenario and combat scenario (e.g. using flares and night goggles – this can take years of training) – and what kind of assets we will need. Then the equipment and training shall be determined. So, the minimum requirements are set after the type of mission is identified.

Philippe Martou: We do have our standards; each and every air carrier on which we are putting passengers (fixed wings or helicopters) do have to pass our assessments – and they have to be in our shortlist. So, there is a way around that, by auditing or assessing the service providers.

Lieutenant General Pat Nash: You can never be prescriptive to cover every eventuality. But missions cannot be hamstrung by overregulation.

One important aspect is where it all starts: the Ministries of Defence. It's a national thing. (…) And we are here, in a European environment, EDA… So, how far are we? (…) Initiating cooperation between nations is where the basic problem lies. It is where the task of the European organisations, but also NATO – to co-operate, to do things together, not to be afraid to loose something, but overall to gain something…

Colonel Ron Hagemeijer: Discussion should start in different Ministries of Defence and nations. But on the other hand, I think there are entities like EDA and NATO, organisations which are in place already, to start the discussion of solving this problem. And if you wait until the independent nations come up with possible solutions, maybe we have to wait too long. As I mentioned, NATO is working with different countries (and the Czech Republic is in the lead) for the Transport Helicopter Task Force – to see how we can solve that problem. So I think it is a crucial role for EDA, maybe in conjunction or together with NATO, to see how we can fix this problem. Let's get together. This is one of the first opportunities to talk about it: how can we solve this problem; and then go to the nations and work from both sides. So, to solve this problem of the helicopter community, EDA and NATO can play a crucial role.

What are the limits for using civilian capabilities in the theatre –should they be "stretched" or "pushed"? Are there any constraints?

Rear Admiral Tony Johnstone-Burt: Well, Col. Ron Hagemeijer and Lt. Gen. Pat Nash covered that issue, at least in terms of disadvantages; but of course there are massive advantages to use civil contractors in terms of flying in theatre. In terms of the ground side, and in terms of maintenance, Boeing has recently taken an initiative to put maintainers in Kandahar. This is welcome as it means that the UK Joint Helicopter Command can put more effort into other areas. So I think it's something we need to continue to push. Perhaps civilian contractors flying combat troops in a hot zone is a bridge too far… How would you, the contractors, feel about your people doing that? I think it's very much a question for you to answer as well – not just us.

A question regarding the lack of support: we have, according to the assessment (more or less) 1700 helicopters in EU military inventories – and 22 different types. Can we achieve already within the existing situation (…) any synergies in the area of logistic support? Or this is just impossible? And what could be done in the current situation, before we come to the ultimate objective – to have one type of helicopter deployed in all kind of operations? Can we do something today to create synergies?

Colonel Ron Hagemeijer: One of the things we encountered in Afghanistan is that a lot of transport helicopters were

flying back and forth and the unit on the ground did not always know which helicopters could be used to pick up the logistical stock. We tried to develop a system to have a standard load to avoid wasting time having to repackage supplies when the helicopter approaching can only take a different load. It is something we could standardise. Like sea containers. It would avoid wasting time on the ground if every country kept to a standard load. This is one approach.

Rear Admiral Tony Johnstone-Burt: It's something very hard to achieve now, though I think it's something we should not give up on. I think it would be amazing; we should certainly strive to have fewer types of aircrafts. I welcome the exchange of spares between nations – and I think the logistic chain could possibly be more reliable and faster – but I like Ron's idea of a standard load; this could take the form of units, so that, for example, a Chinook could transport three units and a Puma two units.

Comment, NATO official: There are two things I would like to share with you; one is the framework to think about what we are trying to achieve here. And I think one of the frameworks I found very useful is refitting aircraft, strategic appointment and then theatre co-operation. And all three have potential for multinational co-operation. We need all three together to be able to deploy.

The second conclusion we came to is that both the EU and NATO, as international organisations, can put these people together. But it's really up to the nations to get together, share facilities, share some infrastructures and, of course, share their operational experience. It also means that nations cannot afford to develop individually the entire refit, sustainment and deployment. So, the conclusion is: countries need to share costs –and they have no option than multinational co-operation.

Panel 2: Potential solutions

Key words addressed in this session:

- "Bridging the gap"
- European co-operation
- Transatlantic co-operation
- Solutions for increasing availability of Helicopters
- Standardisation of requirements
- Political willingness
- Governance
- Coherent strategies
- Leading technologies and R&T investment

The second panel of the conference, chaired by *Sir Christopher Coville* (Chairman of Westland Helicopters Ltd and Chairman of ASD Rotorcraft Group), looked at the solutions put forward by industry to the problem of helicopter shortfalls. Coville opened the session bridging it with the first panel: "Sincere thanks for so clearly articulating the minimal operational requirements: you want more and you want it now. So, no surprises for industry there".

He added: "The first panel set the scene very well: there are a lot of helicopters around, but capability is lacking for different reasons. Across several operational settings, the operational requirement is not being met. And especially so in Afghanistan where, as we heard, there is a shortfall of transport helicopters. Even on the available and capable fleets, there are issues over interoperability, commonality and training standards. We also have to understand that national caveats on deployment play an important part in limiting operational availability; moreover, whatever we recommend today will be subject to political decisions on resourcing.' "(…) This is not a cop out from those of us here from industry; put simply there isn't much that industries can do if politicians won't invest in capabilities.'

The first panel took the following challenges raised in the morning session:

- Options for providing more capable and available assets;
- Need for a new paradigm to strike more effectively partnership between Ministries of Defence and industries (Tony Johnstone-Burt's point);
- As contractors move from delivery of services to delivery of operational capability - options and constraints in furthering this activity.

Dr. Lutz Bertling (CEO of Eurocopter and member of the Executive Committee of EADS) opened the panel, offering solutions for increasing mobility and aircraft availability and for a further rationalisation of the European helicopter industries.

Firstly, "how to bridge the gap", how to work with the existing fleet of helicopters - or how to make helicopters available very fast. On this topic, Bertling said that mobility could be increased by bridging the gap, between now and when future programs would become available, with upgrades/retrofits of existing fleets of military and civil operators. "There are actually a lot of helicopters available". Addressing the discussion held in the morning, he referred to the "point of political willingness. (…) So this is not only industry, it's not only those operating the helicopters in theatre. In between, there are some other constraints which we need to overcome as well, and this, I think, needs to be said", he concluded.

In terms of the available aircraft, Bertling gave the example of Eurocopter's helicopters, having an outstanding track record in operations, which are potentially available for immediate upgrade in the coming months. "They just need to be taken", he repeated.

Secondly, increasing capability through using off-the-shelf solutions: "(…) they are immediately available in order to rapidly increase capability for a particular mission". He said also that Eurocopter would be open to make slots available to support the military operations of the European countries. "They just need to be ordered; these helicopters are available", he recapped. "But NATO or EU are not buying helicopters, it is still up to the nations to ensure that helicopters are bought."

This statement brought Bertling to the third point: moving towards integrated support solutions. This topic had already been discussed in the Q&A morning's period; "yes, we are ready to go", he replied to the morning question. "And yes, our people are ready to go", he claimed. "European manufacturers are able to provide customers with integrated vertical lift solutions (including platforms and support) so that customers can dedicate full attention and resources to their mission".

Giving the "pre-mission" example, Bertling said that Eurocopter is ready to do more on training (not only on basic training but also mission training), since they have had significant investments on full-flight-simulators. They are already providing this service for some nations.

For "on missions", he said "yes, we are ready to go and we have some people who are ready and volunteered to support our helicopters there", referring to the deployed support on the field.

The same applies for in-theatre maintenance after having been in a theatre like Afghanistan – it's a heavy process. In Bertling's view, the more one can use systems to decrease costs, to improve safety and, in particular, to decrease lead-time for maintenance to make

these helicopters available sooner to return back to the field, the better it will be. "In joint initiatives, (…) we need to be faster reducing the time for maintaining these helicopters in industry, to make helicopters available."

The fourth idea presented was on speeding military programs through simplifying and speeding-up qualification processes. Bertling went ahead saying that industry bears the responsibility for some causes of European programs' delays. "But, as well", he added setting the scale, "we need to change the system in Europe. If we certify a civil helicopter, this certification is valid all over Europe, it's immediately accepted by the Federal Aviation Administration (FAA) and by most of the nations in the World. If we go for one of these famous European cooperation programs, they go for a supra or international qualification, which means a program agency, who represents the funding nations of the programme - Bertling referred the example of NATO Helicopter Design and Development Production and Logistics Management Agency (NAHEMA) for the NH90. Although there are agreements on the qualifications, there is a need to go back to every single nation, to receive a national type certificate (according to national regulations and standards which are not always in line with what has been internationally qualified), he added. "We do not need standardisation of requirements only – this is absolutely important – but more standardisation of the certification process as well". He made a strong appeal for a European certificate.

"My appeal is we need more joint initiatives between the operators, the procurement agencies and the industry to find solutions, to increase the availability and capability in theatre. The offer is there. It might not be perfect as we offered and a joint cooperation (…) can be more perfect. So let's go for it."

Lutz Bertling, CEO of Eurocopter

In Bertling's perspective, the use of EDA and OCCAR should be promoted – instead of starting new agencies or organisations. He challenged the audience stating that EDA and OCCAR should "go beyond their role of coordination of Member States of a program to take a role of full prime contractor with clear delegation of authority" (…) "having a well identified customer leading party (versus unanimity rule), as well as industrial prime (versus consensus-driven Joint Ventures), for the benefit of users, governments and industries", making programs set-up easier.

On requirements and need for standardisation, the CEO of Eurocopter came back to the example of the NH90: 14 customers worldwide have ordered the helicopters in 23 different variants. He called for more standardisation with the aim of decreasing significantly the certification and qualification efforts: "The key is standardisation of requirements, using the existing agencies that we have. I could add that even if industry is a part of the game, let's get away from political work shares". He suggested shifting from a logic where the lowest competence gets the work share as the military programme is seen as a kind of industrial development, to a logic of selecting "the best of the best".

"We strongly support that this [Future Transport Helicopter] should be entrusted with EDA as a "Category B" and lighthouse project."

Lutz Bertling, CEO of Eurocopter

Looking to the future, Bertling referred to the Future Transport Helicopter, a need already expressed by several countries wanting to replace the current heavy lifters. He strongly believed this was not only a European requirement and that the programme should be one of "*transatlantic cooperation* (…) minimising risks and maximising synergies". There were partners with wide experience - and customer's increased size and budget would justify and pay for the development of such a helicopter. He added he would prefer to opt for using technologies that are then latest but proven state-of-the-art, and not something that we believe that could be reachable ten years from now.

"A transatlantic partnership is seen as the most favourable and probable set-up."

Lutz Bertling, CEO of Eurocopter

Lastly, Bertling said there was a need to think ahead; that is to say that innovation has to be supported through R&T funding. "The funding which is spent for innovation, for R&D and R&T, is not sufficient to keep the leading position of the European helicopter industry – being able to provide customers with the leading technologies and solutions", he concluded.

Jindrich Ploch (CEO of LOM Praha) started his speech answering directly to "what does Industry need from governments to improve its performance in supporting helicopter availability?" "In our opinion", he said, "the needs of aviation industry, in general terms, are stability of planning and political will". Ploch said that multiyear contracts enabling long-term planning for R&D and manufacturing are an important industry requirement. Industry is looking into improving deployability and sustainability in areas such as the lifecycle of the helicopter, repairs, overhauls, upgrades, in-theatre support and training. He described the MI family of helicopters as being very reliable and combat-resistant transport (e.g. in Iraq and Afghanistan), compatible with NATO standards and able to operate in a NATO environment. Advantages of the MI helicopters included the possibility of adding add dust filters and auxiliary external fuel tanks (extending their flight range).

Al Volkman (Director of International Cooperation for the US Under Secretary of Defense Acquisition, Technology and Logistics) was asked to give his views on the perspectives and possibilities for transatlantic cooperation.

Why a transatlantic dialogue,

by Al Volkman

- To develop the technologies on which this future military capability will be based - cooperate to develop lighter, stronger structures, more powerful engines, and more capable rotors
- To develop a plan to make the technological advances necessary to achieve the capabilities we need for the future
- Because not all the industrial expertise resides on one side of the Atlantic
- Because the resources available for defence are scarce on both sides of the Atlantic - achieve the needed military capability at an affordable price.

Volkman's answer to the question on how do we ensure that we have the helicopters we need for the difficult tasks of the future was "cooperation", adding that: "we will have the helicopters we need for the future if we cooperate in the development, production and support of helicopters". He believed that challenges in developing helicopters for the 21st century demanded that the United States cooperate with European partners.

NATO: three paths of improvement

by Al Volkman

- ISAF nations with US-origin helicopters, the U.S. is offering in theatre support through Foreign Military Sales or Acquisition and Cross-Servicing Agreements.
- ISAF nations with European-origin helicopters, France is leading a multinational effort to formulate options for in-theatre support.
- Nations with Mi-series helicopters, NAMSA is hosting periodic "Mi Users Group" meetings to formulate options for in-theatre support.

In the *short term*, there was a need to cooperate because we need more lift capacity in places like Afghanistan and other places where the US and our European allies were fighting together, he said.

In the *longer term*, he said "we must cooperate to achieve greater capability for the helicopters of the future. We need helicopters that can lift more, fly further and faster, load and unload cargo more efficiently, and that can be refuelled safely and effectively in flight". So, in his view, Governments and industries need to work more together to ensure the definition of the required capabilities for the helicopter of the future - so that industry can provide the war fighters with the military capability they need in a timely and affordable manner.

Volkman's proposals for co-operation in practice would mean:

- Military leaders must agree on the capabilities required - analyse, discuss and compromise;
- Governments and industries must agree on how to share technology - identify what technology will be shared and how the most sensitive technologies will be protected.- includes export control community;
- Governments must agree on the role their national industries will play in the development and production of defence equipment - contracts and subcontracts must be awarded on a best value basis.

(left to right) Giuseppe Orsi, Miecyslaw Majewski, Sir Christopher Coville, Al Volkman, Jindrich Ploch, Dr. Lutz Berling.

"The European helicopter industry has proven its excellence, demonstrated by the fact that the US Department of Defense has purchased EH101 helicopters from Agusta - Westland and UH-72 Light Utility Helicopters from Eurocopter."

Al Volkman,
Director of International Cooperation for the US Under Secretary of Defense Acquisition, Technology and Logistics

US studies to examine vertical lift requirements:

- Future Vertical Lift Study – conducted by the Pentagon - assessing rotor and fixed wing technologies to meet our future requirements. Key products of this effort will be both a Strategic Plan and a Science and Technology Plan for future vertical lift.
- Rotorcraft Survivability Study - directed by the U.S. Congress looking at past casualties, and examining ways to improve aircraft and crew survivability.
- Capabilities Based Assessment, examining future military needs– and a Multi-role Aircraft Analysis- US Army - looking at using common platform for multiple missions.

"There is no alternative but to cooperate in the development of future helicopters. Our security depends on it."

Al Volkman
Director of International Cooperation for the US Under Secretary of Defense Acquisition, Technology and Logistics

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Miecyslaw Majewski (CEO of PZL Swidnik) was then invited to share the solutions offered by the Polish industries, taking into consideration the "experiences from previous and existing military operations" which are driving helicopters' modernization.

"Poland participates in most NATO operations: in Afghanistan (ISAF), in Kosovo (KFOR), in Iraq (training mission NTM-I), in the Mediterranean Sea (Active Endeavour) and others including anti-terrorist actions as well as support human help actions", he said.

He gave various examples of MI helicopters and how they could be upgraded (e.g. by equipping the MI24 with an infrared jamming station, equipping the MI17 for medevac purposes and adapting MI8 to search and rescue configuration). He explained that there was a plan to develop a new SW-5 helicopter, which would have a payload mass of 2,800-3,000 kgs, being able to transport two plus fourteen soldiers fully equipped, achieving a maximum speed of 300 km/h and a maximum range of 1,000 kms. There would be a transport and *medevac* version of it.

Giuseppe Orsi (CEO of AgustaWestland) pointed out that the helicopter industry was truly global today since helicopters were manufactured throughout the world. After presenting AgustaWestland's market figures, and considering the morning discussions, he said "(…) we, industries, have the solution".

To improve helicopter availability, industry would need, a clear long term planning and government support for R&D investment. "We have to develop technology to allow for the development of advanced technology, capable rotorcraft", built to meet governments' specifications and standards. "We have to project ourselves, together with our governments, in 20 years, because what we design today, what we think today, will be used in 20 to 25 years. So, if we do not have a common vision on the scenario, we do not know what to develop. So, the most important is to have a common strategy to develop together, pooling resources, around agreed strategic objectives".

As Bertling, Orsi also stated the need for an increased harmonization of national norms and qualification criteria, allowing a faster development of new models and increased availability of off-the-shelf solutions. He also pointed out that secured through-life partnering agreements on fleet support should be envisaged, to maximize both cost-effectiveness of support and availability of aircraft. He added that the lifetime of an helicopter had to be considered in the conception phase.

At relatively short term, Orsi said "AgustaWestland has the full capacity and experience to provide timely upgrade, delivery and introduction into service of additional helicopters, both new off-the-shelf and/or refurbished", in less than one year.

"When we talk about developing a new helicopter or a new concept, we have to consider that we, as company, have to grant our survivability; (…) but certainly there is a line where, together, we can strategically project the future."

Giuseppe Orsi, CEO of AgustaWestland

Why should the EU Armed Forces and Governments care of the rotorcraft industry's health?

- Giuseppe Orsi, CEO of Agusta Westland

- Vertical lift is the recognized key to mobility in the field
- Military rotorcraft technology took 60 years to develop at this stage
- There is a huge potential for further, multi-path development in the future
- High class, competitive and diversified helicopters are made in the EU
- EU rotorcraft industry is a key asset for security of supply
- A motor of high technology in the EU at large, including the SMEs
- A source of opportunities for multi-national collaboration
- An instrument in support of the international policy of the Governments
- An offer multiplier towards the Governments needs, so increasing competitiveness and efficiency of procurement
- A partner to Governments enhancing cost-effective support of their fleets through innovative, integrated arrangements

At short notice, Orsi referred to two options to meet the urgent need for helicopters – either for governments to buy off the shelf or refurbished, or to increase operational availability where available (i.e. to make current helicopters work harder). In both cases industry would require a coherent strategy and communication with users (to understand what is achievable within time and budget constraints) and Governments to define their policy for what is an "acceptable risk" when deciding the type and standard of aircraft to support operations.

On training (one of the strands EDA is actively dealing with) the CEO of AgustaWestland said this company has full training capability available both for the routine support to the military fleets and for the fast conversion to operation of additional helicopter resources under urgent needs. He made clear also that AgustaWestland is working with EDA to provide the European military community with Tactical Training, using operational lessons learned from current operations to maximise support to NATO operations.

As the previous speakers, he argued that transatlantic cooperation would work best for the development of a new transport helicopter.

Orsi said "single, high value investments, such as a new Heavy Transport Helicopter should endeavour to maximize collaboration and minimize risk while creating the necessary military capacity". Sharing this view on the Future Transport Helicopter with the CEO of Eurocopter, he added that transatlantic cooperation could be improved: "plans (…) should build on and further grow this capacity, possibly with balanced transatlantic collaborations, while targeting a large internal and export market in order to secure sustainability".

Orsi ended his speech saying that sustainability of helicopter availability calls for the right combination of collaborative, advanced development / procurement programs, as well as competitive, off-the-shelf procurement policies and common norms and procurement processes (both at national and EU level). These elements are, in his opinion, equally critical to the availability of suitable helicopter solutions to the governments and to the competitiveness and health of the rotorcraft industry.

"The EDA's tactical training programme is due to be open to all countries and crews. In the study conducted with AgustaWestland, the Czech crews kindly agreed to act as a case study to see what learning was possible with an affordable fixed-base simulator. Therefore, tangible training benefit was achieved, as well as the conduct of a conceptual study."

Giuseppe Orsi, CEO of AgustaWestland

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"THERE ARE SOLUTIONS AND THEY ARE AVAILABLE"

2nd panel inputs, by Sir Christopher Coville

- We need a better process for carrying forward political initiatives, perhaps by strengthening the role of EDA and OCCAR
- There are helicopters available now for rapid refit and upgrade
- Nations (not NATO) are buying helicopters – is there any point in industry engaging with EU or NATO?
- Integrated operational support in theatre is possible and industries are up to it. Let's make it work
- Innovation is the key – and we need more funding for R&T
- The point was made on the importance of stable planning and indeed funding for industries health
- Transatlantic solutions are needed, inter alia for economies of scale – for short and long term
- Acquisition process needs to be coordinated through all potential partners from requirements to production, and beyond to operational support
- Helicopters manufacturing is global – that has implications for integrated operational support packages
- Adequate lift helicopters - are enough there already, or should we consolidate what we have?
- There is a need for agreed strategic objectives

Questions & Answers Session

To what extent do you believe the contractor is prepared to go forward and would you, for example, consider putting some of your workforce in uniform? Or reserves?

Lutz Bertling: First of all, going for such missions for industry is not easy; you need to take care of a lot of things, starting with simple things as insurance. There is an administrative effort to be done just to take care of our people in an appropriate way. Second, in industry, you cannot instruct people to go to Afghanistan – you have to ask for volunteers. They are there; it's not a problem to get them. We need a better planning horizon because we need to get those issues solved. A short term notice is much more difficult for us. On putting people in uniform… actually it's the armies, air forces or navies of the nations who put people in uniform. I am not sure it makes sense to put them in uniform. I would perhaps promote models like the UK or German one, where you have a mix of uniform and industry people working in one organisation. And in the end you might have areas which are threatened that you might not want to send people which are not in uniform. There are limits.

Giuseppe Orsi: Our people have been in theatre; they were in the first Iraq war, supporting helicopters. Obviously, they have to be volunteers, but I am sure that we can get there.

Jindrich Ploch: I have no problems with volunteers to go to Afghanistan. Even today we have people there. We continue supporting upgrades. The key issue for us is the system of planning and transparency.

Rear Admiral Tony Johnstone-Burt (in the audience): I think we must be careful with what we are doing in this area. Putting them in a uniform is absolutely the wrong way, because if you put them in a uniform, the military command has the responsibility. And industry has the responsibility. So, it's not the right way.

Comment from an official from industry: None of the contractors sent by our company has gone to Afghanistan in uniform and this was not envisaged for the future either. The responsibility for them lies with industry in his view but it is for the military to decide if there are too many bullets and the contractors need to leave, in which case the handover needs to be defined.

(to Lutz Bertling) If you say "let's make it simple", if you rationalise, if you reduce the number of subcontractors…

Lutz Bertling: We need to clearly distinguish from armaments procurement programs, where forces want to get a certain capability in a certain time – they want to know what they get and they want to know if they will get it on time. Then we can go for fixed and firmed price contracts and so on. Or we go for an industrial development program which we can do in the frame of armaments, and you develop industry in certain nations. But in this case, we need to find a different set-up, because we are taking additional risk on board. My opinion is whether it is a pure armaments program; we should not then make it an industrial development programme. We should select the best (this is the rule of competition), the best value for money. This we should do; we should try to find work share solutions – otherwise, it needs political will to make it different. But then we cannot put all the risk in the shoulders of industry.

Is there any movement to be expected towards a change of International Traffic & Arms Regulation (ITAR) policy?

Al Volkman: It is unlikely that ITAR will be changed in the short term. The Arms Export Control Act is old, it's a reflection of the Cold War and it needs to be revised. That's my personal opinion. Mainly, it is not going to be revised because the US Congress and the Administration has other short term issues to solve and this is a thorny problem. I would also say that under the ITAR, the vast majority of the export licences are approved – AgustaWestland and Eurocopter are examples of companies working very closely with US firms and government. And this requires cooperation that export licences will be approved. So, ITAR can be worked so that effective cooperation can result. I am not justifying the inefficiencies associated with it. In addition, the licences ultimately being approved take a long time. So, the manufacturers are asking and there has been some work in the past years on the recognition of the fact that we need to improve the process - so the former Administration tasked the Department to take steps to improve and speed up the process of approval - with the aim being to do this within 60 days of submission. So, my answer is mixed: we recognise that this is an area that we need to improve upon and I think we are working on it. But it is going to be a long term possibility.

We heard about availability. What about affordability?

Lutz Bertling: Helicopters have a certain residual value. So, whatever we offer, we have to buy it from someone. The situation is from a buyer point of view getting better. And then it depends on the specifications and on the upgrade needs. So, it's very, very difficult to give a general answer. I would say that depending on the need for upgrade, on the age of the helicopters, on the specific project, on the needs…

We have heard the end users and, after them, the suppliers. What is still missing is what is in the middle… What are the funding initiatives? How are they going to be managed? By who?

UK official: There is a fund of 26 million £ (where donating countries each choose which business case they want to use their funds on), but this is as "a sticking plaster" for the immediate problems, it is not a long-term solution. The long-term solution is political will for nations to de-

ploy the helicopters and fund it from their own budgets.

So what is the plan for the 26 millions? Is it public information in what way do you intend to spend it?

UK official: The value is what nations have added to the fund. It's up to those nationals to decide what projects they want to support. It's really done on a nation basis; it's an ad hoc basis – it's not a long term solution.

On the MI helicopters, particularly on the standards; who is defining the standards? Are they NATO standards? Are they going to be "MI standards"? If they are NATO standards, what do equipment suppliers do about talking to the Original Equipment Manufacturer (OEM)? Is there a route to talk to OEM?

Jindrich Ploch: The Czech Republic is a NATO member; so all procedures are based on the operational requirements of the General Staff. All the systems used are under NATO standards – and suppliers are mainly from the EU. But, for instance, the communications system is being done by an US company.

Russia is responsible for the certification (as the original producer of the aircraft is a Russian company). This process is finished by the certificate, which is done by the Czech military air force authority; the main point is a question of vibration of the system. But we are fully independent a NATO member, so procedures for the use of MI helicopters are carried out according to NATO conditions and operational requirements.

An expert (audience): We are looking at the safety of the MI type. It makes no sense to put a lot of nations' money on this without understanding the safety of those helicopters. We have commissioned the UK company Qinetiq to look at the safety design of MI type helicopters. The countries using this type of helicopters could go for a common project, a Cat. B project, commonly funded, for training and simulators. I think we have seven or eight countries which are interested to use it in a more effective way.

We have been watching this solution for the short term. But the question we have been addressing here is for solutions for 20 to 30 years. Did you find solutions to problems concerning these designs which would make the platform lasting? Or solutions for the logistics support for elements that must come from OEM? And, lastly, we found it difficult to ensure interchangebility of elements simply because they have so many variants and different supply sources, that it's difficult to trace it. Did you find suitable and long lasting solutions for these supplier questions?

Jindrich Ploch: Your question touches the key issue of these helicopters: its original lifecycle is around 30 years. For spare parts, there is a governmental contract between Russia and the Czech Republic, including direct contacts and cooperation with the original suppliers of the spare parts. It's a key point for the future.

Comment on operational requirements capture (in the audience): Rear Admiral Tony Johnstone-Burt talked about his aims being "successful operations and people". I think from the industry side we look at operations and people very much, as well. Our operations, of course, are different, are on management and production. But how do we bring this together, how does the operator in the field know what he can have and how do we know what he wants? And it's here where EDA has a role to play. I am not sure what role it is – requirement development or probably capability development. But the role is not in industry, not in the field, but in the middle. This is about better cooperation and comprehension by industry of the operational requirements.

NATO official: At NATO we use the NATO Industrial Advisory Group (NIAG), in the Heavy Lift Helicopter. We have been working for more than 10 years on developing requirements, working through the various stages. We used the NIAG studies to draw industry in, and we provided them with the military requirements - and then we let industry give their advice – that's where we want to go, how can we get there, which are the industrial solutions, the cost benefits (…) Surely on the NATO side we are working with industry. I know the EDA side is also working closely with industry. For us, they are essential partners. Without industry, you can come up with great ideas, but unless industry can beat that with practical reality within the cost and technical challenge, it will not work. There is always room for improvement, but industry is there, we bring them in. I know industry always asks to be included (the earlier, the better). It's good to start the dialogue earlier.

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Lutz Bertling: We should be much closer to the services. Sometimes, defence material organisations are slowing down the processes – it could be faster, from my point of view, for the short term projects. For the long term projects, we should avoid specifications every three months. The development of a military aircraft is an eight to ten years exercise.

Giuseppe Orsi: When we are in the design phase, that's ok, EDA can be one of them: but when we are in the implementation phase, the best way is to go straight to the customer. And as mentioned before in the example of the NH90, if we have an organisation, but then nations go back to the national logic, it's better for industry to go back to the customer. The implementation phase cannot be mediated by an entity.

Al Volkman: In the US, the Congress is looking at the acquisition system. One of the deficiencies that has been identified is the fact that we frequently change the requirements – which is very time consuming and very expensive, when, if we had been knowledgeable about what was feasible, we would have chosen something less demanding. So this topic will be something the US will be examining very carefully over the next years.

Industry has said they were ready and willing today to start putting helicopters into service. Industry called for political will. What else do you need from industry?

Rear Admiral Tony Johnstone-Burt (in the audience): In the new world order, we need a solution in months, not in years. That's the aim… (…) Considering and acknowledging the lack of resources, the economic downturn and the fact that we have a mixed attitude from our political masters, is this the time for a paradigm shift, a change of strategy from the defence industries towards the MoD? The answer is maybe "no". (…) We need optimism in industry now.

Lutz, you said "we have the solutions and we have been telling you for a long time". Giuseppe, you said "we know the answers". We could not be in operations and saving people's lives if it wasn't for your (defence industries) brains, enthusiasm and passion. So, thank you. But maybe what we are doing is the right thing. I am talking about bringing it down, bringing bottom-up, liaising the best we can and looking at ways and problems on an incremental basis…

Giuseppe Orsi: The acquisition strategy is different in each country. Each customer has a different acquisition, strategy and policy. I think we are flexible enough to accommodate and to tailor commercial solutions for different customers. I would go for defining at the beginning where you want to go – and leave industry propose a project that will be suitable for you. That is how the commercial and some MoDs buy. It's not really off-the-shelf, but almost there. And, by the way, with capabilities, to speed up the process, there is a possibility to customise. On the other side, we are in favour of a step-by-step unified process. So, industry is really prepared to adapt itself to what the customer wants. In the Strategic Partnership , we are trying to converge what is better for industry and what is better for the government, in order to have shorter Initial Operational Clearance (IOC), even less expensive, delivering exactly the same equipment. So, we are ready, we are flexible, and maybe more exchange and maybe more openness from both sides is needed.

Lutz Bertling: The weapons systems that are now entering into service have been specified and defined in a different world, in a different time. And we are still working on systems which the basic specification was done before the Berlin Wall was falling down. Therefore, we are still living in projects where capabilities have not been specified, but detailed technical solutions. (…) So, this is something we need to change – we need to go through specification of capabilities, instead of detailed technical solutions. It gives us more freedom(…).

In particular in European cooperation programmes if you try to come up with particular technical solutions, you will fail. So, let's go for capabilities. If you want to go for faster programmes, and if you need 75% of the solution in months, let's go for the available technology that might be available in few years. So, then we need to be a bit more realistic.

On processes, on what is between services and industry: the processes have not been adapted to a changing world. Therefore, even if we develop something fully acceptable for you, if it's not meeting the requirements you have now, we will never be able to sell it. So, in the interface between you, the defence material organisations, and us, industries, we need to work on faster processes which are better taking into account today's world.









Conference summary

By Alexander Weis, Chief Executive of the European Defence Agency

EDA's Chief Executive Alexander Weis gave an on-the-spot summary of some of the key points that he had noted during the day.

I am now facing the challenge of summarizing the essentials of today's discussion – and the most promising ideas. I would like to emphasize that this is an initial assessment – and all your excellent ideas will be considered in detail.

Medevac

Medevac capability was mentioned several times, in particular during the morning session. This is a difficult area, but we are not afraid to address difficult issues. By the way, it's a capability highlighted and highly prioritized in the lessons learned work strand of the Capability Development Plan. What can we do in this area? I think we learned today how important it is to have such a capability to have a positive impact, in particular on the morale of our troops. The idea could be to develop a modular approach for medevac kits to be integrated into different airframes; and I am looking for volunteers, maybe MI helicopters, to start with.

Standardising simulators

The second issue that comes to my mind is we could standardise simulators terrain model databases. We all use simulators for training. And all these simulators are using terrain model data. But do we use all the same terrain model data? I suppose in each and every simulator, we have at least one terrain model data for Afghanistan, maybe another for Chad. Why do we not standardise the terrain model data in order to create a kind of joint training in a virtual environment? I expect that we will face quite serious organisational obstacles, we will also face difficulties with intellectual property rights, but I expect to be largely supported by the European defence industry - in particular in solving the issue of intellectual property rights.

Common standards for multinational training

The third issue identified in the morning session is that we could try to define common standards for multinational training. A key issue this morning was common assessment that we currently have to trust in our aircrews capabilities. The definition of common standards for multinational training could be the right way to be surer in our aircrews' capabilities.

Integrated support solutions

I am not sure that EDA should start working in the area of integrated support solutions. Why not? EDA's general policy is we are working in areas where for the time being other organisations do not work yet. Our principle is we do not invent the wheel when it already exists. NAMSA is working in this area and their work is quite advanced. Mr. Volkman referred to the US and France support models. I am not sure that this would be a promising area for EDA's work. But I am not afraid of difficult projects if there is any Member State or at least two participating Member States who are keen to see EDA working in a specific area to provide added value in another area of integrated support solutions, I am ready to listen to them.

Transatlantic cooperation

The essential of this afternoon's discussion was that we need two things: we need cooperation and competition. The second point is an assumption from my side. We need cooperation and, even more, we need a transatlantic cooperation. I would like to quote what has been said by Mr. Volkman: "we will have the helicopters we need in the future if we cooperate with each other". I think this is exactly one of the key messages of today's discussions. And for me it's very important to open the door towards a transatlantic co-operation.

Military requirements

What do we need in order to have a proper and successful cooperation – not only a transatlantic one? We need a harmonized set of military requirements; and, again, it's important to talk to industry, to listen to the technical experts from industry; it is of importance to make

helicopters '09
key to mobility

something like "requirements controlling" – to know how expensive a requirement will become to come to 75% solutions. But, however, EDA is "capability driven" and I would not allow to be driven by industrial interests. So, what we need is a set of military requirements from our participating Member States, and we will do the work to harmonize them in order to prepare a basis for cooperation. We need a harmonised set of military requirements from the Member States taking part in the EDA. It is important to have these requirements so that we know how expensive each one will be.

Specialise more in R&T

Spend more on R&T: I like this message very much. I think it is an illusion to expect, in the current situation, an increase of defence budgets (…). What we can do already today and tomorrow is to spend more together and, by this, spend it in a better way. It's so easy to call for more money, and so difficult to spend the scarce resources more intelligently. And this is what EDA is for: to spend the scarce resources more intelligently through a closer cooperation.

I would like to refer to the Future Transport Helicopter, because it looks like if we had competition in Europe and competition on the US side. So, it looks very promising from a customer's perspective, and I would like to congratulate this situation. Again, cooperation, also transatlantic cooperation, and competition in Europe, in the US, sounds great.

Upgrades

This is quite likely the most difficult issue and I think we have to accept that of course we have to work on new technologies – and we will do it through enhanced R&T cooperation. We will have to work also on new platforms; I am quite confident that the future transport helicopter will become such a new platform and I can only hope that, apart from France and Germany, there might be other Member States of the EU which are interested to join this important program. But apart from this, we have also to work on upgrades of existing helicopters - and I have to say that from all types of existing helicopters. I can clearly understand the interest of the eastern European industries (and not only the industries, but also the Ministries of Defence) to see their helicopters upgraded. I understand their principles and understandings that their type of helicopters should be updated. So, what we have to do is to group those Member States operating the same type of helicopters and we have to propose a cooperative approach for this upgrade.

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