Conference Proceedings

Air and Space Power in NATO

Future Vector Project

JAPCC Joint Air & Space Power Conference 2014

Joint Air Power Competence Centre

Disclaimer
The Joint Air Power Competence Centre (JAPCC) Conference Proceedings is a product of the JAPCC. It is produced to provide a summary of the Joint Air & Space Power JAPCC 2014 Conference and subsequent proceedings. It does not represent the opinions or policies of NATO and reflects independent analysis, opinion, and the position of its authors.

Release
This document is approved for public release. Portions of the document may be quoted or reproduced without permission, provided a standard source credit is included.

Published and distributed by
The Joint Air Power Competence Centre
von-Seydlitz-Kaserne
Römerstraße 140
47546 Kalkar
Germany

Table of Contents

Conference Proceedings

The JAPCC Conference 2014

Sponsor Recognition

AIRBUS DEFENCE & SPACE

THE VALUE OF PERFORMANCE.
NORTHROP GRUMMAN

PRATT & WHITNEY
DEPENDABLE ENGINES

UNIVERSITY OF LINCOLN

United Technologies

Sikorsky
A United Technologies Company

IABG

DRAKEN International

UTC Aerospace Systems

CAE

ThalesRaytheonSystems

The JAPCC wishes to thank all sponsors for their contribution to this year's Conference and for making it a great success.

Joachim Wundrak
Lieutenant General, DEU AF
Executive Director

Conference Proceedings

Introduction

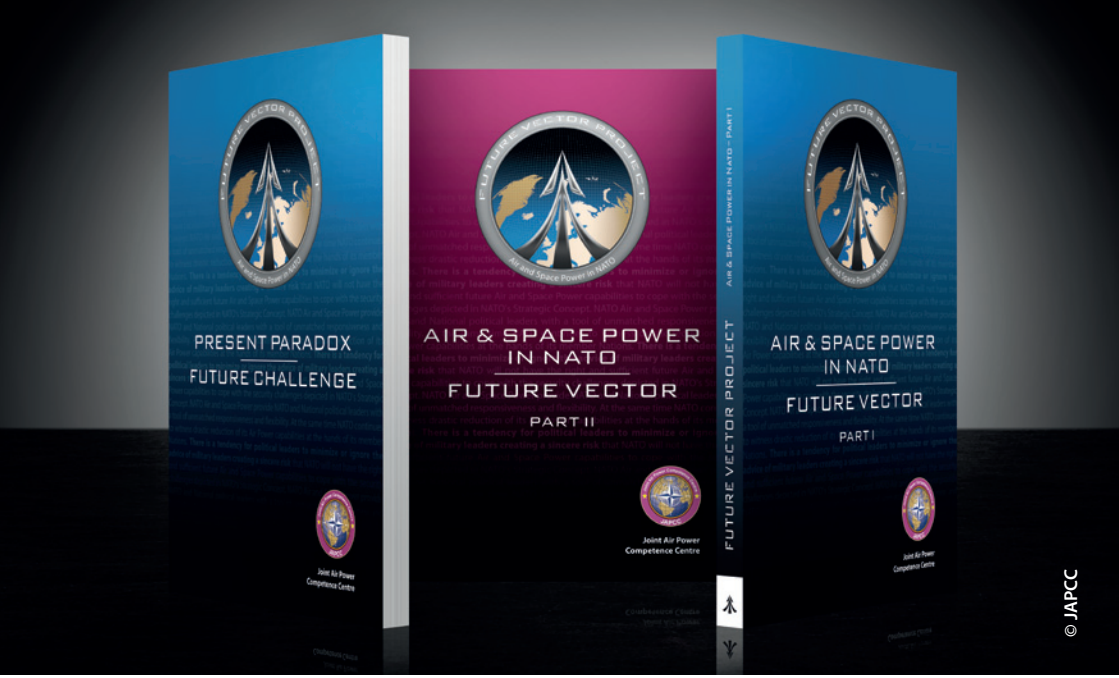
The 2014 Joint Air Power Competence Centre Conference was held between 18 and 20 November in Kleve, Germany. It explored the ideas and conclusions from the JAPCC Future Vector Project and debated where NATO air and space power should aim to develop to meet the challenges unfolding in the wake of operations in Afghanistan and the changing security environment that had developed during 2014.

These Proceedings consolidate the key note address, the panel discussions and the audience interventions to form a summary reference of the event and to offer points for future consideration and development. The document does not record the minutes of the Conference; rather, it highlights the major themes, drawing together thoughts and ideas from all elements of the Conference. Importantly, because the Future Vector Project authors have already published their essays, no attempt is made to summarize their main points – these are amply addressed in the 3 volumes published by the JAPCC and distributed in advance of the Conference along with the Conference Guide, which added further perspective in the aftermath of the NATO Summit in Wales. It is important, however, to record that this JAPCC Conference benefitted enormously from the availability of the Project essays, the coherence between them, and the harmony that the authors were able to bring to their presentations. It was a first class Conference and set a new level of achievement.

In the spirit of Chatham House Rules, we have ensured that no statements, opinions or ideas are attributed to any particular individual.

The Future Vector Project

The stimulus for the Future Vector Project was a contribution to the 2012 Conference that challenged the audience and NATO air leaders to set out their vision and concepts for air and space power within the Alliance. A key argument was, 'if those who were responsible for air and space power did not set forth their vision, who else would?' The 3 Volumes of essays and thoughts that have now been published by the JAPCC lay a very firm foundation upon which the airmen of the Alliance can build and are designed to provide thoughtful insights into the Paradox that confronts Air and Space Power in NATO: it is the most commonly used military instrument of power but is faced with declining readiness and capability due to declining defence budgets. The task ahead is to broaden the understanding and support for these ideas and concepts in order to help Alliance militaries deliver the combat power from the air that NATO will need in the coming years.



The 2014 Conference marked the end of the second phase of the FVP. Phase III of the project will concern itself with this broadening of understanding, building on the content of the Essays and on understandings pulled from the Conference itself.

The Geo-Political Background

As the Conference Guide highlighted, the Alliance security picture is considerably more complex than many would have envisioned in the immediate aftermath to the withdrawal from Afghanistan. The obvious elements of the crises in Ukraine and Syria/Iraq are mainly of a military nature, but their resolution lies firmly in the wider political sphere. In Africa, the Ebola crisis threatens to further destabilize regions already facing economic, political and terrorist challenges. The upsurge of sub-Saharan terrorists attacks adds yet further complexity to the wider terrorist challenge. The pressures brought about by economic migration, climate change and resource shortages create a mixture that would challenge any world leader or government.

A Transatlantic Perspective

It is no secret that the collective reduction in defence spending in Europe has been far greater than that experienced in the United States and that the Alliance contributions from Europe do not proportionately match the Alliance contribution from America, which also must sustain its worldwide military commitments. In a global economy, these contributions have a beneficial impact on the trade affairs of European nations. Some could, and do, argue that Europe is not pulling its weight and is gaining defence and security on the cheap through over reliance on the geo-political truism that the security of the United States is intimately linked with the security of Europe. As in all complex issues, there is truth in all these statements; however, none of them represents the whole truth concerning this apparent shortfall by the European nations in their contribution to collective defence and security.

US defence spending is approximately 5.5 % of its GDP, which equates to roughly $ 750 Billion. For this national investment, US citizens are free to pursue the lifestyle of their choice in relative security and prosperity. In Europe, the figures are much lower and, since 1989, collective spending has reduced from 2.5 % of GDP to 1.6 %. Now, the majority of nations fail to meet the 2 % of GDP defence spending target set by NATO, or the agreed 20 % of the 2 % of GDP to be spent on capability development and enhancements.

Europe's spending on welfare is among the largest per capita in the world and social welfare programs are an ingrained and indisputable aspect of European politics and society. That this may be unsustainable, that this may give rise to adverse economic pressures, and that this may only be possible because Europe is failing to step up to its wider international responsibilities are matters for debate. The simple truth is that 'it is as it is' and it is not likely to change in the near future unless some cataclysmic event occurs, an event that is unlikely to be in the interests of any one. Thus, the paradox at the heart of the Future Vector Project is an enduring 'planning factor' which airmen must recognize.

The arguments surrounding this specific topic are expertly addressed in the respective JAPCC essays and there is no need to repeat them here. Several of the authors argued that the key next step is to turn the analysis into a realistic and actionable plan that recognizes the presence of the 'paradox' but also strives to do all that is possible to mitigate its adverse effects. In this regard, the need for European members of NATO to develop a sufficiently 'full-spectrum' air and space power capability to be able to undertake discrete operations without US support was identified as a proper, but challenging, goal. NATO's military level of ambition, which envisages the capability to conduct 2 Medium Joint Operations and 6 Small Joint Operations, the so-called 2+6 goal, demands that all NATO members play their part in delivering the capability to undertake this challenging military aspiration. That the 26 European NATO members cannot undertake a single stand-alone, small-scale operation without the support of the US illustrates the scale of the shortfall in contribution and the clear imbalance between the capability of the US and the capability of Europe. The operations in Libya confirmed this reliance and led American political leaders to strengthen their view that Europe needed to do more.

The events of 2014 have shifted the balance of probability concerning the likelihood of interstate conflict emerging in the NATO core area. Some have argued that the actions of Russia constitute a return to the Cold War and that the decline in NATO's capability since the end of the Cold War has changed the military calculus for the Russians to a point where the outcome could be favourable to them. Others argue strongly in the opposite direction. What is not in doubt is that this debate is radically different from the one that would have been conducted during the 2013 Conference and who knows what the next year may hold. The future is extremely uncertain and heavy with strategic risk. The need to bolster the deterrent impact of the Alliance is pressing and the debate surrounding the nuclear bedrock of NATO's strategic posture must be taken forward. In all these issues, the contribution that air and space power can make is overwhelmingly positive. It has the capability, readiness, and reactivity to offer response

options that are scalable, rapid in their response, and unfettered by the entanglements that can accompany surface-based responses. Importantly, they also play to the Alliance's strength of technological innovation and the flexibility and adaptability inherent in its members. But, despite the positives, there remains the disparity between the military contribution of the European members and that of the United States. If unchanged, this disparity may lead resentment to build and tensions to grow within the Alliance. For airmen, the challenge is to maximize the utility of that which is currently fielded and ensure new capabilities fill the well-known gaps that exist.

Security Challenges – The Arc of Instability

The concept of a band of instability and crisis encircling the globe is well known and was mentioned by several conference speakers. The geographical distribution of this 'Arc of Instability' varies, but one element embraces the outer ring of the European Continent, stretching from the Atlantic coast of North Africa along the Mediterranean shore through Syria, Iraq and the Caucasus, and on through the eastern region of Europe and into the Arctic. The challenges in this region are varied and complex, stemming from no single cause or grievance. There is no single solution and a full spectrum response conducted through multi-agency groupings must be considered as response options are weighed by nations and the Alliance. Similar challenges exist in other parts of the world and many have direct links to those seen closer to the European mainland. This interdependence between the crisis areas of the world opens a complex debate concerning the optimum way to proceed.

Airmen have always advocated that their military capability offers a transformative way to conduct warfare. For the airman, the ability to pass over or around the deployed surface forces was the unique capability that offered them the means to shorten wars and drastically reduce the casualties and destruction wrought. The evangelistic assertions that such thinking produced, in a time long before the means to carry out the strategy were at

hand, did much to weaken support for the airman's case. But now, the means for precise and scalable air assault are at hand, along with much of the ISR understanding necessary to devise the campaign plans to be undertaken. What the early airmen dreamed of is now a possibility, but only if today's airmen can build a sound case for political support to ensure proper resourcing.

Interestingly, although such a full-spectrum approach may have grown from the recognized political reality of engaging in conflicts not directly endangering the nation, the capabilities required are similar to those required to fight a war of national survival. Thus, the requirements for interstate warfare are the same as for irregular warfare. It is just the subtlety of approach and flexibility that differentiates one from the other. The reason for this is the inbuilt adaptability that modern air weapons systems contain

and the flexibility that Alliance training and education inculcates in its airmen, be they in the cockpit, on the flight line or in the command centre, granting them the flexibility to respond at different levels of warfare.

Cooperate and Share, or Decline!

The Final Declaration from the Wales Summit committed all Alliance members to halting the decline in their defence spending and striving to return to the goal of 2% of GDP spending within a decade. The sceptic would consider this evasion of the main point whilst the optimist would welcome it as a step in the right direction. Inevitably, the truth will lie in between these extremes. For the pragmatist struggling to make things better, the declaration is welcome but its effect will be long-term and, in the meantime, there is the pressing need to do more with less in an ever more uncertain world. This is the practical side of the Paradox at the heart of the Future Vector Project.

Cooperation and sharing have both internal and external elements. NATO needs to improve its ability to cooperate and share between Alliance members. The development of Joint Air Wings to address RPAS, ISR, AAR and AT shortfalls was highlighted as an area in which the Alliance has elements of capability that would increase in effectiveness if they were better coordinated and more efficiently utilized. Some of these structures already exist, e.g., the E-3B Wing and the C-17 Heavy Airlift Wing initiative, but others need to be developed. It was argued that the future would need more ad hoc structures that were mission-oriented and time-bounded. The Hip Helicopter Task Force established during operations in Afghanistan demonstrated that such ad hoc structures could work.

There also needs to be improvement in the way cooperation has been facilitated and developed between the Alliance and partner nations. However, it was cautioned during the Conference that such 'partnering' could not be a route to full membership without full commitment. Partners could not be defended under the auspices of Article 5, as that was the

preserve of full members of the Alliance. Nonetheless, partnering solutions short of Article 5 coverage were discussed as beneficial to both NATO and the potential partner and, in a more nuanced and flexible approach to crisis resolution, they were seen as an essential element of the mix. It was emphasized that we must also bear in mind the reasons why partners wished to be associated with NATO.

Partnering with NATO was seen as offering access to the global discussion by being 'part' of a global organization. It offered a conditional place at the table and helped to underpin security and deterrence for the partner nation. Striving to achieve NATO interoperability targets helped partner nations develop their military forces and make them more readily available, both in the domestic and international setting. In short, allying oneself with NATO was seen as a positive step towards strategic security and as one which nations wished to take to underpin their stability, status and military effectiveness.

Within NATO, the same benefits came to those member nations that embraced cooperation and sharing and wholeheartedly committed to the implicit teamwork inherent in the Alliance. The Conference was reminded by more than one speaker that NATO was based on the assumption of cooperation and shared responsibility. This was particularly true in the air environment where, throughout its history, NATO's air power has always been greater than the sum of its individual parts. The challenge of sovereignty remained an inevitable hurdle in the pursuit of greater cooperation, but in the air airmen had invariably found ways to overcome these challenges and ensure that the elements of NATO's air power were effective and interoperable. The challenge ahead was to continue this practice and create the grand design and vision that would bind the air together for the common good. Doing so in a way that enabled partners to incorporate into the wider NATO system was also vital, but events in Afghanistan, Libya, and now in Iraq and Syria showed that the air domain was open and accessible to all potential Alliance partners.

Beyond the need to 'cooperate and share' with operational partners was the pressing need to 'cooperate and share' with industry and capability suppliers. Air power relies on technology; it is the means by which airmen access their unique 3-dimensional domain which gives them their unique operational perspective and advantage. Without sufficient technological advantage, air warfare can rapidly turn into an air massacre for the side outmatched by technology and training. The link between doctrine, capability and morale defines in its crudest form the effectiveness of an air force and it is a linkage that airmen must constantly keep in balance.

Many speakers highlighted the challenges the future may hold for cooperation and sharing within and without the Alliance. The obstacles are well known and have not changed as a result of the recent economic crisis. Their impact has just become more acute and the reduction in force structures within the Alliance has made the need to cooperate and share that much more important. However, on the other side of the argument, the same speakers paid tribute to the work that has been and continues to be

done in this area. Industry speakers, equally, highlighted the challenges but also praised developments. Thus, there were reasons to be optimistic, but only if leaders continued to advocate and push for greater cooperation and sharing. A narrowing of attitudes that saw wider cooperation as a threat to local industry could easily undermine the progress that has been achieved and needed to be countered by a strong message to the widest of audiences.

The Challenge of Hybrid Warfare

The emergence of so-called Hybrid Warfare, the interweaving of conventional, non-conventional, symmetric, asymmetric, diplomatic, economic, media and social action to advance one's political aim, has created a new challenge for the world's statesmen and their strategic planners and officials. Conflict is no longer, if it ever was, the preserve of military men undertaking military action. This has been recognized for many years and the collective actions of NATO's nations during the Cold War could easily have been described as Hybrid Warfare. The Comprehensive Approach developed to address the growing complexity and simultaneity of the battle space in which conflict, reconstruction, re-development and normality all existed within the same spatial and temporal setting. Warfare was not sequential – a stream of soldiers first *then* aid workers – it was simultaneous, complex, and chaotic, and it required a new perspective and approach. Hybrid Warfare requires a similar shift in perspective, but perhaps not as much as some of its strongest advocates would insist.

Hybrid Warfare demands that we adopt the broad view and recognize that seemingly unconnected acts in widely dispersed settings are more interrelated than at first appears. Thus, Air Policing of the North Cape of Norway must be seen in the context of pipeline developments in the Black Sea. Military action needs to be seen in its wider setting and undertaken not necessarily for the obvious tactical benefit. Exercises that some may consider overly simple and not related to the main effort of the squadron at the time may well be being orchestrated for a much more

strategic deterrent and reassurance purpose. In all cases, strategic communication regarding the action taken, be it an exercise or a simple deployment of forces, is absolutely key to maximizing the strategic impact.

The strategic communications challenge is both an outward and inward task. It has been noted that the tactical acts must be set in the strategic context if all are to understand their roles. It is also necessary to set the military acts in the complex diplomatic, economic, social, and media setting. Again, this is a key role for air leaders at all levels and, because of the nature of hybrid warfare, where secrecy and ambiguity play a vital role, it may be difficult to be as open as one would wish. This demands that the morale and unity of Alliance air forces is as good as it can be. With today's setting of frontline cuts and downward spending trends, establishing and maintaining such trust and belief could be a challenge. But achieving such 'togetherness' is critical if the Alliance is to be able to confront the challenges of Hybrid Warfare with the ambiguity and deception that will have to be at the heart of many of the acts undertaken.

To compensate for reducing defence budgets, all air forces have bought equipment 'off the shelf'. They have been encouraged to do so by procurement agencies who saw it as a means of sustaining force structures and capability in the face of reduced budgets, and they have been praised by politicians and treasury officials who conclude that the military have got what they need but without requiring as much national wealth as would have previously been the case. To many, 'commercial off-the-shelf' was the answer to maintaining quantity and quality. Unfortunately, the implications of this policy have only recently become clear. The tremendous rise in cyber-attacks, a key component of hybrid warfare, in recent years has alerted politicians, military leaders, and officials to the vulnerability implicit in much of the 'military' equipment now fielded by NATO forces. NATO now relies on 'off the shelf' systems that are open to attacks which could be debilitating in their effect. There is little that can be done in the short term, as these systems are central to the working of Alliance air forces, but awareness of the risk being carried and

the mitigation required needs to be communicated to ensure NATO's capability remains sustainable. Again, this must be a key element of any strategic communications effort.

The same is true of space and assured access to space. At present, NATO's approach in this area is not as coherent as some would like and depends too much on the assumption that space will be a non-contested arena. Current international treaties prohibit the militarization of space; it is, in effect, neutral territory. However, history is littered with examples of neutral countries being violated in the pursuit of military advantage. Invariably, such violation does give the violator short term advantage through the tactical surprise achieved. Consider the situation if the Alliance, believing in the neutrality of space, were confronted by a vertical envelopment via the violated neutrality of space. How often does NATO train with the normal benefits of space removed? How many GPS-guided weapons would be precise without the guidance from space? How would timing and synchronization work? How would RPAS and ISTAR platforms communicate? The list is endless and doesn't begin to address the chaos that would be created in the strategic rear by the disruption to civilian and government assets. A world without space is now very difficult to envisage, so how does NATO maintain assured access to space? This question was beyond the Conference but, in terms of the discussion of hybrid warfare, it illustrated the significant risks that NATO carries in undertaking hybrid operations. Space and cyber vulnerability are 2 current challenges that must be addressed and the risks communicated.

The 'Activation Session'

The concluding session of the Conference was an open session entitled the 'The Activation Session'. It sought the ideas of the delegates and allowed them the opportunity to shape the next stage development of the Future Vector Project. The delegates were posed 3 straightforward questions:

- What are the best actionable recommendations of the Future Vector Project?
- What is missing?
- What be the Next Steps?

Rather than attempt to summarize the debate the following are the main 'recommendations' from the session. They have not been reviewed and they have not been adopted, but they do represent what was said and therefore, they are of value as the JAPCC takes the work of the Future Vector Project forward.

- *Cooperation and Sharing* – Air leaders, industry and policymakers should identify achievable projects that can demonstrate the willingness of Alliance members to cooperate and share to deliver greater effect. The projects need not be too grand, but they must be achievable and deliverable in relatively short timescales. Training, exercising, capability development and logistics sharing all offer good opportunities in lieu of only platform design and collaboration. The goal should be to demonstrate that the air environment 'gets it' and is willing to play its part in bettering the Alliance. Senior engagement and leadership is vital to unlock the obvious willingness of more junior levels to cooperate and share.
- *Cooperation and Sharing* – Cooperation between the EU and NATO should be encouraged and codified to allow for greater understanding and effectiveness.
- *Strategic Communication* – The Future Vector Project needs to be exposed to the political, policy, and industrial levels to gain support and test validity. A consolidated Outreach Plan needs to be developed to take this work forward.
- *Strategic Communication* – The narrative embedded in the Future Vector Project needs to be 'translated' into a more accessible and broader narrative to address the needs of the many audiences the Project needs to reach. This work needs to be coordinated with the Outreach Plan.

- *Strategic Communication* – When presenting the Future Vector Project, the options presented need to be viable and false digital alternatives need to be avoided.
- *Strategic Communication* – The work implicit in the Future Vector Project needs to be mapped against the NATO HQ staffing process to ensure it gains traction and adoption. Links into the NATO strategic planning process, Ministerial summit agenda, capability decision-making and exercise planning all need to be considered in formulating the Action Plan stemming from the Future Vector Project.
- *Strategic Communication* – All air leaders must take every opportunity to advocate the benefits and limits of air power's contribution. The natural tendency to focus on what air power can do can lead to difficulties when the challenge is not particularly suited to air power and political leaders are less well briefed on the limits of air power. It is difficult to say no with credibility if all the politician has heard is the positive argument – the narrative on air power must be balanced, mature and statesmanlike, not biased, triumphal and tactical. Mature debate and understanding will be in air power's long-term interest, not short-term advantage.
- *Strategic Communication* – A key strand of activity should be to take the debate into the wider academic field and exploit the NATO academic structures to enable the debate.

Clearly, a single session of 1 hour cannot assess the 80+ recommendations embedded in the Future Vector Project, so the Activation Session was necessarily partial and incomplete. However, the 2 loud and clear themes were the need to 'Cooperate and Share' and the need to communicate the themes, content and vision that has emerged from the Future Vector Project through a consolidated 'Strategic Communications Plan' supported by a targeted and realistic 'Outreach Plan'. Much work remains to be done to 'translate' the arguments into a form that will gain wider support and agreement, but the foundations have been very well laid and the delegates were willingly part of a movement of growing alignment and enthusiasm.


© Markus Arnold

The 2014 JAPCC Conference in Perspective

The Future Vector Project was universally held to have been a success and to have laid the firm foundation upon which ideas and thinking could be developed. The Project essays were comprehensive and their early publication allowed delegates to study the Conference themes in advance and therefore gain the utmost from the panel presentations and discussions. Reflecting on the Conference, a number of recurring themes or precepts emerged, based on study, thinking and hard won operational experience that can be seen as boundary markers when taking forward the next stage of air and space power development.

Alliance air, and, increasingly, space, power have delivered and have not been found wanting. This must be seen as a success story and one which needs to be more widely acknowledged. That a paradox of utility vice resource investment of air and space power exists there can be no doubt, but that would also be seen as the case by sailors and soldiers. The case for

continued investment in air and space power will only be successful if the benefits to the Alliance's political leaders outweigh the costs, both economic and strategic. Force structures that bankrupt defence budgets are nonsensical; so too are operational concepts that entangle politicians in further and more complex problems than the ones they set out to solve. NATO's air power is currently a very useful and usable system of weapon systems that can support the political and strategic needs of Alliance leaders. Developments in air and space power must build on this credibility and expand into offering alternative strategic options that enhance rather than constrain future decision-making.

Whilst force structures have significantly reduced in scale since the end of the Cold War, they are now immeasurably more capable and relevant. The growth of precision attack systems that minimize damage beyond the intended target have transformed the way in which air power can be integrated into the joint campaign. This 'force multiplication' through precision has been accompanied by force multiplication through knowledge. Modern ISR capabilities as well as networked intelligence and command structures now permit the precise application of precise weapons against precisely targeted assets at the precise moment to ensure success. Now, while that sentence contains far too much 'precise' to be considered proper, it does emphasize the transformation that has occurred since 1989 and the fall of the Berlin Wall. Despite the fact that airmen may bemoan the lack of investment in their organizations, the overall trend is towards a better force mix that is more in tune with current operational needs. Nonetheless, the benefit that qualitative improvement has brought to reducing air forces does have a limit in that a single air platform obviously cannot be in 2 places simultaneously regardless of the capability it contains. Therefore, a balance between quality and quantity must be struck that leaves the Alliance with sufficient air combat power to meet its current and future requirements. That will demand successful advocacy by air leaders in the determination of the size of air forces that are funded and successful innovation by air forces to maximize the quality of the quantity that individual nations are prepared to afford.

This 'maximizing of quality' has always been a great strength of the Alliance and is one of the features of NATO that attracts short- and long-term partners. NATO's training and education process is world class and its STANAGS ensure that similar equipment is interoperable to the fullest extent. The NATO Tactical Leadership Program delivers practical experience and development alongside many educational programmes at the various NATO schools. In the meantime, opportunities might exist for greater collaboration to derive the benefits in advance of the formation of any permanent structures. Training and exercising will continue to be challenging due to budget restraint and concurrent operational deployments, but air forces must make the most of the opportunities available and the development of Air C2 exercise events was argued as being essential for the development of sufficient staff to man future C2 structures.

The 2013 Conference reinforced the viewpoint that air and space power were interdependent with the other forms of combat power not independent of them. Events in 2014 and the discussion in the 2014 Conference did nothing but add weight to that conclusion. NATO fights a Joint Fight in a complex geo-political setting with alliance and non-alliance actors blended together in a nuanced and sophisticated way. NATO air and space power needs to march in 'lock step' with that approach. While there may be alternative strategies that air and space power can offer, they all exist within the joint arena. Even if the scale of the other joint contributions is small in Alliance terms, operations in Libya, Afghanistan, Syria, and Iraq show that the 'land component' of indigenous forces is significant and that the liaison and cooperation challenges with these organizations are large and critical to operational success. Accordingly, NATO airmen must see the operational team in a wider perspective, one that recognizes the 'variable geometry' of the political responses that may arise in the future. They must be able to integrate into the military and civil command structures as they emerge and through flexible and adaptive Air C2 continue to deliver the air effect that is so vital to an Alliance that has always been so reliant on its asymmetric advantage of air power.

If one had to select a single theme from the 2014 Conference, it would be the widespread agreement that the next step for the Future Vector Project must be the development of a broadly based Strategic Communications plan allied to a targeted Engagement Initiative. Many argued that the time for discussion was over and that the time to act was now. Clearly, the Future Vector Project output does not represent a fully developed engagement plan, but it does contain many of the key elements that such a plan must contain. Thus, much of the work has been done. The task now is to translate the thinking so far into messages that help support the arguments for NATO air and space power. It was rightly stated that this is not a task just for air forces. It is a task for airmen. Naval and army air arms must be engaged along with the beneficiaries of air and space power in the surface force, be they ashore or afloat. It is a joint challenge and one that must be taken forward in that spirit – interdependent NOT independent.

Expanding Horizons: Noteworthy Discussion Topics

On the discussion of the requirement for the military (air power practitioners, specifically) to determine and communicate the future requirements of joint air power within NATO: The nature of that need can only be determined by understanding the nature of the challenge the Alliance may be required to address. Will it be state-on-state symmetric warfare? Will it be an asymmetric conflict of beliefs and values? Will it be non-state warfare conducted through non-state actors using novel and dislocating attacks aimed deep at the societies of the Alliance? Or will it be a version of the hybrid warfare that seems to be emerging on NATO's eastern flank?

NATO must prepare for an ever-widening variety of styles of conflict which demand an ever widening range of capabilities and concepts. It must ensure that it is not caught wanting against any conceivable threat but, at the same time, must not over invest to counter any one form of conflict which it perceives as the most threatening. It must retain balance and capability as well as protecting against strategic surprise. And, it must do this

in the almost sure knowledge that whatever approach it takes will not offer all that is required when the crisis arrives. Thus, it must foster and develop intrinsic adaptability and flexibility in its platforms, weapons systems, and its people.

On the Geopolitical Background and National Responses to Complex Challenges: To meet the complex geo-political challenges, leaders are deploying a complex range of responses. The 13 years since 9/11 have seen tailored and nuanced foreign policy responses from Alliance and World leaders. Indeed, historians may conclude in years to come that this sophistication of response was one of the most notable features and positive developments in crisis management to emerge from the first decade of this century. Today, seemingly identical challenges are being met with very different responses. Some may argue simplistically that this represents the unreliable nature of politics and a seeming unwillingness to face up properly to the challenge of our time. Others would counter by asserting that the world is far more complex than such simple analyses recognize. And yet others would argue that the decision not to respond in Syria as was done in Libya was a sign of weakness not of sophistication. Such arguments will always define the political debate and can rarely be finally settled. What is undeniable is that recent events have seen a more varied response from political leaders and, therefore, a demand for a more varied response from their military leaders and armed forces.

The response to the rise of the self-styled Islamic State in Syria and Iraq demonstrates 2 important features of the post-Afghanistan approach. First, and as in Libya, there is a very strong political resistance to the deployment of Coalition combat ground forces into the conflict area. Coalition training missions, some of significant size, appear to be acceptable, but the policy is clearly to grow and strengthen the indigenous ground forces to the point where they can take their fight to the enemy that threatens their peace, stability and livelihood. In the meantime, holding operations will be conducted to stem the advance of IS and, if possible, inflict reverses, but decisive operations will only be mounted when the

indigenous forces are fit and ready to win on the ground. The role for air power in this strategy is clear: hold the line – degrade the enemy – shape the battle space – build ISR understanding – and force multiply the indigenous forces. These are traditional air power roles and ones which airmen have delivered time and time again. The policy delivers effect with limited coalition exposure and entanglement and, importantly places the ground solution to the problem in the hands of those forces for whom the territory is home and for whom a better and safer future is vitally important.

The second notable feature of the international response to the Islamic State is the fact that, while NATO members are involved in the operations in Syria/Iraq in a variety of ways, they do so not as NATO per se but as members of a wider 'Coalition of the willing'. This is in contrast to the situation in Afghanistan where NATO was clearly the core of a much wider coalition of contributors. In Syria/Iraq, NATO members come as individual countries into a US-led coalition alongside many of the countries with whom they fought in Afghanistan but without the NATO structures and systems that defined the workings of the coalition in that country. An obvious question is 'why'?

One of the strengths of NATO is the formalized structure that underpins its work. Procedures are established and understood by all members and there is a way to get things done. NATO has a strong political core and a capable military arm, but it also has rules which can restrict the speed at which crisis response can proceed. By establishing a coalition of the willing, the coalition members can apply whatever rules and procedures they chose based on the time pressures and demands of the day. In the early stages of crisis response, this is invaluable, as a timely response invariably constrains any crisis before it becomes even more complex and challenging. Speed of response in the early days of a crisis by coalition members willing to act is more important than broad political consensus, of which benefits come into play as the crisis develops. So, the coalition of the willing currently undertaking action in Syria/Iraq represents a more complex and nuanced response by nations to crisis response and consensus building. It needs to

be seen as such and not dismissed as a failed approach if, in time and as may be likely, it morphs into a different and more established Alliance or formalized coalition structure.

These 2 features of the Syria/Iraq responses define a clear vector in crisis response. In Ukraine the features are different and define a different but complementary vector. Here, interference by Russia in the affairs of Ukraine has been met by an equally complex and nuanced response. Sanctions supported by demonstrations of resolve and deterrence are being delivered through a multi-actor response involving NATO nations as members of NATO, the EU, the UN, the G7, the G20, and the wider international community. No clear 'C in C' could be identified, but therein lays the strength of the approach. From a Russian perspective, there is no single target against which it could direct its attention. Virtually all the world's key organizations condemn Russian action and are taking part in a multi-faceted response. For the military, flexibility is the key and the ability to deliver a wide range of effects, such as Air Policing, ISR, forward deployment and exercising, all play their part in supporting the political and economic pressure being applied. This 'Variable Geometry Approach' defines an emerging approach for the immediate years ahead, as world leaders strive to contain a seemingly burgeoning number of security challenges and crises. For the military, the development of alternative strategies and robust capabilities will be the major and most important challenge.

On Regarding the Economic Realities of Military Acquisition: The economic pressures that are creating force size reductions are equally shaping industrial capacity. Without orders or a reliable income stream, it is impossible for industry to retain design and production teams let alone research and development facilities. Thus, in the face of frontline cuts, airmen must work as closely as possible with industry and national armament structures to define future requirements in a way that delivers sufficient technological advantage within the realistic budget available. Clearly, this is what all procurement processes should do, but there are plenty of examples of where requirements creep, capability 'entryism' and design changes have

been so numerous that the programme eventually becomes unsustainable and vast sums are wasted. Having the wisdom to require enough but no more military capability would define the perfect military leader in the eyes of any national government. Such wisdom ensures security at the minimum cost and in the most efficient manner. Sadly, such wisdom is rarely found because in reality it is an enormous challenge to predict the needs of the future.

On the 'Arc of Instability' and Handling Challenges at NATO's Southern Frontier: One of the issues with the concept of an arc of instability is that it portrays the problem in a linear or geographically defined manner. The arc must have a 'front edge' so there must be a 'frontline'; if there is a frontline then the traditional force on force concepts of military force can be applied and the overall challenge can be broken down into discrete problems which can be addressed by discrete operations. For those immediately affected by the 'frontline' (that is, those facing the arc of instability), the smaller scale definition of the problem is compelling, as it enables thinking and resources to be focussed. It may not, however, enable the problem to be solved.

If the root causes of the events that describe the arc of instability lie deep to the rear of the 'frontline', addressing the issues at the 'frontline' means addressing the problem piecemeal and with a strategy of attrition. Attrition invariably drags both sides down to the lowest common level of warfare in which killing and destroying the opponent becomes the bloody way forward. The alternative of manoeuvre has always been seen as the better way. But the problem is always one of determining the best and most effective way to out-manoeuvre your opponent. In a conventional war with easily defined fielded forces, the options can be obvious; however, in irregular warfare among the people, the options are not so easy to define.

The description of battle space as close, deep and rear is helpful in trying to understand where options may exist. The battle of attrition will inevitably be close and, as such, will deal with the 'fielded forces' of the threat.

The deep and rear battles will address the root causes and the sustaining mechanisms that allow the 'fielded forces' to continue to operate. These root causes will not all be susceptible to military action but as part of a complex comprehensive approach the deployment of economic or political power at the root causes of a problem can significantly help the military action against the enemy's field forces. Sanctions against Russia over Ukraine are having a clear effect at the same time that efficient and forward leaning NATO Air Policing is sending a clear deterrent message to the Russian leadership through military action.

Finally, it is well known that anyone's perspective of a problem is greatly influenced by their viewpoint. Authorities facing mass sea-borne migration across the Mediterranean are likely to have a more attuned and alert focus to the subject than those countries more remote and better protected from the immediate impact of the problem. Thus, it is interesting to ponder whether the European perception of security and defence requirements is significantly affected by the immediate presence of many of the direct effects of the 'arc of instability'. If so, one could assume that increasing defence spending would be a much simpler matter than it appears to be. But this exposes another 'paradox'. The countries most directly affected by the existential threats posed by the 'arc of instability' seem to be those same countries whose willingness to spend more on defence is not strong. Why would any government behave in this way? Is it because there still remains a strong but unspoken assumption that others will eventually meet the challenge? Whatever the situation, the debate concerning the best strategy to address the arc of instability needs to be undertaken with great vigour and the balance between the close battle of attrition and deep/rear manoeuvre needs to be at the heart of that debate and the air power responses developed.

On Counter-Insurgency Operations: The publication of the US Armed Forces Counter-insurgency Manual had a major impact on the military approach taken in Iraq and Afghanistan. In a post-Afghanistan world, key questions for all military leaders are how relevant is that approach to the future and

does it fit well with the political response to emerging crises and challenges. There is no doubt that the response of airmen to the demands of the counter-insurgency strategy has been innovative and telling. Several speakers highlighted the speed and effectiveness of the response demonstrated throughout the Afghan theatre and the force-multiplication effect that integrated air power delivered in the widely dispersed battle space of that campaign. Traditional roles, adapted to the needs of the moment, continue to deliver the asymmetric advantage that air power has created over the past century. But the question remains as to whether more of the same is the best way ahead.

Throughout the campaigns in Iraq and Afghanistan, there has been a continual debate concerning the best strategy to follow. On the one hand, the counter-insurgency advocates have highlighted the need to win the hearts and minds of the indigenous population if lasting change, peace and development are to be achieved. The idea that you must persuade to create enduring change rather than kill and bomb opponents into a different attitude is at the heart of this debate. If one were considering a peaceful debate without recourse to violence, this approach would be indisputable; however, the hearts and minds approach requires significant investment and significant time to deliver results.

The cost of counter-insurgency operations in both blood and treasure is large, and the consequences, both intended and unintended, are significant, causing, as they do, yet further complications that destabilize other areas of foreign policy and international relations. And ultimately, the end result is not as clear cut as the proponents would argue. Invariably, counter-insurgency operations require time that is measured in decades, not in months or years. Advocates of the counter-insurgency approach constantly caution against the expectation of quick success and argue that coalitions must develop the staying power and will to continue with the strategy for as long as it takes. If the contributing nations were facing a close and immediate threat to their homelands, strategic patience would be a given. But they are not and the ill-defined

and distant nature of the 'threat' raises serious political issues of commitment and sustainability. If war is an extension of politics, to grossly misquote Clausewitz, then the military strategy must recognize and remain in harmony with the political reality and public opinion of the contributing nations, for if it does not then the will to continue the fight will simply evaporate when faced with conflicts of choice vice those of national survival.

In the post-Afghanistan context, the other side of the counter-insurgency debate comes to the fore and provides an alternative strategy, referred to by one speaker as 'Boots in the Air'. Here the asymmetric advantage of air power enjoyed by broader international community is used as the cement to bind together the disparate elements of the military crisis response. A combination of air and space power, Special Forces, and indigenous forces can be woven together to deliver effect without many of the entanglements associated with the forward commitment of large numbers of non-indigenous forces from the contributing nations. The model, termed Afghan 3.0, mirrors the alternative to the counter-insurgency strategy that many argued at the time of the latter's adoption in Iraq and Afghanistan, namely that although the principles of the counter-insurgency approach were theoretically sound, the cost in both national resource and time were unsustainable for an outcome that was uncertain at best. A better alternative was to enable the indigenous forces with those assets which they did not possess but with which they could transform their effectiveness. Not only would that limit the scale of the external commitment but it would place responsibility for the outcome of the crisis in the hands of those who would benefit the most, and thus cement the peace in the minds of the people for whom it had been achieved. Some referred to this as a counter-terrorist strategy in which the aim was to kill or destroy the terrorist organization; Afghan 3.0 is a more sophisticated development of that in which a 'coalition of the responsible' works together to achieve a lasting outcome in which the external actors support and sustain but do not make the mistake of taking control and becoming the target and new 'source' of the problem.

On Hybrid Warfare and Meeting its Challenge: The NATO Baltic Region Training Events established by Ramstein Air Component in 2008/9 were undertaken to reassure and signal Alliance solidarity. As tactical exercises, they were useful but limited in scope. Their real value came at the higher military and political level. Senior airmen have a pressing need to communicate intent to their subordinates in the conduct of hybrid warfare for much will not be what it seems. Morale can suffer quickly if people do not feel that what they are doing is of value. In hybrid warfare it will be essential to explain the wider purpose of tactical action.

A challenge that comes to the fore in this type of 'warfare' is the need to maintain a coherent narrative concerning the capability required, the capability held, and the risk implicit in the gap between the two. This becomes more difficult because the aim of deterrence is obviously to deter and avoid conflict. Thus, a situation in which open conflict is absent can give the impression that deterrence is effective. But deterrence can be effective at various levels and the nature of hybrid warfare encompasses the intermixing of local and regional conventional and non-conventional conflicts or crises. Thus, deterrence could be working on the regional scale, but the opponent could sense that advantage could be gained in the short-term by conflict at the local and tactical level. In this setting, forces configured for broader deterrence could well be under pressure in a localized hot conventional exchange. To illustrate this, consider the decision-making behind the employment of the USAF F-22 in Syria and the reasons why it rather than other aircraft were required for specific missions. The USAF are in the fortunate position to be able to make such choices, other NATO nations are not. Thus, hybrid warfare demands that air leaders inform and shape the wider debate on capability, risk, and development, to ensure the air is ready to meet whatever challenge this inherently unpredictable form of conflict generates.

Having the mental and organizational flexibility to utilize the capability inherent in the technology at hand is the way in which all military forces cope with the inevitable gap between stated requirement and existing

challenge. Thus, air systems with sufficient growth and development capability to adapt to the demands at hand can be the only way ahead. That requires a responsive relationship between industry, the military and the treasury to ensure that, when the exact requirement shortfall is identified, it can be addressed rapidly. There are many good examples of where this has been the case in Afghanistan and other recent conflicts, so the system works, but, in the future with even smaller force structures, the relationship will need to be even tighter to the deliver the capability required. For the airmen, his narrative must articulate this linkage and celebrate it as a good and sensible response to dealing with the inevitable unknowns of emerging crisis. It is not, as is often portrayed, the incompetence of the procurement system in not anticipating the requirement; it is the reality of international relations – the future is very uncertain and cannot be predicted in detail. This is particularly important in the air domain where, as previously stated, the difference between victory and defeat in the air can be determined by the smallest of margins. It is closing these margins and making NATO air sustainable that a close and intimate link with industry enables.

Final Thoughts

Much of the Conference debate surrounded the cost of air and space power and the difficulty faced by airmen in arguing for enhancements in air force capability in the face of economic stringency. Chatham House Rules prevent the attribution of the following quotes but they encapsulate so neatly the approach that airmen should advocate in all their discussions that they are highlighted here:

First, our approach could no longer be *'We will do what we **can'*** it had to be *'We will do what we **must!'.***

Secondly, in a debate on the cost of air power it was stated so succinctly that: *'Air Power is cheap when measured by Effect but expensive when measured by Equipment Costs'*

If ever there was a simple one-liner that encapsulated what airmen often struggle to say, it was this. Air and space power are vital to the Alliance; without it, the Alliance would falter and its world status could be reduced to that of a modern day League of Nations. Air and space power deliver a vital component of Alliance credibility and, when measured in that strategic way, in terms of effect, air power is indeed cheap and in many ways invaluable.

The 2015 JAPCC Conference will take place on 17–19 November 2015 in Kleve, Germany and will focus on Joint Air Power Strategic Communications and the challenge it will bring NATO in the future.

Acknowledgement

Finally, it is with great pleasure that we extend our sincere thanks and appreciation to Air Marshal (ret.) David Walker RAF, for his support as the Moderator of the JAPCC Conference 2014.

Notes

Joint Air Power Competence Centre

von-Seydlitz-Kaserne
Römerstraße 140 | 47546 Kalkar (Germany) | www.japcc.org