

2011



annual REPORT

Joint Air Power Competence Centre

www.japcc.org



**Joint Air Power
Competence Centre**

introduction

2011 was a challenging year for the Joint Air Power Competence Centre (JAPCC). We completed a number of important projects as well as sustained our participation in many NATO activities. Our annual conference was one of the year's highlights along with a visit from a Russian Federation delegation. JAPCC also produced two Journals and many other products with which the Centre has once again emphasised its attention to all related Air and Space matters. Combined, these projects, activities, and events contribute to the overall program of work for the JAPCC.

Last year was a year of transition as personnel changed in many key positions as well as Subject Matter Expert (SME) areas. However, the JAPCC continued to develop and refine its external as well as internal plans, processes, and activities. We conducted a variety of activities that directly support the three lines of operations identified in the 'JAPCC Comprehensive Plan'. First, JAPCC supported NATO Operations in Afghanistan, participated and led NATO working groups and other forums. Second we executed projects at the request of the Sponsoring Nations (SNs), Allied Command Transformation, Allied Command Operations, and other external agencies as we had capacity. Finally, JAPCC continued efforts to make the organisation better with our internal improvement campaign.

The JAPCC relies upon key strategic guidance to maintain its relevance and building on the success of last year's inaugural Executive Working Group (EWG) meeting, JAPCC's second EWG guaranteed the Centre remain connected to its SNs. Past, present and future projects were presented to the Nations, and in turn, the

JAPCC gained important direction and ideas from our SNs. This second meeting was a major success, and I eagerly anticipate hosting the next annual EWG.

Many of JAPCC's achievements during 2011 are included in this report but I would like to summarise a few of our accomplishments here. Again this year, JAPCC actively supported operations in Afghanistan. Our SMEs led the development of new Force Protection (FP) doctrine which was published as STANAG 7217, entitled ATP-3.3.6 'NATO Force Protection Doctrine for Air Operations'. This work's value was underlined during a six-month deployment to Afghanistan by the JAPCC FP SME, during which his application of the draft FP doctrine allowed 10 nations to combine their capabilities in addressing a hitherto intractable force generation challenge, providing International Security Assistance Force (ISAF) with a robust and effective FP capability in an extremely demanding operational environment.

In April of 2011, the JAPCC delivered the Regional Fighter Partnership project report. This project focused on implementation of a fighter consortium concept for nations looking to recapitalise their fighter fleets at reduced operations and maintenance costs. The Air-Land Integration Project was completed in September 2011 with the publication of the Air-Land Integration Operational Assessment. Air & Space Support to Counter-Piracy off the Horn of Africa was another noteworthy project that highlighted a very successful cooperation with an industry partner, the Boeing Portal. The Boeing Portal provided significant assistance with modelling and simulation and delivered valuable information informing this study. The resulting publication will be released early in 2012.

Following a request from Air Command Izmir, JAPCC deployed two officers to assist the Air Component identify key lessons for Operation UNIFIED PROTECTOR. This effort produced a report detailing 47 findings which are key inputs to Lessons Identified/Learned for OUP. Our C4ISTAR Branch authored the NATO Joint Intelligence Surveillance and Reconnaissance (JISR) Step 1 Concept of Operations (CONOP) for ISAF. Completed within 3 months of the initial request, this CONOP is now used by ISAF as the overarching document guiding JISR Standard Operating Procedures as well as Tactics, Techniques and Procedures.

Our annual conference with the theme: 'Understanding Air Power – A Joint Appraisal' provided a forum to discuss issues and we considered how current difficulties, future challenges, strategic options, operational requirements, tactical consequences, and realistic, achievable solutions might evolve. The conference was attended by 250 participants, amongst them 60 flag officers.

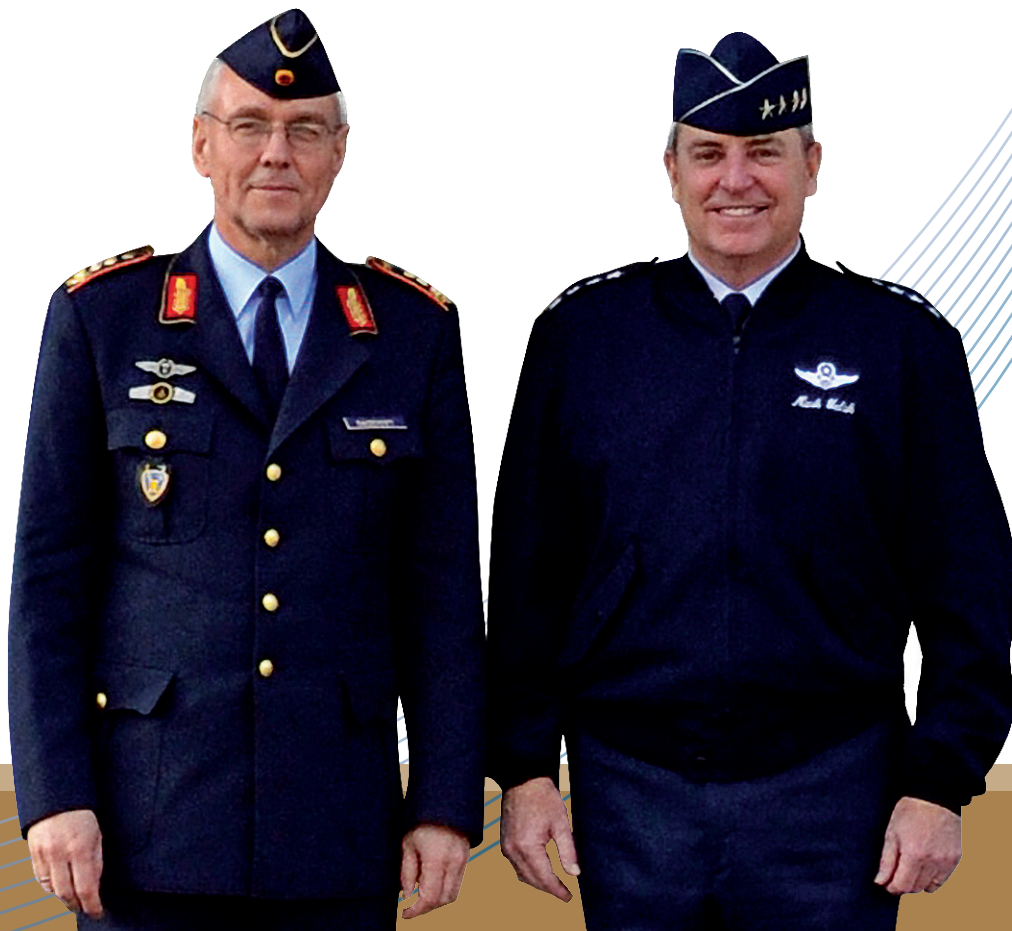
As can be seen from this brief overview, 2011 was a productive year for JAPCC. 2012 will no doubt be a year of challenges and opportunities as JAPCC continues its effort to ensure we remain relevant; leading the way as a catalyst for the transformation of NATO Joint Air & Space Power.



Lieutenant General, DEU AF
Executive Director, JAPCC

mission priorities

- Provide high-quality and timely customer support with Joint Air & Space expertise to inform and enable decision-makers.
- Contribute Joint Air & Space expertise to Alliance decision making processes through active leadership and participation in NATO committees, working groups, and fora.
- Develop and champion innovative visions, concepts and solutions for the transformation of Joint Air & Space Power.
- Promote and showcase the effectiveness and relevance of Joint Air & Space Power as a critical element in Air, Land, and Maritime integrated operations.
- Partner with relevant NATO entities and Nations to synchronise work and products.



who we are

The JAPCC is a Centre of Excellence (CoE), which was established in 2005 to contribute to the transformation of NATO's Joint Air & Space (A&S) Power.

Whilst our primary customer remains HQ Allied Command Transformation (ACT), we find ourselves increasingly engaged by the other NATO HQs, as well as our Sponsoring Nations.

Director's Vision

The Director's vision for the JAPCC is to be NATO's recognised champion for the advocacy and transformation of Joint Air & Space Power.

Our Mission

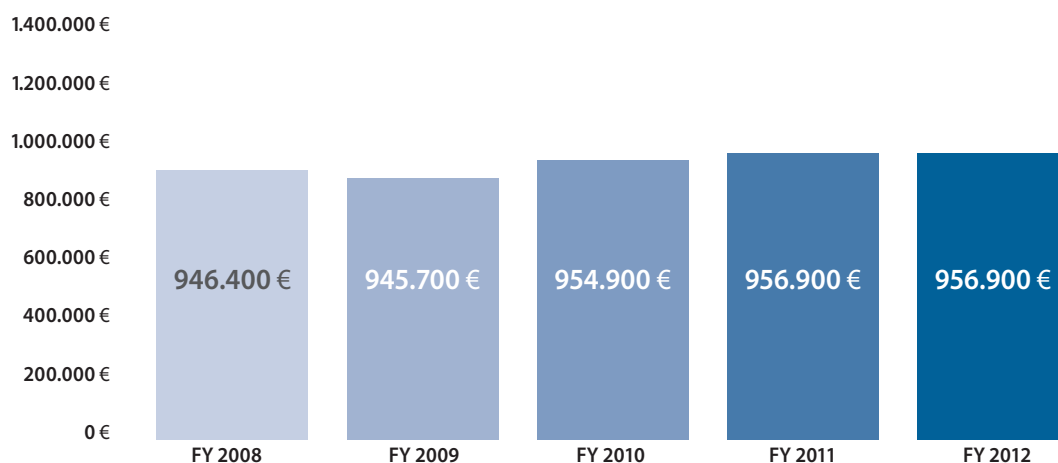
As the Alliance and its Participating Nations' Joint Air & Space Power COE, the JAPCC Mission is to provide innovative, timely advice and subject matter expertise, both proactively and responsively. As a COE with a strategic

and operational level focus, the JAPCC offers independent thought, analysis and solutions, with an emphasis on enabling NATO's effective and efficient use of Joint Air & Space Power. To accomplish this mission, the JAPCC identifies mission priorities as listed on the previous page.

Organisational Structure

The JAPCC Director is Gen Mark Welsh III (USAF) who also serves as the Allied Air Component Commander at Ramstein, and the Commander, United States Air Forces Europe (USAFE). The German Air Operations Commander and German Joint Force Air Component Commander (JFACC), Lt Gen Dieter Naskrent, serves as the Executive Director. The Assistant Director Capabilities is currently Brig Gen Alessio Cecchetti and in Summer 2014 the post will rotate from ITA to NLD. Recently, the Assistant Director Transformation position was vacated and the bid withdrawn by the UK. Therefore the post is currently vacant without a national bid.

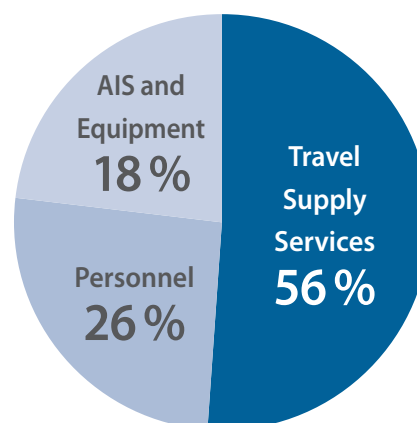




The JAPCC employs a matrix organisational structure to maximise benefit from the available manpower. This also enables flexibility as our Subject Matter Experts (SMEs) operate within functional branches but are available for assignment to one of several project groups as desired by the Assistant Directors.

Budgeting and Finance

Based on a 5-year average, the JAPCC annual budget remains just below one million Euros. Our Senior Resource Committee continues to provide full support



JAPCC Budget for FY 2011



for our budget. Sponsoring nations contribute to the budget according to the number of Staff Officer posts in their bid. The annual cost of each Staff officer post in JAPCC is approximately 14.000 Euros. For FY 2011, the

Mission Priority Supported:

Provide high-quality and timely customer support with Joint Air & Space expertise to inform and enable decision-makers

JAPCC budget of € 956.900 mainly consisted of travel, supplies & services (56%), personnel related expenditures (26%) and equipment for Automated Information Systems (AIS) upgrades (18%).

What We Do

The 'JAPCC Comprehensive Plan', developed in 2010, is conducted along three lines of operations: The JAPCC participates and leads NATO working groups and other forums; it conducts projects at the request of the MOU nations, ACT, ACO, and other external agencies within available capacity; and finally, it continually strives to make the organisation better through an internal improvement campaign. Combined, these activities, projects and products contribute to the overall program of work for the JAPCC.

To ensure that the program of work is accomplishing the mission, the JAPCC developed a strategy to task framework that places the lenses of Focus Areas and Mission Priorities on all of our activities.

JAPCC Focus Areas

Space

Space has been described as the ultimate high ground and the people of the world are becoming more and more dependent on products and services delivered by space capabilities. Military operations are even more dependent on space capabilities. It is imperative that Alliance members understand both the ubiquity and the inherent opportunities and vulnerabilities that the Space domain represents.

Missile Defence

In 2010, NATO identified missile defence as a major area of interest. Since that time, ACT and ACO have been working to integrate national air and missile defence systems into a comprehensive NATO missile defence system. With the proliferation of missile and nuclear weapons technology, the Alliance desires the ability to protect its territory and citizens from potential attacks. Likewise, NATO desires the capability to protect its fielded forces regardless of where they may be deployed.

Air C2 in the New

NATO Command Structure (NCS)

Command structures and relationships form the foundation for effective joint operations and it is imperative that NATO adjusts its command structure to be more agile and responsive to emerging threats. NATO has outlined proposed changes to the command and control structure of the alliance and advocacy for organisations that support is required for the effective application of Air Power across the full spectrum of warfare.

Air and Space Global Commons

SACT outlined four different mediums that make up the Global Commons. They are: Cyber, Space, Maritime, and Air. Air Power is connected, in one way or another, to each of these global commons. The ubiquitous nature of space capability supports air power while linked networks inextricably intertwine air power with the Cyber domain. Air and maritime forces must co-operate to secure access and unfettered use of air and maritime commons for commerce and if necessary, military operations. As NATO's pre-eminent advocate for the utility and transformation of Alliance Air Power, the JAPCC will focus its attention on the Air Common.

Pursuing Cooperation in the Air Domain

Within the Alliance, downward pressure on national defence budgets will increasingly act as an incentive to explore new and innovative opportunities for co-operation, collaboration and partnering arrangements between nations. The JAPCC will advocate the pursuit of such initiatives with respect to the development and delivery of Air Power capability throughout the Alliance.

key developments

Space

Enhancing NATO's Space Capabilities

The JAPCC conducted many activities enhancing NATO space capabilities over the last year. Space informational briefings were delivered at the Tactical Leadership Programme, the NATO School, Belgian, German, Dutch and Italian staff colleges. In addition to hosting the first ever Allied Command Transformation Integrated Project Team for space, JAPCC drafted inputs supporting the group including a recommended framework for a NATO Space Policy and a handbook for space operations. Advocating a NATO Space Policy, the JAPCC delivered a briefing to the Defence Planning and Policy Committee regarding NATO's current and future use of space as well as identified shortfalls, beginning the debate in earnest within NATO.

JAPCC's contribution to NATO exercise and training with respect to space included serving as the Office of Primary Responsibility (OPR) for the NATO Space Operational Planning Course while actively supporting the development of a NATO Space Training Strategy. The JAPCC also led participation in the Space Domain of Multi-National Experiment 7 (MNE 7), which focused on securing free access to Space as one of the Global Commons. It published two JAPCC journal space-related articles and supported the Executive Director with a German language article for a national publication. In July 2011, JAPCC printed the Flyer edition 3, related to the project 'Enhancing NATO's Space Capabilities', which outlines the importance of a common and mandatory backbone for Space E&T (Education and Training).

This past year the JAPCC also strongly influenced NATO participation in the Schriever Wargame International 2012, a United States Air Force Space Command (AFSPC) initiative to explore the implications of space and cyberspace capabilities in an increasingly contested and complex strategic environment. The Commander of AFSPC responded favourably to a request from the Director of the JAPCC to open the series to NATO participants for the first time ever.

Missile Defence

Joint Integrated

Air & Missile Defence (JIAMD)

The 'Lisbon Summit' of November 2010 identified missile defence as a major area of interest for NATO and this gave a new impulse to the JAPCC JIAMD study. Due to a high turnover rate of personnel in the summer of 2011 some focus areas of the study have encountered delays, but the project is revitalised and again on track. The aim of the study is to identify challenges and provide recommendations for the integration of NATO's future Integrated Air and Missile Defence System. The deliverables include a vision paper that offers JAPCC stakeholders independent and innovative advice on how best to integrate a NATO Air and Missile Defence System through the implementation of a US Phased Adaptive Approach (PAA). Furthermore, it aims to provide alternative ways forward for stakeholders' conceptual thinking and policymaking on the future Alliance Air and Missile Defence. There will be two major focus areas: first, support to NATO and JAPCC MOU countries in developing and executing air defence plans, procedures, and activities etc.; second, exploring the integration aspect of NATO's Integrated Air & Missile Defence structure and developing an 'independent' vision on integration within NATO's IAMD.

Mission Priority Supported:

Contribute Joint Air & Space expertise to Alliance decision making processes through active leadership and participation in NATO committees, working groups, and forums

JAPCC continues to support the Panel on Air Defence Drafting Group 1 (which, in 2011, re-wrote the Air Defence Capstone Document and NATO's Policy for Air and Missile Defence) as well as Joint Project Optic Windmill (JPOW) 2013 and Nimble Titan.

Air C2 in the New NATO Command Structure (NCS)

It has been a turbulent year for Air C2 in NATO. The plans for the new NATO Command Structure (NCS) revealed significant changes in the size of the future Air C2 and its positioning within the NCS. Operation Unified Protector had a direct impact on the future NATO Air C2 structure as it led to an increase of future Air C2 positions with the NCS. AC Ramstein is working on a new Concept of Operations for Alliance Air C2, based on a single Air Command headquarters supported by two regional Combined Air Operations Centres (CAOC's) and one Deployable Air Command and Control Centre (DACCC). JAPCC began collaboration with ACT to produce a new concept for Air C2 to define the pertinent challenges beyond 2020. JAPCC produced the first draft and will continue to work with ACT to finalise the concept.

Major issues for next year include implementing the new Air C2 CONOPS, dividing responsibilities between AC Ramstein, the CAOCs and the DACCC, setting up the new JFACC core, executing missile defence for NATO, developing an augmentation/training concept for Air C2 HQ's and coordinating/synchronising Air C2 within the NATO Force Structure.

Command and Control/Leadership Competence Improvement

Military activities from envisioning, planning, preparing, and executing operations, to their assessment and the deduction of conclusions require leadership to achieve a set of objectives that motivate the exertion of military activities in the first place. The environment and the progression of changes set in motion by the utilisation of military forces and entities are inescapably determined by a high degree of complexity.

JAPCC developed, established a concrete model for the implementation for training and educating leaders to effectively encounter and cope with chaos. This model is based on three pillars: the theory and exertion of constructivism, the commitment of instructors (teachers, faculty members) as observers and moderators, and the use of so-called Conflict Simulation



(CoSim) Games. These CoSim games are commercial board games, offering all kinds of scenarios, mostly historical battles, operations, campaigns and even whole wars. They invite dynamic C2/Leadership competence within a short time and provide a cognitive challenge within any combination of competence areas. The costs of using this model for a seminar or a training course are extremely low, especially when compared with computer assisted staff exercises. JAPCC offers all Sponsoring Nations and the wider NATO community an opportunity to experience this approach, with the aim of encouraging its adaption into existing courses and seminars, in order to improve the skills and competences of military leaders.

Air & Space Global Commons

OUP Lessons Identified

Following a request from Air Command Izmir, JAPCC deployed, at short notice, two JAPCC SMEs to Poggio Renatico in June to assist with the Air Component Lessons Identified process for Operation UNIFIED PROTECTOR (OUP). While the JAPCC was delighted to support this effort, it also provided an excellent opportunity to gain an insight into the conduct of the operation and this has been used to good effect internally, adding extra focus and value to a number of on-going projects. As a result of the visit, a report was delivered to CFAC OUP detailing 47 findings covering: manpower; strategy and planning; organisational structure; capabilities; training and doctrine; operational security; the ATO cycle; and infrastructure.

The NATO Air-to-Air Refuelling (AAR) Flight Plan

The CS/AAR Section produced an assessment of NATO's AAR capability. The principle aim was to refresh corporate knowledge within NATO following a decade of expeditionary operations. The assessment included current and emerging capabilities, concepts and doctrine, multinational initiatives, limitations and future procurement strategies.

NATO Air Transport (AT) Capability

The JAPCC produced an assessment of NATO's AT capability, published in Sept 2011. The principle aim was to underscore the importance of Strategic and Tactical AT by raising awareness of current and emerging AT issues

across the NATO community. The Assessment describes and analyses the current NATO military AT inventory and supporting multinational agencies, identifies problems and recommends possible solutions.

Intelligence Cooperation Initiative

In line with the JAPCC Improvement campaign, JAPCC extended the INTEL Network by visiting in March the NATO Intelligence Fusion Centre (IFC). Mutual support has been agreed and areas of common interest of both IFC and JAPCC have been identified for future co-operation. The links to Allied Command Counter Intelligence have been fixed. New links to the EU Military Staff have been established and the fact finding visit to discuss mutual cooperation will commence in early 2012. The strong links to ACO Intel sections is working and the first visit to ACT in mid-2012 is in preparation. The cooperation with the INTEL sections of the other COEs has started and will be intensified in 2012. Initial links have also been established to other military/non-military INTEL bodies like to the US National Intelligence University, the United Kingdom Cranfield University and the King's College London. These activities require further cooperation visits in 2012/2013.

Air and Space Power beyond 2035

In the context of 'Re-Organisation of the Transformation Division', JAPCC developed a strategic future orientated approach. The first outcome of this internal adoption was the initiation of the project 'Air and Space Power beyond 2035' which was developed from the previous 'Future Role and Mission of Air and Space Power in 2025' Project. The aim of the project is to analyse the relevance of air and space power beyond 2035 and provide adequate recommendations to underline the crucial and unique role which joint air and space

Mission Priority Supported:

Develop and champion innovative visions, concepts and solutions for the transformation of Joint Air & Space Power

power will provide to joint forces in a complex environment. Therefore, this project will identify, analyse and assess factors and trends regarding their implications on capabilities, structure, employment and command & control of Joint Air and Space Power within a comprehensive campaign, primarily on the strategic level (political, military and non-military customers/stakeholders). Based on this, the project will provide recommendations on how to shape Air and Space Power as a decisive part of the transformational process of the Alliance.

ISR: From Collecting to Hunting

Joint Intelligence Surveillance and Reconnaissance (JISR) is the lynchpin of modern warfare and the method by which information is collected, analysed and disseminated continues to develop as forces encounter new and familiar challenges across air, land and sea in the 21st century. Nowhere is this truer than in our current operation in Afghanistan. Through continued exposure over many years and with time to refine our JISR operations, NATO is responding to ISAF's operational requirement by providing the technology needed to assist the warfighter to find, fix, track, target, engage and assess the enemy.

With this remit, Allied Command Transformation has determined and embarked upon a three-step plan¹ to achieve a fully coherent and interoperable NATO Network Enabled Capability (NNEC) across the JISR and Command and Control (C2) communities. JISR Step 1 is specifically designed and funded for ISAF and will satisfy three urgent requirements which include Full Motion Video Dissemination, Storage, Archival and Retrieval (FMV DSAR), an ISR Collection Management Tool (ICMT) and a NATO Intelligence Toolbox (NITB). JISR Step 2 will expand the Step 1 test-bed and backbone by incorporating other legacy JISR and C4I systems and JISR Step 3 will realise the full interoperability aspiration that NNEC desires to achieve.

It has taken two years to accomplish, which is not encouraging in 'Urgent Requirement' terms, but finally the JISR Step 1 elements have arrived in ISAF and have been connected to the very successful Afghan Mission Network (AMN). Using a NATO-wide accepted interoperability standard², the AMN allows national systems and Coalition Shared Data Servers (CSDSs) to connect to the central ISAF Secret CIS backbone so that different nations can seamlessly share information and intelligence. Moreover, with FMV DSAR using Video Streaming Servers, the warfighter and command chain can now see real-time FMV throughout the ISAF theatre.

In addition, using the NITB, CJ2 analysts can now see the FMV stream remotely and by combining the myriad of other intelligence products now available to them through the CSDSs and NITB, they can generate intelligence reports in short order for their commanders. In the meantime, the ICMT has streamlined the Request for Information and Request for Collection process and will now automatically collate requests and, thereafter, generate a Collection and Exploitation Plan (CXP) for the ISAF theatre.

The deployment of these JISR upgrades is certainly a step forward for ISAF, and for NATO, and the JAPCC's C4ISTAR Branch has been intimately involved. As part of this engagement, HQ SHAPE asked the JAPCC C4ISTAR Branch to write the NATO JISR Step 1 Concept of Operations (CONOP) for ISAF on their behalf. Completed within 3 months of the initial request, excitingly, this CONOP is now being used by ISAF as the overarching document on which ISAF JISR Standard Operating Procedures and Tactics, Techniques and Procedures are being based.

In addition, the JAPCC C4ISTAR Branch provides the Chairman to NATO's JISR panel who are responsible for the operational standards for JISR Tasking, Collection, Processing, Exploitation and Dissemination (TCPED). As part of this, the JISR Panel has generated a new NATO Standardisation Agreement (STANAG) for the ICMT's CXP and the tasking of collection assets and have, or is, amending a number of other JISR STANAGs on behalf of NATO. Furthermore, the C4ISTAR Branch is also heavily involved with, and provides subject matter expertise to, The Joint Intelligence Working

Group; The Joint Capability Group for ISR; The All Source Intelligence Interoperability Sub-Groups and it is a sitting member of NATO's JISR Task Force.

Directly involved in most of NATO's JISR undertakings, the JAPCC's C4ISTAR Branch has through its rigor, relevance and reputation managed to contribute to, and influence, the way NATO plans to improve JISR for NATO; and it will continue to do so.

Logistics Support to OUP

Air operations conducted over Libya in support of national transitional authorities presented the JAPCC with a unique opportunity to consider the contemporary use of A&S Power in an air-led coalition operation. A number of areas were pursued during the year, one of which focused on logistics lessons identified and which raised a variety of issues. These included the importance of establishing a common logistics picture, the dynamic relationship between interoperability and national sovereignty, and an apparent reluctance by

nations to apply standard NATO planning and reporting processes. The initial results of this work were published in JAPCC Flyer Number 4 in November 2011, with a more detailed assessment scheduled to appear in the JAPCC Journal in the Spring of 2012.

JAPCC Support to the NATO Defence Planning Process

In coordination with ACT Staff Element Europe and NC3A, JAPCC continues to support the NATO Defence Planning Process (NDPP). This year has seen the main effort focus on steps two and three of the process (Capability Requirements Review, Apportionment of Requirement and Target Setting). Through membership of the three Capability Area Groups, JAPCC has provided expertise to advise on the development of: Capability Codes; Capability Statements; Capability Hierarchy; Capability Assignment Logic; and Reference Capabilities Development. With the process having determined Minimum Capability Requirements (MCR) based on NATO's agreed Level of Ambition, JAPCC has



also supported the final Comparison phase of the MCR against NATO/National inventories. This work will continue during 2012 as the NDPP moves onto the next phase of its four-year cycle.

Personnel Recovery (PR) Roadmap

The JAPCC produced a Primer that educates readers on the history and conceptual developments of Personnel Recovery. It describes how PR has evolved into a consolidated effort by international joint military organisations to recover isolated personnel in all situations, whether in peacetime or combat environments, with the aim to explain the critical importance of PR to NATO members in accordance with modern

military planning and leadership criteria. It offers the readers a clear vision of present capabilities and shortfalls, providing a guidance for future improvements for PR, encouraging to overcome frictions and national caveats that hamper interoperability and standardisation processes.

Pursuing Cooperation in the Air Domain

Regional Fighter Partnership (RFP)

In 2010 the NATO Secretary General explained his Smart Defence concept, stating the necessity of “ensuring greater security, for less money, by working together with more flexibility”. He also stated “Pooling and sharing are vital if we want to develop our military know-how and capabilities and NATO is best placed to identify and connect nations that have similar needs but not enough money to build a capability on their own.” and “NATO’s role is to set the strategic direction, to



identify possible areas of cooperation, to act as a clearing house, and to share best practices." The JAPCC Director consequently directed the JAPCC Staff to investigate options for new NATO partners to form partnerships in order to benefit from the advantages of shared training, employment and procurement of fighter aircraft. The resulting RFP Implementation Considerations study's focus was on existing partnership examples to gain insights on cost-sharing aspects but also to explore ways for a fighter partnership to be more robust in terms of integration and interdependence. This paper describes considerations for a regional fighter aircraft partnership to share costs across common capabilities and enabling aspects, such as logistics, maintenance and training, whilst maintaining national sovereign command over assets. It's a proposal to transform partner states from a collection of small Air Forces into a more robust integrated force whilst developing a professional, air-mindedness that is consistent with NATO standards. Nations, working together,

with a new generation of airmen and aircraft able to provide their own Air Policing, precision strike and support to Land Forces produce a strong visible contribution to their populations, the Alliance and the European Union. Work on this project has finished and a preliminary report, titled RFP: Implementation Considerations was sent to the JAPCC Director and to ACT. The final RFP publication is titled RFP: Options for Cooperation and Cost Sharing and is scheduled for publication early 2012.

Air & Space Contribution to Counter Improvised Explosive Device Operations

Building on work conducted over the previous two years, in 2011 the JAPCC continued to provide target audiences with the A&S Power perspective on Counter-IED (C-IED) operations; this work was undertaken in three distinct areas. Firstly, the Primer entitled 'NATO Air and Space Power in Counter-IED Operations', initially published in 2010, underwent comprehensive revision to reflect the ratification of new NATO doctrine. The second edition of the Primer was published in July 2011, and distributed widely. In accordance with the JAPCC's rigorous internal processes, this publication will be subject to annual review and, when necessary, updated and reissued. The second area where the JAPCC has been applying its C-IED effort is in support of HQ JFC Brunssum in seeking to ensure that the A&S contributions made by ISR and targeting capabilities are fully reflected in relevant policy and doctrine publications. This work, which was completed in July 2011, represented the JAPCC's on-going commitment to C-IED and was submitted via HQ JFC Brunssum to the ACT-led NATO C-IED Task Force of which the JAPCC retains full membership. Thirdly, throughout 2011 the JAPCC provided briefing and mentoring support to the C-IED Centre of Excellence (CoE) in Spain, making available C-IED and Information Operations SMEs for each of the five Staff Officer



Awareness Courses conducted during the year. In committing itself to providing this support in 2012, the JAPCC will also seek to further consolidate its bilateral relationship with the C-IED CoE, identifying additional areas of mutual benefit.

Air-Land Integration (ALI)

The NATO ALI Study was initiated in July 2009 when the JAPCC Director stated that he intended "to task the JAPCC staff with a broader evaluation of air-land integration from a strategic perspective". A lot of work had been accomplished in 2010 and the results of the

Mission Priority Supported:

Promote and showcase the effectiveness and relevance of Joint Air & Space Power as a critical element in Air, Land, and Maritime integrated operations

2010 JAPCC Air Power Conference formed an integral part of the study. Assessing and amalgamating these findings with the other findings of the study continued in 2011. An initial draft was produced and reviewed leading to some additional research and an addition and clarification in the second draft. Highlights of the findings of the study have been addressed in the 2010 Annual Report that was published in February 2011, and the final ALI Operational Assessment was published in September 2011.

Air & Space Support to Counter-Piracy (CP) off the Horn of Africa (HoA)

Piracy matters to the Alliance. While the nations have not yet substantially contributed Air and Space (A&S) assets to CP off the HoA, NATO has dedicated military assets (mostly warships) to CP since 2008. In order to be prepared to support the CP effort with A&S assets, the Alliance needs to develop a detailed and validated plan for identifying the required A&S assets and for

deploying and employing them. The project originated in December 2010, but actual work started in May 2011 when an agreement with the Boeing Portal was signed for a 180 days experimentation and reporting commitment. The aim of this project is to determine the optimum use of Air and Space assets in the CP mission off the HoA, in order to provide the Alliance with a tool to plan employment of these assets. It also aims to enhance and advance NATO's understanding of how to most effectively and efficiently employ A&S assets in the maritime environment, and to determine capability shortfalls for Alliance A&S support to the Maritime Component Commander. The project further aims to extract best-practice concepts for the application of A&S Power in other Maritime Domain operations. The results of the Boeing Portal experimentation are currently being evaluated and will be part of the report. JAPCC deliverables will be available for printing and dissemination during the First Quarter of 2012. It is expected that this project will lead to other activities, including follow-on studies and further cooperation with the Boeing Portal.

NATO Force Protection

The JAPCC continues to engage with Force Protection (FP) conferences, seminars, working groups and other forums across the Alliance, contributing to the development of policy and doctrine as well as the establishment of the FP capabilities demanded by high tempo contemporary operations. In 2011 these included the third Air FP Seminar sponsored by ACC Ramstein, the ACO FP Working Group and the NATO Annual FP Conference. Most significantly, the JAPCC's leadership of the development of new doctrine addressing the requirement for FP for air operations continued to deliver significant effect during 2011. Work undertaken in 2010 resulted in the production of a draft publication, which in 2011 was allocated to the NATO Air Operations Working Group as Study 7217 AO; when published as STANAG 7217, the document will be entitled ATP-3.3.6 'NATO Force Protection Doctrine for Air Operations'. Ratification Draft 1 was circulated for comment in 2011 and it is expected that the finalised Ratification Draft 2 will be ratified and published in the Spring of 2012. The value of this work was underlined during the six-month deployment to Afghanistan of the JAPCC FP SME, during which his application of



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draft FP doctrine allowed 10 nations to combine their FP capabilities in addressing a hitherto intractable force generation challenge, providing ISAF with robust and effective FP capability in an extremely demanding operational environment. There are few more graphic examples of the direct relationship between the work of Centres of Excellence (CoEs) such as the JAPCC and the delivery of effects in the complex reality of the modern battlespace.

NATO/Russian Federation (RF) JAPCC Cooperation

In October 2011 and in line with the annual NATO/RUS Council Military Representatives Work Plan 2011, the JAPCC took over responsibility for the joint JAPCC and CAOC Uedem visit of a RF Delegation. It was the first time that a RF delegation was visiting the JAPCC. The delegation was headed by the Chief of the RF Air Force HQ. The intention was to create an avenue for open

dialog with both organisations and identify areas for potential further cooperation. During their visit to the JAPCC, the RF Delegation showed great interest to enhance the cooperation with JAPCC and as direct result follow on activities were agreed like additional visits in 2012 and the clear RF in participating in the JAPCC Conference 2012. This special cooperation has become an issue of high military strategic interest with a clear link into the NATO Russia Council activities.

Enduring Activities

JAPCC Annual Conference 2011:

On the 12th and 13th of October the Annual Joint Air Power Competence Centre (JAPCC) Conference 2011 was held in Kleve, Germany under the theme: 'Understanding Air Power – A Joint Appraisal'. For many years the JAPCC conference has used the same basic concept of inviting four panels to address individual sub-topics of the main Conference theme.

This year was subtly different, with all panels discussing the same topic. However, each panel approached the topic from a different perspective, in an effort to better understand the unique contribution that Air and Space Power can bring to the joint endeavour. To achieve this aim the panels were configured as follows:

- Panel 1: Air Power – A Land Perspective
- Panel 2: Air Power – A Maritime Perspective
- Panel 3: Air Power – A Non-Military Perspective
- Panel 4: The Relevance of Air Power

The Conference provided a forum to discuss these issues and to consider how current difficulties, future challenges, strategic options, operational requirements, tactical consequences, and realistic, achievable solutions might evolve. After General Mark A Welsh III, the JAPCC Director, and our new Moderator, LtGen (ret) Dave Deptula, opened the conference, General Abrial (HQ SACT), LtGen (ret) Martin, Professor Sabin (Kings

College London) and Col Sturgeon (DOS JAPCC) presented their keynote addresses to the 250 participants, amongst them 60 Flag officers. This lead-in Phase was followed by 4 panel discussions addressing their air power perspective from different points of view. What came out loud and clear from this conference with respect to new solutions are:

1. Smart Defence is an approach that soon might not be simply an option, but a necessity.
2. Clear and concise command relationships are the key to optimal joint and combined operations, and also will be a basic tenet of effective and responsive future operations. No longer will we have the luxury of time, and overwhelming force to cover ponderous, byzantine organisational constructs designed to protect special interests.
3. Realistic training is not a luxury, or a nice to have, but a key element of rapid, effective, and efficient Allied response.



4. It's time to mature beyond de-conflicted service component operations to integrated concepts that focus on the interdependency of not only service components, but National components as well.
5. A comprehensive approach – an effects-based approach to operations by another name – will be fundamental to solving future security challenges.
6. Aerospace power is an indispensable force that is a prerequisite for any Allied security operation today or in the future.

Underlying each of these are the characteristics inherent in Air Power 'Speed, range, flexibility, precision, perspective, lethality, agility and a multiplicity of effects'. They provide options for political leaders to wield influence where and when necessary across the entire spectrum of operations, and can do so while exercising the greatest possible economy of force in terms of money, forces, and – most important – lives. The intention is to use the results of this

conference for the 2012 JAPCC study 'Air and Space Power beyond 2035'.

The JAPCC Journal

The Journal aims to serve as a forum for the presentation and stimulation of innovative thinking on NATO Air and Space Power-related issues. Published twice per year, the Journal highlights JAPCC work as well as that of international experts from military and academic backgrounds. The quality of the Journal is widely recognised throughout NATO for its thought provoking articles on relevant issues.

NATO Bodies³, Doctrine, Exercise and Training

JAPCC Personnel fill chairmen, co-chairman, and panel positions on numerous NATO steering bodies as well as providing custodianship to a number of NATO Doctrine documents, as highlighted below.



Chairmanship:

- Air Operations Working Group
- Joint ISR Panel
- NATO Air-to-Air Refuelling Panel

Co-Chairmanship

- Maritime Air Coordination Conference

Panel Member/Working Group

- Aerial Refuelling System Advisory Group (ARSAG)
- Movement and Transportation Forum
- Air Operations Support Working Group
- Bi-SC Force Protection Working Group
- ACT Joint ISR Integrated Capability Development Team
- NATO Air Transport Panel
- NATO Search and Rescue Panel
- Helicopter Inter-Service Working Group
- NATO Counter-IED Task Force

- Joint Capability Group on Unmanned Aerial Vehicles & Joint UAV Panel
- SIGINT/EW Working Group
- NATO Electromagnetic Spectrum Denial Working Group
- Combat Service Support Working Group
- Logistics Planning Advisory Committee
- ATA (Airlift Tanker Association) permanent member;
- NATO Force Protection Task Force Member
- NATO Counter-Improvised Explosive Device Task Force Member

NATO Policy/Doctrine/TTP Support

- Custodian: ATP-56 AAR Procedures
- STANAG Custodian: ATP 3.3.4 VOL II NATO AAR procedures
- Custodian: ATP-3.3.6 NATO Force Protection Doctrine for Air Operations



- Custodian: ATP 3.3.4 VOL I
NATO Air Transport procedures
- Custodian: ATP 3.3.4.3(B), ST 3998 –
TTPs for NATO Air Transport Operations
- Drafting Team: ATP-49 Use of Helicopters
in Land Operations
- Study Draft: AJP-3.3.9 NATO Personnel Recovery
Policy/Doctrine
- Study Draft: Military Committee Policy
for Force Protection
- Joint Operational Guidance: JPR
- Review: AJP 3.3 Allied Joint Doctrine for
Air & Space Operations
- EAG Joint Personnel Recovery Standardisation Course
permanent Advisor

NATO Electronic Spectrum Denial Roadmap

JAPCC has been supporting the NATO Electronic Spectrum Denial (ESD) Working Group which was tasked to develop an ESD Roadmap by the NATO Air Force Armaments Group. The first draft of the roadmap was put together in October 2011 during the meeting in Warsaw. It is assessed that additional coordination meetings are required in order to finalise it in line with the schedule by the end of 2012.

Participation in the Air Defence Committee and Subordinate Bodies

The JAPCC remains an active participant in the Air Defence Committee, the Panel on Air Defence and its subordinate Drafting Groups. The main focus of work this year has been the finalisation of the Air and Missile Defence Capstone document and the review of the Air and Missile Defence Policy paper. Through continuous participation in these various bodies, JAPCC exercises considerable influence over the development of Integrated Air and Missile Defence policy.

JAPCC Support to NATO Training and Exercises

In 2011 JAPCC revitalised the working relationship with NATO's Joint Warfare Centre (JWC). As JWC's Programme of Work for 2011 was primarily focussed on supporting and facilitating exercises for NRF certification at the Joint Headquarters and Component Command level and for the preparation of ISAF rotations, JAPCC has concentrated its support to these events upon request with subject matter experts in various fields. It is the

intention to develop a broader and closer working relationship between JAPCC and JWC in the future with the aim of strengthening the quality of air power related topics further in JWC's products.

Mission Priority Supported:

Partner with relevant NATO entities and Nations to synchronise work and products

JAPCC Support to Exercises STEADFAST JOIST 2011 (SFJT 11) and STEADFAST JUNCTURE 2011 (SFJE 11)

JAPCC supported the NATO NRF exercises STEADFAST JOIST 2011 and STEADFAST JUNCTURE 2011 which were designed to train and certify JFC Lisbon and JFC Brunssum as well as the French and German JFACs. For each of these events JAPCC provided subject matter experts for the JWC Training Teams in the fields of Joint Targeting and Theatre Ballistic Missile Defence. The JAPCC personnel had direct interaction with the various Training Audiences and were able to pass on new ideas and concepts developed by the JAPCC to a wider audience.

JAPCC Support to Exercise Ramstein Dynamo 2011 (RADO 11-1)

JAPCC, supported CAOC Udem in the planning and preparation phase of RADO 11-1. A JAPCC Observation and Training Team was established to support the EXDIR and the Training Audience. Unfortunately, due to operational requirements for Operation UNIFIED PROTECTOR, the exercise was cancelled at a late stage. An eventual re-scheduling of the exercise is anticipated for 2012.

Multi-National Experiment 7

JAPCC continued its contribution to the MNE 7 by taking part in Inter Domain and Space Team works.

1. MC0582 NATO's JISR Concept.

2. STANAG 4559.

3. NATO Bodies encompass all permanent staff, IS, IMS, NATO commands and agencies.

JAPCC's Strategy-to-Task Framework

The JAPCC Memorandum of Understanding explicitly connects the organisation to NATO, ACO, ACT and the Nations. This is reflected in our Vision, Mission and Mission Priorities. However, the JAPCC receives inputs from other sources including multiple NATO organisations, Academia, Industry, as well as internally generated ideas and inputs from our leadership, and SMEs. The Strategy-to-Task Framework is a construct through which we articulate the relationships between our mission priorities and our projects, which flow from our focus areas, support our priorities and meet the objectives of our customers. Ultimately, by serving our customers' needs, the JAPCC transforms NATO Air & Space Power.

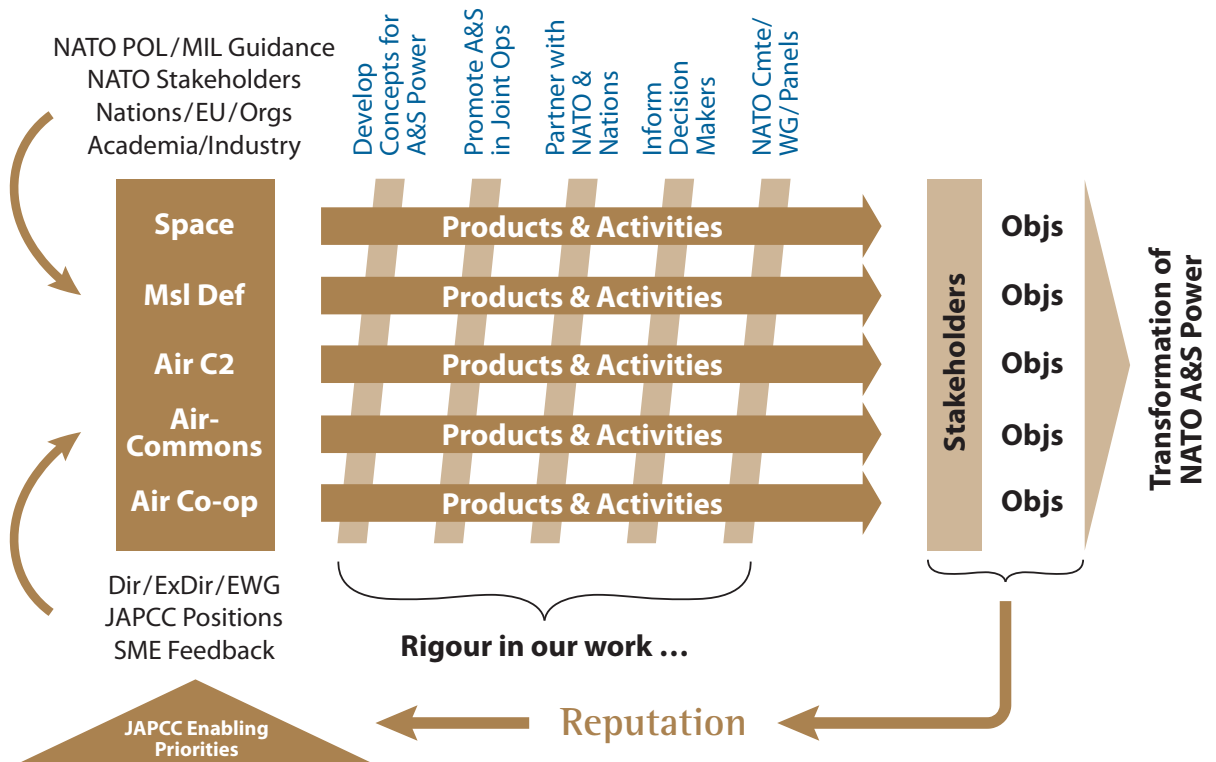
Under all this activity is the JAPCC's effort to continuously improve. We understand that the best way to

serve the MOU Nations and the Alliance is for the JAPCC to remain relevant by pursuing the right projects, ensuring rigor in our work and growing our reputation. These three 'R's', Relevance, Rigor, and Reputation, are the guiding principles for the improvement campaign while the JAPCC enabling priorities serve as the objectives.

The desired end state of the improvement campaign is an organisation that 1) Offers quality, timely advice; 2) Provides clarity of structure and process; 3) Manages projects through a matrix organisation; 4) Plays to the staff's strengths; and 5) Trains and educates the people of the JAPCC. We believe that as the organisation improves the Alliance benefits because the quality of our work only gets better, and our accomplishments for 2011 prove that to be true.

Strategy-to-Task Framework

– JAPCC Mission Priorities –



2012 outlook

Enhancing NATO Helicopter Capabilities

The new strategic scenarios in a Hybrid/COIN environment have outlined the importance of Helicopters in current Operations. NATO nations are facing shortfalls and for different reasons the Coalition was not able to get sufficient mission capable helicopters in Afghan theatre.

Further, the demanding need of fully equipped and mission capable Helicopters and Defence budget cuts impose an increased demand for multi-national co-operation, an increased standardisation and full scale Joint and Combined interoperability.

CS/Support Helicopters Section has initiated a study entitled Enhancing NATO Helicopters Capabilities, due to be completed in 2012, designed to provide the reader with thoughts on enhancing the helicopter availability of NATO, describing how international co-operation is vastly hampered by lack of standardisation and appropriate documents. It identifies that a combination of capabilities, education and training are not fully apprehended by a significant portion of NATO members and E & T are not structurally arranged within many NATO members. This document provides international military leaders and staffs with guidelines to enhance the capabilities (and availability) of helicopters for NATO operations. Further, most nations can improve their international basic standard and get guidelines for more ingenious and innovative ways to train and be better prepared for demanding international co-operations.

NAEW & CF Future Capabilities

JAPCC supports the NAEW&CF community in its vision to improve its exploitation and employment of its aircraft. The aim is to focus on identifying future capabilities and translate them into policy and acquisition requirements. The C4ISTAR branch submitted subject matter expertise to a Tiger Team in Den Haag to discuss E-3 AWACS baseline software improvements, new capabilities integration, combat ID, targeting data and aircrew qualifications and composition. The Tiger Team effort is spring boarding off recent success of a chat capability addition to the aircraft. This capability has integrated AWACS into the C2 collaborative architecture needed in today's fight and employed with a high degree of success in Afghanistan and Libya.

As new capabilities emerge it was agreed by the Tiger Team that there was a need for future training and exercising to parallel future capabilities. The war fighter needs to move forward with technology.

As the traditional distinctions of operations and intelligence blur, a new culture of the E-3 as an airborne Joint C2ISR capability is expected to emerge. Participation will require additional capabilities, both technical and

operational, linking C2 and JISR elements. This new culture will require acceptance in the community as the NAEW&C explores new roles. These are roles that must change along with the dynamic spectrum of conflict as the path continues into the 21st century battle space.

Annual Conference 2012

The topic for next year's annual conference will be: 'Warfare in the 21st Century – Decline or Rise of Air Power?' The objective of the 2012 Conference is to provide a forum for high quality discussion across defence, industry and academia on the conference theme. At the conclusion of the Conference, all participants are expected to have a more balanced and informed view on how Air and Space Power can best contribute to the challenges we all face in a rapidly changing world and where it will go. The Conference promises to deliver quality speakers and panellists resulting in robust debate on pertinent Air and Space topics.

NATO/RF/JAPCC Cooperation

In Jan 2012 the NATO Russia COUNCIL Military Representatives approved the Annual Work Plan 2012. In October 2011 verbally agreed follow on activities have been included and JAPCC is looking forward to welcome for the first time a RF Delegation to the JAPCC Conference 2012. JAPCCs intention is to request the RF for an active participation by joining panel discussions or to provide key note addresses.

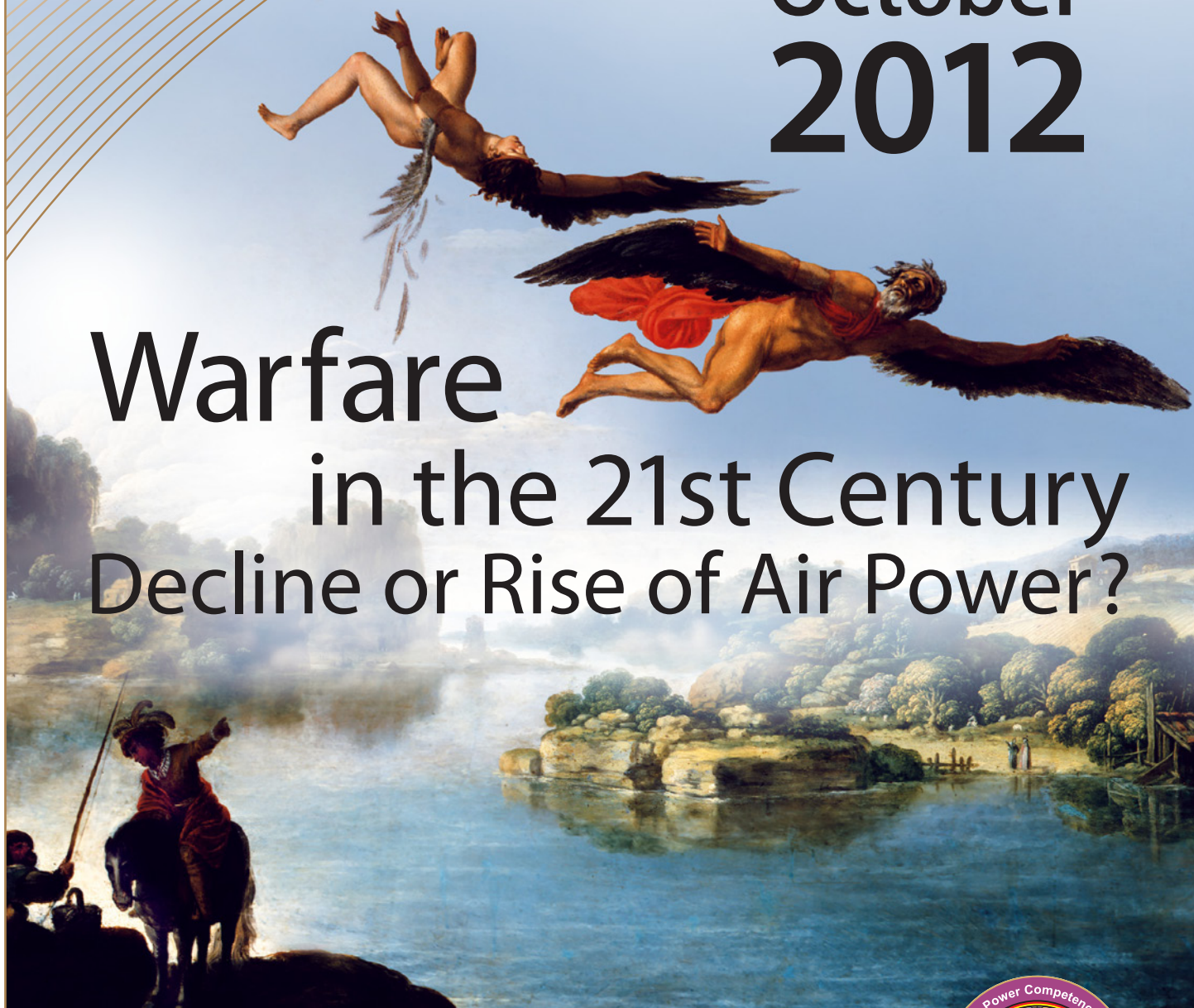
JFACC Course Concept

At the request of our Director, the JAPCC will deliver a Joint Force Air Component Commander Course Concept. The purpose of the project is to develop a model for a Key Leader Training event, which is designed to prepare Flag Officers and Key Leaders (OF-5 and above) for their Leadership roles in an Air Component within a joint NATO Command Force Structure.

Joint Air & Space Power Conference

09th – 11th
October
2012

Warfare in the 21st Century Decline or Rise of Air Power?



Registration form available online
at www.japcc.org



Joint Air Power
Competence Centre



Joint Air Power Competence Centre

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