

# 2015



## annual REPORT



**Joint Air Power Competence Centre**

[www.japcc.org](http://www.japcc.org)

**Joint Air Power  
Competence Centre**

Cover picture:  © Crown Copyright

© This work is copyrighted. No part may be reproduced by any process without prior written permission. Inquiries should be made to:  
The Editor, Joint Air Power Competence Centre (JAPCC), [contact@japcc.org](mailto:contact@japcc.org)

**Disclaimer**

This publication is a product of the JAPCC. It does not represent the opinions or policies of the North Atlantic Treaty Organization (NATO) and is designed to provide an independent overview, analysis, food for thought and recommendations regarding a possible way ahead on the subject.

**Release**

This document is releasable to the Public. Portions of the document may be quoted 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

Telephone: +49 (0) 2824 90 2201  
Facsimile: +49 (0) 2824 90 2208  
E-Mail: [contact@japcc.org](mailto:contact@japcc.org)  
Website: [www.japcc.org](http://www.japcc.org)

 Denotes images digitally manipulated

# foreword

New security threats, particularly along our southern and eastern border, created a host of new challenges for NATO in 2015. The Joint Air Power Competence Centre has been at the forefront of those issues, helping the Alliance's military leaders establish and adapt policies and procedures to address these needs. Over the following pages, the 2015 JAPCC Annual Report will highlight the key developments, projects and research shaping Joint Air and Space Power.

In November 2015, the JAPCC hosted its annual conference, this time at a new venue in Essen. The conference was once again an outstanding platform for substantial discussion, this year exploring the topic 'Joint Air Power and Strategic Communications'. Multiple panels, filled by expert representatives from the military, industry, and academia made this event extraordinary. The presentations and subsequent discussions were revealing and gave substantial food for thought.

In addition to the biannual JAPCC Journal, the organization published several studies, offering implementable solutions and alternatives for senior leaders within NATO. Since it is imperative for any military operation to have current and correct information, Intelligence, Surveillance and Reconnaissance (ISR) is of utmost importance. In order to maximize the synergy of NATO's approach, JAPCC studied options for a multinational and joint ISR approach. The developed short-, mid-, and long-term options could augment NATO's capabilities and support the multinational procurement process of Remotely Piloted Aerial Systems. Another study of significant importance was made in the field of air mobility. Helicopters are the backbone of tactical flexibility on the battlefield. In order to have a homogenous standard across the different nations who provide this scarce resource, standardization of training and procedures is an important factor. JAPCC undertook a study to analyse the benefits of standardized helicopter crew training in order to guarantee a certain quality of Air Power.

The JAPCC, due to its unique personnel composition of subject matter experts, was an important contributor in the development of various NATO doctrinal and policy

documents across a broad spectrum. Our experts are a much sought after resource by a variety of working groups and panels. As the main custodian of the Allied Joint Publication 3.3 about Joint Air and Space Operations, JAPCC significantly updated this document to be compliant with NATO's current challenges and capabilities. JAPCC members also worked closely with the NATO Military authorities to develop the Joint Air Power Capabilities (JAPC) study, which examined the future strategic environment out to 2030 and made recommendations and requirements for NATO's Air and Space Power Capabilities in that time frame. Recently, JAPCC was invited to contribute to NATO's JOINT AIR POWER STRATEGY.

Since NATO can best approach transformation in a joint and combined fashion, multinational forums are one of the most important instruments to warrant a corporate understanding. For example, the topic of last year's Think Tank Forum was the standardization and execution of multinational projects, which will augment the productivity and decrease redundancies of all future multinational initiatives themselves. Also, the Air and Space Power Network (ASPN) Meeting played an important role in solidifying a cooperative understanding of our future common security challenges. NATO's Joint Air and Space Power can only be robustly elevated to the next level through innovative and comprehensive approaches like this.

Without any doubt, we are living in times of rapid, uncertain and constant changes in the Alliance's security situation, which make Collective Defence, Crisis Management and Cooperative Security of paramount importance for all of us. Joint Air and Space Power was and will remain a keystone element within NATO's security strategy and JAPCC is most certainly ready to continue contributing to its excellence.



**Frank Gorenc**  
General, USA AF  
Director, JAPCC



# who we are

The JAPCC was the first NATO-accredited Centre of Excellence (CoE) and was established in 2005. We provide subject matter expertise across a broad range of Joint Air & Space (A&S) Power topics including the development of Concepts and Doctrine; Capability Development; Education and Training; and Lessons Learned in accordance with NATO MC (M) 236.

The JAPCC seeks to maximize its contribution to the improvement and transformation of Joint A&S Power through of a well-formulated engagement strategy. This strategy not only guides the Centre's approach to organizations within NATO and its Sponsoring Nations, but also enables outreach to other national organizations and academia, allowing the CoE to tap into a comprehensive and diverse Joint A&S Power subject matter pool.

## Director's Vision

To be NATO's catalyst for the improvement and transformation of Joint A&S Power, delivering effective solutions through independent thought and analysis.



**Director (USA AF)**  
General Frank Gorenc

## Mission

The JAPCC, as a team of multinational experts, is to provide key decision-makers effective solutions on A&S Power challenges, in order to safeguard NATO and the Nations' interests.

## Leadership

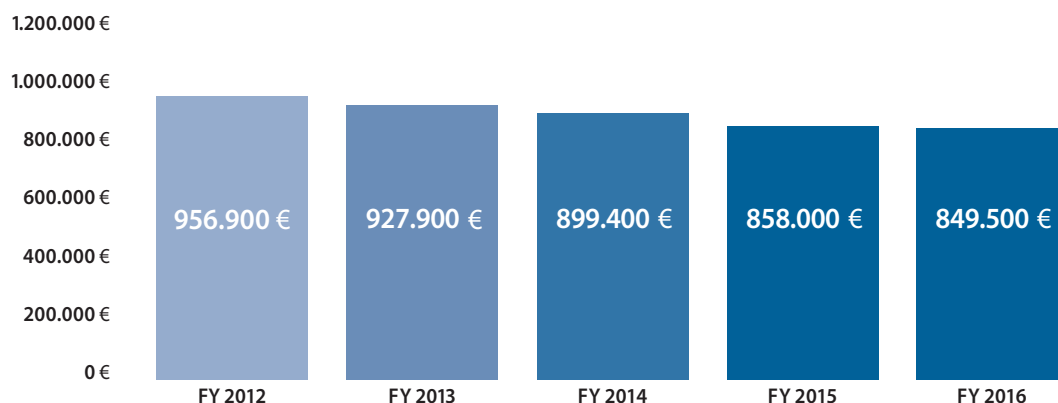
The JAPCC is headed by the Director, General Frank Gorenc (USA AF), who has led the centre since August of 2013. General Gorenc also serves as the Commander, Allied Air Command Ramstein and the Commander, United States Air Forces in Europe and Air Forces in Africa (USAFE-AFAFRICA). The JAPCC's Executive Director, Lieutenant General Joachim Wundrak (DEU AF), also serves as the Combined Air Operations Centre Uedem Commander, German Air Operations Commander and German Joint Force Air Component Commander.

On site, Air Commodore Madelein M.C. Spit (NLD AF) serves as the Assistant Director (AD), and, together with the Chief of Staff, Colonel E. Lee Wingfield III (USA AF), provides day to day leadership for the JAPCC team.

Colonel Joachim Hahn (DEU AF) is Head, Assessment, Coordination and Engagement (ACE) Branch; Branch



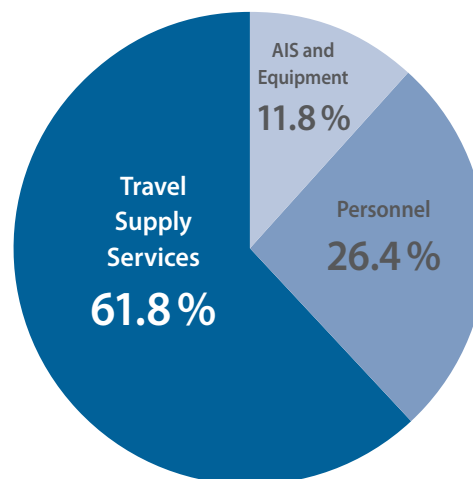
**Executive Director (DEU AF)**  
Lieutenant General Joachim Wundrak



Head, Command, Control, Communications and Computers, Intelligence, Surveillance and Reconnaissance+Space (C4ISR+S), is Colonel Erik Abma (NDL AF); Branch Head, Combat Air (CA), is Colonel Bernard Willi (USA AF); and Branch Head, Air Operation Support (AOS), is Colonel Gustavo Cicconardi (ITA AF).

## Personnel

The JAPCC has lost capability and capacity due to manpower decreases over the past five years. This trend continued, with JAPCC ending 2015 with 63 per cent of the posts bid and 52 per cent manned. The JAPCC currently has 32 of a planned 58 Subject Matter Experts (SMEs) available (55%). At the year's close, the JAPCC's SME capability shortfalls were (filled/positions available):



JAPCC Budget for FY 2015



**Assistant Director (NLD AF)**  
Air Commodore Madelein M.C. Spit



**Chief of Staff (USA AF)**  
Colonel E. Lee Wingfield III

**C4ISR+S**

ISR (0/3), Air Battle Manager (1/3), Cyber (1/2),  
Air Operations (1/3), Space (2/3)

**AOS**

AAR (0/2), Support RW, JPR, Littoral & Special  
Air Ops (2/3), Electronic Warfare (0/1), Logistics (1/2)

**CA**

EW/SEAD (0/1), SOF (0/1), UCAV/UAS/UAV (1/3),  
MPA (0/1)

**ACE**

E&T (3/4), Research, Analysis & Intel Support (1/2),  
PAO/Assistant Editor (0/2)

The Planning and Control Section personnel fill rate is 50 per cent.

Additionally, some SMEs failed upon arrival to meet the job description requirements for their post, resulting in reduced overall effectiveness for the JAPCC. The two main challenges for these SMEs were limited English language skills and inexperience with staff work at the operational level.

The JAPCC continues to actively mitigate these shortfalls through cross utilization, internal education and training as well as creative technological solutions.

## Budgeting and Finance

Based on the JAPCC Medium Term Finance Plan and taking into account of the actual number of assigned staff officers, the JAPCC Budget for 2015 remained just below 900,000 Euros. Our Senior Resource Committee (SRC) continues to provide full support to our budget on the basis of 'minimum military-requirements'. As described in the JAPCC Operational Memorandum of Understanding, the sponsoring nations contribute to the budget according to the number of staff officers in their bid. The current corresponding annual cost per staff officer is approximately 15,050 Euros. For Fiscal Year 2015, the approved budget of 858,000 Euros was expended primarily on travel, supplies and services, personnel related expenditures and replacement of furniture, as well as required hard- and software upgrades for automated information systems.

## The JAPCC Provides Solutions to Address Air & Space Power Challenges

Key decision-makers require innovative solutions to address the improvement and transformation of NATO Joint Air & Space with ever decreasing resources. Rather than focusing purely on force structures, the JAPCC advocates the development of existing capabilities and generation of new capabilities to support the concepts of force effectiveness and force efficiency.

To fulfil its mission, the JAPCC conducts its own research and advocacy as well as responding to the needs of NATO and its member nations. Our Program of Work (PoW) is comprised of Projects, Activities and Tasks, which are dynamic in nature and are adjusted monthly based upon the acceptance of Requests for Support (RfS). Independently, the JAPCC also hosts a number of major events, including an Annual Joint A&S Power Conference, the biannual meeting of the Air Operations Working Group (AOWG), the Maritime Air Coordination Conference (MACC), one session of the biannual meeting of Air-to-Air Refuelling WG, the JAPCC Steering Committee (SC) meeting and the Senior Resource Committee (SRC) meeting.

The components of the PoW are differentiated by scope and scale:

**Projects.** A JAPCC project provides solutions to an A&S Power challenge received from a NATO or SN key decision-maker through an RfS. A project can also be internally generated based on Lessons Identified, or through other engagement avenues. These internally generated projects normally will not commence until a primary stakeholder is identified.

**Activities.** Activities form the majority of the JAPCC's PoW and consist of recurring or enduring tasks in support of an Alliance key decision-maker. Activities are normally pre-planned within the JAPCC annual calendar. Typical examples of activities are the custodianship of NATO doctrine (Allied Joint/Tactical Publications) and the chairmanship/co-chairmanship or secretary of a NATO working group.

**Tasks.** A task differs from an activity in its periodicity and may be a single, non-recurrent event (e.g. presenting at

a conference). The often seemingly random nature of a task often precludes scheduled planning within the PoW.

## JAPCC Focus Areas 2015

**Joint Air Power Development.** Air Power is an essential element in virtually all military operations. It can be employed over the full spectrum of military operations at any level in support of national or multinational joint operations and objectives.

There is a continuous need to examine what part NATO Air Power will play in achieving future Alliance objectives and to identify how that future might become reality. NATO's Strategic Concept 2010 states we must develop and maintain robust, mobile, and deployable conventional forces to carry out both our Article 5 responsibilities and the Alliance's expeditionary operations, including the NATO Response Force (NRF).

**Doctrine, Standards and Procedures.** Fundamentally, joint forces require high levels of interoperability and systems that are conceptualized and designed with joint architectures and acquisition strategies. This level of interoperability reduces barriers, limiting the ability of JFCs to achieve objectives. The goal is to employ joint forces effectively across the range of military operations. Pivotal to that goal is the development of standard terminology, training, relationships, responsibilities, processes, and procedures.

**Education/Training and Exercises/Evaluation (ETEE).** NATO's Strategic Concept and the Chicago Summit 2012 Declaration list Collective Defence as the Alliance's number one priority. As we re-deploy from ongoing operations, NATO must ensure it possesses robust con-

tingency readiness. ETEE is a foundational element to building a strong NRF, supporting the Connected Forces Initiative and developing the necessary capability to deliver NATO Forces 2020. The JAPCC supports ETEE across Collective Defence, Crisis Management and Co-operative Security.

**Missile Defence.** According to NATO's Strategic Concept 2010, the greatest responsibility of the Alliance is to protect and defend our territory and our population against attack. Therefore, the Alliance must develop the capability to defend our populations and territories against ballistic missile attack. This is a core element of our collective defence, which contributes to the indivisible security of the Alliance.

**Space Support to NATO Operations.** Although there is no NATO Space policy at the political level, there is a mandate at the military/political level. MCM-0108-2012, 'NATO's Approach to Space' provides guidance, initiatives, and tasks for the development of Space support to NATO operations.

**Active Engagement.** In order to avoid duplication and to work efficiently across the NATO organization and the Nations in the improvement and transformation of Joint A&S Power, sharing of knowledge and coordination of the Program of Work are required. Furthermore, the purposes of active engagement are to:

- provide information about JAPCC and its activities to NATO HQs and SNs;
- assemble Joint A&S Power challenges in order to inform JAPCC PoW;
- demonstrate relevance by ensuring continued support to NATO and SNs;
- identify possible topics and partners for future co-operation.



# key developments

The JAPCC is vigorously active in areas in which it has Subject Matter Experts (SMEs) available to act. This section summarizes the efforts the organization has made this year in support of NATO's Joint Air and Space Power; however, due to space constraints, these are summaries of activity only. For more detail on any specific area, please visit our website or contact us directly. For ease of reading, key developments are grouped into the JAPCC 2015 Focus Areas.

## Joint Air Power Development

The JAPCC's support to Joint Air Power development in 2015 includes the following:

**Multinational Joint ISR Unit (MJISRU).** Published in October 2015, this project provided NATO and national key decision-makers with relevant information regarding the creation of a NATO MJISRU. Specifically, it examines whether the creation of a NATO MJISRU is feasible and can complement NATO's existing ISR capabilities and address identified shortfalls.

**Standardization of Qualifications for NATO Helicopter Crews in Support of Land Operations.** Completed in July 2015, this document seeks to provide information regarding qualification standardization for NATO helicopter crews in support of land operations. This document also offers proposed guidance to NATO commanders as to the minimum level of training helicopter crews require prior to deployment for NATO operations. These standards should reduce the time required to develop and maintain an essential rotary wing capability, improve interoperability, and increase the effectiveness of combined planning and mission execution.

**Air Traffic Management (ATM) support to NATO operations.** JAPCC provided subject matter expertise to NATO and European forums and Agencies in developing and maintaining the capabilities required for ATM support to the full range of NATO missions in peace, crisis, and conflict. The JAPCC representative was involved in the activities of NATO's ATM Committee, ATM/CNS (Communication, Navigation,



2015 JAPCC Conference, Essen, Germany.



and Surveillance) Working Group, SESAR (Single European Sky ATM Research) Integrated Project Team, and the Board of Directors of Military Aviation Authorities hosted by EUROCONTROL.

**Contribution to European Air Chiefs Conference (EURAC).** In December 2014, the JAPCC delivered to the EURAC its final report on the military implications of the 'Single European Sky' (SES). To mitigate the financial implications, it recommended reusing capabilities already available to attain the ATM/CNS requirements through alternative military certification processes. As a follow-on to the study, JAPCC briefed the Air Chiefs attending the EURAC meeting in May 2015, in Milan, Italy, on 'Harmonized Performance-Based Certification (PBC) of Military Aircraft Capabilities'. The key conclusion of the presentation was without active Air Chief Engagement, it is possible PBC will fail to provide mitigation for SES-driven operational challenges.

**Study on Air Power and Disinformation – Lessons for Future Operations.** The ongoing Airpower and Disinformation study identifies and analyses the information campaigns that have been mounted to discredit NATO and Western airpower over the last fifteen years. The study will provide doctrinal, policy,

and training recommendations to meet the threat of disinformation and improve NATO's Strategic Communications (StratCom) in employing airpower in the future. The project core team is led by Dr. James Corum, PhD, academic and retired officer and consists of five PhD security studies academics from France, Germany, Italy, the UK and the US. During the period covered by this report, the project team focused on

**Contribute Joint Air and Space expertise to Alliance decision-making processes through active leadership of, and participation in, NATO committees, Working Groups and fora.**

research and analysis. The first conclusions of the research were presented during the JAPCC Conference 2015. In March 2016, the final study will be completed with summary report, recommendations as to the likely vulnerabilities of the application of airpower to disinformation in future operations and doctrinal recommendations to counter the expected enemy disinformation campaigns and mischaracterizations of airpower.

**Air Power in NATO – Future Vector.** Air & Space Power in NATO – Phase III. In this phase of the project, the JAPCC analysed all key recommendations and mapped them against existing NATO guidance, initiatives, priorities, and processes with the intent of determining what practical actions and opportunities could be marketed and undertaken. In particular, recommendations derived from the essays that had a reasonable chance of action and for which insufficient effort and visibility was occurring within NATO and its Member Nations were extracted and external execution begun.

**Air C2.** The complexity of the modern security environment poses significant challenges to the effective Command and Control (C2) of NATO's military forces. The strategic and operational context is changing rapidly, presenting new threats that are asymmetric, highly-disruptive and potentially catastrophic to the Alliance. The JAPCC supports Air C2 efforts with:



- Continued support of the NATO Airborne Early Warning & Control Working Group (NAEW&C WG), to include the Alliance Future Surveillance and Control Project Group.
- Comprehensive Operational Planning Directive (COPD) maintenance.
- Comprehensive Operations Planning Course development, where the development of the COPD is evaluated continuously.
- Functional Planning Guide for Operations, jointly coordinated with C2CoE and AIRCOM.

**NATO Concept Development and Experimentation (CD&E).** JAPCC is engaged in the ongoing CD&E work and participated in both the CD&E Workshop (Virginia, 19–21 May 2015) and the CD&E Conference (Berlin, 16–18 November 2015). The CD&E Workshop generated and evaluated transformational ideas and concepts through commitment and the pooling of ideas and resources to meet the prioritized shortfall areas that have been identified within the Alliance. JAPCC, for example, is fully involved in Unmanned Autonomous Systems Countermeasures Concept.

The CD&E Conference supports by exchanging information about ongoing CD&E work in the Alliance, developing products to the benefit of ongoing CD&E work within HQ SACT, and gains the awareness of CD&E methodologies and their practical application.

**Baltic Air Policing Force Protection Capability Development.** This project's intent is to produce an analysis of FP issues for each NATO operating base in the Baltic region and, from this, produce a detailed assessment of infrastructure changes, personnel reinforcement and training required to optimize FP at those bases. The project is being conducted in close coordination with national officials at high-levels, who have invited JAPCC SMEs to host FP workshops in conjunction with research visits.

**Alliance Maritime Air Current and Future Capability in Anti-Submarine Warfare.** Requested by MARCOM, this project was approved in September 2015. Although initially focused on a capabilities comparison between NATO and potential adversaries, the project has expanded to include an assessment of NATO's C2

structure in the use of Maritime Air for ASW missions. This project is expected to be completed by July 2016.

The project **Air Warfare in a Networked Environment** was approved in August, 2015, and is currently in its research phase. The aim of this project is to explore potential improvements to network-generated situational awareness through dynamic distribution and effective automated interaction of joint air power assets throughout the joint battle space without altering the current Core Activities performed by air forces. Efficient, autonomous self-organization may be approached through converting battlespace regions constrained by the boundaries of a classic Airspace Control Order into a more dynamic and adaptive airspace structure that enables co-use by existing/future air systems as well as ensuring effective command and control. This project is expected to be completed by spring 2017.

**The Air Transport Project.** This project is a follow up to our 2011 study. First, we intend to report which of our solutions/initiatives from the 2011 study have been initiated or completed. Then, we will re-examine the feasibility of the remaining dormant proposed solutions, identify any additional critical problems, and ultimately encourage NATO to adopt the best multinational initiatives to improve the standardization and interoperability of AT among NATO nations. This study will primarily focus on training, exercises, and interoperability.

## Doctrine, Standards and Procedures

During the period, the JAPCC led and participated in the following doctrine efforts:

**AJP 3.3.** The JAPCC has the custodianship of NATO's doctrine on joint air operations, AJP 3.3, Allied Joint Doctrine for Air and Space Operations. The current valid version of the AJP-3.3 is the promulgated AJP-3.3(A) of 5 November 2009. Since early 2013, the JAPCC, in close collaboration with the nations and the NATO Command Structure, has been working to replace this outdated version with an updated edition. Specific changes include a section on Space, the development of which was led by JAPCC personnel. In late 2015, the JAPCC's updated version entered into ratification



through the Military Committee Joint Standardization Board (MCJSB) and should be completed for promulgation by mid-2016.

**AJP 2.7 and AlntP-14, Joint Intelligence Surveillance and Reconnaissance (JISR).** NATO assigned high priority to these two standardization tasks and put them on the fast track to achieve NATO JISR IOC in 2016. The JAPCC supported their development with active membership in the respective writing teams and delivering significant portions of these documents. The AJP 2.7 Final Draft was issued for ratification in late November 2015, while the AlntP-14 Final Draft will likely become ready early 2016. The JAPCC complemented this activity by participating in the regular ACO Intelligence Requirements Management & Collection Management (IRM & CM) Panels as well as delivering related lecture support for the IRM & CM Course at NATO School Oberammergau.

**AD 70-01 (Alert States and Alert Measures) rewrite.** Allied Directive 070-001, ACO Security Directive, covers all aspects of NATO Security, including Alert States and associated Alert Measures. On 30 January 15, the JAPCC received an urgent Request for Support (RfS) from SHAPE asking for JAPCC assistance in reviewing and rewriting the Directive. JAPCC undertook to review and

revise the NATO Alert States and Measures. A completed final draft of the Project Report and the addendum were provided to the ACO Security Action Team (SAT) on 3 June 15.

**ATP 3.3.4.2.** Despite the lack of a dedicated AAR SME since mid-2015, the JAPCC has remained active in the management of AAR Doctrine, Standards and Procedures using SMEs from other areas to cover the requirements. In addition to continuing as the NATO AAR WG Chair, the JAPCC continued its management of the global AAR compatibility and clearance matrix and built upon its relationships with other key AAR stakeholders, producing and disseminating standardized AAR documents (2 STANAGs/4 SRDs/1 SRD template). This year also saw the full realization of the Standardized Heavy Air Refuelling Course – a course JAPCC and AIRCOM personnel created to train JFAC AAR planners and executors.

**ATP-49G Custodianship.** In February the JAPCC delivered the third study draft of ATP-49G and the draft was reviewed by the nations. In April, the final draft was completed and presented to the NSO. After approval of the Military Committee Land Standardization Board (MCLSB), the Ratification draft was sent out in July to the NATO nations for ratification and in December STANAG 2999 Edition 10 (ATP-49 EdG) met its promulgation criteria.





**Institutionalizing C-IED Lessons Learned from Afghanistan.** The JAPCC worked throughout the early part of the year in collaboration with the Joint Allied Lessons Learned Centre (JALLC) to meet the requirements of a RFS made by the NATO Headquarters, Emerging Security Challenges Division (ESCD). This RFS tasked the JAPCC, the JALLC, and the NATO Science and Technology Organization (STO) to look at how best to capture and subsequently 'institutionalize' the Lessons Learned from the Counter-Improvised Explosive Device (C-IED) fight in Afghanistan. The first draft of the paper was presented during the December 2014 Annual C-IED Lessons Learned Working Group at the C-IED COE in Madrid and is designed to include relevant air and space power lessons in the overall C-IED LL process, which is appropriately land centric. Having been previously published as an annex to a larger report, the Air and Space Power annex is pending publication on the JAPCC website. This final output reflects the ability of Air and Space Power to contribute to all aspects of future Counter-Network Activity, including C-IED operations.

**Chemical, Biological, Radiological, Nuclear (CBRN) Defence.** The JAPCC continues working on CBRN doctrinal documents as a contributor, attending different workshops, meetings, and panels and ensuring air equities are represented in this field.

Due to the evolution of the CBRN threat, the review of doctrinal documents is an ongoing effort.

### Education/Training and Exercises/Evaluation

During 2015, the JAPCC was active in the following ETEE areas:

**Cyber Support.** The JAPCC continued its efforts to support both greater awareness of cyber considerations in operational planning and the practical exercising of NATO Command Structure staffs. Specific activities related to scripting and playing Cyber Opposing Force (OPFOR) during the NATO Reaction Force Exercise Trident Juncture 15, as well as supporting the advancement of the Cyber Defence Action Plan (CDAP) via membership in the ACO-led Cyber Defence Working Group. Such participation and membership will continue in 2016, with increased Exercise support to AIRCOM as well as formalizing the JAPCC relationship with the Cooperative Cyber Defence COE in Tallinn, Estonia.

**Education and Training on Space Operations.** In 2015, the JAPCC provided a number of briefs and presentations incorporated within the curricula of the national staff colleges of Germany and the Netherlands,



© NATO, Jorge Manríque Behrens

supporting this seemingly neglected subject area. Additionally, JAPCC agreed to take the role of Department Head ETEE Space, responsible for coordinating training efforts within NATO. Final confirmation from the NAC is still pending.

#### **Education and Training on Force Protection (FP).**

The JAPCC was active in the ETEE field in support of Alliance FP requirements, to include briefing senior officers from several national services at their senior service schools and briefing national FP forces with regard to NATO FP on several occasions. Briefings were tailored to the audience but generally focussed on enhancing awareness of FP challenges and requirements as well as encouraging increased FP cooperation across the Alliance. Feedback has been universally positive and indications are that the JAPCC will be invited to assist at least one sponsoring nation in planning FP as it develops the bed-down location for the F-35.

**NATO School Oberammergau Force Protection Course.** The JAPCC is the Office of Principle Responsibility (OPR) for this course, which was taught at Oberammergau 3 times and by a Mobile Education and Training Team (METT) once in Poland. This current version of the course is designed to look beyond Afghanistan and provides an overview of NATO FP Doctrine, explores a variety of FP capabilities and

looks at how the different components approach FP. The FP course was well attended by all NATO nations as well as many partners and continues to attract a student satisfaction rating in excess of 85 per cent. Work is now in-hand to review this course so it remains up-to-date.

**Support to Major NATO Exercises.** In June, JAPCC supported AIRCOM during their annual Exercise **Ramstein Ambition II**. JAPCC provided an OPFOR air team to Exercise Control (EXCON), which executed a highly dynamic air scenario for the training audience.

JAPCC was asked by the Joint Warfare Centre (JWC) to support both the development of the exercise scenario and the actual exercise execution for Exercise **Trident Juncture 15**. Starting with the development of the exercise scenario in April 2014, the JAPCC was heavily involved and was successful in supporting JWC and the exercise with relevant Air & Space Power subject matter expertise. In September, a combined JAPCC team deployed to Stavanger, Norway and to Poggio Renatico, Italy to support the execution phase of the exercise. JAPCC personnel were augmented by SME's from CAOC Uedem, the Royal Netherlands Army Ground Based Air Defence Command and 13 Squadron, RAF Waddington, all of whom deployed as members of the JAPCC team. The deployed JAPCC team developed and executed



Joint Air and Space Power Network Meeting.

the RED AIR Concept of Operations, scenarios and daily Air Tasking Orders IAW RED Joint Forces operational framework, including Cyber and Space inputs.

**Kalkar Sky III 2015** was a computer-assisted exercise on Component Command level in preparation of NRF 2018, for which German Air Operations Command (ZLO) will act as JFAC HQ. Beginning in March 2015, starting with the Initial Planning Conference (IPC), the JAPCC supported all major preparation for Kalkar Sky III 2015, providing a link to major NATO exercises that otherwise would have been lacking in the exercise. During the execution phase, JAPCC supported EXCON with 3 Mentors.

**Air Transport Exercises.** The JAPCC participated in the development of the European Air Advanced Transport Training Course (EAATTC). JAPCCs active contribution to the Educational and Training Ad Hoc Working Group resulted in the creation of a new training course for instructor pilots will teach during EAATTCs, designed to give them a higher level of standardization and expertise.

## Missile Defence

In preparation for the Air and Missile Defence Committee meeting, JAPCC is contributing to two 'Panel on Air and Missile Defence' (PAMD) drafting groups. The first is creating a vision for Integrated Air & Missile Defence (IAMD), and the second is updating IAMD policy. These two topics were the follow-on tasks from the Wales Summit and the NATO Defence Planning Process (NDPP).

Since mid-2015, JAPCC has been an active member of the multinational BMD campaign Nimble Titan and fills a position in the War Game Control Group. Furthermore, JAPCC provides the deputy in the Operational Control Group for Europe's biggest IAMD exercise, Joint Project Optic Windmill.

## Space Support to NATO Operations

The JAPCC continued to champion the evolution of Space Power within NATO, in part through their participation in the Bi-Strategic Command Space Working Group (NBISCSWG), which reports directly to the



NATO Military Committee (MC) and is working towards evolving Space support to alliance military operations. Of the dozen critical tasks identified for the BiSCWG, the JAPCC led or directly supported two:

- **Awareness/Integration of Space** into NATO exercise play; and
- **Space Education & Training**, focussing on the development of standard definitions and approaches to space operations.

## Active Engagement

The JAPCC continues to actively engage with various air power stakeholders through working groups and other face-to-face meetings. These engagements included but were not limited to:

**Future Capabilities of Joint Air Power Study.** Under tasking from the MC to provide military advice to the NAC regarding the future role of Joint Air Power, ACT built a team which included joint air power experts from across the Alliance. The JAPCC provided experts for the writing and review team, ensuring thoroughly considered, carefully constructed advice was prepared for the NAC. This advice was delivered to the MC in late 2015 and should be provided to the NAC in early 2016.

**COE Programmes of Work (POW) Workshop.** The primary purpose of this two-part workshop is to funnel NATO's inputs to the 2016 COE PoWs. As a result, JAPCC received 27 official RFSs to support NATO HQ and its subordinate commands. In accordance with NATO-wide RFSs for POW-2016, JAPCC will engage in the requested activities, projects and working groups on the subjects of NATO exercises, the Urbanisation Concept, Lessons Learned, remotely piloted aircraft systems, Space, NATO Defence Planning Process (NDPP), Strategic Foresight Analysis (SFA), Framework for Future Alliance Operations (FFAO), Logistics and Maritime Air Coordination.

**Think Tank Forum (TTF).** The second annual meeting of the Joint Air & Space Power Think Tank Forum was held in Kalkar 6–8 May 2015. The main objective was to share information regarding the POWs, composition

and responsibilities of Think Tanks, Air Warfare Centres, Air Force HQs, and Military Academies of JAPCC's Sponsoring Nations. Participants discussed how to better support NATO/AIRCOM in fostering multinational cooperation and preventing duplication of effort.

**Air and Space Power Network (ASPN).** The Air and Space Power Network Meeting was convened at the JAPCC from 29–30 September 2015 with participants from AIRCOM, the European Union Military Staff (EUMS), the NATO HQ (Director Armament and Aerospace Capabilities), the European Defence Agency (EDA), the European Air Group (EAG), the European Air Transport Command (EATC), the Competence Centre for Surface-Based Air and Missile Defence (CC SBAMD) and the Analysis and Simulation Centre for Air Operations (CASPOA). The forum helps solve common air-domain challenges, to harmonize PoW and to develop synergies within the Air & Space Power community.

**The Strategic Foresight Analysis (SFA).** The JAPCC participated actively in ongoing efforts to move the SFA forward. The major event this year was the SFA Workshop, which was held in Vienna (18–19 March 2015). The SFA products are linked to NATO Defence Planning Process (NDPP) through informing NDPP Step 1 – Establish Political Guidance. The SFA also serves as the foundation for the Framework for Future Alliance Operations (FFAO), which feeds the NDPP in both Step 1 and Step 2 – Determine Requirements. Specific workshop results will be captured in the SFA 2015 Update Report.

**NATO Force Protection Working Group (FPWG).** Two FPWGs were held during the year, both supported by the JAPCC FP SME. The JAPCC led several briefings at both sessions. Additionally, the JAPCC now has Custodianship of NATO FP Policy, Joint FP Doctrine, the ACO FP Directive and the Air FP ATP. Between the two WGs, the major issues discussed/developed by the JAPCC were as follows:

- *alignment of FPWG to Military Committee Joint Standardization Board (MCJSB);*
- *Military Committee Policy for FP on NATO-Led Operations (MC-0610);*
- *revised Format for NATO FP Doctrine;*

- *Allied Command Operations (ACO) Force Protection Directive (AD 80-25)* rewrite;
- *FPWG Task Matrix* development;
- *AD 70-01 ACO Security Directive (Alert States and Alert Measures)* rewrite;
- *Allied Maritime Harbour Protection (ATP-94)* review for air equities.

## Other Enduring Activities

**The JAPCC Annual Conference.** The 2015 JAPCC Conference was held 23–25 November in Essen, Germany, and was attended by a wide range of participants including senior military leaders, NATO policy staff, current and former media, defence industry officials, and staff from 24 different nations. It explored the broad themes of strategic communications with specific regard to NATO air power, considering whether NATO's air power capabilities and messages were well understood and were being adequately conveyed to a variety of key audiences including western publics, defence and finance government officials, and NATO ambassadors.

JAPCC's intention is to combine the views exposed at the Conference with the results of a related, ongoing academic study of the effects of air power disinformation in order to provide NATO's strategic leadership with fresh ideas on how this key area might be improved upon. The wide ranging nature of discussion and debate regarding NATO strategic communications with specific regard to air power at this conference was extremely worthwhile and immediate post-event feedback from attendees suggested the event was a great success.

**The JAPCC Journal.** The JAPCC Journal has the widest distribution and therefore the highest profile of any JAPCC product. It aims to serve as a forum for the presentation and stimulation of innovative thinking as well as sparkling debate regarding A&S power related issues such as doctrine, strategy, capabilities, force structure and readiness, thus contributing to the transformation and improvement of Joint A&S Power within NATO. Two JAPCC Journal editions were published in 2015 and this publication schedule is foreseen to continue in 2016.

**Deployable Air Activation Modules (DAAM).** The JAPCC participated in the development of DAAM Project. This project has been developed as part of the Italian-led NATO Smart Defence Project 1.16 and is intended to enable the rapid generation of a Multi-National Deployed Operating Base (MN DOB).

**Aircraft Cross-Servicing (ACS).** JAPCC personnel researched the current status of NATO's ACS capability and possible ways ahead and provided input with regard to ACS in the 16<sup>th</sup> ASSEWG meeting. Furthermore, input was provided to AIRCOM J4 to provide briefing to their staff. Indications are the follow-on support in this field will be requested by AIRCOM during 2016.

**AAR Roadmap.** NATO recognizes AAR as one of its 16 shortfalls. In spring 2015, the JAPCC AAR SME was fully involved by the international staff to build the NATO AAR Roadmap with the goal of solving the mentioned shortfall. The roadmap was presented in June to the NATO ministers for their approval.

## NATO Bodies, 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

- NATO Air Force Armaments Group (NAFAG);
- Vice Chairman – ACG-2 (Effective Engagement);
- Air Operations Working Group (AOWG);
- Maritime Air Coordination Conference (MACC Co-Chair);
- NATO Air-to-Air Refuelling Working Group (AAR WG);
- NATO Air Transport Working Group;
- Doctrine, Organisation, and Interoperability (DOI) Panel, NATO Force Protection WG;
- Aerial Refuelling Systems Advisory Group (ARSAG) Interoperability Working Group No. 5.

### Secretary

- NATO Bi-Strategic Command Space Working Group (NBiSCSWG);
- MACC.



Air Operations Working Group.

#### Exercise/Campaign

- Nimble Titan 16, Wargame Control Group;
- Exercise Director Joint Project OPTIC WINDMILL (JPOW);
- Constructive OPTIC WINDMILL 16 (COW).

#### Panel Member/Working Group

- Allied Future Surveillance & Control Project Group (AFSC PG);
- JPR Forum;
- Air & Missile Defence Committee (AMDC);
- Ballistic Missile Defence Operational User Group;
- Force Protection (FP) Task Force;
- ARSAG Participation to Develop UAS AAR Procedures;
- Helicopter Inter Service Working Group (HISWG);
- Joint Capability Group Unmanned Aircraft Systems (JGUAS);
- Maritime Operations (MAROPS) Working Group;
- Global Helicopter Operations from Ships other Than Aircraft Carriers (HOSTAC) WG;
- Multi-National Through-deck and Aircraft Carrier Crossdeck Operations (MTACCOPS) Working Group;
- ACG 2 – Effective Engagement;
- Amphibious Operations Working Group;
- NATO Urbanisation Working Group;
- NATO Search and Rescue (SAR) Panel;

- NATO Single European Sky ATM (Air Traffic Management) Research (SESAR) Integrated Project Team;
- NLD BMD Policy Group;
- NLD Knowledge Network on BMD;
- Panel on Air & Missile Defence (PAMD).

#### NATO Policy/Doctrine/TTP Support

- AJP-3.3 Custodian;
- AJP-3.14 Allied Joint Doctrine for FP Custodian;
- AJP-3.3.3 Air-Maritime Coordination (Part of AMCWG);
- ATP-3.3.3.1 Maritime Air Coordination Procedures;
- ATP-3.3.4 (VOL II) Custodian;
- ATP-3.3.4.2 (ATP-56) Custodian;
- ATP-3.3.4.3 Custodian;
- ATP-3.3.6 NATO FP Doctrine for Air Operations;
- ATP-49G Custodian;
- MC-0610, FP Policy for NATO-Led Operations Custodian;
- AD 80-25 ACO Force Protection Directive Custodian.

**Participation in the Air Defence Committee and Subordinate Bodies.** The JAPCC remains an active participant in the Air and Missile Defence Committee and the PAMD and its subordinate Drafting Groups. Through continuous participation in these various bodies, the JAPCC supports the development of Integrated Air and Missile Defence policy.



# 2016 outlook

**Promote and showcase the effectiveness and relevance of Joint Air and Space Power as the critical elements in Air, Land and Maritime operations.**

## 2016 Focus Areas

**Introduction.** The 2016 JAPCC Focus Areas were approved by the Steering Committee at their annual meeting in June 2015. In the broadest sense, the JAPCC could address any topic or capability within the realm of Air and Space Power, but closely following current developments throughout the world and within

NATO, there are several topics requiring more prominent attention than others. During the NATO Wales Summit of September 2014, a number of specific topics were identified that require precedence and in-depth analysis. These subjects, amongst others, provide the focus for the JAPCC's program of work for the year to come.

**Air and Space Power Force Evolution.** It has been argued the European members of NATO must be ready, as a minimum, to autonomously face a Crisis Management Operation at the level of a Small Joint Operation – Air Heavy. Without a full spectrum of Air and Space Power capabilities and competencies to



cope with such a contingency, there is an increased likelihood NATO may not be capable of adequately dealing with emerging security challenges at the periphery of NATO's geographical Area of Operational Responsibility.

**Space.** The Alliance's Strategic Concept recognizes access to space and space-based capabilities affects NATO planning and operations. NATO's operations and missions are heavily dependent on data and services from space assets. This dependency includes the areas of communications, surveillance and reconnaissance, global positioning and navigation, timing, meteorology, friendly force tracking, and early warning. In addition,

NATO is dependent on support from space for daily use services including SATCOM, navigation, positioning, and timing. JAPCC will continue to work within the construct of the BiSCSpWG and other avenues to mitigate NATO's space dependency.

**Training and Exercises.** As NATO operations have shifted from ISAF to Operation Resolute Support, NATO must re-focus on application and implementation of lessons learned, especially a battle rhythm of Education, Training, Exercises, and Evaluation (ETEE). The Connected Forces Initiative (CFI) is one chosen vehicle for this effort. CFI aims to provide an effective and efficient alternative to the operational focus of the last decade.







Trident Juncture 2015.

Coherent education and training should offer the bedrock for the development of individuals and teams so they have the cognitive ability to assimilate and understand complex situations and cultures, becoming comfortable with ambiguity and risk.

JAPCC will continue to provide Air and Space Power expertise to large-scale NATO exercises, primarily by supporting the Joint Warfare Centre and AIRCOM Ramstein with relevant SMEs.

**NATO Command Structure (deployable Air) Command & Control.** NATO is implementing a fully interoperable Air Command and Control System (ACCS), which will provide for the first time a fully integrated set of tools to support the conduct of all air operations in both real-time and non-real-time environments. ACCS will make available the capability to plan, direct, task, coordinate, supervise, assess, and report on the operation of all allocated air assets in peace, crisis, and conflict.

Additionally, NATO is faced with a shortfall in Air Command & Control manning, primarily due to over-reduction of personnel at AIRCOM and the fact that

the augmentation system for Joint Force Air Components is not institutionalized. This is exacerbated by the fact that some air forces seem reluctant to maintain or expand their knowledge of Air C2 processes and, as a result, the overall knowledge of these processes within NATO is bleeding away, sometimes at an alarming rate. JAPCC also suffers from a shortfall in manning, with only one Air C2 position filled. However, the importance of Air Command & Control requires that JAPCC remains actively involved in most of these topics to the extent that limited manning allows.

**Joint ISR.** It has been argued that NATO needs a JISR capability that will provide for the coordinated collection, processing, dissemination and sharing within NATO of ISR material gathered by the future Alliance Ground Surveillance (AGS) system, the current NATO Airborne Early Warning and Control Force (NAEW&C Force) and nationally supplied ISR assets. While NATO is delivering a critical JISR capability in ISAF, an enduring JISR capability is being developed through a phased approach, starting with the implementation of an initial operational capability on time for the NATO Response Force 2016.





**Missile Defence.** At the NATO summit in Wales in 2014, it was decided to regularly review the implementation of the NATO BMD capability. In April 2016, the Initial Operational Capability of the NATO BMD will be validated and IOC may be declared during the 2016 Warsaw Summit. JAPCC is and will remain involved in various Missile Defence panels, meetings and working groups.

**Cyber.** Air Components rely heavily on electronic communications for Command & Control capabilities. This makes the Air domain potentially vulnerable. This is the primary reason why the Air domain is inherently interested in Cyber Resilience as a whole, including supporting activities to the Cyber Defence Action Plan and Cyber awareness of the senior leadership.

During the NATO Summit in Wales in 2014, it was agreed that the level of NATO's cyber defence education, training, and exercise activities will be improved and the NATO cyber range capability will be developed, building, as a first step, on the Estonian cyber range capability and taking into consideration the capabilities and requirements of the NATO CIS School and

other NATO training and education bodies. JAPCC is actively involved in these developments.

**Logistics.** NATO is required to be able to carry out a range of smaller but demanding operations and the Alliance must retain the capability to conduct large-scale high-intensity operations including in support of collective defence. To undertake these missions, the Alliance must be able to launch and sustain these missions. Since only a few Allies can independently deploy and sustain their forces, it is important NATO and the Allies continue to pursue Collective Logistic deployment with the aim of giving NATO commanders the greatest flexibility on current and future missions by providing effective logistic support, especially improved deployability and enhanced sustainability, more capable and interoperable logistic forces and optimized logistic command and control at best value to Allies. JAPCC is engaged in these topics and will continue to be so.

**Precision-Guided Munitions.** NATO is continuously seeking to share the burden of providing expensive defence equipment more equally across the Alliance. A new multinational project was launched during the

**Partner with relevant NATO entities and nations to promote and synchronize output and products.**

2014 Wales summit to develop innovative ways of increasing the availability of munitions to the Alliance. With Denmark in the lead, the project will focus on multi-national approaches toward air-to-ground Precision-Guided Munitions (PGMs) and will establish a framework for strengthening international cooperation within the munitions sector. JAPCC will engage with relevant partners in order to provide Subject Matter Expertise.

**Force Protection.** Force Protection must be a fundamental part of any military plan aimed at defending against terrorism. As total Force Protection is probably unachievable and unaffordable, even in the most benign of environments, Military Commanders must balance the risk to their forces against their mission objectives and decide on the appropriate level of force protection to employ. Their decisions will be influenced by up-to-date threat assessments. Force Protection is particularly relevant to Joint Air practitioners since airfields are static and require adequate protection through both active and passive means.

**Air Special Operations Forces.** In order to optimize employment of Special Operations Forces (SOF), NATO established a NATO Special Forces Headquarters (NSHQ) as the primary point of development, coordination and direction for all NATO Special Operations-related activities. For air support of NSHQ, the Air Development Program (ADP) was created as the primary catalyst and coordination platform for all NATO Special Operations Air Warfare related activities in order to provide the urgently needed vehicle for accelerating and synchronizing Alliance efforts to enhance capability, capacity, and interoperability of SOF Air.

The ADP serves as the leader for NATO SOF Air/Aviation by determining and improving quantitative and qualitative aspects of SOF Air/Aviation across the network of NSHQ nations and partners. ADP pursues to deliver high quality support to nations by providing policy, doctrine, training, education, assessments, and evaluation. JAPCC has been engaged with the ADP since its foundation and will be actively involved with all future development in support of AIR SOF.

**JAPCC Joint Air and Space Power Conference, Essen Convention Centre, Germany, 4–6 October 2016**

The Annual Conference is one of the most important events on the JAPCC's calendar. The event allows JAPCC to present ideas, receive expert feedback, support and promote A&S power projects and provide a forum for an exchange of views at the strategic level. The 2016 Conference topic is 'Preparing NATO for Joint Air Operations in a Degraded Environment'. Though we are still in the planning phases, the current conference plan examines how degradation of capabilities may present themselves in future conflicts and how we should prepare to operate in this environment, with focus on Strategic, Operational, and Joint considerations. It is important to note that we won't look at how to recover from the degradations in these areas that we know will come in a peer-to-peer conflict or natural disaster; rather, we'll look at how we prepare to operate without some portion of those capabilities upon which we are so dependent.

The main conference target audience consists of NATO Ambassadors and Officials, Chiefs of Defence, Service Chiefs, and others concerned with preparing for future conflicts.

Thank you for taking the time to read the JAPCC Annual Report 2015. For more information on the JAPCC, please contact us via e-mail at [contact@japcc.org](mailto:contact@japcc.org) or visit our website [www.japcc.org](http://www.japcc.org).







## **Joint Air Power Competence Centre**

von-Seydlitz-Kaserne  
Römerstraße 140 | 47546 Kalkar (Germany) | [www.japcc.org](http://www.japcc.org)