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For more information on any of topics presented in this book, please see the JALLC’s website at www.jallc.nato.int or refer to the contact details on the back cover.

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Foreword

It is my great pleasure to present this 15th Anniversary Commemorative Book, which celebrates 15 years of NATO’s Joint Analysis and Lessons Learned Centre (JALLC).

A lot has happened in the past 15 years, and I am proud to see how the JALLC, along with the rest of NATO, has evolved to meet the challenges posed by the ever-changing global security threat environment. Since opening its doors in 2002, the JALLC has contributed to the Alliance’s transformation in many ways, covering many topics: from ISAF to Public Diplomacy, from Operation UNIFIED PROTECTOR to the NATO Force Structure Joint Task Force HQ concept. The flexibility and adaptability of the JALLC has always been its greatest strength and is what makes this HQ so unique and valuable to NATO.

The Euro-Atlantic area faces an unprecedented range of threats. The emergence or resurgence of state actors as potential peer competitors coupled with expanding terrorism, and persistent transnational risks such as organized crime, climate change or economic instability all contribute to the complexity of the global environment. We have shifted from a complicated to a complex environment, and this requires a permanent adaptation of our Alliance to continue to operate while simultaneously coping with this new and rapidly evolving 21st Century complex environment.

I am confident that the JALLC will contribute to the changing needs of the Alliance for this continuous adaptation, and play its role in ensuring that NATO is ready and responsive to face those threats from wherever they may come.

This book represents 15 years of the JALLC. That means 15 years of Joint Analysis, helping NATO to understand complex and enduring problems and recommending ways in which NATO can transform to improve its support to the Allies. And, as the international security environment has evolved, so too must the work of the Centre. The JALLC will now primarily focus on NATO’s Lessons whereby it will manage and maintain the NATO Lessons Learned Portal and support Alliance initiatives to continuously better a Commander’s ability to improve military capacities. In short, Lessons need to prepare the ground and allow future analyses of what is to come.

In the same way, the 15th anniversary of the JALLC is not only an opportunity for us to look back on what the JALLC has achieved and how it has evolved over the past 15 years, but foremost encourages us to look forward to the foreseeable future. Times are changing and NATO, as ever, will adapt to these changes. The JALLC has a role to play in facilitating that ability to adapt, and I look forward to the next 15 years of NATO’s Joint Analysis and Lessons Learned Centre.

I would like to take this opportunity to extend my thanks to the JALLC’s Host Nation, Portugal, for their continued support to NATO and to all of the JALLC’s staff for their contribution to the Alliance in the past, present, and future.
Welcome to the JALLC
The precursor body to the JALLC was the Permanent Maritime Analysis Team (PAT) based at Northwood, UK, which conducted operational analysis of NATO maritime exercises using a staff predominantly composed of naval officers. The PAT, suitably augmented, formed the core of the team tasked with analysis of the NATO Implementation Force (IFOR) and Stabilization Force (SFOR) operations in the Former Yugoslavia. The final report by the IFOR Joint Analysis Team recognized the lack of a standing NATO joint analysis capability, which led to the formation of a NATO Working Group tasked to develop the concept for a JALLC.

The operational requirement for the JALLC was approved by the NATO Military Committee (MC) in June 1997 and the detailed the JALLC implementation concept, which also recommended that the JALLC be located in Portugal, was approved by the MC on 07 December 2001. The JALLC was activated on 02 September 2002, was formally opened on 06 December 2002 and declared full operational capability on 28 March 2006.

Our Mission

Today, the JALLC is NATO’s centre for performing Joint Analysis of operations, training, exercises and experiments. The JALLC supports the exchange of Lessons Learned and facilitates the development of Lessons Learned Capabilities, reinforcing the continuous transformation and modernization of NATO’s forces and capabilities.

Our Role & Tasks

The JALLC, as part of the NATO Command Structure, and subordinate to HQ Supreme Allied Command Transformation (HQ SACT), provides analysis support to operations, training, exercises, and experimentation. The JALLC also supports the overarching NATO Lessons Learned capability by maintaining and managing the NATO Lessons Learned Portal; providing Analysis and Lessons Learned training; and engaging, through the JALLC Advisory & Training Team, with NATO commands and the Allies, partners, and other entities to support their Lessons Learned capability development. In addition the JALLC provides a wide range of support services to the NATO Force Structure and Agency Structure in Portugal.
Although the JALLC was originally conceived to primarily analyse exercises, changes to the NATO environment and growing NATO involvement in operations resulted in the JALLC’s focus shifting to operations and major NATO Response Force exercises. Gradually, the JALLC has become engaged in a wide range of activities, such as Training Courses and maintaining the NATO Lessons Learned Handbook and the Joint Analysis Handbook. The JALLC also convenes the annual NATO Lessons Learned Conference which covers themes topical to the Lessons Learned community and draws participants from across NATO, Nations, Partner Nations and other organizations.

The future of the JALLC is built upon its history: continuing to provide high-quality analysis reports in a timely fashion. The JALLC will also continue to improve its own processes through the learning of lessons: allowing it to build on the established tradition of excellence and rigour, while adapting to the changing environment.

The JALLC’s Commanders 2002 - Present

2002 - 2004
Major General Jean-Pierre Roman
Belgian Army

2004 - 2007
Major General Mehmet Çelik
Turkish Army

2007 - 2010
Brigadier General Jørgen Hansen-Nord
Danish Army

2010 - 2013
Brigadier General Peter Sonneby
Danish Air Force

2013 - 2016
Brigadier General Mircea Mîndrescu
Romanian Army

2015 - present
Brigadier General Mário Barreto
Portuguese Air Force

The 2002 Memorandum of Understanding between Portugal and NATO regarding the JALLC
15 Years of Joint Analysis
Analysis: The Key to Learning

NATO’s Lessons Learned Process is key to its transformation. By taking experiences, both good and bad, from the past and analysing them in the present, we can learn for the future. This is where the JALLC comes in: The Joint Analysis and Lessons Learned Centre is aptly titled. The key terms in the title are Analysis and Lessons. If we take a closer look at these two elements we see they are connected; you don’t get Lessons without some Analysis:

Lessons: are the desired end products; they are enduring improvements in the Alliance’s capability, based on our past experiences.

Analysis: is the process that needs to be completed in order to identify those Lessons.

According to NATO, Analysis is the study of the whole by examining its parts and their interactions. So what is JOINT analysis? How is JOINT analysis different from any other type of analysis and why does NATO need it? In this section we’re going to explain the difference between regular analysis and joint analysis and how the JALLC uses joint analysis in NATO’s Lessons Learned Process to identify lessons that the Alliance potentially needs to learn. Let’s start by looking at what analysis is and what analysis is not.

What is Analysis? Analysis is a process used to thoroughly understand areas of activity identified to have potential for improvement. Analysis involves taking something and looking at it in different ways to develop understanding of essential features or meaning. Conducting analysis should not result in attaching a value or rating to what is being analysed. That is contrary to the definition of evaluation, where the act of ascertaining or fixing the value or worth of something is the basis of the activity.

What Analysis is NOT... So, analysis is then by definition not evaluation. Put another way: when conducting analysis we don’t judge. The distinction between analysis and evaluation is so important and the differences so great that we have to look at them as philosophically different concepts. Taking a look at the definitions of Analyse and Evaluate makes this distinction even more clear; see the whiteboard below.

Military Analysis

The use of analysis is not new in the military. In fact, military organizations were among the first to use analysis to actively support decisions and help improve their effectiveness. As well as its use in support of learning Lessons, analysis provides support to the decision-making process in NATO as well as to other areas such as capability development and identifying training requirements.
So How does NATO use Analysis to Learn Lessons?

To answer this question, let’s start by looking at the end product: a Lesson. The term Lesson is broadly used to describe people, things, and activities related to the act of learning from experience to achieve improvements. A Lesson is not learned until something changes in the way we operate. Before a Lesson can be Learned, it first needs to be identified. Before we can identify a Lesson, we must analyse the underlying problem to see if it is a potential Lesson. Before we can analyse the problem, it first has to be observed and recorded. That is why learning lessons in an organizational capacity is the responsibility of everyone in that organization: it all starts with observing and recording a problem.

The idea of using Lessons to improve an organization is that, through a formal approach to learning, individuals and the organization can reduce the risk of repeating mistakes and increase the chance that successes are repeated. However, there needs to be a process in place that allows the problem owner to report the problem and for that problem to be analysed and identified as a Lesson to be learned by the organization; this is what we call a Lessons Learned Process.

The NATO Lessons Learned Process

NATO’s Lessons Learned Process is depicted below and is applied to all formal observations made by anyone within NATO regarding anything from daily routine activities to conducting an operation, from things that went wrong to best practices.

As we can see in the figure above, there is an entire stage dedicated to analysing the observation made. It’s in this stage that the root cause needs to be identified and remedial actions suggested. That allows us to determine whether the observation is a Lesson Identified. Sometimes that analysis is relatively simple: there is an obvious root cause, the problem is internal, and the solution can easily be found. But sometimes this is not the case, and that’s when analytical expertise is required. This is where the JALLC comes in.
When the going gets tough...

When someone in NATO encounters a problem that doesn’t have an obvious root cause, is perhaps recurring, and impacts NATO as a whole and not just one HQ, that problem does not have a real problem owner. This type of problem can’t be solved internally. In these cases, expert analysis, often using a combination of approaches techniques, will be required to determine whether the problem is not just a problem but actually a Lesson Identified and how that Lesson will need to be learned; i.e. what remedial action should be taken. This analysis approach is what we call Joint Analysis.

How does the JALLC do Joint Analysis?

The JALLC conducts Joint Analysis upon request of its superior command (HQ SACT) which collects and collates analysis requirements from across NATO and selects only those that truly require this level of subject matter expertise to analyse them.

The JALLC will first define and refine the analysis requirement—which can be anything from solving a problem to ascertaining how a best practice might be implemented in NATO—with whoever made the initial observation and/or whoever will be responsible for taking any remedial action. The JALLC then conducts extensive research and collects the necessary data which sometimes involves analysts going to different commands throughout NATO, observing NATO exercises, conducting interviews with present and past commanders, and of course reviewing key NATO documents. All of the data is then analysed, conclusions drawn, and recommendations for improvement made.

The JALLC’s work takes place in the Analysis stage of the NATO Lessons Learned Process and frequently results in a Lesson Identified which, once endorsed, implemented, and validated (the next stages of the process) should become a Lesson Learned.
The JALLC Project Approach

When the JALLC first started conducting Joint Analysis back in 2002, there was no set method for managing a project and there was little in the way of quality assurance. Although projects were being completed, by 2009, it was generally decided that Joint Analysis projects would be managed more effectively and efficiently if they all followed the same methodology in terms of managing the timeline, delivering products, and quality control.

This reasoning led to the introduction in 2010 of the JALLC Project Approach (JPA) which is a tailored version of the PRINCE2® (PRojects IN a Controlled Environment) project management method. This standardized approach to managing projects provides a controlled and organized progression through a set timeline, with regular reviews of progress against an agreed business case, flexible decision points, involvement of those in charge as well as stakeholders at the right time, good communication throughout the project, and agreed quality requirements and monitoring.

The first iteration of the JPA was something of an experiment, but turned out to be a great success. Over the years, the JALLC has continued to adapt and refine the JPA to incorporate lessons and best practices identified and learned from actually conducting joint analysis projects using the JPA.

The latest review of the JPA led to some significant changes, including reducing the number of stages and management board meetings required to improve the organic flow of the project and allow for a better distribution of stages and phases across the life-cycle of a project, as well as incorporate some thinking on marketing the JALLC’s work post project to improve awareness of what the JALLC does.

The JPA is under constant review to ensure that the JALLC identifies and learns its own lessons from managing analysis projects. The JPA is updated on a regular basis to ensure any necessary changes are incorporated.
How does the JPA work?

The JPA divides the life-cycle of a project into five stages: the Pre-Project Stage, the Planning Stage, the Executing Stage, the Production Stage, and the Post-Project Stage. The Planning Stage, the Executing Stage, the Production Stage, form the main stages of the project in terms of analysis and production and are sub-divided into phases.

The JPA is initiated when the JALLC receives a Joint Analysis Requirement, either via its biannual Programme of Work or via the Emergent Analysis Requirement process which allows urgent analysis requirements to be addressed as a high priority. Once a requirement is received, the Pre-Project Stage begins. In this stage, the project director and manager are identified and conditions are set for the project team to start work. The principal customer will be contacted for a joint review of the requirement and budgets and timelines established.

The Planning Stage follows and is when the JALLC conducts preparatory data collection and planning. A literature review is conducted to help build understanding of the project and identify previous relevant research, after which, research questions are developed and refined. In this stage a comprehensive analysis plan is developed, identifying what data needs to be collected, where the data can be found, what data collection techniques to use, and how the data will be analysed.

During the Executing Stage the actual collection, analysis, and synthesis of data to answer the research question(s) developed in the previous stage is carried out. The data analysis is done by the JALLC’s professionally trained analysts using a variety of analysis methods. The project team will then draw conclusions from the data and suggest solutions or recommendations to the issues identified.

The Production Stage entails development of the outline and draft of the first version of the final written product (usually a JALLC analysis report). First, a Coordinating Draft of the product will be produced which will be sent to the customer and key stakeholders for approval. It is worth noting that the principal customer and any other stakeholders are kept informed of the significant findings and are consulted regarding the veracity of the information upon which these findings are based throughout the whole life-cycle of an analysis project. The Coordinating Draft is the culmination of that information in one product. Any comments on the Coordinating Draft are incorporated and the Final Product is produced.
Since the JALLC’s door’s opened in 2002, the JALLC has conducted over 200 joint analysis projects for customers from all over NATO. Below we present a selection of 15 reports spanning the past 15 years.

**Analysis of Future ISAF C2 Structure (2004)**

In this report, the JALLC reviewed NATO’s Command and Control (C2) structure and made recommendations for a future C2 structure. At the time of the project, the International Security Assistance Force (ISAF) mission was limited to providing security in and around the area of Kabul, Afghanistan; however, a UN Security Council resolution had just authorized an expansion of ISAF activities, and this JALLC Analysis Report was requested as consideration was being given to what C2 structure would best support an expanded mission. The report stated that as the mission expanded, ISAF’s commander would likely focus less on tactical operations and more on the operational level of command. To support this, the JALLC recommended ISAF to be structured as a Joint Force HQ with subordinate component commands as required, allowing the flexibility to expand and contract as mission requirements changed and provide sufficient staff to coordinate with other forces operating in the area.

**Operation ACTIVE ENDEAVOUR: Analysis of Effectiveness (2006)**

Operation Active Endeavour (OAE) initially began in response to the terrorist attacks of 11 September 2001. The aim of OAE was to provide a deterrent/surveillance presence in strategic waters around the Mediterranean at a time when the level of terrorist threat, and the location of the threat, were not known. By 2002, OAE had developed into a permanent presence, and by 2004, NATO put in place a New Operational Pattern that included dedicated national assets defined in a Combined Statement of Requirements, rather than employing elements of the NATO Response Force (NRF). By early 2006, SHAPE became concerned with the level of contribution participating Nations were making, particularly in terms of surface ships and maritime patrol aircraft.

The JALLC was requested by SHAPE to analyse the effectiveness of OAE, and to assess whether: the intelligence and associated infrastructure were being used effectively; NATO assets (ships, aircraft, submarines, etc.); there was quantifiable evidence to show OAE was having a deterrent effect; and there were additional benefits to NATO outside its stated objectives.

The project team found that OAE was indeed having a deterrent effect on various types of illegal traffic; that new levels of coordination between NATO and non-NATO nations were being developed; and internal processes for information and intelligence sharing were being developed. However, although OAE was having a deterrent effect, this effect was being constrained by OAE’s Rules of Engagement regarding the boarding of merchant vessels and the fact that there were perceived shortfalls in the contribution of destroyer/frigate and maritime patrol aircraft by participating Nations. Additional benefits to NATO and non-NATO nations attributable to OAE included the beneficial impact on the perception of security for merchant shipping in the Mediterranean, pressure against illegal activities, and cooperation with non-NATO partners. The findings from this project were presented to the MC by SHAPE and have had a positive effect on OAE and other relevant NATO missions.
Disaster Relief in Pakistan (2006)

On 08 October 2005, the Islamic Republic of Pakistan suffered a major earthquake. More than 73,000 deaths and 70,000 injuries were reported, in addition to four million being left homeless. NATO offered to assist the international community in responding to this major natural disaster, initially focusing on two main capabilities: supplies and repairs. The requested supplies included tents, shelters, meals, blankets, medical supplies, and cold weather gear. The requested capabilities involved helicopter support, road engineering restoration teams, emergency field hospitals and mobile surgical teams, and movement handling and onward movement teams from an airport of debarkation.

On the whole, it was concluded that the operation was a success and the Alliance had made significant contributions. This mission showed that the Alliance was able to provide support to help deal with the consequences of a natural disaster in addition to already ongoing relief efforts. The operation also provided an opportunity to prove the ability to generate a tailored NRF, rapidly deploy it to a distant expeditionary environment, and successfully execute a type of mission envisioned by the Heads of State at the Prague Summit in 2002. The redeployment of the Force was also highly successful and demonstrated the importance of a Deployed Joint Task Force-led, centrally planned, fully coordinated and executed plan. The operation validated many of the transformation decisions implemented since the Prague summit, but also underscored the need for more change with regards to some issues such as strategic airlift or common funding.

Overcoming Constraints in Force Generation (2008)

In this report, the JALLC examined contributions to the NRF and Crisis Response Operations (CRO) and identified common constraints identified by Nations. Working through the National Military Representatives, the JALLC used a questionnaire and interviews to gather information. This led to the identification of six constraints associated with the NRF and five with CRO. Limited funding was the only common constraint. Recommendations were made for policy and process changes to overcome those constraints. Significantly, the JALLC found that CRO—mostly ISAF—had significantly fewer issues with force generation than the NRF. Three reasons were given for this: ISAF was seen as a higher priority for limited resources, Partner nations and other non-NATO forces were able to support ISAF, making the pool of potential resources larger; there was a higher level of transformation within ISAF, such as new equipment and procedures.

Although there were a few procedural issues identified in resourcing the NRF, the majority of the constraints identified were political in nature; from concern over how the NRF would be employed, to adequate funding for NRF participation, to higher priority national missions. Political will was identified as a major barrier to NRF participation. Interestingly, more recent NATO member Nations were reported as perceiving more transformational and more Alliance-building benefits from NRF participation than older members. Unlike NRF force generation, the constraints identified for CRO force generation were evenly split between politics and capability. NATO, as a whole, did not have the required capabilities and equipment to fill the requirements. Lack of funding and national caveats were identified as major political constraints on force generation. In some cases, adequate resources were provided to the CRO but caveats on employment of those resources created resource shortfalls in certain geographic or functional areas. Overall, 12 key recommendations were made concerning force generation improvements.
**Sharing, Dissemination, and Release of Information in ISAF (2009)**

In 2008, the JALLC was requested to analyse the sharing, dissemination, and release of information in ISAF in Afghanistan. Information sharing in the NATO environment is complex and challenging due to its multinational force structure and organization. This challenge was most evident at ISAF, with the many contributing nations that supported mission Operation ENDURING FREEDOM. The JALLC, acutely aware of these challenges, endeavoured to identify areas for improvement and best practices that could be used to spur improvements for current and future NATO operations.

In order to analyse the sharing, dissemination, and release of information in ISAF effectively, the JALLC:

* Analysed information sharing within the ISAF area of operations, with specific focus on the interaction with nations and non-military partners, in order to identify possible areas for improving ISAF and wider-NATO information sharing capabilities;

* Examined the necessity to maintain two computer networks within the ISAF Area of Operations;

* Examined the viability of the ISAF theatre Command, Control, Communications, Computers and Intelligence architecture for the timely dissemination of time-critical information;

The analysis identified that information sharing among the many contributing nations and vast assortment of entities operating in Afghanistan was challenging. From this study, the JALLC provided recommendations which yielded significant improvements in information sharing and dissemination at ISAF.

**ISAF Targeting - An Analysis of the ISAF Approach to Targeting (2008)**

This report represented a review of ISAF’s targeting approach with a focus on how it compared to existing NATO doctrine on the matter. In this report, the JALLC found that ISAF conducted its targeting generally in line with NATO doctrine and seemed to be quite effective. Based on the findings, five recommendations were made concerning both doctrinal changes and modifications to the ISAF targeting process.

The first four were recommendations to align NATO doctrine with ISAF targeting policies that were found to be (more) effective. ISAF’s policies were adding flexibility in delegating the approval authority, formalizing the role of the target support cell, incorporating a requirement for deliberate vetting of targets, and highlighting the importance of information sharing between Nations in the target nominating process. Additionally, the report stated that NATO doctrine on dynamic and time-sensitive targeting needed clarification.

Finally, the JALLC documented a need for an improved training programme for NATO targeting and weaponising personnel. Recommended improvements included standardized requirements and a certification standard for targeting personnel. It was also recommended that targeting training be included in future mission rehearsal training events.

Ahead of NATO Summit 2009, Allied Command Operations (ACO) and Allied Command Transformation (ACT) identified the need for a study of NATO’s Partnership for Peace (PfP) programme. Consequently, the JALLC was tasked to analyse the generation and execution of the Euro-Atlantic Partnership Work Plan (EAPWP) in order to enable the stakeholders to optimize the Work Plan’s utility against NATO’s PfP Policy, Partners’ objectives, and the current operational environment.

From the analysis, the project team found that both Partners and NATO Nations considered the EAPWP highly valuable as a building block for other PfP activities and outreach programmes. However, the analysis also identified a number of areas for improvement. For instance, the analysis identified gaps in the EAPWP’s management procedures; planning mechanisms; and capacity for review, feedback, and input in relation to programmes. Overall, the JALLC found that greater emphasis on leadership engagement, along with the development of some processes/tools, would improve the overall relevance and effectiveness of the programme. The JALLC’s review of the EAPWP further found that, although the programme could be run more effectively, both Partners and NATO Nations recognized the EAPWP as an essential element of NATO’s outreach activities. The recommendations in the report identified room for further improvement in the design, coordination, and management of the EAPWP.

This study was significant in that it was the first time the JALLC was required to study NATO activities at the political-strategic level and provide recommendations directly to NATO HQs. Given this context, the study was highly successful because its recommendations have helped guide the development and implementation of NATO’s PfP and outreach activities since 2008.

ISAF Command and Control (2010)

In 2009, HQ ISAF asked HQ SACT to task the JALLC to examine ISAF C2 in order to identify anticipated gaps and overlaps and to determine the levels of shared situational awareness and understanding between HQ ISAF and other HQs in Afghanistan at that time.

The study was conducted in close cooperation with NATO’s Command and Control Centre of Excellence. Early on, it became apparent that there were probably some overlaps and duplication of effort within the ISAF command structure, but, given the level of maturity of the command at the time of the project, it was deemed appropriate to focus more on other interesting findings that reached beyond the original scope of the study; mainly how NATO might consider managing both multi-nationality in operations and levels of command in a post-Cold War environment. Principally, the report suggested that NATO’s levels of command in 2010 did not reflect the realities of an operation such as ISAF. Further, the study illustrated that related NATO doctrine in 2010 was of limited utility in understanding or driving the construct of the operation in Afghanistan.
**ACO Intelligence Structures and Processes (2011)**

By 2010, ACO and ACT had identified a need to increase efficiency and streamline Intelligence efforts. The JALLC was tasked to undertake an analysis of the roles and responsibilities of ACO’s intelligence structures within SHAPE and the Joint Force Command Knowledge Centres. The scope of the analysis included looking at the basic processes, workflows, and mutual interaction, and the future role of the NATO Intelligence Fusion Centre, with the aim of optimizing the Intelligence processes to support operations.

The JALLC found that Knowledge Development (KD) and Intelligence are inseparable concepts. Although no clear delineation was established between the two concepts, the KD concept recognized Intelligence as a crucial contributor to KD with the addition of a broader scope for analysis focus, methods, and sources. The JALLC also found that introduction of the KD concept within NATO was hampered by a lack of change management and inadequate direction and guidance. NATO’s KD concept needed to be endorsed by the Military Committee, along with updates to policy and doctrine relating to Intelligence and KD; the creation of full KD structures and related mechanisms; and procedures and training.

The Military Committee expressed the view that this JALLC Report would, “...contribute very significantly to the range of ongoing transformation projects," further, highlighting that National Representatives expressed their thanks and appreciation for this work, before HQ SACT endorsed the JALLC’s analysis and findings in June 2011.

**Motivating Improved Contributions to the Alliance Defence Measurements (2011)**

In this project, the JALLC distilled the complex matter of how and where Allies utilize their defence capabilities into 13 simple and politically relevant defence metrics. Together, the set of 13 metrics could be used to measure Allies' contributions to the Alliance and paint a comprehensive picture of Alliance capability at the political level. The JALLC report was published in August 2011 and in February 2012, Defence Councillors, representing the 28 Allies in the NATO Defence Policy and Planning Committee (Reinforced) (DPPC(R)), agreed on a final consolidated list of 11 metrics, selected from the original set of 13 metrics proposed by the JALLC. They also agreed that an initial population of the metrics should be compiled and
presented to the Council for notation in advance of the Chicago Summit. In accordance with the JALLC’s recommendation, the metrics calculations were then performed biennially in 2012 and 2014.

The work of the JALLC was instrumental in enabling Allies to reach agreement on the set of metrics in several ways. First, the concept the JALLC employed to design the metrics relied upon nations measuring their commitment in the context of their national capacity, both financially and militarily. This enabled each Ally to understand what proportion of their national capacity was being devoted to NATO and to compare their proportion with that of the other Allies. It also enabled Allies to agree on a single guideline value for the metrics that all Allies, regardless of the size of their economy or military forces, could aim for. While this concept had been employed before with Allies’ financial contribution being measured as a percentage of their GDP with a target of 2%, the JALLC was able to extend the concept to work also with respect to military contributions to the Alliance.

Another novel suggestion from the JALLC was to use the median value rather than the mean value as a benchmark for Allies to compare themselves with other Allies. This helped to allay concerns among Allies that the metrics exercise could turn into a beauty contest, as all Allies would either be in the top half of the bottom half of Allies rather than being listed in a league table. Allies have since agreed to report on whether they are in the top, middle or bottom third, adding further granularity to the reporting.

Following the Wales Summit in 2014 and the introduction of assurance measures, the metrics were adapted slightly to account for the new emphasis in the requirement for Allies’ contributions to the Alliance, but the set still consisted of the 11 metrics the JALLC had originally proposed with minor alterations to the data definitions – an indication of just how robust the solution proposed by JALLC had been. Furthermore, in recognition of the value of the metrics to the Allies and the need to communicate them more widely, some of the metrics would be declassified and shared with the general public. Since 2012, the NATO Annual Report has devoted at least two of its twenty pages to reporting on the declassified metrics. As Allies look to the future, the set of metrics has recently been revised again, retaining nine of the original JALLC metrics, but merging metrics relating to contributions to operations and updating the definitions to reflect changes to NATO’s force structure since the Warsaw summit.

The latest set of seven metrics, agreed by the DPPC(R) in 2017, looks set to continue to assist Allies in gaining a comprehensive picture of how and where they use their resources, helping the Alliance to achieve its capability priorities and foster political will for years to come.

**Operation UNIFIED PROTECTOR, Lessons for the Alliance (2012)**

On 31 March 2011, NATO took sole command and control of the operation, which was designed to protect civilians and civilian-populated areas under threat of attack. The origins and nature of this operation led to many high-level lessons being identified in after action reports and this report by the JALLC focused on those of interest to the NATO HQ International Staff (IS), International Military Staff, and ultimately the Allies.

The report divided the 15 lessons into three broad groups: political considerations, organizational and doctrinal issues, and NATO assets and capabilities. The seven topics presented under political considerations included consultation with Non-NATO Entities, defining the political end states, information sharing in the lead up to and during NATO operations, the NATO Intelligence Warning System, procedures for sponsoring of operational partners, Strategic Communications, and Participation in Standing NATO Forces. There were three lessons under organization and doctrinal issues: transition from a non-NATO coalition, Special Advisors, and Awareness of the NATO Crisis Response Team and Crisis Management Process. The remaining five lessons related to Manning and Augmentation, Intelligence Surveillance and Reconnaissance Assets, Precision Guided Munitions, Data Link Systems and the Recognized Air Picture, and full implementation of NATO logistics planning mechanisms.


In 2001, the Public Diplomacy Division of NATO’s IS wanted to better understand how to improve the way it evaluates the effectiveness and impact of NATO’s public diplomacy activities. The JALLC was asked to analyse existing, or suggest new, practices and tools for assessing the impact of NATO’s public diplomacy activities on its main target audiences in order to recommend a comprehensive Framework for evaluation and enhancement of public diplomacy activities.

The JALLC found that any effective public diplomacy evaluation must be based on well-defined goals and objectives. The Framework recommended by the JALLC in this report began with detailed planning, based on the idea that the only way to reasonably evaluate whether public diplomacy activities were having the intended results (in terms of their effects on the target audience) is first to plan how public diplomacy activities are expected to achieve the intended results. Objectives are included in the plan to provide measurable indications of the progress. Public diplomacy activities are then implemented, monitored, and evaluated based on its associated objectives. The findings from any evaluation are used to improve the plan and the relevant public diplomacy activities.

The Framework developed by the JALLC enables progress and evaluation to be monitored on two levels: first, whether public diplomacy activities are having the intended immediate and direct outputs, and second, whether those immediate and direct outputs from public diplomacy activities are having the desired outcomes and impacts expected in the plan.
Protection of Civilians - How ISAF Reduced Civilian Casualties (2015)

As ISAF grew during its first years of existence, both in size and in geographic scope, ISAF forces came into ever more and closer contact with Afghan civilians. However, due to a significant increase in the level of violence in Afghanistan from 2006 on, unfortunately the number of civilian casualties (CIVCAS) rose correspondingly. This increase in CIVCAS led NATO to look at ways to significantly reduce those numbers, resulting in the implementation of a very deliberate and successful strategy, incorporating a range of measures, designed to reduce CIVCAS.

To ensure that NATO benefited as much as possible from ISAF’s CIVCAS reduction learning curve, the JALLC was tasked to carry out an in-depth analysis of how ISAF reduced CIVCAS.

CIVCAS incidents were related to the intensity of operations by NATO forces in Afghanistan. A statistical analysis was carried out on data collected over the period 2008–2014 which provided irrefutable evidence that ISAF did indeed reduce the incidence of CIVCAS, and that this reduction was a result of measures taken by ISAF to do so, such as specific training programmes, reporting and tracking measures—most notably the Civilian Casualty Mitigation Team established in 2011—and the continual update/revision of tactical level documentation.

Lessons and best practices which needed to be institutionalized within NATO policies, doctrine, procedures, and structures were then identified. This more qualitative analysis resulted in the proposal for a CIVCAS Reduction Cycle comprising three distinct activities—prevention, mitigation, and learning—which would be applied by NATO forces engaged in operations.

The final report made a number of recommendations which have been incorporated into the NATO Policy for the Protection of Civilians that was endorsed by the Heads of State and Government participating in the meeting of the North Atlantic Council (NAC) in Warsaw in 2016.
**Comprehensive Study on the Strategic Lessons Learned from ISAF (2015)**

For more than 11 years, under the mandate of several UN Security Council Resolutions, NATO has committed resources and considerable effort to enable the Afghan government to provide effective security across the country and to develop the Afghan security forces to ensure that Afghanistan would never again be a safe haven for terrorists. The ISAF Mission in Afghanistan terminated on 31 December 2014. The many challenges that have arisen in Afghanistan have provided fertile ground for NATO to learn, resulting in meaningful lessons to further the Alliance’s transformation. To ensure these valuable lessons would not be lost, SACT requested that the JALLC analyse strategic lessons from the ISAF mission in order to facilitate strategic military inputs to relevant transformational initiatives within NATO. ISAF Periodic Mission Reviews formed the principal data source for this project. These were analysed, together with other documents of strategic relevance.

Over 600 observations and lessons were extracted and analysed, allowing the project team to identify and summarize the top eleven strategic topics related to ISAF in the following four domains: Political, Military, Economic, and Social.

This report was approved by the MC and sent to the NAC for notation and sent to the Allied Joint Doctrine Operations Working Group for action.


In order to train, exercise, and certify the Graduated Readiness Forces (Land) HQs—the JAGUARS—for the Joint Task Force HQ role, NATO developed the TRIDENT JAGUAR (TRJR) series of exercises. In the 2014 iteration of the exercise, NATO Rapid Deployable Corps (NRDC) Spain and Naval Striking and Support Forces NATO (STRIKFORNATO) were the first NATO Force Structure HQs to be successfully certified. In 2015, it was the turn of NRDC-Italy and the Allied Rapid Reaction Corps and in 2016 NRDC-Turkey. In 2017, the 1st German Netherland Corps and the Rapid Reaction Corps – France were certified.
All JAGUARS successfully met the requirements and were certified as Deployable Joint Operational HQs, available to the Supreme Allied Commander Europe for a one- or two-year stand-by period, in accordance with NATO’s Long Term Rotation Plan.

The JALLC was tasked to analyse the processes, capabilities, and structures of the HQs involved as they were used during the exercises. Through two Joint Analysis Reports, the JALLC identified lessons to improve the ability of these HQs to perform the role of a NATO Force Structure Integrated Model Joint Task Force HQ; supported the Joint Warfare Centre in improving the delivery of training; and provided valuable insights for the continued development of the concept.

The JALLC contributed to the production of the first edition of the NATO Force Structure Integrated Model Joint Task Force HQ Handbook in 2016. The Handbook combines observations from the TRIDENT JAGUAR exercises with insights and analysis from Subject Matter Experts at the Joint Warfare Centre, the JALLC, and NATO’s Command and Control Centre of Excellence.

On 29 November 2016, a Signing Ceremony for the Handbook took place at the 2016 NATO Lessons Learned Conference in Lisbon, Portugal. The Handbook was signed by Brigadier General Mário Barreto, Commander of the JALLC, Captain Renéé van Pamelen-Hollenberg, Director NATO Command and Control Centre of Excellence, and Lieutenant Colonel Jacek Ropejko, Branch Chief, Quality Assurance (Lessons Learned) of the Joint Warfare Centre (JWC) who was representing Major General Andrzej Reudowicz, Commander of the JWC. The Signing Ceremony marked the official launch of the Handbook.
Analysis Education & Training

Joint Analyst Training Course

In order to ensure that the JALLC military and civilian analysts are able to do their jobs and perform the special kind of analysis that the JALLC conducts, the JALLC provides a Joint Analyst Training Course at its facilities in Lisbon, Portugal. The purpose of the course is to provide analysts with the specific techniques, tools, and knowledge they will need to conduct JALLC analysis projects in accordance with the JALLC Project Approach.

The JALLC Analyst Training Course is a five-day course which leads participants through a wide range of issues and topics related to the conduct of analysis at the JALLC. The course covers all stages of the JPA and includes lectures and practical group assignments which give the students a chance to practice the knowledge they’ve gained. The course also includes training on how to organize findings into a written product.

Over the years the course has evolved and matured and has become an integral part of the JALLC’s training package. Although the course is primarily designed for JALLC Analysts, its scope is broad enough to be of interest to anyone within NATO, and indeed outside of NATO, conducting analysis projects. For this reason, the JALLC opens up any spare places on the course to non-JALLC participants whenever possible.

The course is complemented with a range of training materials which include, slides, hand-outs, read-aheads, practical experiments, and lectures. The course is delivered by the JALLC’s team of expert trainers who provide a learning experience on everything from project management to analytical writing, setting course participants up for success in their careers as analysts.

Joint Analysis Handbook

In order to support, not only the JALLC analysts, but all analysts within NATO and even those outside of NATO, the JALLC developed the Joint Analysis Handbook. Many of the principles, procedures, tools and techniques described in this handbook are not only applicable to Joint Analysis, but also to other areas of analysis. As such, this handbook has always been an invaluable source of information for any analyst—military or civilian—working in NATO, in the member Nations, or beyond the scope of the Alliance.

This handbook provides guidance on how to conduct analysis in support of Lessons Learned processes. It is primarily designed to assist Lessons Learned Analysis Staff Officers with all aspects of conducting analysis, both in the office and when deployed to operations, training events, exercises, or experiments. The first edition was published in 2005 digitally and printed for the first time in 2007. The latest edition, the fourth, was published in February 2016.
15 Years of Lessons
Learning within NATO is quite simply the basis for transformation of the Alliance and NATO recognizes that in order to learn, a dedicated procedure needs to be in place to ensure that mistakes are not repeated and best practices are captured. Indeed, NATO key documents on the matter of organizational learning state that the purpose of a Lessons Procedure is to learn efficiently from experience and to provide validated justifications for amending the existing way of doing things, in order to improve performance, both during the course of an operation and for subsequent operations. This emphasizes the need for a speedy resolution for lessons, for good analysis, for only conducting change if really required, and for the benefit of future activities, not just as a reflection on past efforts.

A Lessons capability comprises several important elements including a defined and workable business Process, within which stakeholders can clearly identify their roles and responsibilities; Tools to support the capture, managing, searching and sharing of knowledge including lessons; and a properly resourced Structure wherein trained and experienced staff officers, supported by active Communities of Interest, can manage internal and external organizational learning. Additionally, a positive learning mind-set across an organization is extremely important, governing the success of real learning, sustained improvement and profitable knowledge-sharing with Allies.

Everyone within an organization needs to be involved in learning lessons for the Lessons Capability to be successful. Yet often it seems that many people believe that the presence of a Lessons Capability frees them of their own responsibility for organizational improvement and learning: “I don’t have anything to contribute; I don’t need to learn anything myself; it’s not up to me to change the way we do business!” Yet nothing could be further from the truth.

A lesson is not learned until something changes in the way we operate, and the ones who need to change are the ones affected by an issue. Everyone in an organization has a responsibility for learning lessons, and needs to understand its value. The simplest way to get everyone involved in NATO in learning lessons is to ensure that the capability is constantly demonstrating value. To do this, the JALLC has an important role to play supporting NATO’s Lessons Learned process, Lessons information sharing, and encouraging participation in the Lessons Learned community. In this respect, the JALLC also helps other organizations and even NATO’s Partners set up and improve their Lessons capability.

In this chapter we explain a bit more about how the JALLC’s activities in the Lessons domain have contributed to NATO’s Lessons Learned Capability over the past 15 years. These activities include the development and evolution of the NATO Lessons Learned Portal, the NATO Lessons Learned Conference, and the JALLC’s own outreach activities.
The NATO Lessons Learned Portal

A Lesson in History or… A History of Lessons

NATO has always prided itself on being a learning organization; improving over time by capturing hard-won knowledge and applying it efficiently and effectively, transforming to meet the needs of the Allies. Much of this transformation is based on results from application of the NATO Lessons Learned Capability; its structure, process, and tools.

Connecting the right people by gathering them through the Lessons Learned Community, following the right process, using the appropriate tools, ensures that Lessons from all over NATO and from all NATO activities are captured, analysed, learned, and shared. And it is this last requirement in particular—the right tool—that would lead to the development of the NATO Lessons Learned Database (NLLDb) that would later become the NATO Lessons Learned Portal (NLLP) we know today.

The Need to Share

The need to share observations, lessons, and best practices was identified early on within NATO as being key to a successful Lesson Learned Capability. As such, an IT tool would need to be developed and made available to the NATO Lessons Learned Community. This tool would need to be easy to use and facilitate the NATO Lessons Learned Process.

In 2003, initial development began on a Lessons management tool, inspired by the Lessons Learned Database of the PAT, the JALLC’s precursor body. With the JALLC in the lead, this first tool became the NATO Lessons Learned Database, designed to address the needs of NATO Lessons Learned Community. Launched in 2005, it was initially only made available on NATO’s classified computer network, limiting its scope. However, by the following year, in 2006, an unclassified version was launched and made available via the internet.

The NLLDb was then available to all NATO Lessons Learned Community members—mostly Lessons Learned Staff Officers—who needed to request access through the JALLC, as the database manager. This was initially granted on a need to know basis. By 2010, access was also being granted to Lessons Learned Community representatives from NATO Partner nations, widening the scope of the NLLDb.

As the use of the NLLDb evolved, certain users, such as Lessons Learned Staff Officers from NATO’s Joint Force Commands, SHAPE and HQ SACT, were granted access to more areas of the NLLDb which would allow them to better perform their roles.
**What did it do?**

The NLLDb was initially developed with NATO Lessons Learned Staff Officers in mind, allowing them to better coordinate and manage work relating to Observations and Lessons from routine NATO activities, operations, and exercises. The NLLDb functioned as a centralized and easily accessible location for these officers to work from and also became the archive for anything to with NATO’s Lessons.

Although the NLLDb was designed to house all Lessons related material, it also contained guidance on how to use the database and on the NATO Lessons Learned Process. This guidance remained on the NLLDb until 2010, when the first edition of the NATO Lessons Learned Handbook was published, which took over the role of providing guidance and information on NATO Lessons Learned Process. The NATO Lessons Learned Handbook is now in its fourth edition and continues to inform its audience on all matters related to Lessons.

Early guidance on the NLLDb described Observations as, "Detailed examinations of phenomena prior to analysis, diagnosis, or interpretation." Lessons Identified were described as “Observations that have been processed and deemed to be beneficial to others.” The staffing process was described as including discussion of the nature and causes of the observation, recommendations of actions to be taken, and a proposed action body. A Lesson Learned was considered to be, “An implemented recommendation action that produced an improved performance or increased capability.” Best Practices was a term which was only introduced later to cover a need to describe a technique, process, or methodology that contributed to the improved performance of an organization and had been identified as the best way of operating in a particular area compared to other good practices. This terminology would later become established within the NATO Lessons Learned Community, albeit—as with all transformational terminology—the exact meaning of the terms would evolve and be refined as time passed, to meet the relevant needs.

**How did it work?**

It was clear from the outset that the NLLDb would need to meet certain needs to serve its purpose:

**Access:** all users needed to be able to access Observations, Lessons, and Best Practices either being run through the NATO Lessons Learned Process or which had been archived.

**Contribution:** all users needed to be able to contribute Observations, Lessons, and Best Practices as efficiently and effectively as possible; this meant designing a user-friendly template.

**Extract:** database research results needed to be provided in an easy to use and searchable format (PDF) that could be downloaded for further use.

**Management:** the database would need to be managed properly to ensure that it remained factually correct and contained only relevant information. Specially trained Staff Officers from the JALLC, HQ SACT, SHAPE, and the Joint Force Commands had enhanced permission rights allowing them to review, update, approve, and reject the entries in the database.

**Search:** database entries would need to include metadata that would allow users to search for and through Observations, Lessons, and Best Practices by applying specific filters.
Keeping up with the times; Meeting Challenges: 2005-2010

From its launch in 2005, the NLLDb underwent several upgrades, retaining its core functions but becoming steadily more technically advanced and user friendly. The review of the NATO Command Structure in 2013 resulted in greater awareness of the NLLDb among NATO Nations and Partner nations and saw a corresponding increase in the use and submission of observations to the NLLDb. It was also at this time that the roles and responsibilities related to NATO’s Lessons Learned Capability were revised, resulting in further adjustments to how the NLLDb operated. These revisions would ensure users became aware about Lessons entering the NATO Lessons Learned Process via the NLLDb.

In light of these changes, one challenge faced by the NLLDb developers during the evolution of the database was the need to balance the timely submission of Lessons, Observations, and Best Practices, with the assurance that such submissions were being properly reviewed and approved through the Lessons Learned Process. It was important to maintain the quality of the data contained in the database. As such certain checks were put in place that would allow trained Lessons Learned Staff Officers to validate the relevance of submissions, that they were factually correct, and to prevent duplication before they were published on the NLLDb, greatly increasing the value of the data it contained.

Finally, the exponential growth of the internet since 2005 meant that search capabilities, website development, and increasing computer familiarity had greatly evolved and improved. As such, what by 2010 was already viewed as standard practice (software, platforms, methods, etc.) had not even been thought of, or was simply in its early development stages, when the NLLDb was developed in 2005.

All of the above changes and challenges, and the ever-increasing need to share information within NATO, resulted in the recognition that the NLLDb was no longer a powerful enough tool to suit the Alliance’s needs. There was now a need for a Lessons Sharing tool that could do more than just function as a database of Lessons. What was needed was a Lessons information exchange system that was web-based, easier to use, and easier to manage. This system would need to provide a powerful searchable archive and standard website-like features such as discussion forums, messaging capabilities, and links to other systems (within NATO and including NATO Nations and Partners nations) that would contribute to improved information sharing within NATO. A tool such as this would add significant value, allowing NATO users to search for, find, share, and comment on Lessons-related information. This need would ultimately result in the development of the NATO Lessons Learned Portal as we know it today.
The NATO Lessons Learned Portal was developed by the JALLC to answer to these needs. It was launched online as a prototype in 2010 and initial user feedback was positive, prompting further development and refinement. In March 2013, a NATO Lessons Learned Working Group, dedicated to develop and maintain a NATO Lessons Learned Community, reviewed the prototype and provided input for a development plan for the Portal. Simultaneously, work was being conducted to include reference to the NLLP and its use in key NATO documents, setting out roles, responsibilities, workflows, and functionalities, among other things.

Since 2013, the JALLC has continued to develop and manage the NLLP, which has become NATO’s key tool for the sharing of Lessons Learned and related information. The NLLP is a centralized platform, allowing the NATO Lessons Learned Community to share Lessons Learned related documents, such as overarching reference documents (Policies, Reports, Handbooks, etc.) and operational and exercises-related lessons (Best Practices, Lessons Identified, Lessons Learned).

The NLLP also supports Communities of Interest which are areas within the NLLP that connect users with a common interest in a specific subject or within a specific area of expertise by providing them with access to dedicated and exclusive areas of the NLLP to announce events and share documents.

2017 is a key year in the evolution of the NATO Lessons Learned Portal. One aspect of its ongoing evolution involves a technological upgrade of the software. This upgrade was necessary to meet the need to keep the Portal operable and sustainable for the future. Another aspect of the evolution is the general improvement of the NLLP’s functionalities in order to turn the Portal into the NATO’s single Lessons Management Tool, as part of the implementation of the NATO’s wider and concerted efforts to improve its Lessons capability which began in June 2017.
The Evolution of the NATO Lessons Learned Conference since 2003

Since 2003, the JALLC has hosted the NATO Lessons Learned Conference, which has become an important event in NATO’s Lessons Learned calendar, bringing together participants from NATO and National entities, developing a stronger NATO Lessons Learned Community. This event provides participants with the opportunity to exchange information and experiences within the NATO Lessons Learned Community and stimulates discussions on best practices for improving NATO’s Joint Analysis and Lessons Learned capabilities, enabling the continuous transformation of the Alliance. In this section we provide an overview of how the NATO Lessons Learned Conference has evolved throughout the years and take a brief look at what the future may hold.

Conference Attendance Over the Years

From the very first conference in 2003 to the latest iteration which was held in 2016, the conference has transformed from a fairly modest affair, which saw subject matter experts get together to discuss relevant topics, into what it is today. As the conference grew in participant numbers and importance, it became the key event for the Lessons Learned Community to get together on an annual basis, to touch base and catch up on the latest thinking as well as to review experiences from the previous year. Today, the conference boasts attendance of over 250 participants from a wide range of NATO and Non-NATO Entities, representing many NATO Nations and partners.

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Location, Location, Location

The location of the NATO Lessons Learned Conference has changed over the years. From 2003 to 2006 the conference was held at hotels in or near Lisbon. But the growing number of participants and the increasing importance of the conference meant that a more suitably sized and located venue was required. In 2007, the conference moved to its current location, the Portuguese Military Academy in Amadora, Lisbon. The academy provides a good mix of large auditorium spaces, smaller break out rooms, and an area to socialize and network.
Conference Reporting

The conference has had a wide range of themes over the years centred around NATO’s Lessons Learned Process. These themes have included subjects such as: Extracting Lessons from Operations and Closing the Loop - The Lessons Learned Capability in support of NATO Transformation. Each conference theme is broken down into related topics which are discussed by panels of subject matter experts and the conference audience.

The JALLC has always produced a report on the conference, although the format, content, and reach of the product has evolved over the years. For the first conference in 2003, the JALLC produced minutes: a simple and fairly short document, summarizing in bullets the agenda, number of participants, topics discussed, and any highlights. As conference participant numbers swelled, it became apparent that there was a need for a product that would provide more detail on what was covered at the conference.

In 2010, the JALLC published the first edition of the NATO Lessons Learned Conference Report, which was made available to the public via the JALLC’s website. This version of the report contained overviews of the panel discussions, summaries of key speakers’ presentations, pictures from the conference, and other related information. By 2015, the conference report had evolved into what it is today: a 50-page booklet on all things related to the NATO Lessons Learned Conference, including information on the JALLC and its activities. The report is printed in colour and is also available in digital format on the JALLC’s website.

Conference Overview 2003 - 2016

2003

The very first NATO Lessons Learned Conference was held in 2003 and was mainly intended to provide a venue at which participants could exchange views and ideas on the NATO Lessons Learned Process in general and more specifically on the NLLDb (the forerunner of the NLLP) and the PfP Lessons Learned Database.

2005

Although there was no conference in 2004, a 2005 iteration was held to ensure that the overarching NATO Lessons Learned Process, structure and technology was understood by all Lessons Learned stakeholders to enable the continuous improvement of the Alliance. The Lessons Learned Community understood that, after the process had been defined and the basic tools put in place, it would still be a challenge to ensure they were implemented at every level of NATO. As a result of the success of the 2005 conference, the decision was made to make the NATO Lessons Learned Conference an annual event and the JALLC was tasked by SACT to become its host.
The 2006 conference was focused on enhancing the understanding and responsibilities of those involved in NATO’s Lessons Learned Process. The roles and responsibilities of relevant NATO and national organizations in the NATO Lessons Learned Process were discussed and technological and conceptual improvements made or developed over the course of the previous year were presented. For the first time, the conference also offered participants a review of current operational lessons and issues in a separate seminar.

By 2007, the role of the Lessons Learned Process in NATO as well as the increasingly important role of the Lessons Learned Community in its implementation were becoming clear. The best practice of ensuring that the NATO Lessons Learned Process evolved based on ideas and experiences from within ACT, with direct cooperation from ACO, was being developed. Following this concept, the 2007 iteration of the conference aimed to provide a forum for the reciprocal exchange of ideas and experiences in the area of Lessons Learned. During the conference, Lessons Learned related improvements and innovations were presented, including those to the NATO Lessons Learned Database, and the JALLC’s *Joint Analysis Handbook* was highlighted.

2008 was the first time that NATO’s Partner nations were invited to attend the conference, furthering NATO’s efforts to integrate them into NATO practices and operations. Given the role of the Lessons Learned Process and Community as a stimulus to the development of best practices, ACT, with direct cooperation from ACO, wished to ensure that the NATO Lessons Learned Process itself evolved based on such ideas and experiences. The 2008 conference succeeded in providing a platform for defining that evolution. This conference also offered a panel discussion showcasing NATO Commands and Nations internal Lessons Learned processes and how their processes interacted with the NATO-wide Lessons Learned Process. The challenge would be to keep everyone involved and actively contributing, pushing Lessons through to implementation. Critical to achieving this would be increasing the level of participation in the Lessons Learned Process throughout NATO and expanding the use of networking by key players.

A central theme that emerged from the 2009 conference was overcoming hindrances to sharing. The need to share was no longer questioned at this stage. Instead, the problem was in identifying what needed to be shared and how it should be shared. It was pointed out that the issue begins in identifying the *customer* for the information to be shared. Not everything can or should be shared; only applicable and relevant lessons should be shared with a targeted customer. Sharing Lessons with and within ISAF emerged as the other central theme of the 2009 conference. The main point highlighted was that NATO must use the criteria of applicability, relevancy, and common sense in the sharing of Lessons related information.
The aim of the 2010 conference was to provide NATO with a forum for the exchange of information within the NATO Lessons Learned Community, and in doing so, to stimulate discussion on best practices for Joint Analysis, the Lessons Learned Process, Remedial Action processes, and supporting tools, in order to enable the continuous improvement of the Alliance. Specifically, the conference sought to tackle the two questions that appeared to be the major stumbling blocks in NATO’s Lessons Learned Process: how to turn Lessons Identified into Lessons Learned; and what constitutes a Lessons Learned Capability.

The format for the 2011 conference differed greatly from previous years where the focus had been on the NATO Lessons Learned Capability and Process, and was aimed at Lessons Learned Practitioners, examining how NATO can implement lessons learning in its organizations. The theme for this conference was *Extracting Lessons from Operations* and the focus was moved from Lessons gained from operations to the operators themselves; those who are best placed to identify lessons and who in turn must learn lessons if the organization as a whole is to improve.

The 2012 conference theme was: *Learning from the Past – Preparing for the Future.* The theme allowed participants to look beyond development of the NATO Lessons Learned Capability and the capture and implementation of specific lessons from NATO’s (then) recent activities, towards the broader perspective of NATO’s activities of the past decade to consider how experience and lessons can be applied to NATO’s future activities.

The 2013 conference was focused on the fundamentals of NATO’s organizational learning processes, aiming to showcase how NATO learns from experience, and consolidates and shares lessons among its Command and Force Structures as well as with member and partner countries. The conference theme was: *Consolidating Lessons, Sharing and Learning.*
The 2014 conference focused on the theme: *Learning from Experience, Strengthening the Alliance*, and looked at how NATO’s learning process can be structured to ensure it is a continuous one. The concept of continuous learning was echoed in (then) SACT’s description of his vision of Transformation which was given during his opening speech: “*...a golden thread which binds NATO’s past, present, and future.*”

The aim of the 2015 Conference, which covered the theme: *Closing the Loop: The Lessons Learned Capability in Support of NATO Transformation*, was to assess how NATO’s Lessons Learned Capability supports the Alliance’s ability to prepare for and conduct current and future military operations. During the conference, participants explored new approaches to embed lessons from Non-NATO Entities and investigated parallels with the way other organizations manage their Lessons Learned process.

During the most recent iteration of the conference, which was held 2016, the focus was on the theme: *The Future of Lessons Learned: Innovation and Improvement*. The audience heard presentations and discussions on various topics relating to the Conference theme including on SACT’s key focus areas, innovative ideas for the future of Lessons Learned and how NATO Lessons Learned support can be improved. Having the Lessons Learned Community come together at the Conference invigorated efforts to optimize the NATO Lessons Learned Process; in particular the role the JALLC will play in this respect and the future of the NATO Lessons Learned Portal.

**The future of the NATO Lessons Learned Conference**

The JALLC is always looking for ways to improve the NATO Lessons Learned Conference in terms of content, participant experience, and tangible outcomes for the Alliance. The JALLC seeks to align the Conference with NATO’s and the Nations’ expectations for the future and will continue to strive to organize and deliver this key event in NATO’s Lessons Calendar to the very highest standards.
The JALLC has a long history of outreach amongst the Lessons Learned community. The NATO Lessons Learned Conference has built a reputation for bringing the broader Lessons Learned community together. In addition, the JALLC has readily accepted many invitations to attend and present at a large number of conferences, training events, seminars and working groups to provide expertise both in general Lessons Learned process terms, but also on specific analysis themes. Indeed, the JALLC is often seen as a source of subject matter expertise in many areas beyond simply Doing Lessons by virtue of the often unique nature of some of its analysis projects and the NATO-wide reach that these involve. A good example is the JALLC’s study of Provincial Reconstruction Teams (PRT) in ISAF: the only, to date, holistic overview of each and every PRT in ISAF, their configurations, outputs and achievements. The project manager continued to brief this topic at the highest levels in NATO some time after the project was finalized.

Early Days of Reaching Out

In the JALLC’s early years, much of the Lessons related outreach was conducted by what was then called Production Branch, and by the Operations Division and Exercise, Training, and Experimentation Division for joint analysis projects. Gradually, as the JALLC gained experience in conducting joint analysis and its capacity developed, the requirement for outreach increased. Initial outreach efforts focussed on promoting the NATO Lessons Learned Database, rolled out in 2005, but would quickly expand into other areas including training events at the Joint Force Commands and NATO HQ, to not only increase familiarity with the database, but also to enhance individual HQs’ own Lessons capability. Part of these efforts also included providing database support to the development of NATO’s Defence Planning Process conducted at HQ SACT’s Staff Element Europe at Liveoak on the Mons campus.

The capstone to the JALLC’s early outreach activities was actually a joint analysis study an that required the JALLC to examine the NATO Lessons Learned Process, including the Remedial Action process and lesson sharing, both from the NATO and national perspective. In addition, and as part of the data gathering effort, the analysis team produced a separate report on the theme specific to ISAF.

The analysis, and importantly the relations gained across the Alliance and both NATO and Nations contributing to the ISAF mission, were an important contribution to the development of a course that would help train the NATO Staff Officers in NATO’s Lessons Learned Process (the Lessons Learned Staff Officers Course) and the JALLC Advisory and Training Team which would become a dedicated team of subject matter experts that travelled around NATO providing support, training, and expertise regarding almost all matters related to Lessons Learned.
The Lessons Learned Staff Officers Course

In May 2009, the JALLC supported the pilot NATO Lessons Learned Staff Officers Course, hosted by the Swedish Armed Forces International Centre, which, to this day retains the directorship of the course. This highly popular course has trained over 400 students from 40 nations (an average of 25% of each course’s students represent Partner nations), and is responsible for a significant increase in appreciation and understanding of the value and importance of Lessons related activities within the military.

The course increased awareness both of the utility of the NATO Lessons Learned Process and the JALLC itself, and as a result, the JALLC was increasingly requested to conduct briefings and training across the Alliance. This demand required the establishment of the JALLC Advisory and Training Team, for training and mentoring in Lessons related activities, and a suite of media to promote Lessons management and JALLC analysis projects. These have included the (digital) publication of the JALLC Analysis Handbook (2005), the publication of the NATO Lessons Learned Handbook (2010), the NATO Lessons Learned Portal (2010), and The Explorer, the JALLC’s newsletter, first published in October 2010, and JALLC Project Factsheets, produced from 2011 on.

The JALLC Advisory and Training Team

The JALLC Advisory and Training Team, or JATT as it was referred to, was established in 2010 to assist member and Partner Nations as well as NATO commands and agencies, to establish and enhance their Lessons capabilities. The JATT advised on Lessons related processes, including NATO’s own Lessons Learned Process, Lessons related organization, and supporting tools. The JATT mostly worked through assisting structured NATO training and also by sending out Mobile Training Teams and conducting various mentoring activities but also acted as a hub for the NATO Lessons Learned Community. The original team comprised of two members, but the...
The Approach to Outreach

The JATT developed a three-stage approach to its outreach activities, comprising Initial Assessment, Focussed Engagement, and finally Monitoring & Mentoring. The Initial Assessment phase allowed the team to understand the current and potential capability the entity being assessed may have for Lessons related activities, and the appropriate support which would be required to establish or enhance a Lessons capability. The Focussed Engagement phase could include close support of training events, provision of supporting IT resources, and assistance in establishing a Lessons Process. The final phase, Monitoring and Mentoring, comprised maintenance of an advisory relationship and a strong information-sharing relationship.

To ensure operational effectiveness and efficiency, but also to encourage information-sharing, JATT prioritized a Regional Approach to its outreach programme. For instance, the JATT would engage several regional Nations, or a NATO Joint Force Command with its subordinate Component Commands, in the same programme.

Well-trained personnel are a key driver for successful Lessons Process. The JATT supported this in two ways, with support to the NATO Lessons Learned Staff Officer Course and to national training activities, providing guest speakers and facilitators to training events.

Typically, the training provided would reflect the NATO Lessons Learned Staff Officers Course curriculum, and included instruction on the theoretical and doctrinal background to Lessons related activities, observation gathering, Lessons staffing procedure, Lessons sharing Best Practice, supporting IT resources, and examples and case studies of Lessons related processes and procedures from within and outside the Alliance.

Since 2010, the JATT has undertaken a large number of engagements, including quarterly support to the NATO Lessons Learned Staff Officers Course, visits to NATO Command and Force Structure HQs, and NATO and Partner Nations, plus a large number of Centres of Excellence, and Partner Training Centres. The JATT has also closely supported HQ SACT’s Nations Engagement Team (NET), providing a small briefing team during the NET’s missions to NATO Nations under the auspices of HQ SACT’s Deputy Chief of Staff, Capability Development.
The JATT has also conducted two training events in ISAF, training staff at HQ ISAF, ISAF Joint Command and the NATO Training Mission Afghanistan. In addition, the JATT represented the JALLC and conducted outreach including training in the USA, France, Spain, Portugal, UK, Norway, Sweden, Finland, Poland, Germany, Slovakia, Slovenia, Croatia, Bosnia and Herzegovina, Turkey, Italy, Hungary, Denmark, Belgium, the Netherlands, Australia, Kazakhstan, Azerbaijan, Afghanistan, Romania, Bulgaria, Ireland, Georgia, Estonia, and Lithuania.

The JALLC’s Outreach Activities Today

Today the JALLC continues to offer training on conducting Analysis and the NATO Lessons Learned Process. This training includes the use of various lessons-gathering processes, staffing and sharing tools, basic analysis techniques, and lessons learned procedures. The aim of the JALLC’s outreach efforts remains to develop a strong information-sharing relationship with those it reaches out to through delivering flexible, bespoke support at the customer’s location. The strength of the JATT’s activities lies in the ability to tailor the support provided—be that for example analysis training, or assistance setting up a Lessons Learned capability or, in fact, any kind of support required relating to Analysis and Lessons activities.

The JATT’s composition is tailored to each outreach event to ensure the best possible mix of civilian and military experience and expertise is provided to the customer. Although priority is given to NATO Operations requesting support, the JALLC also engages with organizations within the NATO Command Structure and the NATO Force Structure, Centres of Excellence, Nations, Partners, and even other international organizations.

For example in 2015 and 2016, the JALLC provided support to the Ministry of Defence in Baku, Azerbaijan, the Afghan National Army in the context of the Resolute Support Mission, Joint Force Command in Brunssum, the Netherlands, the Hungarian Ministry of Defence (see picture), the Lithuanian Armed Forces, the Italian Air Force, the Japanese Ministry of Defence, the Ukrainian Armed Forces, to name but a few.
Support to NATO
Exercises & Experimentation

JALLC support to NATO exercises and experimentation over the past 15 years has been multifaceted and has underpinned every aspect of the JALLC’s Mission. JALLC military and civilian analysts have participated in all stages of the NATO Exercise Process, from Concept Specification and Development, through Planning and Product Development, Operational Conduct to Analysis and Reporting. Exercises, especially the Crisis Response Planning Phases (IIA/IIB) and Execution Phase (IIB), have represented excellent venues at which to collect observations and to complete surveys, questionnaires, and interviews. This invaluable data has been pivotal in supporting the JALLC’s analysis of NATO’s many complex issues and challenges. In this section we provide an overview of a selection of NATO Exercises and Experiments over the past 15 years which give a good indication of the kind of support the JALLC provides to these important NATO events.

Exercise NORTHERN LIGHT

Exercise NORTHERN LIGHT 03 provided a key opportunity for NATO to conduct several experiments to test new operational concepts, ideas, and equipment. These experiments were designed to be conducted during Exercise NORTHERN LIGHT 03 without significantly affecting the actual exercise being carried out, taking advantage of the exercise scenario, location, and forces taking part. The results of the experiment were used to further develop and enhance NATO’s operational effectiveness in several specific areas. The experiments were also more generally used to demonstrate NATO’s ability to conduct large scale experimentation, to develop NATO procedures for experimentation, and to ensure relevant experimental results were efficiently collected and used to enhance NATO’s operational effectiveness.

The first experiment tested the effectiveness of using autonomous underwater vehicles (AUVs) fitted with commercial off-the-shelf sensors in response to a terrorist threat in ports and harbours. The JALLC concluded that although AUV technology at the time was relatively mature for carrying out mine-hunting operations with minimal operator training, the concepts, doctrine, tactics, and procedures for the employment of AUVs and their integration with NATO’s conventional Mine Counter Measures forces required development, refinement, and promulgation. The second experiment tested the concept of amalgamating the in-theatre coordination responsibility of the Multinational Joint Logistics Centre with the command and control authority of the Maritime Multinational Logistic Command in order to provide a leaner organization for the logistics support of joint operations. One key conclusion was that a Joint NATO Logistics Command may afford a viable solution to the provision of timely logistics support to the NATO Response Force in the planning, preparation, and execution phases of an operation: such an idea eventually resulted in the NATO Joint Logistic Support Group concept. The third experiment tested the Concept of Operations and functions of the SHAPE Prototype Nuclear, Biological, and Chemical Event Response Team (PNBC-ERT) and Analytical Laboratories and Sample Gathering teams. The JALLC concluded that the concept was a workable method of enhancing a Commander’s staff in an area where organic specialist knowledge is scarce and was recognized as such by both the Joint Force Command HQs and Component Commands.
Exercise ALLIED ACTION 2004

Exercise ALLIED ACTION 2004 was the first Command Post Exercise to test the Deployable Joint Task Force (DJTF) HQ concept to provide joint C2 for the NRF.

Four JALLC analysis projects benefited from data collected at this exercise, including one JALLC analysis project which looked at the Effects Based Approach to Operations (EBAO) concept developed by the Joint Force Command Naples’ DJTF HQ, and another which looked at the process, organization and technology associated with the coordination between the DJTF and the parent HQ. The JALLC analysis project that examined the Information Operations (Info Ops) activities carried out by Joint Force Command Naples staff during the exercise reported on five key areas: the role and position of the Info Ops Chief, global synchronization of the Info Ops effort, staff training on Info Ops, Info Ops targeting, and Info Ops exercise play. Finally, the JALLC also investigated the Information Management and Knowledge Management (IM/KM) processes within the DJTF HQ and their ability to support the Commander’s Critical Information Requirements, Internal Communications, and Information Channels.

Exercise ALLIED WARRIOR 2005

In 2005, the JALLC was requested to carry out analysis of the integration of the Nuclear, Biological, and Chemical Joint Assessment Team (NBC-JAT) within the whole DJTF HQ and its relationship with the supported command being the (then active) Joint HQ Lisbon.

Specifically, the JALLC investigated the integration of the NBC-JAT into Joint HQ Lisbon and the various relationships between the relevant staff functions between the assessment team and the HQ.

MULTINATIONAL EXPERIMENTS (MNE) 4, 5, and Coalition Warfighting Interoperability Demonstration (CWID) 2006

JALLC staff were actively engaged during 2006 in NATO’s EBAO programme by, among other things, providing the deputy lead for the MNE 4 NATO analysis team, and having overall responsibility for producing the final Analysis Report for the Experiments which was published by HQ SACT in November 2006. JALLC representatives also participated in the EBAO Working Group of the two Strategic Commands and were closely involved in the ACT-led workshops developing the effects based campaign assessment process to be examined as part of MNE 5 which would take place in 2008.

The JALLC further participated in the analysis conference of CWID 2006.
Exercise STEADFAST JACKPOT 2007

A JALLC team, augmented with US Navy Reservists, conducted combined analysis during Exercise STEADFAST JACKPOT 2007 that looked at NRFC2 Reachback capabilities of the: Intelligence Fusion Centre and the Joint Electronic Warfare Core Staff, the Joint Common Operational Picture, and the integration of the NBC-JAT within the HQ. Three Interim JALLC Reports were released in 2007 and a fourth, on NBC-JAT, was released in early 2008.

Exercise STEADFAST JOIST and STEADFAST JUNCTURE 2008

The NRF Time Sensitive Targeting process was addressed through the observation of the Joint Force Commands during Exercise STEADFAST JOIST 08 and STEADFAST JUNCTURE 08. The JALLC’s own report on Time Sensitive Targeting, issued in December 2008, fused the main findings of the these exercises at the operational level and linked them with the findings from analysis of the ISAF targeting process. The main findings from the analysis were briefed at various NATO conferences and recommendations were made for the revision relevant NATO key documents and manuals.

Moreover, the JALLC also used data collected during Exercise STEADFAST JUNCTURE 08 to analyse Joint Force Command C2 capabilities and the DJTF functionalities using the EBAO, resulting in the report on C2 and Reachback which was published in January 2009.

Exercise STEADFAST JUNCTURE and LOYAL JEWEL 2009

Exercises STEADFAST JUNCTURE 09 and LOYAL JEWEL 09 were two of the NATO exercises that addressed the Deployable Joint Staff Element (DJSE) C2 concept implementation and at which the JALLC was present to collect data. The JALLC was able to identify Lessons regarding the C2 construct being tested as successively implemented by the HQs taking part in the exercise.

The report produced by the JALLC on DJSE Command and Control was released in December 2009 and the first findings from STEADFAST JUNCTURE 09 were briefed to the relevant HQ Commanders which allowed for internal procedures to be adjusted in preparation for Exercise LOYAL JEWEL 09, ensuring that this exercise was even more effective and efficient in terms of implementing the DJSE Command and Control Concept.
**Exercise STEADFAST JUNO 2010**

Exercise STEADFAST JUNO 2010 saw the JALLC continue its analysis of DJSE implementation during which observations were made regarding the nature of the information exchanged along with the mechanisms employed to achieve collaboration and synchronization between relevant HQs, with a particular emphasis on information flow between organizations in the HQs that need to work together.

This project was ground-breaking as it would be the first time that social network analysis would be used to provide insight into the complex nature of informal communication that occurs between HQs within NATO. Relationships between organizations in the HQs were mapped based on data from over 48,000 email exchanges that were captured during the execution phase of the exercise. The JALLC report, published in June 2011, had broad implications for the future form of a deployable concept in NATO. It highlighted both the importance of informal communication in guaranteeing the smooth functioning of the HQ, and also the inherent danger of over-reliance on informal exchanges in place of formal mechanisms. The JALLC made recommendations for enhanced training, guidance for staffs on different means of communication, and improved standardization for information management at the operational level.

**Exercise STEADFAST JOIST 2011**

In 2011, SHAPE needed to develop a Deployable Joint HQ model. This model, built within the framework of the new NATO Command Structure, was to include the practices and procedures to implement the NATO policy for deployed forces and its Conceptual Framework for Alliance Operations.

The JALLC was requested to analyse this new concept and model during Exercise STEADFAST JOIST 2011, and to provide recommendations in order to help adapt Exercise STEADFAST JOIST 12 to be a test-bed to conduct some experiments with the new Deployable Joint HQ model. A common Joint Force Command concept was finalized in December 2011 as a result of the JALLC’s contribution which also went on to inform the future development of the Conceptual Framework for Alliance Operations.

**CRISIS MANAGEMENT EXERCISE (CMX) 2012**

In 2012, the JALLC provided specialist support to NATO’s annual political/military Crisis Management Exercise. The execution phase of CMX12 was held at NATO HQ in Brussels and its aim was to exercise the Alliance’s strategic political/military level consultation and collective decision-making when faced with Chemical, Biological, and Radiological events and a crisis stemming from cyber-attacks.

During the exercise, the JALLC provided support to staff to facilitate the gathering of observations and the production of daily summaries and assisted NATO HQ International Staff with the analysis of all of the submitted observations and lessons from the exercise.
Exercise STEADFAST JAZZ 2013
and the NATO Exercise Reporting Process

In 2013, the JALLC supported NATO School Oberammergau’s Mobile Education Training Team by presenting NATO Response Force Lessons during an engagement with Rapid Response Corps – France in preparation for their participation in Exercise STEADFAST JAZZ 13.

In conjunction with this exercise, during the first half of 2013, the JALLC actively supported the comprehensive revision of NATO key documents on how the Alliance reports observations and lessons made during its exercises. Although efforts began in 2012, they continued into mid-2013 with the final version of the report being released in October 2013.

Exercise TRIDENT JAGUAR 2014

Exercise TRIDENT JAGUAR 14 was the first of three in a series of exercises, analysed by the JALLC, that would go on to culminate in the release of the NATO Force Structure Joint Task Force HQ Concept Handbook. This exercise was also analysed in conjunction with the JALLC’s work on The NATO EXTRA Portal and the analysis of NATO’s Exercise Reporting Process (as mentioned above).

The JALLC not only analysed the concepts and constructs exercised, but also provided support to the Lessons capturing processes in the exercising HQs. Five JALLC project team members were deployed to all exercise locations including Exercise Control at the Joint Warfare Centre in Stavanger, HQ NRDC Spain’s forward location in Menorca, and HQ STRIKFORNATO, aboard the USS Mt Whitney (LCC-20).

Exercise TRIDENT JUNCTURE AND NOBLE JUMP 2015

The JALLC participated in the Very High Readiness Joint Task Force Functions Testing Table Top Exercise which involved close coordination with Joint Force Command Naples to arrange training requirements for subject matter experts identified to form Deployed Observation and Assessment Teams (DOATs) as part of the Very High Readiness Joint Task Force Functions Testing programme throughout 2015.

As a consequence, a tailored training programme on Lessons and Joint Analysis techniques was conducted by the JATT for 30 DOAT experts as well as training, advice, and mentor support to the DOAT experts during Exercise NOBLE JUMP 15.
The JALLC was requested to provide support to Exercise CAPABLE LOGISTICIAN 2015’s Evaluation, Analysis, and Reporting Cell (EAR-C) as it had done in previous years. The JALLC was asked to assist in determining requirements for providing specific training to EAR-C team members. In this context the JALLC was able to deliver tailor made interview and observation training for the Exercise as well as advice, and mentor support to logistics subject matter experts during the exercise.

**Exercise TRIDENT JAGUAR 2016**

Having provided support to the previous to TRIDENT JAGUAR Exercises, the JALLC supported the 2016 iteration in the series which saw more HQs take on the role of a NATO Force Structure Joint Task Force HQ as NATO continued to develop this still relatively new concept.

During this exercise, the JALLC used the opportunity to validate the findings from the previous two exercises in the series and collate all the guidance and recommendations regarding the implementation of the NATO Force Structure Joint Task Force HQ concept into a handbook to guide the future implementation of the concept. The Handbook, co-produced by the JALLC, Joint Warfare Centre, and the NATO Command and Control Centre of Excellence was published in November 2016 in a signing ceremony which was held during the NATO Lessons Learned Conference that year.

**Exercise TRIDENT JAGUAR 2017 AND 2018**

The JALLC provided support to HQ 1st German Netherlands Corps and HQ Rapid Reaction Corps - France during Exercise TRIDENT JAGUAR 17 Phase IB (Academics) and 1C (Key Leader Training) in Munster, Germany and to HQ NRDC - Greece during Exercise TRIDENT JAGUAR 18 Phase IB (Academics) in Thessaloniki, Greece.
Support to NATO Training

Over the past 15 years the JALLC has provided various organizations, missions, operations, and exercises with training support required to ensure success. This support ranges from long-term training to the ISAF mission, to bespoke Key Leader Training for specific events. Combining military experience with civilian subject matter expertise is what makes the JALLC’s training teams unique and so successful within NATO, providing a broad spectrum of training topics, on site, in the field, and at the JALLC’s HQ in Lisbon, Portugal. Below we have provided a summary of some of the key elements of the JALLC’s support to training over the years.

**ISAF 2002-2014**

NATO took the lead of the ISAF in Afghanistan on 11 August 2003. Mandated by the United Nations, ISAF’s primary objective was to enable the Afghan government to provide effective security across the country and develop new Afghan security forces to ensure Afghanistan would never again become a safe haven for terrorists. From 2011, responsibility for security was gradually transitioned to Afghan forces, which took the lead for security operations across the country by summer 2013. The transition process was completed and Afghan forces assumed full security responsibility at the end of 2014, when the ISAF mission was completed. A new, smaller non-combat mission (Resolute Support) was launched on 01 January 2015 to provide further training, advice, and assistance to the Afghan security forces and institutions.

The JALLC has been involved in providing support to training events for the ISAF Mission since 2004 and right up until the handover to Resolute Support Mission. During these training events, organized by the Joint Force Commands, Joint Warfare Centre and Joint Force Training Centre, the JALLC collected information on the effectiveness and relevance of the training. Findings from analysis of these events would be fed back to ensure the next iteration of the training could be improved. These training events prepared personnel for ISAF deployments in HQ ISAF, Regional Commands, Provincial Reconstruction Teams, and Operational Mentoring and Liaison Teams and were key to the success of the ISAF mission.

The JALLC has produced over 35 reports on ISAF over the years with a great many of the early reports focussing on findings from observing training events. Over the years, the JALLC saw its support to training role evolve to include an advisory element due to the vast amount of experience gained by the JALLC as the ISAF mission progressed and the JALLC’s reports turned more towards identifying the Lessons that could be of importance to the Alliance as the Mission progressed and eventually came to a close.
Key Leader Training, Academics, and Battle Staff Training

**Key Leader Training (KLT)** is individual training designed for the Key Leaders under the responsibility of the Primary Training Audience commander for a specific exercise venue or upcoming military operation. It is important to link the Key Leaders with their own staff taking part in academics, usually conducted concurrently, to allow the interaction using syndicate discussion and backbrief. This training usually covers presentations and discussions on the different aspects of the future operation.

The overall purpose of the **Academic Seminar** is to prepare Commanders and their key staff for the challenges of likely operational missions, and to function as an operational HQ as planned in the exercise. The aim of a seminar is, amongst other things, to ensure that the Training Audience achieves a common understanding of the future mission to be exercised and how it is to be executed. Further it ensures that joint processes and integration are fully understood and helps to make sure that everyone is aware of the areas that causes difficulties when working in a joint multinational environment as well as of the solutions to overcome these difficulties.

**Battle Staff Training (BST)** is a collective training opportunity to fulfil Training Audience Commanders’ requirements for the enhancement of conducting the decision-making process (working groups, boards, etc.) within the HQ. The size and scope of the BST will determine which methods and tools (role play, mentors, etc.) are used for the achievement of the Commanders’ aims.

As an example, of the JALLC’s support in these areas, the JALLC provided KLT to KFOR in 2006. NATO has been leading a peace-support operation in Kosovo – the Kosovo Force (KFOR) – since June 1999 in connection with NATO’s 78-day air campaign against Milosevic’s regime in the area. KFOR derives its mandate from UN Security Council Resolution 1244 (1999) and the Military-Technical Agreement between NATO, the Federal Republic of Yugoslavia, and Serbia. KFOR’s original objectives were to deter renewed hostilities, establish a secure environment and ensure public safety and order, demilitarize the Kosovo Liberation Army, support the international humanitarian effort, and coordinate with the international civil presence. Today, KFOR continues to contribute towards maintaining a safe and secure environment in Kosovo and freedom of movement for all.

Other training initiatives the JALLC has been involved in over the years include support to the Combined NATO/US Training Development Events which are organized through the NATO School Oberammergau. For example, in 2012, the JALLC supported the NATO/US multi-tier ISAF and UNIFIED ENDEAVOUR training events. The JALLC was tasked to identify key factors affecting the outcome of Combined Training Events and Exercises in order to improve future preparations for operations. The JALLC’s support resulted in analysis of the practical application of the concept behind NATO’s Connected Forces Initiative which highlighted that the key to success is communication and mutual understanding for different approaches in the execution of training and exercises.

The JALLC also closely supports the NATO School Oberammergau in a number of other training events and courses, including the Communication, Command, and Control Course, and with the Joint Warfare Centre in developing training such as the Interview and Observation training course.
Military exercises and training are essential elements that drive NATO’s proficiency levels and overall success as a multinational military organization and are developed in support of NATO’s overall objectives. It is important to ensure that as much information as possible is captured and learned at these events to properly identify where improvement can be made. In this respect, and to enhance the information sharing in the training and exercises field, the JALLC developed the NATO Exercises, Training, Reporting, and Analysis Portal (EXTRA) information sharing platform to be the focal point for sharing exercise and training related knowledge and lessons.

What is the NATO EXTRA Portal?

The NATO EXTRA Portal is the exercise/training information-sharing platform for NATO. Developed for those closely engaged with NATO exercises and training, it contains links to NATO sites, points of contact, calendars, a library for specialized documents, and a database for lessons. Additionally, the portal provides users—primarily the exercise or training event Officers of Primary Responsibility, Exercise Planning Groups’ and Core Planning Teams’ members—with easy access to:

- NATO EXTRA documents relevant to all exercises, such as overarching training/exercise reference documents (policies, directives, etc.)
- Specific exercise/training documents, including the concept development, planning, conduct, analysis and reporting documents; and exercises/training related lessons (Observations, Lessons Identified, Lessons Learned)
- The NATO EXTRA Portal enables users to filter lessons and documents by relevant criteria such as specific stages, phases, and sub-phases.

The NATO EXTRA Portal also serves as an online forum for the NATO EXTRA Community of Interest to exchange ideas, ask questions, and promote events.
How was the NATO EXTRA Portal Developed?

The NATO EXTRA Portal was launched in 2014 after a thorough research, development, and planning processes including:

- A review of NATO key documents clarifying potential requirements for the NATO EXTRA Portal which resulted in the conclusion that further analysis was needed to develop a product that addresses the expectations and needs of its target audience.

- Visiting key NATO organizations and interviewing subject matter experts including personnel from both of NATO’s Strategic Commands, both Joint Force Commands, the Joint Warfare Centre, the Joint Forces Training Centre, and the JALLC itself.

- Identifying gaps in NATO key documents that potentially needed to be addressed and developing a consolidated list of requirements, ultimately resulting in implementing the necessary software solutions.

Subsequently, the NATO EXTRA Portal was tested, first internally and then externally, incorporating useful feedback and implementing changes.

The NATO EXTRA Portal Manual

In conjunction with the platform, the JALLC developed the NATO EXTRA Portal User Manual. This comprehensive guide provides users detailed explanations on the various uses, tools, functions, and other elements of the NATO EXTRA Portal. The manual also includes step-by-step guidance on how to perform certain key actions and additional information to help users take advantage of all the NATO EXTRA Portal has to offer.

The manual follows the structure of the website and covers topics such as how to access the NATO EXTRA Portal, how it is managed, who the users are, and the life cycle of an exercise training site. The manual includes a useful aide memoire and a list of all the deliverables to be uploaded during the course of an exercise.

The NATO EXTRA Portal, forms an integral part of the NATO Lessons Learned Portal and accounts for more than three quarters of the overall page views (in 2014). The chart shows NATO EXTRA Portal page views by month during 2014.

In 2015 the management of the NATO EXTRA Portal was handed over to NATO’s Joint Force Training Centre and will continue under their auspice going forward.
Support to NATO Operations

Over the past 15 years, many of the JALLC’s joint analysis studies have been in support of operations, covering a wide range of topics for commands throughout NATO. In fact, NATO’s ISAF mission has been a major source of joint analysis requirements, with around 50% of the operations orientated studies relating to the mission, confirming the importance of NATO’s activities in the region at the time.

But the JALLC has also provided more direct support to certain NATO operations and missions by sending its subject matter experts into the field to provide support and guidance, including for ISAF, KFOR, OUP, OAE and Operation Ocean Shield (OOS).

In this section we present an overview of support to operations provided by the JALLC over the years.

ISAF

As described earlier, NATO took the lead of ISAF in Afghanistan on 11 August 2003 until Afghan forces assumed full security responsibility for their country again at the end of 2014, when the ISAF mission was deemed completed. Resolute Support Mission was launched on 01 January 2015 to provide training, advice and assistance to the Afghan security forces and institutions as needed.

In the period between 2003 and 2013, the JALLC conducted more than 35 studies covering a variety of subjects in support of the ISAF mission. For example, the JALLC analysed topics related to air operations, intelligence, C2, targeting, medical issues, logistics, information sharing, interoperability, and Lessons Learned.

Over the years, a number of JALLC project teams were sent to Afghanistan to collect data. The very first JALLC project team arrived in Afghanistan in the autumn of 2003 and spent approximately 30 days looking through databases, interviewing key personnel, and generally fact finding for a JALLC study. However, as the significance and size of the ISAF mission grew within NATO, the number of projects the JALLC was conducting in relation to the mission increased. In 2004, eight teams visited the ISAF HQ and in 2005 and 2006 the JALLC sent data collection teams to Afghanistan on a regular basis to cover various projects being conducted, resulting in the JALLC being present or represented at ISAF on an almost permanent basis. As the ISAF mission began to wind down, and travel and budgetary restrictions began to play a role in NATO, so too did the number of related JALLC projects. The last JALLC project team was sent to ISAF in 2010 to collect data for a specific project although the JALLC would maintain a permanent representative at ISAF up until 2013.
KFOR’s mission is to contribute to maintaining a safe and secure environment as mandated by UN Security Council Resolution 1244. In carrying out its mission, NATO cooperates and assists the UN, the EU and other international actors, as appropriate, to support the development of a stable and peaceful Kosovo. KFOR supports the development of professional, democratic and multi-ethnic security structures in Kosovo. This includes NATO’s support for the ongoing development of the Kosovo Security Force (KSF) through the provision of advice, training and capacity-building at KSF Brigade level and above. The KSF is as an all-voluntary, professional, multi-ethnic, lightly-armed force. Its basic missions include crisis response, assistance to civilian authorities in responding to natural and other disasters, Explosive Ordnance Disposal and civilian protection tasks.

Between 2004 and 2009 the JALLC conducted five projects in support of KFOR, which were conducted in close cooperation with HQ Joint Force Command Naples and HQ KFOR. Although the projects mainly focused on the core elements of the KFOR Task Force Concept the JALLC was able to extract Lessons for NATO at the tactical, operational, and strategic levels that would contribute to the wider process of transformation within the Alliance.

Kosovo Force (KFOR)
In 2011, the JALLC published a report about external information sharing in support of counter-piracy operations, Operation Ocean Shield. The study focused on the tactical and operational level of command. However, some of the findings were broader and had relevance both on the strategic level and even outside NATO as this particular operation included many different participating maritime forces, such as EU Operation ATALANTA, Combined Maritime forces, and independent national deployments. Needless to say, one of the key findings in this study was the need for improved shared situational awareness.

Support to Other Operations

In 2011, the JALLC published a report about external information sharing in support of counter-piracy operations, Operation Ocean Shield. The study focused on the tactical and operational level of command. However, some of the findings were broader and had relevance both on the strategic level and even outside NATO as this particular operation included many different participating maritime forces, such as EU Operation ATALANTA, Combined Maritime forces, and independent national deployments. Needless to say, one of the key findings in this study was the need for improved shared situational awareness.

In 2005, the JALLC issued a report providing observations, conclusions, and recommendations on NATO’s supporting contribution to the African Union’s mission in Sudan (AMIS). In 2012, JALLC provided NATO analysis support to EU Operation ALTHEA under the Berlin Plus arrangements. The JALLC also published a study on NATO’s disaster relief operation in Pakistan, four reports on NATO Training Mission in Iraq (NTM-I) from 2005 to 2007, and two reports on Operation ACTIVE ENDEAVOUR.
Permanent JALLC Representatives

The JALLC has not only provided ad hoc support to many NATO operations in the form of the studies that it conducts, but it has also provided permanent Lessons and Analysis support to two missions since its inception in 2002: the NTM-I and ISAF.

The first permanent representative went to NTM-I in the autumn of 2004. The permanent representative in Iraq was tasked to support the NTM-I Commander to identify problem areas and recommend subsequent actions and, if required, set up an internal Lessons Learned and remedial action process. The permanent representative to NTM-I was maintained through 2005 and 2006. In 2006, the JALLC was ordered to set up a permanent representative in ISAF. At that time the Iraqi Lessons Learned Command was up and running and there was no longer a need for a JALLC permanent representative in Iraq. The last JALLC permanent representative returned from Iraq in February 2007.

In July 2007, the JALLC sent its first permanent representative to ISAF. The task was to be present in all activities in theatre and support Commander ISAF and to support JALLC ongoing analysis projects as a point of contact in the area of operations. JALLC maintained a permanent presence in ISAF during the period 2008 – 2013. The JALLC’s ISAF permanent representative provided the JALLC with situational awareness and ISAF theatre data, provided ISAF with situational awareness of JALLC projects, helped ISAF to develop and submit Analysis Requirements for the JALLC programme of work, and generally assisted the ISAF Lessons Learned Officers with their routine business.

The transition from ISAF to Resolute Support Mission meant that in 2013 the JALLC no longer needed a permanent representative in Afghanistan. The last JALLC permanent representative returned from Afghanistan in December 2013.
When the Pen is Mightier than the Sword...

An anniversary is always an important event. It is an opportunity to look back at how far one has come and to look forward to where one is going. This book marks the Crystal Anniversary of the JALLC and so, in this short chapter, it seemed appropriate to look to the future: into the JALLC’s Crystal Ball as it were. Although the JALLC is a perhaps a backward looking organization in that it reviews events of the past, it is a forward thinking organization that takes those events and translates them into improvement and innovation for the future which ultimately leads to transformation.

The JALLC plays a somewhat special role within the wider scope of the Alliance. Essentially a think-tank, an HQ that deals in intellectual combat rather than armed combat, the JALLC’s strength is its ability to take vast quantities of entangled knowledge, and much like Alexander the Great and the Gordian Knot, slice through it. In this respect one could say that at the JALLC the pen truly is mightier than the sword. Taking this role into consideration at this special time, it seemed appropriate to take a look, not only at what the JALLC stands for, but how it is represented in terms of its crest.

The JALLC’s crest (the shield and arms) was developed 15 years ago when the JALLC first became operational. It was decided at the time that the JALLC would be part of the transformational side of NATO and therefore placed within Allied Command Transformation under HQ SACT. But as a Bi-Strategic entity (meaning that the JALLC works for both strategic commands), the shape and colour of the shield was chosen to represent the affiliation with SHAPE, i.e. green and gold, setting it apart from its superior command and sister organizations, the Joint Warfare Centre and Joint Force Training Centre that all have NATO blue as their chosen crest colour. The crossed swords, wings, and trident, which make up the arms on the shield, were chosen to represent the services that would work in the JALLC, marking the change from a maritime based organization to a joint service organization. Finally, the NATO compass, the symbol of the Alliance, features in the middle of the arms.

15 years on and the JALLC has evolved with the times to become what it is today: a thought leader and knowledge custodian in NATO; a champion for innovation, improvement, and transformation; a unique capability within the Alliance providing solutions to enduring NATO-wide problems that require a joint approach to their solution, whether based in analysis of specific areas of

“Turn him to any cause of policy,
The Gordian Knot of it he will unloose,
Familiar as his garter.”

Shakespeare, Henry V, Act 1 Scene 1, 45–47
the Alliance or from Lessons captured across NATO from operations and exercises. It seemed then appropriate to capture and reflect the JALLC’s present role in its crest.

Therefore, in conjunction with the 15\textsuperscript{th} Anniversary of the JALLC, a new crest has been designed that reinforces the visual identity of the Alliance and the JALLC’s position within it, and yet better reflects the JALLC’s current activities.

As can be seen from the pictures of the new crest, the shield shape has been retained as a reminder of the JALLC’s past and its continued affiliation with SHAPE. The NATO compass, set against a NATO dark blue background, bringing the JALLC in line with the visual identity of NATO, is now more prominently displayed on the shield, better representing the Alliance. The owl was carefully selected as a symbol of knowledge. It is drawn as a stylized image, sized in harmony with the NATO compass, and situated in a dominant position on the shield; representing its strength, but placed below the NATO compass to signify subordination to the Alliance. The owl is flying with spread wings, representing symmetry and equilibrium, while moving forward. The wings of the owl represent the two main activities of the JALLC: Joint Analysis and Lessons. The wings can also be seen as an open book, portraying the written products produced by the JALLC and reinforcing knowledge sharing. Each wing is divided into four parts which represent the Land, Sea, Air/Space, and Cyber domains of the military spectrum. The four parts also represent the Grand Strategic, Strategic –Military, Operational, and Tactical levels.

This new crest reflects 15 years of evolution; from the JALLC of 2002 to the JALLC of 2017. Although it is hard to say what the future holds for the JALLC, we hope that the new crest will contribute to its success and represent at least another 15 years’ worth of excellence and dedication to transforming the Alliance.

Mário Barreto
Brigadier General
Portuguese Air Force
Commander JALLC
JALLC Factsheets
In 2011, the JALLC recognized the need for a short summary of its Joint Analysis Products that could not only be shared within NATO, but also to the wider public. This need resulted in the development of the JALLC Factsheet: a one-sheet, double-sided overview of the relevant project’s background, the main findings, conclusions, and recommendations as well as any other interesting information that could be shared with the public. The Factsheets also included pictures from and/or related to the project as well as general information about the JALLC.

The first Factsheet was published in April 2011 and covered the project on ACO Intelligence Structures and Processes. Over the years since its introduction, the JALLC has published 44 JALLC Factsheets. In October 2015, the Factsheets were relaunched with a new design to bring them more into line with the rest of the JALLC’s promotional material. All of the JALLC’s Factsheets are available online at the JALLC’s website or a printed copy can be obtained by contacting the JALLC’s registry.

The Factsheets provide a valuable overview of the JALLC’s analysis work over the years and a copy of each one can be found in this section.