

“The aims of the NATO Security Investment Programme are to enhance peace, security and stability, through reinforcement and maintenance of a solid transatlantic link demonstrating a strong affirmation of NATO solidarity

and to continue the successful practice of sharing the roles, risks, responsibilities, costs and benefits that bind the alliance together.”

NATO Governance and Delivery of Commonly Funded Capabilities: Improving Support to NATO Commanders

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Some of the Views Expressed

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“Process is still extremely complicated, very bureaucratic”

“Gaps and overlaps which cause confusion”

“Poor management of uncertainty and risk”

“Stop micro-governance”

“Focus on streamlining decision making by minimizing the at @28 approval steps”

“Improvements cannot occur without a readiness to change”

“Better governance is a major issue”

“No real understanding of the individual or cumulative risk”

“Total cost of ownership should be considered when agreeing on a capability”

“CPs are approved without knowing today whether we can afford the related O&M and manpower costs tomorrow”

“Stakeholders lack authoritative data”

“No proper linkage between investment, O&M and manpower costs”

“Processes with no specifically identified owners”

“SCs have to improve the requirement definition process”

“Characterized NATO’s governance as a “spaghetti bowl”

“Concern is at the costs associated with acting as a host nation”



*Vice Admiral (Retired) Matthieu J.M. Borsboom
Chairman, Group of Senior Experts*

Foreword

Vice Admiral (Retired) Matthieu J.M. Borsboom Chairman, Group of Senior Experts

When I was asked by my Government to become a member of the GSE I was trekking in the Himalayas. It seemed to me initially that the task I was being asked to address, and subsequently lead, had similar characteristics to climbing in that mountain range; a substantial if not daunting challenge, a need for real personal effort, the reliance on the support from a high quality team, and perhaps the most important issue – that the local inhabitants want you to be there.

NATO faces a range of challenges; an uncertain and demanding strategic context, accelerating technological change, a multi-dimensional task, a diverse membership, processes, structures and systems that have grown organically, a need to modernise, and the domestic realities of each of its members. Also significant is the amount of change in such areas as the capability package generation and development.

The quotations shown on the preceding page demonstrate a wide recognition of the problems to be addressed. But I have found a widespread appetite for change and a willingness to take the opportunity to consider serious reform. This was the basis on which we began our work and formulated the views we set out in this report. We commend it to the NATO leadership for its consideration and implementation.

Introduction

Governance: The provision of the oversight necessary to ensure agreed direction and guidance and processes and procedures are followed. (PO(2012)0030, 25 January 2012)

At the Warsaw Summit, Heads of State and Government tasked the NATO Deputies Committee to provide recommendations on how to improve the governance aspects of the common funded capability delivery process. The work was to be completed in time for the June 2017 meeting of Defence Ministers.

To facilitate the delivery of a report with the required recommendations the NATO Secretary General appointed an independent Group of Senior Experts (GSE) drawn from the Alliance Members but aside from the members of its National Delegations, International Staffs and Committee Structure.

The Terms of Reference for the GSE are attached as at Annex to this Report. In addition to the direction and scope set out in the TORs the GSE was guided and supported by the NATO Secretary General.

The GSE was specifically tasked by the DPRC to “recommend improvements to the governance of common funded capability delivery, with the overarching aim to ensure that NATO commanders have the required capabilities when needed”.

A group of 13 members resulted from a cross Alliance request for support and was duly appointed by the Secretary General in November 2016. The Group was drawn from serving and retired Military, Academia and Civilian employees, blending direct NATO experience with that gained in other relevant areas.

Throughout its work the GSE was provided with invaluable support by members of an International Staff Task Force, appointed by Mr. Camille Grand (Assistant Secretary General for Defense Investments and Chairman, Deputy Permanent Representatives Committee). The GSE was particularly grateful for the support of Mr. Steve Tessier and Ms. Sigurbjörg Ásta Jónsdóttir from the International Staff’s Task Force Team.

Executive Summary

The Scope of the Review

The Terms of Reference directed the GSE to review the delivery of commonly funded capability in terms of its governance. To do so the GSE reviewed the processes and decision-making apparatus across the dimensions of requirement setting, resource allocation, risk management, programme control and capability delivery. A guiding principle for this work was the need to protect the effective application of consensus based governance.

The GSE concluded at an early stage in its work that any recommendations would need to ensure that the controls exercised through the life of a project applied a consensus test at the right time and in the right place. Appropriate oversight and individual (National) and collective (Alliance) agreement were essential but so was the effective delegation of project management and accountability to get the job done.

Our Approach

The GSE undertook a wide-ranging review of the current governance and project control processes used by NATO to deliver capability programmes. Recent IBAN reports (Performance audit report to Council on the need to improve NATO's Capability Package process – IBA-A(2016)51 dated 24 May 2016 and Special Report by the International Board of Auditors on the Need to Reform Governance of the NATO Security Investment Programme C-M(2015)0043-AS1 dated 12 June 2015) provided a substantial analysis and set out where problems exist and where reform might therefore be needed. The GSE was created in response.

The GSE tested the audit findings against the views of National Delegations and NATO institutional leaders to distil the areas for analysis and to target its work. This provided a comprehensive picture of current practice and the pointed to the areas where the GSE could most usefully focus its work. It was clear that there is already a substantial amount of good work being done and analysis of other areas that are ready for change. It would be wrong to conclude that the hard work of Nations, NATO staff and Military Commanders is not having effect; it is simply that there is room for improvement.

The GSE also reviewed potentially useful benchmarks in the academic literature and in the practical delivery of projects in analogous organisations. Combining this analysis with the experience inside the GSE provided clarity of the problem and a range of areas to be explored, potential solutions to be tested and, as a result recommendations to be offered.

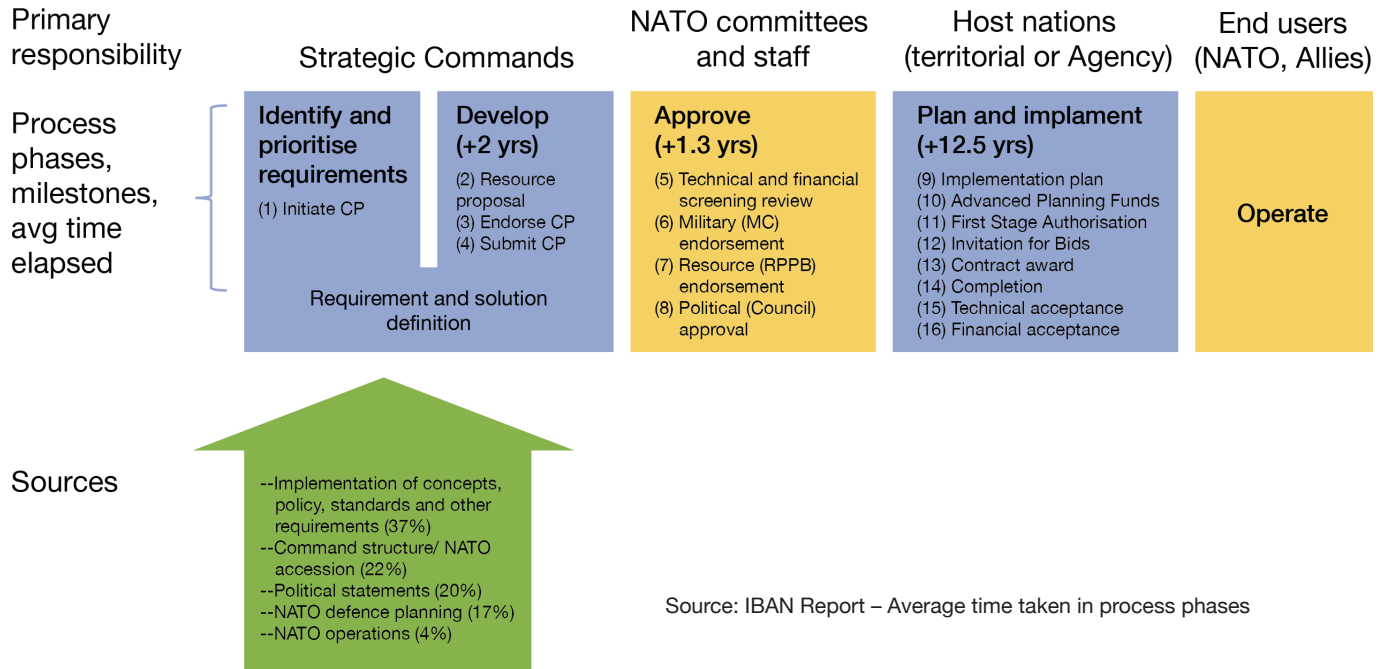
The Current Situation

It is important to understand that the delivery of common funded capabilities is based on Capability Packages (CP), generated in response to a requirement, and achieved through the creation, resourcing and delivery of a range of individual projects. These might be delivered through an individual Nation's, a group of Nations or through a NATO Agency.

The Capability Package (CP) process has five phases, with different responsible and accountable entities for each phase:

1. Both SCs are accountable for identifying and prioritising requirements for CPs. ACO is responsible for the identification of the operational requirements and ACT is responsible for requirements development.
2. During the second phase, ACT is responsible and accountable, with ACO support, for developing the CP submission.
3. NATO committees approve the submitted CPs.
4. Host Nations, which can be NATO allies ('territorial') or NATO agencies, are responsible and accountable for implementing CP projects.
5. End users operate the capability components delivered by CP projects. For some projects the operation and maintenance costs then have to be found.

The diagram below sets out these stages:



The Problems

NATO applies the collective political will of its 28 Member States through the generation and utilisation of military capability to deliver an agreed effect. The structures, systems and processes used to deliver that effect have necessarily grown organically over time, reacting to challenges as they arose. This organic growth has benefited from on-going iteration and the application of consensus building at each stage; it is a deliberate and progressive approach that operates through compromise.

A wide range of commentators conclude that a more objective view of the current situation is necessary to offer potential approaches which might streamline delivery to avoid the cost increases and time delays observed in IBAN reporting.

NATO has adjusted its approach to common funded capability programmes while also accommodating a dynamic strategic context, a series of membership accessions, rapidly advancing technology, resource constraints, and national political change. In this challenging environment an approach has evolved over time; there is now an opportunity for it to be reset and adjusted to improve delivery.

The key issues arising from the analysis can be summarised as:

- The principle of consensus remains paramount
- Requirement definition & control must be clearer
- Processes must be streamlined and clarified
- Multiple and cross cutting fora must be simplified
- Accountability, responsibility and authority must be clearer
- A comprehensive and structured approach to risk is vital
- Through life planning & management must be implemented
- There is a range of helpful guidance and direction across NATO but it is not used, not known and not interconnected.
- Issues with the NCIA need resolution
- Key terms such as capability programme, project, requirement, life cycle and SSCPR must be defined to provide common understanding

GSE Key Recommendations

In recommending a way forward for NATO leaders to consider we have recognised the need for clarity on the guiding principles to be applied within a NAC approved common funded capabilities life cycle governance and management framework. The key recommendations are summarised below:

Context

Delivering a capability requires 3 major distinct authorities (Capability Requirement Authority, Capability Implementer Authority and Capability User Authority) with identified responsibilities, from initiation to the end of the delivery stage

Governance

- Consensus remains central to strategic NATO decision making; all GSE recommendations are conditioned by this principle
- Decisions at 28 can be time consuming and should be applied only where they are necessary
- There should be two levels of governance, the NAC and the RPPB / MC
- Governance decisions should be made at the culmination of two key stages of work; agreeing the requirement and making the investment decision
- The relevant parameters of Cost, Schedule, Scope, Performance and Risk (CSSPR) and Doctrine, Organisation, Training, Material, Leadership, Personnel, Facilities and Interoperability (DOTMLPFI) should be agreed as appropriate at each decision point
- Requirements should be owned by a single SC
- Authority for capability programme delivery should be delegated to the management level within agreed thresholds
- Capability delivery organised through standardised stages, with decision gates between stages, is the basis for an efficient governance

Management

- Governance and Management are different activities and must be separated
- Below the governance level a single management body could direct capability programmes or/and a range of projects, and oversee progress in SSCPR¹, informed by the DOTMLPFI full spectrum of the capability
- A through life approach to managing capability programmes must be applied
- Projects must be managed within agreed Cost, Schedule, Scope and Risk (SSCPR) and the delegated thresholds
- Risks must be identified and actively managed through the life cycle
- A variation to SSCPR which is outside of agreed thresholds can only be agreed by a decision at the governance level
- A suite of Management information (project dashboard) is to be required for all NATO Common Funded Projects
- Project information is to be transparent to all stakeholders

There may be exceptional areas where a bespoke governance / management structure is appropriate, as agreed by governance. For the majority of capability programmes there is significant advantage in a common approach generated by the above recommendations.

The above recommendations are, in the view of the GSE the most important and along with others are included in the body of the report.

Follow on Work

In the time available the GSE work has resulted in recommendations in a number of areas. Inevitably there are issues that would benefit from additional analysis.

The GSE would therefore recommend that further work be done in the following areas:

1. The cost of implementing the recommendations set out in this report has not been assessed. Although the GSE view is that the investment would be repaid many times over through more effective and efficient capability programme delivery there is a need to understand the level of investment needed. NOR should undertake this work to support implementation.
2. The recommendations of GSE have a wide-ranging impact. In particular they are also intended to address the accountability, authority and responsibility of the NCIA. This additional clarity will help but there is room for further improvement in the capacity and capability of the Agency to deliver. A further piece of work to review the allocation of resource, including military and civilian staffing, would be useful.
3. The GSE has been clear about the need to address risk in a more rigorous manner. There are many risk management systems that might be used to build upon the recommendations set out in this report. As short piece of follow on work might assist in developing a deeper implementation in risk management.

¹ Scope, Schedule, Costs, Performance and Risk

Report

The Terms of Reference for the GSE work include the following:

The mandate of the GSE is to recommend improvements to governance aspects of common funded capability delivery, with the overarching aim to ensure that NATO commanders have the required capabilities when needed. A cross-cutting and systemic approach that considers previous findings related to common funded capability delivery processes will facilitate this aim. This tasking will not impede ongoing and planned development and delivery of common funded projects, including RAP- and VJTF-related work.

The GSE was asked to review areas of overlap, friction and where gaps might exist in governance and project management. In doing so it was asked to seek and recommend provocative and meaningful change. The full Terms of Reference are included in Annex B

The Problem Statement

A recently published report by the International Board of Auditors for NATO (IBAN) reviewed the need to improve NATO's Capability Package process. Building on an earlier report, published in 2015, on the need to reform the governance of the NATO Security Investment Programme, IBAN offered the following views.

Audit findings

... NATO struggles to deliver capabilities in time to meet dates set by its commanders and agreed by the NATO Nations. The available data show that most CPs, on average, are expected to be delivered more than 4 years after the date when the commanders need them. Extended requirement definition time frames are among the sources of these delays.

Shortfalls in process, staffing, technology and governance contribute to this outcome:

1. The CP process does not adequately include critical steps needed to develop capabilities, particularly those involving technology, which reduces its effectiveness.
2. CPs generally do not originate from the NATO defence planning process, which results in ad-hoc work and limits traceability to NATO's agreed capability shortfalls.
3. The Strategic Commands do not effectively manage their capability requirements work. Insufficient institutional capacity also causes overreliance on external support.
4. The CP process does not fully incorporate important principles, such as change and risk management. Supporting information systems and processes are also deficient.
5. Critical elements of governance, including overarching guidance, complete oversight and transparent monitoring and control, are not yet implemented.

Without a more concerted and coordinated effort across these areas, meaningful improvements to capability delivery will be difficult to achieve. Successfully undertaking such an effort will require stronger, more unified governance. The Nations recognise this, but have not yet agreed any substantial actions.

Audit recommendations

To address the shortfalls found in our audit we recommend the following:

Design a complete process to ensure the delivery of the right capabilities on time. The process should include all capability development activities, traceability to NATO defence and operational planning as well as allow for ongoing prioritisation based on NATO assessments of current and future security needs.

1. Create elements of a consistent NATO-wide portfolio, programme and project management approach to address management shortfalls and inconsistencies.
2. Build institutional capacity by addressing the staffing needs for requirements management in the Strategic Commands.
3. Improve information management and transparency by rationalising and modernising the processes and information technology used to manage CP work.
4. Unify, strengthen and clarify (who, what, when, how, why) governance roles to ensure that capability requirements reflect needs and enable capability delivery as closely as possible to agreed plans.

Problem Review

NATO and its Auditors

The GSE work built upon the concerns expressed in IBAN reports by seeking the views of a wide range of further stakeholders. Member States were invited to offer their individual views of the issues that needed to be addressed. NATO leaders (including the International Staff, International Military Staff, Strategic Commands, and Agency General Managers) were engaged to provide a further perspective and to offer their individual and collective experience. Together these views amalgamate to provide a considerable body of analysis of the current NATO position in CP delivery.

Some common themes emerged from this frank consultation:

- A more streamlined process is needed.
- Accountability should be enhanced.
- CIS delivery via the NCIA is a particular concern.
- Requirement definition and implementation control is weak.
- A structured and comprehensive approach to risk management is required.
- NATO should do more to plan and manage on a through life basis.
- There should be proper separation of requirement ownership from acquisition responsibility, especially for CIS.

The most frequent comment concerned the importance of the consensus principle which lies at the heart of the way in which NATO conducts business and from which it was clear that Allies wish to see important decisions on common funded capabilities continue to be taken “at 28”.

Academic Literature

The GSE needed to set the above analysis into an appropriate context and to reach some conclusions around what a “best practice” benchmark might suggest. It did so by conducting a thorough academic literature review, finding a substantial range of evidence around governance and project management from which to draw. This proved helpful in itself but it needed practical application if it was to be of use to the NATO situation.

Nations’ Experience and Approach

The GSE then conducted a review of the governance and management of similar projects in a range of countries. There was considerable commonality across these examples, allowing for the inevitable variations between individual Nations much was similar in the principles applied.

Other Benchmarks

The governance and management models used by Nations are necessarily fitted to a public sector environment and the GSE wanted to also understand how these projects are addressed in a private sector model. A range of substantial commercial and NGO organisations were approached to test their views and experience. This provided a very helpful review of the governance and management of projects where stakeholder influence is applied in a different way.

It became clear that as in NATO this is a complex business that continues to tax most organisations. Nevertheless the synthesis of this research provided the GSE with a deeper understanding of the challenges faced by NATO, a view of how similar challenges are being faced in other organisations, a picture of what a “best practice” approach might offer and how this might be applied to The Alliance.

A “Life Cycle” Model

It was clear from many commentators that the connection between the development of a capability, delivered through DOTMLPFI lines of development and its life cycle cost is not managed well. This failing undermines the ability of the Alliance to plan and budget effectively. Many of the benchmarks we reviewed operated by viewing delivery as a cycle from inception to disposal. The terms used may vary and in practice some elements of the life cycle might be truncated or merged but the discipline of defining and managing projects on a “through life” basis is clear. A typical model is shown below.

This model envisages a clear distinction between the identification of a requirement, its definition, the identification and agreement of a capability programme as a solution, the delivery of that solution, its operational use and finally its withdrawal from service. Continuity of approach and the clarity of accountability become very important in such a model and we saw in external analogues (Royal Dutch Shell, World Bank and others) that this can be achieved through the early appointment of programme² leadership and effective governance. A P3M approach (Programme, Project and Portfolio Management) is the standard used by the majority of professional project management bodies; whether using Prince2 or Managing Successful Projects (MSP) processes, the management of projects requires rigour in setting out the clarity of responsibility, authority and accountability.



² A group of projects that deliver a capability

Capability Delivery

Delivering a capability requires 3 major distinct authorities (Capability Requirement Authority, Capability Implementer Authority and Capability User Authority) with identified responsibilities, from project initiation to the end of the delivery stage:

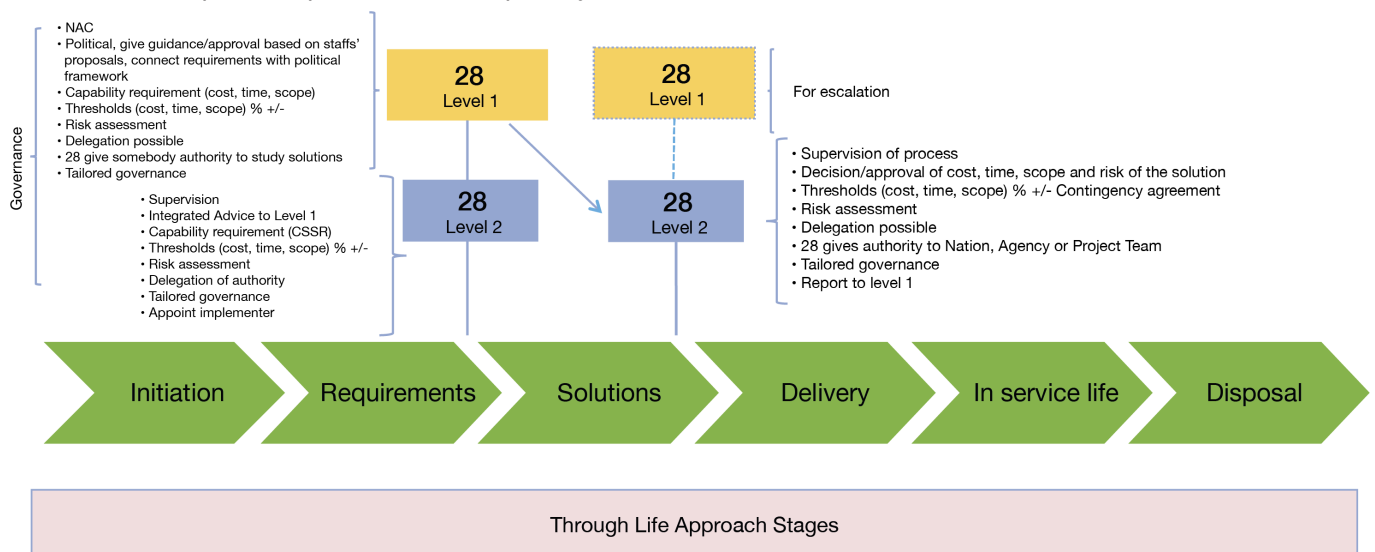
1. The first to generate the requirements and assess their satisfaction throughout the process: it requires military background and defence planning experience. It is basically a SC responsibility.
2. The second is responsible for the development and delivery of the required capability against the approved requirements: it requires system engineering and procurement skills and is not necessarily limited to a host nation responsibility, especially for major programmes integrating collective, multinational and / or national assets.
3. The third is using and supporting the capability.

It is crucial that the SC generating the capability requirement also assesses the same that the one assessing the satisfaction of this requirement at the end of the delivery stage.

The Capability Requirement Authority should be unique to ensure the overall coherence of Alliance Capabilities. At the end of the delivery stage, this responsibility is handed over to the SC in charge of using capabilities in current operations.

A decision on which SC is best able to deliver this function could be informed by an analysis of the following criteria:

- Relative manning levels and skills availability
- The relative location of capacity and capability
- The need to ensure that an effective planning function is linked
- The linkage to operational needs
- Relative workload volumes
- Resource availability
- The expected operator of the capability



Decision-making through decision gates is a key element in the governance of project delivery and in the case of NATO presents additional challenges. Consensus is a founding principle of Alliance decision-making and remains a central tenet of its philosophy. It is widely recognised that the price of consensus is the application of compromise, but it is the bedrock of the Alliance. It is important therefore that if a capability is to deliver the military effect for which it is designed and in a timeframe that maintains its relevance the application of consensus at 28 needs to be streamlined.

A review of best practice elsewhere suggests that there are two key decision gates at which strategic decision-making is vital. The first is the point at which a requirement is validated and the second is when the resources are agreed to support the delivery of the programme solution. This governance tasks are shown in the following diagram.

The application of consensus decision-making at these two key governance decision gates, as set out above should not be interpreted as a “fire and forget” approach. It is an approach that separates governance from management. It also allows a review of the capability programme or elements of the capability programme if required, instead of the current default process where insufficient information leads inevitably to delays and cost overruns. The model does allow for changes in circumstance and there will always be a mechanism for a Nation to reconsider its position if its circumstances change.

In NATO the first level of governance will always be the NAC. All decision-making can revert to the NAC if required but there is merit in ensuring that there is a clear mechanism for delegation and, as is the case now, the RPPB³ (acting as the key resource decision forum) and the Military Committee (acting as the owner of the requirement) will work closely together as a single second level governance entity; in practice there should be further sub-delegation if needed. The important principle is that decisions are made at the appropriate level depending on the size, complexity, political sensitivity and risk inherent in any particular capability programme or project.

In agreeing to the application of resource to a capability programme, an envelope of scope, schedule, cost, performance and risk (SSCPR) should be agreed together with DOTMLPFI. An appropriate threshold for each dimension should be requested by the capability programme leader and considered by the relevant governance level. The envelope should include an appropriate degree of risk management contingency based on the risk analysis (one size does not fit all) to allow the project to be delivered effectively. In cases where these parameters are at risk, the capability programme would be reassessed at the governance level to determine its future.

There is strong case for limiting consensus decision making to these governance decisions. Once the capability programme is agreed it should be allowed to proceed and to deliver without micro-management unless thresholds are at risk. Such an approach is built on trust however and the management information available is not yet sufficiently strong to give confidence at the governance level. We see the need to develop urgently standard templates of capability programme (and project) information that are produced by the relevant Agency or National Deliverer and made available to every level of stakeholder in NATO.

At a minimum this should include the agreed baseline for each element of SSCPR and progress against that baseline (similar to an Earned Value approach used in many project based organisations).

Life Cycle Stages, Decision Gates, Deliverables and Tasks

It is worth looking in more detail at the elements of the life cycle, recommended by the GSE, based upon the best practice seen in a range of benchmark organisations. Individually, these are set out below.

The initiation stage is where the operational need is first identified, by the Strategic Command, and then set out in a Statement of Operational Requirement. This is developed as the start of the process to meet that need.

Initiation

<u>Input:</u> <ul style="list-style-type: none"> • Defence Planning (Capability Targets) • Political Directive • Replace or refurbish • Urgent Operational need • Lesson Learnt 	<u>Output:</u> <ul style="list-style-type: none"> • Recognition of an Capability Need • Decision to generate a Statement of Operational Requirements • Capability Target or High Level Objectives
<u>Control:</u> <ul style="list-style-type: none"> • Capability Requirement Authority (CRA) <u>Support</u> <ul style="list-style-type: none"> • Capability Implementation Authority (CIA) 	<u>Tasks to perform (CRA) :</u> <ul style="list-style-type: none"> • NDPP process is generating Capability Target or High Level Objectives • Outside NDPP process, the tasks to perform are <ul style="list-style-type: none"> • Conversion of the input into a Capability • Evaluation of the Capability Need against existing capabilities and already decided targets and identification of the resulting capability shortfall • Identification of potential target for NATO (over and above) resulting from the shortfall • Validation of the eligibility of the target for common funding

The Initiation Stage is followed by Requirement. In the requirement stage of the process NATO brings the work to develop a requirement to a close and agrees at the governance level to move to the next stage. This is important because it recognises the need set out by the Strategic Commander as an issue that needs to be addressed through a capability package (common funded) route. It is also at this stage that the key stakeholders that will be involved in implementation and operation should become an advisory team that will remain active throughout the capability package life cycle.

³ The responsibilities of the RPPB may change to reflect the governance model

Requirements

Input: <ul style="list-style-type: none"> • Recognition of an operational need • Decision to generate a Statement of Operational Requirements 	Output: <ul style="list-style-type: none"> • Performance-based Statement of Operational requirements • Set of potential Solutions (Capability Package, Stand Alone Projects, Minor Works, Urgent Requirements)
Control: <ul style="list-style-type: none"> • Capability Requirement Authority (CRA) Support: <ul style="list-style-type: none"> • Capability Implementation Authority (CIA) • Capability End User Authority (CUA) 	Mechanism: <ul style="list-style-type: none"> • Consideration of defined operational need • Staffing resources – IPT* leader identified • Integrated Project Team (IPT) operators, advisers, industry, host nations / Agencies, IS/IMS, end-users, etc. • Preliminary Project cost, time, scope • Risk management • Templates (DOTMLPFI)
Tasks to perform: <ul style="list-style-type: none"> • Designate CIA (TBD) • Establish the IPT* (CIA, CRA and supports) (with associated resources) • Develop a capability requirement, a CONOPS and some preliminary “Operational Acceptance” (IOC/FOC) criteria (CRA with support of CUA) • Realize a functional analysis and identify preliminary 	<ul style="list-style-type: none"> • Determine possible preliminary solutions (most promising options) (CIA with CRA support) • Establish the preliminary risk assessment and management plan (CIA with CRA support) (not only on solution side) • For each solution, determine the ROM performances/ schedule/cost (CIA) taking into account the risk assessment (CIA and CRA)

* IPT is the generic term for designating the integrated team responsible to execute the Capability Program

For option 1, the IPT is an “Integrated capability Programme Team” ; for option 2, the IPT is designating the Host Nation/Project Team (HN/PT)

** Capability Management Board is the generic term for designating the Board in charge of supervising the IPT

For option 1, there is no nation involved in CMB, for option 2, the Management Board is the Investment Committee with extended responsibilities and Capability Coordination Groups (CCG) associated with the NOR providing advice

When a requirement is agreed at the first strategic decision point (governance level) it needs to be turned into a capability programme. The development of options and their relative through life cost is the key element of work in this Solution stage of the process. Time spent in identifying the right solution and agreeing its parameters is well invested in this here; get this right and project management becomes easier in each subsequent stage and more likely to meet the defined cost, scope, schedule, performance and risk envelope.

Solution

Input: <ul style="list-style-type: none"> • Performance-based Statement of Operational Requirements • Set of potential solutions (Capability Package, Stand Alone Projects, Minor Works, Urgent Requirements) 	Output: <ul style="list-style-type: none"> • Proposed preferred solution with rationale • Refined capability requirement and CONOPS • Overall Capability Reference Document (capability master schedule, scope, schedule, costs, risks) • Procurement Strategy
Control: <ul style="list-style-type: none"> • Capability Implementation Authority Support <ul style="list-style-type: none"> • CRA • IPT* 	Mechanism: <ul style="list-style-type: none"> • Extend IPT • Analyse set of potential solutions, select and refine a solution • Execute Cost estimation (Acquisition, LCC) and Risk Assessment • Produce Implementation Plan (if urgent, as per the fast track process)
Tasks to perform: <ul style="list-style-type: none"> • Finalise the capability requirement and CONOPS (CRA) • Define the interface with other Capabilities (CIA) • Define the transition plan (CRA with IPT* support) • Elaborate the Capability Master Schedule (CRA) • Finalise the “Operational Acceptance” (IOC/FOC) criteria (CRA) • Refine preliminary solutions and assess their feasibility (CIA with involvement of industry) • Establish the risk assessment and management plan (CIA with CRA support) • For each solution, determine the scope/schedule/cost (CIA) taking into account the risk assessment and Life Cycle Cost Estimate • Develop the DOTLMPFI plan (CRA) 	<ul style="list-style-type: none"> • Develop initial Configuration, Integrated Logistic Support and Obsolescence Plans (CIA) (for each possible solution ?) • Elaborate the preliminary handover to user plan (CRA) • Propose a preferred solution with justification (CIA) • Define the interface with other capabilities (CIA) • Determine the Procurement strategy (CIA) • Write the Capability Reference Document (scope, schedule, cost and risks) for the proposed solution (CIA with CRA support) • Prepare the contracts (specifications and RFI/RFQ documents) (CIA) • Negotiate with industry the implementation contracts (CIA delegating to “Host Nation”) • Elaborate the preliminary qualification and test plan (CIA) • Report periodically to the Management Capability Board** (IPT*)

* IPT is the generic term for designating the integrated team responsible to execute the Capability Program

For option 1, the IPT is an “Integrated capability Programme Team” ; for option 2, the IPT is designating the Host Nation/Project Team (HN/PT)

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When a solution option has been selected and its SSCPR envelope is agreed, with any contingency threshold put in place to facilitate agility in delivery the work moves on to the delivery stage of the project or capability programme.

Delivery

Input: <ul style="list-style-type: none"> Proposed preferred solution with rationale Refined capability requirement and CONOPS Overall Capability Reference Document (capability master schedule, scope, schedule, costs, risks) Procurement Strategy 	Output: <ul style="list-style-type: none"> Accepted Product or provision of services In service support plan (DOTMLPFI) IOC/FOC
Control: <ul style="list-style-type: none"> Capability Implementation Authority (CIA) Support <ul style="list-style-type: none"> Capability Requirement Authority (CRA) 	Mechanism: <ul style="list-style-type: none"> IPT * Contract(s) Performance monitoring / data Acceptance plan
Tasks to perform: <ul style="list-style-type: none"> Produce a final solution definition documentation (CIA) Elaborate the acceptance and test plan (CIA with CRA support) Notify and manage the contracts to develop the solution (CIA) Perform the verification tests Implement the DOTMLPFI Plan (CRA) Finalise the Configuration, Integrated Logistic Support and Obsolescence Plans (CIA) Update the risk assessment and management plan (CIA with CRA support) 	<ul style="list-style-type: none"> Declare the acceptance of the Capability (CIA) Propose a support acquisition strategy (CIA) Prepare the support contracts if needed (CIA) Report periodically to the Board against the “Capability Reference Document” (scope, schedule, cost and risks) for the proposed solutions (CIA with CRA support) Handover to user (CRA) Declare the “Operational Acceptance” (IOC/FOC) (CUA)

* IPT is the generic term for designating the integrated team responsible to execute the Capability Program

For option 1, the IPT is an “Integrated capability Programme Team” ; for option 2, the IPT is designating the Host Nation/Project Team (HN/PT)

** Capability Management Board is the generic term for designating the Board in charge of supervising the IPT

For option 1, there is no nation involved in CMB, for option 2, the Management Board is the Investment Committee with extended responsibilities and Capability Coordination Groups (CCG) associated with the NOR providing advice

Once the project or capability programme is delivered it must be accepted formally by the user as meeting the requirement acceptance criteria set out at its inception. This is important to define the completion point. It increases the discipline of handover and fault remedy, reflects the point at which any outstanding risk provision can be retired and resources reallocated, allows for an effective audit of performance and lessons learning baseline. This is the point at which the responsibility for acquisition shifts to through life use.

In service life

Input: <ul style="list-style-type: none"> Accepted Product or provision of services In service support plan (DOTMLPFI) IOC/FOC 	Output: <ul style="list-style-type: none"> Updated configuration documentation Disposal plan
Control: <ul style="list-style-type: none"> Capability End User Authority (CUA) Support <ul style="list-style-type: none"> Capability Implementation Authority (CIA) Contractor 	Mechanism: <ul style="list-style-type: none"> Operating Maintaining/supporting Upgrading Cost / availability management process
Tasks to perform: <ul style="list-style-type: none"> Operate the capability (CUA) Maintain the capability (CUA) with contractor support Manage the configuration of the product* (CIA) (*: product =M out of DOTMLPFI) 	<ul style="list-style-type: none"> Manage evolution of the capability by taking into account the “lesson learnt” (CRA) Collect and exploit Life time data (technical, costs, ...) (CUA) Elaborate the disposal plan (CIA) Report periodically to the Management Capability Board** (IPT*)

* IPT is the generic term for designating the integrated team responsible to execute the Capability Program

For option 1, the IPT is an “Integrated capability Programme Team” ; for option 2, the IPT is designating the Host Nation/Project Team (HN/PT)

** Capability Management Board is the generic term for designating the Board in charge of supervising the IPT

For option 1, there is no nation involved in CMB, for option 2, the Management Board is the Investment Committee with extended responsibilities and Capability Coordination Groups (CCG) associated with the NOR providing advice

The capability has been accepted into use and is operated through its service life. Depending on the nature of the programme or project there may be a need for on going project management. Where this is the case the project team would adjust to through life operation and maintenance activity.

Disposal

Input: <ul style="list-style-type: none"> Disposal plan 	Output: <ul style="list-style-type: none"> New requirement if necessary Decommissioning of Capability elements Termination of support services Deletion from NATO inventory Payment of any residual value
Control: <ul style="list-style-type: none"> Capability End User 	Mechanism: <ul style="list-style-type: none"> Cost benefit analysis Assess residual value IPT New requirement initiation

There is provision in the life cycle for either decommissioning or disposal, depending on the nature of the programme. This could be undertaken by the project team or by deploying resources for the specific task.

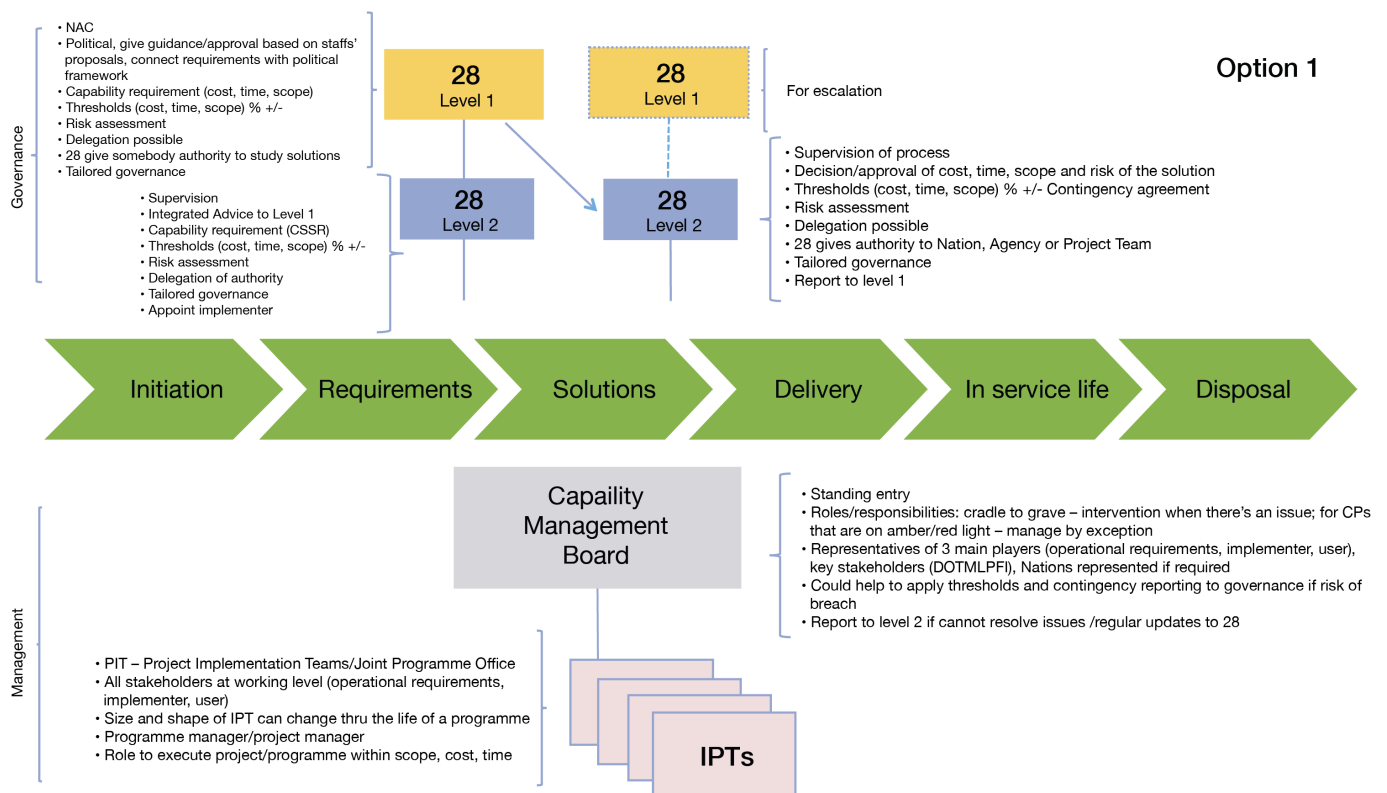
The Management of Capability Programme Delivery

Two possible options were identified that might bring about the required improvements, and the choice between them will reflect a number of considerations including level of expectation and the extent to which each would require a departure from the present governance arrangements.

We acknowledge that arguments can be advanced in support of either option. Whichever is selected, we strongly recommend that it be implemented with a clear statement of the expected benefits (which should be objectively measurable) and the timeline for delivering them. Should the selected approach not secure the anticipated improvement in capability delivery, we further recommend that nations should then consider adoption of the alternative.

Option One

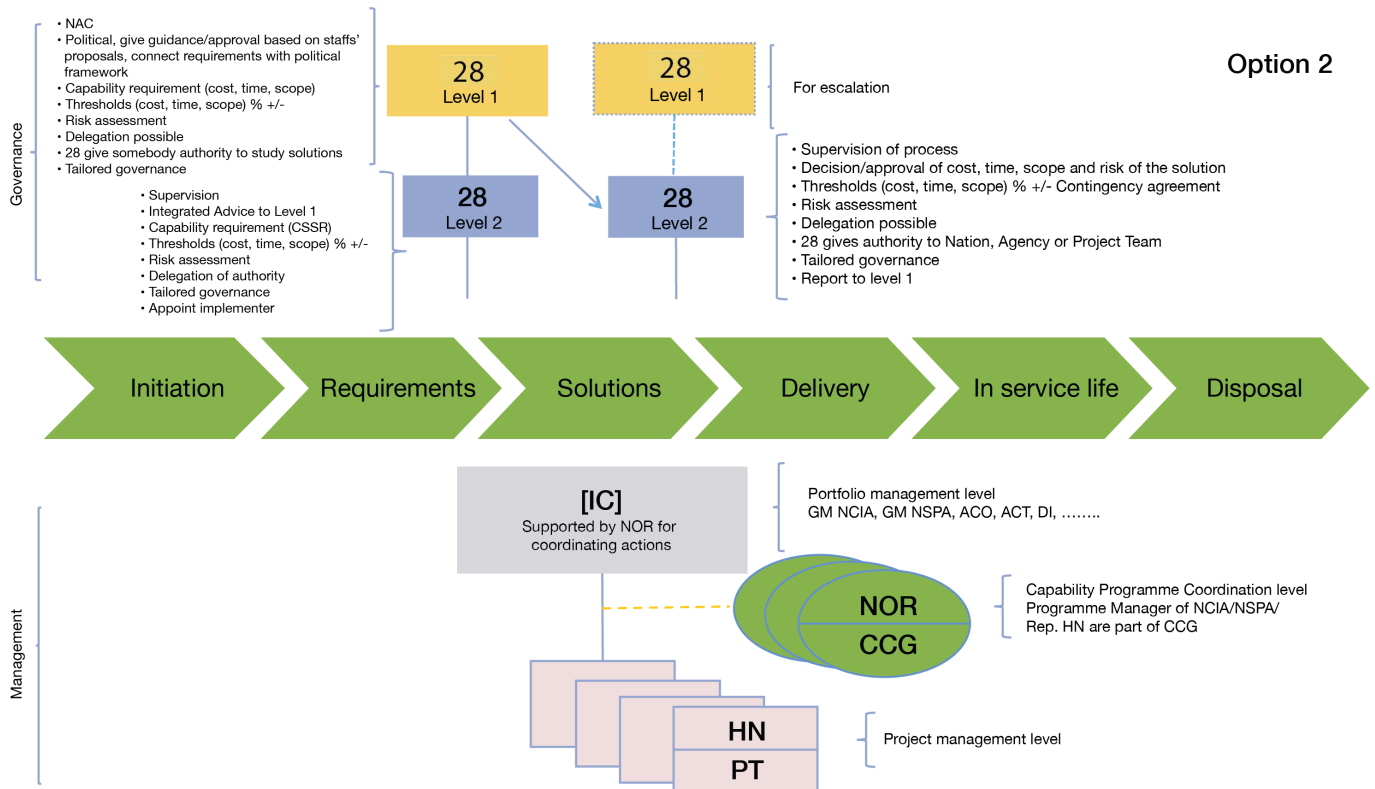
This option applies internationally recognised P3M standards and the experience of their application in practice. It separates governance (decision making at 28) from capability programme management. It leaves the management activity to a newly formed Capability Management Board that provides an end-to-end process owner and oversight of the Integrated Project Teams (IPTs) executing the implementation activity.



Option Two

This option builds on existing structures which have worked in the past but which might have atrophied over time. It applies streamlined processes to a reinvigorated Investment Committee and adds the creation of Capability Co-ordination Groups (CCG), to bring together the relevant stakeholders for individual projects. It recognises that Nations might have an expectation of continuing significant involvement in the management of projects /

capability programmes.



A further description of elements of these options is included in Annex C, Organisation and Structures.

Management Information

There is considerable evidence available from benchmark organisations that an effective management information system provides an essential backbone to project, programme and portfolio delivery. GSE found that a system is used in parts of NATO but that it fails to provide sufficient transparency to allow an “all informed” view for all stakeholders.

A basic understanding of the position reached by a project in terms of its cost and schedule progress is the core of an Earned Value approach that is widely used for complex acquisitions. A simple “traffic light” (red, amber, green) approach set against the key capability programme parameters would allow the Alliance governance level to have greater confidence in the progress being made. In turn this would support delegation to the management and delivery apparatus, with the knowledge that intervention would be possible in a timely fashion if problems occurred. Where a capability programme was at risk of breaching its performance envelope, set at the investment decision point, it could be referred to the management level and where necessary then onto governance for any necessary reappraisal. This process becomes much simpler if the relevant management information is available at the right time, in an understandable format and to all relevant stakeholders.

Any governance arrangement, and the management mechanism that supports it, is dependent on the provision of accurate and timely information, in order both to support effective decision-making and to build and sustain stakeholder confidence in the wider process. The NATO Office of Resources has adopted a system (known as CIRIS) that fulfils many of the required functions and is already available to nations and many internal stakeholders. It could form the foundation of the required NATO-wide project and portfolio management system.

Recommendations

Context

Delivering a capability requires 3 major distinct authorities (Capability Requirement Authority, Capability Implementer Authority and Capability User Authority) with identified responsibilities, from initiation to the end of the delivery stage

Governance

- Consensus remains central to strategic NATO decision making; all GSE recommendations are conditioned by this principle
- Decisions at 28 can be time consuming and should be applied only where they are necessary
- There should be two levels of governance, the NAC and the RPPB / MC
- Governance decisions should be made at the culmination of two key stages of work; agreeing the requirement and making the investment decision
- The relevant parameters of Cost, Schedule, Scope, Performance and Risk (CSSPR) and Doctrine, Organisation, Training, Material, Leadership, Personnel, Facilities and Interoperability (DOTMLPFI) should be agreed as appropriate at each decision point
- Requirements should be owned by a single SC
- Authority for capability programme delivery should be delegated to the management level within agreed thresholds and delegated powers
- Capability delivery organised through standardised stages, with decision gates between stages, is the basis for an efficient governance
- Thresholds for variation to SSCPR should be agreed at the resource allocation point with risk and contingency set

Management

- Governance and Management are different activities and must be separated
- Below the governance level a single management body could direct capability programmes or/and a range of projects, and oversee progress in SSCPR, informed by the DOTMLPFI full spectrum of the capability
- A through life approach to managing capability programmes must be applied. A six stage process is proposed.
- Projects must be managed within agreed Cost, Schedule, Scope, Performance and Risk (CSSPR) and the delegated thresholds
- Risks must be identified and actively managed through the life cycle
- A variation to SSCPR which is outside of agreed thresholds can only be agreed by a decision at the governance level
- A suite of Management information (project dashboard) is to be required for all NATO Common Funded Projects

- Project information is to be transparent to all stakeholders
- Clear designation of authorities with regard to Requirements, Implementation and Operations will ease the delivery of a capability
- Based on an agreed methodology life cycle costs, the following elements should be addressed: design, development, acquisition, operation and maintenance, personnel, disposal and other dependencies
- There should be a single process co-ordinator from end to end
- The principles of effective project management should be widely applied adopting the P3M (project, programme and portfolio management) model with the requisite Information Systems
- The requirement owner should be involved through the life of the project
- The project manager should be nominated at the earliest possible point in the life cycle
- Standards in critical areas should be set (e.g. risk management, cost estimating and contracting) and training / certification provided where appropriate
- A team (joining individuals addressing the Requirements and Implementation authorities, with their supports) should be established as early as possible

There may be exceptional areas where a bespoke governance / management structure is appropriate and approved by governance. For the majority of capability programmes there is significant advantage in a common approach generated by the above recommendations.

Risk Management

- RPPB / MC should be the owner of new risk management standard (including the related cost estimation / analysis process)
- The system should be applied with rigour for all Capability Programmes and managed through life
- A risk management standard should be implemented which allows for the full spectrum of risks that can occur during the life of a project
- Flexibility should be built into the CSSPR parameters to reflect and allow for the effective management of risk
- A knowledge management system should be introduced which would include a “lessons learnt” procedure

Authorities

GSE considered that delivering a capability requires 3 major distinct authorities (Capability Requirement Authority, Capability Implementer Authority and Capability User Authority) with identified responsibilities, from initiation to the end of the delivery stage:

- One for generating the requirements and assessing their satisfaction throughout the process: it requires military background and defence planning experience. It is basically a SC responsibility. SC capacity and capability should match this responsibility.
- One for conducting activities for developing and delivering the required capability against the approved

requirements: it requires system engineering and procurement skills and is not necessarily limited to a host nation responsibility, especially for major capability programmes integrating collective, multinational and / or national assets. It requires norms to be established such as risk, for end to end processes

- One for using and supporting the capability.

Structural Opportunities for Change

- Create a Management entity with end to end accountability for all capability programmes below the governance structure
 - Implemented through the creation of a Capability Management Board which does not include representation “at 28” and employing an IPT concept **or**
 - Implemented through the expansion of the IC to deliver this management function, with an additional advisory structure supporting project teams and the NOR
- Focus CP accountability / responsibility / delivery in a single SC
- Current Capability Steering Committees generate a parallel structure. They should become advisory in nature
- Accountability, authority and responsibility is to be clearly defined in the overarching end to end process for capability delivery
- Agency accountability, responsibility and authority should be clearly defined
- The NCIA General Manager should report to ASB solely for running his organisation and to the Management level, that is assigned to deliver oversight, for capability programme delivery
- To deliver value for money and to protect against unnecessary monopoly situations NCIA should provide a business case setting out the rationale for awarding it an acquisition project, such business case to be adjudicated as part of the governance process
- The required functionality should drive where decisions are made
- A head of profession for contracting should be created to oversee the professional competence, development and licensing of NATO contracting personnel and to own contracting standards
- The need for a Chief Information Officer role for NATO should be reviewed

Annex A

TERMS OF REFERENCE FOR GROUP OF SENIOR EXPERTS ON IMPROVING GOVERNANCE ASPECTS OF THE COMMON FUNDED CAPABILITY DELIVERY PROCESS

Tasking

1. At the Warsaw Summit, Heads of State and Government tasked the Deputies Committee, supported by relevant experts, to provide recommendations in time for the June 2017 meeting of Defence Ministers on how to improve the governance aspects of the common funded capability delivery process, under Institutional Adaptation.
2. To achieve this tasking, the Deputies recommended that a Group of Senior Experts (GSE) be established. The GSE will propose options for improving governance, drawing on experience in reforming national defence capability development, acquisition and support.
3. With these Terms of Reference, a Group of Senior Experts (GSE) on improving governance aspects of the common funded capability delivery process is established as a senior-level, ad-hoc body. Drawing on experience in reforming national defence capability development, acquisition and support, the GSE is ideally suited to propose solutions from a fresh outside perspective.

Mandate

4. The mandate of the GSE is to recommend improvements to governance aspects of common funded capability delivery, with the overarching aim to ensure that NATO commanders have the required capabilities when needed. A crosscutting and systemic approach that considers previous findings related to common funded capability delivery processes¹ will facilitate this aim. This tasking will not impede ongoing and planned development and delivery of common funded projects, including RAP- and VJTF-related work.

Deliverables and timelines

5. Ideally, the GSE should provide recommendations on ways to (1) close significant gaps, (2) minimise overlaps and (3) reduce the number of friction points that currently limit effective governance. These recommendations should include an assessment of pros and cons, incorporating potential financial and human resource impact(s) of any proposed changes.
6. The GSE will keep the DPRC informed on the progress of its work through meeting summaries and other communications to the Assistant Secretary General for Defence Investment (ASG/DI) in his role as the Chairman of the DPRC on Institutional Adaptation; he will provide the Deputies with regular updates.
7. The GSE will hold its “kick-off” meeting as soon as possible, and will provide a mid-term update to the DPRC on progress of the work, no later than mid-February 2017.
8. A final report with options and recommendations will be provided by the GSE to the DPRC for discussion and approval no later than the end of March/early April 2017. Subsequently, DPRC will forward its findings to the NAC for approval and further submission to Defence Ministers for their endorsement at their meeting in June 2017. Therefore, all 28 Allies will have the opportunity to assess the final findings of the GSE and agree the recommendations, as appropriate, at NAC level.
9. Throughout this process, the DPRC will seek advice from other stakeholders, such as the Resource Policy and Planning Board (RPPB) and the Military Committee (MC), as needed.

Composition

10. Guided by the principles of transparency and inclusiveness, the Secretary General will compose the GSE from among the candidates proposed by Nations and appoint a Chair. The GSE Chair will maintain close contact with the Chairman of the DPRC on Institutional Adaptation. Allies are encouraged to put forward nominations for the GSE. The size of the Group should be manageable and its members should possess a mix of competencies and experience as well as a level of seniority in national administrations commensurate with the type of advice needed.
11. In seeking a fresh, outside perspective, detailed knowledge and understanding of the current NATO common funded capability delivery processes, although helpful, is not essential. Members of the GSE should preferably have good knowledge and experience in some or all of the following areas:
 - Complex defence programme management, acquisition and support, including in the areas of military infrastructure, communications and information systems (CIS) or armaments;
 - National and Multinational capability development and implementation, including financial planning and management;
 - An understanding of how military requirements are defined and developed, as well as full life-cycle planning and execution;
 - Relations with industry in the context of acquisition and the development of defence-related capabilities;
 - Business process design;
 - Practical experience from doing similar work in other International Organisations (UN, World Bank, EU etc.) would be valued.
12. Allies are asked to provide their nomination(s) to the Secretary of the DPRC as soon as possible, but no later than 14 October 2016. Nations shall be represented by no more than one individual in the GSE.

Support

13. Allies will cover the expenses of their experts' participation. A significant part of this work is expected to be accomplished through electronic means with face-to-face meetings in Brussels limited in number (4-5 in total).
14. The GSE will be supported by a staff task force led by ASG/DI and Director NOR. The staff task force might reach out to other staff in the organisation and / or subject matter experts in Allied capital and delegations, as necessary. The staff task force will provide background research, coordination, drafting and secretarial support to GSE. The GSE is free to consult the IBAN and appropriate stakeholders, as required.

Annex B

GSE MEMBERSHIP

(Chairman)

Vice Admiral (Retired) Matthieu J.M. Borsboom

Experts

Major General (Retired) Antonios Chatzidakis

Mr Barry Burton

Brigadier General Antonio Conserva

Mr Sigitas Dzekunskas

Colonel Tore Kvalvik

Rear-Admiral (Retired) Ian Mack

Mr Rustem Ozarmagan

Professor Ricardo Ferreira Reis

Professor Todor Tagarev

Mr David E Wright

ICA Alexandre Barouh

Major General Slawomir Paczek

Annex C

ORGANISATION & STRUCTURES

In the Report the GSE sets out two options for the treatment of a management layer to support capability programme delivery. In a P3M approach this would equate to the Programme Board.

Option One – Capability Management Group

Option One is based on best practices in governance and management. In particular, it applies a minimum number of tiers of governance; it introduces an implementation management authority that is separated from those performing governance functions “at 28” as THE body with full accountability for the successful implementation of all Capability Packages and projects within each project’s approved mandate; it reshape the effort expended from significant for governance and less for management to the reverse resource application as is the norm for nations and internationally; and it applies the common standard in project management of Integrated Project Teams employed in other international organisations and by most NATO nations for successfully delivering complex projects to meet all stakeholder requirements.

This new management board would best be employed with a delegation of authorities by the NAC and RPPB to allow flexibility reflected in appropriate contingencies relating to cost and schedule for individual project implementation by territorial and/or agency host nations. The Chair of the management board would hold personal accountability for implementation, with accountability to the RPPB and that Level 2 governance “at 28”. To ensure successful end-to-end Capability Package generation and delivery this management board would include all key stakeholders. At a reasonably senior level: the Requirements Authority, the Agencies, Host Nations as per agenda items (as executors of projects and/or as the intended operational authorities, the cost estimation, procurement and risk standards authorities and a financial RPPB representative.

The management board would go beyond coordination of the end-to-end Capability Package process coordination to being the Process authority to assure the board’s full accountability for delivering on the mandates approved by governance. Similarly, the management board is responsible for the development for RPPB ratification and subsequent implementation of the standards for sister estimates, risk management and contracting. The Management board would apply a revised (enhanced) program review/deletion procedure.

An Integrated Project Team (IPT) regroups the identified responsibilities for requirement definition and solution definition bringing together any required expertise. For the most complex programmes, a dedicated IPT is necessary; for others it might deliver groups of programmes. It would be assembled as the Requirements process launches, to provide full project life cycle considerations throughout requirements generation and delivery to ensure such things as operating authority and life cycle requirements (including resources) are addressed to the maximum extent possible. These IPTs introduce much more rigour before the second governance approval (the investment decision) to better ensure project’s are launched right, when it is least expensive to make changes to get scope, cost and schedule de-risked to the maximum extent practicable. The IPT is led by the assigned Host Nation or Agency project manager who has accountability for project execution under charter to deliver cost, schedule and scope, complete with meeting defined standards to the minimum threshold levels or greater, and reporting up as dictated by the management board? These project managers are accountable through their assigned Host Nation national execution entities or the Agency General Managers to the management board.

The management board is an authoritative body and a critical staff activity. The Chair needs to be a senior staff executive, and the board need appropriate staff support which might initially be provided by the NOR until appropriate staff can be hired and dedicated to this activity of oversight, assistance to project IPTS through their Host Nations or Agency GMs, ensuring that the supporting processes are efficient (without overlaps and gaps) and reporting transparently to all stakeholders.

Option Two – Capability Co-ordinating Group (CCG)

This option utilises and enhances existing structures and procedures. The Investment Committee (IC), as a part of the Resource Policy and Planning Board (RPPB) governance structure, would continue to be the Program Implementer Authority, responsible for authorizations or de-authorisations of projects' scope, cost, and schedule, for individual project implementation by territorial and/or agency host nations. To ensure that all points of view are heard and fairly considered, attendance at IC meetings would be expanded to include all key stakeholders. The IC would apply a revised (enhanced) program review/deletion procedure. The IC could be considered as performing management functions when conducting separate meetings for program review.

New Capability Coordinating Groups (CCGs) would be formed for individual projects, as an enhanced reintroduction of a previously utilized phase meeting procedure, that appeared to have been successful in the past, but that over time has atrophied, presumably due to staff and travel fund cuts, primarily within the NOR. The CCGs would be managed by NOR project engineers, and consist of representatives of all stakeholder organisations. The CCGs would meet on a regular basis during the requirements generation, solution, and delivery phases of project capability implementation. At these meetings, called "phase meetings", the CCGs would monitor individual project implementation, consider the views of all stakeholders, coordinate views, and provide advice and assistance to host nations. (See Annex Z for a CCG concept paper, upon which appropriate TORs could be developed.)

Purpose

The Capability Coordinating Groups (CCGs) are management functions created under the authority of the Director, NATO Office of Resources, in his role of providing support to the Resource Committees, in particular the Investment Committee (IC); the IC being responsible for NSIP program and individual project governance and management. The CCGs support the Capability Requirement Authority (SC) and the Capability Implementer Authority (the IC), throughout the requirements generation, solutions, and delivery phases, and possibly support the NATO Budget Committee (BC) during the in-service life phase, of capability delivery.

The CCGs provides all key stakeholders a mechanism to monitor NSIP project formulation and implementation, have their views fairly and openly considered, and participate in recommending corrective actions when projects deviate from the IC approved scope of work, cost, or schedule.

Organisation

The assigned NATO Office of Resources (NOR) project engineer shall normally organize and chair individual CCGs. Should the SC wish to provide the chair of the CCG during the period of requirements generation, this shall be allowed. NOR administrative and financial analysis support will be provided in behalf of the NOR project engineer. The CCGs shall consist of at least the following members:

- NOR project engineer (chairman)
- SC project monitor; or subordinate command project monitor; or both
- Territorial and/or agency host nation program/project managers, including the internal project (implementation) team (P(I)T) leader (if a P(I)T is established, and if the leader is different from the project/program managers)
- Capability user representative, if different from SC or a territorial host nation
- Steering Committee(s) (when established) representative(s)

The CCGs may invite other NATO staff elements and industry to attend its meetings during the requirements generation, solutions, and delivery phases, as well as the designer and/or contractor during the solutions and delivery phases, as the CCG chairman deems appropriate.

The CCGs will meet at least once during the requirements generation phase, once upon the initiation of project

design, once upon completion of the 30% design Type B Cost Estimate (TBCE), once upon award of the implementation contract, and once upon finalization and acceptance of the project, i.e. the Joint Formal Acceptance Inspection (JFAI); and at other times as deemed necessary by the Director NOR, the CCG chairman, or the implementing agency GM and/or territorial host nations' responsible officials.

Responsibilities

Management and coordination

On an on going basis, SC provides data to the CCGs during the requirements generation phase, and the territorial or agency host nation(s) provide data regarding progress during the solutions and delivery phases (to include any anticipated changes to the IC approved: project scope, project cost and financial plan, and the project schedule). The CCGs will address anticipated changes by considering input from and through coordination among its members, and through the CCG chairman providing consolidated advice to the territorial or agency host nation(s).

The "phase 1" meeting, during the requirements generation phase, shall emphasize project eligibility (existing and/or requested), compatibility with Alliance political and military goals, the availability of industrial capabilities to satisfy the proposed requirements, and the intended priority of the project(s).

The "phase 2" meeting, at the commencement of the project design, shall emphasize the NATO approved criteria and standards to be utilized and whether it is foreseen that deviations from established criteria and standards will be sought; the necessity to address risk management, DOTMLPFI, environmental legislation and potential environmental issues, life cycle management; and as to whether an internal P (I) T will be established (mandatory for CIS projects other than for off-the-shelf standardized equipment, not requiring integration).

The "phase 3" meeting shall concentrate on the extent to which the phase 2 issues mention above and other issues that may have arisen during initial design have been satisfactorily addressed, and determine if the TBCE is ready for IC consideration of authorization and approval for final design and contract award.

The "phase 4" meeting shall emphasize those areas of the winning contractor's proposals that present the possibility of risk to the foreseen scope, cost, or implementation schedule, and how such risks can best be mitigated. The CCG, at the normally on-site "phase 5" JFAI meeting, shall determine if a beneficial occupancy or initial/final operating capability (I/FOC) decision shall be recommended to the capability user; and if there are deficiencies either impairing or not impairing the operational capability, or requirements to receive further financial authorisations or de-authorisations; and advise the host nation(s) on ways ahead on these issues.

On relatively minor issues, the CCG chairman may seek views/consensus from CCG members by mail or phone, provided that all members of the CCG are then immediately notified regarding the chairman's intended way ahead regarding advice to the host nation.

Budget and Direction

The CCG has neither budget authority nor directing authority other than the authority to advise the host nation(s) and be represented by the CCG chairman at Resource Committees' meetings addressing projects, particularly regarding scope, cost, or schedule changes.

Reporting

The NOR chairman of the CCG shall provide all members of the CCG a memo regarding the results of phase meetings within 30 days after completion of the meeting and sooner in instances where scope, cost, or schedule are at risk. This information shall be made available to all other NATO entities that request it.

Further Recommendations for Consideration (Agnostic to Options 1 or 2)

The GSE work has pointed to a number of additional areas where recommendations could be made in addition to those in the main report.

- Reduce the number of committees involved in approvals during CP programming and projects implementation and the number of times the remaining committees must take decisions, by authorizing, through an appropriate mechanism, host nations higher project contingency funds at the time of the initial project authorization, to allow the host nation greater flexibility within the approved scope of work.
- Establish a process by which a capability programme can begin without a comprehensive suite of projects fully identified; they may have some initial projects but more can be fast tracked through simplified procedures.
- Simplify and shorten processes, by:
 - a) Providing advance planning funds for the solution stage for the preliminary design and preparation of the TBCE (spell out) for NMA-designated high priority projects, immediately upon NATO HQ receipt of the proposed CP containing the projects, and in advance of receipt of the CP.
 - b) Paying territorial host nations sufficient National Administrative Expenses (NAEs) and/or Architect/Engineer (AE) fees to cover their actual cost to design, implement, and audit projects, as is done for NATO agencies acting as host nations.
 - c) Adapting Alliance Operations and Missions NSIP Procurement Regulations (AC/4-D(2011)0009) to replace Procedures for International Competitive Bidding (AC/4-D/2261) in order to reduce the number of bidding disputes and enable faster resolution of disputes. Shortening dispute resolution timeframes by eliminating IC discussion of disputes and maintaining lists of available arbiters who quickly could be available to perform arbitration within a set timeframe.
 - d) Using independent consultancy services to support the implementer monitor and report on progress on high-risk projects.
 - e) Ensuring that project managers are nominated and given responsibility from initial SC determination of the need to generate a requirement through the final audit, and ensuring that project managers and senior agency personnel have performance objectives and reports linked to successfully achieving agreed project milestones.
 - f) The SC or the capability requirements authority shall consider state-of-the-art systems being used and produced by NATO member nations when setting requirements, so as to minimize the need for NATO-specific new system development except where absolutely essential, and whenever possible allowing flexibility in the requirements set to enable competition.
 - g) Driving an overall cultural change in agency internal controls to promote, inter alia, more open and faster communications.
 - h) An effective project / capability acceptance regime should be put into place to ensure timely closure of delivery activity and remediation of outstanding issues
 - i) A “lessons learned” procedure should build upon through life monitoring for each capability programme be instituted to review what went well and what did not at the relevant point in project delivery. Best practice should be shared as soon as practicable and lessons identified throughout the project life
 - j) Deducting a portion of National Administrative Expenses (NAEs) being paid to territorial host nations for their failure to request the Joint Formal Acceptance Inspection and the IBAN audit within the agreed foreseen time frames, unless the nations provide convincing evidence of unforeseeable circumstances.

Personnel Issues

It would be possible and helpful to enhance knowledge and employee performance and satisfaction, by:

- a) Applying greater flexibility in HR policy to facilitate the delivery of capability programmes, matching schedule to resources, where specific and rare skills are needed (using part time, consultants and fixed term employment)
- b) Enhancing informal liaison between NATO agencies and industry involved with Agency procurements and with former members, inter alia, through industry organisations.
- c) Providing the opportunity for employees desiring to work in another part of NATO to swap jobs with other employees provided they are qualified.
- d) Reviewing agencies' hiring practices to ensure that pre- and post- employment conflicts of interest are removed or managed.
- e) Changing or granting agencies exceptions to NATO restrictions on the utilization of part-time employees or consultants, to allow greater workforce flexibility to accommodate changing project implementation requirements.
- f) Embed suitably empowered personnel in contractor facilities (and agencies) with the appropriate access necessary to identify areas of risk.
- g) Ensure that more robust corporate governance responsibilities are matched by appropriately defined and enforced personal responsibilities which may include, for example, the concept of pecuniary liability.

Funding Request Accuracy

- The challenge around providing accurate and taut funding requests can be reduced by introducing the concept of pecuniary liability, whereby the GM of an agency (and perhaps other agency personnel) is personally accountable for the correctness of payments, and individually responsible for reimbursing the funding authority for any payment that he/she certified which is found to be illegal, improper, or inaccurate, e.g. obligation of unauthorized funds.
- Take action to ensure that arrangements for calling forward contributions to common funded programmes are soundly based. Contributions should not be made before host nations require them in order to discharge their responsibilities. Steps should also be taken as appropriate to ensure that contributions are paid in full when due.
- Nations sometimes fail to make timely quarterly payments in full to NSIP implementing nations, which create financial challenges for the Host Nations resulting in them inflating their funding requirements to cover the recalcitrant donors.
- Nations that are challenged in making timely payments should arrange with other nations to pay their share with arrangements to "zero the balance" between nations
- Disincentives should be implemented on both donor Nations that miss payments owed and on Host Nations that inflate their funding requirements, considering such things as enhanced scrutiny of Host Nation funding requests and/or levying taxes on both and/or reporting both in a standing report to the NAC

Annex D

GOVERNANCE

Introduction

1. The GSE mandate focuses on governance of NSIP. It was therefore important to understand what constitutes the principles of “good governance”, as a key assessment tool of the status quo and any proposal for change.
2. Definitions are always a good place to start:
 - NATO has employed a compliance-focus to its definition of governance: “The provision of the oversight necessary to ensure that agreed direction, guidance, processes and procedures are followed” (Reference Document PO(2012)0030, 25 January 2012, Secretary General to PRC, End-to-End Rationalization Review of all Structures Engaged in Capability Development, Final Report to the DPPC(R)).
 - A common generic definition of the purpose of governance is risk-focused: “A specialized mechanism for regulating risk to the achievement of the governed organisation’s objectives, this achieved by defining risk tolerances as driven by the needs of that which is at risk and then directing the activities of the organisation being governed to address such risks.”
 - Corporate risk statements tend to be broader to address their all-encompassing fiduciary responsibilities to shareholders: “processes by which organisations are directed, controlled and held to account ... broadly covering corporate and other structures, culture, policies, strategies and ways of dealing with various stakeholders ... also encompasses the manner in which organisations acquit their responsibilities of stewardship by being open, accountable and prudent in decision-making.”
 - This did not lead the GSE to adopt a new definition of governance
3. Interestingly, research by the GSE uncovered governance literature and principles relating to state governance of populations, corporate governance and the governance of international aid projects. Generally, this indicated useful but only indirect applicability to NATO’s NSIP. Nevertheless, it led to the following principles of good governance:
 - From the Canadian Institute of Governance as published in 2006 relating to UN Development programs:
 - Legitimacy and Voice – Perceived by both internal and external actors as possessing the power, means and recognition that it governs by accepted right (everyone is at the table who should be [and not others not needed]. They are listened to in genuine dialogue, and all accept a consensus orientation for decision-making)
 - Direction and Strategic Vision – Parties share a joint and clearly articulated vision of their goal, understand through clarity of roles and responsibilities how the organisational entity they represent contributes to the goal, and realign the goal as time requires changes
 - Performance – The resulting governance serves its members responsively, effectively, efficiently and in a quality manner to achieve the agreed definition of success – supported with adequate resources (numbers and competencies) to deliver and to anticipate the need for, and to adapt to, change with regular performance measurement
 - Accountability – Members answer to each other and to external stakeholders on how they exercise their power and execute their duties, accepting a shared degree of responsibility for failure, incompetence and deceit if they occur – this supported by clear accountabilities of all parties in an open and transparent set of relationships with each other and with the parent

organisations they represent

- Fairness – Impartial and equitable framework of processes that are independent of undue influence by governance members or others (often political influence) and include adequate dispute resolution mechanisms, with due regard to laws and regulations and achieving a sense of benefit from the governed partnership
- The GSE also conducted a brainstorming activity on the principles of good governance for the NATO CP NSIP and concluded that there were five overriding principles:
 - Transparency – the provision and sharing of common information used by governance to all stakeholders (e.g. political/Nations, SCs, operators, those involved in all aspects of implementation)
 - Accountable – members are qualified and knowledgeable; the governance structure has clear roles, responsibilities and authorities; they are required to answer and be held to account for their actions (and inactions); and to make fact-based decisions based on adequate staff support (resources and verified information)
 - Clarity and Properly Assigned Roles/Responsibilities – accurate Terms of Reference with no overlapping or gapped responsibilities or authorities; routine exercise of mandated authorities (and no one else's); and supporting processes clearly identified
 - Legitimacy – all stakeholder's needs are understood, given up consideration and addressed; practices and decisions comply with laws, regulations (e.g. Rules of eligibility); and consensus is achieved where appropriate
 - Effective and Efficient Decision-Making – decisions are risk-based and evidence-based, coherent, consistent, robust, timely and within mandate
 - Separation of Governance from Management – those who govern should leave the effective and efficient management of outcomes to separate entities.
 - Flexibility – governance should introduce as much flexibility as possible to ensure efficient delivery of success and the adoption of best practices.
- One additional source of principles was offered based on the experience of one member of the GSE, which covered many of the principles above but added the following additional refinements and considerations offered:
 - Firm Boundaries Around Governance – The practice of governance must strictly adhere to the purpose for which it was created and resist informal “mandate creep”; any change in mandate must trigger a re-tailoring of governance membership, Terms of Reference of implicated system entities and the adequacy of the governance support systems/resources
 - Minimalist Approach – Minimum tiers of governance and separate entities, to preserve agility through a lean and efficient governance where “less means more”; with regular external review to re-shape and reduce (this to combat the unintended reaction of democracies to issues, typically to create committees that never go away and to create support processes that create confusion and lethargy in outcome delivery)
 - Accountability Upwards and Support Downwards – to combat the tendency to defer to the easy function of compliance oversight, the mandate should specifically identify the responsibility to those below to provide support when they are in need with timely, responsive and knowledgeable decisions, with additional resources or relief from assigned responsibilities, and with protection from unfair assessments by uninvolved stakeholders (often with failure rooted in resource shortfalls that governance could not resolve)
 - Access to Subject Matter Expert Advisors – To ensure that specialist areas at issue are dealt with from a position of strong knowledge and with options

- Systemic Risk Resolution – Responsible to resolve internal-to-governance risks to effectiveness as a priority, and in a prioritized manner
- Member Accountability for Change – Assignment of members of governance to lead staff change activities (e.g. not to “fire and forget” but lead staff activity and be responsible to governance colleagues for successful change management)
- Commitment to Knowledgeable Decisions – Separated out to highlight the importance of governance members receiving orientation training and specialized training for deficiencies, and to “walk the ground” regularly to assess ground truth (to escape the inevitable interpretation, shaping and filtering of information provided by subordinate management tiers)
- Governable or Not – In many cases, the defined and inviolate organisational precepts will render an organisation “ungovernable”, such that precepts must change as a precursor to improved performance or efforts to improve should be abandoned to avoid waste – this akin to “tough love”, it being better to reset expectations

Application to NATO’s NSIP Governance

4. These principles are offered for all governance bodies to use in assessing their governance and identifying opportunities for improvement

Annex E

RISK

As part of the information gathering activity, the GSE invited input from NATO nations and the Committees involved in the CP system. A commonly voiced concern related to the perception that the CP process needed to adopt a better approach to risk management. The genesis of the comment appeared to be the lack of forewarning of risks, with pressures relating to CP budget and schedule occurring too often with only one resolution; increase the cost to Nations or tolerate late delivery of the capability. This implied that there was a significant gap in this area, something that members of the GSE with no previous NATO experience found remarkable.

There are few projects that conclude exactly as predicted. Risks are a feature of any project; the success of a project depends on their management. There are many forms of risk that can occur but they fall into three broad categories:

- I. Internal – those risks the organisation can influence,
- II. External – those risks the organisation cannot directly influence but which can be resolved by action,
- III. Extreme – those risks that are difficult to mitigate in any case.

The internal risk is normally related to an internal decision process and the availability of resources. External risks are typically related to a changing political environment, industry ability to deliver as promised and money exchange rates. Extreme risks arise from strategic shocks, natural catastrophes or industry wide market effects.

All risks are evaluated based on the likelihood of occurrence and the impact arising from the consequences for the project's scope, cost and schedule. A project manager must try to identify all internal and external risks and find mitigation actions. When it comes to the extreme risks, they are seldom dealt with in a risk analysis because, although the impact is significant, the likelihood is very low. As a result mitigation at the P3M level is impossible.

Since risks can influence all of the key parameters (scope, cost, and schedule), and mitigation actions only can deal with some of the consequences, there must be room to maneuver within all key parameters.

Definitions are useful:

Risk can be defined as something uncertain which, if it occurs, could have a positive or negative impact on project objectives. Risk management is the identification, analysis, assessment, control, avoidance, minimization or elimination of unacceptable risk, by using risk assumption, retention or any other strategy (or combination of strategies) for proper management of future events.

It has been argued that THE priority task for project leaders, and their teams, is risk reduction in one form or another. The risk analysis report then becomes the most important management tool for the project manager. Information about risks involved must be shared and understood by all key players, to ensure that mitigating actions are taken in a timely manner.

There are many reasons to formally identify, assess and mitigate risks in the business of project management:

- It can warn delivery, management and governance roles of the onset of risks that can detrimentally impact cost, schedule and scope, thereby providing time for responsible people and entities to contribute to mitigating actions that can reduce or eliminate such impacts.
- It can indicate the realisation of risks with sufficient warning time to allow the development of a course of action and the selection of an appropriate damage control response, thereby avoiding surprise at senior levels and the related crisis-like response that can exacerbate the damage done.

To launch projects effectively, it is fundamental to establish key project implementation parameters as requirement

scope, cost and schedule, and the development of levels of contingency funding, time span and essential / desirable requirements. In effect, the approval of a project is deficient without comprehensive risk evaluation; therefore, the organisational authority for both cost estimation/analysis and risk treatment are normally one and the same.

Because the degree of risk can vary dramatically between projects, it allows the degree of risk treatment rigour to be tailored, so as to retain efficiency without sacrificing effectiveness.

Risk Management in the NATO NSIP Enterprise

To achieve effective implementation in multilayered organisations managing a large portfolio of projects in diverse domains (as is the case with NATO CP delivery), the consistent application of a set of risk treatment standards/ tools and of risk reporting protocols is critical to ensure clarity in understanding and legitimate responses.

Risk management is not absent within NATO CP generation and implementation at this time. The GSE observed that NCIA employs a risk system. Noting that the GSE was told that PRINCE-2 (copyright) is the preferred project management tool defined in at least one NATO document (MC 0612), it would provide a standard system of risk treatment at the execution level.

It appears that Host Nations and Agencies have retained leeway to define the system they employ (their national system) and the risk applications are therefore likely to vary considerably. Similarly, the NOR routinely reports risks.

The use of Minimum military requirements does not offer enough flexibility in handling risks. The normal way of setting a requirement is to divide them into shall and should (essential and desirable) requirements, and to prioritise the “should” requirement. As the project moves on, and where proposals received exceed and acceptable envelope prioritisation is required. Before signing a contract, the flexibility lies primary within the should-requirement. After the contract is signed, flexibility can be obtained by having options in the contract, and releasing those when there is are certainty of staying within budget.

Project durations can be long, and requirements can change during implementation. The system should allow for requirement reviews, and minor changes to account evolving operational requirements, standards or technological development, but within the initial budget including contingency.

As the degrees of rigour applied should be tailored to the complexity of projects, it can vary from simple risk registers, to cost estimate adjusted outputs with integrated schedule risk, to the introduction of confidence factors, and beyond to reflect the total risk of a project or inter-project risk interdependencies.

For some projects, the parallel use of an Earned Value Management (cost and time progress against as baseline) approach is also important. Where failure is simply not tolerable, key advanced methods must be applied to address unforeseeable unknown-unknown risk scenarios. Therefore, the degree of complication in such a risk system of systems can be significant. In the NATO NSIP, this could lead to a tailored set of three minimum mandatory risk treatment systems – one for infrastructure and facilities (Host Nations and NSPA), one for IT/CIS projects (NCIA and project elements of infrastructure projects), and a high end system for much more complex and unique projects like ACCS and BMD.

Implementing such a system will require care. It requires the services of experts (particularly in setting it in place), and in-house specialists with ongoing training for all involved in a project throughout its implementation. The importance of including stakeholder risk assessment and treatment in an environment like NATO cannot be underestimated – it is an important activity in all projects to enable success. The importance of honest and timely risk assessment and reporting is clear.

Noting the importance of risk treatment to the CP system and beyond, ownership of the risk treatment standards authority should rest at a senior level. A minimum mandatory set of risk treatment standards must be put in place

if improvements are to be realised.

Annex F

LIFE CYCLE COST

The purpose of a Life Cycle Cost (LCC) process is to establish the total cost of a programme, from implementation to the time where it is deleted from the inventory or taken out of service. It comprises the investment cost and the running cost during the lifetime of the capacity. Since LCC is based on assumptions / estimates of future cost they come with an uncertainty.

LCC calculations are important in the solution stage for making important decisions on:

- Selecting industry, and adaptations to a system
- Selecting logistic concept, including logistic support agreements (like CLS)
- Selecting contractual requirements or other parameters that will influence LCC.
- Give estimates on the running cost (O&M, infrastructure, training courses, personnel) and need for mid life upgrades during lifetime. These figures should be used in the long term planning plan of the operational budget.

There are several standards in use in different countries of how such estimates are determined; most common is the ISO 15288 Life Cycle Management. NATO has adopted the ISO 15288 through AAP-48 and AAP-20. There is also NATO guidance on Life Cycle Cost in the ALCCP-1. There are different tools available for use to calculate LCC but most systems are based on the same model. The results of the LCC analysis is also an important input to the risk management process, and likewise the LCC is an important tool to reduce risks.

The LCC estimates are done several times during the project stages. It is important to start in the concept phase because the different conceptual options can have a significant different impact on life cycle costs. There will be an increasingly confidence in the outcome provided by the analysis during the different stages as the solution is more defined.

In the concept/requirement stage the figures are mainly based on experience from similar systems already in operation, combined with information gathered from Industry on their response to RFI (request for Information) or other form for marked surveys. In the solution stage, when alternative solutions are decided on, with a set of requirements and how the other life cycle aspects are decided on, a new LCC analysis should be performed. The next time a LCC Analysis should be performed when bids are received and evaluated. The selection of Industry should be based on the LCC figures, and not only on investment costs. There should also be a LCC analysis after selection of the bidder based on the final contract to ensure affordability during the lifetime of the capacity. There could also be a need to state in the contract some conditions or requirements that will or could have a big importance on running costs.

The LCC analyses should be done in cooperation with industry wherever possible to ensure that the data is interpreted correctly and that the costs are commercially valid. In addition, this approach will incentivise potential bidders to innovate.

Annex G

EXTERNAL BENCHMARKS

Benchmarking Practices of Note

Two categories of research were conducted:

- Eight GSE members presented key aspects of their nations project generation and delivery systems in terms of the programme and project governance, management and execution practices.
- Four organisations external to national governments were engaged.

Practices of Select NATO Nations

A number of common themes emerged from these briefings, in particular:

- In most nations, a 4-5 step process is employed to deliver projects.
- In all nations it is clear who is in the lead for each phase – sometimes, there are more than one authority or owner but it is always clear who is in charge at any given stage in the project life cycle, and clear handovers are important
- Many nations require significant reporting to parliament, but requests for decisions at these most senior levels of governance are in the range of 2-3.
- Most nations have all key stakeholders involved throughout the process, largely for support and visibility (visibility enabling oversight).
- Nations regularly involve the “implementer” and industry in the requirement setting stage.
- Most nations assess through life considerations at every stage in the project life cycle.
- Many nations have a process for “fast track” implementation to satisfy urgent operational requirements.
- All nations have risk management built in the project implementation processes.
- In many nations there is more emphasis and effort focused on project management than there is on governance. (This was especially noteworthy as in NATO, many committees are involved in governance but few in management.
- Most nations clearly distinguish between the requirements authority and the solution development and implementation authority.
- Many nations execute complex technology intensive projects in incremental steps.
- Many nations build in flexibility in terms of delegated authorities, in terms of project contingencies and even to reallocate funds in any one year between projects to meet forecast portfolio cash flow.
- Some nations employ peer review to evaluate programme progress and to inform project progressing reporting using dashboards indicating agreed meanings based on defined protocols.
- Many nations employ steering or advisory boards for more complex projects.
- Training in the management processes and robust lessons learned approaches are an essential and integral part of project delivery systems.

Practices of Select External Agencies

Although NATO is undoubtedly, a large and complex political/military organisation, these characteristics are not all unique to the Alliance. Recognizing this, the GSE's Terms of Reference required assessment of the way in which business is conducted external to government, and to consider how external best practices might be incorporated into the NATO governance model. In this context, corporate and international spheres were engaged to discuss how their organisation deal with the governance challenge. Areas of particular interest included:

- Maintaining coherence across different lines of development (e.g. capital investment, through life support, personnel, training).
- Balancing the need for effective control while creating the freedom necessary for managers to deliver, and methods of ensuring accountability, this included the allocation of responsibility.
- Ensuring that governance remains agile and responsive, whether to keep pace with rapid technological change or to adjust to developments in the operating environment.
- Managing complex communities of stakeholders with diverging priorities and interests.

Senior executives from the World Bank, Royal Dutch Shell, the World Food Program and the European Defence Agency were interviewed at top management levels to identify best practices. Although a small sample, the following themes were noteworthy:

- Some Agencies are dissatisfied with the length of time it takes to deliver complex projects.
- Oftentimes, the nations contributing funds to these agencies do so with little or no controls – fiduciary or otherwise – once the funds are delivered.
- Some attach strict covenants (e.g. training on the standards that must be met for implementing [such as project management, risk management, contracting and financial practices] and reporting) that Nations implementing the projects must comply with to get access to funds to execute projects.
- Virtually all the agencies separate those engaged in governance from those charged with management of the projects.
- All employ a standard risk management system in all project cycle phases.
- Agencies usually employ a central staff in management oversight comprised of all stakeholder organisations and specialist standards experts/owners, provide the leader(s) of the management layer with delegated authorities to introduce appropriate flexibilities for the risk levels involved most hold that leader(s) accountable to deliver the defined and expected benefits across the portfolio of projects that can be in the hundreds, and assign one or more personnel to assist/monitor individual project progress – which often includes regular “walking the ground”.
- Agencies spend as necessary to ensure standard information reporting with modern IT systems that reach into dozens of nations.
- Extensive training for central staff with management oversight responsibilities is common, often including accreditation or licensing.
- Significant effort is often applied up front before the investment decision to assure through appropriate application of rigorous standards and appropriate challenge that the technical, financial, schedule, performance, relational, environmental, communications, HR and other risks are understood and minimised before the project is formally launched. This ensures that those making the investment decision are very well informed and that the projects are more likely to deliver successfully.

