Acquisition

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NCIA/ACQ/2016/1327
30 June 2016

To: See Distribution List

Subject: **Distribution of Market Survey (MS-CO-14323-LOGFS)**
Logistics Functional Services (LOGFS) Evolution Capability

Reference(s): **Capability Package (CP): 9C0103 Addendum 1**
Project: 2016/0IS03044

1. Forwarded herewith for your action and/or file is/are copy/copies of subject Market Survey.

2. The effective date of this Market Survey is: 01 July 2016.

FOR THE GENERAL MANAGER:

Ijeoma Ezeonwuka
Contracting Officer

Attachment: As stated

NATO Communications and Information Agency
Agence OTAN d'information et de communication
Avenue du Bourget 140
1140 Brussels, Belgium
www.ncia.nato.int

Distribution List for Market Survey Request for Information
Logistics Functional Services (LOGFS) Evolution Capability
MS-CO-14323-LOGFS

All Potential Industrial Suppliers 1

1. NATO Delegations (Attn: Infrastructure Adviser):

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Distribution for information

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Attn: Executive Co-ordinator 1

SACTREPEUR
Attn: Infrastructure Assistant 1

SACEUREP
Attn: Infrastructure Assistant 1

Strategic Commands

HQ SACT	Attn: R&D Contracting Office	1
HQ SACT	CAPDEV C2DS C2	1
ACO	Attn: Mr Steve Wallis, Ms Kirsten Lund	1

ACQUISITION

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Telephone: +31 (0) 2 707 8104

NCIA/ACQ/16/1298
01 July 2016

Market Survey Request for Information

Logistics Functional Services (LOGFS) Evolution Capability

MS-CO-14323-LOGFS

The NCI Agency is seeking information from Nations and their Industry in order to assess the feasibility of the delivery of the LOGFS Evolution components using Commercial-Off-The-Shelf (COTS) tools. It will follow (and build upon) the LOGFS Consolidation and Development project which is currently under contract.

NCI Agency Contracting Officer: Ms. Ijeoma Ezeonwuka
E-mail: Ijeoma.Ezeonwuka@ncia.nato.int

To: **See Distribution List**

Subject: **NCI Agency Market Survey Request MS-CO-14323-LOGFS**

Logistics Functional Services (LOGFS) Evolution Capability
Capability Package (CP): 9C0103 Addendum 1
Project: 2016/0IS03044

1. The NCI Agency requests the assistance of the Nations and their Industry to identify potential commercially available solutions to meet the emerging NATO requirement for Logistics Functional Services (LOGFS) Evolution capability. This Market Survey is being issued to identify potential solutions and possible suppliers.

2. The broadest possible dissemination by Nations of this Market Survey Request to their qualified and interested industrial base is requested.

3. A summary of this emerging requirement is set forth in the Annex A attached hereto. Respondents are requested to reply via the questionnaire at Annex B.

NATO Communications and Information Agency
Agence OTAN d'information et de communication
Avenue du Bourget 140
1110 Brussels, Belgium
www.ncia.nato.int

Other supporting information and documentation (technical data sheets, catalogue price lists, descriptions of existing installations, etc.) are also desired.

4. The NCI Agency reference for this Market Survey Request is MS-CO-14323-LOGFS, and all correspondence and submissions concerning this matter should reference this number.

5. Responses may be issued to NCI Agency directly from Nations or from their Industry. Respondents are invited to carefully review the requirements in Annex A.

6. Responses shall in all cases include the name of the firm, telephone number, E-mail address, designated Point of Contact, and a NATO UNCLASSIFIED description of the capability available and its functionalities. This shall include any restrictions (e.g. export controls) for direct procurement of the various capabilities by NCI Agency. Non-binding pricing information is also requested as called out in Annex B.

7. Responses are due back to NCI Agency not later than **12:00 hours (Brussels, Belgium Local Time) on 08 August 2016**.

8. Please send all responses to Ms. Ijeoma Ezeonwuka, Contracting Officer, at Ijeoma.Ezeonwuka@ncia.nato.int.

9. A workshop with industry (to include one-on-one meetings) based on this Market Survey is tentatively scheduled for November 2016. Potential Respondents are requested to await further instructions after their submissions and are requested not to contact any NCI Agency staff directly other than the POC identified above in Paragraph 8.

10. Any response to this request shall be provided on a voluntary basis. Negative responses shall not prejudice or cause the exclusion of companies from any future procurement that may arise from this Market Survey. Responses to this request, and any information provided within the context of this survey, including but not limited to pricing, quantities, capabilities, functionalities and requirements will be considered as information only and will not be construed as binding on NATO for any future acquisition.

11. The NCI Agency is not liable for any expenses incurred by firms in conjunction with their responses to this Market Survey and this Survey shall not be regarded as a commitment of any kind concerning future procurement of the items described.

12. Your assistance in this Market Survey request is greatly appreciated.

FOR THE GENERAL MANAGER:

L. T. Herway
Chief of Contracts

Attachment(s):

- Markey Survey Overview
- Annex A – Market Survey Request - Summary of Requirements CP 9C0103 Addendum 1
- Annex B – Market Survey Questionnaire

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MS-CO-14323-LOGFS

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NATO Communications and Information Agency
Agence OTAN d'information et de communication

LOGISTICS FUNCTIONAL SERVICES (LOGFS) EVOLUTION PROJECT MARKET SURVEY MS-CO-14323-LOGFS

TABLE OF CONTENTS

1. INTRODUCTION

This market survey addresses the potential procurement of a Logistics Functional Services (LOGFS[1]) Evolution capability. It will follow (and build upon) the LOGFS Consolidation and Development project which is currently under contract.

A summary of the capability that will be delivered by the LOGFS Evolution project is at Annex A.

The Market Survey questionnaire is at Annex B.

1.1. Purpose

The purpose of this Market Survey is to identify the existence of commercially available software that could be used as a basis for development of elements of the LOGFS Evolution capability.

The information acquired through this survey may be used to assess the feasibility of the delivery of the LOGFS Evolution components using Commercial-Off-The-Shelf (COTS) tools. The NCI Agency also intends to use the information provided to help develop the 'Type B' Cost Estimate (the TBCE), approval of which is required before a competition (based on International Competitive Bidding) can be held.

Please note that the Market Survey captures only a selection of the requirements to be fulfilled by the LOGFS Evolution scope and this Market Survey activity shall not be construed as an obligation for NATO to proceed with the acquisition of any system or services.

Finally, participation to the Market Survey is entirely voluntary and shall not result in compensation, regardless of the form, for any of the participants.

1.2. Background

NATO's Investment Committee (IC) approved Capability Package (CP) 9C0103 Addendum 1 Project 2016/0IS03044 'LOGFS Evolution' on 12 December 2015. The project aims to build on the Consolidation and Development programme currently underway, extending that capability and incorporating the last of the legacy tools in our logistics portfolio. The resulting system will also need to be integrated within NATO's Bi-SC AIS[2] environment.

1.3. Approach

The proposed approach for this Market Survey is:

1.3.1. To review what tools are commercially available, based on responses to this market survey.

1.3.2. Depending on the responses received, responders to this survey may then be invited to a workshop to present and discuss their responses (in private session per respondent). Participation in the Market Survey would be a prerequisite for taking part. Official representatives from NATO and NATO nations that may have an interest in such a capability may also be in attendance.

1.4. Information Requested

The Questionnaire (Annex B) serves the following purposes:

1.4.1. To assist with identifying potential commercial products or services that can meet the requirement(s) (including support, standardization, best-practices and other considerations) or whether existing products or services can be modified or tailored to suit.

1.4.2. To help with the writing of the product descriptions and statements of work.

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[1] Logistics Functional Services.
[2] Bi Strategic Commands Automated Information Systems.

1.4.3. To help shape our acquisition strategy.

1.4.4. To inform the cost estimation process including the following:

1.4.4.1. Cost of licences and follow-on annual support.
1.4.4.2. Cost of customisation as applicable.
1.4.4.3. Cost of training and transfer of technical knowledge including required operator training (such as weeks of training allowing for effective usage of a capability).

1.4.5. To help identify any other constraints that should be taken into account while considering the acquisition and use of these systems/technologies.

Firms are encouraged to provide relevant answers to all the questions. Responses will be treated as information only. NCI Agency will neither award a contract on the basis of this Market Survey or nor pay for the information received. This Market Survey also intends to gauge industry interest in taking part in a subsequent competitive bidding process for the execution of the stated project. Participants should note that they may be requested to take part into face-to-face or phone exchanges in order to clarify their responses.

This is not an official Notification of Intent (NOI) to call for bids as described in NATO Security Investment Programme (NSIP) procurement regulations. Any NOI would be sent in due course through the customary NATO channels.

Section 2 provides the necessary information and instructions for firms interested in participating in this market survey.

2. INSTRUCTIONS FOR PARTICIPATION IN THE MARKET SURVEY

2.1. Registration

There is no formal registration procedure for firms interested in taking part in this Market Survey other than the submission of a completed questionnaire according to the instructions and date specified.

2.2. Market Survey Questionnaire

The questionnaire is at Annex B. Before completing the questionnaire participants are encouraged to read the following instructions.

2.3. Use of Information Provided through Responses

2.3.1. IMPORTANT NOTICE REGARDING CONFIDENTIALITY OF RESPONSES

NCI Agency may incorporate industry comments and responses to this questionnaire, in part or in whole, into a future release of a solicitation of offers for the design and implementation of a LOGFS Evolution. Should Market Survey participants include proprietary data in their responses that they do not wish to be disclosed to the public for any purpose, or used by NCI Agency (except for internal evaluation purposes), they must:

2.3.2. Mark the title page with the following legend:

This document includes data that shall not be disclosed outside NCI Agency and shall not be duplicated, used, or disclosed – in whole or in part – for any purpose other than for NCI Agency internal evaluation purposes, unless otherwise expressly authorised by [insert company name]. This restriction does not limit the NCI Agency's right to use information contained in this data without restriction if it is obtained from another source. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]; and

2.3.3. Mark each sheet of data it wishes to restrict with the following legend:

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this document.

2.4. Format and Submission of Responses

Respondents may submit their completed questionnaires in any electronic format which is readable by the Microsoft (MS) Office Suite. Completed questionnaires shall be submitted to:

Ms. Ijeoma Ezeonwuka, Contracting Officer
NCI Agency
Acquisition Directorate
E-mail: ijeoma.ezeonwuka@ncia.nato.int

Completed questionnaires must be submitted to NCI Agency not later than **12:00 hours (Brussels, Belgium Local Time) on 08 August 2016**.

Any prospective participant that declines to respond to this Market Survey remains eligible to take part in any subsequent competition.

2.5. NOTES:

2.5.1. Please list any assumptions.
2.5.2. Please DO NOT include any company marketing or sales material as part of your response.
2.5.3. Please DO try and answer the Market Survey Questionnaire as comprehensively as possible.
2.5.4. All questions apply to Commercial or Government responders as appropriate to their circumstances (Commercial off the Shelf (COTS) or Government off the Shelf (GOTS) product).
2.5.5. Cost details required in the questions refer to Rough Order of Magnitude (ROM) procurement & life cycle costs, including any assumptions upon which they are based.

2.6. Clarification of Survey Responses

Participants should note that they may be contacted by NCI Agency in order to provide clarifications to their survey responses. Furthermore, participants may be requested to take part into phone or face-to-face exchanges for that purpose. The time and venue of such exchanges will be mutually agreed between NCI Agency and the participants concerned.

2.7. Milestone Overview

A summary of the anticipated schedule for this project is provided in **Error! Reference source not found.** below.

Table 1 – Milestone overview

Date	Milestone
1 July 2016	Market Survey released
08 August 2016	Market Survey responses due
November 2016	Workshop (To be Confirmed (TBC))
June 2017	IFB Release

2.8. Disclaimer

This is a Market Survey only and your response is not an offer. This Market Survey does not commit NCI Agency to pay any costs incurred in preparation of any submission or participation to this market survey, or to contract for services.

NCI Agency reserves the right, at any time, to cancel this market survey, partially or in its entirety. No legal liability on the part of NCI Agency for payment of any sort shall arise and in no event will a cause of action lie with any prospective participant for the recovery of any costs incurred in connection with the

preparation of documentation or participation in response hereto. All effort initiated or undertaken by prospective Market Survey participants shall be done considering and accepting this fact.

3. SCOPE OF WORK

The Scope of Work is summarized at Annex A which provides a consolidated description of the requirements for each capability within the project.

The Purpose of Annex A is to provide sufficient information about the LOGFS Evolution project to allow prospective participants in the market survey to reach an adequate understanding of the scope and main characteristics of the project.

Those responding to the survey are requested to explain how their solutions would meet each of the required capabilities. This then will allow the NCI Agency to assess the degree to which your COTS / GOTS implementation meets project requirements. It will also assist the NCI Agency to understand any potential difficulties and assess the effort required to resolve them.

3.1. The Bi-SC AIS Programme

The Bi-SC AIS is amongst the largest of the NATO common funded programmes. Its objective is to provide NATO Military Commands with effective and integrated Command and Control capabilities in static and deployed operational environments. It also includes interfaces to NATO, National and other systems deployed in coalition operations.

Key projects focus on the evolution of common services such as the NATO Messaging System (NMS), Document Handling System (DHS), Security and Geographic Information Services (GIS), along with the development and fielding of software applications to support specific functional areas. These include Land (LC2IS), Maritime (MC2IS), Air (AirC2IS) as well as Logistics, Intelligence and Personnel services.

3.2. Functional Services for Logistics – LOGFS

3.2.1. LOGFS Evolution

For the purposes of this Market Survey the scope of LOGFS Evolution Project includes:

3.2.1.1. New Logistics Capabilities

3.2.1.1.1. Logistics Collaborative Planning
3.2.1.1.2. Medical Support Planning
3.2.1.1.3. Military Engineering (MILENG) Information Management (including MILENG Planning)
3.2.1.1.4. Logistics Visibility and Decision Support (LOGBIDS) – including enhancements to the Recognized Logistics and Medical Pictures
3.2.1.1.5. Medical Capabilities Directory
3.2.1.1.6. Medical Evaluation Manual
3.2.1.1.7. Electronic Treatment Records
3.2.1.1.8. Force Health Status
3.2.1.1.9. Medical Support Simulation
3.2.1.1.10. Casualty Rate Estimation (CRE; including CBRN[3] CRE)

3.2.1.2. New Logistics Capabilities replacing (and extending) existing legacy systems

3.2.1.2.1. Strategic Stockpile Planning
3.2.1.2.2. Host Nation Support
3.2.1.2.3. Sustainment Planning
3.2.1.2.4. Logistic Simulation

3.2.1.3. Enhancements to LOGFS Consolidation and Development Capabilities

3.2.1.3.1. Adaptions of Logistics Functional Services to extend the LOG FS Service oriented Architecture (SOA)

3.2.2. There are a number of capabilities included in the specification of the LOGFS Evolution project which are not suitable for inclusion in this market survey. MEDINTEL will largely be delivered under another programme and the Finance enhancements will add capability to the Oracle Financials suite already in place. The remainder are interfaces to existing systems. The following are therefore within project scope but not included in the Market Survey:

3.2.2.1. New Logistics Capability exploit NATO's existing intelligence Functional Services (INTEL FS) toolset
3.2.2.1.1. Medical Intelligence (MEDINTEL)

3.2.2.2. Enhancements to LOGFS Consolidation and Development Capabilities
3.2.2.2.1. Financial Services Enhancements

3.2.2.3. Interfaces
3.2.2.3.1. Interface with NATO Logistics Stock Exchange
3.2.2.3.2. Interface with NMCRL
3.2.2.3.3. Interface to (NSPA) Contractor Integrator
3.2.2.3.4. Interface to e-CIS
3.2.2.3.5. Interface with AMIS

3.2.3. LOGFS Consolidation and Development Baseline

The project builds on and extends capabilities being delivered under the LOGFS Consolidation and Development Project (Prime Contractor: Sopra Steria, UK). This capability will provide the initial baseline starting point for the LOGFS Evolution project. Information regarding the scope of this baseline project is included in the Overview at Annex A.

Both the LOGFS Baseline and Evolution capabilities will be required to operate in more than one security domain. Elements of the capability will operate in at NATO UNCLASSIFIED while others will operate in classified environments including those dedicated to the support of NATO-led missions. In some cases unclassified data is required in the classified domains to facilitate a more complete information view to users.

[3] Chemical, Biological, Radiological, and Nuclear

ANNEX A TO LOGFS MARKET SURVEY
LOGFS Evolution Project Overview

1. SCOPE

The LOG FS Evolution project builds on both legacy and recently developed capability, some of it still in production. This overview explains the context for the Evolution project and describes the main features of the new capabilities it will be required to deliver.

2. ARCHITECTURE

A number of key architectural considerations should be made clear at the outset. NATO's preference is to buy (existing) capability before modifying existing capability before developing new capability. Where new capability is required it should ideally be component and service based and should re-use existing services wherever feasible.

It should preferably eliminate client installations (browser-based web access is preferred) and be fit to operate from NATO's fixed data centres as well as on NATO-led missions.

There is a clear remit for both the LOG FS Evolution capability, and the LOG FS Consolidation and Development capabilities to form a coherent and integrated solution as opposed to a collection of independent modules. Proposed solutions should properly account for these considerations.

3. EXISTING CAPABILITY (TARGETED AT LOGFS CONSOLIDATION AND DEVELOPMENT PROJECT)

The LOGFS Evolution project by its nature will not begin with a 'green field'. All new capabilities are to be integrated with the LOGFS Consolidation and Development solution such that the final product set operates as a fully integrated capability. There is no intention to replace existing elements of the LOGFS Consolidation and Development solution although modifications may be required to accommodate new technologies, policies or to facilitate the integration of the Evolution capabilities.

To facilitate understanding the primary functions delivered by the LOGFS Consolidation and Development solution are listed below and a diagram illustrating the high-level solution architecture is at Figure 1.

3.1. FUNCTIONS

1. **Logistics Reporting**
2. **Asset Tracking** (including Multinational Joint Asset Tracking and Asset Tracking Visibility)
3. **Services and Supply** (including Supply Management and Materiel Maintenance)
4. **Movement & Transportation** (including Movement & Transportation Visualization and Analysis, Deployment and RSOM Planning and Deployment Execution)
5. **Finance**
6. **Medical (MEDICS)** (including Medical Reporting, Patient Regulating, Patient Tracking, Trauma Registry, Syndromic Surveillance and Deployment Health Surveillance system (EPI-NATO))

3.2. SOLUTION DESIGN

The diagram below in Figure 1 presents a high level modular view of the solution structure for the LOGFS Consolidation and Development solution which is due into service with NATO from 2018. The Integrated Logistics Support System (ILSS) and Asset tracking (AST) capabilities are delivered using the COTS product ILIAS. The Finance capability is delivered using a suite of Oracle EBS products.

The solution utilises an Enterprise Service Bus (Talend) and is web-based at the client.

Movement and Transportation and Medical capabilities are Service Oriented Architecture (SOA)-based and access all data (identified here as Logistics Information Objects, or 'LIE's) to through a data access service layer.

COTS products manage their own processes from User Interface to data storage within their own architectures but for integration between COTS elements and other parts of LOGFS, services provide the necessary interfaces.

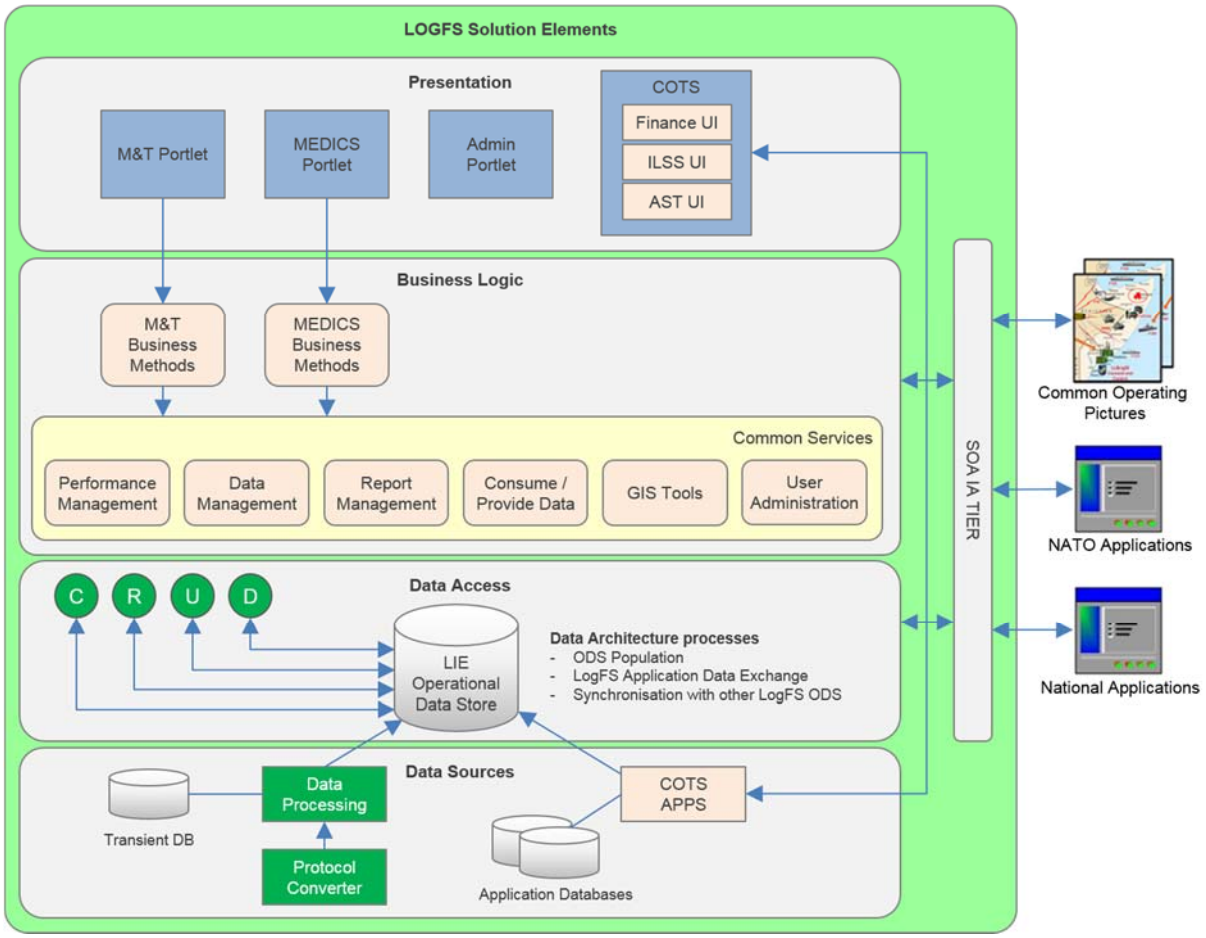

Figure 1 - LOGFS Solution Elements

4. IMPLEMENTATION APPROACH

The capabilities described below will need to be grouped into work packages for the purposes of scheduling their delivery. Consideration will need to be given to the most appropriate grouping which may take account of:

4.1. The nature of the capabilities (for example some are simulation tools and some support the planning function).

4.2. Their complexity and the degree to which aspects of the requirement remain unclear or unknown (for example the Casualty Rate Estimation algorithm is not yet determined).

4.3. The Communities that will benefit from them. This matters on the one hand because it may be attractive to group capabilities for a single community together. On the other hand the availability of subject matter experts (SMEs) may suggest allocating capabilities serving a specific community into different baselines to spread the demands on their time more evenly through the project.

4.4. The type of technology involved in the solutions. For example a COTS product may cover one or more of the required capabilities and any areas requiring bespoke development might be grouped because they might be delivered by the same team.

Some of these factors may need to be considered when answering the questionnaire.

5. EXPECTED CAPABILITY

The following sections outline the new capabilities required in the Evolution project.

5.1. Strategic Stockpile Planning

The purpose of a stockpile planning capability is to provide the tools required to support the calculation of stockpile requirements for the NATO Level of Ambition (LoA) and to support comparisons between resources (usually national inventories) and requirements for the determination of capabilities to be maintained, surpluses and shortfalls. The capability needs to:

5.1.1. Identify NATO requirements for Battle Decisive Munitions (BDMs) as part of the Capability Requirements Review (CRR) within the context of the NATO Defence Planning Process (NDPP).

5.1.2. Identify NATO shortfalls and surpluses for BDMs as input to the Prioritised Shortfall Areas (PSA) of the NDPP.

5.1.3. Provide targets for BDM quantities as part of the capability targets set to nations.

The ACROSS toolset (which was part of the legacy LOCFAS system) was used to determine BDM requirements until 2010. This toolset shall be replaced by a simplified LOGFS Evolution Strategic Stockpile Planning capability.

Required functionality includes:

5.1.4. Case Study Definition

The system shall be able to define multiple Case Studies, each representing a potential future operation, with all associated data. The Defence Planning concept of a ‘Case Study’ is consistent with the existing LOG FS concept of an ‘Operational Mission’; both represent an actual or conceptual (potential) operation covering all phases from pre-deployment through to re-deployment.

5.1.5. Platform, Munitions & Combat Load Definition

A range of platforms and munitions shall be defined, with associated data including but not limited to type, performance, lead time, range and cost.

5.1.6. Engagement Calculator

The outcome of an engagement between a platform type and a target type (or set of target types) forms the basis for stockpile planning. The number of targets neutralised, platforms lost to attrition and munitions expended (of each type) together form the output of the engagement.

5.1.7. Deployment Leveller

Given a set of Case Studies which occur concurrently (though with different initiation days) the requirement for a specific capability over time may be determined.

5.1.8. Stockpile Requirement Calculation

Based on the relevant stockpile planning methodology, the system shall determine the stockpile requirement for each engagement domain.

5.1.9. Comparison Support

The system shall support the comparison of stockpile requirements against a set of declared forces and inventory holdings.

A high-level use case is provided to assist understanding at Figure 2.

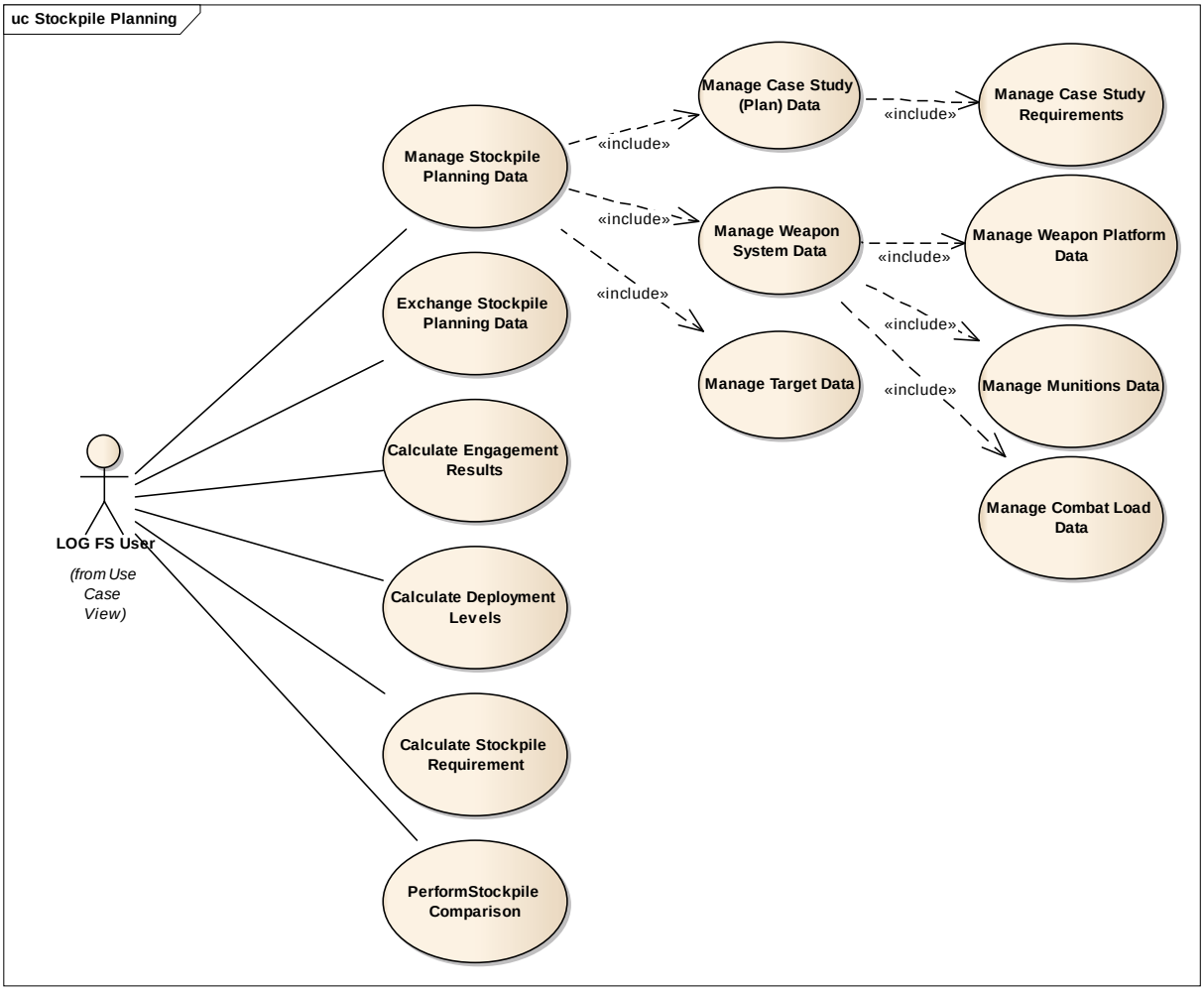

Figure 2 - Stockpile Planning High-level Use Case

5.2. Sustainment Planning

Sustainment Planning is a major part of Operational Planning, and it has a big effect on Deployment Planning, since supplies often take up a big percentage of the transportation capacity available (typically, supply packages may constitute up to 50% of the total transportation utilisation in a combat operation).

The new capability needs to:

5.2.1. Calculate supply requirements for a force or a set of forces for operational planning purposes in all phases of an operation (including deployment, sustainment and redeployment).

5.2.2. Support Sustainability Analysis, which will take a force or set of forces and would perform analysis about whether the force(s) can be sustained in a given interval, optionally considering the supply chain to which the force(s) belong.

5.2.3. Support generic Stockpile Requirement calculations, which will handle commodities other than battle-decisive munitions.

The sustainment requirements analysis shall be based on the P42/43 concept of an 'Operational Mission', which has associated forces, sustainment policies and environmental /operational factors. The new capability will perform three main types of sustainment analysis:

5.2.4. Operational Requirements Analysis:

- Provide total requirement per unit and arrival day for each commodity.
- Group all requirements with matching source location, destination location and arrival day into a single consignment and add these to the Operational Mission's Allied Disposition List (ADL).

5.2.5. Sustainability Analysis:

- Determine each force's sustainability, in terms of Days of Supply (DOS), optionally considering the unit's supply chain.

5.2.6. Stockpile Analysis:

- Provide the Readiness Stockpile analysis considering a user-defined period (by default 30 days, as defined in [MC 55/4]) x SDOS
- Provides the Sustainment Stockpile analysis.

A high-level use case is provided to assist understanding at Figure 3.

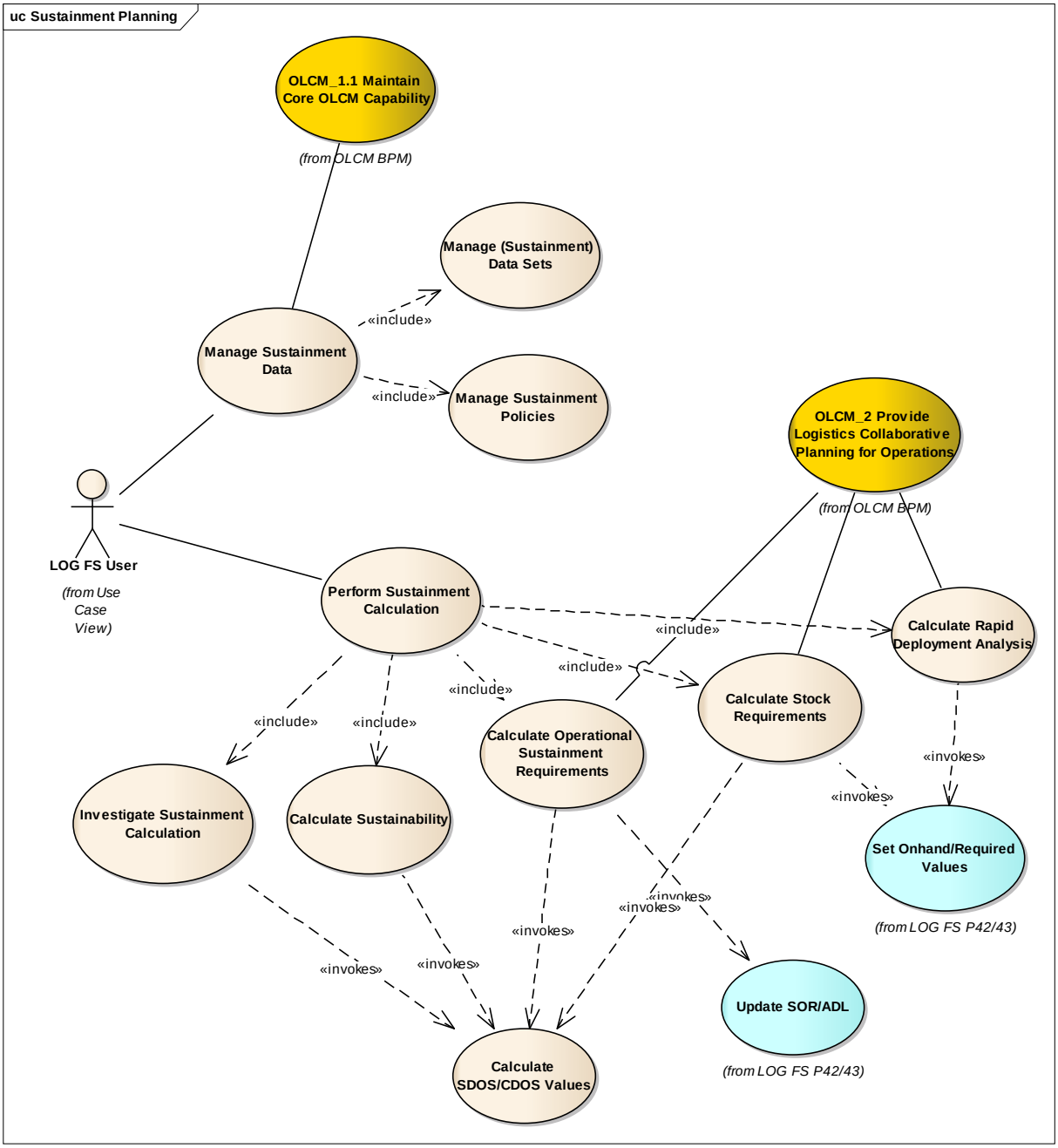

Figure 3 - Sustainment Planning High-level Use Case

5.3. Host Nation Support

For any mission there are essentially only three sources for Logistic Support. These are:

5.3.1. Organic Assets belonging both to Troop Contributing Nations (TCN) and/or NATO (mainly Force Generated).

5.3.2. Host Nation Support (HNS). The Host Nation (HN) is approached with requirements and Host Nation Support Agreements (HNSA) developed, including details regarding reimbursable elements. Host Nation agreements are Governmental and are required to meet standards applicable to the HN's provision for its own people and at the same cost.

5.3.3. Contracts, which may be similar to HNSAs but exist in the free market and may be within or beyond HN boundaries.

HNS activities fall broadly into the categories of planning and implementation. The scope of this capability focuses mainly on HNS planning and the necessary support to implementation to the extent to which it affects theatre-level logistics coordination.

The Host Nation Support (HNS) functionality enables operators to manage all aspects of Host Nation Support in support of Alliance logistics capabilities and shortfalls regarding maintenance, transportation, medical support, supply, communications, force protection, billeting and messing, facilities and infrastructure. It allows maintaining a HNS Catalogue and provides the required HNS information to the other functional services.

The HNS capability can reduce overall costs for NATO-led operations and achieve greater support efficiencies.

5.4. Logistic Simulations

The purpose of a logistics simulation capability is to allow the NATO Commander to determine the feasibility and robustness of a logistics plan and also to explore a wide variety of "what-if" scenarios with minimum effort. It will have the ability to:

5.4.1. Model the logistics plans for movement & transportation, supply & services (both push and pull policies), maintenance and medical facilities[1] across all levels of an operation (e.g. home base to front line, 'factory to foxhole').

5.4.2. Logistics simulation shall be based on a logistics plan: a) Plan without a Detailed Deployment Plan (DDP); b) using DDP; c) sustainment simulation (with consideration for overlapping with deployment, as one combined model); d) simulation using a flow execution Plan able to generate and store a DDP based on the simulation execution,

5.4.3. During operational execution, be able to re-run the simulation starting from the current date-time and using the latest actual information as the starting point for the simulation (i.e. recognizing and without affecting the already executed part of the DDP).

5.4.4. The ability to visualise the results of the simulation(s) – geographical and graphical - as an individual simulation run progresses, after it has completed and aggregated over multiple runs.

5.4.5. Model these plans in both a deterministic and stochastic mode, as required by the user.

5.4.6. Allow the user to define "scripted events" to represent changes in the operational environment. The initial simulation without scripted events would be considered the "baseline" simulation and each set of scripted events would be stored as a variation to the baseline logistics plan.

5.4.7. Allow a user to compare the results of the baseline plan to the results of specific variation(s) in either deterministic or stochastic mode.

5.4.8. Provide an assessment of the cause of specific logistics problems. This shall be done by analysing the main causes of each type of identified problem (e.g. shortage of stocks at a unit may be caused by insufficient stocks at supplier, insufficient transportation assets, insufficient route capacity, etc.)

5.4.9. Be closely integrated with the logistics execution and visibility capabilities in order to rapidly respond to tactical level analysis needs based on the current situation.

A high-level use case is provided to assist understanding at Figure 4.

[1] Medical facilities are a specific type of service, related to casualty estimation and treatment.

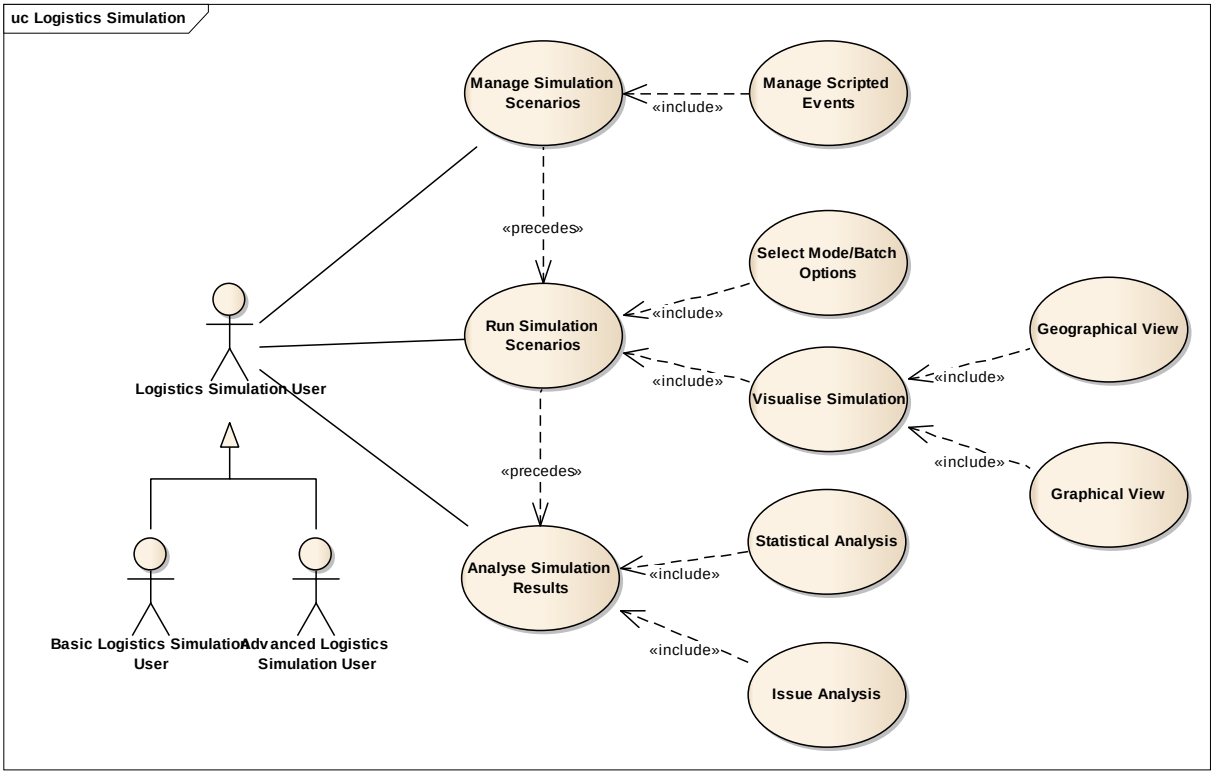

Figure 4 - Logistics Simulation High-level Use Case

5.5. Logistics Visibility and Decision Support (LOGBIDS)

Logistic Business Intelligence and Decision Support services (LOGBIDS) will support and enable operations logistics chain management.

An OLCM capability functions in all phases of NATO operations and across a network of interacting NATO, National and civilian Operations Logistics Chain (OLCs).

Functions addressed include:

5.5.1. To provide a platform for the static environment to enable reference data management and support logistics planning during the initial phases of the operation.

5.5.2. Logistics Visibility and Situational Awareness – in the context of an operation - addresses the data collection and reporting followed by analysis in order to create the basis for Logistics Decision Support functions (Movement and Transportation, Supply and Services, Contractor Support, Infrastructure and Engineering Support, Host Nation Support, Maintenance and Repair, Medical Support).

5.5.3. Each logistic function has its own sources of data from the co-existing NATO and National logistics chains, data collection plans and validation rules.

- Provide automated support for the Evaluation of Logistics relevant data including Data Profiling/ Quality/ Integration/ Augmentation/ Monitoring.
- Support aggregation of Logistics Data (based on user configurable rules).
- Provide the ability to capture user logistic assessments at different levels and maintain the status for each assessment.
- Produce and provide the graphical representation of the Recognized Logistics Picture (RLP) which consists of multiple configurable layers and disseminate to all levels. Capture and store RLP snapshots at given times. Support configurable RLP definitions at each level (tactic/ operational/ strategic) which change during mission. Provide a role and workflow based RLP management and approval process. Provide the logistics contribution to the NCOP.

5.5.4. Logistics decision support – in the context of an operation: The System must provide capabilities to model logistic concepts and plans and to run simulation over these logistics models in order to predict future behaviours of the Operation Logistics Chain.
- Event Management – log logistics events, identify impacted areas, evaluate impact, identify options to fix and restore the situation, suggest actions and develop tasks. Employ simulation for both M&T and Sustainment options and impact calculation. Provide multiple views –maps, dashboards, etc. Fully configurable (definitions, thresholds, business rules, workflows)
- Configure, monitor and compare KPIs; drill down to supporting data.
- Configure and monitor alerts
- Implementation of a NATO Priority System to regulate the NATO distribution system

5.5.5. Archive logistics data at the operation close and support post-operation analysis and simulations for exercises and training.

5.5.6. The Shared Resources capability provides visibility to offers and requests for logistics resources and requirements. It brings together providers and requestors by providing a common military market

5.5.7. Provide logistics planning capabilities relevant during the execution phase of an operation – i.e. Logistics Sustainment Planning, Logistics Simulation

5.6. Logistics Collaborative Planning

The purpose of the Logistics Collaborative Planning (LCP) capability is to enable NATO coordination of the collaborative planning activity while recognizing that national visibility of planning progress may itself be a key enabler to making Collective Logistics a success. It must provide a suitable planning environment which supports the processes and procedures necessary to deliver multi-national logistics solutions to NATO-led missions.

The Logistics Collaborative Planning process supports NATO's Operations Planning Process (OPP), including the development of Strategic and Operational planning products (e.g. the Operations Plan, or OPLAN) for a mission and supports planning for tactical (theatre-level) logistics execution.

In the context of the OPP it identifies requirements and potential support solutions (employing national, host nation or commercial support resources) that NATO and Troop Contributing Nations (TCN) can select and implement prior to deployment. Logistics Collaborative Planning is also employed in theatre to plan and coordinate delivery of theatre-level[2] multi-national logistics.

LCP functionality enables operators to undertake collaborative planning within the context of a specific operation in order to establish logistic support requirements, includes Logistics Force Generation. This function provides guidance to all other support and logistics domains (e.g. Medical, Supply, Movement and Transportation) in order to elaborate their specific planning considerations and ensures consistency across the plans.

The capability will be required to:

5.6.1. Support the gathering of logistics situational awareness and the development of logistically supportable Military Response Options (MROs).

5.6.2. Facilitate the earliest engagement with the Force Generation process, and with the nations.

5.6.3. Identify requirements.

5.6.4. Allow timely consideration of the full range of potential support options and the development of an appropriate Theatre Capability Statement of Requirements (TCSOR).

It should be noted that the principal strategic and operational-level planning tool for NATO is Tools for Operations Planning Functional Services (TOPFAS) and it is not the intention that this capability should

[2] Reference D, page 1-5: "Theatre-Level Logistics: A collection of means, resources, organizations and processes derived from the strategic logistics level and utilized by the Joint Force Commander to support the tactical level of logistics."

replace TOPFAS or what it does. It is about gathering and organising logistics-focused information to enable and support the logistics contribution to the wider planning process. An interface to TOPFAS may be required.

5.7. Casualty Rate Estimation

The purpose of the Casualty Rate Estimation (CRE) Capability is to:

5.7.1. Provide casualty rate estimations to predict the expected Battle Casualties (BC), Disease and Non-Battle Injuries (DNBI) casualties for a given operational scenario, along a defined timeline based on the empirical research done on the historical data of similar missions and planning factors.

5.7.2. Enable incorporation of actual/historical casualty rates and casualty rate estimates from other sources and to enable statistical and graphical analysis of various estimation rates and historical casualty rates.

The CRE Capability will be used for effective planning and to ensure the most efficient use of scarce medical resources. The results provided by the CRE Capability will help medical planners to estimate the medical resources required for a mission. Another potential usage of the Capability is for the Capability Requirements Review (CRR) in support of NATO's Defence Planning Process (NDPP).

The CRE will be applicable to all NATO operations and exercises and will provide an analytical tool for all personnel involved in operational planning i.e. personnel, operational and medical staffs. It will generate casualty rates as part of the operational planning process and will include the following high level requirements:

5.7.3. A software-based system for generating casualty rate estimates to support the operations planning process at different operational levels and be available to all NATO, national and formation HQs engaged in, or planning for, NATO operations.

5.7.4. Provide casualty rate estimates in categories and report these as casualty rates per day, per unit or per phase of an operations and per injury or disease type, for example.

5.7.5. Provide casualty rate estimates for civilian, enemy, neutral and other friendly forces casualties where they impact on the military mission.

5.7.6. Provide casualty rates in ranges, e.g., worst and best cases with mean rates and/or with given confidence levels.

5.7.7. Provide for the collection of the actual/historical casualty data from nations and NATO and casualty rate estimates from other systems.

5.7.8. Provide analysis functionality to statistically and graphically compare the estimates of the system with those provided by other systems and/or algorithms.

5.7.9. Enable some level of calibration of the algorithm (i.e., updates in the parameters of the algorithm OR change the structure of the algorithm) based on comparisons with historic data and estimates from other systems.

A high-level use case is provided to assist understanding at Figure 5.

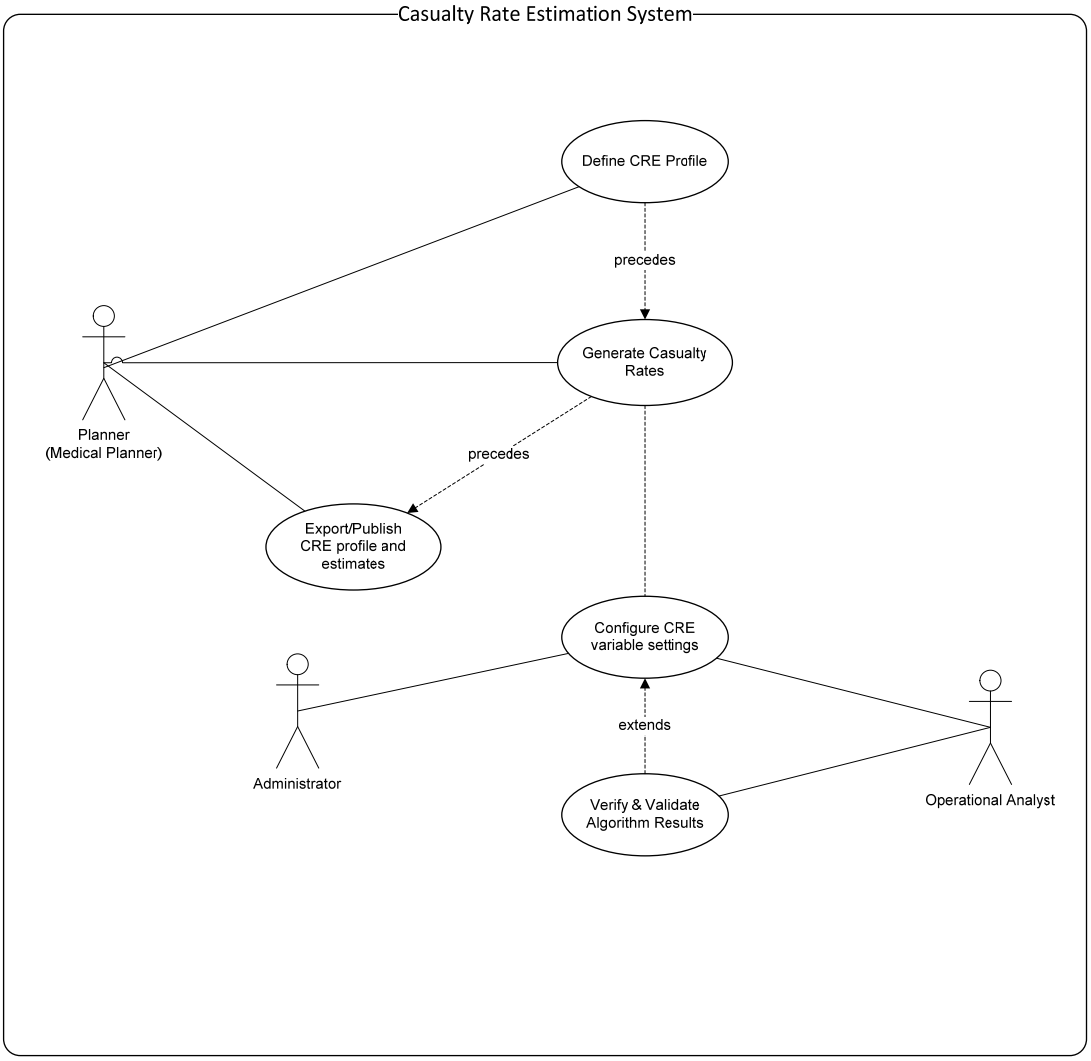

Figure 5 - Casualty Rate Estimation High-level Use Case.

5.7.10. CBRN[3] CRE

In MEDICS, the CBRN CRE Capability is considered a part of the CRE Capability. The estimation of CBRN casualties makes an essential contribution to threat analysis by providing a measure of the potential impacts of the CBRN exposure of forces.

The CBRN CRE capability will rely on integrating information services which can provide inputs regarding (potentially impacted) forces and their locations as well as supporting geospatial data.

5.8. Medical Capabilities Directory

The purpose of the Medical Capabilities Directory (MCD) is to enable nations to catalogue their medical capabilities that are likely to be employed within a NATO environment, which those nations and the NATO command structure can then use in order to plan for medical support for NATO operations.

The cataloguing of medical capabilities shall also lead to an informed appreciation of national differences, a shared understanding of the reasons for these differences, and can indicate common

[3] Chemical, Biological, Radiological & Nuclear.

medical capability across the nations in order to identify generic

Medical treatment Facility (MTF).

An MCD is to provide functionality in order to:

5.8.1. Catalogue medical capabilities, either per formation/unit or per module provided by a formation/unit and optionally including the skills for each capability.

5.8.2. Read and query the catalogued medical capabilities.

5.8.3. Initially plan operations, encompassing Multinational Medical Units (MMUs), using the catalogued medical capabilities.

5.8.4. Export initially planned operations or medical capabilities.

5.8.5. Manage the definitions of medical capabilities. These definitions encompass roles, “types of” modules, “types of” capabilities and “types of” skills.

Initially the MCD is to contain only unclassified qualitative (i.e. capability related) data, but shall be designed to be extended to contain quantitative (i.e. capacity related) data.

The MCD shall be available on the internet, but if extended to contain quantitative data will have to be available on classified domains as well. Any required synchronisation of data between the classified and unclassified domains shall rely on available NATO cross-domain information exchange solutions.

A high-level use case is provided to assist understanding at Figure 6.

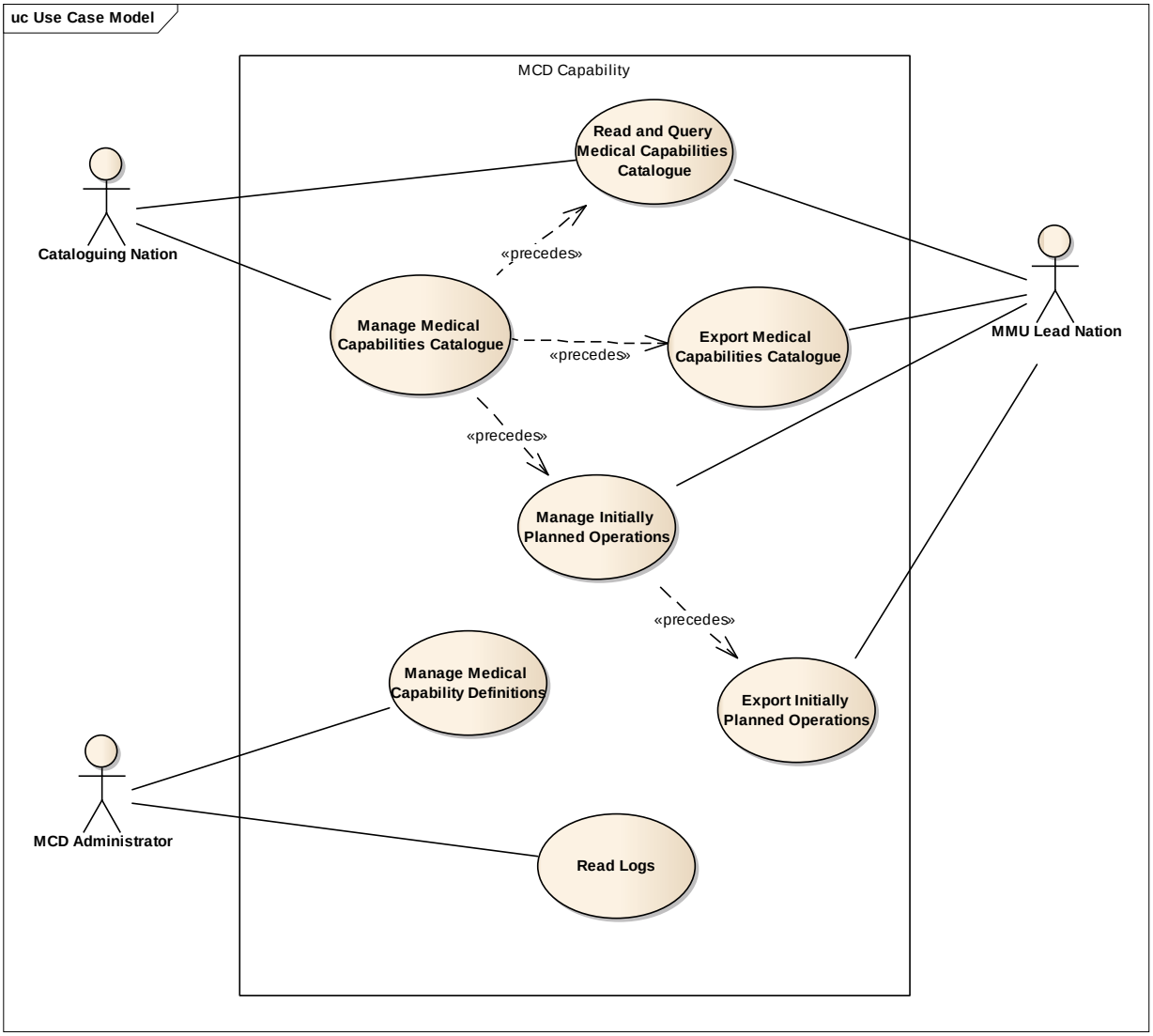

Figure 6 - Medical Capability Directory high-level Use Case

5.9. Medical Evaluation Manual

The aim of the NATO Medical Evaluation Manual (MEM) is to facilitate and provide the framework for nations to certify their own medical capabilities and also to carry out the medical evaluation of multinational medical modules and units, when formed to support NATO operations. The MEM capability will facilitate the evaluators' job and directly generate a report from the assessment of different modules or components of a medical task group. The MEM will also be used for Medical Evaluation training. MEM capability will support medical evaluations of:

5.9.1. Medical Support Systems (MSS) or Multinational Medical Units (MMU) which are (to be) deployed for a NATO-led operation. The evaluation can take place either before or during deployment.

5.9.2. National medical capabilities for any potential NATO operation (i.e., to evaluate the readiness of the national medical capability).

5.9.3. Civilian medical capabilities, since the multinational medical support solutions may include contracted civilian medical capabilities.

The following assumptions and preconditions apply:

5.9.4. The MEM will be deployed onto existing NATO unclassified and (potentially) classified computer platforms. Due to the distributed working nature of MET members, the system is likely to be mostly used on the unclassified domain.

5.9.5. It will be accessible by the TCN Representatives. In an operational scenario, it is not uncommon for some national units/HQs to lack continuous connectivity to the network. Thus, the system will need to support the import of data from nations in case there are air-gaps.

A high-level use case is provided to assist understanding at Figure 7.

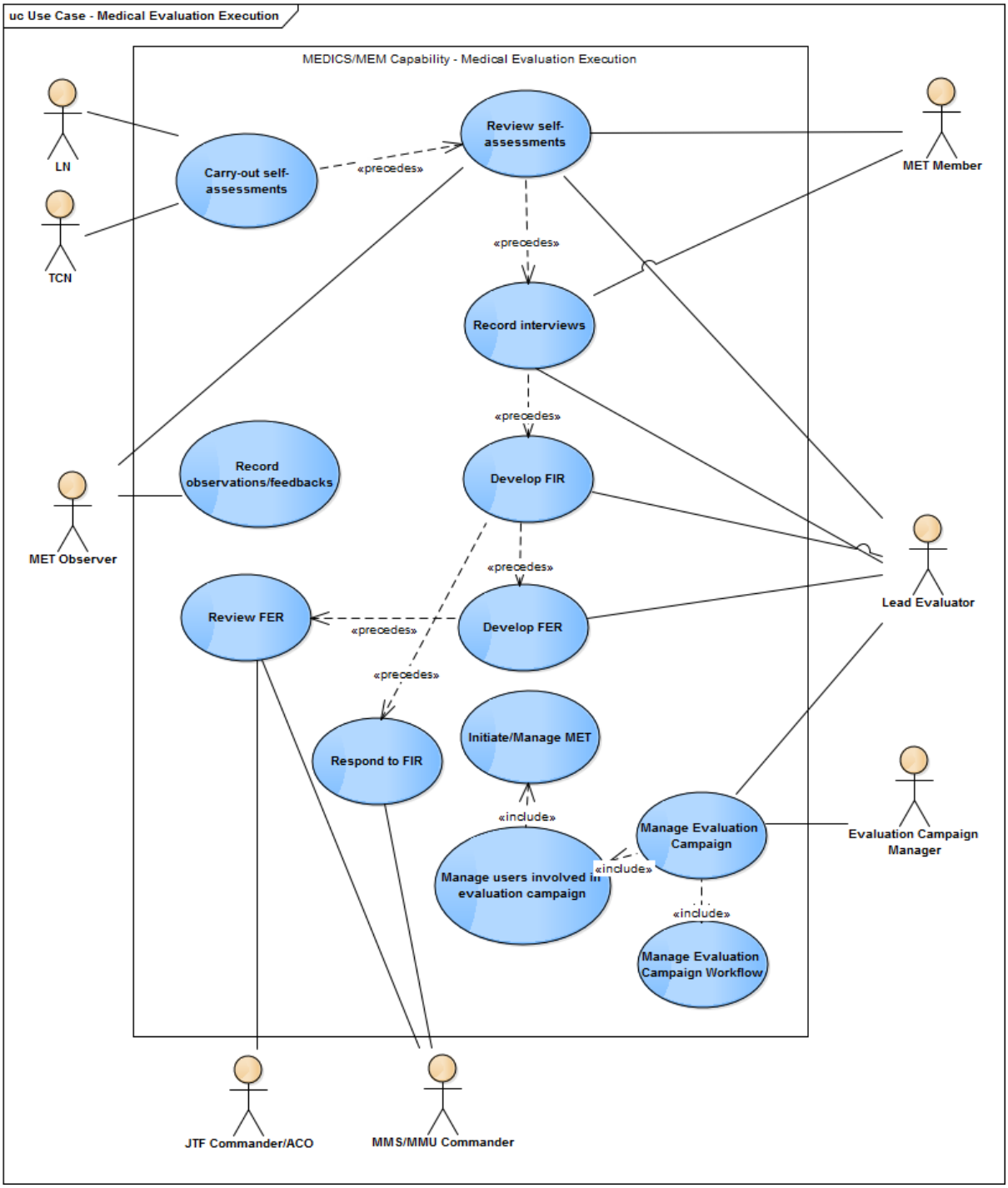

Figure 7 - Medical Evaluation Manual High-level Use Case

5.10. Medical Support Planning

The purpose of the Medical Support Planning Capability (MPSC) is to provide a suitable planning environment which supports the processes and procedures necessary for the medical staff to contribute collaboratively, efficiently and effectively to OPP for NATO-led missions. As such there is a direct relationship between the MPSC and the LCP described above.

MSPC will provide the tools and a workspace to support the medical staff in preparing the medical contribution to the OPP which:

5.10.1. Supports their understanding of the engagement space and helps them to draw conclusions based on facts.

5.10.2. Improves understanding of the elements of the general plan (end states, objectives, etc.) and helps the development of the medical support plan.

5.10.3. Supports the time-effective development, comparison, evaluation and analysis of the medical support options developed for courses of action.

5.10.4. Enhances the communication of the medical support plan and medical related risks to the Commander and other stakeholders within the planning process.

5.10.5. Provides mapping tools for a better visualization and analyses of the plan and options.

5.10.6. Provided automatic documentation tools for briefing and reporting purposes.

5.10.7. Enables the sharing of consistent information among all the tools within the suite (for example MEDINTEL or Casualty Rate Estimation).

5.10.8. Contributes to situational awareness by being integrated with Common Operational Picture (COP) systems.

The capability will be required to support the development of medical situational awareness and Military Response Options (MROs), medical related risks and the medical support concept. It will facilitate the earliest engagement with the Force Generation process and with the nations to identify requirements, allow timely consideration of the full range of potential support options and the development of an appropriate TCSOR. This will avoid unnecessary duplication. It will achieve this by providing visibility of standing planning data, existing arrangements for the forces (such as in NRF operations), and maximizing the utility of existing collaborative planning environments like TOPFAS. It will enable an effective medical contribution to CONOPS and OPLAN development, ensure that a proper and complete medical risk assessment is made and ensure the right mix of resources and services is made available to the force commander.

5.11. Medical Support Simulation

The purpose of a Medical Support Simulation Capability (MSSC) is to help medical planners optimize medical capabilities for an operation based on estimated casualty rates (typically derived from the Casualty Rate Estimation tools found elsewhere in this capability set). It is to be used in support of initial planning and may also be used in any subsequent re-planning throughout an operation. It may also be used in support of exercises and training events.

The MSSC will support “what if” analyses and as a result help determine and refine the types, quantities and locations of medical capabilities (e.g. Medical Treatment Facilities (MTFs) and medical evacuation assets) required to meet the needs of the mission.

The MSSC will be about determining theatre-wide tactical-level medical capabilities, and the results of the simulations will mostly support Operational-level planning and may also support Strategic and Tactical-level planning.

It will provide:

5.11.1. Simulation of casualties in the complete operating area.

5.11.2. Simulation of the entire (duration of the) operation, as well as the simulation of any specific period of time within (i.e. phase of) the operation.

5.11.3. Simulation of forward and tactical evacuations; strategic evacuations will be supported only to the extent required to simulate outflow from the MTFs, as these are a national responsibility and utilize national assets. Most logistical aspects, for example the maintenance of medical evacuation assets, are not in the scope of the MSSC.

5.11.4. Simulation of treatment at 'facility-level', but also a more granular approach, in which treatment in individual departments or modules within MTFs can be simulated. Most logistical aspects, such as resupply, are not in the scope of the MSSC.

5.11.5. Randomness, especially to account for standard deviations from mean values (e.g., when "assigning" an injury or disease to a casualty when generating the casualty stream).

5.11.6. Verification and Validation (V&V) of the internal simulation model, in order to confirm that this model and its results are "correct". V&V is to confirm that the model is correctly implemented with respect to the conceptual model (verification) and to check the accuracy of the model's representation of reality (validation).

A high-level use case is provided to assist understanding at Figure 8.

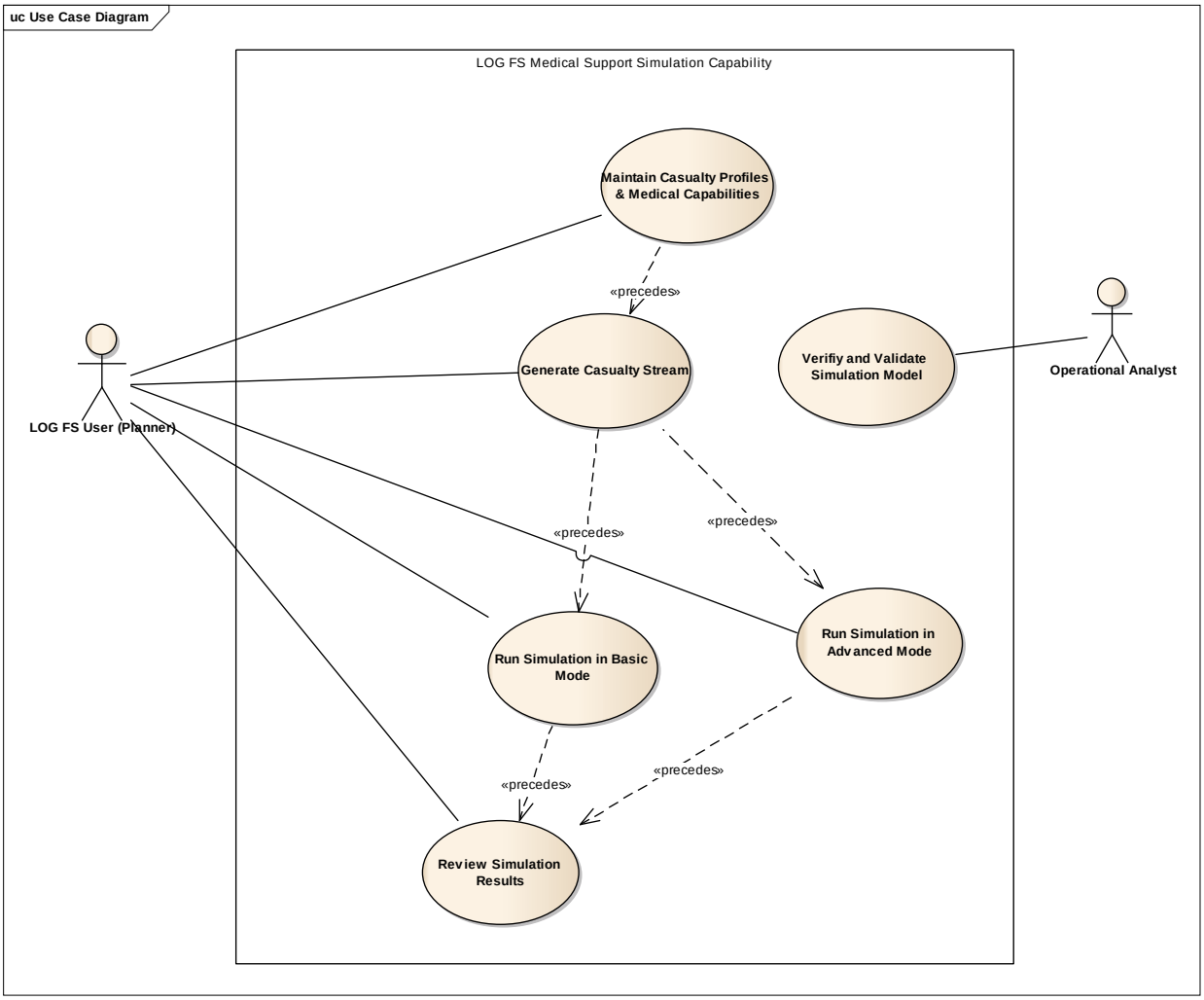

Figure 8 - Medical Support Simulation High-level Use Case

5.12. Electronic Treatment Records

The purpose of the Electronic Treatment Records (ETR) capability is to enable a secure transfer of electronic health records (EHRs) and treatment updates between nations, primarily in the context of NATO operations, in order to support the provision of the best possible patient care, while protecting patient privacy. It will primarily allow for a Medical Treatment Facility (MTF) to request and retrieve the medical history or record for a patient they are treating who doesn't originate from the nation operating the MTF, and to allow for an MTF to provide a treatment update back to the patient's home nation.

The ETR capability shall address the following aspects:

5.12.1. Interoperability.

5.12.2. (Information) Security. The following specific security aspects are to be addressed:

- Authentication.
- Authorisation.
- (Data) Integrity.
- Confidentiality.

Any central component of the ETR capability may address the following aspects:

5.12.3. Routing (and Messaging).
5.12.4. (Data) Validation.

The scope of the ETR capability will comprise the secure transfer of complete EHRs as well as parts of EHRs (including treatment updates) between all nations in any type of NATO operation and, where necessary, in non-operational settings.

A high-level use case is provided to assist understanding at Figure 9.

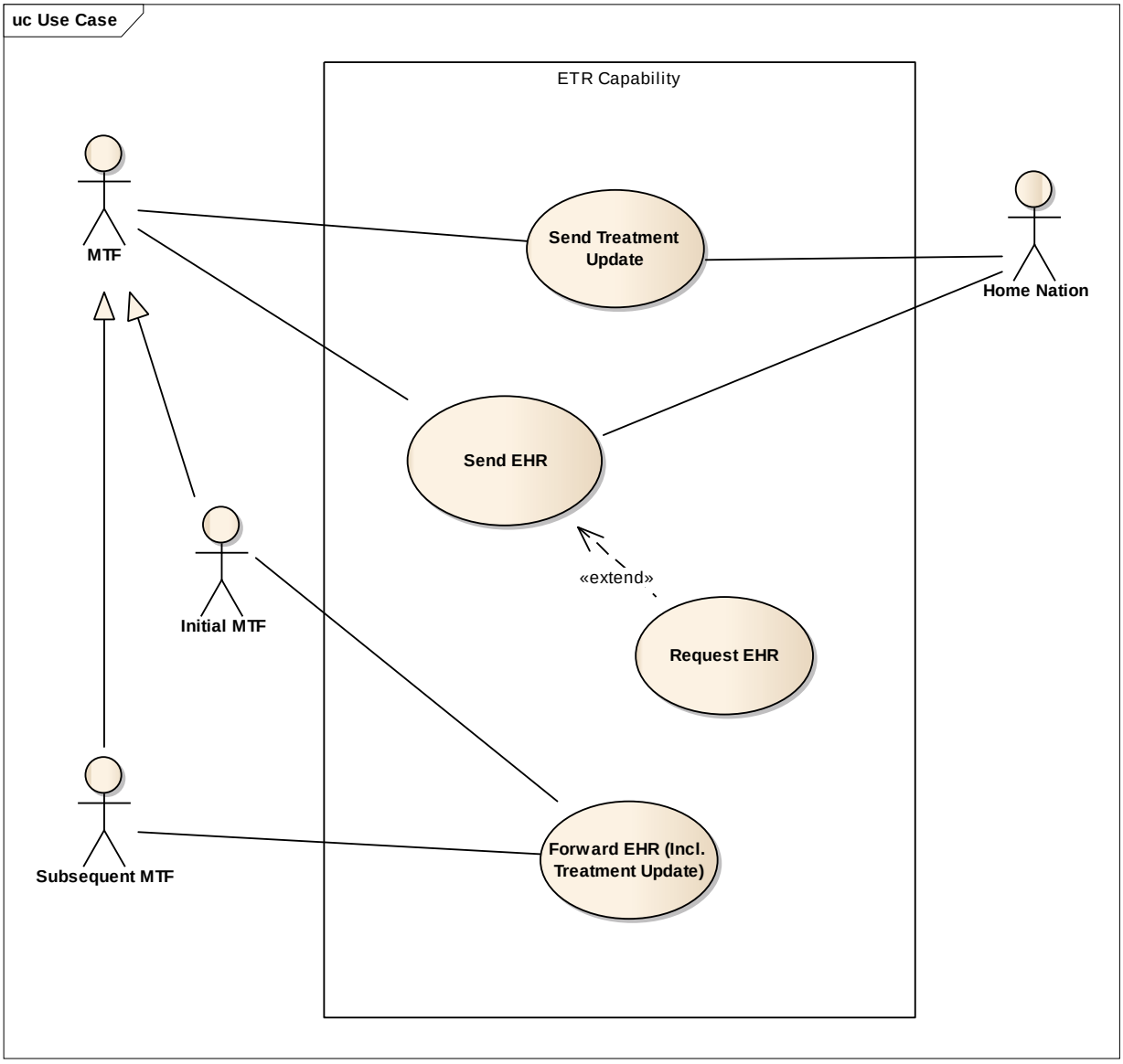

Figure 9 - Electronic Treatment Records High-level Use Case

5.13. Force Health Status

The purpose of a Force Health Status Capability (FHSC) is to provide a central registry where nations share their force health protection practices.

The FHSC will support any type of NATO-led active and contingency operations and address the land, maritime, and air environments. It is committed to supporting nations to share their standard, conditional and other recommended:

5.13.1. Prophylaxis[4] practices against a set of diseases.

5.13.2. Practices against the Occupational, Environmental and Industrial Health (OEIH) hazards.

5.13.3. Practices against Chemical, Biological, Radiological and Nuclear (CBRN) health threats.

The nations will further be able to report on the actual force health protection measures of their NATO

[4] Treatment given or action taken to prevent disease

committed forces. The capability will also maintain a compilation of useful reference information on force health protection, including vaccines and medicines, as well as the Standing Operating Procedures (SOPs) of NATO or other stakeholders (such as WHO, UN, nations, etc.) on medical counter measures and post-exposure treatments for CBRN cases and OEIH hazards.

The collected force health information will be used in support of planning and potentially in force generation and in any subsequent re-planning throughout an operation. Querying, reporting and analysis capabilities will provide commanders and nations with insight into the overall personnel health conditions for ongoing operations from different perspectives such as per disease, hazard, threat, region, nation, or any combination of these. FHSC will be integrated with the related C2 and intelligence systems providing information on the Recognized Environmental, CBRN, Intelligence (with MEDINTEL) and Logistics pictures to aid the user in decision making.

5.14. Military Engineering Information Management

The purpose of the NATO Military Engineering Information Management System (MILENG IMS) is to support the management of Military Engineering information predominantly at the higher levels of command. It must enable access to and management of information from the internet, engineering databases and other sources as well as reconnaissance information input at lower levels. In addition, the intention is that the MILENG IMS will provide military engineer planners and commanders at all levels with the tools needed to access engineer information from across the force/Area of Responsibility (AOR) (e.g., patterns and trend analysis of use or methods of emplacement of IEDs), as well as enabling them to make similar information available to others.

The MILENG IMS capability will support both the planning and execution of MILENG operations. Its principal utility will be at the operational and strategic levels but it will also be used at the tactical level. It will comprise an easily accessible portal to a comprehensive database of classified and unclassified information. This information must be able to be managed, updated, searched, collated, analysed and shared throughout the Engineer community in both classified and unclassified NATO and Mission environments. Support from contractors is an essential component of MILENG capability. Compartmentalised Role Access facilities maybe incorporated.

ANNEX B TO LOGFS MARKET SURVEY QUESTIONNAIRE

NAME OF THE FIRM:

POINT OF CONTACT:

Name:

E-mail:

Phone:

Please provide relevant answers to the following questions:

1. TECHNICAL SOLUTION

1.1. Overall Architecture of the Existing Capabilities

Based on Annex A (Overview of the LOGFS Evolution Project) and the depiction of required capabilities it contains:

1.1.1. Does your firm have a product or products, available now, that provide(s) one or more of the required capabilities?

If your firm has only partial capability, please indicate the functionality that can be provided.

In case of positive response to 1.1.1, for each capability satisfied please respond to the next questions (1.1.2 through 1.4.2).

1.1.2. Is the product mature or is it still in development?

1.1.3. Please provide a list of the users currently using the product and identify any instances where it is used in environments similar to those in which NATO will use it.

1.1.4. Please describe your software product in terms of the following categories (please specify version numbers):

1.1.4.1. Commercial off-the-shelf (COTS)
1.1.4.2. Government off-the-shelf (GOTS)
1.1.4.3. A bespoke development to meet specific requirements
1.1.4.4. Other (please elaborate as necessary)

1.1.5. Please describe any license obligations or restrictions associated with the use your product.

1.1.6. Is your product tied to a particular hardware type and / or operating system? If so, please describe the hardware and software requirements for hosting your solution.

The LOGFS Evolution capability will be implemented within the context of the existing and planned capabilities of NATO's Bi-Strategic Command Automated Information System (BI-SC AIS). As such the general architecture must be compliant (where feasible) with a Service Oriented Architecture or at least a component-based approach.

1.1.7. Please describe the product's general architecture. For example does it have an integrated architecture, or is it a federation of systems solution? Is it based on a client-server architecture or is it web-based?

1.1.8. Is your product based on a Service Oriented Architecture (SOA) or component-based approach?

1.1.9. If so could you describe the main services or components of you product?

1.2. Database and Data Management

LOGFS data may be imported from both static reference external databases and dynamic (i.e. real-time or near real-time) sources as well as from operator defined data.

1.2.1. Please describe the data import/export capability of your system? Please list and briefly describe the kind of database(s) that your product operates with.

1.2.2. Please describe what technical approach, or mechanism, your system has (or which you would propose adopting) to achieve effective data exchange and sharing with other systems (NATO and National) or instances of the system. This is especially important with regard to NATO operations where deployed instances of the software may be required to synchronise data with non-deployed instances, presenting a single 'virtual' experience for users in both environments.

1.3. Interoperability and Security

Interoperability is one of the major challenges for the project to ensure the solution can exchange information with other NATO and national C2 systems.

1.3.1. Has your solution been tested with any existing NATO capabilities (or with the COTS components of these capabilities) or is your solution in process of implementing exchanges and interfaces with NATO capabilities currently under development (or with the COTS components of these capabilities)?
If so, please identify which these are and the exchanges and interfaces that have been tested or are being considered for testing. Your analysis should include logistics applications like LOGFS Consolidation and Development, LOGFAS, etc. as well as any other Bi-SC AIS Functional Services from different C2 Communities of Interest (Air / Land / Intel /etc.) and if relevant the Bi-SC AIS Core services.

1.3.2. As part of the Bi-SC AIS, LOGFS Evolution will use the Core Geographic Services (CoreGIS) capability to implement the geographic service requirements. CoreGIS comprises Geographic Data Services (map, cartographic, other geographic products) and a component-based framework providing a range of user services.

Please describe the use (if any) of geographic data and services (Logistics, Medical, and Military Engineering) of your product.

1.3.3. Are your products compliant with NATO/Commercial Standards (including for example NATO's data labelling standards)?

1.3.4. The system shall operate within several NATO and Mission security domains to comply with current operational regulations. Is your product expected to operate appropriately in such circumstances?

1.3.5. Is your product deployed and in use within NATO and / or nations, either fully or in part? If so please briefly describe the user base and their different characteristics, such as:

1.3.5.1. Static or deployed.
1.3.5.2. Level of Command (Strategic/Operational/Tactical).
1.3.5.3. Role in support of operations.

1.4. Planning, Data Visibility and Decision Making Aids

1.4.1. Specifically in the case of the LOGBIDS capability (which is to provide Logistics Chain Visibility over multiple national logistics chains) describe how the solution might address the following challenges:

1.4.1.1. Difficulties integrating disparate data sources.
1.4.1.2. Non-standardized data formats.
1.4.1.3. Challenged associated with integrating unstructured data.
1.4.1.4. Multiple protocols potentially used by National systems.
1.4.1.5. Poor quality or partial data collected for some of the logistics chains.

1.4.2. Does your product provide or can you recommend suitable products providing operational planning or decision-making aids, such as plan simulation, play forwards or backwards, access to and use of historical data for modelling or trend analysis?

1.4.2.1. If so, please describe the product's capability in these areas.
1.4.2.2. If not, please indicate your recommendations for LOGFS Evolution capabilities in this area.

2. PROJECT MANAGEMENT

2.1. Project Plan

The projected timeline is for a 3-year implementation starting in mid-2018. Given the importance of incremental delivery in reducing risk:

2.1.1. Suggest how you would organise the work in packages and provide an outline implementation plan (using a number of delivery baselines if required) that in your view provides the best balance in terms of:

2.1.1.1. Similarity or required approach (for example there are four capabilities with a simulation focus).
2.1.1.2. Coverage of required capability areas by existing COTS / GOTS.
2.1.1.3. The required involvement and effort of Subject Matter Experts (SME) within each Community of Interest (COI) balanced against the realities of their availability. It should be noted that NATO SMEs will not be dedicated project resources. They all have full-time commitments and LOGFS is a small (albeit important) part of their responsibilities.
2.1.1.4. The time and effort required for testing and integration (including that with the LOGFS Consolidation and Development baseline solution).
2.1.1.5. Allowing sufficient time for milestone reviews.
2.1.1.6. Incremental delivery, grouping of capabilities and their sequencing (accounting for any dependencies between them).
2.1.1.7. The possibility of introducing contractor incentives (e.g. work packages that are awarded based on the satisfactory delivery of previous ones).

2.2. Risk Management

The initial project risks identified so far are presented in the table below:

RISK ITEM	MEASURES
Transition from LOGFS Consolidation and Development to LOGFS Evolution.	
Requirements complexity and / or lack of clarity.	
Diversity of COIs.	
The availability of SMEs and the level of involvement effort required.	
Integration risk:	

RISK ITEM	MEASURES
- With Bi-SC AIS Core (and infrastructure) services. - With LOGFS Consolidation and Development	
Technical complexity, and associated requirement in terms of specific SME skill sets and potentially high training needs.	
Business Case. How to achieve early and gradual benefits realisation to secure stakeholder confidence.	

2.2.1. Given the nature of the LOGFS Evolution project

2.2.1.1. Please comment on the above.
2.2.1.2. What specific management measures would you suggest for each of the risks stated above?
2.2.1.3. Can you identify any additional risks? If yes, please add to the above table and describe the risk management measures that you would implement.

2.3. Requirement Definition, Requirements Management and Design Approach

2.3.1. What requirements management methodology, process and organisation would you recommend adopting?

2.3.2. What are your recommendations for writing system requirements specifications and statements of work?

2.3.3. What are your recommendations with regards to the design approach for this project, in order to ensure that when the separate components are integrated (including integration with LOGFS Consolidation and Development) they deliver the stated operational requirement?

2.4. Cost Engineering

Cost engineering aims to help with defining, evaluating, and selecting the solution option which would optimise technical performance, operational requirement satisfaction, and lifecycle cost effectiveness.

2.4.1. What do you think are likely to be the principal investment and operating cost drivers for the LOGFS Evolution?

2.4.2. Briefly describe a suitable cost engineering approach for the LOGFS Evolution Project. Ideally this should be an approach you have used before and include a short description of the context of this use as well as your experience generally in the domain of cost or value engineering?

2.4.3. Based on your experience of cost or value engineering (from a comparable implementation) please provide relevant ‘rough order of magnitude’ data that can be used to achieve a realistic cost estimation for LOGFS Evolution, including the following cost components (and any corresponding assumptions):

2.4.3.1. Cost of licences and follow-on annual support.
2.4.3.2. Estimated cost range for any development / customisation (as may be applicable).
2.4.3.3. Cost of training and transfer of technical knowledge including required operator training (such as weeks of training).

2.5. Transition and Support

2.5.1. What would be your Transition Strategy, including the provision of initial support and follow on operations and maintenance?

2.5.2. What are your recommendations with respect to developing support and test plans?

2.5.3. What are your recommendations for user and operator training?

3. OVERALL OPINION AND ADDITIONAL COMMENTS

3.1. Please provide any additional information about your product that you believe could benefit this project.

3.2. Please provide any additional comments or suggestions you wish to make about this Project.