



NCIA/ACQ/2019/7084
17 April 2019

To : Distribution List
Subject : **AMENDMENT 4 TO INVITATION FOR BID – IFB-CO-14887-BRE1TA**

Provisions of BRE1TA Software and BLOS AP with RMD and Training Capability

- Reference(s) : A. AC/4-2261 (1996 Edition)
B. AC/4(PP)D/27211-ADD1 (INV)
C. AC/4-DS(2016)0028
D. AC/4-DS(2018)0018
E. NCI Agency Notification of Intent (NOI), NCIA/ACQ/2018/1672, dated 12 October 2018
F. NCI Agency Invitation for Bid (IFB), NCIA/ACQ/2018/1922, dated 12 December 2018
G. NCI Agency Invitation for Bid (IFB) Amendment 1, NCIA/ACQ/2019/6691, dated 29 January 2019
H. NCI Agency Invitation for Bid (IFB) Amendment 2, NCIA/ACQ/2019/6987, dated 25 March 2019
I. NCI Agency Invitation for Bid (IFB) Amendment 3, NCIA/ACQ/2019/7069, dated 10 April 2019

Dear Madam/Sir,

1. The purpose of this Amendment 4 is to include the PowerPoint presentation of the Bidders' Conference and the Site Information Data Package (Attachment 2), to publish the responses to the Clarification Requests (CRs A4-A107, P1-P4 and T5-T192 – Attachment 3) and to amend the subject IFB Bidding documents (Attachment 4).
2. **THE CLOSING TIME FOR SUBMISSION OF BIDS IN RESPONSE TO THIS INVITATION FOR BID REMAINS UNCHANGED AND IS 16:00 HOURS (BRUSSELS TIME) ON 15 MAY 2019.**
3. As a direct or indirect result of these CRs, Book I: Bidding Instructions and Bidding sheets and Book II: Contract Special Provisions and Statement of Work (including Annexes) have been amended and are re-issued in their entirety. As always, potential bidders are strongly advised to carefully review the revised bidding documents.



4. With the exception of the revisions mentioned above, all other IFB documents remain unchanged from their current versions as issued on 12 December 2018, 29 January 2019, 25 March 2019 and 10 April 2019.
5. The overall security classification of this IFB is « NATO UNCLASSIFIED ».
6. Bidders are requested to complete and return the enclosed acknowledgement of receipt within ten (10) days of receipt of this IFB, informing the NCI Agency of their intention to bid/not to bid. Firms are not bound by their initial decision, and if a firm decides to reverse their stated intention at a later date, it is requested to advise the NCI Agency via e-mail.
7. This Invitation for Bid and any Amendment thereto remains the property of the NCI Agency and shall be protected in accordance with the applicable national security regulations.
8. This Invitation for Bid does not constitute either a financial or contractual commitment at this stage.
9. Prospective Bidders are advised that the NCI Agency reserves the right to cancel, withdraw, or suspend this IFB at any time in its entirety and bears no liability for bid preparation costs incurred by firms or any other collateral costs if bid cancellation, withdrawal, or suspension occurs.
10. The NCI Agency point of contact for all information concerning this IFB is:

NATO Communications and Information Agency
Boulevard Leopold III
1110 Brussels, Belgium
Attn: Sarah Hazebroek, Senior Contracting Officer
E-mail: IFB-CO-14887-BRE1TA@ncia.nato.int

On behalf of the Director of Acquisition,



Joseph Vitale
Senior Contracting Officer

Enclosure:

Attachment 1: Acknowledgement of Receipt
Attachment 2: Bidders' Conference Presentation and SIDP
Attachment 3: Clarification Requests
Attachment 4: Book I: Bidding Instructions/Bidding Sheets and Book II: Contract Special Provisions and SOW including Annexes



ATTACHMENT 1

ACKNOWLEDGEMENT OF RECEIPT OF INVITATION FOR BID

IFB-CO-14887-BRE1TA – AMD 4

Please complete and return within 10 days after receipt of the IFB
(via e-mail to IFB-CO-14887-BRE1TA@ncia.nato.int):

We hereby advise that we have received Invitation for Bid **IFB-CO-14887-BRE1TA – Amendment 4** on _____, together with all enclosures listed in the Table of Contents.

CHECK ONE

- { } As of this date and without commitment on our part, we do intend to submit a bid.
- { } We do not intend to submit a bid.
- { } We are reviewing the requirements of the IFB and will notify you of our decision as soon as possible.

Signature: _____

Printed Name: _____

Title: _____

Company: _____

Address: _____



Distribution List for IFB-CO-14887-BRE1TA- AMD 4

Prospective Bidders (sent separately in electronic version)

All NATO Delegations (Attn: Infrastructure Adviser) (Except Montenegro)

Embassies in Brussels (Attn: Commercial Attaché):

Bulgaria
 Canada
 Czech Republic
 Denmark
 Estonia
 France
 Germany
 Greece
 Hungary
 Italy
 Latvia
 Lithuania
 Luxembourg
 The Netherlands
 Norway
 Poland
 Portugal
 Romania
 Slovakia
 Slovenia
 Spain
 Turkey
 United Kingdom
 United States (electronic copy to brussels.office.box@mail.doc.gov)

NATO HQ

NATO Office of Resources

Management and Implementation Branch – Attn: Deputy Branch Chief 1

Director, NATO HQ C3 Staff

Attn: Executive Co-ordinator 1

Strategic Commands

HQ SACT

Attn: NSIP Branch, R&M 1

ACO Representative to the Investment Committee 1

All NATEXs



BRE1TA - Bidders Conference

21 February 2019

NCI Agency, Acquisition

IFB-CO-14887-BRE1TA

WELCOME

Agenda

| | | |
|-------|---|--|
| 09:00 | Registration | |
| 09:30 | Welcome - NSII Service Line Chief | Antonio Calderon |
| 09:40 | <ul style="list-style-type: none">• Administration• Purpose• General Instructions | Sarah Hazebroek |
| 10:00 | IFB | Sarah Hazebroek |
| 10:40 | SOW Content | Michel De Meulemeester |
| 11:00 | Coffee Break | |
| 11:15 | SOW <ul style="list-style-type: none">• Management• Engineering• Supportability | Michel De Meulemeester Eduardo Bolas Alessandro Vitali |
| 12:30 | Lunch Break | |
| 13:30 | Departure Visit “Staelduinen” | |
| 17:00 | Q&A | |
| 17:30 | Wrap up and Closing Notes | |

Antonio Calderon

Network Services and IT Infrastructure - Service Line Chief

Service Line Chief – Message

- Command & Control for NATO's forefront defence
- IP convergence as part of NATO Enterprise Services
- Enhanced offered services
- Business opportunities:
 - NATO + Nations (Maritime & Land Deployed Forces)
 - At front position for future enhancements (WBHF)

Administration

Administration and Services

- Briefing is NATO Unclassified
- Copy of Briefings including list of Industry Attendees will be provided via IFB Amendment
- Morning Coffee break
- Sandwich Lunch buffet
- Internet access
- Emergency Exits
- Shuttle to Site Visit

Purpose of Event

Bidders Conference - Purpose

- Present the Project and the NCI Agency Project Team
- Overview of the IFB package: structure and content
- Opportunity to clarify aspects of the IFB and answers to received clarifications, where possible
- Opportunity to submit questions (in writing)

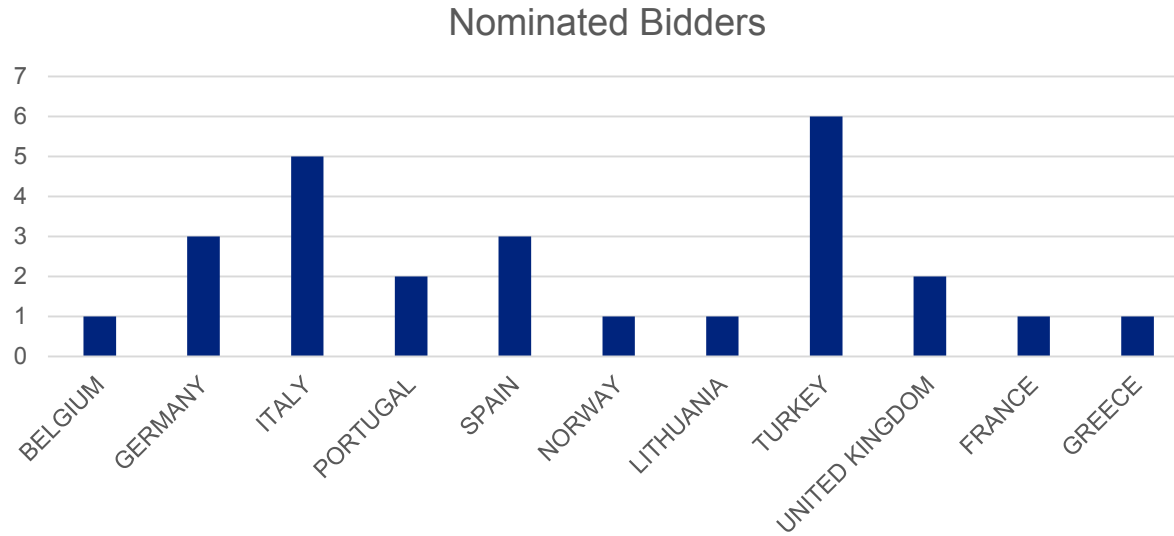
BRE1TA- Project Team

| One POC | IFB-CO-14887-BRE1TA@ncia.nato.int |
|-------------------------------|--|
| Principal Contracting Officer | Tiziana Pezzi |
| Senior Contracting Officer | Sarah Hazebroek |
| Service Area Owner | Alex Bertin |
| Principal Project Manager | Michel De Meulemeester |
| Technical Lead | Eduardo Bolas |
| System Manager | Dariusz Jurkiewicz |
| ILS Officer | Alessandro Vitali |

General and Specific Instructions & Timelines

General

- 26 companies nominated as of today, representing 11 NATO Member Nations



Specific Rules

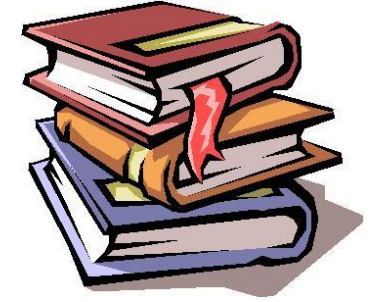
- Questions must be submitted in writing and if possible answered at the end of the Conference
- Verbal answers do not change the terms of IFB
- The Agency will confirm the answers to written Clarification Requests in writing through an Amendment to IFB.
- Only Amendments to the IFB are official and binding
- The Agency will provide Bidders' Conference presentations and List of Attendees to all Bidders
- One interface and POC for the Bidders: **Contracting Officer**

Security Aspects

- Classification of Bidders' Conference and IFB : NATO UNCLASSIFIED
- NO CLASSIFIED DISCUSSIONS: no questions and answers containing classified information will be addressed during the Conference

IFB Structure

IFB Overall Structure



- Composed of 2 books
 - **BOOK I: Bidding Instructions**
 - Section 1: Introduction
 - Section 2: General Bidding Information
 - Section 3: Bid Preparation Instructions
 - Section 4: Bid Evaluation Procedure
 - Annexes
 - **BOOK II: Prospective Contract**
 - Signature Sheet
 - Part I: Schedule of Supplies and Services
 - Part II: Contract Special Provisions
 - Part III: Contract General Provisions
 - Part IV: SOW and Annexes

Book I

BIDDING INSTRUCTIONS

4 SECTIONS

1. Introduction
2. General Bidding Information
3. Bid Preparation
4. Bid Evaluation

Section 1 - Introduction

- International Competitive Bidding - AC/4-D-2261 (1996 Edition)
- Firm Fixed Price Contract
- Evaluation Method: Lowest price technically compliant bid
- IFB Security Classification – NATO UNCLASSIFIED
- Facility and Personnel Clearances – NATO SECRET

Section 2 - General Bidding Information

- Contractors, sub-Contractors and manufacturers, at any tier, must be from within the Participating Countries.
- Bids shall be delivered in electronic format.
- Bid Closing Date: 16:00 HOURS (BRUSSELS TIME) ON **27 March 2019**
- Request for Extension of Bid Closing Date: no later than 14 calendar days prior to Bid Closing Date, must be requested through National Representatives/Delegations
- One single Point of Contact: **Contracting Officer** at dedicated e-mail address.

Section 2 - General Bidding Information

- Request for IFB Clarifications: NLT 28 days before BCD
- Additional Clarifications: NLT 14 days before BCD
- Bid Validity – 12 months
- Bid Guarantee: EUR 300,000

Section 3 - Bid Preparation Instructions

- The Bidder shall not restate the IFB requirements in confirmatory terms only.
- Bids shall provide the level of detail necessary to make an objective assessment of what is being offered and whether such an offer meets the requirements of the Prospective Contract.
- Bid must be submitted in three parts – **via e-mail**:
 - Administrative Package – scanned PDF
 - Price Proposal/Bidding Sheets – Excel file
 - Technical Proposal Package – PDF – All sections
- All 3 volumes must be clearly marked. “IFB # - Company name – Volume”

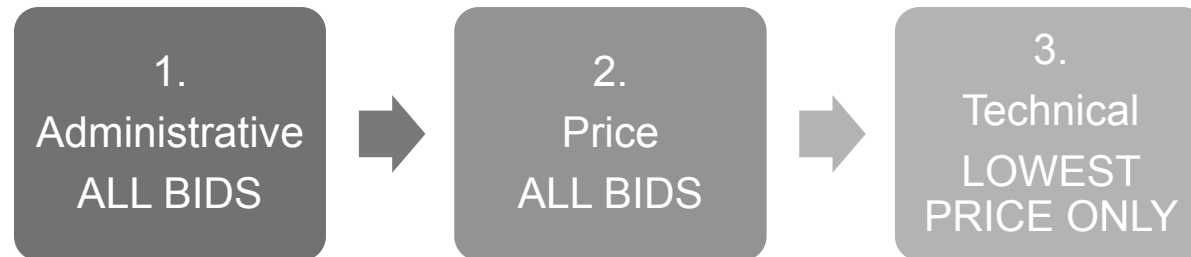
Section 4 - Bid Evaluation

- Solely on the basis of the requirements specified in the IFB.
- During the evaluation, the Purchaser may request clarification of the Bid to resolve ambiguities and to permit the Bidder to state its intentions regarding certain statements contained therein.
 - Not to elicit additional information from the Bidder that was not contained in the original submission,
 - Not to allow the Bidder to supplement cursory answers or omitted aspects.
 - The Bidder is not permitted to make changes to its price quotation at any time.
 - Price realism is an evaluation criteria.
 - The Bidder is not permitted any cardinal alteration of the Bid regarding technical matters.

Section 4 - Bid Evaluation

- One Step / One Envelope = Lowest Compliant Bidder
 - only the Technical Proposal of the lowest Bidder is evaluated for compliance with the requirements of the IFB

- Evaluation sequence:



Book II

PROSPECTIVE CONTRACT

Book II – Prospective Contract

Prospective Contract structure and order of precedence:

1. Signature Page
2. Part I – Schedule of Supplies and Services
3. Part II – Contract Special Provisions
4. Part III – NCI Agency Contract General Provisions
5. Part IV – Statement of Work & Annexes

Prospective Contract Signature Page

- Signed between NCI Agency (**the Purchaser**) and **the Contractor**
- Effective Date of Contract (EDC): generally upon countersignature by Purchaser

Part I - Schedule of Supplies and Services

- **Contract:**
 - a) BRIPES SW/HW system and Training (Base Contract): CLIN items 1 and 2
 - b) Contractor Logistic Support (Optional): CLIN 3
- **Contract Duration:** 72 weeks from EDC till FSA
- **Contract Warranty:** Start at FSA for 36 months
- **Target Contract Award:** January 2020

Part II - Contract Special Provisions and Part III - General Provisions

- Modification of Special Provisions only before Bid Closing and always via IFB Amendment
 - Important to submit inquiries beforehand through Clarification Requests within the time set.
 - If the winning Bidder refuses to sign the Contract as it is at Bid Closing, the Bid Guarantee will be forfeited in favour of the NCI Agency.
- Modification of General Provisions
 - Some Clauses (or parts thereof) may be supplemented or replaced. If they are, this is done via the Contract Special Provisions.

Part II and Part III – Specific Terms and Conditions

- CSP Article 2: Order of Precedence
- CSP Article 4: Firm Fixed Price
- CSP Article 9: Differing Site Conditions
- CSP Article 10: Inspection and Acceptance – linked to payment milestones: CSP Article 12!
- CSP Article 11: Review and Acceptance of Documentation
- CSP Article 12: Invoices and payment
- CSP Article 14: Warranty
- CSP Article 18: Liquidated Damages

Part II and Part III – Specific Terms and Conditions

- CSP Article 15: Contract Administration
- CSP Article 19: Security and Contract Security Classification
- CSP Article 20: Key Personnel
- CSP Article 28: Performance Guarantee
- CSP Article 29: PFE and PFP
- CSP Article 32: Ownership and Title
- CSP Article 34: Purchaser Rights in Technical data and Computer Software
- CSP Annex A: NDC to be signed by all Key Personnel

Part II and Part III – Specific T&Cs - Summary

General Aspects



- **Order of Precedence**
- **Contract Administration**
- **Warranty**
- **Annex A: Non-disclosure declaration**

Financial Aspects



- **Firm Fixed Price**
- **Invoices and Payment**
- **Liquidated Damages**
- **Performance Guarantee**

Installation Aspects



- **Differing Site Conditions**
- **Security and Contract Security Classification**
- **Key Personnel**
- **PFE and PFP**

Specific Rights of the Purchaser



- **Inspection and Acceptance**
- **Review and Acceptance of Documentation**
- **Ownership and Title**
- **Purchaser Rights in Technical data and Computer SW**

Procurement Timelines – Quick summary

- NOI issued on: 12 October 2018
- IFB issued on 12 December 2018
- IFB Amendment 1 issued on 29 January 2019

- IFB Clarification Requests: NLT 28 days prior to Bid Closing Date
- Request for Extension of Bid Closing Date: NLT 14 days prior to Bid Closing

- BID Closing Date: 27 March 2019

- Estimated Contract Award: January 2020

- **One POC: Contracting Officer – IFB-CO-14887-BRE1TA@ncia.nato.int**

BOOK II

PROSPECTIVE CONTRACT

PART IV: SOW & Annexes

PROJECT IFB-CO-14887-BRE1TA

CAPABILITY PACKAGE 9A0101 – WIRELESS COMMUNICATION SERVICES
(OTHER THAN SATCOM)

BRASS – Broadcast and Ship Shore System

BRE1TA – BRASS Enhancement 1 Target Architecture

PROJECT IFB-CO-14887-BRE1TA

**BRIPES SOFTWARE
AND
BLOS ACCESS POINT
WITH
REMOTE MONITORING DIAGNOSTICS AND TRAINING CAPABILITY**

V.1.0

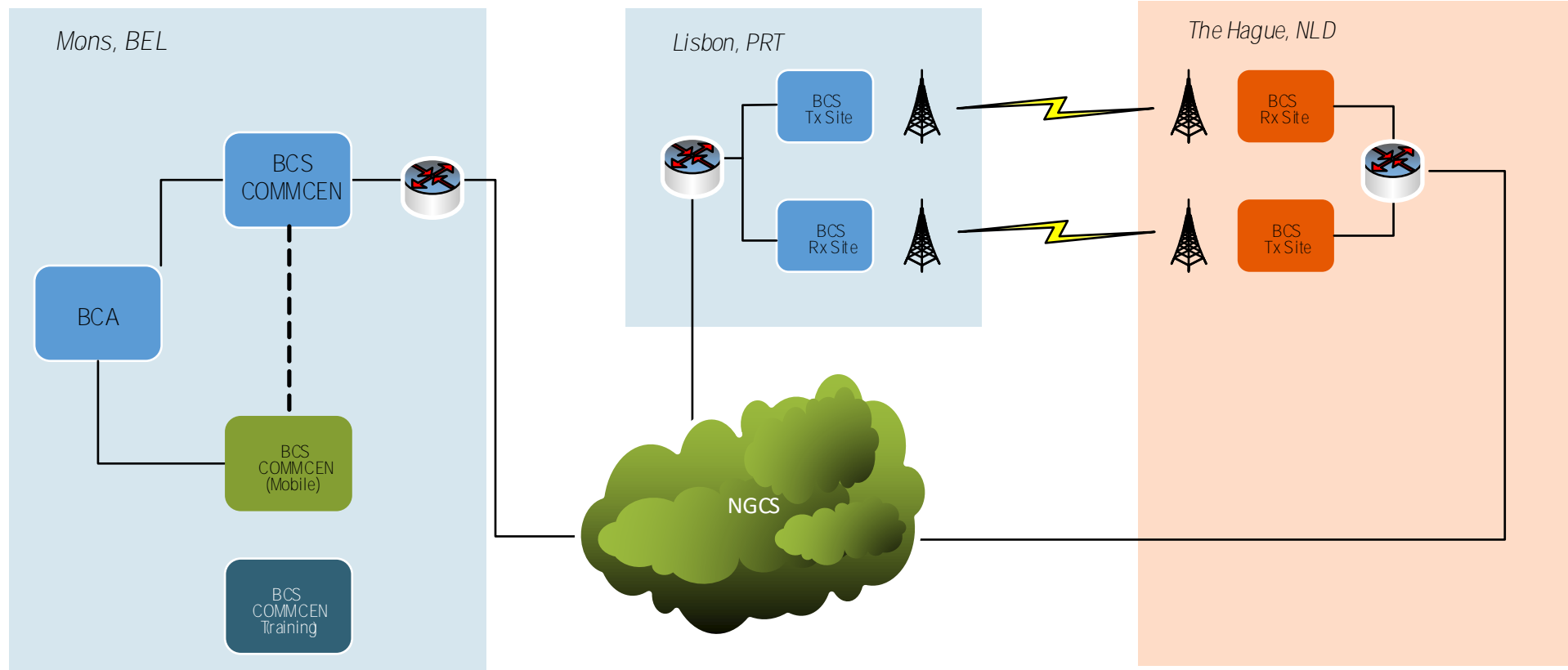
Project Scope – Activity Areas

PROJECT ACTIVITY AREAS:

- Delivering the state-of-the-art BRIPES software implementing the functional and performance requirements of the new generation BRASS systems, namely Beyond Line of Sight Access Points (BLOS AP), in accordance with the BRASS Enhancement 1 Target Architecture (BREITA);
- Provide training and remote monitoring and diagnostics capability to the STIV-RMD system developed under the previous CP, which is also the first BRASS node where the BREITA SW will be deployed.
- Enhancement of STIV-RMD Information Systems and Communication hardware to enable the system to provide BLOS Access Point system capability.

BRASS IP Enhanced System = BRIPES

Project Scope – Major Components



Project Scope – Work Packages

- WP1 – BRIPES Software & Hardware, including
 - PM
 - 3-year Warranty (starting at FSA)
- WP2 – Training
- WP3 – [Option] 3-year Contractor Logistics Support
 - Starting at FSA
 - In addition to Warranty services

Bid Package

Volume III - Technical

Technical Volume

- Management
- Engineering
- Supportability

Technical Volume - Management

- Cross-Reference / Traceability Matrix
- Executive Summary
- Section 1: Corporate Organisation / Capital Facilities
- Section 2: Corporate Experience
 - Key Personnel
- Section 3: Preliminary Project Implementation Plan

Executive Summary

- Overview of the salient features of their technical proposal
- Demonstrate
 - comprehension of the project, the BRIPES system and the implementation environment
 - how to overcome the problems and mitigate the risk
- Concise document (max 10-15 pages)

Corporate Organisation

- Corporate Capability to produce items & to perform services
- (Deputy) Project Manager / PMO
 - Chain of authority from PM to CEO
 - Corporate resources within the organization that are not under PM authority
 - Process for PM to access Corporate resources & level of authority needed to secure them
- Subcontracting plan that identifies subcontractors/sub-vendors and their areas of responsibility and/or delivery

Corporate Experience

- Evidence of relevant corporate experience in last 5 years
 - in design, implementation & integration
 - in maintenance, logistics support & warranty
 - in similar Defence Radio Frequency (RF) Systems / projects
- Key Personnel:
 - (1) PM / DPM
 - (2) Technical Lead
 - (3) Test Director
 - (4) CIS Security manager
 - (5) ILS Manager
 - (6) Configuration Manager
 - (7) Quality Assurance Manager
 - (8) Training Manager

Project Implementation Plan (PIP) (1/3)

- PIP describes the processes and procedures that the Contractor will follow to plan, design, install and test all the systems of this Contract.
 - Project Control i.a.w. approved PIP
 - Split up in 14 separate areas (<> SOW structure)
- Overview:

| | |
|-----------------------------------|----------------|
| Preliminary PIP | As part of bid |
| Draft PIP – Submission for Review | EDC + 8 weeks |
| Final PIP – Acceptance | EDC + 15 weeks |

Project Implementation Plan (PIP) (2/3)

- i. PIP Section 1: Project Management and Control
- ii. PIP Section 2: System Engineering and Design
- iii. PIP Section 3: Quality Assurance
- iv. PIP Section 4: Configuration Management
- v. PIP Section 5: Integrated Logistics Support
- vi. PIP Section 6: Test and Evaluation (incl. Security Test & Verification Plan – STVP)
- vii. PIP Section 7: Documentation
- viii. PIP Section 8: System Acceptance

Project Implementation Plan (PIP) (3/3)

- ix. PIP Section 9: Training
- x. PIP Section 10: Reliability, Availability, Maintainability and Testability (RAMT)
- xi. PIP Section 11: Contractor Logistic Support (CLS)
- xii. PIP Section 12: Security Accreditation Plan (SAP)
- xiii. PIP Section 13: Risk Assessment and Management Plan (RAMP)
- xiv. PIP Section 14: Site Installations and Civil Works

Project management and Control

- Cross-Reference / Traceability Matrix
- PMCP - Project Management and Control Plan (PRINCE2)
- PWBS - Project WBS, incl. WBS dictionary
- PMS - Project Master Schedule
- RMP - Risk Management Plan
 - Appointment of Risk Manager
 - Also applicable to subcontractors
 - Risk (status and Alarm) Reporting through PPR

Project Reporting

- Project Checkpoint Report Monthly
- Project Progress Reports (PPR) Every 3 months
NLT 2 weeks before PPM
- Project Progress Meeting (PPM)
 - PPM # 1 = Kick-off meeting EDC + 3 weeks
 - PPM # x Every 3 months – Flexibility

Purchaser Furnished Property/Equipment (PFP/PFE)

- Purchaser Furnished Property:
 - Existing equipment onsite – to be integrated and adapted as per SOW
 - Building, power supply, HVAC, Network, ...
- Purchaser Furnished Equipment (PFE)
 - Crypto equipment & Standard IT Hardware
 - As part of Preliminary PIP (Bid), include PFE delivery table:
 - PFE equipment description, technical specifications, unit price (if procured & delivered by contractor)
 - Expected delivery date
- Associated Civil works → Contractor's scope includes installation of
 - outdoor equipment (e.g. antennas, DLOS, trenching, cabling, ...), and
 - indoor equipment (e.g. racking, cabling, electrical distribution, No-break, ...)

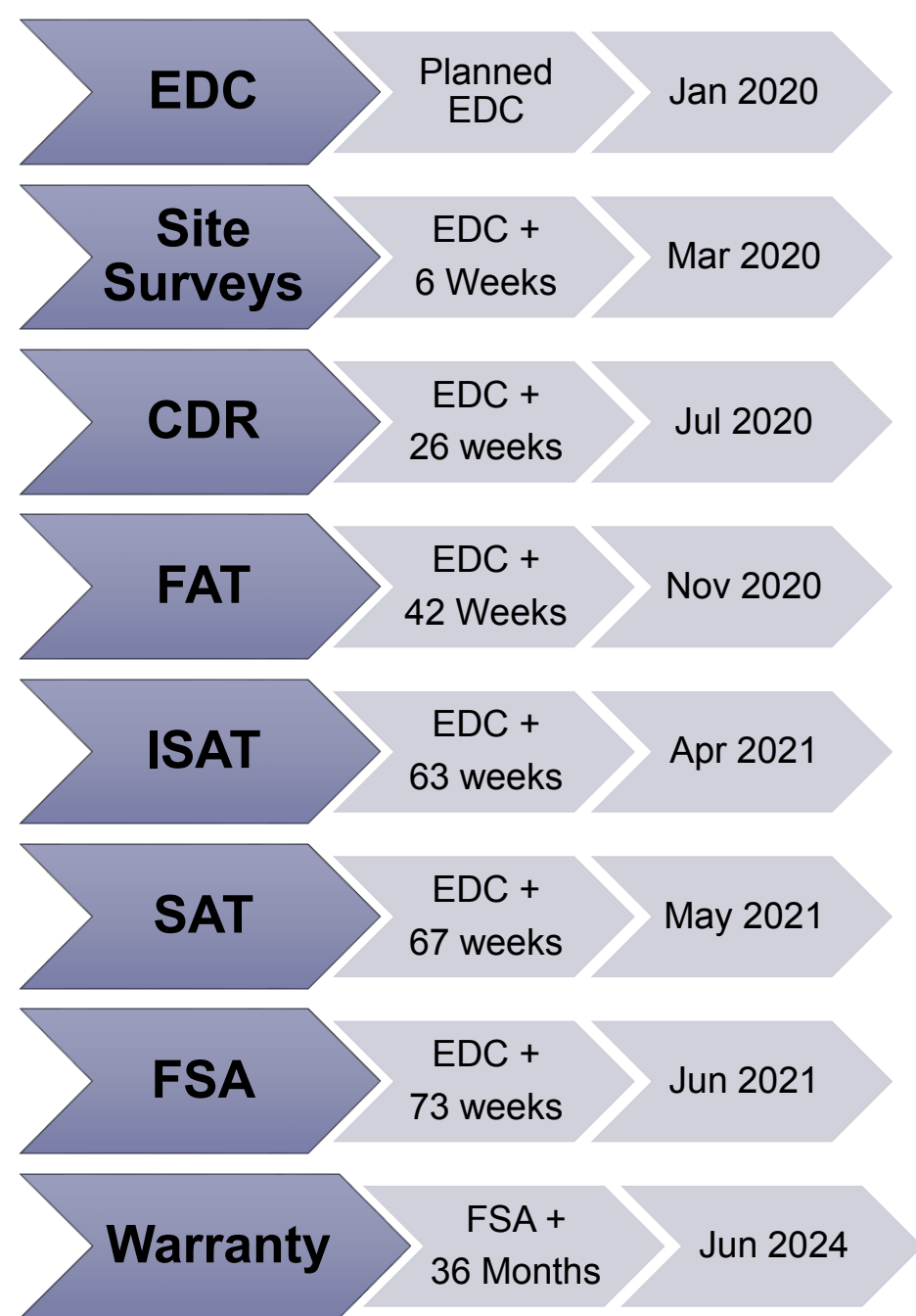
Test and Evaluation

- (Preliminary) System Test and Evaluation Plan:
 - All deliverables (HW, SW, Firmware)
 - All activities
 - Resources requirements (Eq, Pers, location, ...)
- Main stages:
 - Factory Acceptance Test - FAT EDC + 42 weeks
 - Individual Site Acceptance Test – ISAT EDC + 63 weeks
 - System Acceptance Test – SAT EDC + 67 weeks
- Test Readiness Review (TRR) before each stage
- PFE to be integrated in test programme

(EDC = Effective date of Contract)

BRIPES

High-Level Schedule



Security Requirements

- Project

- Existence and purpose of BRIPES: NU
- BRIPES Security Requirements: NR
(enforcement mechanisms)

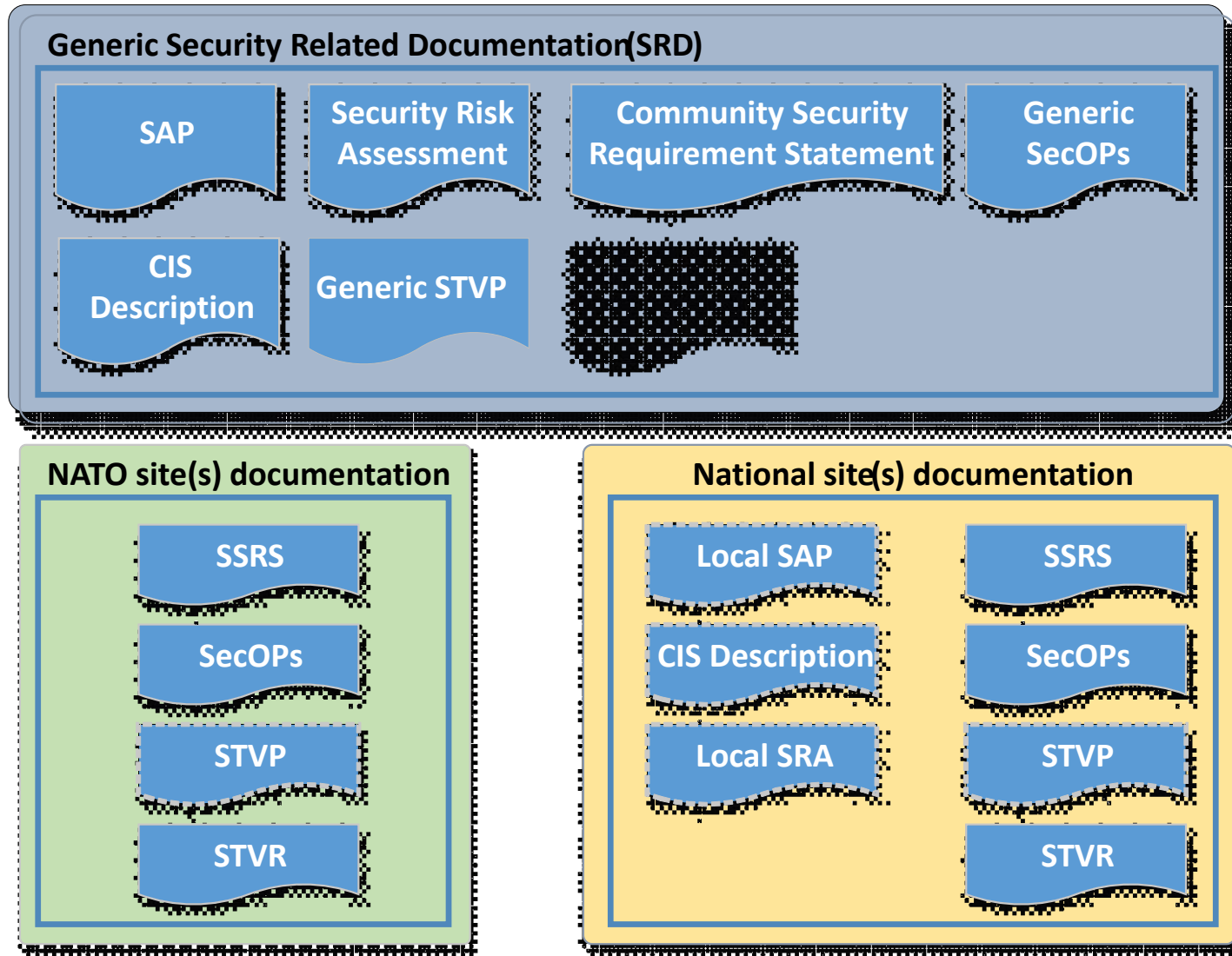
- BRIPES system

- Security mode of Operation: NS System High
→ All data shall be protected as if it is NS
- System Security Accreditation
→ to certify that BRIPES system is able to process, store and forward security-sensitive and classified information and does not present any unacceptable risks.

System security accreditation

- The overall BRIPES system shall be subject to security accreditation, with two main milestones:
 - ‘Approval for Testing’ (site level): before ISAT
 - ‘Approval to Operate’ (system level): before FSA
- Security Related Documentation (SRD)
 - To be developed and submitted by contractor
 - Prerequisite for system security accreditation
 - One set of documentation will be produced for NS and NU part of the system.
 - Approval of SRD by NATO CIS Security Accreditation Authority → close engagement

Documentation for security accreditation



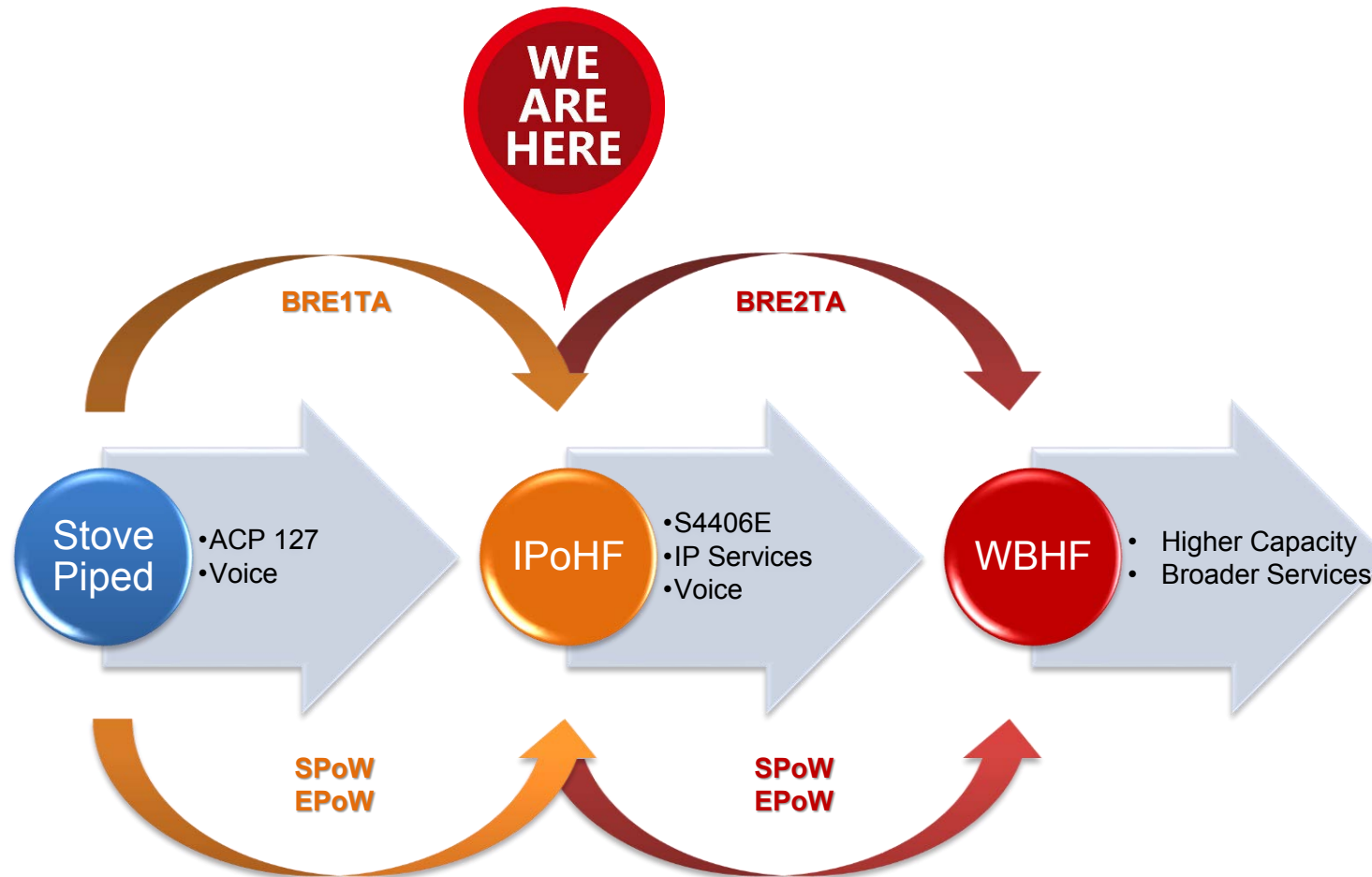
Coffee Break



Engineering



BRASS Roadmap



Object of Supply

- **BRIPES**

- ACMS that will replace BICC software;
- Software package of COTS products that shall be integrated to provide a coherent and efficient set of functionalities;
- BRIPES software package with 30 licenses for installation on NATO and national facilities.

- **STIV-RMD Facility**

- Infrastructure that shall include radio assets, networking and information technology equipment;
- Complemented with an integration of BRIPES, as the ACMS;
- Deployed in NCI Agency, in Mons, BEL, The Hague, NLD and Oeiras, PRT;
- Additionally, it shall include a Training Package.

Ins & outs

- **In the Scope**

- Each “BRIPES Pack” shall contain all the modules required to deploy a BLOS AP (BRASS Node) that shall be able to support both national and NATO services (segregated);
- BRIPES shall be implemented with COTS products, to the maximum extent (integration onto a single COTS platform), and all the associated licence(s) shall be supplied within the scope of this project. However, in order to ensure the fulfilment of all defined functional and non-functional further described requirements, it is acceptable that complementary software should be developed in order to guarantee a coherent and efficient integration of all modules.

- **Out of the Scope**

- The integration of BRIPES in operational BRASS nodes is out of the scope;
- The provision of NATO services shall be independent and segregated from national services, but will use most of the communications systems installed within the scope of BICC.
- BRIPES is a software based system and the only hardware and integration that are within the scope of the current project are those associated with STIV-RMD.

Functional Requirements & Architecture

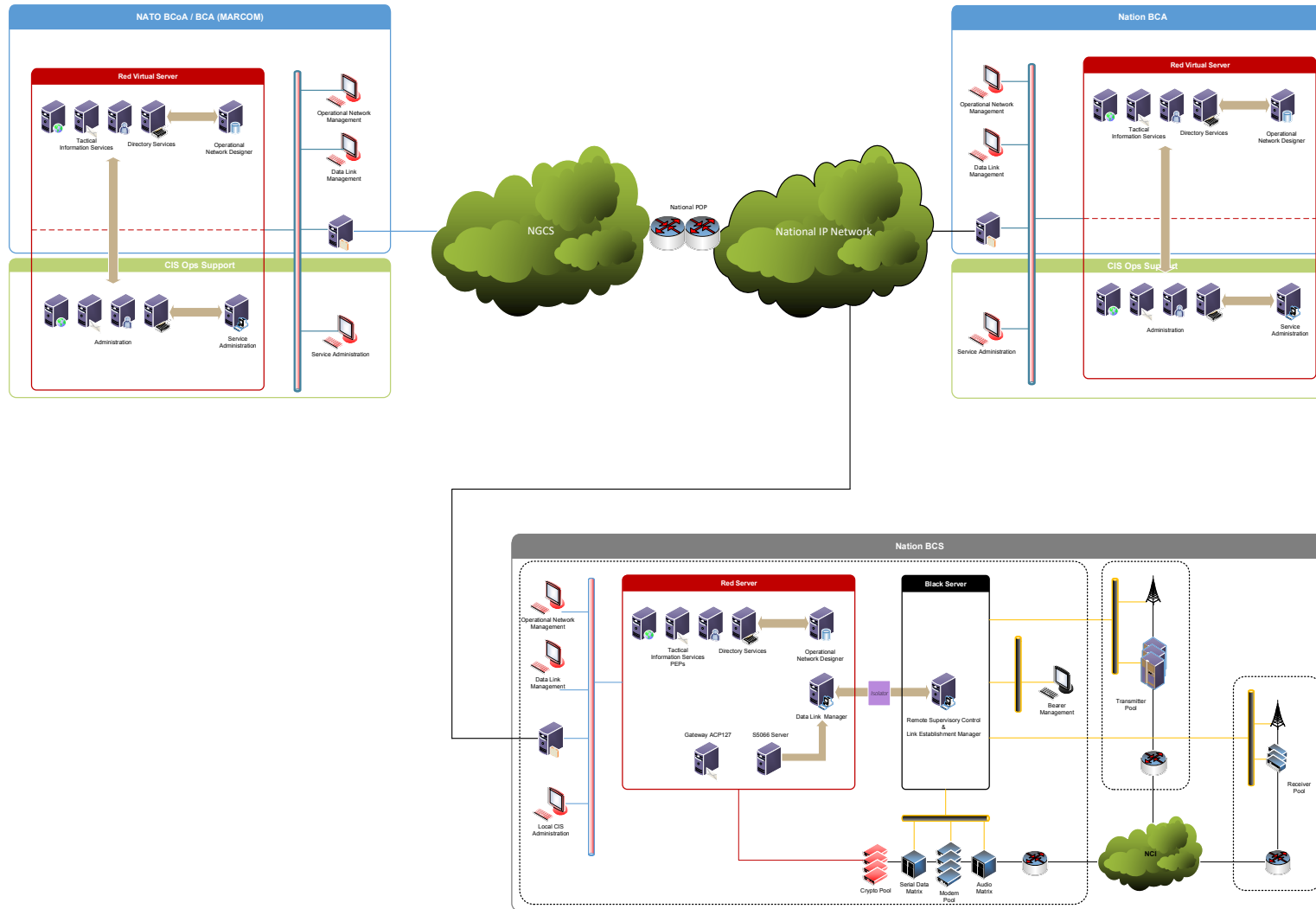
Highlights

- BRIPES shall be able to drive any national implementation of BLOS AP, based on the original BICC concept and architecture, with minor adaptations. Nevertheless, a further procurement of licenses for national deployments depends on a successful implementation of STIV-RMD and a validation of its capability and performance.
- The STIV-RMD facility shall be implemented in NCI Agency, both in Mons, BEL, The Hague, NLD and Oeiras, PRT, to provide a capability to replicate operational facilities and scenarios and provide the required competencies for interoperability verification, configuration control, maintenance and training. The implementation of STIV-RMD shall include not only the required hardware and installation services, but also the integration of BRIPES.

Very Important...

- In order to ensure a perfect comprehension of project objectives, the Bidder shall include, in the proposal, enough information to demonstrate a detailed understanding of these scope and objectives, as well as, of the operational and technical requirements, as defined in the IFB documentation.
- The Bidder shall provide enough information and evidence to prove performance, functional and architectural requirements fulfilment, as defined in the IFB documentation.
- The Bidder is also responsible to provide evidence about the full comprehension of project implementation risks and provide sufficient information to demonstrate how the identified risks would be properly assessed.

BRIPES Conceptual Architecture

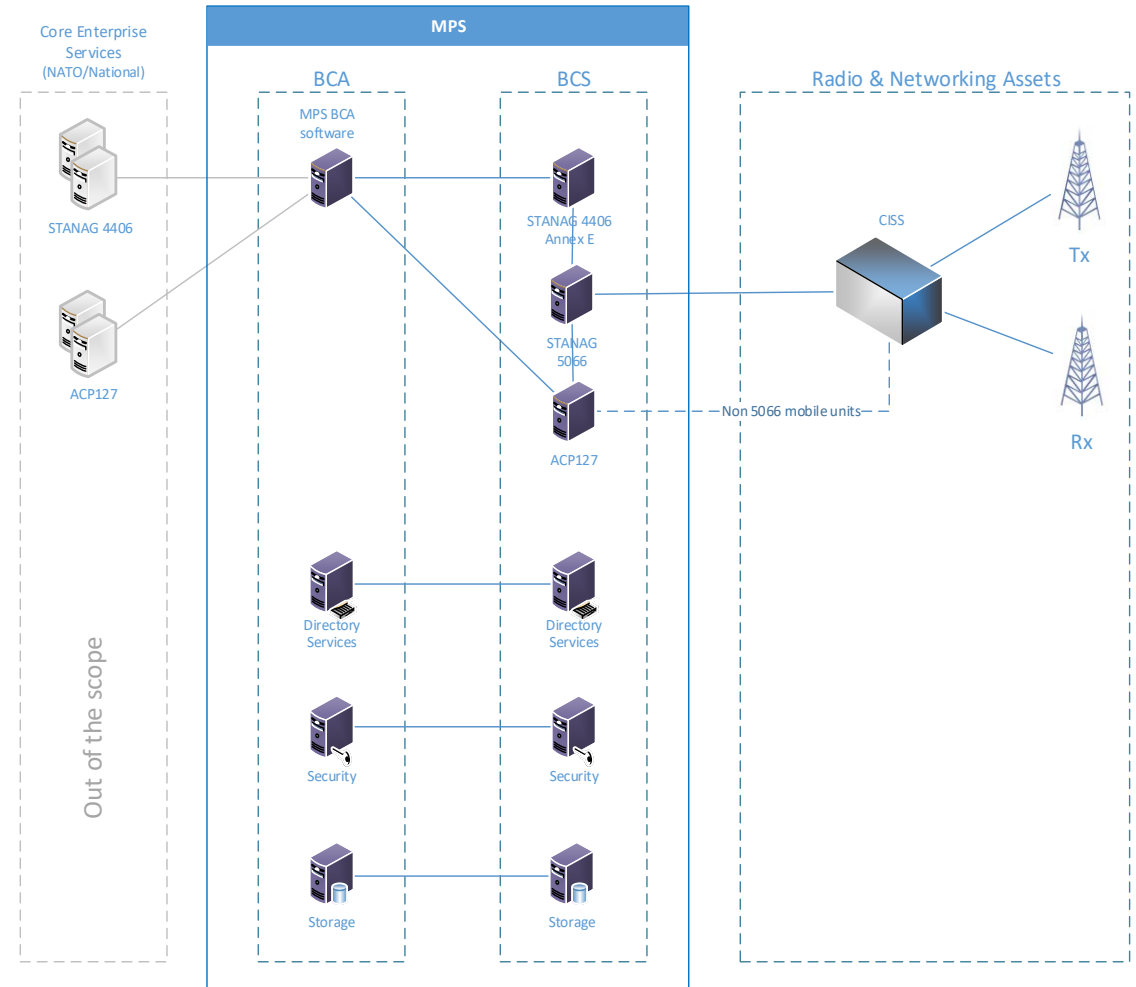


Information Services



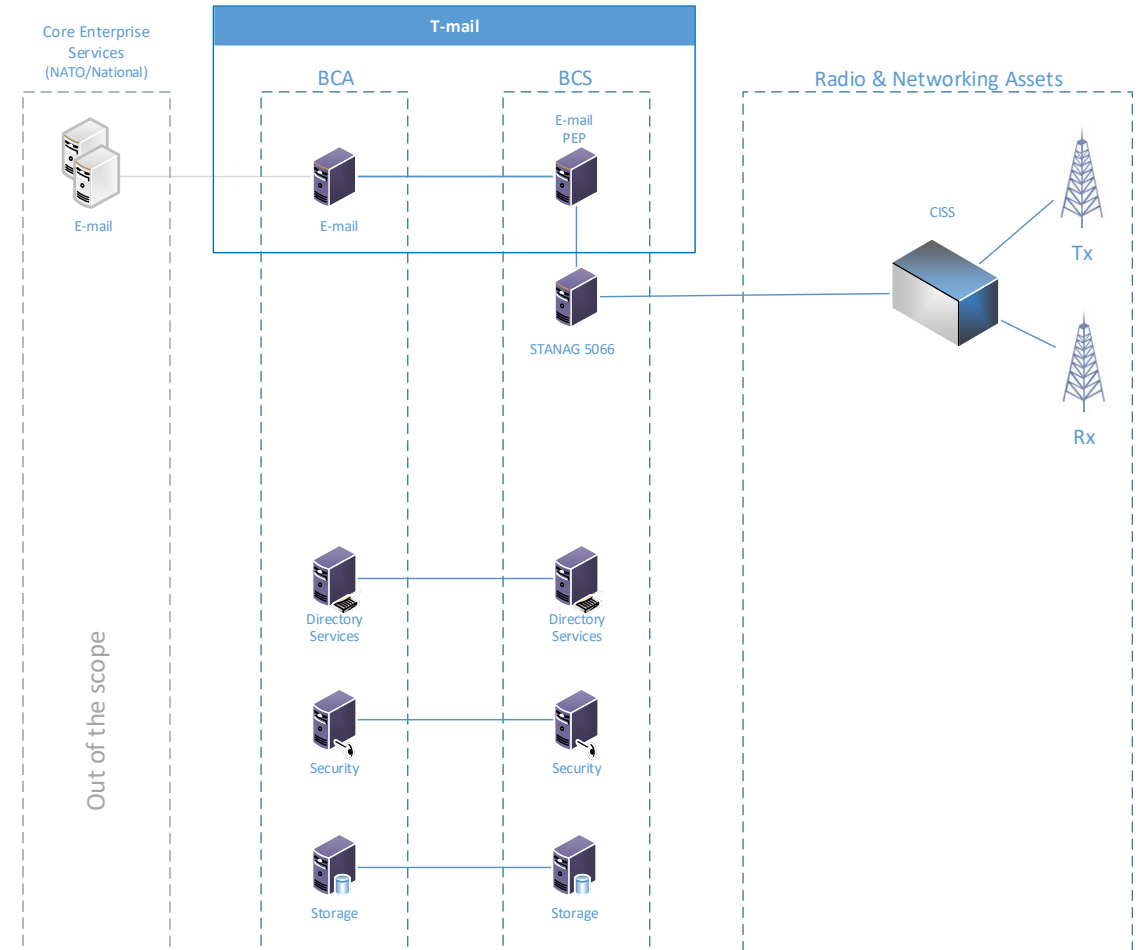
Formal Messaging Service

- BCA and BCS shall be provided with a MPS node;
- Interfaces with CES, through:
 - STANAG 4406 Ed.2;
 - ACP 127;
- Interfaces with BCS, through:
 - STANAG 4406 Ed.2 Annex E proxy server;
 - ACP 127 Gateway.



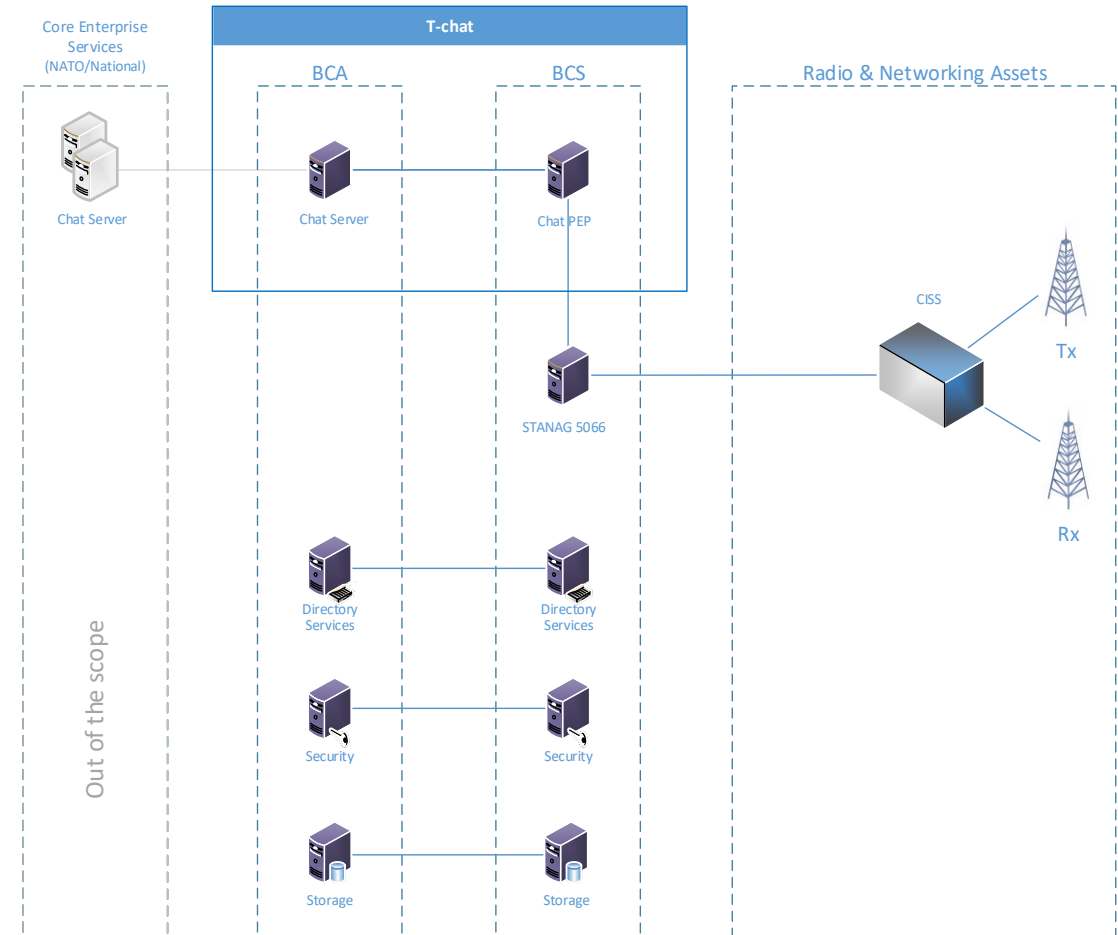
Informal Messaging Service - email

- Act as a single point of entry for operational HF supported informal messaging services provided to MU's;
- Due to characteristics of the HF links, PEP's shall be deployed in BCS to improve efficiency of information exchange, namely through an overhead reduction, data compression or reduction of command/response transactions, which will enable a reduction on the amount of exchanged data;
- The T-mail shall be compliant with:
 - Internet Message Access Protocol (IMAP) described in RFC 3501 and the corresponding updates. This protocol will only be used for e-mail exchange between CES, BCA and BCS.
 - Simple Mail Transfer Protocol (SMTP) described in RFC 2021 and RFC 5321 for e-mail exchange between BCS and the MU.



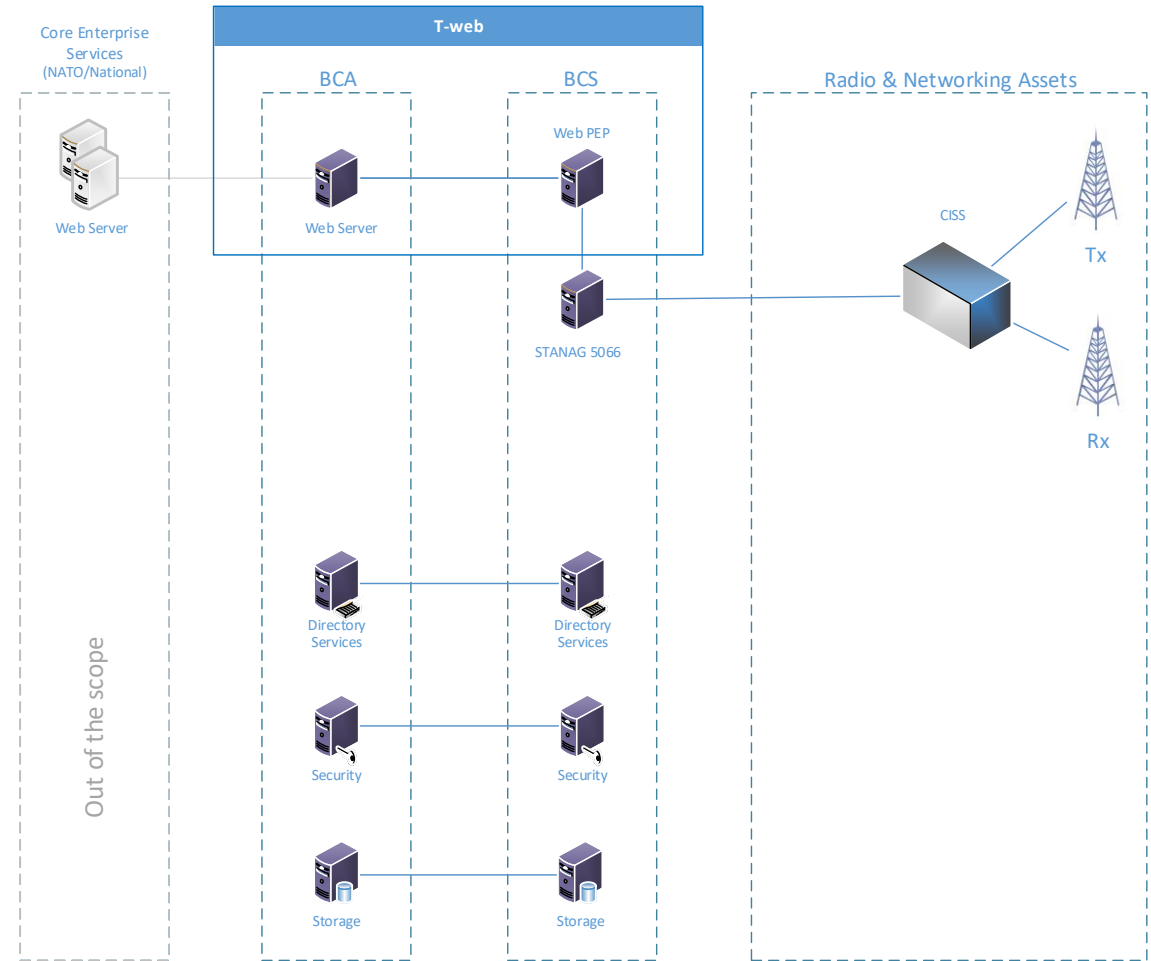
Informal Messaging Service - Chat

- CES use NATO JChat solution that has XMPP client for chat services. Therefore, T-Chat Server shall be compatible with NATO JChat.
- As of today, JChat has tested compatibility with Openfire, MLink and TCS servers;



Web / Data services

- Despite the obvious common characteristics to any other web service, T-web intends to allow the web access to a unique and specific web-based service (i.e. MCCIS/TRITON, Web Mission Server, etc.) rather than a full access to all the web-based resources.
- T-web shall be compliant with Hypertext Transfer Protocol (HTTP).

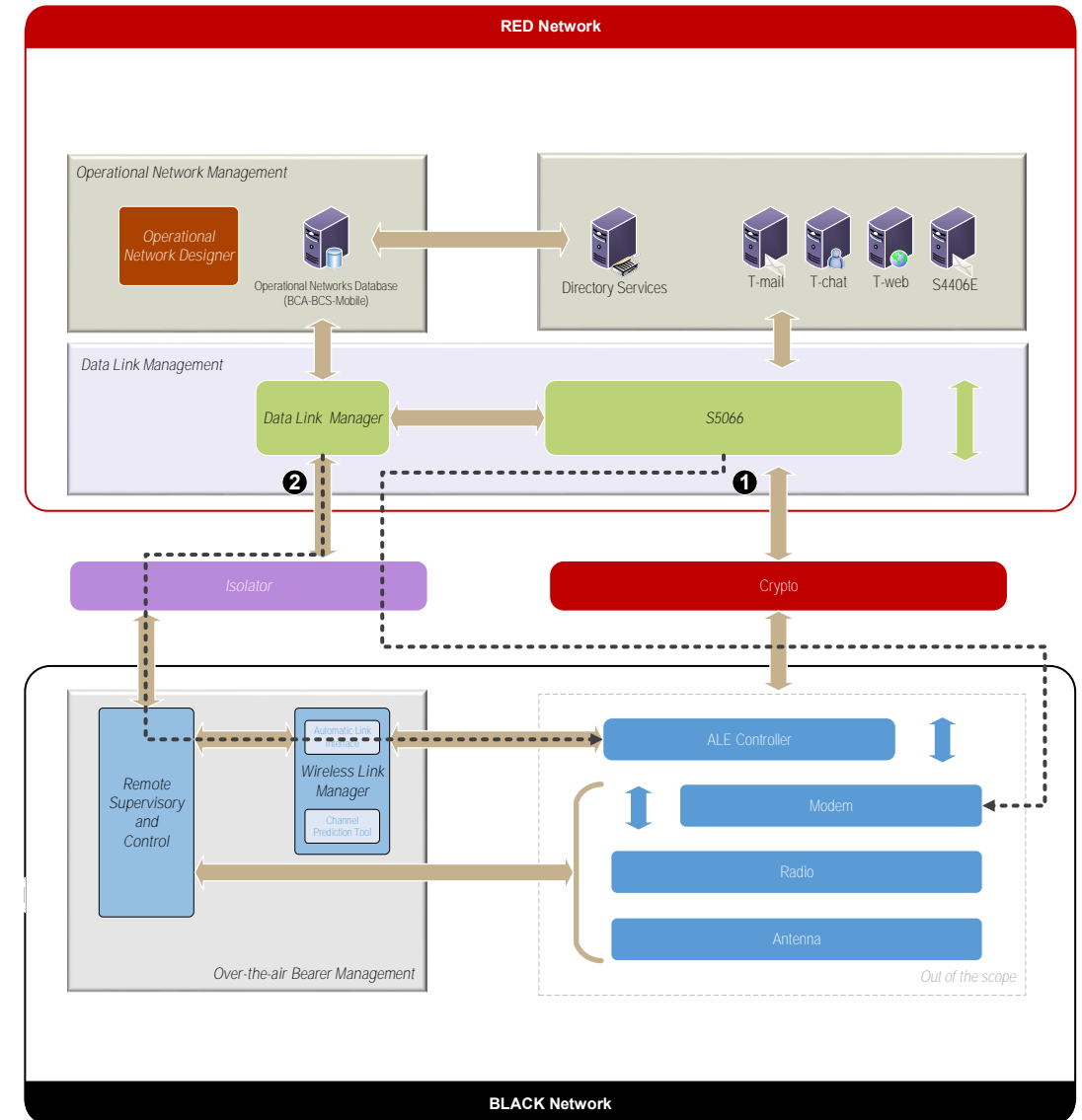


Management Services



Architecture

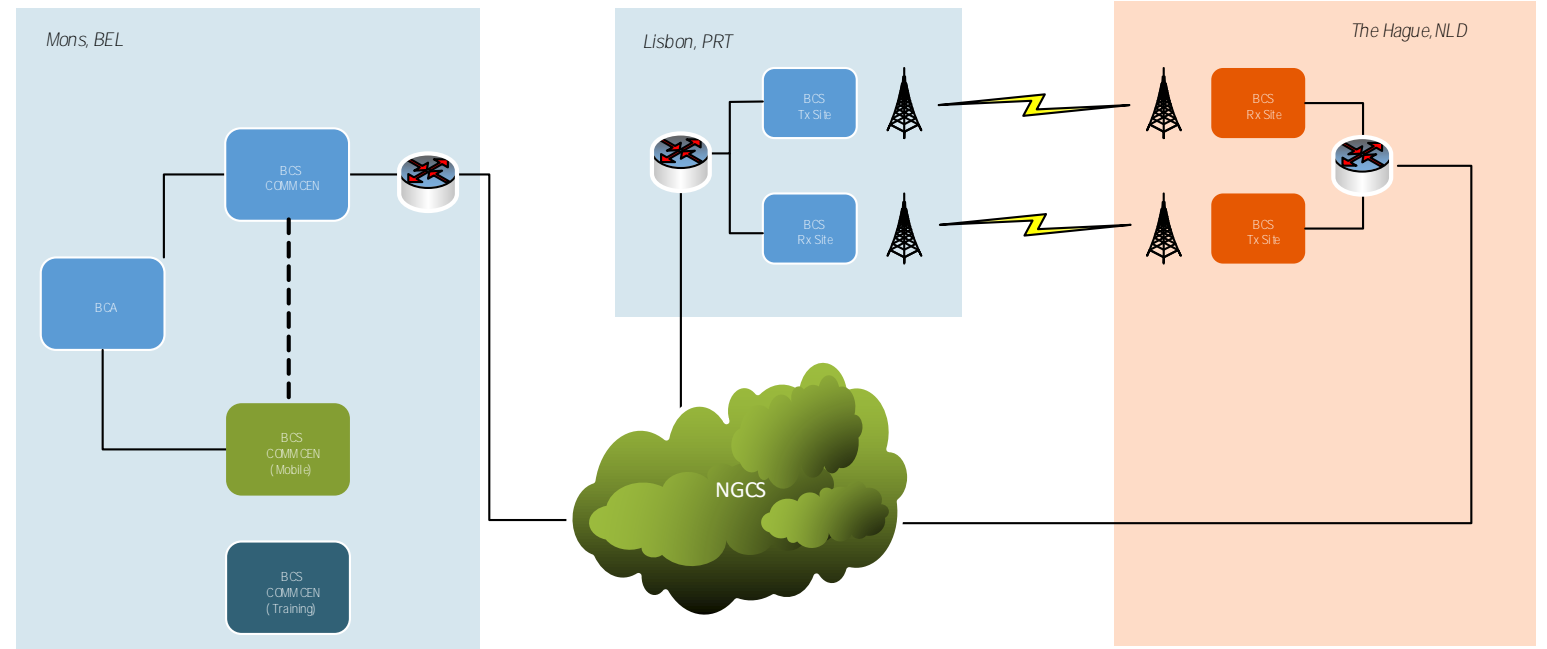
- **Over-the-air bearer management:** supervision, configuration and control of radio and network assets to establish and maintain HF bearers.
- **Data link management:** media-access definition; error-control and adaptive data rate monitoring and parameter adjustment; and quality of service management, through service priority assignment. Essentially, it is performed over the several layers parameters of STANAG 5066 protocol.
- **Operational Network Management:** provide the capability for maritime platforms to connect to BCA via different BCS (mobility)
- **Security management:** is out of the scope.



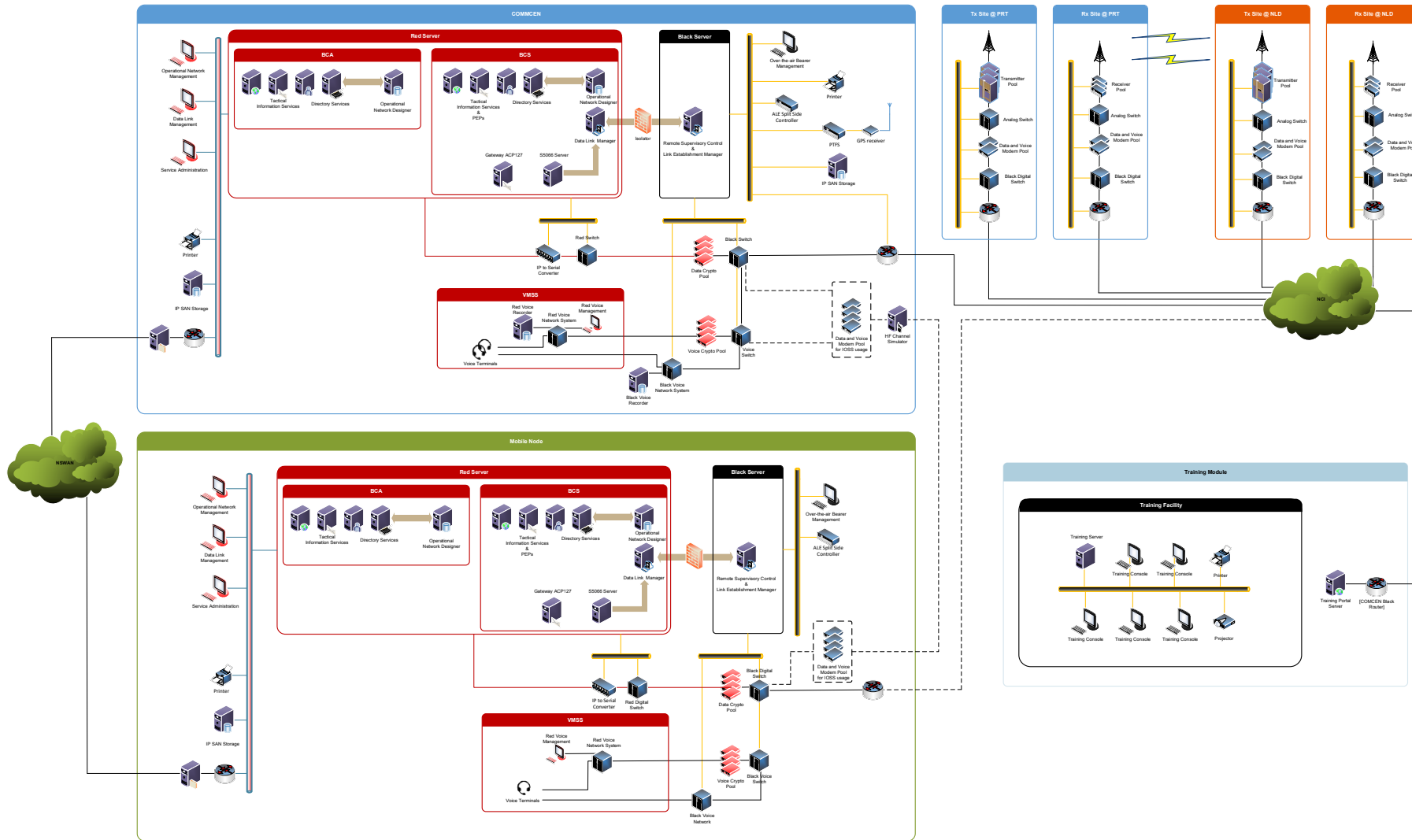
STIV-RMD

Scope

- Hardware and installation;
- Integration of BRIPES
- Training package

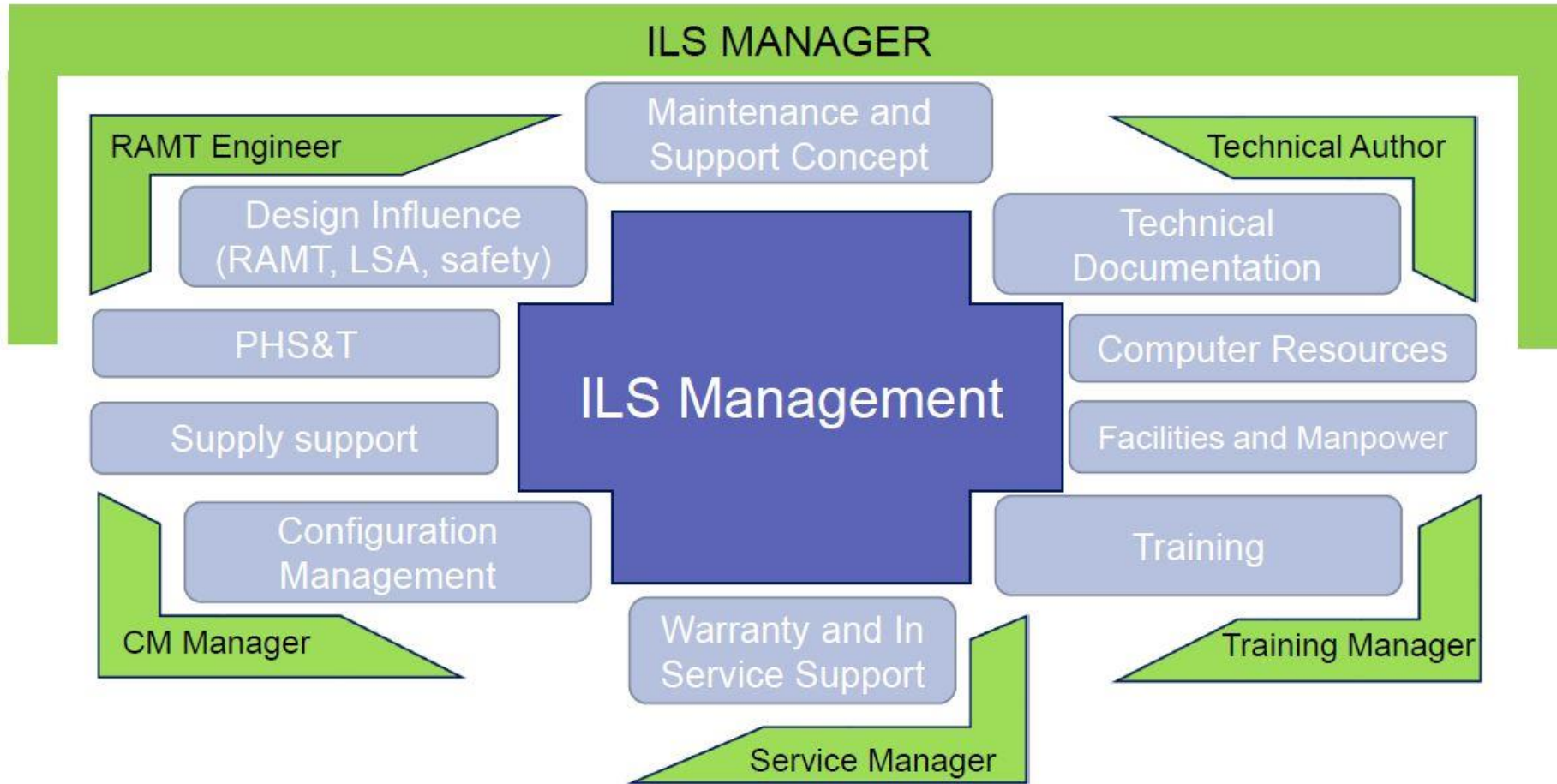


STIV-RMD Architecture



Supportability

Supportability Area



Supportability Area

- Integrated Logistic Support (ILS)
- Configuration Management (CM)
- Quality Assurance (QA)

Integrated Logistic Support Plan (ILSP) 1/3

Contractor's approach, plans and contents to be included for *each logistic element's tasks and reports* (acquisition phase and warranty) for:

- Organization, processes, tools, roles, responsibilities, planning and scheduling (relation to Project Master Schedule) for acquisition, warranty and in-service phase (i.a.w. CLS Plan).
- Reliability Availability Maintainability and Testability (RAMT):
 - RAMT Case Report
 - FMECA Report

Integrated Logistic Support Plan (ILSP) 2/3

- Logistics Support Analysis (LSA) including Logistic Data and Supply Support:
 - LSA with database
 - Design for HL/SL1,2,3 support (e.g.: manpower and personnel, supply support, facilities)
 - Maintenance Plan
 - RSPL, RCIL, Provisioning conference, Codification
 - System Inventory, Codification
 - Initial Provisioning: recommended spare parts, consumables, tools and test equipment

Integrated Logistic Support Plan (ILSP) 3/3

- Packaging Handling Storage and Transportation (PHST),
- Parts Obsolescence Management:
 - Diminishing Manufacturing Sources (DMS) Report
- Technical Publications Development,
- Training:
 - Training documentation
 - Training Needs Analysis
 - Syllabus

Contractor Logistic Support Plan (CLSP)

Contractor's approach for *in-service support phase*

- Organization, processes, tools, roles, responsibilities, planning and scheduling
- Service Management and Process Improvement
- Engineering Support
- Material (Supply Chain) Management
- Maintenance Activities and Field Services

Configuration Management Plan (CMP)

Contractor's approach for *each configuration task* (acquisition phase and warranty):

- Organization, processes, tools, roles, responsibilities, planning and scheduling,
- Procedures for:
 - Configuration identification and Documentation,
 - Baselines, Configuration control, Change request Process,
 - Configuration Status Accounting,
 - Configuration Audits and Reviews.

Quality Assurance Plan (QAP)

Contractor's approach for *each quality assurance task* (acquisition phase and warranty):

- Organization, processes, tools, roles, responsibilities, planning and scheduling,
- Procedures for:
 - Requirements analysis, design, development, production, installation, test, acceptance, certification, support,
 - Defects and corrective actions,
 - Reviews and audits including subcontractor management.