AMD 4 Summary of Changes DOC – Attachment A to Cover Letter

Book I Bidding Instructions v1.3 AMD4 20160122

1.1. Bid Delivery and Bid Closing

1.1.1. All Bids shall be in the possession of the Purchaser at the address given below on/or before 14.00 hours (Brussels Time) on ~~26 January 2016~~ **19 February 2016**, at which time and date Bidding shall be closed.

3.6.2. Engineering Approach:

3.6.2.2.5. {Deleted}.~~The Bidder's SDS shall provide details on the optimizations to the solution for lowering the overall Total Cost of Ownership (TCO) of the NCI while still complying with all requirements in this IFB.~~

4.2. Best Value Award Approach and Bid Evaluation Factors

4.2.6. The scores obtained on these criteria shall be aggregated through the formula specified in paragraph ~~Error! Reference source not found.~~ 4.2.4 in order to obtain the overall score of each bid.

4.3. Evaluation Procedure

4.3.1.2.1. In Step 2 Bids will have their Technical Proposals evaluated against predetermined top-level criteria and identified sub-criteria (see paragraph ~~Error! Reference source not found. Above~~ 4.5 below), and scored accordingly. This evaluation will result in "raw" or unweighted technical scores against the criteria.

4.5. Evaluation Step 2 - Technical Evaluation

4.5.2.5.8. NCI Service Area Engineering Group (NSEG) NATO Embedded Contractor Team (NeCT).

4.5.2.5.9. On-site Support Engineers.

4.5.2.5.10. Training Manager.

4.5.2.5.11. Test Director.

4.5.2.5.12. Senior ILS Engineer.

4.5.2.5.13. Quality Assurance Manager.

4.5.3.2. The Bid provides a draft System Design Specification (SDS). This draft SDS shall be in accordance with the requirements as described in paragraph 3.4.5 of the SoW. The SDS is a critical part of the Bid evaluation. The Bidder's SDS submission shall serve as the Bidders demonstration of his understanding of the NCI requirements and will facilitate the evaluation of the maturity of the proposed technical solution. Apart from meeting all the requirements and the level of maturity, the draft SDS will also be evaluated against how concise and clear the SDS is written. Non-relevant information, non-functional duplicated information or any information directly copied from the IFB will negatively influence the scoring. The SDS, excluding its Proof of Concept (PoC) Platform Design Specification (P~~S~~DS), ~~and~~ Reference and Testing Facility Design Specification (RTDS), Reference Sensor Placement Design (RSPD) and Requirements Traceability Matrix (RTM) annexes (see below for PDS), does not exceed 100 pages. Any system drawings are included in an annex and do not count against the submitted page count.

~~4.5.3.2.5. {Deleted}. The Bid SDS provides details on the optimizations to the solution for lowering the overall Total Cost of Ownership (TCO) of the NCI while still complying with all requirements in this IFB.~~

4.6. Evaluation Step 3 - Price Evaluation

4.6.3.2. The **Evaluated Bid Price** to be inserted into the formula specified at paragraph ~~Error! Reference source not found.~~ 4.6.6 will be derived from the Grand Total of **CLINs 1 to 7, including Evaluated Options CLIN 8.**

4.6.4.1. Bidders are responsible for the accuracy of the price quotation provided. In case of inconsistencies between different parts of the bidding sheets and notwithstanding the possibility for the Purchaser, at its sole discretion, to resort to the clarification procedure described at paragraph, for the purpose of determining the bid price subject to evaluation as per paragraph hence computable in the Best Value bid via the application of the formula at paragraph ~~Error! Reference source not found.~~ 4.6.6 the following descending order of precedence will be applied:

4.7. Evaluation Step 4 – Calculation of Best Value Scores

4.7.1. Upon conclusion and approval of the Price Evaluation results, the pre-determined weighting scheme for the Technical Evaluation will be unsealed and the scores for the Engineering, Management, Supportability, and Risk factors will be calculated for each compliant Bid. Then all partial scores will be fed into the formula stated in paragraph ~~Error! Reference source not found.~~ 4.2.4 in order to obtain the Best Value Score of each Bid.

Book I Part II Contract Special Provisions v1.2 20160122

13 KEY PERSONNEL

13.1

POSITION	NAME
Project Manager	
Deputy Project Manager	
Technical Lead	
System Design Engineer	
CIS Security Manager	
System Implementation Manager	
Site Installation Team Leader	
NESG NATO Embedded Contractor Team (NeCT)	
Training Manager	
Test Director	
Senior ILS Engineer	
Quality Assurance Manager	

21 LIQUIDATED DAMAGES

21.5 Liquidated damages shall be payable to the Purchaser from first day of delinquency in achieving the specified Major ~~Performance~~ Payment Milestones and shall accrue at the rate specified in paragraph 21.2 to a maximum of Fifteen Per Cent (15%) of the applicable payment for the milestone.

SoW - Core Document v1.3 AMD 4 – 20160122

3.4.5 System Design Specification (SDS)

SD-127 The SDS shall contain an Annex covering the detailed description of the proposed Proof of Concept Platform. This is referred to as the PoC Platform Design Specification (PDS, refer to § 3.4.5.1).

Table Error! No text of specified style in document.**-1** System Design Specification - Documentation Delivery sequence

Deliverable	Remarks
Draft SDS	1st revision of the Bid SDS
SDS Final Draft 1	Follows and takes into account the results of the Configuration Capturing sessions (as covered in the CCR) and SSR-1. This document is the subject of CDR at PRM-1. This document contains the first versions of the ~~PDS,~~ RTDS, RSPD, and RTM.
SDS Final Draft 2	Follows and takes into account the changes resulting from CDR, the PoC platform implementation and SSR-2 and SSR-3. The document is reviewed at PRM-3. The design in this revision is used to configure the PoC platform in support of the PoC testing.
SDS Final Draft 3	Follows and takes into account the changes resulting from the PoCT (as covered in the PoCT report) and SSR-4. This document is the subject of FDR at PRM-5.
Final SDS	Follows and takes into account the changes resulting from FDR. The document is reviewed at PRM-6.

3.5 Requirements and Test Case Management

[201] {Deleted}. ~~It is recommended that the Contractor imports all the project execution related requirements (and informational statements) contained in the SoW and its~~

~~Appendices on to DOORS (one separate module per SoW section), for tracing compliance and enabling compliance reporting in the Bid.~~

SD-216 {Deleted}. ~~The Contractor shall provide samples of formatted DOORS exports as part of the bid for the Purchaser to assess their suitability as formal documentation deliverables.~~

5.6 Sites Installation Sequence

SI-184 The Sites Installation sequence shall involve ~~three~~two initial installations, followed by four Waves, leading to the full complement of 73 sites (20 Large Nodes and 53 Small Nodes), as follows:

(1) Installation of the central network and crypto management infrastructure subsystem and all the other NCI subsystems in Casteau/Mons (NOC + Data Centre), ~~Brunssum~~The Hague (NOC) and ~~Castlegate~~Lago Patria (Data Centre);

(2) Wave 1 installations: 14 sites (7 Large Nodes, 40 G, and 7 Small Nodes, 5G);

(3) Wave 2 installations: 10 sites (8 Large Nodes, 40G, and 2 Small Nodes, 5G);

(4) Wave 3 installations: 23 sites (1 Large Node, 40G, and 22 Small Nodes, 5G);

(5) Wave 4 installations: 23 sites (1 Large Node, 40G, and 22 Small Nodes, 5G);

5.6.1 Network Operations Centres (NOC)

SI-192 The Contractor shall start the Site Installation sequence with the installation of the two sites acting as primary (Mons) and alternate Network Operations Centres. As part of the continuous improvement of the Purchaser's business processes and quality in its service provisions, considerations are being investigated placing the alternate NOC in The Hague (NLD) ~~(Mons and Brunssum), as per the table below~~. The table 5-2 below includes Mons as the primary NOC, The Hague as the anticipated alternate NOC, and ~~Castlegate~~ Mons and Lago Patria, as the site~~s~~ hosting the IT infrastructure ~~of Brunssum~~ for both NOCs. The final decision on considerations is being finalized. However, the Contractor shall be prepared to fall back to the original alternate NOC location in Brunssum (NLD), with its respective IT infrastructure in Castlegate (DEU); consequently exchanging the order of affected sites with wave 1.

Table 5 2 NCI Network Operations Centre (NOC) Locations (3 sites)

Nation	Location	Operational Entity	LTX tier	Capacity	PABX	NDN
BEL	Mons	ACO HQ, CIS Group HQ, NAEW&C FC, NCIA	CORE	40G	-	X
NLD	~~Brunssum~~ The Hague	~~JFC HQ~~ NCI Agency	~~DISTRIBUTION~~ ACCESS	40G	~~X -~~	~~X -~~
~~DEU~~ ITA	~~Castlegate~~ Lago Patria	~~ACO Bunker~~ JFC HQ	CORE	40G	-	X

5.6.2 Wave 1

Table 5 3 NCI locations for Wave 1 (14 sites)

Nation	Location	Operational Entity	LTX tier	Capacity	PABX	NDN
BEL	Brussels	NATO HQ IMS/IS, NSO, NSTO-OCS, NCIA	CORE	40G	-	X
BEL	Kester	SGT F01	SATCOM	5G	X	-
DNK	Karup	NATO PoP	DISTRIBUTION	5G	-	X
FRA	Lyon	NATO PoP	DISTRIBUTION	5G	-	X
GBR	Northwood	MARCOM	DISTRIBUTION	40G	-	X
GRC	Athens	NATO PoP	DISTRIBUTION	5G	-	X
~~ITA~~ DEU	~~Lago Patria~~ Castlegate	~~JFC HQ~~ ACO Bunker	CORE	40G	-	X
ITA	Lughezzano	SGT F14	SATCOM	5G	X	-
ITA	Sigonella	AGS	DISTRIBUTION	40G	X	-
NLD	~~The Hague~~ Brunssum	~~NCI Agency~~ JFC HQ	~~ACCESS~~ DISTRIBUTION	40G	~~- X~~	~~- X~~

Nation	Location	Operational Entity	LTX tier	Capacity	PABX	NDN
TUR	Izmir Disko Hit	Bunker + NCI Agency PoP	DISTRIBUTION	5G	-	-
TUR	Izmir Gen. Vecihi	LANDCOM, 3 NSB DCM-F	DISTRIBUTION	40G	-	-
TUR	Oglananasi	SGT F13	NONE	5G	X	-
USA	Norfolk	ACT HQ	DISTRIBUTION	40G	X	X

6.6.1 PSAT Scope

ST-51 Alpha Testing, excluding the 72-hour soak test, shall occur over limited time windows, as follows:

[340b] A combined successful outcome of the Alpha Test, including the subsequent 72-hour soak test, is a prerequisite to initiate Beta Testing.

7.2 Purchaser Cut-over and OpEval Plan (PCOP)

[~~365~~360a] The Subscribers Migration activities are ultimately directed by the Purchase Cut-over and OpEval Plan (PCOP). The Purchaser uses the Subscribers Migration Plan (SMP), developed by the Contractor, to develop the PCOP.

Appendix 9 Purchaser Furnished Equipment (PFE)

9.2 PFE List

Table **Error! No text of specified style in document.**-2 PFE List

Equipment	NCI Subsystem	Location	Qty	CCI
Thales TCE-621/A	CCA	NCI Sites	73	yes
Thales TCE-621/B	CCA	NCI Sites	97	yes
Thales TCE-621/C	CCA	NCI Sites	128	yes
Thales TCE-671	PCA	Mons	1	Yes

Equipment	NCI Subsystem	Location	Qty	CCI
SMC				
Thales TCE-621/A	PoCT Platform	Mons, Reference & Testing Facility	4	yes
Thales TCE-621/B	PoCT Platform	Mons, Reference & Testing Facility	4	yes
Thales TCE-621/C	PoCT Platform	Mons, Reference & Testing Facility	16	yes
Thales TCE-671 SMC	PoCT Platform	Networked from IP crypto IP reference in Mons	1	yes
Sourcefire 3D8250	PoCT NCIRC FOC	Mons, Reference & Testing Facility	2	no
Sourcefire 3D8130	PoCT NCIRC FOC	Mons, Reference & Testing Facility	2	no
Sourcefire 3D8120	PoCT NCIRC FOC	Mons, Reference & Testing Facility	2	no
Stacking cable set to form a Sourcefire 3D8260 from the 2x 3D8250	PoCT NCIRC FOC	Mons, Reference & Testing Facility	1	no
netmod 1G copper for Sourcefire	PoCT NCIRC FOC	Mons, Reference & Testing Facility	2	no
netmod 1G fibre for Source fire	PoCT NCIRC FOC	Mons, Reference & Testing Facility	4	no
netmod 10G fibre for Sourcefire	PoCT NCIRC FOC	Mons, Reference & Testing Facility	2	no
VPN Concentrator for NCIRC FOC elements	PoCT NCIRC FOC	Mons, Reference & Testing Facility	1	no
Defence centre Sourcefire element manager	PoCT NCIRC FOC	Mons, Reference & Testing Facility	1	no
Associated licencing and manufacturer support NCIRC FOC.	PoCT NCIRC FOC	Mons, Reference & Testing Facility	lot	no
BPD (Self Protecting Node firewalls) between the NU CCA and the NU MMA	NU MMA/CCA	NCI Sites, part of existing site infrastructure	lot	no
End-user Access LAN switches (ex. LAN Cabling)	NU MMA	NCI Sites	Lot	no

Equipment	NCI Subsystem	Location	Qty	CCI
Building Distribution LAN switches (ex. LAN Cabling)	NU MMA	NCI Sites	Lot	no
Campus LAN switches (ex. LAN Cabling)	NU MMA	NCI Sites	Lot	no
workstation with MS Windows 10	NR Management subsystem	Primary NOC	11	no
workstation with MS Windows 10	NS Management subsystem	Primary NOC	11	no
workstation with MS Windows 10	NR Management subsystem	Secondary NOC	5	no
workstation with MS Windows 10	NS Management subsystem	Secondary NOC	5	no
workstation with MS Windows 10	NR Management subsystem	NCI locations; as, where and when needed at Purchaser discretion	lot	no
workstation with MS Windows 10	NS Management subsystem	NCI locations; as, where and when needed at Purchaser discretion	lot	no

Appendix 10 List of Abbreviations

PDS Proof of Concept (PoC) Platform Design Specification

RSPD Reference Sensor Placement Design

RTDS Reference and Testing Facility Design Specification

SRS - Core Document v1.3 AMD 4 – 20160122

3.9.3 IP Addressing

[SYS-222] The NCI design and implementation shall support the reconfiguration of ~~all~~ the communications interfaces IP_{ROUTED}, PCN-1, PCN-2, LAN_{EXT}, SIP_{IF}, SIOP-2, and SIOP-5 to operate at:

Appendix 1 Quality and Class of Service (QoS/CoS)

1.3.4 Military Precedence

[158] The military precedence of an IP traffic flow is referred to as “multi-level precedence” (MLP) or “military precedence level” (MPL). MLP and MPL are used interchangeably.

SRS – Annex A Protected Core Access subsystem v1.1 AMD 4 – 20160122

3.1.1.2 Interoperability interfaces (PCN-1 and PCN-2)

[PCA-64] At NCI 100M locations and at NCI 1G locations the PCA shall be provisioned with 4 PCN interfaces.

3.1.1.3 Infrastructure interfaces (Bref)

[PCA-70] The value of M, N and O, for NCI locations where the LTX tier is ACCESS, SATCOM and NONE + NCI 100M + NCI 1G Locations shall be:

3.3.3.3 Infrastructure function (Bref)

[PCA-139] The Infrastructure function shall implement queuing and QoS aware routing based on the Aggregated Transmission Class principle, such that the NCI end-to-end IP packet forwarding performance requirement is supported in accordance to Appendix 1 “Quality and Class of Service (QoS/CoS)” of the SRS Core document ~~Table 4 “[DSCP] to (SBC, MLP and ATC) TP mapping specification”~~.

[PCA-150] The End-to-End route shall be optimised in order to meet the SLA performance targets as listed in Appendix 1 “Quality and Class of Service (QoS/CoS)” of the SRS Core document ~~Table 5 “End-to-End performance targets per Aggregated Transport Class (ATC)”~~ Table A1.3 End-to-End performance targets per Transport Performance (TP).

SRS – Annex C Multimedia Access subsystem v1.3 AMD 4 – 20160122

2.2.1.7.1 Call routing

[MMA-132] {Deleted} ~~For calls within a site, the calls shall be routed internally to the site through the Media Aggregation function (§ 2.2.1.2).~~

[MMA-133] For calls entering or leaving a site, the calls (signalling and media) shall be routed through the Media Aggregation function (§ 2.2.1.2) and the PFE Boundary Protection Device (BPD).

3.3.4 DTMF relay protocol requirements

[MMA-265] The MMA subsystem shall support the transmission of Dual-tone multi-frequency [DMTF] signalling according through:

(1) [RTP payload for DTMF] digits in accordance with [RFC4733:2006].; and

(2) {Deleted} ~~Key Press Mark-up Language [KPML] in accordance with [RFC4730:2006].~~

3.6.4 Fax Service performance

3.6.4 {Deleted} ~~Fax Service performance~~

[112] {Deleted} ~~This paragraph specifies the performance requirements for the on-ramp and off-ramp gateways used for the Fax-to-Email and Email-to-Fax services. No additional non-functional requirements are specified for the traditional fax over IP function.~~

[MMA-362] {Deleted} ~~The on-ramp gateway shall generate an email with the content of the fax within 90 seconds after the fax has been received.~~

[MMA-363] {Deleted} ~~The off-ramp gateway shall initiate the connection with the remote fax within 90 seconds after the email with the fax is received.~~

[MMA-364] {Deleted} ~~Upon busy, the off-ramp gateway shall retry the connecting with the remote fax with regular intervals until the maxim number of retries is exceeded.~~

[MMA-365] {Deleted} ~~The off-ramp gateway shall forward the notification of reception received from the receiver to the sender the within 90 seconds after receiving it.~~

3.10.1.8 VoIP Media Stream Analysis

[MMA-438] Payload Metrics shall include a measurement of the Mean Opinion Score (MOS), as described in § 3.6.3.1, and measured as specified in [MMA-358].~~:~~

~~(1) Voice Audio Level;~~

~~(2) Signal to noise ratio;~~

~~(3) Noise Level;~~

~~(4) Echo Return Loss.~~

3.10.2 Network Management System

[MMA-442] Voice Services performance analysis shall measure:

(1) For VoIP the system shall measure the Voice Service performance metrics, as specified in § ~~.~~3.6.3 on a call-by-call basis;

(2) {Deleted} ~~For Fax the system shall measure the Fax Service performance metrics, as specified in § 3.6.4, on fax-by-fax basis;~~

(3) Utilization of systems;

(4) Utilization of circuits and trunks, including Call Admission Control utilization;

(5) Network status covering all relevant circuits and trunks;

(6) Voice Mail system and voice mail box utilization;

(7) Conference Bridge utilization; and

(8) Current and average Call Centre queue size, average waiting time, average time spent by an agent per client and call volume for the whole Call Centre and call volume per agent.

SRS – Annex D Management subsystem v1.1 AMD 4 – 20160122

3 NCI Management Organisational Elements

[16] The NCI will be managed by the Purchaser through the following NCI Agency organisational entities:

(1) Network Services & IT Infrastructure (NS&II) Service Line.

a) Under the Directorate of Infrastructure services the NS&II Service Line will provide Level 3 support to for the NCI services.

b) The NS&II Service Line owns the architecture/design and project implementation responsibility for the related service domain.

(2) Service Operations Centre (SOC), also referred to as Network Operations Centre (NOC).

a) Under the Service Operation Directorate, the SOC will be responsible for providing Level 1 & 2 support for the NCI services.

(3) CIS Support Units (CSUs).

a) Under the Service Operation Directorate the CSUs will be responsible for on-site end-user support for the NCI services.

(4) Independent Verification and Validation (IV&V) Service Line & Network Services & IT Infrastructure (NS&II) Service Line .

a) Under Directorate of infrastructure (DIS) the IV&V and the Network Services & IT Infrastructure (NS&II) Service Line will be responsible for the testing and acceptance activities of the NCI capability.

4 NCI DSMS Design Principles

[MNG-11] The DSMS design shall be optimised using the following architectural principles:

(1) Centralize the management and control of the NCI (teams using the DSMS client-side components) at two locations, the primary SOC (and NCI ESG) in Mons, Belgium and the alternate SOC is anticipated to be in ~~Brunssum~~ The Hague, Netherlands, while providing access at local and regional service desks and site support engineers (The server side components of the DSMS will be hosted in Mons and ~~Castelgate~~ Lago Patria);

5.1 Common Management Requirements

[MNG-33] Access to the NR DSMS and the NS DSMS shall be provided and implemented, at the following locations:

(1) Centrally from the primary and the backup management location, implementing the DSMS User Interfaces (§ 6.8.1) with PFE workstations imaged and baselined with the ITM workstation standard (PFE);

(2) Distributed from existing general purpose workstations (PFE) imaged and baselined with the ITM workstation standard (PFE), designated as management workstations, equipped with the necessary additional bespoke application/software (Contractor provided) to access the centralized DSMS, on

the user-LAN at any NCI node, through a [IPsec] Virtual Private Network (VPN) connection into the DSMS domain; and

(3) A local management port at each NCI node implemented through a dedicated laptop (Contractor provided and implemented) without build in storage, which shall boot from USB flash drive image that is implemented using the ITM standard image (the standard ITM image is PFE, the implementation and adaptation for USB boot is implemented by the Contractor), with all necessary tooling (Contractor provided and implemented) to provide on-site fault finding and service restoration when the NCI node or subsystem is isolated.

[19a] The PFE element of the workstations, described in [MNG-33](1) and [MNG-33](2) above, is limited to computer hardware and operating system only. Any additional bespoke application/software necessary to access the DSMS User Interface (§ 6.8.1) is Contractor provided and implemented.

[19b] The ITM standard image is PFE and is subject to definition by the ongoing ITM project. It is expected to use Microsoft Windows 10 and will include, and be subject to, the ITM antivirus and data loss prevention tooling to be defined. All workstations and laptops will be managed, including OS patching and antivirus, through the ITM services. Workstations ([MNG-33](1), [MNG-33](2)) fall under the ITM Active Directory for workstation sign on, etc.

6.1 Management Subsystem Capacity

[MNG-150a] The NCI shall implement capacity, including licenses, to support as a minimum 11 management workstations per security domain at each SOC; and shall implement sufficient capacity, including licenses, to support all DSMS and ESMS users (required in [MNG-150]) from a distributed location as required in [MNG-33](2) in both security domains.