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**On site Engineering Support for NEC CCIS upgrade – Magnum**

**PART III**

**SECTION B – TECHNICAL SPECIFICATIONS – STATEMENT OF WORK**

**IFIB-ACT-JWC-16-01**

# **Introduction**

NEC CCIS is a NATO owned Air C2 system currently funded by SHAPE and Norway, providing a wide spectrum of Air Command and Control (Air C2) operational functionality used for planning, reporting, tasking and execution of air operations from the Combined Air Operations Centre (CAOC) down to the Wing Operation Centre (WOC), Squadron Operation Centre (SQOC) and Surface Based Air Defence (SBAD) level. NEC CCIS is recognised for its comprehensive operational functionality and for its logistics support tools.

NEC CCIS has served NATO and nations for more than two decades, adapting to constantly shifting operational needs, and it supports air operations at more than 30 sites in NATO including NATO Airborne Early Warning & Control Force Command and Component (NAEW&C FC and C), Estonia, Iceland, Lithuania and Norway. Within the nations, NEC CCIS is used at HQs, CRCs and air bases. During Operations, NEC CCIS can be deployed to the forward operating locations using the NEC CCIS deployable kit. To ensure interoperability within the NATO Air Command & Control Structure, a NEC CCIS – ICC gateway (NISI) is used to interface NEC CCIS sites with ICC at CAOC Uedem, CAOC Torrejon and AIRCOM Ramstein. NEC CCIS is used by NAEW&C in Geilenkirchen (DEU) to support the E-3A Component, in Mons (BEL) to support Force Command, and Waddington (GBR) to support the E-3D. In addition to these operating locations, NEC CCIS has a test-bed located at NATO Programming Centre in Glons (BEL).

# **NEC CCIS architecture**

NEC CCIS has a three-tier client/server architecture with several supporting server side systems providing a wide range of data:

* Database: Oracle 11g RDBMS on SPARC Solaris.
* Application server: Proprietary legacy server, and WildFly application server; on SPARC Solaris.
* Client: Both Java and web clients operate against the server systems, running on Windows 7 workstations.

Each site has a full configuration of servers and clients, allowing for operations even in the case of loss of network connectivity. The sites are connected via database replication between the Oracle database, allowing for sharing data updates across sites.

NEC CCIS also supports a range of interfaces, such as recognised air and maritime picture, meteorology, flight plans, missile warnings, military messaging. NEC CCIS can also exchange data with other NATO systems such as ACCS and ICC.

# **Contract scope**

# JWC is seeking on-site engineering support for developing an enterprise type JavaScript application, complementing the existing NEC CCIS client/server solution. The new client is based on the ExtJS javascript framework. The existing Java client is form-based, and the user interface is specified using SANTOS, an in-house (4G) tool. As part of this task, SANTOS shall be updated to create content for the new JavaScript application. Bidder personnel will benefit from experience with the air domain, but the task does not involve building the actual business logic and business user interface.

# The work is part of an overall effort to modernize the NEC CCIS system architecture. The work detailed here will be carried out in parallel with other efforts to migrate parts of the system. The end goal is to consolidate on a JEE platform for the middleware, with a web client initially complementing and eventually replacing the current Java desktop client. The effort is seen as a refactoring in that the business requirements must be met throughout the process.

# Engineering support skills required include JavaScript, preferably ExtJS, as well as the Java language and the Java EE framework in order to build functionality on both the server and client tiers.

Bidder personnel will become part of the software development group located at the NEC CCIS SSC. Guidance on the existing systems and the desired qualities on the replacing systems will be given, but bidder's personnel must be able to plan, design and implement the work with a high degree of independence.

# **Bidder personnel**

This bid calls for development resources in different areas. It is therefore required that the company can provide several candidates (minimum 2), in order to meet the requirements.

The bid shall include a short application resume (Part I Annex C) for each candidate based on tasking’s identified below in “Bidder Personnel Experience”.

# **Bidder personnel experience**

The Bidder personnel must be experienced with Javascript, preferably ExtJS, as well as with JEE in order to build functionality on both the server and client tiers. The candidates must be able to plan and work independently. The personnel offered to cover this contract will be evaluated based on their experience in the following areas:

* Excellent team-building communicating skills
* Collaborate with other long-term and short-term contracted personnel and military subject matter experts
* Ability to work as a part of a multi-national civilian and military team
* Air command and control.
* Design, documentation and test.
* Java 8 and JEE 7.
* Design and implementation of user interface of the client application framework in general, with a mind to the user experience of the system.
* Web technologies (HTML5, CSS, SASS, JavaScript, Websockets) and web user interaction paradigms.
* ExtJS JavaScript framework. Extend existing ExtJS components (or develop new), to implement requirements not met in the framework.
* Develop supporting server-side functionality using JEE.
* Unit test and automated testing of web applications.

The bid shall describe how the competence requirements above are covered by the personnel put forward in the bid. Evidence of required experience must be shown in Part I – Annex C Resume Format.

# **Security**

Be able to obtain, by start of contract, a valid and active NATO Personnel Security Clearance Certificate valid for, up to and including, NATO Secret.

# **Location**

All Bidder’s personnel covered by the contract will normally be working at NEC CCIS SSC Kolsås, Norway. Short term assignments/travel may be required when working, and will be covered in accordance with Part II – Section A – General Terms & Conditions paragraph 14, page 8.

# **Continuity**

It shall be possible to reduce or increase the effort provided by the Bidder according to the requirements for assistance at the SSC. This means that there may be periods where no support is required and others where more than one Bidder person is required. Such periods of manning down or up will be discussed with the Bidder and fair warnings will be given. The Bidder shall include the required notice period for changes to staffing in the bid.

# **Estimated quantity of work**

The estimated quantity of work in this contract will not exceed 2100 hours in 2016, and 3400 hours in 2017. 2018 and 2019 are currently uncertain, but an estimation of one manyear per year may be applied. However, the total number of hours awarded will depend on evolving requirements, as well as budgetary limitations as a.

**Contract dates**

The duration of this contract is from May 2016 (As soon as possible in May, but not later than 30-May-16) to 31 December 2016, with possible three (3) yearly extension-options (1 January 2017 thru 31 December 2019). Notice of execution of the optional extension(s) will be provided in writing by the Contracting Officer no later than 60 (sixty) days before the contract expiration date.

This implies that the SUPPLIER is obligated to, but not entitled to, extension of the Contract on the terms and conditions stated herein.

# **Contract cost**

The bid must specify the cost per hour for the offered personnel and any administration cost.