


	Dubai International Airport Expansion AX 140 Special Airport Systems							
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System Subcontract Supplementary Scope of Work Structured Cabling Network System	PROJECT	AREA	SYSTEM	ACT	DOC	SEQ	REV	
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DUBAI INTERNATIONAL AIRPORT EXPANSION

AX140 Special Airport Systems

DOCUMENT TITLE :

**System Subcontract Supplementary Scope of Work
Structured Cabling Network System**

DOC. No. : 2-000-Y06-T-RQ-001

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1 - INTRODUCTION


1.1 - PURPOSE

This document describes additional and/or modified obligations of the System Subcontractor supplementary to those described throughout this Section III of the System Subcontract. For avoidance of doubt and clarity, in the case of a conflict or inconsistency (if any) with this Section III of the System Subcontract, this Supplementary System Subcontract Scope of Works document shall hold precedence over the contents of the remainder of this Section III. These supplementary conditions shall in no manner limit the remainder of System Subcontract Scope of Work and obligations as described with the System Subcontract. All conditions and obligations not specifically altered by this Supplementary System Subcontract Scope of Work document throughout the System Subcontract shall remain valid and unaltered.

1.2 - IDENTIFICATION OF THE PARTIES

For the purpose of this document the following terms shall have the following meanings:

- EMPLOYER means Department of Civil Aviation of the Government of Dubai, which is the Ultimate customer
- ENGINEER means DAR/ADPI, which is the consultant of the EMPLOYER
- MAIN CONTRACTOR means ALEC, which is AL JABER L.E.G.T ENGINEERING & CONTRACTING, responsible for the AX124 Project.
- NOMINATED SUBCONTRACTOR means THALES, which is the NOMINATED CONTRACTOR responsible for the AX140 Project.
- SYSTEM SUBCONTRACTOR: means the selected SYSTEM SUBCONTRACTOR of the subsystem.

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1.3 - REFERENCE DOCUMENTS

The SYSTEM SUBCONTRACTOR shall state the compliance with the following documents as reply to the RFQ

- 1) 16740 STRUCTURED CABLING NETWORK (Fibre to the Office/Outlet) FTTO
- 2) 16780 PTF Permanent Test and Training Facility
- 3) 16792 Extension & Integration of IT / SAS / ELV Interfaces
- 4) 01420 Reference Standards and Definitions
- 5) LIST OF SPECIAL AIRPORT SYSTEMS FOR SCN & WLAN DRAWINGS
- 6) POST TENDER QUERY NO. 01
- 7) POST TENDER QUERY NO. 02
- 8) POST TENDER QUERY NO. 03
- 9) POST TENDER QUERY NO. 04
- 10) POST TENDER QUERY NO. 05

In addition to the specifications listed above, the SYSTEM SUBCONTRACTOR shall take into account all the related specifications and drawings given in SECTION III- SCOPE OF SYSTEM SUBCONTRACT WORKS which are relevant to the subject system.

1.4 - ABBREVIATIONS

CCTV:	Closed Circuit Television
ELV:	Extra Low Voltage Systems
ALEC:	Al Jaber L.E.G.T Engineering & Contracting
MATV:	Master Antenna Television System
MEP:	Mechanical Electrical and Plumbing
SAS:	Special Airport Systems
SACS:	Security Access Control System
SCN:	Structured Cabling Network,
FTTO:	Fibre Terminated To Office
SCR:	Site Clarification Request
RS:	Radio System
PTTF:	Permanent Test & Training Facility
BIS:	Building Integration System,

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CNE: Computer Network Equipment,
 WDN: Wireless Data Network,
 PAS: Public Address System,
 MCS: Master Clock System,
 HITV: Hotel Interactive Television,
 FIDS: Flight Information Display Systems,
 IVT: Intercommunication Equipment - Vehicular Tunnel,
 GRCS: Guest Room Controller Systems,
 PTF: Permanent Test & Training Facility
 VoIP: Telephone Equipment

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2 - ADDITIONAL REQUIRMENTS

2.1.1 Compliance with standards

The SYSTEM SUBCONTRACTOR shall make available the data, or shall provide conformity declaration, in order to demonstrate that all electrical equipment and installation conform to the following standards:

- a. EN 61000-6-1 ed.2007
- b. EN 61000-6-2 ed.2007
- c. EN 61000-6-3 ed.2007

2.1.2 Cable Containments

SYSTEM SUBCONTRACTOR Scope is limited to the provision of design information in due time to allow the design and implementation of the cable containment by others.

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3 - SYSTEM DEPLOYEMENT

3.1 - MATERIAL

3.1.1 Bill of Quantity

The SYSTEM SUBCONTRACTOR shall define and quote detailed BoQ concerning SCN equipments based on and in full compliance with the reference documents. The attached BoQ has to be considered as a general indication to be reviewed, updated and validated by the SYSTEM SUBCONTRACTOR.

3.1.2 Spares

The Spare Part categories are defined as follows:

- Manufacturer recommended spare for the 2 years defect liability period
- Optional Spares.

3.1.2.1 MANUFACTURER RECOMMENDED SPARE FOR 2 YEARS DEFECT LIABILITY PERIOD

The SYSTEM SUBCONTRACTOR shall calculate and provide the spares required to support the 2 years Defect Liability Period (DLP). The SYSTEM SUBCONTRACTOR shall provide MTBF and MTR for supplied equipment.

These spares shall be included in the BOQ.

3.1.2.2 OPTIONAL SPARES

As an option the SYSTEM SUBCONTRACTOR shall calculate and provide 2% of all delivered items with minimum 1 spare. These spares shall be included in the BOQ as an option.

3.1.3 Special tools and test and diagnostic equipment

The SYSTEM SUBCONTRACTOR shall produce a list and quote, any special tools and test and diagnostic equipment that might be required in the installation, commissioning and maintenance phases.

For each measurement test equipment, the SYSTEM SUBCONTRACTOR must precise the constructor, reference of the equipment and main characteristics.

3.1.4 Delivery

The SYSTEM SUBCONTRACTOR is requested to provide quotation for DDU Dubai International Airport delivery (INCOTERMS 2000 or latest). The prices set out in vendor offers are fixed and firm for the total duration of this project and possible extensions thereof.

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The offer price shall be deemed to be inclusive of any taxes, duties and levies applicable or to become applicable outside the Territory (UAE).

As an Option the SYSTEM SUBCONTRACTOR is requested to provide quotation for Ex Works.

3.1.5 RAM requirement

Reliability: The SYSTEM SUBCONTRACTOR shall indicate the MTBF of each equipment and sub system and the method used (calculation or from experience);

Availability: The SYSTEM SUBCONTRACTOR shall indicate the system availability;

Maintainability: The SYSTEM SUBCONTRACTOR shall indicate the MTTR.

3.1.6 EMC requirement

The SYSTEM SUBCONTRACTOR shall make available the data needed to demonstrate compliance with appropriate EMC standards.

3.1.7 Environmental conditions

The SYSTEM SUBCONTRACTOR must be compliant with the Environmental conditions described in attached documents.

3.1.8 Goods Availability

The Supplier warrants that for a period of at least 10 years following the Warranty period, it will either repair or replace parts available to Contractor at fair and reasonable prices based on equivalent prices to other users.

If at any time after this 10-year but not more than 20 years the Supplier is unable or unwilling to do so or to supply spares that are equivalent in form, fit and function, it shall

- Notify product discontinuation with a 90 days notice
- Grant that the new product remains compatible or propose an alternative solution.

3.2 - SERVICES

3.2.1 Documentation and Design services

The SYSTEM SUBCONTRACTOR shall quote, provide, prepare and maintain all Technical documentation, required by the NOMINATED SUB-CONTRACTOR.

All documents are subject to approval by the NOMINATED SUB-CONTRACTOR and the EMPLOYER.

The preliminary list of documents to be delivered is described in paragraph 4 - of this document however the SYSTEM SUBCONTRACTOR shall provide any additional documents required to complete the full delivery of the system.

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The SYSTEM SUBCONTRACTOR shall confirm full adherence to this request.

The SYSTEM SUBCONTRACTOR shall utilize the latest version of Microsoft Office software including Access, Excel and Word and other associated software. For drawings it is required to use AUTOCAD software version 2009.

All documents have to be written in English unless otherwise specified.

Thales will inform the SYSTEM SUBCONTRACTOR successively regarding the correct document coding.

For further details regarding the typology of documentation and number of documents please refer to section 1.5 of 1).

3.2.2 Material/Equipment Certification

The SYSTEM SUBCONTRACTOR shall provide Certification to demonstrate fulfilment of the International Codes and Standards as required by document 1) and section 2 - above.

3.2.3 Factory Acceptance Tests

Factory tests shall be performed at the SYSTEM SUBCONTRACTOR's Premises for all the equipment supplied by the SYSTEM SUBCONTRACTOR.

All tests shall be performed in accordance with written test procedures that shall be submitted to NOMINATED SUB-CONTRACTOR for approval prior to testing.

All equipment and materials shall be tested in accordance with the applicable Specifications and code requirements as appropriate.

The SYSTEM SUBCONTRACTOR shall provide complete reports of all tests undertaken.

The Factory Acceptance Test (FAT) shall include the testing and acceptance of both hardware and software systems. The SYSTEM SUBCONTRACTOR shall develop and produce a series of FAT procedures covering the single equipment and the system in a representative architecture.

Each FAT will check all aspects of the hardware, operating software, application software, communications, redundancy testing and interface testing of the other communication systems. All inputs and outputs shall be simulated during the FAT if not available.

The FAT procedures shall be submitted to Contractor for review / approval prior to the commencement of the FAT. The FAT procedures shall include "pass/fail" criteria.

Contractor and Employer representative upon the successful conclusion of testing shall sign off the FAT result forms. Following completion of the FAT the SYSTEM SUBCONTRACTOR will issue complete reports of all tests undertaken.

The SYSTEM SUBCONTRACTOR shall notify 8 weeks in advance of start of each FAT, in order to enable mobilization of personnel. In the notification the SYSTEM SUBCONTRACTOR shall indicate the precise period and location address for FAT. A detailed FAT schedule shall be provided at this time. This will indicate his manning levels, and the number of parallel testing fronts he proposes. This shall generally correlate with the overall schedule.

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Prior to the start of each FAT, Contractor reserves the right to conduct a pre-FAT inspection and test of the system to be tested to ensure that it is ready for FAT.

During FAT the system shall be made available for sufficient periods to verify satisfactory performance.

SYSTEM SUBCONTRACTOR shall be responsible for rectifying any faults/mistakes/omissions discovered during the course of the FAT, and the SYSTEM SUBCONTRACTOR shall be considered responsible for the schedule impact.

Backups of the system software and configurations shall be made during and at the end of the FAT (if applicable).

A copy of the signed off FAT procedures and related printouts shall be furnished to FAT representatives.

The SYSTEM SUBCONTRACTOR's representative who will carry on FAT activities shall be fluent in English.

3.2.4 System Staging

The SYSTEM SUBCONTRACTOR is to provide assistance for staging of the system off site to confirm system configuration and operation in a controlled environment independent of site availability and conditions. System staging can be a subset of the full system as long as all system configurations are demonstrated. Staged equipment may be used in conjunction with the PTF to meet the System Integration requirements specified in the referenced document in section 3) above.

3.2.5 System Integration & PTF Platform

The SYSTEM SUBCONTRACTOR is responsible for providing assistance to ensure proper functionalities of the interface of its equipment/systems with the others equipment/systems supplied by NOMINATED SUB-CONTRACTOR or third parties. Interface requirements will be detailed by the NOMINATED SUB-CONTRACTOR, the SYSTEM SUBCONTRACTOR and third parties during detailed design phase. The SYSTEM SUBCONTRACTOR shall make available qualified and experienced engineers in providing this technical assistance and support.

In order to test the proper functionalities of the integrated system the SYSTEM SUBCONTRACTOR shall provide assistance on setup an integrated systems platform at NOMINATED SUB-CONTRACTOR premises, representative of the systems and in accordance with specification 16780, Permanent Test and Training Facility. The NOMINATED SUBCONTRACTOR shall carry out the necessary technical activities for at least the following:

- To test proper functionalities of each interface with all the other systems in the platform
- To test proper functionalities of the fully integrated systems functions as specified in document 3) specification 16792, Extension & Integration of IT / SAS / ELV Interfaces

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- To detect and solve all potential technical problems and de-risk on-site testing.

3.2.6 On site activities

Specialist technical Supplier activities are required during construction, installation, commissioning and start up.

On site activities Scope of Work includes:

- Construction Supervision
- Installation
- Complete Testing, Pre-commissioning, Commissioning and Start up requirements
- Assistance to NOMINATED SUB-CONTRACTOR's technicians for Testing, Pre-commissioning, Commissioning and Start up.

SYSTEM SUBCONTRACTOR shall ensure that all special equipment and tools are available during construction, pre-commissioning and commissioning periods.

The SYSTEM SUBCONTRACTOR shall make available qualified and experienced engineers to support the on site activities.

Following the approval of the SYSTEM SUBCONTRACTOR personnel Curriculum Vitae by NOMINATED SUB-CONTRACTOR prior to any mission on site, the former will remain fully responsible for all logistic arrangements of its personnel in Dubai (Entry visa, hotel accommodation, transport in land and by air, allowances, medical assistance, etc....)

3.2.7 Warranty and Maintenance of the equipment

The SYSTEM SUBCONTRACTOR is to quote and provide Warranty in accordance with the specific conditions detailed in section 1.3 above and in particular with reference to document 16740 STRUCTURED CABLING NETWORK (Fibre to the Office/Outlet) FTTO

The SYSTEM SUBCONTRACTOR is to quote as option service of preventive and curative maintenance with SLA in accordance with the referenced documents in section 1.3 - and specific conditions detailed in section 2 - above.

3.3 - DETAILED STATEMENT OF COMPLIANCE

The SYSTEM SUBCONTRACTOR shall provide the NOMINATED SUB-CONTRACTOR with a detailed point-to-point Statement of Compliance, reporting all the requirements indicated in the reference documentation.

For each requirement the SYSTEM SUBCONTRACTOR shall declare full compliance. In case of non-compliance and/or partial compliance the SYSTEM SUBCONTRACTOR shall give full details about the discrepancy and its impact on the system.

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Statement of Compliance has to be provided as in the attached example

Refer to SECTION III SCOPE OF SYSTEM SUBCONTRACT WORKS\C.2 Particular Amendments to DCA Specifications).

The offer (proposal) will not be taken into account in case of missing of the above-mentioned point-to-point Statement of Compliance.

4 - LIST OF DELIVERABLES

The SYSTEM SUBCONTRACTOR shall provide the following list of deliverables.

- Equipment Data Sheet
- Detailed BoQ & Recommended Spare Parts
- FAT Procedure
- FAT Report
- Operational & Maintenance Manuals (in both languages Arabic and English)

All the documents will be subject to EMPLOYER and NOMINATED-SUBCONTRACTOR approval.

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5 - RESPONSIBILITY SPLIT BETWEEN NOMINATED SUB-CONTRACTOR AND SYSTEM SUBCONTRACTOR


5.1 - RESPONSIBILITY MATRIX

The following summarizes the various activities in relation to the Work that are the responsibility of the NOMINATED SUB-CONTRACTOR or the SYSTEM SUBCONTRACTOR

- The SYSTEM SUBCONTRACTOR shall be responsible for the equipment/material supply and associated services (including FAT and shipment to Dubai)
- The SYSTEM SUBCONTRACTOR shall be responsible for Manuals.
- The NOMINATED SUB-CONTRACTOR shall be responsible for testing in validation platform; in any case the SYSTEM SUBCONTRACTOR shall provide the necessary assistance to ensure the proper functionalities and to interface its equipment/systems with the others equipment/systems supplied by Contractor or third parties.

For details regarding the split of Responsibility, refer to the following Matrix:

	THALES	System Subcontractor
Conceptual Design	X	
Detailed design (including Interface Control Documents production)	X	
Method of Statement	X	
Manuals		X
Marine Packaging		X
Delivery to Site		X
Site Survey and Report	X	
Factory Acceptance Test		X
System Staging	X	
PTTF (delivery and reletad services)		X
System Integration	X	
Construction Supervision	X	
Installation (including labeling)	X	
Pre-Commissioning	X	
Testing and Commissioning	X	
System Start Up	X	
Experimental Period	X	

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Training		na
Warranty (Defect Liability Period)		X
Maintenance	X	