LEONARDO

Melbourne Orlando International Airport
Baggage Handling System

Scope Of Supply

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1	04/10/2024	First Issue

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1 INTRODUCTION

1.1 Acronyms

TERM	DESCRIPTION
ATR	Automatic Tag Reader
BHS	Baggage Handling System
bph	Baggage Per Hour
HMI	Human Machine Interface
LAN	Local Area Network
MES	Manual Encoding Station
SAC	Sort Allocation Computer
SCADA	Supervisor Control And Data Acquisition System
UPS	Uninterrupted Power Supply
VLAN	Virtual Local Area network
Wi-Fi	Wireless Fidelity (wireless network)

1.2 Reference Documents

1.2.1 Documents

REF.	IDENTIFICATION	TITLE
1	2024-3-8 Technical Specifications	
2	2024-3-8 Contract Drawings	

2 SCOPE OF SUPPLY

This paragraph gives an overview of the material and services included in the Leonardo proposal for the Melbourne Orlando International Airport In-Line Baggage System. The solution is offered on a turnkey basis. For detailed scope of supply refer to *AIRP_230062_1_1 – SOW.*

2.1 Mechanical Equipment

Description	Quantity
MBHS® Cross-belt sorter	528 ft
Sorter Induction Lines	5
Sorter Transition plate	17
Make-up Linear Chutes	13
Security Shutters	6
Conveyor belts, turns and metering belts (Total)	Approx. 1100 ft As per layout
Mezzanines, structures, stairs, std equipment supports	As per layout

2.2 Electrical Equipment

Item	Description	Quantity
SCP	Cross Belt Sorter Control Panel (power and controls cabinet)	1
ILCP	Induction Line Control Panels	5
MCP	Motor Control Panels – Conveyors	6 for the final system
LMCP	Linear Motor Control Panels	8
TSCP	Track Supply Control Panel	2 (1 for back-up)
PCE	Emergency Stop push buttons	As per LDO design
PLC	PLC Hardware	As per LDO design
UPS	Uninterrupted Power Supply	1
Electrical Material	Remote I/O boxes, Junction Boxes for Motors, cables, cable trays, and ducts from PDP-S and MCP to field equipment, etc.	As per LDO design
ATR	Automatic Tag Reader – Laser – Barcode reading systems, six sides, sorter/inductions. Including dimensioner	1 on Sorter (5 side) 3 on Inductions (bottom)

2.3 Software and Hardware

Item	Description	Quantity
PLC Controls	PLC controls for all the equipment provided	As per LDO standard
Virtual Environments	Designed and sized to adequately manage SAC SCADA services and connection to the BHS system	As per LDO standard
SCADA	HMI software for monitoring and control of the BHS System	As per LDO standard
SCADA	Virtual Machine (VM) Server and physical (PC) Client	2 - VM Server 3 - Physical (PC) Clients
SAC	Sorting Allocation Control Virtual Machine (VM) environments Upper level software for sorting management and flights\chutes allocation	As per LDO standard

2.4 Services

Here below the list of services included in Leonardo proposal:

- Project Management
- Quality Management
- Mechanical, Electrical, Controls, and Software engineering
- Procurement and Manufacturing
- Site preparation
- Installation and commissioning
- SAT (Site Acceptance Tests)
- Training
- Mechanical and electrical as-built documentation
- 1 year Warranty
- Technical Support, from live operations (considered as assistant post final acceptance):
    - 60 days on-site
    - 30 days thereafter on-call technical support

3 Exclusions

- Permits
- SAC and SCADA for temporary system
- Simulation and Emulation for temporary system
- Wiring and Power Supply to equipment not supplied by Leonardo
- Building infrastructure, doors, fire doors, fire exits, dock levelers, building sprinkler and fire alarm System, HVAC and lighting system
- Building, Civil engineering works. Construction works to the existing building for any structural modification
- Over time working other than 40-hour a week (5 days/week for 8 hours/day)
- Clash analysis, BHS area 3D laser scan, and clash reports
- Any changes to the layout due to interference with the building or other obstructions.
- Any resolution/ re design of the identified clashes is not included in the supply
- Certification of the building as resulting from possible structural modifications
- Adjustment works to the existing building
- Any modification to the existing system other than what is described in this offer
- Fire resistance treatments and sprinklers
- Main and backup generator power at main distribution boards
- Power drops to the power distribution panels and to the MCP's (number of drops to be defined during design phase)
- Power factor correction
- Security cameras and recording equipment
- Server, SW etc. related to Access control system
- Manual Encoding Workstations
- Supply of Server and Control Room Facilities (furniture, air conditioning, heating, etc.)
- Supply and installation of all electrical connections and cabling to the Server and Control Rooms
- Responsibility Matrix – Table 1- BHS Server Rack -to- SSD, -to- BSD - to- Workstations (supply and installation)
- Wiring and data cabling necessary to connect Leonardo SAC to customer infrastructure
- Software interface with systems not supplied by Leonardo
- EDS, Screening machines, ETD and ETD Screening Station Tables
- CCTV network and a Wi Fi network infrastructure
- Waste disposal (Leonardo does waste differentiation)
- Stainless steel shrouding for Security Shutter if needed
- Supply of check-in, check-in desks and monitors connected to check-in counters
- Operators workstations (CBRA tables, OSR tables…)
- FAT other than system emulation

- Handheld scanners (only Scan guns are included)
- The supply includes the Vmware license for 3 years. Further license renewals are excluded
- Supply, part assembling, installation, commissioning, maintenance and any equipment needed for the movement of the EDS (Explosive Detection System) / HBS (Hold Baggage Screening) / ETD (Explosive Trace Detection) systems
- Hoists for EDS movement and related spare parts (included in the scope of supply only Hoist necessary for sorter)
- Dedicated HSE manager for BHS
- Any costs for electricity during site installation
- Temporary Onsite/Offsite facilities and Material Storage
- Site cleaning
- External Warehouse
- Maintenance services
- Test deck baggage, dollies, and personnel for Site Acceptance Tests (SAT)
- Dismantling of existing BHS (conveyors, carousels, any electrical cabinets and wiring, etc)
- Baggage Tubs
- Any item not specifically indicated as in "Scope of supply"

4 PRECONDITIONS AND CLIENT OBLIGATIONS

The scope of this paragraph is to describe the customer's obligations related to works object of the proposal.

4.1 General Customer's obligations

Provision of all the information according to project schedule and agreed on format.

4.2 On Site requirements

The Customer shall provide the following facilities (not included in the scope of supply):

- A designated area made available to Leonardo for truck parking, loading and unloading and to position waste skips
- Storage area for Installation tools and equipment storage
- Office Area provided with power supply and broadband Internet connection.
- Area/s in the building for workshop and storage during the construction phase of the project.
- Power in several drops for installation purpose. Customer responsible for electrical and heating cost during the installation and commissioning phase

Access of Leonardo's staff (and its Subcontractors' staff) to Customer toilets, workers changing rooms and wash rooms.

Availability of electrical sockets / networks

- Temporary sockets f400Vac / 5-pole / 64 Amps to be quantified based on site layout
- Temporary sockets 220Vac to be quantified based on site layout
- Electric vehicle charging area (forklift, PLE)
- Certified construction site earth/certified electronic earth
- Certified electromagnetic compatibility

Final power supply available 15 days before the start of commissioning***Construction site lighting***

- Safety lighting: not less than 30 lux (UNI EN 12464-2 standard)
- Lighting in operational areas: not less than 500 lux (UNI EN 12464-1 standard)
- Lighting in non-operational areas: not less than 300 lux (UNI EN 12464-1 standard)

Facilities

Located in the dedicated compound, are required:

- *Offices for Leonardo* staff. The estimate is 6 people, it is necessary to have a desk with socket for each person. A meeting room should be made available for meetings and breaks, this space must be equipped as minimum with fridge, microwave, sink with drinking water..
- *Offices for Leonardo subcontractors.* The estimate is 10 people minimum.
- *Toilet facilities*
- *Shared medical/infirmary area*
- High speed WIFI internet connection

Warehouse Area

- Equipment yard laydown area is must be partially covered, minimum 20% of external surface (temporary canopy provided by CMaR) and is used only for BHS equipment.
- Contractor laydown (shard with CMaR) it is assumed that around of 1/3 of this space can be used for BHS equipment. The coverage is not necessary.
- Availability : 15 days before the start of work

4.3 Temporary system preconditions and hypothesis

- All the conveyors necessary for the temporary are new (the stainless steel shrouding will only be provided for the conveyors installed in their final position in the public area).
- 2 new temporary electrical cabinets will manage the temporary conveyors. The power cables (out of Leonardo scope of work) shall reached these locations:
    - One Cabinet will be located close to the conveyors installed in Phase 1
    - One Cabinet will be located close to the temporary area
- The gravity rollers to upstream and downstream the EDS will be reused (these equipment must be functioning; the reconditioning work is not included in the offer).
- The existing equipment that will be reused in the Temporary BHS must be compliant to the current regulations.
- The repositioning of the Xray machines in the temporary facility is by others. This activity will have to take place according to the Leonardo schedule.
- No interface with the existing SW is foreseen (the new take away conveyors will have a minimum logic, the conveyors switching on and off will be managed manually by the operator via a push button panel). Any possible interfaces between the new and the existing system will be evaluated after additional knowledge of the existing system and is not included in the current proposal.
- SAC and SCADA are not provided for the temporary system
- Permits and design approvals are not required for temporary BHS

4.4 Customer obligations related to Site conditions

- The site building must correspond to the architectural building drawings provided by the Customer at the beginning of the Project.
- The site building must be safe to allow people to work inside, according to laws in force.
- The site environmental conditions (temperature, humidity, cleaning, light, air-conditioning etc.) must be compatible with the characteristics of the equipment to be installed.
- The illumination in the area must be compatible with the installation needs.
- The access ways must be identified before the installation start.
- The installation area must be free for working. Admittance to the installation area shall be restricted to workers belonging to Leonardo, sub-contractors, personal in charge of waste disposal, and other personal explicitly authorized by the Customer.
- Safety instructions (normal instructions for such erection works and specific instructions coming from the Customer) shall be displayed and explained to workers. These instructions shall remain displayed at the erection site throughout the duration of the works.
- The floors of the site must be ready to receive the equipment. The floor of the installation areas must be dry and free of water floods.
- The walls must be finished and in good conditions.
- The ceiling of the installation areas must be sealed with no water leaks from above floors.
- The area must be clean enough to allow installation activities.
- Cooling or heating system as well as platforms and structures for their installation must be supplied and supported by the Customer.
- The areas must be air-conditioned, where required by the characteristics of the equipment to be installed.
- The power supply must be compliant to the system requirements.
- The connection between the Customer Main Electric Cabin and the Sorting System power distribution panels (MCPs, PDP-S) is in charge of the Customer
- The connection to the data network provided by the Customer must be compliant with Leonardo requirements.
- The walls around BHS must already be demolished to avoid cement dust (dust free environment) before starting the installations.
- All Civil Works adjustments to the building in the installation area must be finished.
- The Site must be ready to begin the installation (e.g. adjustments to building/floor when necessary, removal of the existing equipment and materials that are on the position of the planned installation. Electrical power and sufficient lighting have to be available). Preparations or any cleaning work to prepare the areas shall be done before the beginning of installation.
- The Customer shall provide for disposal bins
- The Customer shall provide fencing for installation activities

5 Documents and information to be provided by the Customer

Leonardo must be in possession of a full set of architectural building drawings to start the detailed engineering phase. The Customer shall provide current architectural drawings indicating the BHS area.

- Building columns size and position
- Building services obstructions
- Wall openings
- General access
- Restricted areas
- Floor loadings
- Stairways
- Docks equipment
- Existing BHS layout
- MEPF (Mechanical Electrical Plumbing Fire) final layout

6 LIST OF ATTACHMENTS

Below is the list of technical documents attached to the offer:

Doc number	Title	Rev
AUNM_230062_1_1	SOW	1
AUNM_230062_2	Schedule	1
AUNM_230062_3	Phasing Description	1
AUNM_230062_4_1	Electrical System and Automation	1
AUNM_230062_4_1_1	*Fieldbus Diagram*	1
AUNM_230062_4_2	SAC and SCADA	1
AUNM_230062_4_3	Simulation and Emulation description	1
AUNM_230062_5	Spare parts List	1