



Crown  
Commercial  
Service

**Technology Products 2 Agreement RM3733  
Framework Schedule 4 - Annex 1**

## Order Form

In this Order Form, capitalised expressions shall have the meanings set out in Call Off Schedule 1 (Definitions), Framework Schedule 1 or the relevant Call Off Schedule in which that capitalised expression appears.

The Supplier shall supply the Goods and/or Services specified in this Order Form to the Customer on and subject to the terms of the Call Off Contract for the duration of the Call Off Period.

This Order Form should be used by Customers post running a Further Competition Procedure under the Technology Products 2 Framework Agreement ref. RM3733.

The Call Off Terms, referred to throughout this document, are available from the Crown Commercial Service website at <http://ccs-agreements.cabinetoffice.gov.uk/contracts/rm3733>



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Section A  
General information

This Order Form is issued in accordance with the provisions of the Technology Products 2 Framework Agreement RM3733.

**Customer details**

**Customer organisation name**

Transport for London

**Billing address**

Windsor House, 42-50 Victoria Street, London, SW1H 0TL

**Customer representative name**

Jimeko Green, Commercial Manager, Commercial Technology and Data

**Customer representative contact details**

Email and telephone contact details for the Customer's representative

[REDACTED]

**Supplier details**

**Supplier name**

The Supplier organisation name, as it appears in the Framework Agreement  
Insight Direct (UK) Ltd

**Supplier address**

Supplier's registered address  
Technology Building, Insight Campus, Terry Street, Sheffield S9 2BU

**Supplier representative name**

The name of the Supplier point of contact for this Order  
Roger Talbot

**Supplier representative contact details**

Email and telephone contact details of the supplier's representative

[REDACTED]

**Order reference number**

A unique number provided by the supplier at the time of quote  
ICT12463



## Section B Overview of the requirement

### Framework Lot under which this Order is being placed

Tick one box below as applicable

- |   |                                     |
|---|-------------------------------------|
| 1. HARDWARE                                       | <input checked="" type="checkbox"/> |
| 2. SOFTWARE                                       | <input type="checkbox"/>            |
| 3. COMBINED SOFTWARE AND HARDWARE REQUIREMENTS    | <input type="checkbox"/>            |
| 4. INFORMATION ASSURED PRODUCTS                   | <input type="checkbox"/>            |
| 5. VOLUME HARDWARE REQUIREMENTS (DIRECT FROM OEM) | <input type="checkbox"/>            |

### Customer project reference

ICT12463

### Call Off Commencement Date

The Call Off Commencement Date is the date on which the Call Off Contract is formed – this should be the date of the last signature on Section E of this Order Form

Call Off Commencement Date:

### Call Off Contract Period (Term)

5 months with an option to extend a further 1+1+1 (3 years) for support and maintenance

**Call Off Initial Period** Months

5 Months.

**Call Off Extension Period (Optional)** Months

12+12+12

### Specific Standards or compliance requirements

Due to the need of delivery for this requirement TfL requires agreement and conformance to a Work Related Road Risk (WRRR) Clause, which you can find attached at Appendix A of this document. Detail surrounding the standard required for the goods/services please see the scope of works at Appendix B.



## Section C Customer Core Goods and/or Services Requirements

Please provide details of all Goods and/or Services required (including any items which are considered business critical) including the locations where the supplier will be required to deliver the service/s Ordered.

**Goods and/or Services**  
Goods and Services

**Warranty Period, if applicable**  
1 year standard warranty from installation date

**Location/Site(s) for Delivery**  
The International Quarter London, 5 Endeavour Square, Stratford, London, E20 1JN

**Dates for Delivery of the Goods and/or the Services**  
04/09/2017

### Software

**Supplier Software**  
N/A.

**Third Party Software**  
N/A

**Maintenance Agreement**  
1yr Warranty Maintenance  
Include terms or link in Call Off  
Schedule 3

**Additional Clauses** Tick as required

#### Alternative Clauses

Scots Law Or

Northern Ireland Law

Non-Crown Bodies

Non-FOIA Public Bodies

#### Additional Clauses

Tick one box below as applicable

A: Termed Delivery – Goods

B: Complex Delivery – Solutions  
(includes Termed Delivery – Goods)

**NB Both of the above options  
require an Implementation Plan  
which should be appended to this  
Order Form**

#### Optional Clauses

Tick any applicable boxes below

C: Due Diligence

D: Call Off Guarantee

E: NHS Coding Requirements

F: Continuous Improvement & Benchmarking

G: Customer Premises



H: Customer Property

I: MOD Additional Clauses

**Items licensed by the Customer to the Supplier (including any Customer Software, Customer Background IPR and Customer Data)**

List below

N/A

**Call Off Contract Charges payable by the Customer to the Supplier (including any applicable Milestone Payments and/or discount(s), but excluding VAT) and payment terms/profile including method of payment (e.g. Government Procurement Card (GPC) or BACS)**

Deliverables	Deliverable Description	Amount
1	Order Received (20%)	[REDACTED]
2	Produce detailed design/SOR/SOW (10%)	[REDACTED]
3	Equipment delivery Stage 1 (25%)	[REDACTED]
4	Equipment delivery Stage 2 (25%)	[REDACTED]
5	Users Acceptance Test (20%)	[REDACTED]
6	FM Facts Migration	[REDACTED]

**Is a Financed Purchase Agreement being used?**

Tick as required

If so, append to Call Off Schedule 2 as Annex A

**Estimated Year 1 Call Off Contract Charges (£)**

For Orders with a defined Call Off Contract Period

[Click here to enter text.](#)

**Section D**

**Supplier response**

Suppliers - use this section to provide any details that may be relevant in the fulfilment of the Customer Order

**Commercially Sensitive information**

Any information that the Supplier considers sensitive for the duration of an awarded Call Off Contract

[Click here to enter text](#)

**Total contract value**

Please provide the total contract value (for the Call Off Initial Period) as detailed in your response to the Customer's statement of requirements

[REDACTED]



## Section E Call Off Contract award

This Call Off Contract is awarded in accordance with the provisions of the Technology Products 2 Framework Agreement RM3733.

The Supplier shall supply the Goods and/or Services specified in this Order Form to the Customer on and subject to the terms of this Order Form and the Call Off Terms (together referred to as "the Call Off Contract") for the duration of the Call Off Contract Period.

### SIGNATURES

#### For and on behalf of the Supplier

Name	ROGER TALBOT
Job role/title	CONTRACTS MANAGER
Signature	[REDACTED]
Date	18th AUGUST 2017

#### For and on behalf of the Customer

Name	SANNY YAU
Job role/title	SENIOR COMMERCIAL MANAGER
Signature	[REDACTED]
Date	22/08/17



Section F  
Appendices

Appendix A – WRRR Clause

**Work Related Road Risk**

1.1 For the purposes of Clauses 1.2 to 1.10 (inclusive) of this [Contract], the following expressions shall have the following meanings:

**“Approved Progressive Training”**

An ongoing programme of personal development that uses a combination of theoretical, e-learning, practical and on the job training to ensure Drivers have the knowledge, skills and attitude to operate safely on urban roads and shall include:

1.1.1 Safe Urban Driving (SUD) training to be undertaken every five years; or

1.1.2 A training course, which in the reasonable opinion of the [Authority] is an acceptable substitute to SUD; and

1.1.3 One safety related FORS e-learning module to be undertaken every twelve (12) months;

**“Bronze Accreditation”**

the minimum level of accreditation within the FORS Standard, the requirements of which are more particularly described at: [www.fors-online.org.uk](http://www.fors-online.org.uk)

**“Category N2 Lorry”**

means a vehicle designed and constructed for the carriage of goods having a MAM exceeding 3,500 kilograms but not exceeding 12,000 kilograms;

**“Category N3 Lorry”**

means a vehicle designed and constructed for the carriage of goods and having a MAM exceeding 12,000 kilograms

**“Car-derived Van”**

**a vehicle based on a car, but with an interior that has been altered for the**



	<b>purpose of carrying larger amounts of goods and/or equipment;</b>
<b>“Collision Report”</b>	a report detailing all collisions during the previous 12 months involving injuries to persons or fatalities;
<b>“Delivery and Servicing Vehicle”</b>	a Lorry, a Van or a Car-derived Van;
<b>“Driver”</b>	<b>any employee of the [Service Provider] (including an agency or contracted driver), who operates Delivery and Servicing Vehicles on behalf of the [Service Provider] while delivering the [Services];</b>
<b>“DVLA”</b>	<b>Driver and Vehicle Licensing Agency;</b>
<b>“Direct Vision Standard” or “DVS”</b>	Direct Vision Standard, a performance based assessment and rating tool, as updated from time to time that measures how much direct vision a Driver has from a Category N3 Lorry cab in relation to other road users. Further information can be found at: <a href="http://www.tfl.gov.uk">www.tfl.gov.uk</a> ;
<b>“FORS”</b>	the Fleet Operator Recognition Scheme, which is an accreditation scheme for businesses operating van and lorry fleets. It offers impartial, independent advice and guidance to motivate companies to improve their compliance with relevant laws and their environmental, social and economic performance;
<b>“FORS Standard”</b>	the standard setting out the accreditation requirements for the Fleet Operator Recognition Scheme, a copy of which can be found at: <a href="http://www.fors-online.org.uk">www.fors-online.org.uk</a>
<b>“Front Underrun Protection”</b>	devices that are fitted at the front of Lorries and which comply with EC Directive 2000/40/EEC and the Road Vehicles (Construction and Use) Regulations 1986



<b>“Gold Accreditation”</b>	the highest level of accreditation within the FORS Standard, the requirements of which are more particularly described at: <a href="http://www.fors-online.org.uk">www.fors-online.org.uk</a>
<b>“Lorry”</b>	a vehicle with an MAM exceeding 3,500 kilograms;
<b>“MAM”</b>	the maximum authorised mass of a vehicle or trailer including the maximum load that can be carried safely while used on the road;
<b>“Side Underrun Protection”</b>	devices that are fitted between the front and rear axles of Lorries and which comply with EC Directive 89/297/EEC and the Road Vehicles (Construction and Use) Regulations 1986;
<b>“Silver Accreditation”</b>	the intermediate level of accreditation within the FORS Standard, the requirements of which are more particularly described at: <a href="http://www.fors-online.org.uk">www.fors-online.org.uk</a>
<b>“Van”</b>	a vehicle with a MAM not exceeding 3,500 kilograms.

### **Fleet Operator Recognition Scheme Accreditation**

- 1.2 Where the [Service Provider] operates Delivery and Servicing Vehicles to provide the [Services], it shall within 90 days of the Contract Commencement Date:
- 1.2.1 (unless already registered) register for FORS or a scheme, which in the reasonable opinion of the [Authority], is an acceptable substitute to FORS (the “**Alternative Scheme**”); and
  - 1.2.2 (unless already accredited) have attained the standard of Bronze Accreditation (or higher) or the equivalent within the Alternative Scheme and shall maintain the standard of Bronze Accreditation (or equivalent standard within the Alternative Scheme) by way of an annual independent assessment in accordance with the FORS Standard or take such steps as may be required to maintain the equivalent standard within the Alternative Scheme. Alternatively, where the [Service Provider] has attained Silver or Gold Accreditation, the maintenance requirements shall be undertaken in accordance with the periods set out in the FORS Standard.



### **Safety Features on Lorries**

- 1.3 The [Service Provider] shall ensure that every Lorry, which it uses to provide the [Services], shall have:
- 1.3.1 Side Underrun Protection fitted at a height not exceeding 550mm from the ground, unless the [Service Provider] can demonstrate to the reasonable satisfaction of the [Authority] that the Lorry will not perform the function for which it was built if the Side Underrun Protection is fitted;
  - 1.3.2 Front Underrun Protection fitted at a height not exceeding 400mm from the ground, unless the [Service Provider] can demonstrate to the reasonable satisfaction of the [Authority] that the Lorry will not perform the function for which it was built if the Front Underrun Protection is fitted;
  - 1.3.3 equipment fitted with an audible means of warning other road users of the Lorry's left manoeuvre;
  - 1.3.4 prominent signage on the Lorry to warn cyclists and other road users of the dangers of the Lorry's near side blind spot and of getting too close to the Lorry; and
  - 1.3.5 front, side and rear blind spots completely eliminated or minimised as far as practical and possible, through the use of direct vision, fully operational indirect vision aids and driver audible alerts.

### **Direct Vision Standard**

- 1.4 Where applicable,
- 1.4.1 the [Service Provider] shall comply with the Heavy Goods Vehicle Direct Vision Standard Schedule attached to this [Contract].
  - 1.4.2 the [Service Provider] shall ensure that:
    - 1.4.3 from and including 1 October 2018, all Category N3 Lorries used in the provision of the [Services] achieve a minimum of a one (1) star Direct Vision Standard rating;
    - 1.4.4 from and including 1 April 2020 all Category N3 Lorries used in the provision of the [Services] achieve a minimum of three (3) star Direct Vision Standard rating; and
    - 1.4.5 the conditions at all sites and locations where:
      - 1.4.5.1 the [Services] are being delivered, or



- 1.4.5.2 in connection with the performance of the [Services], any waste is being disposed of or supplies are being delivered to or from,
- are appropriate for each Category N2 Lorry and Category N3 Lorry being used in the provisions of the [Services].
- 1.4.6 the [Service Provider] shall comply with the Heavy Goods Vehicle Direct Vision Standard Schedule attached to this [Contract].
- 1.4.7 the [Service Provider] shall ensure that:
- 1.4.8 from and including 1 October 2018, all Category N3 Lorries used in the provision of the [Services] achieve a minimum of a one (1) star Direct Vision Standard rating;
- 1.4.9 from and including 1 April 2020 all Category N3 Lorries used in the provision of the [Services] achieve a minimum of three (3) star Direct Vision Standard rating; and
- 1.4.10 the conditions at all sites and locations where:
- 1.4.10.1 the [Services] are being delivered, or
- 1.4.10.2 in connection with the performance of the [Services], any waste is being disposed of or supplies are being delivered to or from,
- are appropriate for each Category N2 Lorry and Category N3 Lorry being used in the provisions of the [Services].

### Driver Licence Checks

- 1.5 Where the [Service Provider] operates Delivery and Servicing Vehicles to provide the [Services] the [Service Provider] shall ensure that:
- 1.5.1 it has a system in place to ensure all its Drivers hold a valid driving licence for the category of vehicle that they are tasked to drive, along with recording any endorsements, or restrictions on the Drivers licence; and
- 1.5.2 each of its Drivers engaged in the provision of the [Services] has a driving licence check with the DVLA or such equivalent before that Driver commences delivery of the [Services] and that the driving licence check with the DVLA or equivalent authority is repeated in accordance with either the following risk scale (in the case of the DVLA issued licences only), or the [Service Provider's] risk scale, provided that the [Service



Provider's risk scale has been approved in writing by the [Authority] within the last twelve (12) months:

- 1.5.2.1 0 – 5 points on the driving licence – six monthly checks;
- 1.5.2.2 6 – 8 points on the driving licence – quarterly checks; or
- 1.5.2.3 9 or more points on the driving licence – monthly checks.

### **Driver Training**

- 1.6 Where the [Service Provider] operates Delivery and Servicing Vehicles to provide the [Services] the [Service Provider] shall ensure that each of its Drivers attend Approved Progressive Training throughout the Term of the [Contract].

### **Collision Reporting**

- 1.7 Where the [Service Provider] operates Delivery and Servicing Vehicles to provide the [Services], the [Service Provider] shall:
  - 1.7.1 ensure that it has a system in place to capture, investigate and analyse road traffic collisions that result in fatalities, injury or damage to vehicles, persons or property and for generating Collision Reports; and
  - 1.7.2 within 15 days of the Commencement Date, provide to the [Authority] a Collision Report. The [Service Provider] shall provide to the [Authority] an updated Collision Report within five working days of a written request from the [Authority] at anytime.

### **Self-Certification of Compliance**

- 1.8 Where the [Service Provider] operates Delivery and Servicing Vehicles to provide the [Services], within 90 days of the Commencement Date, the [Service Provider] shall make a written report to the Authority detailing its compliance with Clauses 1.2, 1.3, 1.4, 1.5, 1.6 and 1.7 of this [Contract] (the "WRRR Self-Certification Report"). The [Service Provider] shall provide updates of the WRRR Self-Certification Report to the [Authority] on each three month anniversary of its submission of the initial WRRR Self-Certification Report.

### **Obligations of the [Service Provider] Regarding Subcontractors**

- 1.9 The [Service Provider] shall ensure that those of its sub-contractors who operate Category N2 Lorries, Category N3 Lorries, Vans and/or Car-derived Vans to provide the [Services] shall comply with the corresponding provisions of this [Contract]:
  - 1.9.1 **Clause Error! Reference source not found.;**



- 1.9.2 for Category N2 Lorries – **Clauses Error! Reference source not found., Error! Reference source not found., 1.6, 1.7 and 1.8;**
- 1.9.3 for Category N3 Lorries – **Clauses Error! Reference source not found., Error! Reference source not found., 1.4.2, Error! Reference source not found., Error! Reference source not found., Error! Reference source not found.** and, where applicable, the appropriate provisions of the Heavy Goods Vehicle Direct Vision Standard Schedule; and
- 1.9.4 for Vans and Car-Derived Vans – **Clauses Error! Reference source not found., Error! Reference source not found. and Error! Reference source not found.**

as if those sub-contractors were a party to this [Contract].

#### **Failure to Comply**

- 1.10 Without limiting the effect of any other clause of this [Contract] relating to termination, if the [Service Provider] fails to comply with **Clauses 1.2, 1.3, 1.4** (where applicable), **1.5, 1.6, 1.7, 1.8, 1.9, and 1.10:**
  - 1.10.1 the [Service Provider] has committed a material breach of this [Contract]; and
  - 1.10.2 the [Authority] may refuse the [Service Provider], its employees, agents and Delivery and Servicing Vehicles entry onto any property that is owned, occupied or managed by the [Authority] for any purpose (including but not limited to deliveries).



Appendix B – Scope of Works

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## **1 Introduction**

### **1.1 This Document**

This document is intended to describe the scope of works that the appointed TfL Bidder will be required to undertake in order to deliver a fully functional Audio Visual installation in the TfL TIQ building. These works are described as CatC works, the contract for which will be let by TfL directly.

### **1.2 TfL Project Structure**

The appointed Bidder will assign a Project Manager who will be responsible to the TfL Technology and Data Project Manager responsible for TIQ. The TfL Technology and Data TIQ Team includes a Technical Design Authority and Audio Visual Solutions Architect both of whom are required to attend witness testing sessions and sign off all installations undertaken by the successful Bidder. In addition, other TfL technology expertise is available should it be required.



## 2 Supply Strategy

In order to meet key dates (e.g. Practical Completion, Handover, First Occupancy), it has been necessary to divide the supply of AV equipment and services into two tranches, CatB supply and CatC supply:

### 2.1 CatB Supply

These works were let in June 2016, are in progress and are being carried out by the building main contractor, Lend Lease Construction, on behalf of TfL. These works include:

1. Audio Visual solution provision to all Level 10 meeting spaces
2. Audio Visual solution provision to all Lift Lobbies (excluding the Mezzanine level) in the building.
3. Provision of a Crestron Fusion platform for Audio Visual equipment monitoring, management and administration.
4. The deployment of a Crestron Room Booking panel mounted to the exterior of each room adjacent to the door for the all meeting spaces larger than 3Pax excluding Collaboration Spaces.
5. The deployment of a wall mounted Crestron Room Control Panel to control AV equipment/functionality and the room environment (lighting, HVAC) in all 9 of 16Pax meeting rooms on Levels 1 to 9 and throughout Level 10. These will be programmed and tested prior to CatC works commencing on site.

### 2.2 CatC Supply

These are the works described in this scope of works and for which TfL wishes to appoint a suitably qualified and capable supplier. This tranche will cover:

1. The provision (supply, installation, commissioning, programming, database creation and testing) of audio visual equipment in 161 of the meeting spaces on Levels 1 through 9 inclusive. The design and requirements for this work are described in this document and:
  - 1.1. The TfL CatC Audio Visual BOM and pricing Matrix (see RFP list of appendices)
  - 1.2. The TfL TIQ CatC Audio Visual Services Low Level Design document (see RFP list of appendices)
  - 1.3. A series of building floor plans showing the location of meeting spaces around the building and their Audio Visual Capability
2. Provision of an IPTV solution with a single end-point on Level 10.
3. Provision and Commissioning of wireless microphones in the Level 10 Auditorium (against a receiver that is already commissioned).

### 2.3 Coordination & Interaction – CatB with CatC

Whilst the CatB and CatC Audio Visual works are closely related, it should not be necessary for any coordination to be undertaken between the CatB and CatC suppliers. In fact, the CatB suppliers will have finished on site prior to the successful Bidder starting work on site. However, if the Bidder feels that some coordination will be required, it should be noted in the Bidders' tender response and the purpose and cost of this coordination provided against a relevant entry in the Pricing Schedule. It must also be described in the Bidders draft Programme of Works – a component of the Bidders' tender package.



### 3 Specific Requirements

TfL has specific requirements relating to various aspects of the delivery as described in this section of the SOW.

#### 3.1 Supply

The term "Supply" shall mean the procurement and delivery to TfL's delivery address of the approved equipment list contained in the Pricing Matrix and any other items necessary to deliver the Audio Visual Solution as described in the Bid Package. Goods shall be delivered to site suitably packaged so as to protect the equipment from damage arising through mid-handling or accident. Damaged goods will not be accepted by TfL. Supply shall also include transporting the supplied goods around the site as necessary in order that secure storage may be provided or that equipment may be installed.

In addition to materials, Supply shall also include:

1. The provision of all tools, labour, test equipment, batteries, cable ties, screws, cage nuts and other fixings and consumables necessary to conclude the installation
2. Provision of all Bidder employee PPE and other H&S equipment (barriers, signage, etc.) deemed necessary by the Bidder to deliver the project
3. Preparation and delivery of all schedules, drawings, specifications and labelling necessary to successfully conclude installation.

The successful bidder will be required to provide a sample of all fixings and consumables it is proposed are used by the Bidder for the project to TfL three weeks after appointment. All mains powered portable power tools shall have a PAT test certificate that shall not expire before the end of the Bidders proposed project end date. All tools shall be mechanically sound and fit for purpose.

#### 3.2 Installation

The term "Installation" shall include locating, placing or otherwise positioning the supplied equipment and any items free-issued to the successful Bidder. Where required, Installation shall include the fixing of the equipment on walls, within equipment cabinets or on/in other structures or housings within meeting rooms, equipment rooms, the floor void, or other spaces as necessary.

Installation shall also include connecting equipment to the buildings Structured Cabling solution as required (all RJ45 patch leads will be free-issued to the successful Bidder by TfL in order to maintain the performance warranty of the cabling solution), the fitting of other data or electrical interconnects (e.g. HDMI cables) and power leads to a power source (provided by others) local to the equipment in order that equipment may be energised.

All equipment shall have a TfL Fixed Asset Tag (a self-adhesive metal foil label, to be free-issued by TfL to the successful Bidder) applied to it in an unobtrusive location, this tag reference to be recorded along with other details regarding the equipment (make, model, serial number, location, etc.).

All cables shall be neatly routed and dressed, free from kinks or other defects and where necessary (e.g. Equipment Cabinets) tied using a hook and loop cable tie.

All BS 1363 mains plug-tops fitted to power leads serving equipment supplied by the successful Bidder shall be fitted with a Dymo label to indicate the equipment it serves. The power connector on each device shall be labelled with a colour Laser engraved label to match the label contents shown on the plug top. Label format and content will be agreed following appointment. All data cables utilised by the successful Bidder shall be labelled with a Brady Cable Wrap-Around Label at each end, the content of the labels to be developed by the successful Bidder, with final approval by TfL prior to production.



All installation works shall be carried out by suitably qualified and experienced personnel with a relevant track record in successfully completing similar projects.

### **3.3 Commissioning**

The term "commissioning" shall include any activity it is necessary to undertake to convert the installed equipment into a holistic and integrated Audio Visual solution which performs according to design and functional specifications. Such works may include but need not be limited to programming, software configuration, "set-up" of equipment (such as adjusting the colour balance, brightness or contrast of monitors to deliver the optimum image), populating databases either manually or via automatic update, etc.

All Commissioning shall be carried out by suitably qualified and experienced personnel with a relevant track record in successfully completing similar projects.

### **3.4 Testing**

The term "Testing" shall include any activity which the bidder believes is necessary to prove that the full range of functionality described in the design has been delivered by the Bidder. Testing shall include unit testing, system level testing, integration testing, witness testing and any other phase that the Bidder believes is necessary to demonstrate and provide functionality. Tfl are able to provide test user ID's and similar if the Bidders proposals call for such items.

Professional grade field test equipment shall be used to undertake tests which otherwise may be subjective in nature. Examples include monitor colour calibration and soundstage quality. Bidders shall describe any field test equipment they propose to use. Where a laboratory calibration service is available for the test equipment proposed, the calibration certificate shall not expire prior to the end of the project. Testing must also include a subjective analysis of monitor reflections under the different lighting options in each meeting space and a simple analysis of the availability of any monitor to be seen from the seating in each space (to avoid, for example, light fixtures not obstructing the full size of the monitor).

All Testing shall be carried out by suitably qualified and experienced personnel with a relevant track record in successfully completing similar projects.

### **3.5 Support and Maintenance**

#### **3.5.1 Introduction**

The sharing of digital content has become an essential part of communication and collaboration activities in the workplace. Users now rely upon Audio Visual solutions to convey their ideas, collaborate and deliver management reporting sometimes irrespective of the physical location of the parties involved. Building Management increasingly use digital signage (in conjunction with more established technologies such as Public Address) to manage building occupants and ensure their Health and Safety. Even cafeteria and social spaces use digital technologies to "push" digital information to personnel.

Audio Visual services have therefore taken on a level of importance that necessitates proper consideration is given to fully supporting Audio Visual solutions. This is in order to deliver a high level of service availability. It is therefore imperative that an holistic and coordinated support package is procured to ensure services are maintained at the highest possible levels of availability both during and post equipment warranty. Each is described below.

#### **3.5.2 Support during Warranty period**

A "return to manufacturer" equipment warranty, which may take a number of weeks to turnaround, is not conducive to delivery of a high availability service and is not acceptable to Tfl.

A Warranty Support arrangement is therefore required during the warranty period of the equipment supplied by the Bidder to enable failures and similar faults to be dealt with within timeframes acceptable to Tfl. This support shall be considered an integral component of the service required by Tfl for the duration of warranty. Tfl has assumed that Warranty of the equipment shall start from the day of final acceptance by Tfl of the entire installation provided by the successful Bidder.



Any equipment failure or other fault during the warranty period that renders Audio Visual services within a meeting space unserviceable may necessitate replacement of failed units. Such replacements will need to be provided to site, installed, tested and declared ready for service. The turnaround time for such warranty failures shall be:

Severity	Definition	Target	Measured
1	Not Used		
2	Not Used		
3	<p>A. Any AV hardware failure or malfunction affecting the Audio Visual functionality within a single meeting space Examples include:</p> <ul style="list-style-type: none"> <li>• Failure of one or more monitors in a single meeting space</li> </ul>	Service is restored or a work-around is agreed within 24 hours for 90% of incidents.	08:00 to 17:00, Monday to Friday, excluding public holidays.
4	<p>A. The service is not affected, e.g. queries; or B. The incident affects a service component that has a dependency on support parties that are not managed by TfL IM Examples include:</p> <ul style="list-style-type: none"> <li>• Failure of the DALI Lighting Control system (support managed by Facilities Operations) in meeting spaces where lighting is controlled by the Crestron Room Control Panel</li> </ul> <p>and/or The incident affects a service component that cannot be fully supported. This situation should not arise.</p>	Reasonable endeavours only.	SLA not measured.

### 3.5.3 Post Warranty Support

Following expiry of the warranty period, it will be necessary for TfL to continue to deliver support for items of audio-visual hardware in order to maintain the high level of service availability users will have become accustomed to. Therefore, TfL requires that Bidders provide pricing for an optional 2<sup>nd</sup> and 3<sup>rd</sup> year hardware support following expiry of the warranty for the hardware.

Bidders will be aware, from their reading of the bid package issued by TfL, that in addition to the AV hardware provided by the successful Bidder, TfL has other AV hardware installed in the building, specifically throughout level 10 and in all lift lobbies of the building (save Mezzanine level). Bidders are therefore asked to include in their post-warranty support calculations and proposals the equipment (provided by others) that will be installed throughout Level 10 and within the Lift Lobbies of 5 Endeavour Square. Bidders should consult the "ICT12463 CatB Audio Visual Post Warranty Support BOM" which identifies this additional equipment to enable Bidders to formulate a cost for provision of this service.

In addition, it is necessary to include software support for the following components within post-warranty support proposals. The software affected shall be limited to:

1. Crestron Fusion Server Application



2. Crestron Fusion Microsoft Outlook Plug-in
3. Upgrades for firmware or other embedded code for any AV device which contains such software (e.g. Crestron Room Control Panel)

Bidders should note that server hardware, server operating system and SQL instances which support Crestron Fusion are maintained by third parties.

Post Warranty support shall be offered on an annual "1+1" basis. This offering shall be priced in accordance with the relevant tab within the pricing matrix. Any discounts or other incentives offered by the Bidder which makes a longer term contract more attractive to TfL shall also be quantified & described in the pricing matrix.

Any equipment failure or other fault (including supported software failure) which occurs post-warranty and which renders Audio Visual services within a meeting space unserviceable, may necessitate replacement of failed units. Such replacements will need to be provided to site, installed, tested and declared ready for service. The turnaround time for such warranty failures shall be:

Severity	Definition	Target	Measured
1	Not Used		
2	<p>A. Any and all incidents affecting Audio Visual service functionality within the Level 10 Auditorium</p> <p style="text-align: center;">or</p> <p>B. Any failure affecting <u>more than one</u> meeting space in the building.</p> <p>Examples include:</p> <ul style="list-style-type: none"> <li>• Failure of the Crestron Fusion Server Application</li> <li>• Failure of a Crestron Lighting and HVAC controller</li> <li>• Failure of wall operated "room mode" switches in the Level 10 Auditorium</li> <li>• Concurrent Failure of more than one Crestron Room Booking panels</li> </ul>	Service is restored or a work-around is agreed within 8 hours for 90% of incidents	08:00 to 17:00, Monday to Friday, excluding public holidays.



Severity	Definition	Target	Measured
3	<p>Any incident affecting the Audio Visual functionality within a single meeting space (excluding the Level 10 Auditorium).</p> <p style="text-align: center;"><b>or</b></p> <p>Any incident related to Digital Signage in the building.</p> <p>Examples include:</p> <ul style="list-style-type: none"> <li>• Failure of a Digital Signage Display</li> <li>• Failure of one or more monitors in a single meeting space</li> </ul>	Service is restored or a work-around is agreed within 24 hours for 90% of incidents.	08:00 to 17:00, Monday to Friday, excluding public holidays.
4	<p>The service is not affected, e.g. queries;</p> <p style="text-align: center;"><b>or</b></p> <p>The incident affects a service component that has a dependency on support parties that are not managed by TfL IM</p> <p>Example</p> <ul style="list-style-type: none"> <li>• Failure of the DALI Lighting Control system (support managed by Facilities Operations) in meeting spaces where lighting is controlled by the Crestron Room Control Panel</li> </ul> <p style="text-align: center;"><b>and/or</b></p> <p>The incident affects a service component that cannot be fully supported. This situation should not arise.</p>	Reasonable endeavours only.	SLA not measured.

### 3.6 Programme Dates

The chosen Bidder will commence works on site on 4/9/17 and conclude seven working weeks (Monday-Friday) later on 20/10/17. Conclusion in this case means all on site works complete and signed off by the TfL Technology and Data TIQ Project Team. Operation and Maintenance (O&M) Manuals are to be presented within 4 weeks after the conclusion of on site works. Bidders draft programmes shall be based around these dates which are subject to change.

### 3.7 Crestron Fusion

A Crestron Fusion Audio Visual Management Platform has been deployed by TfL as part of CatB Audio Visual works. This system will work in conjunction with TfL's deployment of Microsoft Outlook in respect of Meeting Room Booking but also provide a database of the AV equipment deployed in each room and provide a management function for that equipment.

TfL expects to fully utilise the functions available within Crestron Fusion and the room booking capability linked to Microsoft Outlook. Bidders will be required to add the necessary meeting space data to the relevant database(s) for ALL 161 meeting spaces on Level 1 to Level 9 inclusive in order that a full asset inventory is recorded for each room. Although Bidders are not required to supply or install some items such as teleconferencing units, these must be included in the asset inventory for the rooms. In addition, equipment



warranty information (such as expiry date) shall be recorded against each asset record within the Crestron Fusion database.

In addition, standardised text must be developed by the Bidder to describe the Audio Visual capability provided in each room type when booking a meeting space. Bidders will be expected to take photographs of ALL finished meeting spaces on Level 1 to Level 9 inclusive showing the Audio Visual installation in each space and upload these to the relevant database to enable users to “see” the AV solution in each space when booking the room.

Bidders may assume that the creation of email addresses and user IDs for ALL rooms on level 1 to 9 will have already been undertaken by the time the successful Bidder starts on site.

### **3.8 FM Facts**

TfL’s existing Meeting Room Booking system is a Causeway FM Facts solution. This exists in a standalone deployment with no links to Microsoft Outlook. Bidders will be required to migrate FM Facts data to Crestron Fusion/Microsoft Outlook for the 450 meeting rooms currently recorded within FM Facts, the rooms being spread across 14 buildings. The intent is that TfL, who are currently surveying the rooms to validate the information held in FM Facts, will pass the results of the survey on to the successful bidder who will re-survey only those rooms with AV equipment to determine that equipment’s’ manufacturer and model details, serial number, fixed asset number, etc. of the equipment.

The successful bidder will be expected to capture photographs of rooms equipped with AV systems but upload the entire 450 meeting rooms’ data to the new Crestron/Outlook platform, irrespective of whether these rooms have an AV solution or not. TfL will consider a manual update of this data into Fusion over an automated update, but this depends greatly upon the level of confidence TfL has in the accuracy of the data held in FM Facts.

The replacement of FM Facts with Crestron Fusion/Outlook room booking represents a big change for TfL which will affect thousands of users. It must therefore be carefully coordinated with TfL both in terms of timescale and communications with TfL’s staff base. Bidders should include a sub-project within their draft plan in respect of this work paying particular attention to the time required to prepare, seek approval of and deliver communications regarding the change to TfL staff.

Bidders are required to note within their submission the value of their preliminary costs which apply exclusively to this exercise to enable the cost of this element of the works to be identified fully and independently from the remainder of the project scope.

### **3.9 Fixed Asset Labelling**

Bidders shall be required to affix a TfL Fixed Asset label (free issued to the successful Bidder by TfL) in an unobtrusive place on all equipment supplied by them in respect of this project. These details are to be recorded by the successful Bidder, along with serial number and other manufacturer related information in the relevant Crestron Fusion database. Upon completion of data entry into the Crestron Fusion database, the Bidder shall also prepare a database extraction from the Crestron Fusion Database into an MS Excel spreadsheet for TfL use. The database fields to be included will be defined at a later date.

### **3.10 Bidders’ Design Element**

#### **3.10.1 Supporting Systems & Services**

The basic design of the Audio Visual solution for the building is already specified or described in various documents. Bidders shall satisfy themselves, via a site inspection (to be undertaken following appointment) and a review of the documentation provided by TfL:

1. That the Audio Visual Solution defined in the documentation is deliverable by the Bidder in accordance with the design and procurement documentation provided by TfL.



2. That all spaces in which the Bidder shall carry out works are fit for purpose (e.g. required number of power and data outlets are provided, lighting setting out heights will not obstruct views of Large Screen monitors, etc.) and require no further work (excluding meeting room furniture) by other trades in order to deliver the AV solution for that space.
3. That the setting out measurements provided by TfL accord with actual dimensions in each meeting space.
4. That the design describes a current and "best practice" approach to Audio Visual systems given the intended use cases of each room type.
5. That the equipment specified in the design document remains viable (e.g. is still available on the market), has not been superseded and no product end-of-life notifications in respect of any items have been issued by the manufacturer.

Where the Bidder deems that one or more of the above applies to the Audio Visual Design, Bidders are asked to propose alternatives or suggest other solutions as they see fit. When doing so, Bidders are required to return with their proposal an "Alternatives and Options" paper identifying the item or functionality in the current design, describing the alternative solution, any pro's and cons of each and the cost and time impact of taking/not taking the alternative or option. This will form part of the tender response, and is listed in the RFP, for information only purposes.

### **3.10.2 Freeview Television and DAB Aerials**

The successful Bidder will be required to partially design and deliver a Freeview Television DVB-T2 and DAB aerial installation on the roof of the building. The successful Bidder will be required to install DVB-T2 and DAB aerials adjacent to the satellite farm area at roof level with a local coaxial cable (RG6 type) connection to a roof level IP 66 rated equipment cabinet (cabinet provided by others). This powered cabinet houses permanent fibre links (provided by others) to the Level 9 CER where the TV head-end will reside. Within the Level 9 CER, coaxial outputs for the DAB and DVB aerials shall be presented on a 1U high bulkhead patch panel presenting suitably rated male threaded "F" type connectors.

The RG6 type cable must be of the lowest signal loss with a very high degree of shielding. Interference from cellular (4G, 5G) and similar RF frequencies is anticipated to be unlikely upon initial occupancy of the building but the design of the solution should facilitate the inclusion of the necessary filters at a later date if interference becomes an issue.

The aerial system itself shall be a professional grade system using professional grade equipment. It shall be suitable for a commercial building in the location the building occupies and shall include any filters, amplifiers and other active components that are required to maintain the highest possible signal quality and lowest noise in the Level 9 CER. It must also use methods of fixing which shall be capable of tolerating the occasionally severe weather conditions that might be found at the roof level of the building.

The final installation shall fully comply with/shall not exceed the limits of the Town and Country Planning (General Permitted Development) (England) Order 2015 (as amended) so as to avoid the need to apply for Planning Permission for one or more aerial masts.

### **3.10.3 Cable Lengths**

It is the successful Bidders responsibility to verify all cable lengths that they shall supply for the project. Cables which are too short or otherwise do not meet the specification (e.g. cable terminations will not fit through provided containment) shall be replaced at the Bidders expense.

### **3.10.4 Setting Out Measurements and Dimensions**

The successful Bidder will be required to ensure that all setting out measurements and dimensions provided in the design are checked and verified and any changes the Bidder deems necessary acted upon. Cabling Containment is already installed and alignment of monitor mounting frames and similar with this containment is essential.



### 3.11 Testing (Implementation)

#### 3.11.1 Test Plan

Following appointment, the successful Bidder will be required to provide a Test Plan for each room type or system installed. This document will define the approach, method and resources necessary to undertake and successfully conclude testing, including witness testing. It will also include a method of recording acceptance of each room by TfL. An initial draft of the document must be submitted within three weeks following appointment. The contents of this document will be owned by the Bidder but approved by TfL before being put into practice.

#### 3.11.2 Test Schedule

Following appointment, the successful Bidder will be required to provide a Test Schedule describing the timing of the activities associated with testing. It is important that the timing of witness testing is clearly defined. An initial draft of the document must be submitted within three weeks following appointment. The contents of this document will be owned by the Bidder but approved by TfL before being put into practice.

### 3.12 Video Performance Requirements

All video signal transport and connectivity shall be digital (with the exception of the local user VGA inputs to display monitors). Video feeds shall be provided as minimum 1920 x 1080i pixels (HD) resolution and all display systems shall be optimised for 16:9 aspect. Unless restricted by the published specifications of a particular piece of equipment, the following performance standards shall be met for video signal transport:

1. Frequency Response: Within plus or minus 0.5dB, DC to 4.2 MHz
2. Signal to Noise Ratio: 55 dB minimum (peak to RMS) unweighted, DC to 4.2 MHz
3. Crosstalk: 45 dB minimum unweighted DC to 4.2 MHz

It shall be the responsibility of the successful Bidder to assess, identify and ensure that any possible structure-borne vibration is isolated from camera units in order to achieve stable and static images.

### 3.13 Batteries

TfL expects all wireless devices supplied by the successful Bidder to be provided with an initial set of batteries. Any batteries ordered by TfL as part of the contract shall be reserved for spares and not utilised to accomplish initial installation.

### 3.14 Quality Expectations

#### 3.14.1 Cables and In-Line Cable Converters

All cables used shall be high quality, low loss professional grade cables, fitted with gold plated connectors, factory terminated and tested. Products from or using components manufactured by Belden, QED, Kramer and the like are expected to offer the necessary quality but TfL is prepared to consider other makes at the Bidders suggestion. All HDMI cables shall be to HDMI 2.0 standards. All USB cables shall be to USB 3.0 standards. Similarly, all in-line cable converters shall be professional quality, low loss units with gold plated connectors.

No cables should contain a splice along their length nor should cables be "jointed" at any point along their length. Where jointing is unavoidable, these shall be brought to the attention of TfL. In this case, Bidders will need to submit their proposal for jointing cables and seek TfL's permission to undertake jointing on a case by case basis. Connectors used to permanently interconnect cables using connectors which are not fixed to a bulkhead or other surface must have the male and female halves locked together via a secure method to avoid the connector becoming separated during normal operation.

TfL reserves the right to refuse cables, cable assemblies and in-line connectors proposed by the Bidder should they not perform according to expectations.



### **3.14.2 Television & DAB Aerial**

Bidders are required to provide Digital Television (Freeview) and DAB aerials on the roof of the building. These and any ancillary equipment such as amplifiers, terminators, taps, filters, diplexers, etc. shall be professional quality devices whose specifications and capabilities are commensurate with the size of the building and their installation location.

All mountings, poles and other ancillary equipment required to undertake the erection of the aerials shall be of superior strength and have a high quality, weather resistant, rust resistant finish in order to withstand the heightened wind speed and adverse conditions anticipated in the exposed location and elevation in which they will be installed.

### **3.14.3 Finish**

Bidders shall be responsible for ensuring that all finished items (those items installed or commissioned but not yet witness tested, nor signed off/accepted by Tfl) demonstrate a factory perfect finish as intended by the manufacturer and may wish to provide protection to finished items to prevent accidental damage. Any item demonstrating visible damage to the exterior of the item prior to final sign off by Tfl shall be replaced at the Bidders' expense. Bidders should note that careful attention will be given to this aspect of the installation during inspections and that every device shall be inspected.

### **3.14.4 Installation Quality**

Tfl and their partners in the TIQ Project have been extremely careful to ensure that the project delivers a building which is finished to the highest standards of aesthetic and function. Great care has been undertaken to ensure a high quality installation of all items.

Tfl expects those engaging in the latter stages of the project to continue to deliver to the highest standards of workmanship.

## **3.15 O&M Material**

The Bidder shall provide Operations and Maintenance material within 4 weeks of the conclusion of works on site. This material will consist of:

1. User or other manuals, compliance statements, warranty documentation, etc. delivered with the equipment deployed by the Bidder. This to be supplied bound or otherwise contained together on a room by room basis.
2. A full list of equipment deployed on a room by room basis citing manufacturer, model and other criteria (e.g. fixed asset number, static IP address, software revision, etc.) as applicable. This information to be recorded on the Crestron Fusion database and as a hardcopy printed document.
3. Recommendations for Preventative Maintenance activities which best practice dictates is undertaken on the equipment provided by the Bidder.
4. A detailed "As Built" physical connectivity schematic for each meeting room type showing all the equipment provided and the type of interconnections between the equipment.
5. A schedule of Data Outlets and Network ports used and the equipment connected to each port.
6. Soft Copy (on CD or similar) of any meeting space photographs input into the Crestron Fusion Database.

Tfl is currently engaged in the development of a CreateMaster O&M system for other works associated with the building. The successful Bidder will be required to post the above O&M material to Tfl's instance of CreateMaster as and when defined. The costs for delivery of O&M material should include this upload.



## **4 Other Information**

### **4.1 Health, Safety and Welfare**

The health, safety and welfare of all persons in a Tfl building is of paramount importance to Tfl at all times. Within Tfl Head Office buildings all operatives and contractors are required to abide by the Tfl Facilities Operations "house rules" and adhere to their Work Access Systems procedures and RAMS. All persons undertaking work on site shall have received appropriate training in respect of the work they are undertaking and the tools they are using (e.g. working at height, use of power tools, etc.) and will be asked, where applicable, to evidence that training or qualification.

### **4.2 Waste Management**

Tfl aims to minimise waste as much as possible and reach a position where 'unwanted' materials are no longer referred to as 'waste' but are considered a potential resource. Tfl has targets for reducing waste and increasing recycling, reuse and recovery. Waste performance is monitored and reported on a regular basis. Bidders are expected to support Tfl's aims in this regard, evidenced by their Project Waste Management Policy.

Further guidance relating to Tfl's Waste Management Policy for Non Operational Head Office Buildings may be found in the document "Tfl HO Environmental Guidelines" included in the bid package (See RFP List of Appendices)

### **4.3 Operative Behaviour**

All personnel working in any Tfl building shall be appropriately dressed and work in a professional manner at all times. No smoking or "vaping" is allowed within any Tfl building. Personal audio equipment, radios etc. are not permitted without prior arrangement and the explicit agreement of the Building Manager.

Photography is not permitted. Profane language, abusive behaviour, being under the influence of alcohol or drugs, sexual comments to or about others, leering and other offensive behaviour will not be tolerated and offenders will be reported to their employer and asked to permanently leave site.

### **4.4 Site Access and Permissions**

From 1/9/17 the site will be under the control of Tfl Facilities Operations represented on site by the Tfl Building Management Team. As such, the Bidder will be required to adhere to the requirements laid down by Tfl in respect of building access and permission to work. Two items are key in this respect:

1. The preparation and submission of a Risk Assessment Method Statement (RAMS)
2. The preparation and submission of a Works Access System (WAS)

To assist Bidders in assessing the complexity of generating the necessary documentation, an example RAMS template has been included in the bid package. It is not a requirement that the successful Bidder uses this template, but it does list all the information that Tfl Building Management will expect to see in a RAMS.

A WAS template is also provided. A WAS is applied for on-line, the template illustrating the types of information required in order to complete the application.

Both the RAMS and WAS templates are subject to change as Tfl strives to continually improve Health and Safety of Tfl buildings.

It is imperative that the chosen Bidder always works in a neat and tidy manner and in accordance with the requirements laid down by Tfl Building Management and Building Security at all times.

### **4.5 Deliveries**

All deliveries to the site are to be on a Just-In-Time (JIT) basis owing to the limited availability of secure on site storage facilities. Tfl will make one or more secured meeting rooms available to the successful bidder



for the secure storage of items delivered by or to them upon the understanding that the equipment delivered forms a constituent part of the equipment necessary to conclude the project. Tfl cannot entertain the storage of items intended for other projects.

#### **4.6 Site Readiness**

The CatB fit out will be complete by the time the Tfl CatC AV Bidder commences works on site. All fixed cabling and electrical outlets will be installed and tested. Power and cooling will be available throughout the building. Meeting Room tables may not be available at the time of first or second fix on site – this to be coordinated at a later date. Where furniture is not available, the successful Bidder and Tfl will agree a strategy to permit the AV installs to be signed off without the benefit of furniture being present.

Walls designed to support the mounting of large monitors or other equipment have been reinforced via the addition of plywood in their construction, Furthermore, they have been laid out by CatB in accordance with CatB/CatC coordinated drawings to facilitate ease of CatC fit out.

#### **4.7 Site Accommodation**

Bidders shall note that Tfl shall allocate two desk positions to the successful Bidders on-site team. These desks will be equipped with power only. The successful Bidder shall provide any and all equipment required on site by their team including IT equipment, tools, H&S equipment and all other materials. Any printer brought to site by the successful Bidder must be limited to production of A4 hardcopy. Material which calls for printing at a size larger than A4 shall be printed off-site and couriered to site. No Wi-Fi signal, Internet access or telephony services will be provided by Tfl.

#### **4.8 Personal Protective Equipment (PPE)**

For those working on site after 1/9/17, it is currently proposed that a basic level of PPE is worn depending upon the task. All persons working on site shall wear protective footwear in accordance with the relevant current safety standards. All persons shall also wear a branded Hi-Viz vest in order that the number of operatives working on site can be readily and easily distinguished from each other.

Anyone working at height will be required to wear a hard hat. In addition to PPE, when working at height, the bidder will be required to provide barriers in order to create an exclusion zone around the work area.

PPE shall be clean and well maintained. Dirty, scruffy, torn or otherwise damaged PPE will not be accepted on site by Tfl. All the PPE measures that the successful Bidder will undertake in relation to a particular task will need to be described in their RAMS.

#### **4.9 Telephony**

All telephony described or referred to within Audio Visual documentation relating to the Tfl TIQ project will be provided by a third party.

#### **4.10 Thin Clients (PCs)**

Tfl EUC Thin Client PC's will be free-issued by Tfl to the selected Bidder. Bidders shall indicate in their Draft Programme when these units will be required on site.

#### **4.11 Variation of Contract**

Tfl may decide to fit out other meeting spaces within TIQ not currently in scope to receive a large display capability. In order to do so, Tfl require that Bidders hold their hardware and labour charges until 30/12/17. Any variations issued by Tfl on or before that date to add additional spaces not covered in the existing specifications will be at the rates supplied by the Bidder in their tender response. Any variation by Tfl after 31/12/17 will not be subject by the pricing submitted by the Bidder in their tender response and will need to be submitted to Tfl as part of the variation request. The timing of the delivery, timing of payment and similar matters relating to such requests would be agreed with Tfl on a case by case basis.



Should it become apparent that other works are required in order to deliver the Audio Visual solution within the building, the successful Bidder would be asked to submit their costs to supply the hardware and provide all installation, commissioning and other services as necessary. If such a variation is raised, the successful Bidder would also be asked to make an assessment of programme impact and RAID.

#### **4.12 Errors in Bid Package Documentation**

TfL has been careful to assemble a bid package that is comprehensive, up to date and accurately reflects TfL's requirements and design intent. Nonetheless, TfL cannot warrant that the contents of the bid package as issued are free of defect or inaccuracy. Should Bidders note any errors in any of the documentation provided as part of the bid package, they are asked to bring this to the attention of the TfL Procurement Officer who issued the bid package at the Bidders' earliest opportunity via the clarifications procedure detailed in the RFP document.



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Appendix C – Bidders Submission

Insight<sup>®</sup> 



TFL

*Audio Visual equipment and  
associated services - ICT12463*

DOCUMENT REF - QMF40.1  
QUOTE REF -  
DOCUMENT NAME - AUDIO VISUAL EQUIPMENT AND ASSOCIATED SERVICES  
- ICT12463  
PREPARED BY – TOBY PEARCE  
DATE - 29/06/2017



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## 2 PURPOSE OF THIS DOCUMENT

This document has been created following the RFP for the Audio Visual CAT C installation at TFL.

The response to this requirement is made by Insight Direct (UK) Ltd as Prime contractor with CINOS as a subcontractor with the necessary experience to offer, implement and support the proposal. CINOS is an Insight registered subcontractor and, as part of this subcontractor process, has a signed Market Place Agreement with Insight confirming understanding and compliance to the terms and conditions of contract.

The sections listed include:

- Information Only Requirements as stated in section 5.7 RFP
- Scored Technical Submission Requirements as stated in section 5.8 RFP
- Support Services

As requested each section heading falls in line with the section headings and numbering within the RFP and SOW documents



## 5.7 INFORMATION ONLY REQUIREMENTS

### 5.7 (A) LIST OF DRAWINGS

We propose to prepare for each room/space variant

- As built drawings
- Design schematics
  - Control, network, video and audio
- Elevation and plan drawings
  - Based upon supplied building drawings

### 5.7 (B) ALTERNATIVES AND OPTIONS PAPER

We deem the proposed installations to be fit for purpose, therefore an alternative design will not be necessary.

### 5.7 (C) DETAILED DESIGN WORKS

We will provide a SOR and SOW detailing our proposed works and requirements in order for us to complete the project in line with TFL's expectations

### 5.7 (D) COMPLIANCE CHECKLIST

Completed and attached at Annex 1.

### 5.7 (E) ORGANISATION CHART

Role	Staff Member	Responsibility
Executive Project Sponsor	Karl Deady	Overall commercial and project delivery
Commercial Manager	Toby Pearce	Commercials and bid response
Senior PM	Lee Sharp	Overall project delivery/design
Onsite Supervisor	Steve Willis	Onsite supervision
Installation Engineer	Liam Ballard	Installation works
Installation Engineer	Tom Bailey	Installation works
Installation Engineer	Dan Hicklin	Installation works
Installation Engineer	Chris Wells	Installation works
Commissioning Engineer	Paul Philipson	System commissioning
Control Systems Programmer	Craig Ball	Control system programming
CAD Engineer	Alan Dickinson	O/M and CAD
FM/Fusion Migration Engineer	Josh Heritage	Migrating data



5.7 (F) PAYMENT MILESTONE

Deliverables	Deliverable Description	Amount
1	Order Received (20%)	[REDACTED]
2	Produce detailed design/SOR/SOW (10%)	[REDACTED]
3	Equipment delivery Stage 1 (25%)	[REDACTED]
4	Equipment delivery Stage 2 (25%)	[REDACTED]
5	Users Acceptance Test (20%)	[REDACTED]
6	FM Facts Migration	[REDACTED]

5.7 (G) RELEVANT EXPERIENCE

**Project name** - TIQ Stratford  
**Project client** - Lendlease (sub contracted via Data Techniques)  
**Start and completion dates** - April 2017 – August 2017  
 [REDACTED]  
**Scope of Project** -Phase 1 of current project 100+ meeting rooms to include Auditorium Spaces and Crestron Fusion  
**Bidders Client Contact** [REDACTED]

**Project name** - Hendon Peel Centre Training Facility  
**Project client** - Metropolitan Police  
**Start and completion dates** - May 2016 – September 2016  
**Value of Project** [REDACTED]  
**Scope of Project** Met Police training facility. 40+ high specification multipurpose meeting spaces including divisible conference rooms, video conferencing 300 seat auditorium space, external parade ground and AMX RMS  
**Bidders Client Contact** [REDACTED]

**Project name** - Rolls Royce Aerospace Innovations Suite and IT Hub  
**Project client** - Rolls Royce Aerospace (sub contracted via Vodafone)  
**Start and completion dates** - Jan 2017 – April 2017  
**Value of Project** [REDACTED]  
**Scope of Project** - Rolls-Royce Defence Operations in Bristol and Innovation Team in Derby required bespoke innovative solutions to enable users to captivate audiences (usually customers) and allow for seamless collaboration within their teams. The target of the Innovation Suite within Bristol is to show their customer base everything from the Rolls-Royce story through to their 'care package' offerings for military supplied engines. The solution within Derby was slightly different as they wanted a showcase area which allowed seamless collaboration with both internal teams and external partners to create future deliverables.

Across both areas, Cinus integrated multiple technologies which were intuitively controlled using either an AMX or Crestron control system. The solutions included (but not limited to):

- Large format interactive displays (up to 84")
- Interactive, Collaboration Solutions (Prysm Synthesis Wall – 190")



Crown  
Commercial  
Service

- Full Audio/Visual Delivery – including standardised room solutions for 15+ meeting spaces, advanced room scheduling, video wall solutions, lighting control and digital signage.
- All Cat6 and Audio visual cabling.
- Server Room solutions – Cabinets, Cooling, Uninterruptable Power Supplies (UPS) and access management
- Innovative technologies – Bespoke interactive tables, wallpaper displays (LG), Transparent Coolers, etc.

Bidders Client Contact





## 5.8 SCORED TECHNICAL SUBMISSION REQUIREMENTS

### 5.8 (H) PROGRAMME OF WORKS

A high level sample programme of works.

We anticipate completing UAT user acceptance testing and level 1 rooms in the 1<sup>st</sup> week. Moving forward we will complete two levels each subsequent week including the central equipment/IPTV/aerial installation by mid September. Commissioning will be carried out directly after completion of each room. Client handover and sign-off W/C 16<sup>th</sup> October.

Crestron Fusion and FM Facts data migration to take place during the 1<sup>st</sup> two weeks of the project.

	W/C						
Task	04-Sep	11-Sep	18-Sep	25-Sep	02-Oct	09-Oct	16-Oct
Delivery							
UAT							
Level 1							
Level 2							
Level 3							
Level 4							
Level 5							
Level 6							
Level 7							
Level 8							
Level 9							
Level 10							
Central Equipment							
Crestron Fusion/FM							
Commission							
Sign off							

### 5.8 (I) RESOURCE UTILISATION CHART

A high level resource utilisation chart

	W/C						
Staff	04-Sep	11-Sep	18-Sep	25-Sep	02-Oct	09-Oct	16-Oct
Senior Engineer/Site Supervisor	1	1	1	1	1	1	1
Installation Engineer	4	4	4	4	4	4	4
Commissioning Engineer	1	1	1	1	1	1	1
Control Systems Programmer	1	1	1	1	1	1	1
Offsite PM (Including O/M works)	1	1	1	1	1	1	1
Offsite CAD Engineer	1	1					
FM/Fusion Migration Engineer	1	1					



#### 5.8 (J) SUPPLY APPROACH

All AV equipment will be ordered and delivered directly to our warehouse. The equipment will be asset tagged and logged on our system. The equipment will be delivered to site using our work vehicles as and when required according to the programme of works such that we limit the requirement for onsite storage and mitigate the risk of damage/theft. All equipment will be signed for and logged onsite by the senior engineer/site supervisor. At the end of each working day all packaging will be removed from site and disposed of accordingly.

#### 5.8 (K) INSTALLATION APPROACH

As per our programme of works, we anticipate completing UAT user acceptance testing and level 1 rooms in the 1<sup>st</sup> week. Moving forward we will complete two levels each subsequent week including the central equipment/IPTV/aerial installation by mid September. Commissioning will be carried out directly after completion of each room. Client handover and sign-off W/C 16<sup>th</sup> October.

We propose a minimum of two teams of two installation engineers (can be increased if required). We anticipate each team completing an average of two to three rooms per day. The installation engineers will be responsible for the complete installation and testing. The commissioning engineer will follow behind and undertake the commissioning process as outlined later in this document.

The senior engineer/onsite supervisor will be responsible for onsite coordination of the teams, equipment delivery and site cleanliness. They will report back daily to our senior project manager

#### 5.8 (L) COMMISSIONING APPROACH

The table below is an excerpt outlining details of our standard commissioning approach relevant to this project

DISPLAY DEVICES	YES	NO	N/A	AUDIO DEVICES	YES	NO	N/A
Display Device (s) Tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Audio Device (s) Tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Display Device (s) Mounted Correctly and Secure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Audio Device (s) Mounted Correctly and Secure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Camera (s) Tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sound Check carried out on All Sources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Camera (s) Mounted Correctly and Secure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Microphones Tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Display Cables Labelled and Contained	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Audio / Microphone Cables Labelled and Tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

  

CONNECTION PLATES	YES	NO	N/A	AUDIO/VIDEO CONFERENCING	YES	NO	N/A
Floorbox / Wall Connection Plates Tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Inbound Call at Maximum Bandwidth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Floorbox / Wall Connection Plates Secure and Neat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Outbound Call at Maximum Bandwidth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Table Connection Cubby Tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Audio Output Levels Tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Table Connection Cubby Secure and Neat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Microphones Tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rack Connection Plate Tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Data Input Tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rack Connection Plate Secure and Neat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dual Video Call Tested (Sources Routing Correctly)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
User Cables Supplied (VGA / HDMI/ Audio)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Audio Conference Completed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Overall Video Quality in Call	1	2	3	4	5	6	7	8	9	10	Audio Quality in Call	1	2	3	4	5	6	7	8	9	10
-------------------------------	---	---	---	---	---	---	---	---	---	----	-----------------------	---	---	---	---	---	---	---	---	---	----

CONTROL SYSTEM	YES	NO	N/A	RACKS/TROLLEYS	YES	NO	N/A
Touch Panel Tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All Equipment Secure and Labelled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spelling is 100% Correct	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rack Cables Labelled and Neat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Control cables Neat and Tidy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sufficient Ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Touch Panel Tested in Dual Room and Stand Alone Room (s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Earthing Bar / Earthing Straps Supplied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coding Errors/Snag Checks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Front Plates Installed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Panel Design/ Button Layout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Keys Supplied for Front and Rear Door	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				D Types Matric Labelled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**5.8 (M) TESTING APPROACH  
PRIMARY OBJECTIVES**

To demonstrate the full AV functionality for each room variant. For each variant the following process will be undertaken:

**Technical Resources:**

A list of all AV equipment installed within the room/space. To include LED screens, control systems, audio amplification, audio DSP, speakers, video conferencing systems, cable management (this list is not exhaustive)

**Setup Process:**



Detailing the installation and configuration of the system, demonstrating to the client how the AV solution is physically constructed

**Test Operation Process:**

The system will be commissioned prior to the user acceptance test following the check list detailed in the previous section. A complete "end to end" test of the system will be undertaken to ensure all aspects of the solution perform as expected. Should any issues arise these will be dealt with accordingly and a re-test will be performed until in line with the client's requirements.

We would anticipate testing and witnessing for each room variant to be completed within the 1<sup>st</sup> week of commencement.

5.8 (N) CERTIFICATIONS /ACCREDITATIONS

Certifications		
Qualification	Supplier/ Manufacturer	Qualified Persons
Polycom Video Endpoints Technical Level 1 RPEEXOT104	Polycom	5
Polycom RealPresence Platform Technical Level 1 RPPEXOT104	Polycom	3
CCNA and variants (e.g. CCNA-DC, CCNA-COLLA)	Cisco	19
CCNP and variants (e.g. CCNP Route and Switch, CCNP-COLLA)	Cisco	7
CITB construction skills - site safety plus	CITB	7
CITB Health and safety awareness	CITB	5
Creston CTI P201 Crestron	Crestron	3
Crestron CTI Certified Programmer Crestron	Crestron	3
Crestron CTI P101 Crestron	Crestron	3
Crestron CTI-P301 Crestron	Crestron	3
Extron Digital Av Technologies	Extron	3
Extron EAVA	Extron	7
Polycom Certified Videoconferencing Engineer PCVE	Polycom	4
Polycom RealPresence Clariti Technical Certification RPCOT200	Polycom	2
Polycom RealPresence Environments Level 1	Polycom	1
Polycom RealPresence Platform Technical Certification RPPOT200	Polycom	2
Polycom RealPresence Services Specialization for Field Support Engineers RPSAT300FSE	Polycom	2
Polycom RealPresence Solutions Technical Specialization RPSIT300	Polycom	2
Prince 2 Practitioner	APMG	4
ITIL - Found.Certif. IT Service Management	ITIL	7
ITIL - Foundation v3	ITIL	1
ITIL Foundation	ITIL	6
ITIL® Intermediate certificate in IT Service Transition	ITIL	1

5.8 (O) PROJECT MANAGER CV

*The PM that would be assigned to the TIQ project is the PM already allocated to the CATB fit out*



**Profile**

Currently responsible for delivering a portfolio of £4M+ of Audio Visual/Video conferencing projects across a wide range of Government and Private sector clients.

Previous 10 years experience as an in house/onsite project engineer with great experience in planning and delivering projects for a wide range of customers covering both small, medium and large scale budgets. Liaising with customers, and other third party contractors has become a major part of my role.

**Skills Matrix**

Project management | Programme Management | Prince 2 | Project Planning | Customer Service | Site Surveying | Scheduling and Planning | Installation | Technical Support | People Management | Audio Engineering | Video Conferencing | AV Design | Digital Signage | Live Events | Multimedia Entertainment | Rack Building | IPTV | Digital Signage | AMX/Crestron Control Systems

**Personal Attributes**

Communication  
Time /Workload Management

**Career Detail**

Cinos Ltd –Senior Project and Engineering Manager January 2016 to present

Cinos Ltd –Project Manager June 2013 to December 2015

Cinos Ltd – Senior Project Engineer January 2013 to June 2013

**Current Daily Responsibilities**

- Project Management
- Onsite responsibility and management of the project engineering/programming and commissioning teams
- Future Project Planning
- Resource Scheduling
- Install Resource Management (Ensuring required Equipment is ordered to current lead times)
- Managing Customer Expectations
- Project Commissioning /Delivery /Handover

**Queen Mary’s College – Sound /Lighting /AV Engineer August 2005 to December 2013**

- Planning and Running of various scale shows, concerts and productions for both the Educational side of the College and the Professional on site theatre.
- Maintaining and sourcing equipment
- Working with professional performers and companies using the facilities
- Delegating roles and specific tasks to other employees and volunteers
- Designing and

**5.8 (P) WASTE PRO-FORMA**

A sample project waste pro-forma can be found at Annex 2.

**5.8 (Q) HEALTH AND SAFETY RISK REGISTER**

<b>SECTION 4: Risk Assessment and Method Statement</b>		
Name of Supervisor(s) in charge of work	Lee Sharp	Senior PM
Name of deputy / relief	Charles Willis	Senior Engineer



Significant Hazard(s) Detail the hazards related to specific activities in the methodology which could result in significant injury	Risk Rating without Controls			Detailed Control Measures	Risk Rating After Controls			Comments
	H	M	L		H	M	L	
Improper Use of Tools. Cuts, bruises, sprains, impact injury and broken bones, damage to third parties, material and property.	M			Training and Experience, Ensuring any sharp blades or edges are covered, Tool Box Talks to remind operatives of the safe use of tools and equipment. No fixed blade knives will be used on site under any circumstances.	L			
Use of Power Tools. HAVS	M			Battery operated tools will be used. Trigger time will be intermittent and limited to short periods of time to reduce exposure during the working day. All tools will be subjected to regular tests. Pre-use inspections	L			
Use of Power Tools. Burns, Electrocution.	H			Primary solution is battery operated tools, Secondary solution 110v Tools. All 110v tools will have been pat tested and will display a current PAT testing sticker. All mains tools will be used with a Residual Current Device.	M			
Use of Power Tools. Cuts, lacerations and serious injury, damage to third parties, material and property.	H			Training and Experience, ensuring any sharp blades or edges are covered, Tool Box Talks to remind operatives of the safe use of tools and equipment. The correct PPE will be worn at all times. Steel Toe Capped Boots and High Viz will be worn at all times as standard. Gloves; full eye protection and facemasks, Full sleeve tops to be	M			



		worn as appropriate.		
Working in Occupied Areas	M	<p>Engineers will always barrier off their work space and place signs on barriers restricting access.</p> <p>Floors will never be left raised in occupied areas in the same way they would not be left in unoccupied areas.</p> <p>Workers will be notified of any noisy works to take place and asked to leave the area while that work was taking place.</p> <p>Tool boxes will be left locked when area is unattended to prevent un authorized access to tools which could cause injury if used incorrectly.</p> <p>Towers and podiums will be left without their signed scaff tags displaying the 'do not use' sign.</p> <p>No unsecured cabling will be left across walkways. If works include a walkway the walkway will be diverted or temporarily attended by another engineer to prevent through access.</p>		
Use of Power Tools. High Noise Levels.	M	<p>Correct Hearing Protection should be worn at all times.</p> <p>Exposure to noise will be limited to short periods of time throughout the working day.</p> <p>Different engineers will be used for each instance of drilling to reduce exposure to noise.</p>	L	
Work at Height Cuts abrasions. Broken Bones Serious impact injuries	H	<p>Towers or podiums with guard rails will be provided and must be of sufficient height to allow safe working practices.</p> <p>All towers will be assembled by PAS MA trained engineers who are experienced and competent in their assembly. A Scaff tag will be attached and signed off by a PAS MA trained engineer.</p>	L	



		<p>Podiums will be used and assembled only by competent engineers. A Scaff tag will be attached and signed off by a competent engineer.</p> <p>Steps will all be fitted with a ladder tag and this will be signed off by a competent engineer.</p>		
Steps Step - Slips, Trips, Falls.	M	<p>Steps will only to be used for low risk work and a short duration of time (maximum of 30 minutes).</p> <p>Steps to be visually inspected before use and a ladder tag attached and signed off.</p> <p>Steps only to be placed on a suitable firm and level base.</p> <p>Steps should never be used in an area where wet or damp floor areas are present.</p> <p>Three points of contact to be maintained at all times when working to avoid overreaching or loss of balance.</p> <p>Engineers will always be front facing when climbing up / down of working from steps.</p> <p>Engineers will never use the top 2 runs of steps.</p> <p>Engineers will never sit on any run of steps when working.</p> <p>Equipment used to be class 1 'Industrial' or EN131 Fiberglass types.</p> <p>When using steps a ground level engineer should always be present.</p> <p>Any tools should be attached to the engineer using a tool tether.</p> <p>Appropriate footwear to be worn.</p> <p>Equipment should be suitably stored after use.</p> <p>Work at height training to be undertaken..</p>	L	
Work at Height.	H	<p>Ensure that equipment is correctly erected per operating instructions</p>	L	



Collapse of Access Equipment.		and inspected before use. PASMA Training and experience.		
Drilling In Ceiling Voids. Silica dust caused by drilling from concrete ceiling	M	The correct PPE and RPE will be worn. Gloves; full eye protection and face mask. Only Face fitted masks will be used for any drilling activities. Masks to be used in accordance with manufacturer's instructions. Filters to be replaced in accordance with manufacturer's instructions.  Where possible the operator will try to be as close to the ceiling as possible.	L	
Manual Handling. Cuts, abrasion, crushing injuries, amputation of fingers and toes, major injuries, muscle strains, damage to third parties, material and property.	M	Manual handling will try and be avoided at all times in favour of mechanical means where it is not possible additional labour will be provided to reduce the risk of injury.  Where possible loads will be reduced to manageable size.  Manual Handling training	L	
Fitness for Work	M	Engineers will not attend work under the influence of alcohol or drugs. Site management will be notified of any medical conditions suffered by any engineers attending site. Engineers will be allowed breaks from work during the day to ensure tiredness is avoided and they remain alert and aware of their working environment.	L	
Materials Delivery.	M	Follow traffic management plan.	L	



S truck by other vehicle.		Banksman to guide vehicles.  PPE – high visibility clothing to be worn  Clear instructions to delivery driver and operatives		
Materials Delivery Moving loads.	M	Manual handling training Loads broken down to manageable size Trolleys/cages/goods lifts used to move materials	L	

*SECTION 5: Methodology – Set out the clear method of doing the work and include any specific HOLD POINTS that require to be managed including Health, Safety and Quality issues; reference should be made to the ITP to ensure that the correct fixings and processes are used. Include permits required, special training and PPE where over and above standard.*

1.	<p>All engineers will be provided with the following PPE to wear in accordance with the specific requirements of the site set out during the health and safety site induction.</p> <ul style="list-style-type: none"> <li>▪ Steel toe boots: EN ISO 20345-2011</li> <li>▪ Hard hat: EN397 Type 1 Class E</li> <li>▪ Gloves: EN388-2003</li> <li>▪ Safety glasses: EN166F CE 7871</li> <li>▪ High visibility vests: EN471-2007</li> <li>•</li> </ul>	
2.	Any works described above involving drilling into concrete soffit will only be carried out only by an engineer wearing an FFP3 filtered mask.	
3.	Any works where it is required to fix into concrete soffit will be carried out using the following fixings. 8-10mm Fischer Fixing Nylon Rawl Plugs and fix using M8 Hex Coach Bolts.	
4.		



## SUPPORT SERVICES

All equipment supported is listed in the "Appendix B Pricing Matrix and Bill of Materials 13 June 2017" and the AV CAT B BOM

## SUPPORT DURING WARRANTY PERIOD

The offering is fully inclusive of labour. Agreed response times will ensure that in the event of failure the downtime to your operation will be minimal.

### Overview:

- Dedicated 24/7 helpdesk
- Mon-Fri 0800-1700
- **Severity Level 3** Service is restored or a work-around is agreed within 24 hours for 90% of incidents
- **Severity Level 4** Reasonable endeavours
- Warranty management on failed equipment
- Crestron equipment is on advanced replacement for the 1<sup>st</sup> year, equipment will be shipped on next business day after the fault finding /assessment has been undertaken
- Polycom equipment is on advanced replacement for the 1<sup>st</sup> year, equipment will be shipped on next business day after the fault finding /assessment has been undertaken
- Firmware upgrades as and when relevant

We propose a spares holding for the following equipment:

- LG 49S M5KB x1
- LG 65S M5KB x1
- QSC Core 110f x1

Should any screens fail we shall use the spares holding as an initial work around whilst the units are returned to the manufacturer for repair.

Any additional equipment failures we will provide relevant loan equipment as a work around whilst the units are returned to the manufacturer for repair.

Upon return from the manufacturer, we shall re-install the original equipment.

## SUPPORT POST WARRANTY PERIOD

The offering is fully inclusive of labour. Agreed response times will ensure that in the event of failure the downtime to your operation will be minimal.

### Overview:

- Dedicated 24/7 helpdesk
- Mon-Fri 0800-1700
- **Severity Level 2** Service is restored or a work-around is agreed within 8 hours for 90% of incidents
- **Severity Level 3** Service is restored or a work-around is agreed within 24 hours for 90% of incidents
- **Severity Level 4** Reasonable endeavours
- Warranty management on failed equipment
- Polycom equipment is on advanced replacement for the years 2/3, equipment will be shipped on next business day after the fault finding /assessment has been undertaken
- Firmware/software upgrades as and when relevant for Crestron Fusion, Microsoft plug-in and other AV components

We propose a spares holding for the following equipment:

- LG 49S M5KB x1
- LG 65S M5KB x1
- QSC Core 110f x1



•	Crestron	TSS-752-B-S	x2
•	Crestron	TSW-760-B	x2
•	Crestron	DMC-CATO-HD	x1
•	Crestron	DMC-4K-C	x1
•	Crestron	DMC-STR	x1
•	Crestron	DM-TX-401-C	x1
•	Crestron	DM-R MC-4K 100C	x1
•	Crestron	R MC3	x1
•	Crestron	DMP3 3-4K-150-C	x1

Should any screens fail we shall use the spares holding as an initial work around whilst the units are returned to the manufacturer for repair.

Any additional equipment failures we will provide relevant loan equipment as a work around whilst the units are returned to the manufacturer for repair.

Upon return from the manufacturer, we shall re-install the original equipment. Any equipment out of manufacturer's warranty may be chargeable.



ANNEX 1 - COMPLIANCE CHECKLIST

SOW Section Number	SOW Section Heading	SOW Page	Compliant	Part Compliant	Non Compliant	Comments
1	Introduction	4	X			
1.1	This Document	4	X			
1.2	TfL Project Structure	4	X			
2	Supply Strategy	5	X			
2.1	CatB supply	5	X			
2.2	CatC Supply	5	X			
2.3	Coordination & Interaction – CatB with CatC	5	X			
3	Specific Requirements	6	X			
3.1	Supply	6	X			
3.2	Installation	6	X			
3.3	Commissioning	6	X			
3.4	Testing	7	X			
3.5	Support and Maintenance Services	7		X		Dependent upon final approach in consultation with TfL as detailed in response
3.5.1	Introduction	7		X		Dependent upon final approach in consultation with TfL as detailed in response
3.5.2	Support During Warranty	7		X		Dependent upon final approach in consultation with TfL as detailed in response
3.5.3	Post Warranty Support	8		X		Dependent upon final approach in consultation with TfL as detailed in response



3.6	Programme Dates	10	X		
3.7	Crestron Fusion	10	X		
3.8	FM Facts	10		X	Dependent upon further information from TfL following their surveys and definition of project scope - estimated costs provided against our understanding for the moment
3.9	Fixed Asset Labelling	10	X		
3.1	Bidders Design Element	11	X		
3.10.1	Supporting Systems & Services	11	X		
3.10.2	Freeview Television and DAB Aerials	11	X		
3.10.3	Cable Lengths	11	X		
3.10.4	Setting Out Measurements and Dimensions	12	X		
3.11	Testing (Implementation)	12	X		
3.11.1	Test Plan	12	X		
3.11.2	Test Schedule	12	X		
3.12	Video Performance Requirements	12	X		
3.13	Batteries	12	X		



3.14	Quality Expectations	12	X		
3.14.1	Cables and In-Line Cable Converters	12	X		
3.14.2	Television & DAB Aerial	12	X		
3.14.3	Finish	13	X		
3.14.4	Installation Quality	13	X		
3.15	O&M Material	13	X		
4	Other Information	14	X		
4.1	Health, Safety & Welfare	14	X		
4.2	Waste Management	14	X		
4.3	Operative Behaviour	14	X		
4.4	Site Access and Permissions	14	X		
4.5	Deliveries	14	X		
4.6	Site Readiness	14	X		
4.7	Site Accommodation	15	X		
4.8	Personal Protective Equipment (PPE)	15	X		
4.9	Telephony	15	X		
4.1	Thin Clients (PCs)	15	X		



4.11	Variation of Contract	15	X			
4.12	Errors in Bid Package Documentation	15	X			



ANNEX 2 – SAMPLE WASTE PRO-FORMA

SECTION 1 - PROJECT DETAILS

PROJECT MANAGER	Lee Sharp	PROJECT NAME	TIQ Stratford
LOCATION	OTHER	RECYCLING %	100%
PROJECT NAME	TIQ Stratford	RECOVERY %	100%

SECTION 2 - NON-HAZARDOUS WASTE

To achieve BREEAM 'Excellent' DATA FOR AT LEAST FIVE of the following streams must be recorded

WASTE STREAM	EXAMPLES	REUSED & RECYCLED	DISPOSAL	DISPOSAL	TOTAL WASTE	WASTE TRANSFER NOTE REFERENCE NUMBER(S)
		kg	kg	kg	kg	if applicable
CERAMICS	Bricks, ceramic tiles, clay roof tiles, ceramic toilets and sinks				-	
INERT	Soils, clays, sand, gravel, rubble (hardcore), natural stone				-	
GLASS	Glazing units, secondary glazing, glass partitions				-	
METALS	Radiators, metal formwork, metal sinks, cables and wires, metal				-	
PACKAGING	Pallets, cardboard, bubble wrap, cable drums, wrapping bands, polythene sheets	500			500	
PLASTIC	Gutters and downpipes, DPC, UPVC windows and doors, socket boxes				-	
INSULATION	Glass fibre, mineral wool, purboard, breather paper				-	
CARPET	including carpet tiles				-	
TIMBER	Plywood, chipboard, noggins, battens, doors, windows, mdf, timber off cuts and surplus materials				-	

ANNEX 3 – PRICING SCHEDULE & BILL OF MATERIALS  
Please see "ICT12463 - TIQ AV and Associated Services Pricing Matrix and BOM".