

Appendix G: IT / Systems Programmes

25824	Asset Management
30420	Data Optimisation
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Header Information

BCT No.	
Op No.	25824
Project Name:	Asset Management – Maximo Replacement

Project Overview, Objectives and Status

Overview:		
Description:	The purpose of this project is to complete a re-implementation of the Enterprise Asset Management system, Maximo (<i>the current version is 5.2 and now out of support with IBM</i>).	
Ref. Drawings / Images: <i>(Refer to Annex A)</i>	None.	
Objectives:		
HAL:	<p>The objectives of the project are to deliver:</p> <ul style="list-style-type: none"> Fully supported and up to date asset management system with minimal customisations To define clear asset data structures that are well understood, support the business processes and deliver the required management information Replace current interfaces to Oracle Financials in existing functional areas An interface to Heathrow Map Live A technology solution that supports the airfield in delivering an enhanced and compliant inspection and maintenance process An automated customer feedback solution A consolidated system for asset integration A technology solution to mobilise the workforce Standardised functionality based upon a standardised set of processes Efficient tools for the production of management information A sustainable training environment for on-going system training requirements 	
Airline:		
Project Benefits:		
<p>This project will deliver some immediate benefits and these can be measured and realised immediately following the project completion. These are:</p> <ul style="list-style-type: none"> Mitigation from risk of disruption to the business from system downtime Compliant airfield inspection and maintenance process in line with best practice identified in third party independent reports Sustainable training environment <p>Other benefits will be delivered over the longer term through enabling business improvement and will be tracked through the engineering change programme activities.</p>		
Benefit	Benefit Category	Measure
Mitigation of risk of disruption to the business from system downtime	Risk Mitigation	Up to date system implemented with standard support arrangements in place with the

		vendor
Compliant airside inspection and maintenance processes	Risk Mitigation	Successful audit from the CAA
Sustainable training environment and consistent training materials	Non-financial	A training environment implemented that is supported by Heathrow IT
Post-Handover Integration Tasks Reduced	Efficiency	Time taken from handover to "maintainable asset" reduced
Improved stock control	Efficiency	Inventory performance measures will include: Stock turnover increased Value of stock adjustments decreased Stock availability increased Stock value decreased
Increased technician productivity	Efficiency	Technician performance measures will include: Travel time decreased Tool time increased Work order backlog reduced
Improved fault response	Efficiency	Faults response will be measured by: Faults fixed first time increased Reschedules decreased Time to respond decreased Time to fix decreased
Improved asset performance	Efficiency	Asset performance will be measured through: Asset availability increased Mean time between failure increased
Improved management of contractors (financial and performance)	Efficiency	Contractor performance will be measured by: Time to respond decreased Time to fix decreased Work order backlog decreased
Improved customer satisfaction	Non-financial	Property stakeholder survey shows improvement
Efficient performance management	Efficiency	A system that enables automated reporting introduced so: Time to produce reports reduced
Better informed decision making	Efficiency	Level of confidence in the data improved

Status:	
Programme:	Project Gateway Stage:
Asset Management	Construction Decision

Airline Engagement:
IT Working Groups – last one attended 5 th March 2013.

Project Delivery

Current Control Budget:	
Total Capital Budget (<i>Estimated At Completion</i>):	£11,344,000
<i>Refer to Annex B for cost information detail.</i>	

Schedule:			
Brief Decision:	Start on Site:	Completion on Site:	Operational Use Commences:
07/2011			28/02/2014
<i>Refer to Annex C for programme information detail.</i>			

Assumptions:
The following points cover the significant delivery assumptions related to this project;
Commercial Agreements finalised with Supplier to enable April start of BTI Phase.
Business Resources available for UAT and training as per project Plan.
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>

Operational Issues

HAL Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:

Assumptions:
The following points cover the significant operational assumptions related to this project;
This is a re-implementation of an existing service. It is assumed that the existing service costs will not significantly increase.

Airline Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:

Assumptions:
The following points cover the significant operational assumptions related to this project;
N/A

Average Asset life:	
Average Asset Life:	5 Years
Commentary:	
None	

Note: Asset lives are subject to a number of complex variables and therefore information is indicative only.

Impact on User Charges:

Estimated Per Passenger Cost Impact:	N/A
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Commentary:

None

Note: Impact on User Charge is subject to a number of complex variables and regulatory decisions and therefore information is indicative only.

Non Construction Risk:

The following points cover any significant areas of risk for the Airline Community regarding this project.

None

Annex B: Project Delivery: Cost Information:

Project Information

Project Name: Asset Management – Maximo Replacement
Op No.: 25824

Cost Information

All information extracted from March 2013 month end process

Base Costs:	£10,006,000	88	%
On-Cost:	£988,000	9	%
Opportunity	£0	0	%
Risk (R1 Allowance Only)	£350,000	3	%
Total	£11,344,000	100	%

Commentary:

Cost Benchmark Comparisons:	
Project Name:	Asset management – Maximo Replacement
Total Capital Budget (<i>Constant Prices</i>):	£11,344,000
Guidance Notes:	
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>	

Header Information

BCT No.	
Op No.	30420
Project Name:	Data Centre Optimisation

Project Overview, Objectives and Status

Overview:	
Description:	<p>The Infrastructure Portfolio within the HAL's Systems and Technology Strategic Programme has identified three workstreams ("S&T Workstreams") that require information technology solutions to meet the HAL's Q5+1 business needs, one of which is the Data Centre Optimisation. The workstream was initiated in September 2012, and is due to deliver by March 2014 (Q5+1). The Data Centre Optimisation Project includes the following initiatives: IT115 - Server Platform Refresh: Technology refresh for legacy server hardware which is deemed as end of life, determined as being five years after the manufactured shipped date. IT116 - Sun Refresh: To refresh legacy SUN hardware. IT117 - Data Centre & Node Room Management: To provide for on-going improvement and maintenance of the data centre and node rooms. IT290 - Data Centre Capacity Management: Leverage and optimise capacity in Heathrow Airport Ltd core data centres.</p>
Ref. Drawings / Images:	None
Objectives:	
Heathrow	Ensure the Business is provided with a fully supported, up to date, resilient platform to work on, whilst defining the longer term strategy required for Q6.
Airline:	Airport resilience.

Project Benefits:	
<p>IT117 – Data Centre & Node Room Management Server Workload Profiling: Provides a blueprint for the existing legacy systems to be transitioned into a new virtual environment via accurate modelling and analysis with speed and efficiency therefore reducing risk and migration downtime windows. Upgrade VMware VSphere: Improvements in virtualisation consolidation ratios allowing the deployment of more servers in less physical space. Business continuity is optimised by improved disaster recovery capability. The ability to provision systems in days rather than weeks. Systems and applications can take advantage of enhanced compute power and are therefore much more scalable. Increased energy efficiency by improved server power management. Improved application and service availability enabled by zero-downtime migration. Enablement of automation rules to provide service offerings to the business, which in turn allows speed and efficiency for the provision of new services. Refresh of legacy hardware:</p>	

Applications hosted on modern faster more reliable hardware.
 Improvements in environmental sustainability factors through the provision of energy efficient hardware.
 Server consolidation and rationalisation:
 Risk reduction through migration of legacy key business systems to a supported common hardware platform.
 Reduced power consumption requirements.
 Reduction in server footprint within the data centres freeing up space for other services.
 Offers horizontal scalability potential allowing faster application deployment or upgrades (reduced system downtime).
 Server decommissioning:
 Remove larger, power-hungry aging hardware.
 Will alleviate capacity constraints in the data centres (power, space and network).
 Risk reduction by moving critical systems to current supportable platforms.
 IT116 – SUN Refresh
 Refresh of Legacy hardware:
 Applications hosted on modern faster more reliable hardware.
 Migration to new hardware / OS Platforms:
 Replace larger and aging SUN hardware with smaller and cheaper to run equipment.
 To provide supportable standardised SUN hardware, operating system and application infrastructure.
 Smooth service transition using a pragmatic approach with a case by case analysis of services.
 Server decommissioning:
 Remove larger, power-hungry aging SUN hardware.
 Free up space in the data centre.
 Reduce power consumption and cooling requirements enabling capacity in the data centres.
 Risk reduction by moving critical systems to current supportable platforms.
 IT117 – Data Centre & Node Room Management:
 ITF Cooling upgrade
 Improvements in energy efficiency.
 Relocation of cooling systems to outside the ITF building creating more space inside to deploy test systems.
 IT290 – Data Centre Capacity Management:
 Extension of high density rack deployment (Hot Aisle Containment).
 Allows more servers to be deployed in less physical space.
 Improvements in energy efficiency.
 Relocate 3Par Storage to accommodate HAC extension:
 Create space for Hot Aisle Containment expansion providing optimised space to deploy more services.

Status:	
Programme:	Project Gateway Stage:
IT Infrastructure	Viability completed and entering Definition

Airline Engagement:
 Consultation with airlines has been completed through programme governance using a Business Case for approval for Viability Phase (August 2012)

Project Delivery

Current Control Budget:	
Total Capital Budget (<i>Estimated At Completion</i>):	£5,844,822
<i>Refer to Annex B for cost information detail.</i>	

Schedule:			
Brief Decision:	Start on Site:	Completion on Site:	Operational Use Commences:
N/A	09 / 2012	03 / 2014	03 / 2014
<i>Refer to Annex C for programme information detail.</i>			
Assumptions:			
The following points cover the significant delivery assumptions related to this project; Appropriately skilled and dedicated resources will be available throughout the duration of the Q5+1 timeframe. Key deliverables for each Project Phase will follow the guidelines provided within the latest Project Operating Model (POM), where applicable and agreed with The Company. Information will be added as further detail becomes available and HAL clarify the Key Focus Areas proposed for priority. It is expected / assumed that the recommended options will support the strategic vision for Q6.			
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>			

Operational Issues

HAL Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
N/A	N/A	N/A
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
Not known at this stage, this cost will be known at the end of the design stage.		

Airline Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
N/A	N/A	N/A
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
Not known at this stage, this cost will be known at the end of the design stage.		

Average Asset life:	
Average Asset Life:	5 Years
Commentary:	
None	
<i>Note: Asset lives are subject to a number of complex variables and therefore information is indicative only.</i>	
Impact on User Charges:	
Estimated Per Passenger Cost Impact:	N/A
Commentary:	
None	
<i>Note: Impact on User Charge is subject to a number of complex variables and regulatory decisions and therefore information is indicative only.</i>	

Non Construction Risk:
The following points cover any significant areas of risk for the Airline Community

regarding this project.

Not known at this stage, this cost will be known at the end of the design stage.

Header Information

BCT No.	9825: IT02 - IT Infrastructure Renewal
Op No.	25222
Project Name:	Computer Room Remediation

Project Overview, Objectives and Status

Overview:	
Description:	<p>The project is to remediate 78 IT rooms that are in need of remediation to an appropriate level of Health & Safety and ensure the following:</p> <ul style="list-style-type: none">▪ Reviewing and updating the security processes and procedures in conjunction with security access to the rooms.▪ The ownership of these rooms, the Facilities team's Roles and Responsibilities (R&R), and long term asset stewardship.▪ The services including the appropriate level of cooling within the room.▪ Maintaining and standardising Health & Safety (H&S) in all the rooms.▪ Removal of redundant equipment (network, server, engineering) and cabling to the confines.
Ref. Drawings / Images:	None
Objectives:	
HAL:	Improve Health & Safety within the Airport
Airline:	Airline project objectives include: Increasing alliance co-location and improve pier service.

Project Benefits:
<p>The expected reduction of specific safety and security risks mainly represents a long-term cost reduction due to safeguarding, rather than direct savings.</p> <p>Support incidents are expected to reduce when the environmental issues have been addressed. This will reduce cost and disruption to Heathrow airport's operation. The Health and Safety risks will be reduced. HAL is currently focussing on and addressing any potential issues with the support of the IT Health and Safety team.</p> <p>Redundant services, whether network, server, engineering, or cabling, will be removed and environmentally disposed of. This will free up valuable space across the main terminals whilst removing power and cooling wastages.</p> <p>The remediation and consolidation process will further reduce the complexity of the legacy systems installed in these facilities, consequently reducing the requirement for the current number of facilities, and in turn reducing the overall support needed.</p> <p>This project starts to address airline challenges around the Common Infrastructure policy (CI), allowing HAL Heathrow to raise the level of confidence on availability and Service Level Agreements (SLA's).</p> <p>The Government's legislation for Carbon Reduction Commitment (CRC) Energy</p>

Efficiency Scheme (EES) is due to come into force imminently and carries with it certain penalties. The outcomes from this project will ensure that it provides tangible assistance to HAL in achieving its carbon reduction targets by removing wasteful power and cooling losses and introducing efficiency through the remediation / consolidation exercise. Better monitoring of power usage is also expected to provide assistance for more accurate Carbon Credit forecasting.

Status:	
Programme:	Project Gateway Stage:
IT	Design

Airline Engagement:
Feb 2012

Project Delivery

Current Control Budget:	
Total Capital Budget (<i>Estimated At Completion</i>):	£10,380,948
<i>Refer to Annex B for cost information detail.</i>	

Schedule:			
Brief Decision:	Start on Site:	Completion on Site:	Operational Use Commences:
Feb 2010	Oct 2011	Dec 2013	N/A
<i>Refer to Annex C for programme information detail.</i>			

Assumptions:
The following points cover the significant delivery assumptions related to this project;
<ul style="list-style-type: none"> Key assumptions of the project are that the rooms have been broken down into smaller sub groups and then sub groups again, so that we are working on groups of 8 rooms. The project will not conduct any intrusive work in the data room during any busy periods.
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>

Operational Issues

HAL Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
N/A	N/A	N/A

Assumptions:
The following points cover the significant operational assumptions related to this project;
<ul style="list-style-type: none"> Not known at this stage, this cost will be known at the end of the design stage

Airline Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
N/A	N/A	N/A

Assumptions:
The following points cover the significant operational assumptions related to this

project;
<ul style="list-style-type: none"> N/A

Average Asset life:	
Average Asset Life:	5 Years
Commentary:	
None	
<i>Note: Asset lives are subject to a number of complex variables and therefore information is indicative only.</i>	
Impact on User Charges:	
Estimated Per Passenger Cost Impact:	N/A
Commentary:	
None	
<i>Note: Impact on User Charge is subject to a number of complex variables and regulatory decisions and therefore information is indicative only.</i>	

Non Construction Risk:
The following points cover any significant areas of risk for the Airline Community regarding this project.
<ul style="list-style-type: none"> Not known at this point in time in the project

Annex B: Project Delivery: Cost Information:

Project Information

Project Name: Computer Room Remediation
 BCT No.: 9825

Cost Information

Information from March 2013 month end

Base Costs:	£8,108,869	78	%
On-Cost:	£989,306	10	%
Opportunity	£0	0	%
Risk (R1 Allowance Only)	£1,282,773	12	%
Total	£10,380,948	100	%

Commentary:

Cost Benchmark Comparisons:	
Project Name:	Computer Room Remediation
Total Capital Budget (<i>Constant Prices</i>):	£10,380,948
Guidance Notes:	
The initial costs were taken in 2010, however at each stage of the project we are tendering to multiple suppliers and benchmarking the costs.	
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>	

Header Information

BCT No.	9826 - IT03: Business Planning & Support IT Solutions
Op No.	25290
Project Name:	Programme Controls

Project Overview, Objectives and Status

Overview:	
Description:	Delivery of a suite of Primavera applications – P6, PRA, P6 Analytics, PPM and others - to enable better control over Projects, Programmes and the Portfolio, with associated improved business processes.
Ref. Drawings / Images: <i>(Refer to Annex A)</i>	None.
Objectives:	
HAL:	To replace the end of life Artemis system and increase the reliability of management information. Improve planning and scenario modelling to enable intelligent decision making. Improve the management control capability for managing a multi-billion pound CIP.
Airline:	

Project Benefits:
Reduce costs by an estimate of £11,677,626 by increasing productivity and reducing administration work, overall risk and better planning.

Status:	
Programme:	Project Gateway Stage:
Systems and Infrastructure	Design

Airline Engagement:
IT Working Group

Project Delivery

Current Control Budget:			
Total Capital Budget <i>(Estimated At Completion):</i>		£17,000,000	
<i>Refer to Annex B for cost information detail.</i>			
Schedule:			
Brief Decision:	Start on Site:	Completion on Site:	Operational Use Commences:
06 / 2010	n/a	n/a	06/ 2013
<i>Refer to Annex C for programme information detail.</i>			
Assumptions:			
The following points cover the significant delivery assumptions related to this project;			
All essential reports will be signed-off before go-live.			
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>			

Operational Issues

HAL Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
		N/A
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
N/A		

Airline Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
		N/A
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
See Project Benefits section.		

Average Asset life:	
Average Asset Life:	5 Years
Commentary:	
None.	
<i>Note: Asset lives are subject to a number of complex variables and therefore information is indicative only.</i>	
Impact on User Charges:	
Estimated Per Passenger Cost Impact:	N/A
Commentary:	
N/A	
<i>Note: Impact on User Charge is subject to a number of complex variables and regulatory decisions and therefore information is indicative only.</i>	

Non Construction Risk:
The following points cover any significant areas of risk for the Airline Community regarding this project.
N/A

Annex B: Project Delivery: Cost Information:

Project Information

Project Name: Programme Controls
BCT No.: 9826

Cost Information

All information extracted from March 2013 month end process

Base Costs:			13,756,177	80.9	%
On-Cost:			1,966,752	11.6	%
Opportunity			£0	0	%
Risk (R1 Allowance Only)			1,277,071	7.5	%
Total			£17,000,000	100	%

Commentary:
N/A

Cost Benchmark Comparisons:	
Project Name:	
Total Capital Budget (<i>Constant Prices</i>):	£24,000,000
Guidance Notes:	
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>	

Header Information

BCT No.	9992
Op No.	25293
Project Name:	IT Baggage Phase 1

Project Overview, Objectives and Status

Overview:	
Description:	<p>Baggage performance information is critical if HAL is to create greater efficiency and productivity in its baggage operation. To enable this, HAL IT initiated the IT Baggage Programme in 2009 to create an integrated baggage information system to enable the entire Heathrow Baggage Product to be planned, operated and maintained as a coherent, integrated, Airport-wide solution. The IT Baggage Programme is a critical enabler for Heathrow's Baggage 2018 Operating Plan, with solutions being delivered in accordance with Heathrow IT strategy. Several "Airport-wide" solutions will be delivered by the programme, including the Airport Message Distribution (AMD) system, the Airport Data Repository (ADR) and the Management Information System (MIS). As well as critical for the future step change required in baggage operation, they are also key enablers for initiatives outside Baggage, including Real-Time Heathrow and Combined Control Room.</p>
Ref. Drawings / Images: <i>(Refer to Annex A)</i>	<ul style="list-style-type: none"> • Figure 1 and 2 shows the context of HIBS components including an illustration showing how HIBS enables services to be shared across the Airport. • Figure 3 shows the high-level view of the Enterprise Service Bus (ESB) which provides the Airport Message Distribution function. • Figure 4 shows the high level view of the ADR & MIS which comprises of multiple and parallel layers to increase performance and resilience. • Figure 5 shows HIBS benefits map (Just ADR & MIS Elements)
Objectives:	
HAL:	<p>HAL's project objectives are to deliver an Integrated Baggage IT System that will enable the Baggage Operation to manage the airport-wide baggage product in a coherent and consistent way across the Airport, to improve all aspects of the operation and contribute to making a step change in Transfer Baggage performance in line with Heathrow's strategic intent. HIBS achieves this through introducing consistency, simplifying topology and by enabling resources and information to be shared across the airport, allowing efficiency and performance to be increased.</p>
Airline:	<p>This improvement to HAL infrastructure will provide tools and improved performance which should help improve the Baggage Product and, in particular, aid in the reduction of Missed Bags.</p>

Project Benefits:

The ADR and MIS Solution is core to realising IT Baggage Programme benefits that were identified and approved during Programme Initiation; they are also core to enabling the

delivery of the overall Baggage Strategy for Heathrow 2018 and are also an essential enabler for several non-baggage programmes, including Real-Time Heathrow and the newly initiated APOC programme.

In addition to enabling other programmes, direct benefits delivered by ADR & MIS include:

- Improved Operational Information through single centralised airport baggage inventory and, together with MIS, provides airport-wide visibility and the necessary data to enable automated controls to allow baggage to be swiftly routed, tracked and managed between terminals, secure storage areas and make-up positions across the airport.
- Improved recovery from failure and exceptions.
- Improved Information re-use and Lifecycle Management.
- System Replacement and Consolidation.
- Reduce operating cost through better operational controls and coordination through airport-wide reporting and management Information; for example, reduce manual coding stations costs & system support.
- Address health and safety issues.

Benefits map for the ADR & MIS elements of HIBS is shown in Annex A, Figure 5.

Status:	
Programme:	Project Gateway Stage:
Development	Construction Decision

Airline Engagement:
Airline Engagement happens on a monthly basis as part of the IT Baggage Steering Group, and has done since the Programme started in 2010. The naming convention of the Group has changed from a Working Group to a Steering Group as this is just an endorsement forum, any need for the Airlines to discuss HIBS Architecturally, a Working Group will be scheduled.

Project Delivery

Current Control Budget:	
Total Capital Budget (<i>Estimated At Completion</i>):	£10,571,934
<i>Refer to Annex B for cost information detail.</i>	

Schedule:			
Brief Decision:	Start on Site:	Completion on Site:	Operational Use Commences:
09 / 2009	10 / 2009	12 / 2013	10 / 2013
<i>Refer to Annex C for programme information detail.</i>			

Assumptions:
The following points cover the significant delivery assumptions related to this project; HIBS Systems – i.e. ESB Baggage Services and ADR & MIS will be required in 2013 in order to support the integrated testing and go-live of the Baggage systems in T5 Western Baggage Upgrade, T1, T2, T3IB and T4.

Assumptions that have been made in the preparation of the business case, and are fundamental to the success of the project are as follows:

Baggage Strategy is still current and supported

The recently reviewed 2018 Baggage Operating Strategy agreed with the AOC in May 2009 still has HAL executive support. The reviewed strategy has not significantly changed. The HIBS Programme delivery is focussed to support this strategy and this assumption is fundamental.

Development Programmes deliver in accordance with strategy and to agreed timescales.

With the view that the in-flight Baggage Capital Programmes are delivering in support of the Baggage Strategy and will deliver their elements, in line with the agreed specifications and timescales, to integrate with the Heathrow Integrated Baggage Solution and support the overarching Baggage Strategy.

HAL SAN Storage and Long-term Archive

It is assumed that the capacity and performance of the HAL enterprise storage and backup / archive systems will be increased to cater for the storage and performance requirements of the Baggage Programmes, including those of the ADR & MIS project, as per the detailed specifications which have been supplied to the BAU storage teams.

Master Data Management

It is assumed that following the implementation of ADR & MIS, the owners of Airport Reference Data will work with the HAL Information Architect to ensure that all updates and changes to reference data are updated and maintained in the ADR and that the Information Architect will ensure that an on-going review, approval and update process for maintaining this data is agreed and implemented.

Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.

Operational Issues

HAL Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
Application Support	£677,000	ADR and MIS Application Support will be provided by Cap Gemini. Figures are being agreed but projected costs are in the region of £677kpa.
Support	£191,000	Oracle Platform Support, capital licence cost and the on-going support costs
Support	- TBC	Analysis on-going, once HIBS is operational, savings will be derived from decommissioning existing systems: <ul style="list-style-type: none"> - SE MIS - Merlin - T5 MIS
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
The Opex impacts of the ADR & MIS are currently subject to variation due to on-going supplier negotiations. Opex costs are in the process of being determined and validated.		

Airline Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex	Revenue (+) /	Commentary:

Cost Area:	Cost (-) Impact per Annum:	
		Unknown until Support contracts are finalised and discussion via the Non-regulated charges group have been conducted. Full details expected June 2013.

Assumptions:

The following points cover the significant operational assumptions related to this project;

- Operations will define the required reporting in a timely manner
- Operations will begin to use the ADR / MIS environment for reporting

Average Asset life:

Average Asset Life:	5 Years (Hardware)
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Commentary:

None.

Note: Asset lives are subject to a number of complex variables and therefore information is indicative only.

Impact on User Charges:

Estimated Per Passenger Cost Impact:	N/A
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Commentary:

None

Note: Impact on User Charge is subject to a number of complex variables and regulatory decisions and therefore information is indicative only.

Non Construction Risk:

The following points cover any significant areas of risk for the Airline Community regarding this project.

- None

Header Information

BCT No.	N/A – (IT02: IT Infrastructure Renewal)
Op No.	30054
Project Name:	IT Security Programme

Project Overview, Objectives and Status

Overview:	
Description:	This programme of work is carried out to respond to the compliance audit and enhance system security. The programme will combine the current planned remediation activity with work streams that deliver tools and capabilities which we do not have today.
Ref. Drawings / Images: <i>(Refer to Annex A)</i>	None
Objectives:	
HAL:	The objective of the project is to develop and implement solutions to maintain and enhance, where possible, data security.
Airline:	Maintain IT data security.

Project Benefits:

<u>Financial Benefits</u>
<ul style="list-style-type: none"> The risk of unplanned operational downtime is greatly reduced.
<u>Non-Financial Benefits</u>
<ul style="list-style-type: none"> Protection of HAL reputation More efficient user provisioning, rights management and delegated authorizations Simplified provisioning of external support services
<u>Quick Wins</u>
A number of quick wins have been identified and will be delivered by the Security Operations team as part of business as usual.

Status:

Programme:	Project Gateway Stage:
	Define

Airline Engagement:

The business case was presented to the IT Working Group for consultation on 11th October 2011, where it was endorsed.

Project Delivery

Current Control Budget:			
Total Capital Budget (<i>Estimated At Completion</i>):		£6,800,000	
Schedule:			
Brief Decision:	Start on Site:	Completion on Site:	Operational Use Commences:
10/2011	01 / 2012	Q4 2012 - Q2 2013	Q4 2012 - Q2 2013
<i>Refer to Annex C for programme information detail.</i>			
Assumptions:			
The following points cover the significant delivery assumptions related to this project;			
Key assumptions relating to Define Phase:			
KSA1 - Inputs for the documents will be sought only from the Company and the			

Supplier personnel, and within the Company these inputs will be restricted to members of the IT department and Group Security.

KSA8 - Misalignment planning will focus solely on those items in the report that have not been flagged as 'business as usual'.

KSA10 - The technical solutions where possible are to use existing relationships or technologies used by the Company

Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.

Operational Issues

HAL Financial Revenue and Operational Cost (Opex) Impact:

Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
		Unknown at this stage

Assumptions:

The following points cover the significant operational assumptions related to this project;

See above – Further detail will become available as part of the Design phase.

Airline Financial Revenue and Operational Cost (Opex) Impact:

Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
		Unknown at this stage

Assumptions:

The following points cover the significant operational assumptions related to this project;

See above – Further detail will become available as part of the Design phase.

Average Asset life:

Average Asset Life:	
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Commentary:

Unknown at this stage

Note: Asset lives are subject to a number of complex variables and therefore information is indicative only.

Impact on User Charges:

Estimated Per Passenger Cost Impact:	TBC
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Commentary:

Unknown at this stage

Note: Impact on User Charge is subject to a number of complex variables and regulatory decisions and therefore information is indicative only.

Non Construction Risk:

The following points cover any significant areas of risk for the Airline Community regarding this project.

- To be identified as part of the Define Phase

Annex B: Project Delivery: Cost Information:

Project Information

Project Name: IT Security Programme
BCT No.: N/A

Cost Information

All information extracted from March 2013 month end process

Base Costs:	£5,503,495	81	%
On-Cost:	£1,020,000	15	%
Opportunity	£0	0	%
Risk (R1 Allowance Only)	<u>£276,505</u>	4	%
Total	£6,800,000m	100	%

Commentary:

None

Cost Benchmark Comparisons:	
Project Name:	IT Security Programme
Total Capital Budget (<i>Constant Prices</i>):	£6,800,000
Guidance Notes:	
N/A	
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>	

Header Information

BCT No.	9821, 10115, 9486 (IT02: IT Infrastructure Renewal)
Op No.	25397 (excluding RSP 06 T3P6), 30017, 24564
Project Name:	Radio Systems Programme

Project Overview, Objectives and Status

Overview:	
Description:	Programme of Radio and Cellular infrastructure and service improvements at Heathrow Airport
Ref. Drawings / Images: <i>(Refer to Annex A)</i>	None.
Objectives:	
HAL:	<p>The Vision of the Heathrow Radio Systems Programme is; "To provide mobile communications services at Heathrow Airport that are:</p> <ul style="list-style-type: none"> • Aligned with industry best practice and compliant with industry standards for safety and security. • aligned with Heathrow’s business strategy and operating model • Designed to support a safe operating environment for the airport. " <p>To underpin this vision, the desired future technology state is as follows:</p> <ul style="list-style-type: none"> • To have defined, approved and adopted Standards relating to common Infrastructure, designed-in resilience, service availability and active System management • To ensure service availability through monitoring the fault status of active infrastructure and available radio capacity provided. • To have an approved and managed Strategy and technology roadmap for transition to emerging / known technologies such as digital PMR, TETRA and 4Gmobile data • Ensuring alignment to Heathrow KPI’S
Airline:	As per Heathrow.

Project Benefits:
<p>The Programme will deliver a Mobile Communications System which is:</p> <ul style="list-style-type: none"> • Compliant with health and safety legislation and standards. • Aligned with HAL’s operating license (CAP168) • Functions under an Operating and Governance model with clear &

joined up accountabilities.

- Exhibits a reduced risk of operational failure.
- Governed with effective ownership and control of on-going OPEX and CAPEX investment.
- Providing a predictable and maintainable service to HAL and Third party critical operations.
- Providing a better experience for HAL and Airline customers.

Status:	
Programme:	Project Gateway Stage:
Radio Systems Programme (Heathrow IT Operations)	Options Decision

Airline Engagement:
Multiple engagements with the airline community via the Airline Working Group and IT Stakeholder Programme Board. Specific endorsements against business case presentations as follows; <ul style="list-style-type: none"> - 3rd August 2010 - 7th June 2011 - 23rd September 2011 (IT Stakeholder Board update) - 8th November 2011

Project Delivery

Current Control Budget:			
Total Capital Budget (<i>Estimated At Completion</i>):		£7.076m	
		OP 25397: £4.096m	
		OP 30017: £1.097m	
		OP 24564: £1.883m	
<i>Refer to Annex B for cost information detail.</i>			
Schedule:			
Brief Decision:	Start on Site:	Completion on Site:	Operational Use Commences:
08/2010	08/2010	06/2013	07/2012
<i>Refer to Annex C for programme information detail.</i>			
Assumptions:			
The following points cover the significant delivery assumptions related to this project;			
<ul style="list-style-type: none"> • Projects underpinning the programme will be delivered and supported by an outsourced IT company. • Common infrastructure will be deployed where possible in line with existing HAL published radio standards. • The programme will manage deviances from current forecasts by prioritisation within Q5 and Q5+1. • The Radio Systems Programme Board will allocate all project funding in place of the IT Programme board, under the terms of the recently approved Delegated Financial Authority (DFA) business case approved by the Heathrow Executive. 			
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>			

Operational Issues

HAL Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
IT	N/A	The programme is not forecasting to realise any Opex savings
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
<ul style="list-style-type: none"> The Master Services Agreement states a 'to be' charging structure in line with having completed service transformation for the radio and cellular services. It is not expected that anything the programme is delivering will enable the IT Outsourcer to charge over and above the 'to be' service charge The programme is primarily related to safeguarding the radio and cellular services and will not make any direct revenue savings or bring about any additional revenue generation 		

Airline Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
		TBC
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
N/A		

Average Asset life:	
Average Asset Life:	10 Years
Commentary:	
Radio infrastructure assets tend to have a lengthy asset life, and the extent of this will depend on the timescales within which HAL decide to upgrade to a digital service. Even at this time, many of the provisioned assets will remain in situ.	
<i>Note: Asset lives are subject to a number of complex variables and therefore information is indicative only.</i>	
Impact on User Charges:	
Estimated Per Passenger Cost Impact:	TBC
Commentary:	
Unable to provide a commentary on the estimated per passenger cost impact.	
<i>Note: Impact on User Charge is subject to a number of complex variables and regulatory decisions and therefore information is indicative only.</i>	

Non Construction Risk:
The following points cover any significant areas of risk for the Airline Community regarding this project.
<ul style="list-style-type: none"> The radio and cellular services at Heathrow provide a service to a vast number of external stakeholders, and significant changes to the underlying infrastructure could put service continuity at risk. This will be managed on a project by project basis with careful consideration to fall back procedures and cutover planning.

Annex B: Project Delivery: Cost Information:

Project Information

Project Name: Radio Systems Programme
 BCT No.: 9821
 10115
 9486

Cost Information

All information extracted from March 2013 month end process

Base Costs:	£5.992m	85	%
On-Cost:	£0.874m	12	%
Opportunity	£0	0	%
Risk (R1 Allowance Only)	£0.210m	3	%
Total	£7.076m	100	%

Commentary:

The programme will not overspend against the Q5 CIP budget.

Note that the risk funds are only against approved project phases and do not encompass future project phases. It may therefore grow in size as cost certainty for future phasing is available.

Cost Benchmark Comparisons:	
Project Name:	Radio Systems Programme
Total Capital Budget (<i>Constant Prices</i>):	£7.237m
Guidance Notes:	
Benchmarking has been achieved through HAL’s knowledge of similar radio related projects. Value for money has been demonstrated through following the defined processes within the IT Outsourcer master services agreement and also through tendering a number of work packages.	
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>	

Header Information

BCT No.	
Op No.	30422
Project Name:	Q5+1 Desktop and Mobile Infrastructure Services

Project Overview, Objectives and Status

Overview:	
Description:	<p>The Infrastructure Portfolio within the HAL's Systems and Technology Strategic Programme has identified three workstreams ("S&T Workstreams") that require information technology solutions to meet the HAL's Q5+1 business needs, one of which is called Desktop & Mobile Infrastructure Services (DM). The workstream was initiated in September 2012, and is due to deliver by March 2014 (Q5+1). The DM Services Tower includes the following initiatives;</p> <p>IT119 Desktop services (laptops and desktops) This project will replace thin clients with new desktop machines, while also migrating existing XP machines and their applications to Windows 7 where possible. This will reduce the risk for HAL when XP is out of support in 2014.</p> <p>IT122 Printers The primary requirement is to rollout a managed print service in-line with the needs of HAL to provide the business with a better quality and more cost effective printing solution.</p> <p>IT287 Virtual Desktop Upgrade This project covers the overall virtual desktop strategy (closely linked/part of the overall desktop strategy) which will aim to standardise the way services are delivered. The main component of the project is to provide a like for like refresh for existing capability provided by Citrix, however with reduced capacity (due to the user shift from thin to thick client) and migrated onto a platform that can be supported into the future.</p>
Ref. Drawings / Images: <i>(Refer to Annex A)</i>	None.
Objectives:	
HAL:	Ensure the Business is provided with a fully supported platform to work on, while defining the longer term strategy required for Q6. This will be provided by migrating XP desktops, provision of a managed print service, and a refreshed Citrix platform.
Airline:	None.

Project Benefits:

IT119 Desktop services (laptops and desktops)

- Reduced risk exposure to HAL due to XP going EoS in April 2014.
- Remove legacy risk whilst providing business continuity to support the critical services (new capability to deliver legacy applications to users).
- Extending applications supportability and useful life of existing desktop hardware.

IT122 Printers

- Better quality of printing service.
- Improve business productivity and sustainability:
 - Improved and consistent user printing service experience;
 - Reduced overall printer footprint;
 - Reduced power and network resource consumption; and,
 - Reduce paper consumption.

IT287 Virtual Desktop Upgrade

- Reduced risk exposure and increase in business productivity for HAL:
 - Through more flexible and reliable work styles;
 - Supporting third-party contractors and unmanaged workers more easily;
 - Enhanced mobility and user access to a server-based desktop;
 - This project covers the overall virtual desktop strategy (closely linked/part of the overall desktop strategy) which will aim to standardise the way services are delivered; and
 - Like for like refresh for existing capability provided by Citrix however with reduced capacity due to the user shift from thin to thick client.

Status:	
Programme:	Project Gateway Stage:
IT Infrastructure	Viability completed & now entering Define

Airline Engagement:
Consultation with airlines has been completed through programme governance using a Business Case for approval for Viability Phase

Project Delivery

Current Control Budget:	
Total Capital Budget <i>(Estimated At Completion)</i>	£4,773,789
<i>Refer to Annex B for cost information detail.</i>	

Schedule:			
Brief Decision:	Start on Site:	Completion on Site:	Operational Use Commences:
N/A	09 / 2012	03 / 2014	03 / 2014
<i>Refer to Annex C for programme information detail.</i>			

Assumptions:
The following points cover the significant delivery assumptions related to this project;
The end user estate includes (approx.) 8,000 users, 7,200 end user devices, 1,200 laptops, 4,600 desktops, 1,400 thin clients
Any additional bandwidth required will be addressed by the Networks Tower
Any application remediation and changes are out of scope
Any AD remediation and changes are out of scope
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>

Operational Issues

HAL Financial Revenue and Operational Cost (Opex) Impact:		
Revenue /	Revenue (+) /	Commentary:

Opex Cost Area:	Cost (-) Impact per Annum:	
N/A	N/A	
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
Not known at this stage, this cost will be known at the end of the design stage		

Airline Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
N/A	N/A	
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
Not known at this stage, this cost will be known at the end of the design stage		

Average Asset life:	
Average Asset Life:	5 Years
Commentary:	
None.	
<i>Note: Asset lives are subject to a number of complex variables and therefore information is indicative only.</i>	
Impact on User Charges:	
Estimated Per Passenger Cost Impact:	TBC
Commentary:	
None.	
<i>Note: Impact on User Charge is subject to a number of complex variables and regulatory decisions and therefore information is indicative only.</i>	

Non Construction Risk:
The following points cover any significant areas of risk for the Airline Community regarding this project.
Not known at this stage, this cost will be known at the end of the design stage

Annex B: Project Delivery: Cost Information:

Project Information

Project Name: Q5+1 Desktop and Mobile Infrastructure Services
BCT No.:

Cost Information

All information extracted from March 2013 month end process

Base Costs:	£3,682,721	77	%
On-Cost:	£716,068	15	%
Opportunity	£0	0	%
Risk (R1 Allowance Only)	£375,000	8	%
Total	£4,773,789	100	%

Commentary:

The risk allowance is for current phase of the project and not the overall project. Most of the costs will be spend in the build and implementation phase. On cost is based on 15% of the Base cost. A greater understanding of the Base costs will be known at the end of Design stage where the project will know if there are any opportunity costs.

Cost Benchmark Comparisons:	
Project Name:	Q5+1 Desktop and Mobile Infrastructure Services
Total Capital Budget (<i>Constant Prices</i>):	N/A
Guidance Notes:	
None.	
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>	

Header Information

BCT No.	
Op No.	25397
Project Name:	T3P6 Equipment room move (RSP06)

Project Overview, Objectives and Status

Overview:	
Description:	<p>Continuous operation of Private Mobile Radio services at Heathrow is required to fulfil our CAP168 license conditions to provide an effective communications system to support incident management, fire service, and airport fire service personnel, and also to support HAL Operations. A fundamental risk associated with being able to continue to provide this service relates to the current Main hosting facility for Heathrow being a caged space in an apron level plant room in Terminal 3 Pier 6 (T3P6) offering limited expandability, poor connectivity & poor environmental conditions for hosting HAL and third party radio equipment. The issue of space and suitability of existing equipment rooms was initially raised in the HAL document 'Radio Strategy for Heathrow Airport' (Version 0.85 and dated 15/06/09): Recommendation 72 of the Strategy recommends that;</p> <p><i>"HAL should investigate options to expand the available space in this plant room (being T3P6) or relocate PMR systems to another location".</i></p> <p>Following Options Development and specific surveys of the existing space, HAL has recognised that this plant room is unsuitable as a main radio co-location room, and will not sustain Heathrow's need for space in which to house Private Mobile Radio (PMR) equipment.</p> <p>As a consequence, there is now a need to find a new location that can function as the main radio co-location room for Heathrow, and to migrate services to that new facility. The Project has selected a suitable location in T5A, and will now migrate services to that new facility.</p>
Ref. Drawings / Images: <i>(Refer to Annex A)</i>	None.
Objectives:	
HAL:	<ul style="list-style-type: none"> • Delivery of a new Heathrow Main Radio Co-Location Room (RCLR) in T5A through recovery and conversion of space within the T5A Primary Radio Room. • Relocation of the PMR equipment in T3P6 into the new RCLR. • A product upgrade of the PMR base station equipment, at both the new main RCLR and the existing standby RCLR at D'Albiac House.

	<ul style="list-style-type: none"> A product upgrade of the Heathrow Optical Remote and Optical Master units across the Airport campus.
Airline:	Continued service without operational disruption.

Project Benefits:

The Project is forecasting to deliver the following non-financial benefits;

- Reduction in business risk and improved reputation through increased reliability of service
- Mitigation of Health and Safety risks driven by compliance with standards and regulations
- Enabler for other capital projects (e.g. Eastern Campus) through provision of a suitable radio room facility
- Enables improved management of the radio service through provision of equipment upgrades in line with Roadmap

Reduced future Capital expenditure in accommodating future equipment changes and system expansion through provision of additional space

Status:

Programme:	Project Gateway Stage:
Airport Resilience Strategic programme	Construction Decision

Airline Engagement:

IT Working group endorsement provided most recently on 12th June 2012. Previous endorsements provided at earlier project stages

Project Delivery

Current Control Budget:

Total Capital Budget (<i>Estimated At Completion</i>):	£4,153,578
<i>Refer to Annex B for cost information detail.</i>	

Schedule:

Brief Decision:	Start on Site:	Completion on Site:	Operational Use Commences:
19/08/2010	19/08/2010	30/04/2014	01/12/2013

Refer to Annex C for programme information detail.

Assumptions:

The following points cover the significant delivery assumptions related to this project;

- Cap Gemini will be the delivery partner through to completion.
- Legacy infrastructure can be upgraded without the need for significant service outage.
- The new main radio co-location room will come under the 'ownership' of IT facilities.

Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.

Operational Issues

HAL Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
IT	None	OPEX expenditure in relation to the project is unchanged from the current radio service charge paid to Cap Gemini
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
<ul style="list-style-type: none"> • The services can be migrated to the new facility without significant service disruption. • Legacy infrastructure can be upgraded without significant service disruption. 		

Airline Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
N/A		No change
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
<ul style="list-style-type: none"> • The services can be migrated to the new facility without significant service disruption • Legacy infrastructure can be upgraded without significant service disruption 		
Average Asset life:		
Average Asset Life:	5 Years	
Commentary:		
None.		
<i>Note: Asset lives are subject to a number of complex variables and therefore information is indicative only.</i>		
Impact on User Charges:		
Estimated Per Passenger Cost Impact:		
Commentary:		
None.		
<i>Note: Impact on User Charge is subject to a number of complex variables and regulatory decisions and therefore information is indicative only.</i>		

Non Construction Risk:
The following points cover any significant areas of risk for the Airline Community regarding this project.
The service from the main radio co-location room must be in place by October 2013 so that Terminal operational readiness can proceed as planned

Annex B: Project Delivery: Cost Information:

Project Information

Project Name: T3P6 Equipment room move (RSP06)
BCT No.:

Cost Information

All information extracted from March 2013 month end process

Base Costs:	£4,102,269	99	%
On-Cost:	£0	0	%
Opportunity	£0	0	%
Risk (R1 Allowance Only)	£51,309	1	%
Total	£4,153,578	100	%

Commentary:

IT overhead charges are managed at Radio Programme level.

Cost Benchmark Comparisons:	
Project Name:	
Total Capital Budget (<i>Constant Prices</i>):	
Guidance Notes:	
N/A.	
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>	

Header Information

BCT No.	
Op No.	30517
Project Name:	Wide Area Mobile Data

Project Overview, Objectives and Status

Overview:	
Description:	<p>Recommendations made in the Begg report indicated that rapid communication of status information from staff working in the external environment, together with status and positional information regarding vehicles involved in the management of the airfield was key to the provision of situational awareness for operational staff. It follows that a lack of situational awareness may significantly reduce Heathrow's ability to make key decisions in the management of a crisis. In particular, during spells of severe weather conditions, Airside Operations need to be constantly aware of, and managing the impact of, the changing status of the airfield, i.e. stands, runways, taxiways, holding areas, and airside roads.</p> <p>To replace and/ or enhance existing non-sustainable initiatives, and to meet on-going future needs for mission critical external data communications, the project proposes implementation of a Wide Area Mobile Data infrastructure enabling mission critical communications services to be provided in an expandable & sustainable manner serving the needs of the Heathrow operation and the wider airline community.</p>
Ref. Drawings / Images: <i>(Refer to Annex A)</i>	None.
Objectives:	
HAL:	<p>The primary objective of this project is to deliver a mission critical, wide area mobile data (WAMD) networking capability across the external areas of Heathrow airport.</p> <p>In achieving this, the project will provide an enabling infrastructure service for future projects to deliver business benefits to HAL and other key Airport stakeholders, and thus enable the following outcomes:</p> <ul style="list-style-type: none">• Allow improved visibility and understanding of the status of the airfield in real time for up to 9,000 airside mobile and static assets.• Minimise passenger and airline disruption by keeping operational teams, airlines and ground handlers better informed throughout normal operations and during periods of crisis.• Facilitate a better recovery from operational issues, crisis or specific incidents.• Enable improved decision making during both normal operations and in abnormal situations (i.e. severe

	<p>weather conditions).</p> <ul style="list-style-type: none"> Facilitate a closer working relationship between airlines and ground handlers through the use of mobile devices supported by the wide area mobile data infrastructure solution. Enabler for provision of a mobile maintenance workforce, allowing asset inspection and maintenance updates from the airfield in real time.
Airline:	Yet to be confirmed.

Project Benefits:

- Allow improved visibility and understanding of the status of the airfield in real time for up to 9,000 airside mobile and static assets.
- Minimise passenger and airline disruption by keeping operational teams, airlines and ground handlers better informed throughout normal operations and during periods of crisis.
- Facilitate a better recovery from operational issues, crisis or specific incidents.
- Enable improved decision making during both normal operations and in abnormal situations (i.e. severe weather conditions).
- Facilitate a closer working relationship between airlines and ground handlers through the use of mobile devices supported by the wide area mobile data infrastructure solution.
- Enabler for provision of a mobile maintenance workforce, allowing asset inspection and maintenance updates from the airfield in real time.

Status:

Programme:	Project Gateway Stage:
Airport Resilience Strategic programme	Options Decision

Airline Engagement:

IT Working group endorsement provided on 22nd November 2012

Project Delivery

Current Control Budget:

Total Capital Budget (<i>Estimated At Completion</i>):	EAC: £1,843,371
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Refer to Annex B for cost information detail.

Schedule:

Brief Decision:	Start on Site:	Completion on Site:	Operational Use Commences:
19/12/2012	08/01/2013	31/03/2014	31/03/2014

Refer to Annex C for programme information detail.

Assumptions:

The following points cover the significant delivery assumptions related to this project;

- Completion of the project (post design) may be dependent on provision of additional funds. There is a current funding delta which will be

<ul style="list-style-type: none"> validated upon completion of design. The outcome of the recent OFCOM 4G auction does not weaken the business case. IT Commercial strategy is approved in line with impending 4G services.
<i>Note: Assumptions stated here are to aid understanding and are not necessarily exhaustive.</i>

Operational Issues

HAL Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
IT	-£150,000	Managed service support for a new Airport service
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
<ul style="list-style-type: none"> Airfield operations continue to have an operational need for the service. The Airline stakeholders continue to buy in to the concept of a 'community service' and have business requirement for 4G services. Q6 Projects gain funding approval to deliver applications against the capability being delivered. The Airline stakeholders continue to buy in to the concept of a 'community service' and have business requirement for 4G services. 		

Airline Financial Revenue and Operational Cost (Opex) Impact:		
Revenue / Opex Cost Area:	Revenue (+) / Cost (-) Impact per Annum:	Commentary:
Airline operations	TBC	Potential revenue streams from airline stakeholders will be considered during the design phase of the project. Cost recovery of an element of the service charge is the likely outcome if airline's use the capability
Assumptions:		
The following points cover the significant operational assumptions related to this project;		
Airlines have an operational need for 4G services.		

Average Asset life:	
Average Asset Life:	5 Years
Commentary:	
None.	
<i>Note: Asset lives are subject to a number of complex variables and therefore information is indicative only.</i>	
Impact on User Charges:	
Estimated Per Passenger Cost Impact:	TBC
Commentary:	

None.

Note: Impact on User Charge is subject to a number of complex variables and regulatory decisions and therefore information is indicative only.

Non Construction Risk:

The following points cover any significant areas of risk for the Airline Community regarding this project.

None.