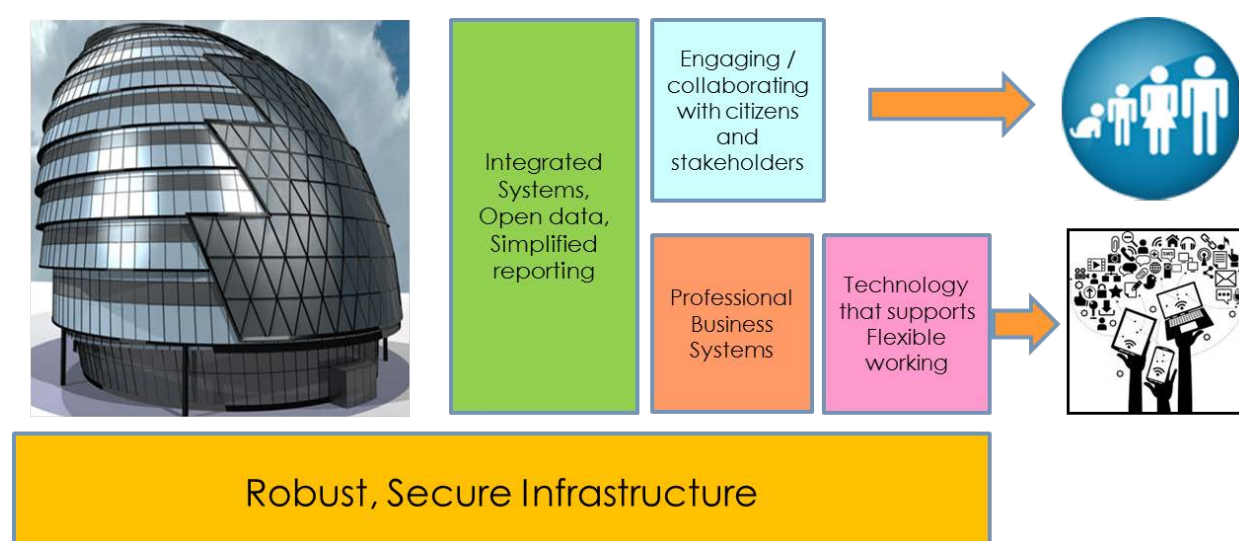


GLA IT Strategy 2016

1. Vision

The innovative and clear use of technology is integral to making modern organisations successful. It can act as the key to unlocking innovation, collaboration and value for money as well as supporting the Mayor of London, London Assembly and GLA as we reach out to citizens and stakeholder as it becomes more open and responsive.

The GLA has a good track record of using technology to support the work of the Mayor and London Assembly through the provision of a robust infrastructure that supports modern systems and technologies. The elements of this infrastructure are laid out in the diagram below.



Aligned with this a Digital Board has recently been established with a vision to lead on the uptake of new ways of working and developing digital capability within City Hall.

2. Where are we now?

The current technology infrastructure is robust with a very low level of disruption (less than 0.05 % downtime during working hours over the last year). Changes have been made which support a wide range of devices and infrastructure allowing officers to work flexibly. A new London.gov.uk web-site (designed for use with mobile devices) was recently launched. The GLA has a strong reputation for use of Open Source systems, pioneering the use of open data and innovative use of shared services.

3. Objectives

The objectives for technology include improving the culture of collaboration, flexibility and efficiency through the provision of:

- A scalable, cloud-based infrastructure to deal with growth in data
- Up-to-date office systems with improved support for collaboration and mobile working
- World class interactive web services that support the GLA's ability to engage and involve citizens in our work
- An upgraded intranet that supports the automation of internal workflows and improves the user experience
- Additional resource capacity and improved procedures to support the delivery of digital projects in a fast and reliable fashion
- Business continuity for our business systems that allow services to continue to operate in an emergency
- Integrated data and improved reporting to maximise the intelligence gained from existing systems

4. The Planned Changes

4.1 Dealing with the growth in data by installing a scalable, cloud-based Infrastructure

The GLA has a major challenge in dealing with the growth of data stored on the network. Over the last 10 years the amount of storage space required by the GLA has doubled every 2 years – and this growth shows no sign of slowing down.

The GLA currently provides and supports its own infrastructure (mainly based in TfL's data centre in Woking). To deal with the growth in demand additional data storage has been bought and implemented every couple of years. As the amount of data stored increases, the amount of time between procurements reduces, so that we will shortly be in a position where we are constantly buying and installing additional capacity.

To deliver a more sustainable solution we are currently exploring the possibility of storing our data as part of a "public-cloud" based service. This would allow us to easily increase the amount of capacity available to us on demand.

The delivery of technology services has seen rapid changes in recent years. The purpose of the IT Unit in many organisations has also changed. While there is still a need to support the growing variety of devices used by individuals – it is also the case that recent years have also seen a move away from large scale in-house technology systems – with the greater use of externally hosted or "Cloud" based services.

These services can be "Public-Cloud" where an external company provides functions that the organisation does not want to buy, maintain and manage. If the organisation does want to manage and maintain the service it can choose to deploy the system in a "Private cloud" where the service is run on a network that can be spread over multiple locations (offering much of the resilience and flexibility offered by Public cloud solutions).

The GLA has been deploying "Private Cloud" services (on a network shared with TfL) for a number of years now, trying not to add to the infrastructure built and managed within City Hall.

While this service offers resilience and security – the service is operated by the GLA and TfL staff and still requires the procurement and installation of equipment and systems onto this network.

Public Cloud services (where a third party provides these services to the GLA over the internet) would offer the GLA the ability to scale up and down services as required without the need to procure and install equipment and systems. This would offer the GLA increased flexibility, should reduce down-time and, over time, will reduce the cost of the service.

The Public Cloud environment is now very mature, a wide range of suppliers exist and earlier concerns regarding security are being dealt with.

The GLA has not been able to take advantage of these sorts of solutions in the past as City Hall currently only has a single route to the internet (through a single purpose built access route). Any disruption to this link would result in downtime to everyone working in City Hall. An additional route, to increase the resilience associated with access to the cloud, has now been agreed with the landlord and the new route will be implemented shortly. This means we can switch to this alternative route should the main route to the internet be compromised.

Discussions are taking place with Surrey County Council who provide cloud services to their 11 district councils and other public sector partners. They have negotiated a framework for a range of IT services that can be made available to any authority that borders Surrey, including the GLA. We are also talking to TfL and looking at potential cloud providers that are available to the GLA as part of the Government's G-Cloud procurement framework.

4.2 Support collaboration and mobile working by installing up-to-date cloud based Office systems

The first elements of the IT infrastructure to be hosted in the cloud (as opposed to on the City Hall infrastructure) will be Office 365, the latest version of the existing MS Office system currently used. The GLA's MS Enterprise agreement expires in April 2017 and an alternative Office solution will need to be in place for then. The GLA has been using Microsoft Office systems since 2002 in line with a common approach across the GLA Group.

Having used MS Office for 15 years, the office product set is deeply embedded in the organisation. Not only are regular files such as documents, spreadsheets etc. created in office products, there are large number of templates, macros, formats and styles that these files use, which are all specific to the products being used. Further, there are a number of commercial and bespoke applications the GLA uses that are integrated with MS Office products; including the Mayor's Questions database, SAP, the Election Management System and WriteON. A change in the product set would include the migration, conversion and re-integration of all of the above to the new suite.

All members of the GLA Group have committed to using MS Office 365 as their Office system and the use of a common system allows documents to be shared without reformatting.

The next version of the software comes with a number of tools to aid collaboration. These include:

- "OneDrive" which allows individuals to access files from any device and supports the sharing of those files
- Skype for Business – which allows video conferencing and screen sharing

The application and the documents / data created in the application will all be held in the cloud – reducing the necessity to implement and manage in-house data storage to store this capacity.

Cloud based office systems can be accessed by a range of mobile devices allowing individuals with tablets and laptops to work on email and documents without having to use the remote access system (giving a much more straight-forward user-experience).

Notwithstanding the strong case for retaining MS Office suite, we will continue to explore potential alternative office suites. There are small pockets of use in the GLA for Google docs in particular for business use but, starting in mid-2016, we will introduce more formal pilots within the GLA for project teams and business units to use alternative office products where appropriate. For example, teams that largely conduct their business operations using email, will pilot for example Gmail, coupled with an option of using either MS Office or Google docs. Project / programme teams will be set up with full the Google productivity and collaboration suite. These pilots will be coupled with a detailed examination of the migration, conversion and integration effort and cost as well as a full and detailed examination of all technical and commercial considerations outlined above. The aim will be to make a decision, by 2018/19 on whether to change the GLA's office suite.

4.3 Implement interactive web services that support engagement with citizens and involve them in providing solutions

The new GLA website was launched at the end of 2015 – designed with a high degree of involvement from 'real' users – Londoners themselves. Enhancements to the site have included: improved search, the ability to work on a wide range of mobile devices and high definition web-casting. A programme board continues to oversee the development of the site. Additional development planned includes further enhancements to search functionality, integration of microsites and the introduction of digital asset management functionality to improve the way we store and manage images and video.

Work is progressing on implementing cloud-based crowd-funding services to support potential regeneration projects. These assist the GLA in identifying work that has support among the community and provides a means of allowing individuals and organisations to pledge money which can be matched with GLA funding. There are a number of potential uses of this type of functionality in other policy areas also.

4.4 Upgrade our intranet and implement automation for our internal workflows

To reduce the need to sign paper documents an electronic signatures system will be evaluated and piloted.

There will be a fundamental review of the intranet. This work will include updating the look, design and core functionality. Changes will be made to enhance collaboration (including the greater use of discussion forums, instant messaging and video tools) widening access to allow all individuals to post information; and a new and improved search function will be implemented to improve the relevance of the results.

The use of workflow over the intranet will be examined as part of the review so that, alongside the work on electronic signatures. Existing manual approval processes will be analysed to see whether they can be replaced with an electronic process.

4.5 Improve our ability to deliver digital projects fast

The Technology Group has made a number of changes to improve the capabilities of the team to respond to the demand for delivering digital services.

These included:

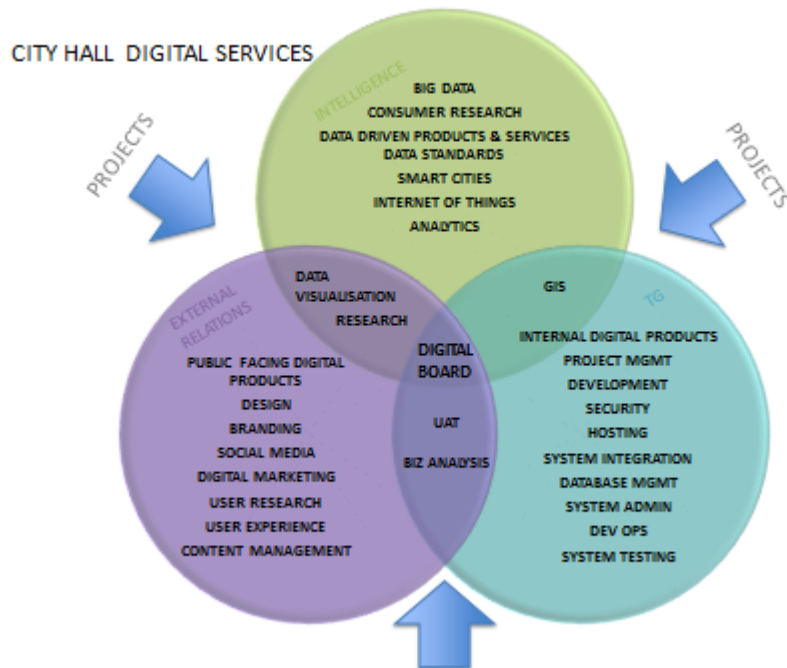
- Letting a contract with a specialist digital partner to support and undertake development on the GLA website
- Creating new “Dev-Ops” roles – specialist engineers that assist with the deployment and integration of new code
- Creating Quality Assurance and testing roles within the team and automating system testing reducing the number of errors associated with deploying developed code
- Piloting “Agile” project management for digital projects. Agile is a software development approach that promotes close collaboration within a single, multi-functional team – with rapid iteration of code to develop solutions which are either approved or amended following discussion with the customers
- Moving the GLA live web-site, development and test environments to be hosted in the cloud
- Implementing an “issue-tracking” and collaboration tool

This work and the close collaboration with colleagues in the External Relations digital team has strengthened the GLA’s web presence and improved the turn-round time for the delivery of digital products.

Further work will include:

- Embedding the use of “Agile” as our standard approach to system development
- Using Cloud-based services to provide new services and capacity (to speed up the deployment of new solutions).
- Deploying more developers (from our development partners) within City Hall so that development work is more closely integrated with the GLA resources overseeing the project. This should improve communication, speed of delivery and the quality of solutions delivered
- Ensuring systematic user research and testing is built into all projects – this may involve procuring external testing expertise
- Increasing the number of Business Analysts to deal with the increasing demand for new systems and solutions

We will continue to work closely with colleagues in External Relations and Intelligence in supporting digital work and reporting progress to the Digital Board. The relationship between the teams is laid out in the diagram below:



4.6 Improve reliability of services and ability to restore services in an emergency

An alternative route to the internet will be installed to ensure access to web-based services (including the cloud) can continue to be delivered should the primary route be compromised.

Cloud-based services offer extremely high levels of resilience. However, there will still be some services that will continue to be based at City Hall. For these we will continue to support monitoring (and the production of alerts if a problem is identified). This will take place 24 hours a day. Staff are available to deal with emergencies out of working hours as we continue to support what is becoming an increasingly 24/7 environment.

4.7 Improve the integration of systems to gain greater insight from the information

In recent years the GLA has mandated that all corporate databases be built using a common open source database technology to enhance opportunities for integration and sharing of information. The use of a corporate Business Intelligence tool allows us to produce reports based on the data held in these systems.

The next year will see the development of a major system to support the delivery of Housing schemes. This will also use our corporate database and work will be undertaken to allow integration between this systems and other GLA systems such as planning to provide a joined-up approach where the development of housing schemes can be tracked from inception through to completion.

4.8 Improve the reliability, speed and capacity of the City Hall networks

Much of the network infrastructure at City Hall is reaching the end of its life and needs to be upgraded. The move to more cloud based computing allows changes in the network architecture which can improve resilience and speed. One of these changes will be moving

important components away from the lower ground floor (where they are potentially at risk from flooding) to other more secure locations within City Hall.

Along with the upgrade of the components of the wired network as set out above, we will be upgrading the wireless network so that the speed and performance for users matches that of working on a GLA desktop computer. A new secure wireless network for staff will be created, enabling staff direct access to the City Hall data network from laptops without the need to go through the secure remote access system. This will make it easier to work flexibly in City Hall using a laptop.

5. Delivering these changes

5.1 Professional programme management approach

The delivery programme is overseen by the Projects Team in the Technology Group. This team contains in-house Business Consultants who carry out business analysis to define the work to be undertaken then manage the delivery of the solution with the relevant customers. They are supported by a Programme Office overseeing resource planning, procurement, budget management and change control for all the projects.

The team are trained in, and make use of Agile and Prince 2 methodologies as appropriate to deliver the work. The work of the team and the delivery of the programme are regularly audited.

Details of the programme for 2016/17 are in Appendix A.

5.2 Shared Service / Collaborative Approach

The GLA has a good track record of collaborating with other public sector organisations to deliver value for money in delivering technology solutions. For example, internet access, SAP, and hosting are provided by TfL while the GLA also provides services to MOPAC, OPDC and other Mayoral bodies.

We are discussing our cloud plans with TfL and Surrey County Council – to see if a collaborative procurement will result in savings or service improvements. We are also looking at options available through the Government's G-Cloud framework.

5.3 Changes to the Technology Group

The use of Cloud-based services changes the focus of the IT function from managing a team of technical engineers – whose prime purpose is to fix the equipment, systems and infrastructure – to individuals who understand the business requirements of the organisation and how those requirements are met through the often complex relationships between external suppliers. The IT service is becoming more business-led than ever before, bringing together a diverse range of organisations and relationships, with the aim of enhancing innovation and collaborating with customers to develop new business solutions.

The demand for services continues to increase, partly as a result of the GLA now having responsibility for delivering IT services for OPDC and MOPAC (and new sites such as Empress State Building and Union Street) – and the expectation is that these new services will be delivered quickly in close collaboration with the relevant customer.

There will be some increase in the resources in the Technology Group including:

- Configuration Officer – to work with our engineers to document our infrastructure and systems as part of a smooth transition to cloud based services.
- Additional Business Consultant to oversee the move to cloud based computing and the upgrade of our Office Systems

These posts will be employed for two years in support of the move to cloud-based services.

There will be a continued emphasis on supporting digital development – working with External Relations digital team and the Intelligence unit. We will continue to enhance our ability to support and develop digital services by working with a specialist digital partner where the preference will be for developers to be working on-site as part of a single Agile development team alongside GLA resources.

6. Next Steps and Review

This paper will be taken to the GLA Governance Board for approval. The deliverables identified and put into the business plan and monitored as part of the performance measures for the Technology Group.

A Programme Board for digital work has been set-up and one for the Cloud work will shortly be set-up – further details of the programme are covered in Appendix A.

David Munn
Head of GLA Information Technology – ext. 6531

Appendix A – IT Programme for 2016/17

1. Progress

The 2015/16 year saw the completion of a significant programme of projects by the Technology Group. Chief among these are the launch of the new London.gov.uk website and reaching a major milestone in the business continuity project of being able to seamlessly provide access to key systems and services solely using the GLA's secondary data centre.

Listed below are highlights of other major achievements in the 15/16 Programme:

- **City Hall TV service.** Working together with the GLA's broadcast service supplier and their partner, the 15-year-old City Hall TV system was replaced with a new, high definition and web based system that can be considered among the best in the UK. It also provides a feed to the new GLA website, to enable all website visitors to benefit from the same quality of service.
- **Planning Application Workflow System (PAWS).** The PAWS system development was completed. As an extended service, a feed was also created to enable planning application information to be made available on the new London.gov.uk website.
- **The London Land Commission Register (LLCR).** A project that emerged in August 2015 to create a register of all public sector land holdings in London. The system was completed in time for demonstration to the Mayor in December 2015.
- **London Elects.** The LE website was launched, and changes made to the Election Management System. UAT for e-Counting was successfully carried out in November 2015.
- **London Enterprise Panel (LEP) Growth Hub website.** Procurement carried out and supplier selected for the Growth Hub website to be completed in mid-2016.
- **Resilient internet link.** This project uses a completely different route through the More London estate to establish a second internet link.
- **Union Street.** Full technical services implementation for the GLA's new offices at Union Street was completed in July 2015 and the Regeneration and OPDC teams are currently working from this site.
- **Mobile Device Management (MDM) system.** Following a full evaluation, a new MDM system (Mobile Iron) was procured and is being used for connectivity services for non-Blackberry devices.
- **New mobile telephony contract.** Led by the TG Business Team, a shared-service procurement (with TfL) was carried out for a new mobile telephony provider. The new contract, with O2 is in place and all existing devices have been switched over.
- **Culture Diary.** We worked with the Culture Team to procure a supplier and assisted with delivery management of a brand new Culture Diary, which went live in late 2015.
- **Non road mobile machinery (NRMM) database.** We assisted the GLA Environment Team to specify and deliver a database of construction sites in London that use mobile machinery, which require permits owing to emissions.

The year's Programme has also seen the upgrade of a number of existing systems and services for the GLA and its shared service partners at MOPAC and OPDC.

2. Priorities

Responding to the changes in Mayor and Assembly

In May 2016, the Mayoral and Assembly Elections will take place. This 18-month programme of work preparing for the London election will conclude with providing the newly elected Mayor and Assembly Members with a range of technology and technical services.

Consolidate the changes made to the new GLA web-site

Having launched the new London.gov.uk website, it is planned that all applicable microsites will be incorporated into the new site, strengthening the Mayoral and Assembly brand. Further, the Technology Group, working with the External Relations digital team will develop a number of digital products using agile development methods and build resource capacity to undertake development projects that emerge through the year, including the continual development of the London.gov.uk website.

Begin moving services into a Public Cloud

The Cloud hosting and computing market (and technology) has matured rapidly over the past couple of years. Over the coming year, we will build on our experience of operating a private Cloud service by moving more GLA IT and digital systems and services out of City Hall and into secure and reliable external datacentres. These have the advantages of storage and associated services being available as “commodities”, support and maintenance services being 24/7/365 and secure remote access not requiring dedicated infrastructure.

Begin upgrading our Office System

The GLA’s licence agreement for our Microsoft Office 2010 products (and some MS server licences) will come to an end in March 2017. Planning for what comes after has already commenced and evaluations, decisions and procurements will be made during 2016/17.

By April 2017, the following will have been delivered:

- A successful election conducted and the new Mayor and Assembly Members using the full range of technological tools to discharge their functions
- Selected a cloud data service provider with whom we will have carried out a pilot and ready to commence the full migration project in 2017/18
- Produced a detailed plan with funding approved for commencing the upgrade, starting April 2017, of the GLA's desktop office application suite and all other products covered by the GLA's current Enterprise Licence agreement with Microsoft
- A number of digital products successfully delivered using agile development methods. The hallmarks of this achievement will be highly satisfied customers who were fully involved in the product development, faster delivery of products and a pool of suppliers who provided us with expert developers, analysts and other roles working out of City Hall.
- All agreed microsites fully integrated into the London.gov.uk website.
- The first part of data network at City Hall upgraded to the latest switch infrastructure, with the project being concluded in 2018/19.

The 2016/17 Programme of Projects

ID	Category	Project	Description	Project Manager	Business Lead
1	Infrastructure	Datacentre	Procure the full facilities and services of a datacentre for hosting GLA's IT, infrastructure and digital systems	James Waite	Martin Clarke
2	Services	Election	<ul style="list-style-type: none"> • Providing an Election Management System that can provide all necessary administrative services for the Election. • Completing outstanding work on the website to publish Count progress • Completion of testing on the E-Counting service • Transition of the incoming and outgoing Mayoral Team and Assembly Members. 	Duminda Baddevithana	Mark Roberts
3	Applications	Office software replacement	Plan the transition from Office 2010 to the next office productivity suite.	James Waite	Mark Roberts
4	Digital	London.gov developments and microsite integration	There are a number of historic microsites which will be integrated into the new london.gov.uk website.	Kinda Youssef	Emma Strain
5	Infrastructure	Data network upgrade	To procure and implement changes to the network hardware at City Hall.	James Waite	David Munn
6	Applications	LDD system upgrade	Essential new functionality for the GLA's primary planning system	Kinda Youssef	Jonathan Brooker
7	Applications	SHLAA system upgrade	Essential new functionality for this planning system, designed to enable the Planning Team to be more responsive to changes in the Mayor's Housing Programme.	Kinda Youssef	Jennifer Peters
8	Infrastructure	WriteON system move to Postgres database	The database underlying the GLA's correspondence management system will be moved from a proprietary one (Basis) to an open source one (Postgres).	James Waite	Paul Igbokwe
9	Digital	Victims Hub website	A major website initiative by MOPAC to provide information and advice to victims of crime in London.	Kinda Youssef	Roger Hadwen / Natasha Plummer

ID	Category	Project	Description	Project Manager	Business Lead
10	Digital	Grants administration system	A web based system to enable those seeking grants from the GLA to apply online.	Kinda Youssef	Doug Wilson
11	Digital	Intranet upgrade	Design and user journey improvements to the GLA's intranet.	Kinda Youssef	Stephanie Bigley
12	Applications	HLIMS	A major application development exercise for the GLA's Housing and Land Directorate	Kinda Youssef	Lucy Owen
13	Digital	Digital projects	Development capacity being created for delivering a number of digital products that will emerge throughout 2016/17	Various	Various

Programme Funding for 2016/17

Programme Delivery

Source	Code	Amount	Allocation / Description
TG Programme Delivery – General		£215,000	Annual allocation
TG Programme Delivery - Website management		£190,000	Annual allocation plus £90,000 approved by MD1575
TG Programme Delivery – LG2014	GF.0740.003.001	£0	There is no specific allocation for the LGRedev project for 2016/17. However, any carried forward amounts will be shown in the row below.
TG Programme Delivery – LG2014 c/f funds from 2015/16	GF.0740.003.001		<i><to be inserted in March 2016. Any carried forward funding will be used for the further development of the London.gov.uk website, in combination with the Digital development fund.</i>
Digital development fund		£250,000	To draw down for digital developments during 2016/17. Approved by MD1575.
Total		£655,000	Excludes carried forward amounts

Capital

Source	Code	Amount	Allocation
Capital – PC / Laptop Replacement	GW0740.002.001	£147,000	Annual allocation
Capital – Printers	GF.0740.002	£54,000	Annual allocation
Capital – Server Replacement	GW0740.002.03	£394,000	Annual allocation plus additional £200,000 for Data Network Upgrade Programme
Total		£595,000	

Resource Analysis

Resource capacity

Projects Team	Maximum Availability (excluding weekends and public holidays)	Annual Leave (averaged)	Non Project Related time (e.g. team meetings, supervision)	Total available for Delivering the Programme
Duminda Baddevithana	255 days	30 days	26 days	199 days
James Waite	255 days	30 days	26 days	199 days
Kinda Youssef	255 days	30 days	26 days	199 days
(to be recruited)	120	15	13	92 days
Total available				689 days

Development Team	Maximum Availability (excluding weekends and public holidays)	Annual Leave (averaged)	Non Project Related time (e.g. team meetings, supervision)	Non-project related technical work	Total available for Delivering the Programme
Deployment Engineer (1.5 Resources)	382.5 days	45 days	40 days	144 days	162 days
Testing Engineer	255 days	30 days	26 days	90	109 days
Total available					271 days

Live Team	Maximum Availability (excluding weekends and public holidays)	Annual Leave (averaged)	Non Project Related time (e.g. team meetings, supervision)	non-project related technical work	Total available for Delivering the Programme
Senior Systems Engineer 1 (CW)	255 days	30 days	26 days	90	109 days
Senior Systems Engineer 2 (HR)	255 days	30 days	26 days	90	109 days
Senior Systems Engineer 3 (SA)	255 days	30 days	26 days	90	109 days
Senior Systems Engineer 4 (LM)	255 days	30 days	26 days	90	109 days
Total available					436 days

Resource requirements

ID	Project / Programme	Category	TG Project Management Resource analysis			Total PM resourcing for Project /Programme	TG Technical Resource analysis	
			The three key areas of management during the duration of the project				Development Team resources	Live Team resources
			Analysis and Planning (days)	Procurement and Management of Delivery (days)	Closedown and handover to BAU (days)			
	Categories:							
	Programme	PRG	40	60	20	120	50	50
	Major Project	MP	20	40	15	75	40	40
	Standard Project	PRJ	15	25	5	45	30	30
	Minor Project	MiPRJ	5	5	2	12	10	10
1	Datacentre	PRG	40	60	20	120	50	50
2	Election	MP	20	40	15	75	10	40
3	Office Software replacement	PRG	40	60	20	120	50	50
4	London.gov development and Microsite integration	PRG	40	60	20	120	50	50
5	Data network Upgrade	PRG	40	60	20	120	0	50
6	LDD System upgrade	PRJ	15	25	5	45	30	30
7	SHLAA system upgrade	PRJ	15	25	5	45	30	30
			15	25	5	45	30	30
8	WriteON system move to Postgres	MP	20	40	15	75	40	40

ID	Project / Programme	Category	TG Project Management Resource analysis			Total PM resourcing for Project /Programme	TG Technical Resource analysis	
			The three key areas of management during the duration of the project				Development Team resources	Live Team resources
			Analysis and Planning (days)	Procurement and Management of Delivery (days)	Closedown and handover to BAU (days)			
9	Victims Hub website	MP	20	40	15	75	40	40
10	Grants administration system	PRJ	15	25	5	45	30	30
11	Intranet upgrade	MP	20	40	15	75	40	40
12	HLIMS	PRG	40	60	20	120	50	50
13	Digital Projects (off Programme)	PRG	40	60	20	120	50	50
	Total					1200	500	580
	Total days available for projects					689	271	436
	Resource surplus / deficit					-511	-229	-144