



LONDON FIRE BRIGADE

Report title

LFB Digital Strategy 'LFB in a Digital World' – Annual Update 2021

Report to

Corporate Services Directorate Board
Commissioner's Board

Date

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Report by

Chief Information Officer

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I agree the recommended decision below.

Andy Roe
London Fire Commissioner

This decision was
remotely signed on
Date 25 March 2021

Executive Summary

The Brigade's three-year information and technology strategy – *LFB in a digital world* – was originally approved by the London Fire Commissioner (LFC) in December 2018 (LFC-0094-D). This original version covered the period 2019 – 2021 with the intention that the strategy would be updated and rolled-forward annually. The first annual update in 2020 (agreed by the LFC in March 2020 (LFC-0315-D) covered the three years 2020 – 2022. This report presents the second annual refresh of the strategy covering the three years 2021 – 2023. The review of the strategy is an action in the Transformation Delivery Plan.

This report reviews progress in delivering the strategy, covers an updated version of the strategy for approval by the LFC and includes an updated three-year action plan to accompany the strategy. The intention is to develop a refreshed strategy for agreement in 2022.

Recommended decisions

That the London Fire Commissioner approves the updated information and technology strategy – *LFB in a digital world, 2021 – 2023*.

Introduction and Background

1. The Commissioner approved a high-level digital strategy – *LFB in a Digital World, 2019-2021* – in December 2018 (LFC-0094-D). The first annual update in 2020 (agreed by the LFC on March 2020 (LFC-0315-D) covered the three years 2020 - 2022. This paper deals with the second annual update of the strategy and a narrative on progress against key deliverables. In addition, this report includes an updated three-year work plan and showing projects/activities completed since the strategy was agreed, and new initiatives added. The review of the strategy is an action in the agreed Transformation Delivery Plan under the strategic pillar "Delivering excellence" and within the theme "Constantly improving effectiveness of our service".

The strategy – a recap

2. The strategy presents a high-level view of the strategic information technology and information management priorities for the Brigade. There are three distinct threads running through this strategy:
 - A focus on Cloud technology,
 - Emphasis on a resilient and secure infrastructure,
 - A belief that data is intrinsic to our digital transformation.
3. The strategy looks at:
 - Where we are now,
 - The power of data and information,
 - Tipping point... between being office based and supporting mobile working,
 - New ways of working, collaborative working and working with our partners,
 - Investing in our staff,
 - Taking advantage of Cloud based services,
 - Financial challenges,
 - Digital for our service users.

Internal audit review of the Strategy

4. In late 2020, the internal audit service provided by MoPAC undertook a review of digital transformation. The purpose of the review was to provide assurance that the Brigade's information and technology strategy was "... adequately aligned to Brigade strategic objectives and that the work plan to deliver the strategy is appropriately prioritised and monitored", and to "... provide assurance on the adequacy of the arrangements that have been established to ensure that ICT project development and workstreams meet the needs of the Brigade."
5. The outcome of the review on audit assurance was marked 'adequate'. The auditor says "The control framework is adequately designed although some controls are not operating effectively to mitigate key system risks. The review has resulted in actions for ICT in relation ensuring the achievement of deliverables. However, a number of corporate issues were also identified that while noted to in this report have been referred to the Transformation Directorate to help support the delivery of strategic objectives."

6. There were two recommendations for the Chief Information Officer arising from the review:
 - a) Although the workplan tracks delivery of the individual projects, there are no mechanisms in place to assess whether the strategy itself is being achieved. A suite of performance measures or key measurables should be developed to enable monitoring of delivery against the ICT strategy. The chosen metrics should be monitored on a regular basis and periodically reported to an appropriate forum, or forums, outside of ICT. This recommendation was not agreed as it is not felt that 'performance measures' or 'key measurables' are an appropriate way of determining delivery of the Strategy. Instead, we propose to focus on progress reporting on: (i) The three threads that run through the strategy (i.e. resilient and secure infrastructure, focus on cloud technology, and data is intrinsic to our digital transformation) will be more explicitly mentioned when reporting progress on the strategy. (ii) The delivery of the 'top priorities' mentioned in the strategy (appendix B of the strategy) as outlined in this report below.
 - b) Monthly ICT Management Team meetings are held which regularly discuss the delivery of the workplan. An action log of decisions taken at management meetings should be introduced to ensure that all actions are completed accurately and on time.
7. The audit review also recognised some corporate risks related to delivery of the strategy and workplan, but recognises that the risks are corporate ones and cannot be mitigated by the CIO. Therefore, to ensure sufficient support to ICT in the delivery of the workplan they issues have been raised in a separate report to the Director for Transformation.
8. The audit notes that the three-year workplan includes projects/work stemming from the TDP and the Grenfell Tower and HMICFRS action plans, as well as other key change projects or system enhancements/upgrades to meet developing business needs. The review says "*... there is currently no mechanism in place for identifying up and coming projects for ICT from the TDP where ICT will be an enabler for achievement of actions... Lack of a clearly defined corporate framework for notifying ICT of up-coming projects impacts upon ICT's ability to appropriately prioritise within their workplan which could impact upon the achievement of individual projects the ICT strategy and corporate objectives.*"
9. The separate report to the Director of Transformation had four recommendations:
 - Independent review of the current workplan is undertaken to ensure that the projects within it are prioritised in accordance LFB corporate objectives, and there is appropriate consideration given to the allocation of resources between the delivery of ICT business as usual projects and the TDP projects. Roles and responsibilities are clearly defined and understood to ensure there is appropriate representation from the business and engagement leads throughout the process.
 - An assessment of the actions within the TDP is undertaken to ascertain where ICT will be an enabler and work is undertaken to scope the projects with ICT to support effective longer-term planning.
 - The addition of projects to the workplan results in a review of prioritisation with ICT to ensure that the impact of changes on the workplan can be appropriately assessed, and projects reprioritised where necessary.
 - A process to be established where an independent review of progress against the ICT workplan 2020-23 is undertaken to facilitate effective corporate oversight.

10. During the review Internal Audit were advised that the CIO was developing a work request process which should be in place by April 2021. This aim is to collect information from business owners of the work they want ICT to do, and the timescales, as well as capturing the impacts of this work for ICT teams. Also, to collect information that will help with wider decisions or relative priorities. We have also established a Technology Oversight Board (TOB) as a forum to discuss new work requests and to help monitor progress with the three-year workplan. The TOB will comprise departmental representatives and will be able to take a view of relative priorities and had its first meeting on 5 March 2021.

Significant updates in this 2021 version of the strategy

Impact of the COVID-19 pandemic on ways of working

11. The most significant change that has occurred in the last year has been the impact of the COVID-19 pandemic resulting in most office-based staff working remotely (at home) and finding new ways to communicate with the whole workforce, including at fire stations. Microsoft Teams (part of Microsoft 365 which had started to be deployed in early 2020), has played a key part in supporting people to work in new ways. Whilst, during early 2020, the ICT Department respond to ad hoc requests for new equipment to support staff working remotely, a new over-arching solution for office-based staff was agreed by the Commissioner's Board in DATE, and which completed its governance approvals by February 2021. It is expected that the new equipment will be rolled-out by mid-2021.

Modern Workplace Programme

12. Delivery of Microsoft 365 and a new 'Windows 10' style desktop for thin client computing has been impacted by office-based staff having to work remotely during 2020. Nevertheless, roll-out continued during 2020, and it is expected that all office-based staff (including fire safety staff) will be using Microsoft 365 and the new desktop by end March 2021. The roll-out for watch-based staff at fire stations is currently being planned, in conjunction with colleagues from the Fire Stations Department, is hoped to be completed by end August 2021.

Technology support for staff with disabilities

13. As reported in the 2020 refresh report, ICT have made significant progress with the use of the software to support staff with disabilities (and meet the Brigade's duties under the equalities and disability laws. The emphasis over the last year has been to use the accessibility tools that are now available within Microsoft 365 which is currently being rolled-out to staff. which provides 'speech to text' and 'read aloud' functionality to any staff who wishes to use it.

Use of the strategy as a communication tool

14. It is important that all staff understand the direction of the strategy and what it means for them. To assist with this objective, the strategy makes extensive use of 'personas' for a variety of different roles across the Brigade, to describe how the information and technology plans over the life of the strategy may impact on them. This is intended to bring the strategy to life for different staff groups. The feedback we received regarding the use of personas was very encouraging it was felt that this was a very effective way of bringing technology to life.
15. This vision of the way ahead for the use of digital technologies and data is set out in *appendix A of the strategy* by looking at how technology might change the way people work through different personas. The 'persona' for Erika, the people services manager, has been substantially revised for this refresh of the strategy to reflect the new approach to flexible working for office-based staff.

16. The strategy is accompanied by an updated detailed three-year work plan (which is reviewed monthly), which will include our key priorities for the next year, as well as other projects and work streams/actions. The current top priorities – to be delivered during the life of the strategy and after – are summarised in *appendix B of the strategy document*.

Progress in delivering the strategy

17. As outlined in the internal audit review, progress in delivering the strategy is to be measured by (a) commentary on the 'three threads' that run through the strategy, and (b) by monitoring progress on the selected key projects set out in appendix B to the strategy.

Delivering the 'three threads'...

a) Resilient and secure infrastructure:

An ever-increasing number of public and private sector organisations are being targeted by cyber-attacks. Successful attacks are often reported widely in the media, but many attacks are not reported and the extent of the issue facing all organisations is often not recognised. A successful cyber-attack can have a devastating impact upon an organisation; in some cases, meaning that the organisation is unable to continue to deliver their normal business operations. Depending on the type of organisation, the impacts can range from financial loss to the inability to discharge their statutory responsibilities or deliver services. During the life of the strategy, we have:

- put in place a defence against cyber-attacks by deploying the Darktrace Immune System product [in September 2020].
- updated our online security awareness product [March 2021] to support 'safe' behaviours by users of all computer systems.
- continued to assess new systems and processes with specific security risk assessments and remediation activity to make sure that what we put in place is secure and resilient.
- continued to investigate any suspected attacks or unusual activities.
- updated our Acceptable Use Policy [in July 2020]
- put in place a Cyber Security Policy [agreed in March 2021]

b) Focus on cloud technology:

Our strategy recognises that many organisations are moving from in-house computer servers providing data processing and storage, to data centres operated 'in the cloud' by specialist companies (e.g. Microsoft, AWS) and accessed via the Internet. This 'cloud' computing model potentially offers advantages over on-premise capacity including potential efficiencies/cost reduction, better data security, improved scalability (more capacity when you need it), mobility (access from anywhere), disaster recovery and better control.

The strategy sets out our current position on the use of cloud-based computing and on-going discussions with suppliers about finding a business model that will make this Cloud transition a viable model. Whilst costs have reduced in recent years and suppliers continue to offer discounts for this transition, costs do remain high. A reduction in capital funding and associated debt costs (as a result of not having to buy server hardware) is a positive outcome from any transition to IaaS. This cost reduction, together with costs currently incurred to support our on-premise infrastructure will be key inputs as we look to develop a full business case in respect to Infrastructure as a Service (IaaS), as part of the next digital strategy and updated applications strategy from 2022. During the life of the current strategy, we have:

- started the roll-out of Microsoft 365, which is a cloud-based service, as part of our Modern Workplace Programme, and this should be completed with all fire stations users migrating by end August 2021. When everyone is fully migrated to Microsoft 365 then expect our staff to be using Microsoft 365 cloud-based solutions between 70 to 80 per cent of the time. This move will mean that all of our email storage will be cloud-based in Microsoft 365, with little need for our own mail servers.
- started work to replace our human resources, finance, purchasing and payroll solutions, and cloud-based alternatives have been identified as the possible way forward for replacement of current systems.
- designed our new LFB OneRisk solution to be cloud-based.
- Identified that replacements for the mobilising solution (by 2025) could be cloud-based.

c) **Data is intrinsic to our digital transformation:**

We collect a wide-range of good quality data about the Brigade's activities and back-office support services. Our Business Intelligence Solutions (BIS) project has been making a step change improvement in the way staff access data and use it. During the life of this strategy, we have:

- launched the LFB Data portal as a 'one-stop' shop for all data needs within the Brigade [live from September 2019]. Site visits in 2020 were equivalent to 192 visits per day on average, which is some 40 greater compared to the three months after launch. In 2021, site visits are already 250 a day, which shows that usage is still increasing.
- introduced Microsoft Power BI (PBI) as the main data visualisation tool for the Brigade and we now have over 50 different PBI reports (many with multiple tabs and functionality) available to staff. In 2020, there were 56,000 individual views of PBI reports (155 a day).
- started work to replace the performance evaluation tool used by stations, boroughs and areas to manage performance, with one based on Power BI, and expect this will be live in first half 2021.
- completed the first part of the project to overhaul our data platform so we can make the data we hold more readily available for reporting.

Delivering key projects...

18. The strategy includes, as appendix B, a list of the top priorities which would be completed (or started) during the life of the strategy¹. The tables in Annex A to this report provide the board with an update on progress against these operational/frontline and back-office/support priorities; shaded items have been completed in the first two years of the strategy.
19. Also, in Annex A, is a table listing other significant deliverables (in addition to those set out at para 14 above) that ICT, with client departments, have delivered by end Q3 2020 (end December 2020).

Changes to the strategy document for 2021

20. The aim of an annual roll forward of the strategy is to keep it fresh. This involves making small adjustments to the text to reflect what has been completed in earlier years, and to add anything new that has come along during the year. It is not a substantial re-write or change of direction;

¹ Replacement of the mobilising solution, and solutions for finance, HR, procurement and payroll will be outside of this timeframe

a full refresh will happen for 2022. Some minor changes have been made to the original document on this basis, with the key changes being:

- Reflection of the need for information and technology work to support the Brigade's developing transformation programme as set out in the agreed Transformation Delivery Plan (and including responses to the Grenfell Tower Inquiry phase 1 recommendations, and the action plan arising from the HMICFRS inspection of the Brigade in 2019).
- Delivery of the Modern Workplace Programme which includes the roll-out of a 'Windows 10' style desktop with Microsoft 365 (including SharePoint Online for all staff (running under Citrix 'thin client' and on mobiles devices). The changes for fire stations, in particular, are the most significant since computers were introduced to stations over 20 years ago.
- New ways of working driven by the COVID-19 pandemic, including proposals for new equipment to support remote/home working by office-based staff, plus new ways to communicate remotely with fire station crews.

21. The revised strategy document is at Annex B to this report and is recommended for agreement (with more significant changes from the 2020 version marked in **yellow highlighter**).

The current workplan

22. Attached to this report as Annex C is the current three-year workplan.

23. This work plan contains specific deliverables (over 160) that we have set out to either start or complete during the life of the strategy. These deliverables focus on change initiatives, and do not include 'business as usual' activity undertaken within the ICT Department to maintain systems and infrastructure and deliver day-to-day ICT services.

24. The workplan is reviewed at least quarterly by the ICT senior management team and is updated to ensure it is current and reflects any new or changed initiatives. For example, as the Brigade's new Transformation Delivery Plan develops, and decisions are made on the Brigade's response to the Grenfell Tower Inquiry phase 1 recommendations, and the HMICFRS 2019 inspection report, initiatives and timelines in the ICT work plan may need to be revised.

Objectives and expected outcomes

25. The aim of this report is to provide Boards with an update on progress in delivering the three-year digital strategy – *LFB in a digital world* – and to seek agreement to a revised version of the strategy document, with the current three-year work plan. The report seeks the LFC's agreement to the updated 2021 version of the strategy.

Impacts

Equality impacts

26. The London Fire Commissioner and decision takers are required to have due regard to the Public Sector Equality Duty (s149 of the Equality Act 2010) when taking decisions. This in broad terms involves understanding the potential impact of policy and decisions on different people, taking this into account and then evidencing how decisions were reached.

27. It is important to note that consideration of the Public Sector Equality Duty is not a one-off task. The duty must be fulfilled before taking a decision, at the time of taking a decision, and after the decision has been taken.

28. The protected characteristics are: Age, Disability, Gender reassignment, Pregnancy and maternity, Marriage and civil partnership (but only in respect of the requirements to have due regard to the need to eliminate discrimination), Race (ethnic or national origins, colour or nationality), Religion or belief (including lack of belief), Sex, Sexual orientation.
29. The Public Sector Equality Duty requires us, in the exercise of all our functions (i.e. everything we do), to have due regard to the need to:
- (a) eliminate discrimination, harassment and victimisation and other prohibited conduct.
 - (b) advance equality of opportunity between people who share a relevant protected characteristic and persons who do not share it.
 - (c) foster good relations between people who share a relevant protected characteristic and persons who do not share it.
30. Having due regard to the need to advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to:
- (a) remove or minimise disadvantages suffered by persons who share a relevant protected characteristic where those disadvantages are connected to that characteristic.
 - (b) take steps to meet the needs of persons who share a relevant protected characteristic that are different from the needs of persons who do not share it.
 - (c) encourage persons who share a relevant protected characteristic to participate in public life or in any other activity in which participation by such persons is disproportionately low.
31. The steps involved in meeting the needs of disabled persons that are different from the needs of persons who are not disabled include, in particular, steps to take account of disabled persons' disabilities.
32. Having due regard to the need to foster good relations between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to—
- (a) tackle prejudice, and
 - (b) promote understanding.
33. An Equality Impact Assessment (EIA) was undertaken in January 2020 and was reviewed in January 2021 as still current. The impact assessment found that the progress so far in respect of the availability of assistive technology, both on Citrix and Windows 10 laptops, would have a broadly positive impact on staff with disabilities.

Procurement and sustainability

34. There are no specific procurement or sustainable development implications arising from this proposal.

Strategic drivers

35. From discussions with each head of service during 2020, it is clear that two thirds of the actions in the Transformation Delivery Plan will require support from the ICT Department. Where appropriate, these items are now included in the three-year work plan. This support will vary from minor system enhancements and/or data reports, through to major new systems, like the development of the LFB OneRisk solution.

Workforce impacts

36. There are no plans for staff side consultation.

Finance comments

37. This report sets out an updated information and technology strategy covering 2021 – 2023. The report sets out a range of priorities over the life of the strategy. Where possible these priorities will be contained within existing resources, set aside to support the previous information and technology strategy. However, some will require additional funding that will be considered and reported on as part of the budget process for future years, and in separate reports as appropriate.

38. The report also notes that adopting the concept of infrastructure as a service (IaaS) would have an impact on our budget, which is currently heavily weighted to capital and requires a shift to a revenue-dominated budget. The impacts of this are reflected in the figures set out in the LFB's Budget Submission covering the years 2021/22 and 2022/23, and the impacts in subsequent years will be also be reported as part of the budget process for future years.

Legal comments

39. Under section 9 of the Policing and Crime Act 2017, the London Fire Commissioner (the "Commissioner") is established as a corporation sole with the Mayor appointing the occupant of that office. Under section 327D of the GLA Act 1999, as amended by the Policing and Crime Act 2017, the Mayor may issue to the Commissioner specific or general directions as to the manner in which the holder of that office is to exercise his or her functions.

40. By direction dated 1 April 2018, the Mayor set out those matters, for which the Commissioner would require the prior approval of either the Mayor or the Deputy Mayor for Fire and Resilience (the "Deputy Mayor"). Paragraph (b) of Part 2 of the said direction requires the Commissioner to seek the prior approval of the Deputy Mayor before "[a] commitment to expenditure (capital or revenue) of £150,000 or above as identified in accordance with normal accounting practices...".

41. The Deputy Mayor's approval will therefore be required by the Commissioner when it comes to any new procurement of £150,000 or above planned under the digital strategy.

42. Furthermore, any data which is subject to data protection legislation must be treated in accordance with that legislation, and any proposed procurement planned under the digital strategy must be in compliance with the Public Contracts Regulations 2015.

43. The strategy proposed is consistent with the Commissioner's power under section 5A of the Fire and Rescue Services Act 2004, to do anything they consider appropriate for purposes incidental to their functional purposes.

List of Appendices

Appendix	Title	Protective Marking
1.	Our top priorities – update on progress	None
2.	Updated strategy document	None
3.	Current three-year work plan	None

Appendix 1: Our top priorities – update on progress

The strategy document at appendix B, sets out a number of top priorities that would be completed (or started) during the life of the strategy². The tables below provide the Board with an update on progress against these operational/frontline and back-office/support priorities; shaded items have been completed in the first year.

Operational / Frontline

Operational / Frontline	Position in Q4 2020/21 (February 2021)
Complete work to allow transfer of mobilising data between blue-light partners (Multi Agency Incident Transfer - MAIT).	Home Office are now leading on the MAIT project and providing funding. There are a series of actions for the LFB to take, including creating a DMZ ³ for the Mobilising environment which needs to be actioned. LAS and MPS are now engaged with the implementation.
Support the community use of our fire stations.	ON HOLD due to Covid pandemic.
Complete updates to the system that manages our Home Fire Safety Visits.	COMPLETED – live in February 2021.
Complete the roll-out, for appliances, of new Mobile Data Terminals (MDT), with SatNavs and tablets.	All front-line appliances completed. However, roll-out extended to include MDT on some special appliances (originally excluded), and the lead is with Fleet team and vehicle replacement programme. Full completion expected by Q3 2021/22.
Replace operational officer pagers with a pager 'app' for Android phones.	A project is underway to deploy a phone based 'app'. Implementation to allow a seamless transition of service from the existing pager provider. There are currently two technical issues related to the Vision mobilising solution which are with Capita to resolve. The solution is expected to be tested during March 2021 with go-live expected for Q1 2021/22.
Support the move for operational staff from 'Role to Rank' (R2R) by completing system changes and changes to policies.	COMPLETED successfully in October 2019.

² Some projects will deliver outside the three-year life of the strategy, e.g. replacement mobilising system

³ In computer networks, a DMZ (De-Militarized Zone), is a physical or logical separation between an internal local area network (LAN) and other untrusted networks (usually the public Internet).

Operational / Frontline	Position in Q4 2020/21 (February 2021)
Implementation of FRS national operational guidance (N.O.G.), including a new system to manage and access to operational policies.	The Brigade awaits completion of the Service Integration Tool (SIT) software being developed by the NFCC Central Programme Office, which will help deploy updated LFB policies and procedures in line with N.O.G. A target date for LFB go-live of N.O.G. based operational policies and procedures has been set for June 2021, and discussions continue about the availability and access to the SIT.
Deliver new incident ground radios for our firefighters.	Due to various dependencies associated with BA equipment, this project was subsumed as a work stream of the Replacement Protective Equipment (RPE) project being run by Assistant Director, Operational Policy. Tender for new incident ground radios about to be let, subject to some small technical clarifications. Roll-out expected to be Q2 2021/22.
Deliver (subject to national project) the Emergency Services Network (ESN) to replace Airwave radio.	Project is on-going. ICT continue to provide support, working with other blue light agencies in London. Current indications are for go-live for LFB in 2025, although significant preparatory work is needed over the next few years. Discussions ongoing with Fleet team about fit-out of vehicles, and discussions with Babcock Fleet about undertaking this work.
Replace our fire safety system with an overall premises risk management system, including our Operational Risk Database (ORD) including the Premises Risk Assessment (PRA) – <i>the LFB OneRisk solution</i> .	The Commissioner’s Board (July 2019 – LFC-0212) agreed a proposal to create an LFB OneRisk solution to hold all building-related risk information. The new solution would replace the Farynor fire safety system, Operational Risk Database (ORD), Home Fire Safety Visit database, etc. The project has completed the development of requirements for the new solution and which will progress development and implementation work, over the next few years. Funding for the solution agreed via LFB the governance process in February 2021. However, consideration is being given to add a 90 -day delay to the project as part of recent project re-prioritisation.
NEW Deploy a ‘fire survival guidance’ solution for Control and incident commanders. <i>[Recommendation from Grenfell Tower Inquiry phase 1 report and in TDP]</i>	Application now developed, but integration with the Vision mobilising system remains to be completed because of technical issues. A significant change is that the project board has agreed significantly more training which has an impact on the proposed go-live date (now September 2021). In discussion other FRSs to adopt our solution more widely, and discussions with the NFCC about a national solution.

Operational / Frontline	Position in Q4 2020/21 (February 2021)
Collate and present information about London, its composition, and the Brigade's response to risk and incidents to inform the Assessment of Risk (AoR) for the updated Community Risk Management Plan (replacement London Safety Plan) (by 2022).	Work has started on the development of a series of case studies and topic papers which will be the first deliverables, as part of an updated AoR process. These will be used for engagement with staff and the public. Taking account of feedback, an over-arching AoR will be developed to support the CRMP to be agreed for 2022.
Replace our 999-mobilising system (by 2026).	A project has been created to facilitate the replacement of the Brigade's current mobilising solution and this is currently awaiting funding approval. Report recommending an extension of current contract with Capita until 2024 for existing mobilising solution to be submitted via the LFB governance process. Current plan is to aim for deployment of a replacement solution in 2024.
Introduce 999 Eye smartphone solution to allow 999 callers to securely send live footage or images of incidents to emergency service control rooms.	COMPLETED.
NEW Command Unit system replacement	Tendering is complete for replacement vehicles and software solution. Report currently going through the LFB governance process.

Support / Back-Office

Support / Back-Office	Position in Q4 2020/21 (February 2021)
Roll-out Android mobile phones to replace Windows phones.	COMPLETED. In addition, a new Mobile Device Management system (MDM) to control the phones has been installed as well.
Complete LFB website security assurance.	A security management plan is in place and security assurance work is ongoing. A penetration test is being planned led by the ICT Security Manager.
Implement a cyber defence system.	COMPLETED. The Darktrace Immune System cyber-defence system was successfully deployed in August / September 2019.
Launch the LFB Data portal – a new data platform, as part of our Business Intelligence Solution (BIS).	COMPLETED. The portal was successfully launched in October 2019. Work continues to make data reports/dashboards (Power BI) available via the new portal as the single point of access. A new data platform is being designed to sit behind the portal and reports, to be implemented over the next year.

Support / Back-Office	Position in Q4 2020/21 (February 2021)
Roll-out the new 'thin client' desktop with Windows 10 'look and feel' with Microsoft 365 for office-based users (by end March 2021).	A Modern Workplace Programme was established to update the 'thin client' (Citrix) desktop to Windows 10 'look and feel' (alongside mobile devices like tablets and laptops which already have Windows 10). The programme includes the introduction of Microsoft 365 (with Microsoft 365 online only for firefighters). The Programme seeks to encourage new ways of working by departments, exploiting the new tools and services available with Microsoft 365, and a change manager was recruited to support this from August 2021. Anticipated completion for key elements of this project are for rollout to office-based staff (including fire safety) complete by end March 2021, and for fire stations by end August 2021. Migration of content to SharePoint Online may take longer to complete.
Roll-out updated Microsoft 365 to all staff (including SharePoint Online, and migrate mailboxes to Microsoft 365).	
Complete work to improve personal information retention to be more GDPR compliant.	COMPLETED. The Brigade's arrangements for data protection/GDPR were subject to internal audit review during late 2019, and the recommendations were completed during 2020.
Relocate our secondary data centre to Brigade premises.	[COMPLETED – September 2019]
Improve our management of images and video (including better GDPR compliance).	COMPLETED. The Image Management Governance Board, established in 2019, has successfully brought together different strands relating to Brigade images (still and moving). Key systems upgrades have taken place, and work continues as a 'business as usual' activity.
Support the delivery of a new performance administration management (planning) system (not ICT lead).	The InPhase product was procured by the Strategy and Risk Department and is being implemented now. Go-live, on phased basis, is expected from April 2021.
Complete the GLA/LOTI Information Sharing project to provide a better way to share data between partners in London.	COMPLETED. The project is now being delivered by the London Office and Technology and Innovation (LOTI) with LOTI signatory boroughs to work to standardise information sharing processes and protocols. LFB has a contributory role; work by LFB to kick-off the project with GLA is now completed.
Work toward 'Cyber Essentials' security accreditation.	The first stage of this (a gap analysis) is completed. Work to identify remediation for 'gaps' identified is now underway. It could take up to two years to complete any works necessary to be CE accredited.
Replace our finance/purchasing system.	A project has been established with the object of replacing these systems. Discussions are ongoing on potential collaborative options within the GLA group.

Support / Back-Office	Position in Q4 2020/21 (February 2021)
Replace our human resources/payroll system(s).	A project has been established with the object of replacing these systems. Discussions are ongoing on potential collaborative solutions, although timing is such that these may not immediately benefit LFB. Funding for the replacement solution was agreed via the LFB governance process during in March 2021.
Reconfigure and upgrade wide area and metropolitan area networks (WAN/MAN) and internet services.	The MAN upgrade was completed in December 2020. The final part of the WAN upgrade is due for completion in March 2021. Internet Services (ISP) have been upgraded and the project completed on 30 September 2020.
Launch new information security online awareness package.	COMPLETED in March 2021.
NEW Provide equipment to support staff flexible working	The purchase of new equipment to support staff working from home (tablets, screens, etc.) has been approved (February 2021). Equipment can now be purchased and there will need to be engagement with departments about numbers required and roll-out priorities. Expected completion by end Q2 2021/22.

Other Work Plan deliverables

The table below lists other significant deliverables, that ICT with client departments, have delivered during Q4 2020/21 (February 2021).

Deliverable	Comments
Meeting room booking system at Headquarters	COMPLETED in December 2019.
Hosted Telephony (re-tender)	COMPLETED in 2019. Procurement is completed. Currently in the transition phase which is taking longer than anticipated. Note: subsequently decided not to migrate to the new supplier and re-tendering will happen during 2021.
Remove Enterprise Vault (mail archiving)	COMPLETED in February 2021.
Relocate LFB secondary data centre from TfL Woking site to Stratford	COMPLETED in September 2019 (as outlined in the main report).
Implement 999 Eye	COMPLETED This is implemented from a technical perspective. Waiting to deploy it to a Control workstation. Control management to determine go-live.
Farynor mobile working (Water office implementation)	COMPLETED
NEW Union Street transformation	Significant ICT works during 2021 to consolidate LFB on second and third floors at 169 Union Street, plus the roll-out of new docking hubs to replace Citrix terminals (as part of 'equipment for flexible working' project).



LFB in a digital world

Information and technology strategy, 2021 – 2023

April 2021
Approved by the London Fire Commissioner,
DATE (Decision **LFCXXXX D**)



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For more information about LFC and the work of London Fire Brigade visit: london-fire.gov.uk.

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Foreword

This strategy sets out our vision for information and technology (I&T) services over the next three years. It makes an honest appraisal of how far we have come, what we do well and what we need to do to provide our staff with the right digital environment to enhance the safety of all Londoners.



This is the second and last annual update of our three-year Strategy originally agreed at end of 2018; we will undertake a full refresh of the strategy for 2022.

We continue to face challenges across our work with data, information and technology – particularly arising from the COVID-19 pandemic – and we know we need to be brave enough to face them and make changes to the way we work.

In May 2017 we asked our staff what they thought of I&T services in the Brigade. We discovered that, on the whole, they thought we did a good job but that we were not innovative, nor did we embrace new technologies. We recognise this and provide some commentary in response.

As we developed this narrative about our vision for I&T services, we kept coming back to the reality that we provide services to staff working in diverse environments. During 2020, that has become more complex as many of our office-based staff have been working from home meaning a more flexible approach to the way we deploy technology solutions.

Our staff work:

- at the fire station
- on the incident ground
- in the community
- in the office or remotely
- in the control room.

In fact, our work on this strategy revealed the massive potential, particularly in our fire stations, for digital transformation to relieve some of the burden of our paper heavy, analogue approach. We explore some of that potential in the imagined future states – our personas – set out in Appendix A.

And this is what makes our approach to I&T special. Being able to provide I&T services across these very different environments, we need to be alive to the potential that constant changes in technology represent.

There are three distinct threads running through this strategy:

- Emphasis on a resilient and secure infrastructure.
- A focus on Cloud technology.
- A belief that data is intrinsic to our digital transformation.

We will continue to talk to our staff, work with our partners in London, other emergency services and the wider fire and rescue service to learn and deliver the best service we can. As part of that commitment, we have signed up to the Local Digital Declaration, which sets out a common aspiration for the future of local public services.

I encourage you to read this document and share your thoughts with us.

Julian Martin
Chief Information Officer
London Fire Brigade

Introduction

London Fire Brigade's purpose is to be **trusted to serve and protect London**. Our vision is that we will be a dynamic, forward-looking organisation of fully engaged people at the centre of the communities we serve, adapting to the changing needs of London. Our ambitious Transformation Delivery Plan will ensure we deliver on our purpose by responding to the phase 1 outcomes of the Grenfell Tower Inquiry, and the findings of the 2019 inspection by Her Majesty's Inspectorate of Constabulary and Fire and Rescue Services.



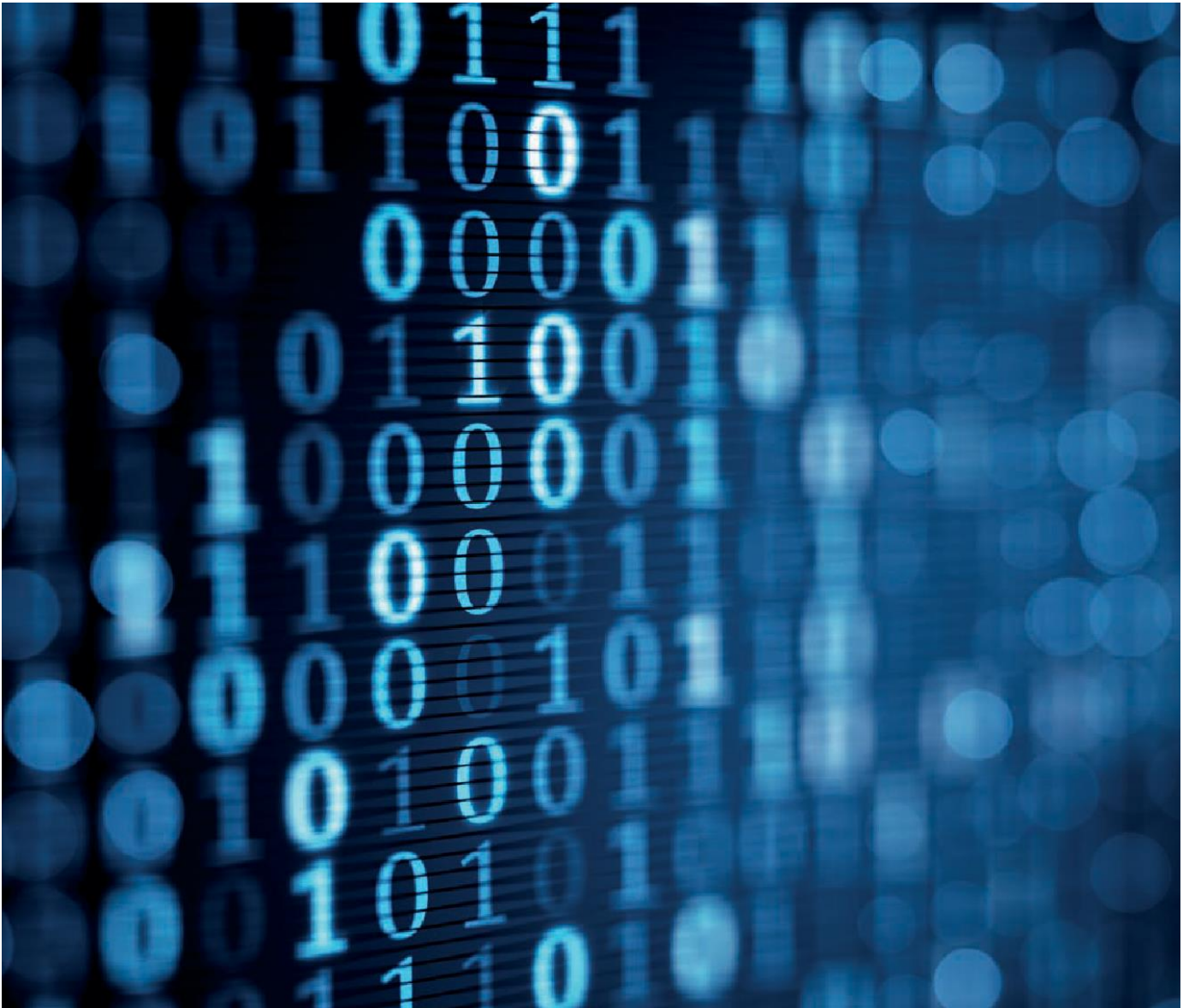
Like the best public services and companies, the Brigade needs to be lean, agile and data-driven. Multi-agency working will be common practice as part of the emergency services collaboration and it requires an evolution in how we use our I&T services to support its development. As a result, our truly mobile workforce will be able to work in a variety of places. And, 2020 presented us with new challenges as we moved to support our office-based staff who had to work from home, and with face-to-face interactions with crews at fire stations more limited than previously.

Not only does the Brigade need to manage risks to communities, it also needs to manage risks in the way it manages its I&T. As we seek to deliver the Brigade's purpose and vision, we find that three themes run throughout our strategy. One of the themes is about striking the right balance between the need for security and resilience with the desire to innovate and introduce new ways of working. Security and resilience should not necessarily be viewed as opposing forces but more as components of a well-designed solution.

Our other two themes are a concerted move to a Cloud based approach to our I&T provision and a firm commitment to using our data in an open and transparent way to improve our services.

With our commitment in 2019 to the Local Digital Declaration, we see a growing commitment throughout the public sector for transforming services using digital tools and technology. We share the ambitions of the Declaration, particularly as we continue to collaborate with many partners across London and beyond.

All of this provides a starting point for our strategy. Here we set our plans to enhance and improve what we do, acknowledging the challenges we face along the way.



THE POWER OF DATA AND INFORMATION

Data and information are the lifeblood of our organisation; they are both vital to improving fire response, prevention and protection services to all Londoners. Everything the Brigade does depends on the effective use of data and information; either at the point of service delivery, or to check and monitor how well we are delivering our services.

The Brigade's need and uses for data and information drives the technology choices and direction of travel for I&T services. This includes:

- The systems and tools we use to create, collect or process information and data.
- The infrastructure that supports those systems.
- The devices that our staff use to access or input data and information.

WHERE ARE WE NOW

We are really good at providing a robust, reliable I&T service and using the data and information we hold to support London Fire Brigade in its work.

We need to build on our solid technology foundations. We have deployed mobile data terminals and Windows tablets on fire engines, rolled-out mobile working for our fire safety staff and have a very good system for staff to access our I&T when away from the office. We want to make sure these solutions stay modern and relevant.

What we don't do so well is to develop the elements of I&T around the edges. By this we mean the technology services that make a difference to the staff such as the social applications, enhanced Wi-Fi beyond our core service, and deployment of apps that bring I&T at work in line with what our staff experience using personal IT and phones. These have traditionally taken a back-seat to the delivery of technology and systems for mobilising and core business services.



One way in which we have improved how we work is in delivering our Business Intelligence Solution project. The project is making a step change improvement in how staff access and use data.



We have lots of data, it is good quality and reliable. We recognised a long time ago that as the quantity of data and information increases, we would need more sophisticated ways of making data useable and accessible.

One Business Intelligence Solution project is making a step-change improvement in how **data is accessed and presented, providing staff with easier availability of data and data visualisations which provide new insights.** We launched our LFB Data portal in 2019 creating an online one-stop shop accessible to all staff for all reported data. Using tools like Microsoft Power BI, data is more easily accessible and useable than ever before.

Since 2018, data protection law is driving different ways of managing and sharing personal data, and we are delivering the core concept of 'privacy by design' in how we collect and use personal data. An internal audit review in 2019 gave the Brigade 'adequate assurance' about its data protection arrangements. We are already working closely with the GLA and the London Office of Technology

and Innovation (LOTI) to overhaul data sharing among London partners, which will have wide-ranging benefits for the way data is used to help make London a safer city.

And, with the GLA and group bodies, we have signed up to voluntarily comply with the UK Statistics Authority code of practice for statistics, which will introduce new standards for the way we publish some of our data. We remain committed to being an open and transparent organisation in terms of the data and information we make available to our stakeholders and Londoners.

We are keen to participate in data projects with others, and are **working with other GLA group bodies to see what areas of collaboration exist in respect of data, and performance monitoring. We have regular contacts with the GLA Intelligence team, and with the** London Office of Technology and Innovation (LOTI) to explore new and creative ways to use data across different organisations to provide new insights and understandings, and drive improvement in service and outcomes for citizens.



The introduction of our Android mobile phone working environment provides the opportunity to improve our messaging service and to the removal of pagers that are still being used by operational staff.

TIPPING POINT

We are now at a tipping point. In general, our technology infrastructure is solid. It is time to make everything mobile so that staff can work wherever they want or need to be.

Where the nature of the role permits it, we want our staff to be truly agile in their approach to work. We need the right attitude in our approach to developing our I&T to help make this happen. And we need the right technology for staff to use whether at working at home, remotely or in the office. We are also looking at ways staff can use their own devices for work ('Bring Your Own Device') to provide complete flexibility.

Realising our ambition rests on our appetite for risk and, of course, sufficient resources to realise change. We need to weigh up our need for resilience and security with the desire to support staff to work flexibly. Agility, resilience and security should not always be viewed as mutually exclusive, and this is important when determining the appropriate tools that staff will need to support flexible working and to ensure that the Brigade remains protected against cyber-attacks, data loss, etc. In addition, we cannot of course, forget the various legal data protection and regulatory requirements.

Our challenge now is to look ahead at our existing technology arrangements and determine whether they remain valid for the future, and the different ways in which our people need to work. We plan to stay a Microsoft organisation (because of our existing investment) so we need to exploit all the opportunities that Microsoft software offer.

TRANSFORMING THE BRIGADE

The Brigade's response to the phase 1 recommendations from the Grenfell Tower Inquiry, and the outcomes of the 2019 inspection by Her Majesty's Inspectorate of Police and Fire and Rescue Services (HMIPFRS) will require significant organisational transformation over the new few years. New or updated information and technology solutions will underpin many of the changes and new ways of working set out in the Transformation Delivery Plan.

To help deliver the Brigade's vision, the Transformation Delivery Plan is built around four pillars:

- The best people and the best place to work
- Seizing the future
- Delivering excellence
- Outward facing

We have assessed all the initiatives in the Plan and about two-thirds will need support from ICT Department to deliver them. Some of those impact will be small, but others will be significant. For example, the new premises risk information solution (*LFB OneRisk*) which will bring together and provide a single repository for all aspects of building related risk, not just fire safety, but operational risks, and what we know about London's built environment.

WAYS OF WORKING

We need to look at how our office-based staff work, particularly in the light of the challenges we are experiencing during the COVID-19 pandemic. We invested heavily in a zero (thin) client environment using the Citrix product and this has significantly reduced the cost of ownership, increasing security and simplifying management of our IT infrastructure. However, the use of Microsoft 365, and other cloud-based solutions, provides new opportunities to access email, data and documents from any device outside of our thin-client environment.

The pandemic has prompted us to change our current approach to desktop computing for our staff who normally work in offices. We will give laptops/tablets to all these staff (that don't already have them) so they can work flexibly at home or in the office using the device; these will also support better mobile working.

We cannot change our thin client approach overnight, but we will review our applications strategy during 2021, including how users access applications, to inform the refresh of this strategy in 2022.

Mobile working does not only rely on tablets, but also on mobile phones. Our Android mobile phones with software that creates a safe and secure work area where our staff can access Brigade applications, separate from any apps that they install on the phone for personal use. We think creating

this Corporately Owned Personally Enabled (COPE) environment provides the best of both worlds and will significantly enhance mobile working for our staff.

The introduction of Android mobile phones also provides the opportunity to improve our messaging service and may lead to the removal of pagers that are still being used by operational staff.

We also think there may be potential to enhance mobile capability on the fireground, possibly leveraging capability delivered as part of the Emergency Services Mobile Communications Programme ESMCP, which includes





Getting security right is critical to the successful move to mobile ways of working.

delivery of the Emergency Services Network (by 2025) and would be looking to explore the practicalities of this approach.

Getting security right is critical to the successful move to mobile ways of working. We have adopted a strong multi-layered authentication for our tablets/laptops that requires not only an ID and password, but an extra code delivered via a mobile phone.

Although we have been able to reduce the volume of paper and printing significantly over the last 10 years through new ways of working, there is clearly more we can do about this. Remote working during the pandemic has underlined how it is possible to work digitally (e.g. in meetings) without printing documents.

During the life of this strategy we intend to deliver further reductions in our use of paper and printing, by enabling paperless meetings, the better sharing of information electronically, and reducing paper form-filling.

To make a success of new ways of working, we need to make sure our I&T is an enabler to assist in the changes we want to make and to allow our staff to guide us along the way. To help facilitate this, we will be seeking to establish a user group to ensure feedback from staff is considered by the appropriate people in the ICT department.

COLLABORATIVE WORKING

We know that our staff like to collaborate when they work. They collaborate with teams in their own departments, across departments and with other organisations. The use of Microsoft Teams during the last year has supported new ways of working and virtual meetings, during the pandemic.

We have had very positive feedback from the use of Microsoft Teams, which is also supporting new ways for senior and departmental management to communicate directly with their staff.

Although the use of Microsoft Teams has been largely to support virtual meetings, we have started to use it to enhance collaboration outside of traditional physical team boundaries and to create a history of work that would previously have been buried in individual email accounts.

We also launched Yammer at the start of 2021; Microsoft's Yammer social networking tool which is being used to openly connect and engage staff across the Brigade.

We are excited about the potential of Microsoft Teams and Yammer for the Brigade and will be investing considerable effort to make sure departments use of it to improve ways of working.

But, we don't want to overwhelm our staff with too much choice or too many places to have to manage to do their jobs. Collaboration tools should be simple and easy; if they are not intuitive and become a burden, then we should rethink the way we work. It is important that staff know how to use the different communication channels we provide for them.

COLLABORATING WITH OUR PARTNERS

We will also look to the other members of the Greater London Authority (GLA) group to see what they are doing to support collaborative working. Increasingly, we are looking to GLA group bodies when considering replacements for the non-FRS specific line of business systems. We have started work to replace our finance, HR and payroll systems, and will seriously consider where we can work with others to deliver updated solutions that meet the Brigade's needs, and where replacement timescales match.

We already meet regularly with the GLA group bodies to discuss technology matters of common interest, and we are also participating in the wider discussion forums like

the London Peer Group which brings together local authority staff in London interested or involved in creating and delivering digital services. This initiative is being supported by the Mayor's Chief Digital Officer for London, and the London Office for Technology and Innovation (LOTI).

We have a good working relationship with the Metropolitan Police Service and the London Ambulance Service. Senior staff from our respective I&T departments meet regularly to discuss strategy and ongoing work, looking for opportunities to learn and join up where it provides real benefits. This relationship is particularly helpful when it comes to national I&T initiatives that affect us all, such as the replacement of the Airwave communications system with the Emergency Services Network (ESN). We continue to follow the ESN roll-out programme with great interest.

One example of how a joined-up approach can benefit us is in data analysis. We have a team of data analysts in the Brigade who already benefit from working collaboratively with other data analysts drawn from the GLA family and beyond. By working in this way, we can be sure to make the most of the huge amounts of Brigade data that we hold. Given the duty to collaborate that came into force last year, we are keen to see collaboration take place in the I&T arena as well as the front-line of service delivery.

The Local Digital Declaration can be particularly helpful to us in this area of our work. In it, there are sound principles of sharing plans and experience as well as a commitment to "working collaboratively with other organisations and reusing good practice". We support this approach wholeheartedly.

The National Fire Chiefs Council (NFCC) has developed a Digital and Data Programme that is looking at the way fire and rescue services can work collaboratively in pursuit of digital transformation. We contributed to the initial scoping of the programme and will continue to be closely involved.

INVESTING IN OUR STAFF

The COVID-19 pandemic is presenting new challenges and opportunities to use technology to support different ways of working. As outlined earlier, our new approach provides staff with a tablet/laptops, screens and docking devices for use at home; they can also bring their tablet to work, plug-in and get access to systems and data easily.

We should embrace staff who are natural early adopters to test technologies with us and encourage staff to learn from others by building networks of people with shared interests. Similarly, we should identify and support staff who wish to use technology and systems in new ways. Our roll-out of Microsoft 365, as part of our Modern Workplace Programme, provides familiar and new tools to drive different and smarter ways of working.

We also want all our staff to enjoy the benefits that new technologies can bring. Microsoft 365 has a range of accessibility features to meet the needs of users, including those with disabilities.

All of these examples help our staff do their jobs better and help the Brigade to be innovative and creative as we move from our I&T being reactive to a place where it is predicting what our staff might need in the future.

A lot of I&T staff time is spent doing work that no one sees but everyone would notice if it wasn't done. For example, activities like applying anti-virus updates and patches or upgrades to software. This is extremely important work but not necessarily fulfilling.

We want to find a different way to get these important tasks done and free up our staff to do more interesting work.

Our goal is to develop our staff to work on the projects that deliver on the ambitions set out here. Projects will move along quicker if the experts are available to assist. This has the advantage of boosting our own staff, improving retention and recruitment along the way. It's a

win-win situation.

Another area for improvement is in how we identify new information and technology trends that enhance the working environment for our staff. Horizon scanning should be built into what we do in our everyday work.

USING CLOUD BASED SERVICES

Currently we manage a hybrid environment where some of our technology and infrastructure are on-site (using Brigade buildings) and some are hosted in the Cloud.

We need to get the balance right between what we do in the Cloud (in terms of storing and processing data) and what we do on-site, to maintain security and resilience. Our approach is to consider cloud solutions as we refresh or replace systems. Within the life of this strategy we expect our staff to be using Microsoft 365 cloud-based solutions between 70 to 80 per cent of the time.

One challenge is to work out the optimum level of network links between physical sites to the Cloud, with guaranteed and dedicated access. Once again, the consideration centres on our attitude and appetite for risk and how far we want to go with changing the way we work to ensure we deliver our service but retain security and resilience.

Another part of our thinking about the greater use of the



We will be brave and shake up the way we've always worked, be a bit disruptive and make the Brigade better for it.

Cloud is how the technology infrastructure is managed. Infrastructure as a Service (IaaS) is a well-known concept in the technology industry. Our aim for IaaS is to have our own space in the Cloud hosting our infrastructure with the day-to-day repetitive tasks such as software patching and anti-virus updates carried out by our managed service provider instead of our own staff (released to do more interesting work as described above). Discussions are on-going with suppliers about finding a business model that will make this Cloud transition a viable model. Whilst costs have reduced in recent years and suppliers continue to offer discounts for this transition, costs remain high. A reduction in capital funding and associated debt costs (as a result of not having to buy server hardware) is a positive outcome from any transition to IaaS. This cost reduction, together with costs currently incurred to support on-premise infrastructure will be key inputs as we look to develop a full business case in respect to IaaS, as part of the next digital strategy and updated applications strategy from 2022.

We also need to be sure our back-up strategy and our testing services would work well in a Cloud environment. All of our testing work could be moved to the Cloud. Currently the testing facilities are idle much of the time and a wasteful of resources.

We want to understand the full potential of the Cloud to help us deliver our I&T services better. We have employed a specialist consultancy to do this. It's complex and time-consuming but important work.

FINANCIAL CHALLENGES

Budget is of course critical for delivering our I&T ambitions and this is a perennial challenge for any organisation.

Our budget for technology is split into capital (to buy things) and revenue (to do things with). Adopting IaaS would have an impact on our budget, which is heavily

weighted to capital and requires a shift to a revenue-dominated budget.

Given that this revenue budget would be buying critical services, it would have to be ring-fenced. The organisation is significantly dependent on technology to deliver almost every aspect of its services to London. We have been fortunate that we have had continued investment, not only to maintain our current infrastructure, but to grow and change our offerings to reflect the business needs and drivers of the organisation.

I&T has a cost regardless of how it is delivered and its critical infrastructure without which the Brigade could not function. The challenge is to be able to make the move away from capital to revenue, while the Brigade overall faces continuing pressures in its revenue budget and the need to find savings in future years.

DIGITAL FOR OUR SERVICE USERS

Many of the services we deliver to Londoners are different to those of a typical local council. While we deliver our services to people at home, at work and elsewhere, many of these services, by their nature, have to be delivered face-to-face and onsite.

But we are committed to delivering as many of our services digitally by equipping our staff with the digital tools they need to support their face-to-face interactions. We recognise the importance of considering how different groups will access our services, including our own staff, and will take into account the differing needs of users who are potentially likely to be impacted when we implement I&T solutions.

We launched our current website in April 2018 – which meets current accessibility standards – and this provides a good platform to develop digital services where they are appropriate for what we do. During the life of the strategy, and beyond, we will look at new ways to deliver services in a digitally enabled way, whilst always

considering the special needs of different users, like older people and those with disabilities. We are also maximising the opportunities available to us to deliver a wide range of information about the Brigade in an accessible way, and to develop this to provide better insights for the public about what the Brigade does using new data presentation tools.

MOVING FORWARD

Given all that we set out here, it is clear that we have to think differently when it comes to delivering I&T to support the vision of the Brigade.

We want to support ways of working that make the best use of Cloud and put data at the heart of what we do, without compromising security and resilience. We can balance the risk to deliver on our strategy.

We will be brave and shake up the way we've always worked, be a bit disruptive and make the Brigade better for it. We will use external I&T consultants, to health check what we are doing and help address some issues before we can move ahead on all fronts.

We have an I&T work plan containing over 150 discrete pieces of work or projects that will enable us to deliver the ambition set out in this strategy. Appendix B gives a flavour of some of the change initiatives we need to deliver to keep our I&T infrastructure and services modern and up-to-date, supporting business changes across the organisation. This doesn't include the huge amount of vitally important 'business as usual' activity that goes on to support the infrastructure and systems, as well as dealing with user issues and queries.

The Brigade's ambitious transformation agenda, means that many departments will be looking to ICT Department for new solutions, and changes to existing systems. We need mechanisms to help identify up and coming projects from the TDP where ICT will be an enabler for achievement of actions. The lack of a clearly defined corporate framework for notifying I&T of up-

coming projects impacts upon our ability to appropriately prioritise within the work plan which could impact upon the achievement of individual projects, the ICT strategy and corporate objectives.

During 2021 we will introduce a new work request process to collect information from business owners of the work they want ICT to do, and the timescales, as well as capturing the impacts of this work for ICT teams. Also, to collect information that will help with wider decisions or relative priorities.

We have also established a Technology Oversight Board (TOB) as a forum to discuss new work requests and to

help monitor progress with the three-year workplan. The TOB will comprise departmental representatives and will be able to take a view of relative priorities, and had its first meeting in March 2021. The TOB will help us monitor activity in our I&T work plan which will enhance and develop our I&T to support Brigade staff.

Regardless of whether someone is at the fire station, on the incident ground, in the community, in the office, working remotely or in the control room, they should have the very best I&T we can offer, keeping Londoners safe along the way.



Appendix A: How will our staff benefit?

In this section, we outline the way in which the lives of our staff will be affected, for the better, with the introduction of the technologies and use of data outlined in the strategy. 'Personas' have been created to illustrate the impact of I&T being delivered by the Brigade.

These 'personas' are simply to illustrate how the different jobs people do could be changed by the better use of technology and use of information. Some of the ideas are 'off the wall' at this stage, and these examples provided do not always represent a confirmed plan.

Two symbols are used in this appendix to show:

- ◆ things planned and will be delivered during the life of the strategy.
- ◇ things which, at this stage, are more 'imaginative' and may take longer to deliver, or might eventually be in a different form.

The station Watch Manager

Asif is a well-established Watch Manager at a two-pump fire station. The members of his watch vary hugely in how much interest they have in I&T and often the tasks that require the use of the computers on the fire station fall to the Crew Manager as she is the most confident at using it.

AT THE FIRE STATION

- The **4G enabled tablet**◆ will host **3D images of buildings**◇ on the station ground. Preparing for operational risk visits will be much easier and recording the data – including the premises risk assessment – directly onto the tablet in the new **LFB OneRisk solution**◆ which means that the operational risk data is dynamically updated, seen beside what else we know about a building (e.g. from a fire safety visit) and available for all to see.
- Firefighters now login to the uniform supplier website to see a dynamic **3D model of their fire kit allowance**◇. It tells them when it was bought, when it was cleaned and its lifespan for replacement. They can click on the image of what they want to clean or re-order and it instantly creates an order.
- Online training will be easier to find using the **training portal**◆, and it will be linked to new updated operational guidance/policies so that you get a complete view of everything you need to know about dealing with a particular incident type or piece of equipment.
- All members of the watch will be able to look at the **LFB Data portal**◆ to access the management and performance data they need to help them do their jobs. Being able to access data when needed will support a new approach to performance management.
- There is **no more paper on the fire station**◇. All the folders of signed forms have gone. Everything is now digitised and accessible via apps on the desktop or tablet devices via the Cloud. The audit trail of routines on the station is all digital and all the checks and balances are in place to know when actions need to be taken for all routines.

IN THE COMMUNITY

- All firefighters will be able to use the **4G enabled tablet**◆ that is kept on the appliance to complete the indemnity form and to record the outcomes of Home Fire Safety Visits. This means that the data is sent immediately to the central LFB OneRisk solution with firefighters no longer having to sit down at a station computer to record the visit based on paper notes.

ON THE INCIDENT GROUND

- **4G enabled tablet**◆ is now a critical part of the appliance. It is used to update the **mobile rollcall board**◇, **order Breathing Apparatus cylinders**◇ to replace those used during an incident.
- The Mobile Data Terminal (MDT)◆ on the fire engine will continue to provide access to important data like Chemdata, car manufacturing specifications and ePiPs – to get an instant visual on the buildings in the area of the incident. The **tablet**◆, which also accesses the same datasets as the MDT, is used by firefighters in the rear of the appliance and can be consulted on the incident ground as well.
- The driver of the appliance will use a specially configured **TomTom satnav**◆ for all navigation, it will automatically get the location of the incident sent from the mobilising system.
- When crews return to the fire station, the **appliance is scanned on entry**◇ and all the equipment logged. Anything missing will immediately be notified to the watch manager who will then agree for items to be replaced using the Brigade's procurement system. No re-keying of data as all the systems talk to one another.

The Station Manager

Emma is a Station Manager. She is newly promoted and keen to make her mark. She is a big fan of technology but finds the Brigade's systems slow and uninspiring. She wants to get real-time access to data about how her station is doing in all areas of its work so that she can respond quickly to change and improve performance. She wants to bring her staff with her and get all the watches up to speed on data analysis so that they too can understand the power of data to improve what they do. She also wants to streamline the way admin work is done, to relieve the bureaucratic burden on her watch staff.

AT THE FIRE STATION

- Emma will get easy access to performance data through the **LFB Data portal** and some user-friendly dashboards and reports based on her specification created by the Brigade's expert users of **MS Power BI**.
- Using **MS Teams** (part of Microsoft 365) with her watches, Emma can blend the need to share information on a formal level with some fun, team building along the way. Emma can set up Teams to suit her, and that includes adding in different media, like GIFs, may seem like a distraction but have the benefit of adding humour while people work.
- Using **Brigade apps** on her desktop computer (via Citrix) or via her phone (Android apps), Emma will be able to do many of the regular tasks more easily and simply.
- Emma can stay in touch with top managers using **MS Teams live events** as a new way of communicating, and is able to ask senior managers, right up to the Commissioner, questions and receive updates.

IN THE COMMUNITY

- With her **Brigade issued Android phone** or using her own phone under our **Bring Your Own Device** policy, Emma will gain access to Brigade systems wherever she is. She will be able to work safely and securely using the new functions on her phone and use the device for her own personal use too. The **phone will act as a pager**; no need to carry three devices around.
- **Yammer** is a great way for Emma to build community outside of her station. She is ambitious, so she wants to know what's happening in the wider Brigade. By joining groups on Yammer and accessing them on her Android phone or tablet, Emma can keep up-to-date on topics that interest her and contribute to debate while doing her day job.

ON THE INCIDENT GROUND

- Emma's **Android mobile phone** will give her access to all the information she needs about incidents via the **BOSS Mobile app**. She will be able to update her status easily using the app on her phone via BOSS mobile, so no need to keep phoning Control.
- Emma's car will have a **SatNav** just like the appliance which will automatically route her to incidents she has been mobilised to. This will save time and allow Control to effectively gauge her ETA to incidents.
- Emma will be able to call on the Brigade's **drones** to be mobilised to incidents to provide a birds-eye view of the incident ground. It is a powerful tool for her decision-making toolkit. These images will be available across the devices at the scene, from MDTs, tablets and phones, as well as being available to Control and remote monitoring senior officers and the press office via **Stream** in **Microsoft 365**.

The Borough Commander

Kemi is a Borough Commander (GM) with five years' experience at this level. She is a reluctant user of I&T and feels that the systems are not reliable enough, often falling to manual workarounds where she can. She is willing to learn and try out new solutions if they mean more mundane tasks are automated and free up her and her staff's time for other things.

AT THE FIRE STATION

- Kemi will benefit from the same tools available to Emma, and will be able to set up **MS Teams**◆ to collaborate more effectively with her partners from organisations across her borough, including the local council, the other emergency services and the charities she works with on a day-to-day basis.

IN THE COMMUNITY

- Kemi's **4G enabled tablet**◆ allows her to work more flexibly and will have a range of **Brigade apps**◆ that will help her do her work more efficiently. The tablet will allow her to hold meeting papers electronically, and to mark them up with notes in advance of the meeting or whilst at the meeting. The tablet will allow her to access the Brigade's **LFB Data portal**◆ which provides access to a wide range of performance information dashboards and reports, including those created using **Power BI**◆, that will help her work and engage with partners in the local council.

ON THE INCIDENT GROUND

- During an incident, the **body worn camera**◆ worn by firefighters is recording the activity and the video is dynamically available to Kemi and Brigade Control so that they can see the incident simultaneously, this will make remote monitoring incidents far more effective.
- A **streaming video app (999Eye)**◆ on a mobile phone will allow Kemi to stream images of an incident in progress to help Control understand the incident better, and those in command of an incident, to make more informed decisions. Brigade officers will have this as standard on their phone, but members of the public will be able to access from a link provided by a control operator. We are now investigating the use of this app for FireSafety Inspecting Officers, to remotely follow up on work at remote sites.
- A transcript of the audio from the incident that was recorded on the body worn camera is scanned by the Brigade's **artificial intelligence system**◆ to work out the decision making at that incident based on previous incidents. It is recorded and reviewed by officers for training purposes.

The Control Room Watch

Martin is quite a new Operations Manager in London Fire Brigade, having worked previously in another control room and joined the Brigade on promotion last year. He is responsible for one of the six watches that manage the control room. He loves technology – the control room is a heavy user of I&T in the Brigade, so it's the perfect place for him. He is always looking for ways to improve the way that the control room can make best use of the innovations going on in this area of I&T.

IN THE CONTROL ROOM

- The feed from the Brigade's **drone**◆ is now an established way of viewing incidents. The dynamic feed appears on the screen as soon as it is available and provides extra information about the incident.
- Emergency calls for assistance from other blue light services as well as other fire control rooms now **appear automatically on the screen**◆ for Martin and his team to access and respond. They no longer need to wait or share information over the phone and re-key data. It's all done instantly.
- The public doesn't just call in with information about incidents now, but actually provide **video footage directly from their smart phone using 999Eye**◆ at the scene. Martin and his staff can see live video footage of the incident before the crews arrive providing valuable situational awareness.
- In a separate stream, the control room staff are monitoring live feed from the firefighters' **body worn cameras**◇. Again, it provides situational awareness on the ground, but later in the incident it shows the BA crews' position as they move through a property towards a caller who is trapped in a bedroom. The body worn cameras feed this information to the control operator who is on the phone to the caller trapped in the bedroom, enabling them to provide the caller with advice to help keep them safe.
- Where needed, the control room staff can also tap into the **live feed from the appliances**◇ at the scene. The appliances are fixed, so it gives another view on the incident.
- With access to **TfL CCTV cameras**◆ nearby, the control room is the place where the Brigade has a fantastic 360° real time view of an incident and can helpfully field queries from Brigade officers, the Press Office and others.
- Callers now use alternative, app-based ways of describing (e.g. what3words) where they are and the control room can **translate any app into geospatial data**◆ to supplement the GPS data from the 999 caller's mobile phone signal.
- Social media is so ingrained that information about incidents sometimes appears online before a 999 call is made to control. Knowing this, the Brigade is now using **predictive analytics**◇. It worked with leading artificial intelligence agencies to develop machine learning that has been trained to look for fire-related incident chatter on social media channels. Martin's staff now monitor this in a pop-up screen on their monitors, reviewing alerts as a business as usual activity.



The Fire Safety Inspecting Officer

Greg has been a Senior Fire Inspecting Officer for 10 years. He has a great knowledge of fire safety laws and has audited/inspected hundreds of buildings over the years. He is responsible for a team of inspectors and while he needs to spend a lot of time at his computer, he also wants to be out with his teams and on site so that he remains close to the front-line of this important area of the Brigade's work. He already makes good use of his dedicated fire safety tablet with its mobile working app.

IN THE OFFICE

MS Teams◆ will be the mainstay of Greg's work. His distributed team will use it as the primary means by which they communicate with him and each other. His team **no longer use email internally** and Greg will see the benefit of being able to look back on conversation threads across all sorts of topics with different members of the team.

Greg and his team **rely entirely on their tablets**◆ and have **stopped using a desktop computer** altogether. Even when they are in the office, Greg and his team simply plug in the Ethernet cable available from any desk and connect to Brigade systems or use the **super reliable wi-fi** instead◇.

IN THE COMMUNITY

- This team is the most agile of all the Brigade's teams and because they work in such a flexible way, the Brigade has reduced the number of desks that it needs to dedicate to inspection teams in Union Street.
- Inspecting Officers have had **4G connected tablets**◆ for some time allowing them to record the outcomes of inspections dynamically while on site. The next generation software solution will also integrate smoothly with other Brigade **premises-based risk systems**◆ and the new **LFB OneRisk solution**◆, particularly those used by operational colleagues for recording risks and creating tactical plans for use at future incidents. Insights on the types of challenges that crews will face will also be used by Brigade training management to steer the training plans of local crews to prepare them for the types of situations that they will come up against.
- A streaming video app like **999Eye**◇, which any 'responsible person' in charge of a building can download from the Brigade's website, will allow Greg to undertake a virtual re-inspection of premises from his tablet, to check that things he has asked to be addressed, have been done. The responsible person will be guided by Greg to show him things in the premises using the mobile phone. Greg can save a copy of the re-inspection video as part of the premises file on the fire safety system so he has a record of the inspection and an audit trail.

The Community Safety Officer

Marcus works in community safety. He is fairly new to the Brigade and is used to a great I&T set up from his previous job. He is really comfortable with I&T and keen to use Brigade and other data to provide the evidence base to develop community safety work.

IN THE OFFICE

- Marcus will get access to training on how to use **Power BI** reports ♦ to help the team develop their policy interventions. He can find tutorials on Hotwire or spend some time with the Business Intelligence team, or other 'super' users in the Brigade, to get an insight into its potential. He won't create the reports, but he will become an intelligent consumer of them.
- Spending time with colleagues who aren't based in Union Street is really important for Marcus to get to know the Brigade. He will be able to seamlessly **transfer his working from his desk** ♦ in Union Street to his tablet device, working on the way, at home and in other locations.
- It's clear that Marcus is a real fan of I&T and his manager has already put Marcus forward to join the new '**early adopters' I&T group** ♦ that will help the Brigade continue to innovate its I&T offering in the years to come.

IN THE COMMUNITY

- Sometimes a tablet is too bulky and on his new **Android phone** ♦, he can access his emails and files in **SharePoint** ♦ wherever he is working. **Cloud storage** ♦ means he doesn't have to use the thin client (Citrix).
- Using both **MS Teams** ♦ and **LFB Yammer** ♦, Marcus can develop online communities to help him understand what others are doing, share information and learn what works elsewhere.
- There is so much interest in new technology because of the Brigade's innovations, that the ICT department host **monthly 'unconferences'** ♦ where staff generate an agenda of things they want to talk about, whether that's innovations from other sectors, personal experience or some ideas about how to make I&T better. There's a real buzz about digital in the Brigade now.

The People Services Manager (flexible worker)

Erika works in the People Services team and is predominantly based at Brigade HQ at Union Street. However, as part of flexible working arrangements, Erika now only comes to the office for two days some weeks, three days on others. The rest of the time Erika works from home. To accommodate this new working pattern, Erika has been issued a new light-weight tablet, which she preferred over a traditional laptop. With her long commute to work, the tablet allows her to make the most use of the travel time, utilising both Wi-Fi and 4G connectivity. Erika feels supported by the Brigade with the right ICT set up that works at home. Moving from home to work environment is really easy with new docking stations for her tablet that work well in both sites, and elsewhere.

IN THE OFFICE

- As her tablet is relatively small, it does not lend itself to being used for long periods, either at home or in the office. To overcome this, Erika is able to connect her device to a '**docking station**' (both in the office and at home) that allows her to use a full-size keyboard and mouse, a larger screen and a headset for use with video and other calls.
- Although Erika is eligible for a Brigade Android mobile phone, she prefers to use her own iPhone, so she is able to take advantage of the Brigade's **Bring Your Own Device (BYOD) policy**. The Brigade's **Mobile Device Management (MDM)** solution manages an area on her phone that she can use to access Microsoft 365, allowing her to send / receive mail and access MS Office applications including Microsoft Teams.
- Enjoys the flexibility of being able to work from home, allowing for an **improved work life balance** with caring responsibilities at home
- Using **Microsoft Teams** to stay in touch, with the chat function great for informal communication and video for meetings.
- It's really easy to work with email and draft documents using **Microsoft 365**, without the need to log-on to an LFB remote access session.
- Access to LFB systems work well with all available online (via **remote access**) and quick access to personal and Brigade-wide files.
- The Brigade's data is kept safe using **Multi-Factor Authentication (MFA)** which sends Erika a code via her mobile phone to help her logon securely.
- Erika has the Microsoft Teams app on her tablet, and **Teams is integrated with the Brigade's telephony system** and so Erika can make / receive calls using to her LFB extension on her tablet, whether in a Brigade building or elsewhere.

IN THE COMMUNITY

- Erika has access to **LFB Yammer** which connects staff and information across the Brigade. As part of Microsoft 365, she uses Yammer to engage with experts around the Brigade and share knowledge.
- Weekly meeting with her work colleagues using **Microsoft Teams** allow for catch up with others' work and chance to share what's happening at home.
- Regular themed sessions within the department happen as a **Microsoft Teams live event** using so that Erika can continue to learn about wider work of colleagues, her corporate Brigade news and keep up to date
- Brigade leadership provide video updates using **Stream** (part of Microsoft 365), have launched a regular podcast which combines formal and informal approach to great acclaim
- Regular reminders to check working environment at both sites with simple **display screen equipment (DSE) tests** available on brigade app.

Appendix B: Our top priorities now

A separate detailed three-year I&T work plan supports this strategy and comprises the actions, tasks and projects that will make this strategy become a reality; this plan is updated quarterly. The work plan will be a living document, reflecting the changing demands placed on the Brigade's I&T services over time, as projects and tasks are completed and new ones are introduced.

In this appendix we highlight some of the top priorities for the next three years, as we see them now, and showing things we completed (shaded) and new initiatives added during the first year of the strategy. This is necessarily just the highlights of what we need to do, and the detailed three-year plan is the place to look to find more detail.



OPERATIONAL/FRONTLINE

- Complete work to allow transfer of mobilising data between blue-light partners (MAIT).
- Support the community use of our fire stations. [ON HOLD]
- Complete updates to the system that manages our Home Fire Safety Visits. [COMPLETED]
- Complete the roll-out, for appliances, of new Mobile Data Terminals (MDT), with SatNavs and tablets.
- Replace operational officer pagers with a pager 'app' for Android phones.
- Support the move for operational staff from 'Role to Rank' (R2R) by changes to systems / policies. [COMPLETED – November 2019]
- Implementation of FRS national operational guidance (N.O.G.) within the Brigade, including a new system to manage and access for operational (and other) policies.
- Deliver new incident ground radios for our firefighters as part of Replacement Protective Equipment project.
- Deliver (subject to national project) the Emergency Services Network (ESN) to replace Airwave radio (in 2025).
- Replace our fire safety system with an overall premises risk management system (*LFB OneRisk Solution*), including LFB Operational Risk Database including the Premises Risk Assessment.
- Replace our 999 mobilising system (by 2024).
- Introduce 999 Eye smartphone solution to allow 999 callers to securely send live footage or images of incidents to emergency service control rooms. [COMPLETED]
- **NEW** Deploy a 'fire survival guidance' solution to ensure that information on activity at incidents is shared between Control and incident commanders.
- **NEW** Collate/present information about London, its composition, and the Brigade's response to risk to inform the Assessment of Risk for the updated Community Risk Management Plan (by 2022).
- **NEW** Command Unit system replacement



SUPPORT/BACK-OFFICE

- Roll-out Android mobile phones to replace Windows phones. [COMPLETED July 2019]
- Complete LFB website security assurance.
- Implement a cyber defence system. [COMPLETED September 2019]
- Launch the LFB Data portal – a new data platform, as part of our Business Intelligence Solution (BIS) [COMPLETED September 2019].
- Roll-out the new 'thin client' desktop with Windows 10 'look and feel' with Microsoft 365 for office-based, by end March 2021, and at fire stations (including SharePoint Online), by end August 2021.
- Complete work to improve personal information retention to be more GDPR compliant, in response to the 2019 internal audit review. [COMPLETED]
- Relocate our secondary data centre to Brigade premises. [COMPLETED – September 2019]
- Improve our management of images and video (e.g. from drones, body worn cameras), including better GDPR compliance. [COMPLETED]
- Support the delivery of a new performance administration management (planning) system (InPhase solution).
- Complete LFB inputs to the GLA/LOTI Information Sharing project to provide a better way to share data between partners in London. [COMPLETED]
- Work toward 'Cyber Essentials' security accreditation.
- Replace our finance/purchasing system(s) and human resources/payroll system(s) (by 2022).
- Reconfigure and upgrade wide and metropolitan area networks (WAN/MAN) and internet services.
- Launch new information security online awareness package. [COMPLETED]
- **NEW** Provide equipment to support staff flexible working (tablets, screens, docking hubs, etc.).

