

# Kent and Medway Fire and Rescue Authority

## Information Technology and Business Change Strategy 2018-22

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# Introduction

Kent and Medway Fire and Rescue Authority is committed to **working together, saving lives and reducing harm**. Our objectives and plans focus on home safety, road safety, assisting businesses, responding to emergencies, and protecting the wider community from the impact of major events. This strategy has been carefully constructed to support and align with our aims and aspirations.

IT and Business Change supports our 75 front-line fire engines and 56 fire stations (including some newly-built fire stations) spread across Kent and Medway. Mobile Data Terminals are fitted into each fire engine and some other specialist vehicles, with technology to alert firefighters installed at each fire station appropriate for the shift patterns employed.

IT is also used to support colleagues delivering Safe and Well visits in people's homes, and the work of the Technical Fire Safety Teams in their role in providing guidance for the 64,000 active businesses in Kent and Medway.

In terms of devices, we have deployed radios, mobile data terminals, station-end devices, laptops, desktop PCs, tablets and mobile phones. We also have a large number of physical and virtual servers.

The implementation of this strategy will enable us to achieve maximum benefit from information technology, supporting colleagues when responding to operational incidents or carrying out preventative and technical activities. The strategy will also support everyone that works for us in back-office functions. Colleagues will have access to risk information, where and how it is needed. We are also working with partner organisations to enable secure and easy sharing of information.

This strategy will also enable us to get maximum benefit from advancing technology by increasing engagement with colleagues and external partners in the design and delivery of services. It has been written to fully support the Customer and Corporate Plan 2018-22 by exploiting technology in the management of risk, responding to emergencies, prevention activities, partnership working, continuous improvement, customer service, training and efficiency savings whilst providing a value for money IT service. It supports modernisation, mobility and efficiency.

## IT Governance

Two officer-level Boards with equivalent decision-making capabilities exist in KFRS. For commissioned corporate projects and programmes the Corporate Development Steering Group is the decision-making body. For all other issues, Corporate Management Board is the decision-making body. The Assistant Director, Policy and Performance, represents IT and Business Change at Board level.

There are four IT programmes of work under the Corporate Development Steering Group:

1. Operations Response Programme.
2. Prevention and Protection Programme.

3. Business Capability Programme.
4. Technology Programme.

There are also a number of Application Steering Groups and the IT Managers' Steering Group, which all report into CMB indirectly via members of the Corporate Management Board. These bodies manage the business as usual activity and escalate decisions to the Corporate Management Board in relation to policy, major faults or IT service management issues.

## Current Situation

IT plays a critical role in the efficient response to life-critical incidents and provides vital risk information to help keep the public and everyone that works for us safe. Importantly, technology is fundamental to workforce planning, mobilising crews, identifying vulnerable people that need our help, and identifying and recording risks. We have identified the following issues which this strategy is designed to overcome:

- **Improving our core IT functions:** The applications we use are few in number but the interactions between organisations, applications, infrastructure and devices is complex. The technology used for mobilising at fire stations is reliable but old, and some risk data is duplicated, especially in relation to premises. The local network infrastructure is also old and needs replacing urgently. The upgrading of station end and mobile data terminal software is overdue.

A project to replace the thin-client environment with a thick-client laptop-based solution is complete and was well-received. The deployment of laptops has made it easier to access applications and information remotely, but access to data at incidents remains minimal being restricted to the Mobile Data Terminal within fire engines.

- **Understanding the technology market:** We make good use of commercial back-office systems for HR, Finance, email, telephony and file storage. However, fire and rescue is a niche market and off-the-shelf workforce planning, command and control and mobilising technology does not meet the needs of a forward-looking and innovative fire and rescue service. This means we often have to heavily customise applications, commission bespoke systems or develop in-house solutions to meet the needs of the business.

We make full use of our Microsoft Enterprise Agreement and we remain a Microsoft house. Our document management system needs upgrading as, although record retention is well established, there remains usability issues with document retrieval and storage, and integration issues with other systems.

We need look to increase our understanding of how technology is developing in other sectors and how that might help us deliver better services to everyone that works for us, and the public.

- **Clear IT accountability:** Historically, we have lacked a joined-up technology plan and this has resulted in multiple tactical solutions being developed, sometimes out of the control and/or sight of the IT Department. A process to approve non-standard and project technical solutions is in its infancy but should ensure the IT and Business Change Team undertake a technical appraisal prior to product selection. Over the life of this strategy, this process of technical approval will be applied to command and control services sourced under contract from Kent Police. The services provided under this contract (including how data passes into us from the Police network) deliver the key statutory duty we have – that of taking 999 calls from our customers. The contract needs to be robustly-managed and the service as resilient as it possibly can be, so that we can do our job effectively and efficiently.

Compliance is good and we have retained the PSN code of connection. Risk assessments are now commonplace to balance IT security decisions against operational risk.

- **Creating capacity:** The IT Department has been bolstered with new posts created, and can better respond to both business as usual and project activity, and importantly IT maintenance tasks such as patching are now routinely undertaken. However, recruiting high-calibre resources remains an issue in key areas and has impacted upon project progress. The distinction between 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> line resources is becoming clearer but more work is needed to further clarify escalations. A change management process is now embedded but other “ITIL” service management processes need implementing.
- **National and Kent-wide projects:** The national Emergency Services Mobile Communications Programme (ESMCP), which will replace the Airwave analogue network, has been delayed, potentially extending the life of the current Airwave radios. This has the potential to be a large cost to us, and we are working closely with the Home Office who are leading this project nationally for the sector. We use the Kent Public Services Network (a collaboration between 27 other public organisations across Kent and Medway) rather than maintaining a separate private data network.
- **Medical emergency mobilising:** We are now routinely sending our resources to medical emergencies. We need a more efficient and effective solution, working with SECAmb and Kent Police and suppliers, to identify a more flexible mechanism for dispatching firefighters, particularly when involving our on-call crews.
- **Data sharing between teams:** Community Safety, Technical Fire Safety, and Operational Planning data is currently held on separate databases. This hinders the sharing of information across the Service and increases the risk of inaccurate risk information being provided to operational colleagues as key information is duplicated.

# Future Management of IT

Through an emphasis on IT service excellence, the strategy establishes a framework to drive improved project and service delivery. The next few years will focus on getting best value from existing assets, increasing benefits through removing duplication, and improving accessibility to risk data, whilst driving efficiencies through automation and self-service. It will also ensure that all systems and services are fit for purpose, efficient and supported.

## Benefits

This strategy will deliver the following benefits:

- Improved sharing of information across the organisation;
- Access to information whilst on the move;
- Cloud-based;
- Working smarter (efficiently);
- Better data integration across the Service;
- Ensure compliance with security and best practice;
- Information stored once, used many times (a single version of the truth);
- Improve performance management.

There will be a greater emphasis on ensuring that the services provided are customer-focused with greater transparency and engagement from customers in the development and design of solutions. To help communicate and cement this new approach, we will be guided by new IT principles and a pledge to colleagues in relation to the service they should expect. It will also help communicate the ambition and ethos. The principles are set out below:

## IT Guiding Principles

Supporting the Workforce	Advancing the Organisation	Managing the Technology
We will be customer-focused and always help if we can.	We will keep pace with technology and business needs as these evolve.	We will deliver a professional IT service in line with best practice.
We will provide a single IT Helpdesk for all customer faults and requests.	We will jointly work with our customers to research and develop efficient IT solutions.	We will be the guardians of all IT systems and services, ensuring compliance, availability and security.
We will prioritise mobilising issues above everything else.	We will continuously develop our skills and knowledge.	We will have a well-defined and tested service continuity plan.
We will provide easily accessible IT, based around a mobile workforce.	We will measure performance and continuously take action to improve.	We will not make a change without analysing the operational impact.

# Key Objectives and Developments 2018-22

## Operational Response and Control

### Operational Mobile Data Provision

Operational crews can work in many different settings, often outside, responding to emergencies and incidents that require quick thinking, practical skills and inventive solutions to respond to an array of situations. To support this vital work the technology needs to be durable, mobile and flexible, so it can perform in diverse settings providing a range of data.

Over the life of this strategy we will, for operational response and control:-

- Modernise mobilising solutions for on-call, whole time and officers/specials.
- Provide means for operational personnel to obtain information to support them wherever they are whenever they need it.
- Migrate to the Emergency Services Network and replace fireground radios.
- Improve and extend the usability of the mobilising system, in particular the mapping capability.
- Review the incident recording system to include quality assurance information and provide an electronic command handover process. Remove the dependency on an out-of-support form interface.
- Migrate training on-line content to a single system and refresh AV equipment across all sites.
- Implement technology within any new premises.
- Replace the water services system that is being retired.
- Support the implementation of CCTV and telemetry.
- Implement technology to support new National Operational Guidance (NOG).

## Community safety

### Safety in the home

The Community Safety Team undertake important preventative work to reduce the risk of an individual being exposed to harm. The team are mobile, working mostly in people's homes, and require access to personal, sometimes sensitive, information. The Community Safety Team have a high case load, and the emphasis needs to be on providing an efficient IT service to everyone that works in that team to enable as many home safety visits as possible to be completed, providing access to information where and when they need this, via suitable devices to make their job as efficient as possible. We want the majority of their time spent on the visit, providing a high quality customer experience, not processing information. In addition, we need to upload data from Safe and Well visits. Therefore an IT solution needs

to help ensure that the service is provided and recorded consistently. The Team also need to be pre-warned of any issues within the home prior to the visit. Where a referral to a partner agency is required, this should be automated where possible, and data securely transmitted.

The current staff tracking and panic alarm system also needs to be reviewed.

A mechanism to store documents externally is also required so training materials can be accessed when visiting schools, businesses or partners.

## **Road Safety Experience**

This facility was created to reduce the number of young drivers and passengers killed and injured on Kent's roads. It is an interactive experience that was created to engage teenagers but the audience will be extended in the future, and so the interactive elements need to be refreshed in five-year cycles to ensure they remain relevant as trends and technology change.

## **Technical Fire Safety**

Inspecting officers often spend time out of the office, visiting businesses. The audits are currently paper-based with information manually uploaded when officers return to the office. This process could be more efficient if the devices and software were changed to enable most of the data to be recorded at the time of the visit. The TFS CRM system has made a significant difference to the efficiency of the team. However, the development of automating profiling of risk needs to be considered.

The current TFS system is not currently used for managing business engagement activities, although visits to businesses and event attendance are recorded onto a separate system. This results in data duplication.

## **Channel Shift**

As part of the growing public expectation to engage online, all engagement activity with customers, businesses and partners should be reviewed to determine if any part of the process could be automated or to determine which engagement activities, if any, can be self-served as an option (such as enabling customers to book or complete an assessment online). This will require a review of the current customer relationship management systems and the implementation of a customer portal to make this functionality available. Customer interactions will be analysed to identify those connections that can be offered digitally in the future. The current website will also be reviewed to ensure it can provide the additional functionality required.

Over the life of this strategy we will, for community safety:

- Rationalise applications used to store operational risk data into a single system where possible.
- Improve the ability of the organisation to identify risks across CS, TFS and PRM datasets.
- Remove the reliance on limited KFRS resources by purchasing cloud-first, mobile-first IT service from a third party.

- Implement online bookings, e-referrals and online chat for customers (non-999 queries).
- Implement single customer record for all engagement activities.
- Implement digital FIRT case management.
- Implement ability for TFS and CS visits to be captured via a tablet device.
- Refresh equipment at the Road Safety Experience.
- Review website.

## **Business Capability**

The main operational applications cover workforce planning, control, mobilising, incident management, water services, fleet services and property risk information. Whilst the number of applications used is relatively small, the data integration between systems is complex. This strategy will identify and remove legacy applications that are difficult to support, maintain and integrate with other applications, whilst acknowledging that the fire and rescue service is a niche market.

**Back-Office Applications:** Back-office systems are all well supported by the Applications Support Team with procurement end-dates synchronised to allow for an ERP system to be considered in the future. These include critical back-office systems, including purchasing and procurement, and our HR and payroll system. Back-office systems will be upgraded to remain within support by the supplier and technology platform. Changes will be undertaken to respond to organisation needs, legislative or statutory requirements, or pay and conditions amendments. A fleet management system will be procured. A customer relationship system is to be created for managing internal queries in relation to HR, with potential for expansion to other teams. In addition, further development of information available via the intranet will enable everyone who works for us to self-serve first in the future.

**Workforce Planning:** Workforce planning information must be accurate and up-to-date to identify the appropriate resources to allocate to an incident. A health check of the current workforce planning system is required to identify areas that can be simplified or streamlined as the system is complex and difficult to use. However, many complexities are caused by our 'pay and conditions' that need to be built into the system.

There is also a need to review the frequency of the current upload into the Command and Control system to ensure that up-to-date resource data is available.

**Business Intelligence Systems:** The continued development of the Data Warehouse and a review of business intelligence requirements including the exploration of a geographic information system will be undertaken. This will include the replacement of the FSEC application, and consideration will be given to tools to dynamically calculate the most efficient route for engagement and assessment visits.

**File Storage:** Data, file and video storage requires a review. File retention has been successfully implemented although there are issues with usability and document retrieval which need to be addressed. Video storage is also reported to be a problem as file limits currently prevent the effective storage of content. These issues present an information

security risk for us, as individuals may find alternative means to share and store content outside of KFRS systems. This is a particular risk if the data is required for Court or falls within Data Protection legislation particularly, from May 2018, the General Data Protection Regulations (see **Performance and Data Strategy 2018-22**).

**Intranet:** The intranet is based on SharePoint 2010 and will need upgrading by 2020.

**Training:** Training materials need to be available to suit a mobile workforce, enabling everyone that works for us to access training materials they need to do their job, from any device, and at times that suit them.

A single system to provide a consistent approach to operational training and organisational learning is required that will enable the creation, delivery, consumption and assessment (where appropriate) of training using interactive features and video content to provide a rich learning experience, utilising shareable content object reference model (SCORM) to reduce costs of content-creation. In addition, the audio visual equipment will be refreshed across all sites.

Over the life of this strategy we will:

- Undertake usability health-checks of the workforce planning and file management systems in response to customer feedback to identify and implement any changes that will improve the experience for end-users.
- Undertake re-procurement of major application systems in line with contract termination dates, managed via our IT team and not specialist users.
- Undertake software upgrades to ensure all applications are within support.
- Implement an improved vehicle booking system.
- Replace FSEC functionality and review GIS/Mapping tools to improve BI capability within the Service.
- Create/procure internal customer relationship management system for HR, Finance, Fleet and Facilities.
- Improve access to information and training through delivery on a range of devices with content available 24/7.

## Technology

The focus of the IT Department will be on high availability of the IT service. Software and hardware will be regularly upgraded, maintained and patched to decrease the risk of outages caused by security breaches and ageing software. We will only buy goods and services from suppliers that can demonstrate that they can meet the standard of cyber-security or equivalent that we need. We will not deploy software onto our network which is not designed for a Microsoft environment. A review of resilience and business continuity practices will be undertaken.

**Cloud-First:** Over time, services will be migrated to the cloud, reducing the reliance on the in-house team to support and maintain data centre environments, with 'software as a

service' as a preference particularly for back-office and administrative systems. This direction of travel frees up resources to concentrate on operational systems where off-the-shelf systems are not available. With the deployment of cloud services, 'single sign on' will be deployed to reduce the number of passwords used across applications. All new systems procurements will be placed in the Cloud.

**Mobile-First:** The traditional approach to devices assumes that most employees do most of their work sitting at a desk and, as a result, many of the systems we use are built on technology to suit this work style. However, this does not accommodate mobile workers particularly well. A mobile-first strategy aims to accommodate the desk and mobile worker separately in a way that is more task-specific, through the deployment of targeted and streamlined apps that are designed with a particular purpose or task in mind rather than access to one interface via a desktop/laptop application that has a much broader function. However, laptops will continue to be a standard device for many. Thought will be given to making it easier for firefighters to access information and communicate with colleagues either by the development of tablets, or by enabling secure access to KFRS information and systems via their own devices. Tablet devices will also be considered to improve the efficiency of engagement and assessment activities.

**Wide Area Network:** The Wide Area Network (WAN) is provided by the Kent Public Service Network and provides suitable capacity, although the service requires robust contract management to ensure the supplier delivers a highly available network service suitable for an emergency service. The move to cloud services also provides an opportunity to assess the type of WAN/Internet service required by KFRS.

**Local Area Network & Wifi:** The local area network hardware needs to be refreshed and a managed wireless solution is required to enable portable devices to be effectively used at KFRS sites. There is also a need to provide public wifi at some sites, particularly at the Road Safety Experience, and to implement Gov Roam so that partner agencies can easily access internet services whilst visiting our venues.

**Licencing:** Application licencing needs to be managed differently, particularly for applications that should only be allocated to an individual for the period of time needed for the piece of work they are undertaking. At all other times the licences will be pooled.

Over the life of this strategy we will:

- Implement software as a service for enterprise systems to remove management of data centre.
- Improve network resilience and refresh hardware.
- Improve access to systems from own devices (where appropriate).
- Implement tablet devices to support a mobile workforce.
- Move to supported operating systems.
- Improve external file sharing and secure data transfer solutions.
- Reduce the number of passwords by implementing single sign-on solution.
- Undertake re-procurements.
- Replace web-filtering.
- Improve resilience of data warehouse and extend use.

## Future Innovation

The development of augmented reality systems may be used in the future to identify hazards or risk information on a map in real-time.

Innovation may also come from the use of video to stream live footage from an incident to Control, Officers, or firefighters whilst in transit, so they may undertake planning before they arrive at the incident.

There may be a requirement to keep telephone contact with the customer whilst crews are in transit and so there may be a need to transfer the caller to an experienced operational firefighter to provide guidance to the customer.

Future training content may be available via virtual reality solutions to simulate real-life conditions.

The capability of internet-enabled smoke detectors and motion sensors linked to telecare services could provide vital information about the most vulnerable people in our communities, such as early warning of an emergency.

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## Action Plan

Action Theme	Action/Activity/Project Description	Start Date	End Date
IT Operational Response Programme	Mobile Data Terminals	Apr-18	Jun-19
IT Operational Response Programme	Turnout Solution Replacement	Apr-19	Mar-20
IT Operational Response Programme	Emergency Services Network Implementation	Apr-18	Dec-20
IT Operational Response Programme	CCTV/Telematics/Telemetry on vehicles	Apr-18	Dec-18
IT Operational Response Programme	Fireground Radio Refresh	Apr-18	Jul-19
IT Operational Response Programme	ICCS Replacement (Police Project)	Apr-18	Mar-19
IT Operational Response Programme	Command Support Unit Technology refresh	Apr-19	Mar-20
IT Operational Response Programme	Customer photos from incidents	Apr-19	Mar-20
IT Operational Response Programme	National Operational Guidance System Implementation	Apr-18	Mar-21
Prevention and Protection Programme	IRS Replacement	Apr-18	Mar-21
Prevention and Protection Programme	Replacement customer and premises risk management	Apr-18	Mar-21
Prevention and Protection Programme	Water Services System procurement and implementation	Apr-18	Mar-21
Prevention and Protection Programme	Website re-procurement and implementation	Apr-18	Mar-21
Business Capability Programme	Agresso Upgrade	Feb-18	Sep-18
Business Capability Programme	Learning Management System	Apr-18	Aug-20
Business Capability Programme	Finance System procurement and implementation	Apr-19	Mar-21
Business Capability Programme	Fleet Management System	Apr 19	Mar-20
Business Capability Programme	Workforce Planning Procurement and Implementation	May-18	Mar-20
Business Capability Programme	HR System procurement and implementation	Apr-19	Jan-21
Business Capability Programme	Mapping & GIS review, procurement and implementation	Dec-18	Nov-19
Business Capability Programme	Defects reporting system	Apr-19	Mar-20
Business Capability Programme	SharePoint Upgrade	Apr-19	Mar-21
Technology Programme	Cloud Migration	Apr-18	Mar-20
Technology Programme	Network upgrade	Apr-18	Mar-19
Technology Programme	Single Sign-on and Password Policy	Apr-18	Mar-19
Technology Programme	WAN re-procurement	Apr-18	Mar-20
Technology Programme	External file sharing solution	Apr-18	Mar-19
Technology Programme	Secure data transfer	Apr-19	Mar-20
Technology Programme	Web filtering replacement	Apr-18	Mar-19
Technology Programme	Device re-procurement and refresh	Apr-19	Mar-20
Technology Programme	Mobile phone re-procurement and refresh	Apr-19	Mar-20
Technology Programme	Station End Equipment Upgrade	Apr-18	Mar-19
Technology Programme	Mobile Devices/Tablets	Apr-18	Mar-19

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