ICT Strategy
2021 - 25

Contents

Background

This strategy defines the expected objectives over the next 5 years for SFRS and sets the direction for information, communication and technology initiatives to support the organisational strategy.

The formulation of this strategy considers the emerging trends in technology, the challenges and ambitions of the organisation in order to set the priorities and goals.

The current position has been analysed following the conclusion of the last 5 year strategy that set a vision to provide a reliable and secure service so that all staff have access to relevant, timely and accurate information.

This has proven successful by the high levels of availability and negligibly low number of outages experienced over the past few years.

The latest IT health check has also demonstrated good standards of security being achieved across the network and this also contributes to the resilience and reliability of the network.

With this level of availability being delivered to staff it provides them with the relevant, timely access to information. In addition, there is the range of dashboards that have been developed to provide accurate and timely performance information for effective decision making which is an example of the success factors delivered by the last strategy.

The recent lockdown due to the Covid-19 pandemic has leveraged on the collaboration solutions implemented by the last strategy to meet the vision that was set for staff to collaborate and efficiently use and share information regardless of their location.

From a technological perspective, there are plenty of examples that demonstrate the positive direction of travel with good returns on investment on which to build when setting the next 5 year objectives.

The next 5 years

While it is difficult to predict everything that will happen over the next 5 years there are known changes that will have significant impacts on the organisation such as BT announcing they will cease to operate analogue lines in 2025.

Analogue lines can no longer be acquired after 2020 as part of BT moves to more cost-effective, digital products. The analogue lines, PSTN and ISDN, use copper wire systems that were first implemented in the 1800s so the cost of maintaining them is extremely high. The switch-off denotes the trend over recent years for using digital data transmission.

The 999 service, first introduced over 80 years ago, is also dated and fails to meet the latest technological developments of data transmission as it can only handle voice and a limited number of text messages.

BT is upgrading the platform that currently handles the 999 service, working on the basis that voice is still the priority. The goal is for a seamless change with no loss of resilience or reliability but the emergency services may want more from the digital platform.

With most adults owning a mobile phone and 1 in every 5 minutes being spent online is using social media there is plenty of scope for the 999 call handling to change in ways that reflect our lifestyles in the 21st century.

Such changes have come about by the developments in mobile technologies and there will be more to come over the next 5 years with the introduction of 5G and the Emergency Services network.

The greater capacity for mobile communications will introduce many changes in the way that tasks are conducted for both operational and support staff alike.

It is likely that these changes will be

extended to the workplace too, especially for millennials and generation Z employees who bring their expectations as the first fully digital generation. The technology will enable much greater flexibility in working hours and managing a geographically dispersed workforce will become more commonplace than office-based locations.

The rollout of 5G technology in the UK will bring much greater capacity and faster download speeds making it much more viable for the technologies that have been advancing in recent years. It is likely the connected world that 5G offers and these emerging technologies will provide solutions that we haven't even though of yet.

We will:
- Continue to customise an enterprise-wide platform for management of all functions, including operational response and de-briefing

Internet of Things (IoT)

IoT is the term used for a much broader range of devices connected to the internet such as vehicles, household appliances, medical devices, electric meters and controls, street lights, traffic controls.

The distributed nature and the presence of physical sensors of systems that often link together can reveal a great deal of information.

Smart devices in homes can show the ways that residents live their lives which could play an important part in fire prevention.

Attaching medical devices to the network can yield an immense amount of sensitive information about health that may assist with safeguarding firefighters in extreme operational situations.

Combining multiple sources of data together and running predictive analytics on the resulting data could form part of decision-making for pre-determined attendances when taking emergency calls and dispatching resources.

We will:

- Continue to build an enterprise data warehouse for comprehensive data management and analytics

- Continue to incorporate gazetteer management to provide a consistent, up to date and accurate base for all property-based information

- Explore the use of smart devices and integrating this information in to our information systems
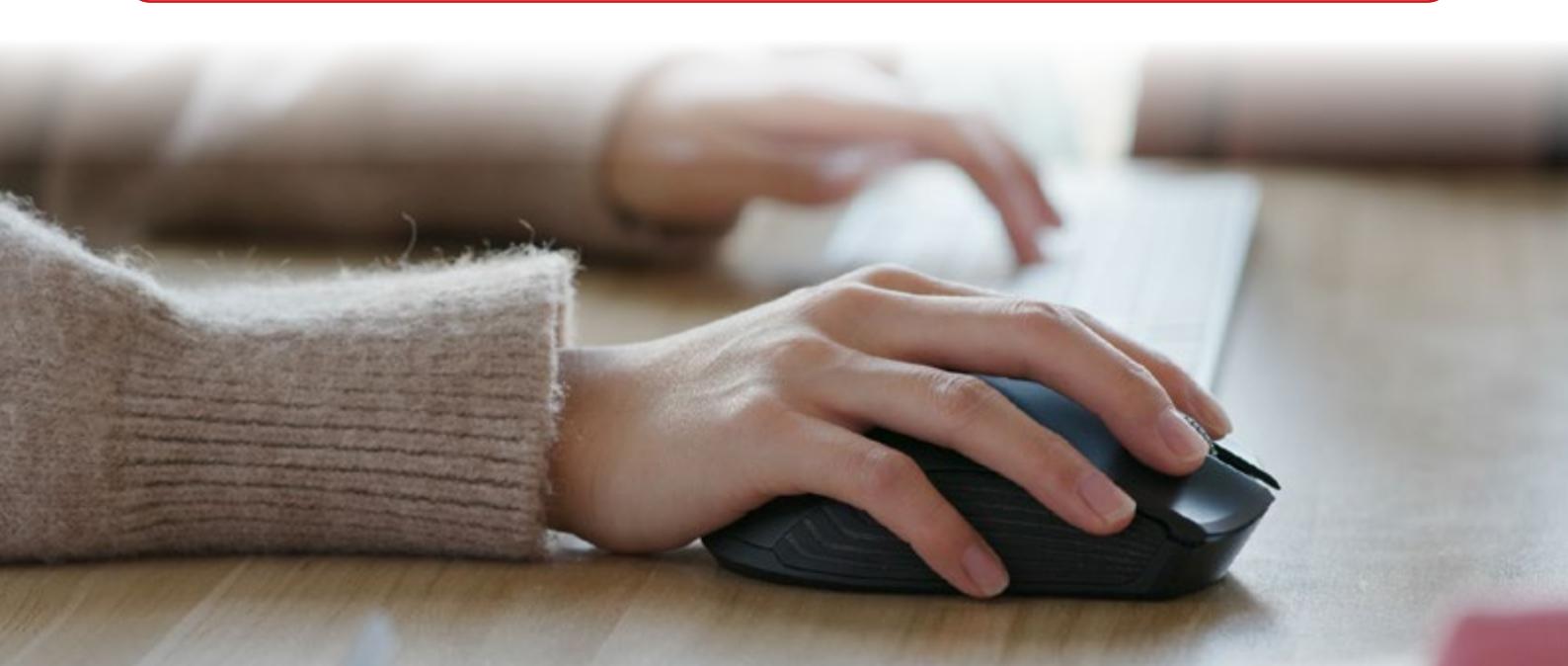
Articial Intelligence (AI)

AI is machine learning tasks carried out by computers that usually require human intelligence. The learning is built from data and current examples of it are Siri, Google, Alexa, self-driving cars.

It is not being used to replace human beings rather than to offer decision support for specific tasks. This could be particularly useful for call handing, mobilising resources and incident management but data manipulation will play a significant part in achieving this.

Another example of this is software-defined networking (SDN) which is a network architecture approach that enables the network to be intelligently and centrally controlled. This approach is already being adopted as it offers increased security protection with reduced effort, provides less complexity and more visibility.

It will support the staffing model where the recruitment and retention of highly skilled and experienced individuals has proved notoriously difficult to source.

Strategically, this offers the agility to keep pace with technology innovation by offering a flexible and scalable platform.

We will:

- Implement software-defined networking technology to incorporate the management of all networking devices including wide-area communications

Augmented Reality (AR)

Virtual reality is already used for the training of incident command skills, but the 5G networks enables this being taken a step further where the user has an interactive experience of the real-world enhanced by computer-generated perceptual information. There are opportunities for using this technology beyond the training environment by offering 3D contextual information live at incidents to support incident command decision-making. It also offers the ability for obtaining specialist support from individuals who are geographically too far away to attend the scene of the incident. This functionality is emerging and over the next few years there will be smaller steps towards AR by introducing live video feeds throughout the duration of the incident from a range of sources such as body worn cameras.

We will:

- Incorporate live video streaming into systems for all aspects of the Service where feasible

Mobile applications

The use of a mobile phone is an integral part of our everyday lives although the corporate world has been slow to catch up on the revolution that has occurred in our personal lives.

In the workplace, it is still commonplace for companies to mistakenly believe "communicating" with employees through an Intranet, email, or collaborative tools is enough. The accessibility of these systems can prove to be a challenge, especially for staff who infrequently use them such as for Retained Duty (RDS).

Over the past 5 years, all RDS staff have their individual user account for accessing a range of systems for managing their availability and personal development although accessing these systems can be problematic for them.

The mobile platform provides a far more accessible method for the hard-to-reach deskless and remote employees.

For the next 5 years there will be a stronger emphasis on mobile-enabled platforms to boost employee engagement. The aim is to deliver a good mobile experience so that staff can easily get Service information and carry out their tasks right at their fingertips, just like everything else in their lives.

The use of mobile apps can be extended for many other benefits for both managers and employees including good responsive two-way dialogue, monitor the location and safety of employees while at work, reducing the number of journeys made, improving access control so that it is easy but secure for all SFRS buildings.

We will:

- Develop and adopt a range of mobile apps so that mobile staff can do everything they need to on a mobile phone and do not need to carry a range of mobile devices

Action Plan

We will:	Person responsible	Target date
Enterprise-wide platform (EWP) – continue with exploring and customising business processes starting with Safe and Well visits	Sally Edwards	December 2020
Enterprise-wide platform (EWP) – implement for lone workers	Sally Edwards	April 2021
Data warehouse (DW) – extract, transform and load Fire Safety data	Hayder Nahee	December 2020
Data warehouse (DW) – extract, transform and load training data	Hayder Nahee	July 2021
Build on progress with corporate gazetteer management	Hayder Nahee, Ron Davia	December 2021
Smart devices – explore the use of devices in EWP	Sally Edwards	December 2021
Smart devices – implementation of security access control linking it to RDS payment claims	Sally Edwards	September 2021
Implement SD networking for server and storage replacement	Ron Davia	September 2020
Replacement of networking switches and wireless communications with SD solutions	Ron Davia	December 2020
Procure and install SD-WAN as part of strategic alliance with H&W	Mark Jarvis	September 2021
Live video streaming - Body worn cameras trial for training, fire investigations, enforcement and live incident streaming	Sally Edwards	December 2020
Mobile apps – following the pilot, introduce mobile apps for alerting	Sally Edwards	December 2021
Mobile apps – develop apps for RDS such as equipment checking and reporting defects	Sally Edwards/ Hayder Nahee	December 2021