ECFRS

Digital and Data Strategy

2021-2024

2021 Edition

Contents

Digital and Data Strategy

Digital and data in our strategic plans

Digital and data in our strategic plans

Digital and Data Strategy

Fire & Rescue Plan 2019-2024

LINK

Priority: Develop and broaden the roles and range of activities undertaken by the Service

" To save lives, prevent harm and protect our communities by developing and broadening our roles and partnerships. "

We aim to build on the expertise of the Fire and Rescue Service to improve performance by using technology better to co-ordinate our response with other emergency services.

Digital and data in our strategic plans

Digital and Data Strategy

LINK

Priority: Be transparent, open and accessible

" Communities are involved, engaged and consulted in the services they receive. "

We will provide easily accessible information about our service.

Digital and data in our strategic plans

LINK

Priority: Make best use of our resources

" We will improve the safety of the people of Essex by making best use of our resources and ensuring value for money. "

We will use new technology and business processes to improve service efficiency.

Digital and data in our strategic plans

IRMP 2020-2024

LINK

" New technology is the key to developing our service and the way in which we protect the public. In order to support how we manage risk, it is important that our ICT infrastructure is modern and effective and makes the best use of new technologies. "

Digital and data in our strategic plans

IRMP 2020-2024

LINK

We will deliver the following as part of this IRMP.

- A new command and control system that will improve how we mobilise crews and improve communications from the control room to the incident

- A command and control system that will help the transition to the Emergency Services Network (ESN) and the technological benefits associated with that

- A data system that will improve how we report data and performance (this will guide our prevention and protection activities and help us to target resources at those who are most vulnerable)

- An ICT transformation and optimisation programme that will make sure we make the best use of effective systems

IRMP 2020-2024

LINK

Doing this will make sure we support the Fire and Rescue Plan priorities of:

- being honest, open and accessible;

- working with our partners;

- making the best use of our resources;

- prevention, protection and response; and

- helping the vulnerable to stay safe

It will also support us to manage the following risks identified in the Strategic Assessment of Risk.

- Failure to understand and, where appropriate, take advantage of advances in technology that would provide us with improved or new solutions

- The threat level associated with terrorist activity

The vision for this strategy

The vision for this strategy

To deliver effective **prevention, protection and response** activities, ECFRS aims to be a digital and data driven Service, embracing technology and information to deliver evidence based decisions and efficient processes.

MORE EFFECTIVE

We must have accurate and complete information so actions and decisions can be taken with confidence.

MORE EFFICIENT

We must continually improve our technology (and digital skills) to streamline processes and transform delivery.

Digital and Data Strategy

The vision for this strategy
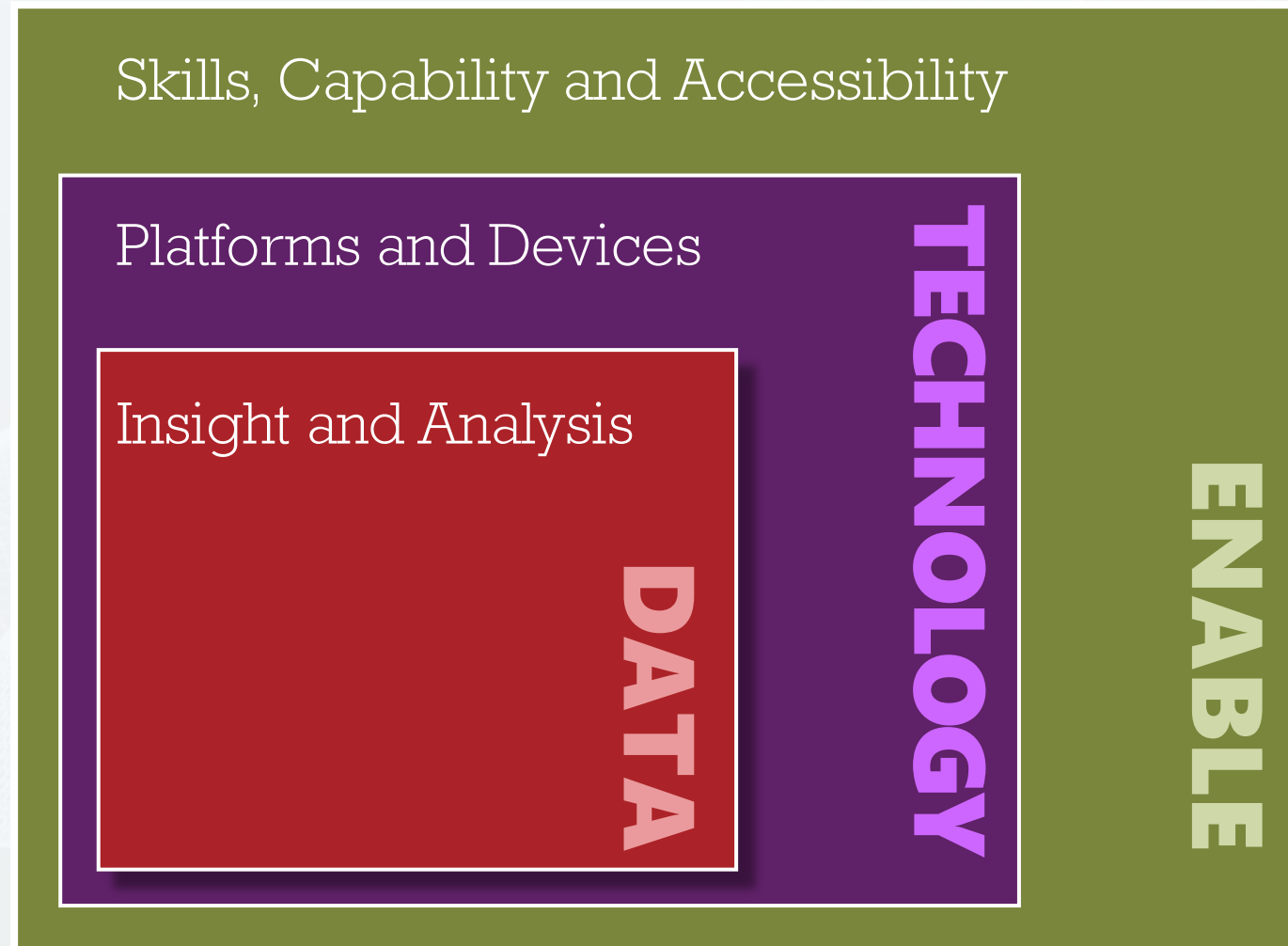
People are at the centre

As a digital and data driven Service, **our devices and applications and information must fit our purposes** (deliver our tasks better than without IT) **and feel easy to use** (less conscious it is IT). The technology and data itself doesn't deliver improvement; **good technology and data enables people to deliver improvement.**

We will ensure everyone is empowered, and that means not just providing the tools, it also means educating people how to make the most of them.

The vision for this strategy

Three elements to transform

Skills, Capability and Accessibility

Platforms and Devices

Insight and Analysis

DATA

TECHNOLOGY

ENABLE

Digital and Data Strategy

Data

Data

This strategy outlines how we will deliver effective data solutions that meet our goals.

We recognise that whilst we have taken significant steps towards being a data-driven organisation we still have many more steps ahead of us. We will continue to talk, and listen, to our communities, our partners (including other emergency services) and our own staff to be the best we can be.

_____

Steve Taylor System and Data Services Manager

Data ➔ **Information** ➔ **Knowledge** ➔ **Organisational Insight**

Data Priorities

- Data Quality
- Confidentiality, Integrity and Availability
- Standards
- Security
- Governance
- Sharing
- Transparency

Data

Data Quality

Data we want to use should be structured in systems rather than unstructured in free text fields, emails or word documents, so the format of that information is always the same and is, therefore reportable.

Data should be accurate and up to date. That means we are updating our systems with information as soon as that information becomes available and **not stored on paper**. We should be ensuring that any data we record is always valid and reviewed, such as risk information about premises. Any data we receive from other organisations should also be kept up to date at all times and re-supplied regularly.

We will

- Ensure data is, where possible, structured and easily reportable
- Ensure data is as complete as it can be
- Seek to remove information just recorded on paper and left to build up into a backlog
- Constantly provide quality assurance by reviewing the accuracy and timeliness of all data
- Ensure that we have full access to the schema and data for any systems we procure

Data

Confidentiality, Integrity and Availability

These are the three guiding principles of all stored data.

We need our data to be kept in a way that means only the appropriate people have access to it.

We also need to be assured of its trustworthiness and accuracy.

Finally we need to ensure that the people have access to the information they need when they need it.

We will

- Review access to all our systems regularly to ensure appropriate access
- Set up processes to ensure access is appropriately authorised
- Seek to introduce integrity checks to all of our data regularly
- Continue to move towards cloud-based technologies
- Seek to ensure ''encryption by design'' is in place for any sensitive data

Data

Standards

For data to have real value it has to be able to be analysed effectively. In order for that to happen there have to be standards in place around the collection of that data that ensure consistency.

For example always using the UPRN (Unique Property Reference Number) in addressing data or storing Stop Codes in the same manner across all incidents. Bad examples include using the first line of a premises address to store just that on some occasions but putting a contact name in there on others.

We will create a Data Dictionary to pull together all our known information into one place, outlining the definitions and standards for fields and how they link together.

We will

- Ensure standardisation of data entry across all systems
- Constantly review that standardisation
- Use agreed and published standards where these exist
- Create and maintain a Service-wide Data Dictionary

Security

Security should be proportionate, to ensure transparency is appropriate.

Not all data needs to be treated the same. A dataset containing property addresses alone should not be subject to the same safeguards as sensitive personal information about identifiable individuals, otherwise useful information is withheld from some who might benefit.

Role based access control is a reasonable way to ensure security is set at appropriate levels. Whilst people are individually accountable for how they use data, and in particular misuse data, providing access based on somebody's role will assist people in knowing if their access is reasonable and expected.

We will

- Apply security and access control appropriately depending on sensitivity and risk, rather than a one-size-fits-all approach

Data

Governance

All data must be governed carefully and in line with the **Data Protection Act 2018**. We must be vigilant to comply with that at all times, especially when introducing new or changed systems. It is important that **Data Protection Impact Assessments** are carried out where necessary, that Information Asset Registers are kept up to date and that everyone is aware of their responsibilities regarding the use of ECFRS data.

Policies and supporting information are available on the intranet.

LINK

We will

- Ensure that an Information Protection Impact Assessment is carried out with ALL changing and new systems, or when a new dataset begins to be collected
- Ensure that we always have an up to date and accurate Information Asset Register
- Ensure that all staff take training in Data Protection every 18 months

Data

Sharing

We are proud to share knowledge and data with many other organisations and we will seek to enhance those relationships whilst also seeking out, and being open to, new sharing opportunities.

We work with EOLP (Essex Online Partnership), WEISF (Wider Eastern Information Stakeholder Forum), Essex Police, neighbouring Fire Services and many others to share valuable information to further help the people of Essex. We want to work with them and others on finding new ways of collecting, analysing and sharing information.

We will

- Continue to work with our existing partners in an effective way
- Seek out new opportunities to share data with others
- Use Information Sharing Agreements, where appropriate, to clearly define what data will be used for and how it will be stored

Data

Transparency

We need to be transparent with people because firstly it's the law, but also because it's the right thing to do. The rise of social media means we're connecting with people in new and innovative ways, and changes in the law mean we must be able to share a lot more information. The way we do that is also changing. For example we could be sharing live incident data on a map on our website. We could be sharing more aggregated information about our incidents in innovative ways that make that information more easily accessible.

Of course, transparency is the final piece of the puzzle in the sense that, when we have mastered all of the other principles of "Good Data" we will be automatically able to be more transparent with it.

We will

- Make all relevant data available on our website in easily digestible ways
- Ensure we answer all Freedom of Information, Subject Access Requests and other statutory requests for information in a timely fashion

Data

The connection to ICT and Enable

For all of the points made here to become a reality we must consider how our people can help. The most important thing people need is skills and knowledge. When we make a change to how we do something or bring in a new system it is essential that we provide training. In addition to this people may need training on existing systems or software, especially when they're new to the Service or have changed roles. Many tools are already out there and used by people who don't necessarily understand their potential. We must give them knowledge in order that they can be effective.

We will

- Introduce new technologies including systems and devices that support our data strategy and principles

- Train our people in how to use them effectively

- Introduce learning to empower people to be more confident with collecting, processing, storing and analysing data

- Introduce a single repository of data to enable us to store, protect, retrieve and share data easily and ethically

- Introduce more structured data and less unstructured data

Digital and Data Strategy

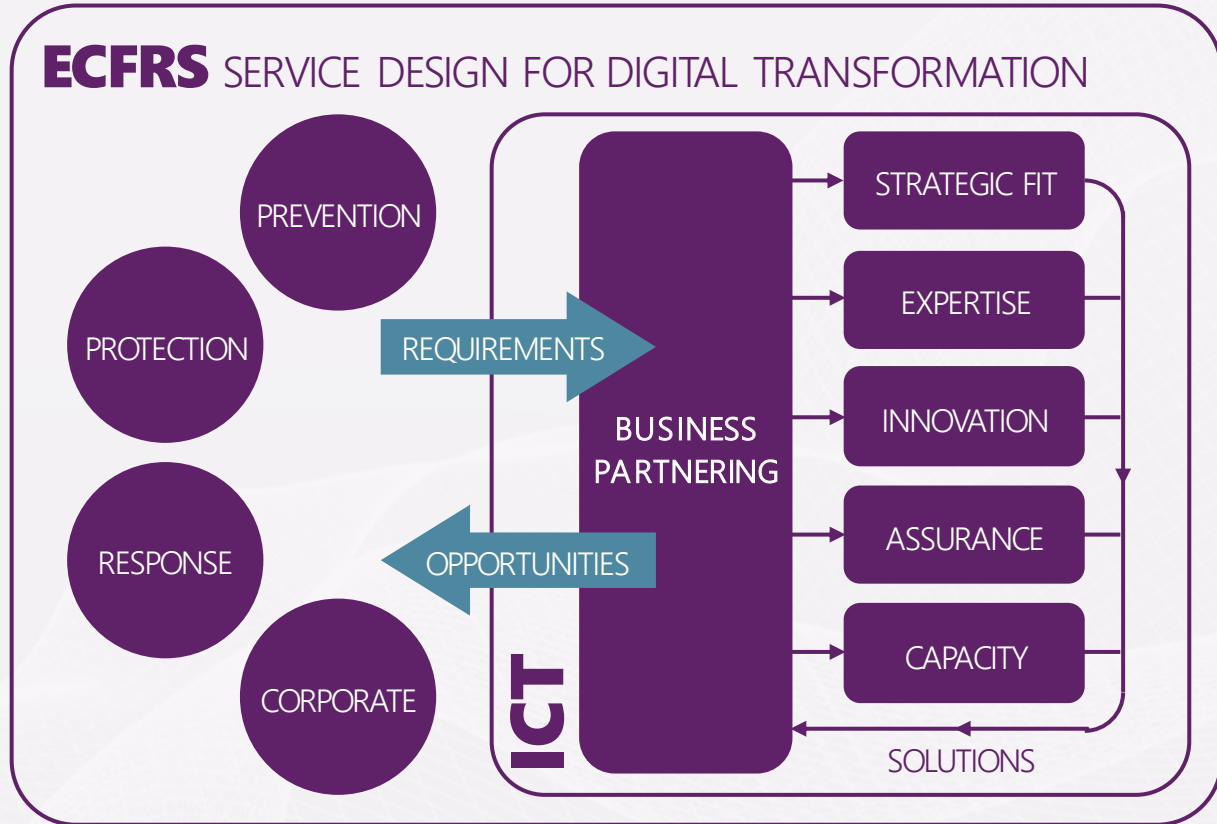# Information and Communications Technology

ICT

We recognise our strategy is not just about the technology we use today or the platforms we will implement tomorrow. We must ensure we have flexibility for something new to become standard technology in a year's time, or 5 years after that. So whilst this strategy articulates what we know we can achieve in the near future, we must be open to new opportunities and new requirements.

ICT Priorities

- Flexibility
- Reducing complexity
- Resilience
- Availability
- Capacity
- Connectivity
- Cyber security and keeping safe
- Affordability

To **build the collaboration that leads to the best outcomes**, and to champion digital skills improvement, ICT develops relationships across the Service and keeps dialogue flowing. This approach also enables ICT to have a much clearer view about change being driven from elsewhere in the Service, which in turn supports better workforce planning and capacity management.

ECFRS SERVICE DESIGN FOR DIGITAL TRANSFORMATION

PREVENTION

PROTECTION

REQUIREMENTS →

RESPONSE

← OPPORTUNITIES

CORPORATE

BUSINESS PARTNERING

ICT

STRATEGIC FIT

EXPERTISE

INNOVATION

ASSURANCE

CAPACITY

SOLUTIONS

Vital to successful digital transformation is providing stronger relationships between those who provide technology and those who use it. The Service's ICT specialists need to hear both the problems and the aspirations – *they love to find solutions* – and they can inform and advise teams on opportunities, and let's be honest, on the constraints too.

Sarah Taylor
Head of ICT

ICT

Digital and Data Strategy

ICT

Digital Principles

Our Service's Digital Principles are informed by our specific requirements, collective experience and modern IT practices; and guided by the Government Digital Service Technology Code of Practice.

Digital and Data Strategy

ICT

Digital and Data Strategy

Anywhere, anytime

The information and tools you need, at your fingertips when you need it.

Accessible and inclusive

Combat digital exclusion by reducing complexity, embracing accessibility tools and elevating capability across our people.

Understand needs, opportunities and desired outcomes

We collectively identify these by building stronger relationships between organisational teams and ICT, then collaborating to deliver success.

Cloud first

Cloud provides resilience, availability and capacity by design. Highly scalable and able to add and remove IT workloads instantly, it offers the flexibility a digitally enabled organisation needs.

ICT

Flexible and secure	Balance intuitive tools and ease of use with keeping people safe – both our workforce and the people we serve.
Reuse and share	Avoid duplicating effort or compromising data integrity by maintaining and protecting our single sources of truth and using them everywhere they add value.
Collaborate	Work effectively and simultaneously across our platforms and applications to make sure we are efficient, engaged and agile.
Simplified lifecycle	Wherever possible, design and implement solutions that avoid decaying technologies. Either we manage systems so that they stay on current versions or we avoid this altogether using Platform as a Service (PaaS) or Software as a Service (SaaS), so that change is continual and seamless.

ICT

Integrate and adap t

Platforms and tools that meet our current requirements *and* can adapt to our future demands. Keep them loosely integrated so we can easily replace things past their sell-by date. Integrations are focussed on data flows, not hardwired technical processes.

Make privacy integral

Always being mindful how the information we hold about people is actually information that can positively and negatively affect those people, depending on what we do with it. So we only use tools that inherently protect privacy for individuals.

Make better use of data

Recording accurate, appropriate data helps us deliver our services and provides insight and evidence for future service delivery. And whilst ensuring privacy at an individual level, we anonymise and aggregate information to drive positive outcomes for our workforce and the public in Essex.

The groundwork

Significant investment and effort has been made to improve the Service's technology already, and there is commitment to invest further.

Already established in 2020…

Productivity	Microsoft 365 platform
Infrastructure	Azure landing zone in readiness for application modernisation
	New infrastructure components – SAN, core switch
	Replacement of VDI with RDS to deliver desktops
Operating systems	Migration from Windows 7 to Windows 10
User devices	Laptops, tablets and thin clients
Security	Replaced legacy solutions with Microsoft 365 tools to protect data, users and devices
Printing	Replacement multi-function devices
Education	Microsoft 365 learning and awareness

ICT

Soon 2021-2022

Frontline technology
improved capabilities and connectivity on the incident ground; *may include body worn cameras, drones and mobile phone comms*

Mobilisation technology
modernised mobilisation systems, ESN, paging-through-phone, modernised on-station practices, visibility of incidents and availability

COSMOS PROGRAMME

Application modernisation
move to cloud, replace with cloud native solutions or replace with M365 platform tools, including **process re-engineering**; replace small applications or spreadsheet driven activity with Microsoft 365 capabilities (Power Apps, Power Automate, Lists)

ICT

Soon 2021-2022

Information delivery

replace internet and intranet sites, modern search

Business intelligence

data flows from master systems to data factory for analysis, reporting, dashboarding and insight

DATA INSIGHTS PROGRAMME

Behaviour change and skills

…full adoption of OneDrive and SharePoint to replace mapped drives on the SAN, alongside learning resources and support for digital skills improvement

Voice

moving from Skype to Teams, using primarily headsets, some hard phones in key locations including stations

ICT

Next 2022-2023

Devices
laptops and small form factor PC estate, removal of remote desktops

Audio visual
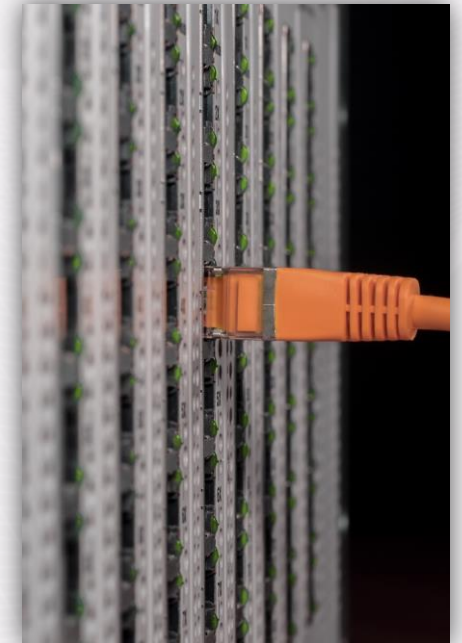training and meeting room conferencing

Connected anywhere
better mobile phones and mobile data provision, rolling device refresh

Connectivity on site
network redesign and implementation: (software defined) WAN delivered via internet

New solutions
digital signatures solution, email signatures solution

Digital and Data Strategy

ICT

Beyond that 2023-2024

IoT

digital tracking for high value assets, BA physiological monitoring, vehicle telemetry, building access management

Information storage

establish framework for information management and remove local SAN

Security & protection

''invisible, doesn't get in the way'' modern authentication (remove passwords), data classification and defence, ever improving threat protection

Data centre

no more on-premise dependency – using cloud and third party services to establish DR and BC by design

Enable

Enable

Actively combatting digital exclusion

Establishing our digital skills standard demonstrates our commitment as a Service to enable everyone in the workforce to use the technology tools we invest in and make available. It presents a realistic threshold we will support them to achieve.

Implementing a standard enables us to design or modify our internal processes (e.g. communicating with HR or finding information on the Intranet) to mitigate digital exclusion, by making sure they are no more complex that this level of skill can navigate.

We will

- Establish education and encourage self-learning to increase people's capability and confidence with IT
- Help people see the opportunities that digital solutions provide

Digital and Data Strategy

Enable

The Digital Skills Standard

COMMUNICATIONS

- Sending and receiving email
- Sending and receiving instant messages
- Making and receiving calls on audio visual channels
- Joining and participating in a virtual meeting

Digital and Data Strategy

Enable

The Digital Skills Standard

- o Can navigate to file locations and select the relevant file
- o Able to access and edit documents, and save them where people can share
- o Able to enter numerical data and perform simple calculations to provide a result
- o Can complete a digital form and submit

PRODUCTIVITY

Enable

The Digital Skills Standard

ACCESS TO INFORMATION

o Able to find useful video resources

o Can use different types of search engines (e.g. Intranet, Google, Office 365) to discover specific information

o Can use Workplace, Facebook or LinkedIn to access and follow interesting content

o Demonstrates ability to help themselves in solving a technology problem or question

Digital and Data Strategy

Enable

The Digital Skills Standard

o Understands why security software (e.g. anti-virus) is important

o Understands why and how to protect certain information

o Can identify potential malware

o Understands how to manage their privacy online
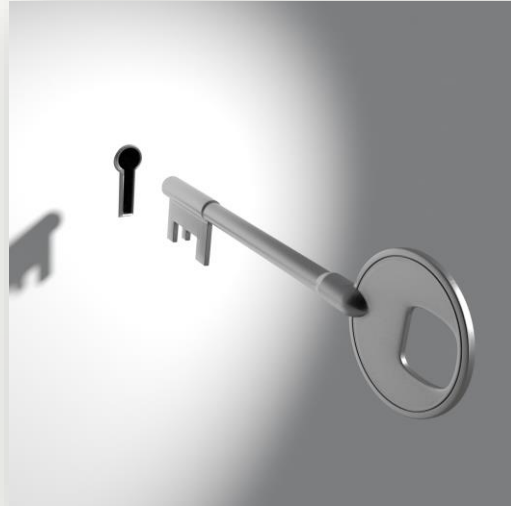
STAYING SAFE

Digital and Data Strategy

Enable

Accessible, inclusive, empowering

Delivering accessibility includes addressing challenges for those with sensory, physical or neurodiverse needs, but goes beyond that to **empower everyone** to engage in an inclusive digital world.

There's a wide and ever widening variety of tools to support you, and at the same time, these can make you more efficient. The key to making the most of these tools is knowing what they do and how to access them.

We will

- Collaborate with our Digital Accessibility group to identify the challenges and find effective tools
- Communicate with everyone about the tools available

Digital and Data Strategy

People

People

How it will feel

Describing the expected experience for people who use our data and technology helps everyone involved in delivering it to understand the aspirations.

Some people are more involved than others, including our leaders, ICT, Performance & Data, Innovation & Change, and so on. Nonetheless to be a success, **everyone plays a part** in achieving a digitally capable workforce. Each of us sees the benefits of digital and data in making our Service more efficient, more effective and importantly more responsive. Each of us takes on the challenge of raising our capability with data and IT if required, and once we're capable, finding and accepting **improved ways of working**.
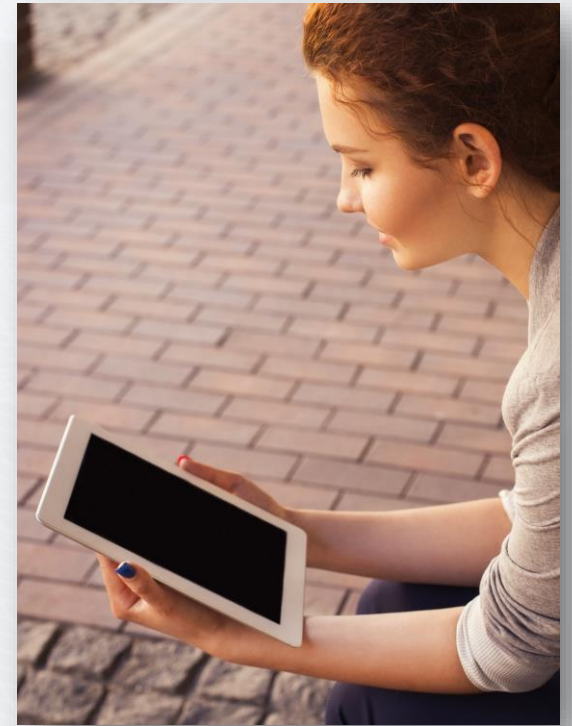
People

The Front Line

THE WATCH MANAGER

Jane is an experienced Watch Manager at a two pump station where she has worked for 15 years. She mostly knows what information she needs to be able to work effectively but is always open to new ideas.

At the station she uses her laptop, a desktop device or mobile phone to look at performance information, both for her watch and across the Service, on the intranet, using embedded Power BI visuals. Jane can access all incident information easily and, using WebMaps, compare it with other pertinent information.

At or on the way to an incident ground Jane accesses any and all relevant risk information about the premises they are on the way to. Up to date mapping shows accurate hydrant information, locations of nearby risks she needs to know about and routing information to get the crew there in as short a time as possible.

People

The Front Line

THE FIREFIGHTER

Ashley has been a firefighter for several years at a large wholetime station. When Ashley passed out, there were loads of paper based processes to follow. Now there is no need for paper versions of anything cluttering up the station, because everything is accessed on a desktop device that starts up quickly and is simple to find your way around. Ashley doesn't need to spend much time at the computer but can easily check emails, update competency records or fill in a short form with no fuss, and can do the same on a mobile phone if a computer isn't nearby.

If Ashley gets involved with any inspections of premises, information can be accessed and entered directly in an easy to use system, either at the station or on a mobile device at site.

People

At Headquarters

Harry is the new ACFO with the service. With a wide remit of strategic and operational needs, he doesn't get too directly involved with day-to-day data but he is assured of the quality of analysis and data insight he is given. Harry receives alerts on his phone when an incident of note occurs without having to be told as he goes from one meeting to another. Like Jane he can access all performance data easily and without having to wait for someone to compile it so that if he needs to know how many incidents a particular station ground has had this year, for example, he can find that answer quickly for himself.

THE SENIOR LEADER

THE HR OFFICER

Dean has been working in HR for some time and knows people very well but isn't so confident with data and IT. He has seen flawed processes and information which made his life harder. Now equipped with a laptop and able to work anywhere, Dean can easily access information about an employee, or pull effective reports on things like sickness or annual leave, with confidence that they are accurate.

When dealing with recruitment Dean sees who has applied for the job, who has been shortlisted and then who is recruited all in one place without needing to refer to numerous Word documents or spreadsheets. Recruiting managers handle most of this themselves via a single system which alerts them of applicants and assists them through the process.

People

Out-and-About

Alice is a very experienced TFS Inspector who had, for too long, been surrounded by piles of paper containing details of inspections which need to be available to firefighters as soon as possible. Alice now has a tablet instead of using paper. She puts details of visits straight into the system, accessing any plans or drawings from there at the same time, and then those details are available to firefighters within hours, not days or weeks. Not only is "risk to the public" information in that system but also PORIS, SSRI and TFP information too, linked to any previous incident data relating to that premises. The information in that system is consistent, easy to access and understand.

As a Community Safety Officer, Tim cares about helping the people of Essex stay safe. He can use a multitude of datasets to see easily, on a map, what has been happening in his area. Accurate and up to date records of recent visits, smoke alarm installations, oxygen usage and vulnerable people is available, whether on the laptop at his desk or using his tablet on a visit. Whilst visiting, he records the information he collects straight into the system. This information is, like all information used by Prevention and Protection, available to firefighters within hours. Tim can tell the people he meets about our public facing mapping for lots of information about their area including recent incidents, distance from their nearest fire station and more.

Digital and Data Strategy

ECFRS

Digital and Data Strategy

2021-2024

2021 Edition