



Charnwood Borough Council

ICT Strategy

2016 – 2021

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1. Foreword

Information and Communication Technology (ICT) has been an important enabler in the way we deliver our services for a number of years. However, in the next few years, I believe ICT will become even more important as we respond to customer demands for on-line 24/7 access to services and the challenge of providing services more efficiently in the face of funding constraints.

Inevitably some parts of this document are somewhat technical in nature but I hope this does not detract from important messages which set out how Council will be transformed by the actions required to implement the Strategy. Perhaps the most important message of all is that implementation of this ICT Strategy will have an impact far beyond the Council's team of ICT professionals – it will change how we engage with customers, how we provide our services, and how we will work together in doing so. The road may not be easy but it is important that we stay on the route in order that we can meet the challenges facing us.



Councillor Tom Barkley
Cabinet Lead Member for ICT
May 2016

2. Executive summary

This document aims to set out the Council's approach to ICT over the next five years. It is necessarily somewhat technical in some areas but in broad terms it seeks to:

- Identify the principal business challenges that will need to be addressed using ICT solutions;
- Assess the Council's current ICT capabilities;
- Set out a strategic roadmap reflecting the current ICT capabilities and responding to the principal business challenges

Business Challenges

The Strategy considers these under the headings of 'Customer', 'Business' and 'Technical'. The principal challenges in each of these areas are:

- **Customer:** improving the customer experience by developing a 'digital' council and encouraging channel shift; allowing customers to access services on a 24/7/365 basis using their preferred technology;
- **Business:** responding to the prospective reductions in government grant funding by enabling more efficient business processes, and new, flexible ways of working of the Council's staff;
- **Technical:** ensuring that the Council's systems are robust, resilient and secure; this area encompasses business continuity and the ongoing challenges of data security.

Current ICT Capabilities

The has invested consistently in its ICT capabilities and in many areas – such as the introduction of 'virtualisation' (both server and desktop) – the Council has a good foundation for future developments.

The Council also has robust, well-established systems in place to support service delivery within individual services. However, historical system selection and development has not been co-ordinated on a holistic basis leading to the current situation where a patchwork of different systems, technologies and vendor products is in place. This has resulted in some duplication of functionality, additional complexity in the management of the ICT environment, and the absence of an obvious ICT development path.

ICT Roadmap

The roadmap can be viewed as comprising the following areas of activity:

1. **Customer experience enhancements:** developing the Council's ICT to in response to the digital agenda for the medium term (three to five years), thereby enabling customers to do much more of their business with us on-line.
2. **Centralisation and consolidation agenda:** this set of activities will focus on creating a corporate approach to the development of ICT and the move towards the implementation of standard technologies, tools and applications; in the latter

period of this Strategy it is envisaged that a plan for the transformation of the Council's ICT will be prepared with a view for implementation of this in the early part of the next decade.

In implementing the ICT Strategy the following features are of note:

1. Generally, during the period of this Strategy, developments in the Council's ICT capabilities will be undertaken with a view to the longer term. Practically, this means that business cases for ICT developments should be assessed with a restricted time horizon and the possibility that systems may be discarded in advance of their obsolescence.
2. An ICT steering group, representing business, user and technical stakeholders will be created to oversee and monitor the Council's ICT development.
3. Implementation of this strategy will require funding. Some will come from existing budgets but significant capital funding may also be required whilst ongoing revenue costs, in respect of ICT, may increase. In these latter circumstances specific funding requests (of capital reserves or the Reinvestment Reserve) will be made in separate Cabinet reports.
4. In order to implement the Strategy it is expected that resources will need to be realigned across the Council in order to provide the cost-effective and efficient arrangements for service delivery. This might include budgets, physical assets or staff, and would need to be done on a case by case basis taking account of all relevant factors.

3. Introduction

This document defines the Council's Information and Communications Technology (ICT) Strategy over the next four years. ICT is a key enabler for the Council, both in enabling ongoing day to day business processes and in supporting strategic change, particularly in the drive to 'digitise' services.

The Strategy, which is underpinned by the overarching vision of Charnwood becoming a digital council, has been developed with three objectives in mind, around the customer, business and technical agendas, as follows:

1. Customer agenda - To enable customers to access the Council's services on-line, and have their requirements fulfilled, where practical, through digital solutions.
2. Business agenda - To enable the Council to make effective use and obtain the maximum benefit from the use of ICT.
3. Technical agenda - To provide a robust, reliable, effective and resilient infrastructure for the efficient delivery of ICT; this has to be allied with new business processes designed from a digital mind-set, and with the customer in mind.

Underpinning the objectives for technology is the ethos that to work effectively users need access to the right information, wherever they are. That could be anywhere and at any time. Technology then acts as the enabler for delivering the organisation's strategic vision, empowers staff to embody the Council's goals, behaviours and attitudes and ensures statutory functions are maintained whilst commercial opportunities are maximised.

Implementing this strategy will require the reorganisation of existing and new resources and expenditure. It will also require review and investment for the creation of an ICT infrastructure that enables a service delivery environment that is better for customers, allows smarter working, and is lower cost. It is however important to reiterate that ICT is *only* an enabler; unless implemented in conjunction with new business processes, there is a risk that new ICT becomes simply cost additive.

The Council's existing technology and work patterns still place constraints on effectiveness and on efficiency. Systems are still not readily available on mobile technology; files and data are not easy to share; the benefits of some technology is under-utilised; and there are a large array of different ICT applications.

The Council can make significant improvements to productivity by harnessing new technologies. This will involve new ways of working for all users (Members and Staff) and some changes to culture; it is necessary to be mindful of the challenges faced by the customers who will never be on-line, but all those charged with managing the Council need to take advantage of the opportunities presented by an increasingly digital world, and avoid ideas becoming constrained by what has gone before.

It will be challenging, but new technology will help achieve the Council's ambition of creating new ways that customers can self-serve, improve workflows, automate processes, and increase the extent to which staff can access information wherever they are.

4. Scope

Background

The document covers the ICT Strategy for Charnwood borough Council over the period 2016 – 2021, it identifies:

- The business imperatives which the ICT strategy needs to address;
- The current status of the ICT service and systems;
- The core elements of the strategy for meeting the council's needs over the next four years – the applications, systems, architectures, resources and services needed to support the council's future direction;
- The organisational and management issues which will impact on the ICT service's ability to deliver the strategy.

The ICT strategy applies to all users (employees, members, temporary staff, third party suppliers, contractors, etc) who directly or indirectly support or use the Councils ICT facilities and equipment (regardless of their location)

Business Drivers

The key drivers that have influenced and shaped the strategy include:

- The need to demonstrate value for money and a return on investments for existing and new IT developments;
- A need to support our staff and elected members to enable them to do their jobs and fulfil their roles better;
- Changes in employee and customer expectations about the role and use of ICT, including a greater move to self-service and the potential demand for 24/7 access to ICT;
- The Government's IT agenda, [Digital by Default](#);
- Increased end user expectations with the introduction of new technologies and a growth in new ways of communication e.g. social media;
- Provision of services through multiple access channels (e.g. face to face, telephone and the web) and recognition that not everyone has access to technology;
- Office accommodation and flexible working - requirement to co-locate, have access to systems during and outside office working hours and share systems/data with partner organisations;

Links to Councils other Strategies and Policies

Key policies and strategies which the ICT Strategy enables include:

- The Council's Corporate Plan;
(http://www.charnwood.gov.uk/pages/corporate_plan)
- Customer Services Programme (CSP);
- ICT Policies such as the Information Security Policy, ICT Infrastructure Policy, Mobile Working and the Email Acceptable Usage Policy.

National Picture

The [Government's ICT strategy](#) is based on the following strands:

- [Greening government ICT](#) – launched in March 2011, this sub section outlines the Government's commitment to reducing waste by engaging with suppliers, proactively reducing greenhouse gas emissions and reusing redundant ICT within the Public Sector;
- [End user device strategy](#) – provides broad guidance on areas such as avoiding vendor lock in, security controls, devices should be used as commodities and not customised, software/services should be designed for the web and therefore not be device agnostic and finally software and data on end user devices should be minimised;
- [G-Cloud](#) – this section defines the vision, scope, benefits, structure and services intended to be on the G-cloud. Services can be purchased as commodities covering three areas - Infrastructure, Platform and Applications.

The [Government Service Design Manual](#) is a technology code of practice manual for developing Digital by default services for all public sector organisations. The standard covers 18 points for developing an online transactional service that could be published on [GOV.UK](#)

The [Government Digital Strategy](#) was last updated in December 2013 and sets out 16 actions stating that the government will:

- create digital services so good that people will choose to use them;
- support those who aren't online;
- build digital capability and skills across government;
- use digital to improve policy making;

The Charnwood ICT Strategy has been developed with this material in mind and its objectives are considered to align with the Government Digital Strategy.

5. Current Status of ICT in the Council

The Council has a sound and cost-effective in-house ICT function with supporting third party contracts for key parts of the infrastructure. The scope of the ICT service includes the maintenance of hardware, software, telephones and printing. It has the core infrastructure and services to meet day to day operational needs. KPIs set for the service (based on the recommended SOCITM indicators) are continually met or exceeded. Due to investments made in the hardware, network, storage and back office applications, the ground work for future changes is either planned or already in place.

Principal software expertise lies within the ICT team but there is also expertise in Services for applications such as QL, Flare, Lagan and Agresso.

The existing system and application mix represents an opportunity for the Council to adopt a more strategic approach to ICT; on an item by item basis, decisions taken around system procurement and the approach to system upgrades have been sound but in totality the result is a patchwork of different technologies and vendors which does not lend itself to either standardisation or integration, and makes delivery of a digital processes, and associated efficiencies, more challenging.

Recent Developments in ICT

The ICT service is currently (since December 2015) in the process of supporting a number of system upgrades which includes the CRM (Lagan) system, Planning and Building Control application (M3) and the supporting Document Management system (I@W), the Licensing systems (Swift), the Legal Case Management System (Mattersphere) and the Corporate Addressing Gazetteer (Aligned Assets). The upgrades of these systems will ensure a complete migration for all services to Windows 7 and the Virtual Desktop system; inter alia, these upgrades will also address the key actions required for us to maintain the Council's Public Sector Network (PSN) compliance.

The Council has consistently invested in the development of its ICT infrastructure, recent key achievements include:

- Implementation and rollout of the virtual desktop programme which supported the upgrade to Windows 7 and Office 2010, remote working and use of 'Bring your own device';
- Virtualisation and consolidation Server Programme;
- Robust network infrastructure which includes resilient wireless networking;
- Refreshed and device independent Website - including use of 'Top tasks';
- Key upgrades of back office applications which will be delivered using the virtual desktop infrastructure. This will be completed at the end of April 2016;
- Replacement of the telephony system (to be completed in June 2016);
- Annual compliance with the Public Services Network and supporting independent IT Health Check;
- Implementation of a Unified Threat Management system the gives the Council complete security over network management, internet access and email traffic.

As outlined in the box above, the Council has a strong recent history of ICT development. However, key issues identified with the current or planned future state of the delivery of ICT services are:

- Cost control /savings – from 2017/18, a significant reduction in government grant funding is anticipated. In addition to likely savings being requested within ICT budgets, ICT will also play a key role in working with services to achieve their own savings, improvement and transformation objectives;
- Channel shift – ensuring the right tools, structure and skillset are in place for implementing and developing Self-service. In addition to new technology, this will impact on business processes in Customer Services and Back office services;
- Web development and ownership both corporately and within services needs to be integrated into day to day service delivery;
- The Council needs to be more effective in its use of systems, the systems architecture and the information framework within which they should operate;
 - Information systems currently focus primarily on back office functional requirements. The acquisition and development of these systems has not been defined or led corporately, making it difficult to establish corporate standards and co-ordinated systems integration or architecture;
 - Within specific systems, generic functionality is likely to be duplicated in areas such as document storage, workflow and the maintenance of customer and addressing details;
- The authority would benefit from a co-ordinated development or upgrade plan of all ICT systems and Infrastructure. As a result applications can be left several versions out of date impacting on IT security and potentially not enabling end user to make the best use of IT systems;
- Information Management – there are increasing requirements regarding data classification, sharing and security. Standards for identifying and classifying the documents require development. This includes data archiving policies for areas such as emails;
- Current ways of working have resulted in a high dependency on email (including storage of emails and attachments) and use of file stores which increases duplication and is a barrier for effective collaboration. Unnecessary storage is also a cost to the Council;
- There is a continued demand by services for Mobile and Field working solutions which are currently resolved on a service by service basis with required mobile devices and remote applications;
- Business Continuity and Resilience – due to the increasing expectation of services and customers for 24/7 ICT availability, investments need to be made to ensure we continue to develop a robust, secure and resilient infrastructure;

- The process of prioritising ICT resources to deliver key projects and initiatives needs to be improved which links to the delivery of wider corporate programmes and initiatives;
- Training in the use of corporate and more specialised systems is not systematic. Training in main line of business tools such as Microsoft Office and SharePoint is limited. Appropriate training in ICT needs to be reviewed to derive benefits from investment in software.

6. The Strategy Approach

The principles supporting this strategy are aligned with modern good practice and, as noted previously, [Government Digital Service](#) principles. The approach aims for a balance of innovation with the constraints of a legislative environment.

Buy not Build	The ICT infrastructure will continue to be based of the best of breed hardware and applications. The focus will therefore be on configuration and integration (where agreed of the ICT Infrastructure)
Rationalisation and consolidation	Evaluate before replacement. What are the deficiencies of the existing technology? Can they be overcome or reduced to deliver a fit-for-purpose solution? Are there other applications within the organisation which can be exploited? Thorough evaluation supports specification for replacement if necessary.
Standardisation	Hardware standards will relate to compliance with security such as PSN. Software standards will enable the storage and easier exchange of information or software integration
Open and virtual architecture	By encouraging transparency in design and build, we enable easier integration and exploitation moving forward. Virtualisation infrastructure provides flexibility, ease of management, rapid deployment, resilient and cost effective ICT Infrastructure
Infrastructure free	Supporting our drive towards cloud and hosting (with cost benefit analysis) we aim to reduce local reliance and cost whilst making the most of security and performance delivered by enterprise quality platforms
Confidentiality, integrity, availability	These fundamental principles of information security are paramount for the protection our customers and the delivery of our services.
No 'sacred' systems	No application or technical solution is irreplaceable and all are subject to evaluation when appropriate.
Keep it simple	Understand the requirements. Challenge unnecessary complication and intricacy. Ensure return on investment and don't implement intricate technology to deliver infrequent processes or low-complexity cases.

7. Objectives of the Strategy

The strategy is based around three strands – the Customer, Business and Technical agendas – as set out below.

7.1 Customer Requirements

Objective – To enable the Council to change, continually improve and modernise by supporting both on its efficiency agenda and the delivery of customer services

The ICT customer agenda is divided into two key areas, the first defines building and developing Digital services and the second aspect concentrates on the usage of online services.

7.1.1 Developing a ‘Digital Council’

Applied intelligently and accompanied by more efficient ways of working, digital technologies offer an alternative to across-the-board efficiency cuts.

Digitisation offers significant rewards: council services that can be accessed seamlessly in the real world and online; fully digital back office processes; knowledge-driven services; a genuinely mobile workforce; services that are responsive in real-time; IT systems that enable data sharing across organisational boundaries, and front line workers who are able to focus on supporting citizens rather than paper-based admin.

Aligned with the Customer Service Programme the aim is to develop a digital council by delivering on the following key priorities:

- Creating a new, simple and secure way for customers to use online services;
- Delivering more seamless and personalised services – by working with Services to migrate processes that can be online, with a target of 80% of customer processes/interactions to be online by the end of 2020;
- Moving towards ‘Digital’ contact;
- Promoting online channels (website and social media) as the primary channels for customer contact;
- Customer who may not go online, or where online is not their choice of contact will access assisted customer contact channels (telephone and face to face) using the same underlying online processes for seamless service delivery;
- Transforming the ways of working (digitising the back office) – internally organising and managing resources by integrating online processes into day to day service delivery;
- Effective Mobile and field working - enabling and supporting staff at all levels with effective tools for communication and accessing files and case management information.

7.1.2 Digital Engagement – ‘Channel Shift’

There are two strands to digital engagement:

- Developing a highly transactional self-service web site
- And implementing supporting tools to create a Digital platform

Creating Digital Engagement

1. Develop a highly transactional self-service web site by:

- Creating user friendly options for customer to serve themselves;
- Actively migrating contact with customers from face-to-face and telephone to electronic channels;
- Removing unstructured online customer contact (multiple email addresses and telephone numbers) and replace with online contact forms and assisted tools such as webchat;
- Developing personalised content by building on existing functionality such as ‘My Charnwood’ , ‘Top tasks’ and the website search;
- Increasing the number of transactions process that can be undertaken on the website (including mobile transactions);
- Really focusing on the customer journey and the making the content and architecture clear for the customer. This would also involve pruning content regularly and ‘writing for the web’;
- Getting and acting on feedback from website users and proactively monitoring and improving usage (by using web analytics)

2. Implementing online supporting tools to create a Digital platform. This would include:

- Implementing online tools to support transactional processes such as online forms, use of the corporate online payments portal and booking of resources;
- Introducing tools that would engage with customers such as webchat and building on Social Media. Longer term these tools could connect people to others with similar profiles, provide recommendations specific to their needs, and allow for a more interactive, personal experience;
- The core of the Digital platform would be a Council Customer Relationship Management (CRM) system which would integrate with online tools such as web chat, customer accounts, social media, email (for campaigns and notifications) and the telephony system;
- The CRM approach will be based on the principle of ‘Capture once and reuse’, giving the customer a seamless experience regardless of the access channel they use;
- Look to consolidate and personalise transactional information, recording what services the customer last paid for, booked, what forms were submitted and even promoting selected information Integrating a customer account as part of a CRM system could bring added benefits such as ensuring customer information was kept up to date and allowsubmitted forms/enquiries to be accessible by telephone and face to face contact.

7.1.3 Partnership Working

The Council successfully collaborates with a range of partners and suppliers. This includes external suppliers (e.g. Capita), partnering authorities such as Leicestershire County Council and public sector bodies e.g. the Police, JobCentre Plus, voluntary organisations and a wide range of suppliers.

As services develop, the Council's mixed economy of service provision will also develop. It is vital that appropriate ICT arrangements are in place to support the growing range of strategic partner and supplier relationships.

7.2 Business Agenda – Working With Services

Objective – To enable the Council to make effective use and obtain the maximum benefit from the use of ICT.

This objective covers the alignment between ICT and Council services and includes.

7.2.1 Support the Delivery of Efficiencies and Cost Savings

The financial climate is likely to remain very challenging, and so focus on improving efficiencies and getting the most out of the Council's investment will be of the greatest importance.

In addition the next four years will see significant changes in the way the Council uses technology, and in line with the Customer Services Programme the Council will seek to support the delivery of efficiencies and cost savings.

Delivering Efficiencies and Cost Savings

- Work with service providers and residents to digitalise as many of our services as possible making it easier and better to do business with the Council online;
- Develop smarter interactions between customers and services and transform services by reviewing and improving processes that improve the customer experience;
- Reduce back office administration activities through digitisation, and channel shift;
- Mobilise those services that need to work away from the office either due to the type of services they deliver or to meet customer expectations;
- Consolidate applications which would reduce licence, maintenance and development costs, plus any 'system duplication' activity costs;
- Reduce paper storage in the back office and paper-based transactions are removed;
- Remove duplication in processing and storage.

7.2.2 ICT Governance

ICT Governance needs to reflect business, user and technical aspects in the develop of the Council's ICT capability.

ICT Governance – Detail

It is envisaged that a steering group will be set up reflecting the interests of these (potentially) competing stakeholders which will:

- Ensure ICT developments align with the corporate service planning and budgeting process and on initiative such as the Customer Services Programme;
- Oversee the development of Service Level Agreements, defining the ICT services that are being expected and consumed by services. Continue to build on the formal meetings with Heads of Service to review and improve the set SLAs;
- Prioritise developments and provide guidance on the application of ICT Strategy, Policies and initiatives.

7.2.3 Information Systems Architecture

There are a number of local systems in use across the authority based on different 'lines of business' supporting specific services or functions, there are also some smaller systems/information built and maintained on databases and spreadsheets. Although operationally convenient, these systems bring with them the potential for duplicate entry, inconsistency and fragmentation of the data the Council works with and is a barrier to joined-up service delivery. Their existence does not optimise the use of corporate systems and exposes the organisation to unnecessary risk of information security, data loss and data entry and maintenance duplication. The Strategy envisages actions to address these issues which will see greater usage of corporate systems.

The contract period and SLAs for all third party supported systems requires review with an aim for establishing a co-ordinated development or upgrade plan of all applications which will ensure all systems are kept up to date and evaluated on an on-going basis to deliver a fit-for-purpose solution. System reviews could also be triggered prior to key upgrades or expiry of contract periods.

Information System standards need to be set to comply with best practice areas such as information security, data classification, storage and integration/interoperability. In line with best practice these standards could relate to an ISO Management or Open data standards

System integration (where required) will be considered on factors including:

- What the organisation needs or wants to achieve and the outcomes for the customer;
- How quickly the organisation needs/wants the solution;
- How open the application packages are in terms of publishing details, maintaining consistent published interfaces and advising developers and customers about significant technical changes made to their product;
- What is technically possible given the application packages to be integrated;
- The overall business case.

For information, the table attached as an annex lists the Council's current key information systems.

7.2.4 Supporting Agile Working

Agile working is more than just flexible or home working, Agile working is about bringing people, processes, connectivity and technology, time and place together to find the most appropriate and effective way of working to carry out a particular task. It is working within guidelines (of the task) but without boundaries (of how you achieve it).

The two key technology foundation blocks for enabling Agile working are:

- The Virtual Desktop Infrastructure (VDI) – provides users with a desktop. It works independently of the operating system (can be used on Windows, Android or Apple devices) and provides approved homeworkers and fieldworkers with flexibility of accessing their desktop from any Council or non-Council device;
- Unified Communication – once implemented will give the users the ability to 'carry' their extension regardless of their location. Additionally functionality such as Instant messaging, voice and video presence brings a number of collaboration benefits for all users and services such as Contact Centres and Customer Services.

Redesigning and improving business processes together with the use of technology have already delivered improvements in areas such as Food Hygiene inspections, Housing Repairs and Maintenance (for mobile operatives) and Warden Services.

The Strategy envisages that these developments will continue.

7.2.5 Information Management

Within the Customer Services Programme, the Document Management project, seeks to identify the Council's data and information assets to enable standardisation and document classification, with the end goal of service improvement. The project is aiming to develop an overall approach for managing the lifecycle of documents both electronic and paper-based (from creation/initial capture, handling and sharing of data/information, to access, storage and the final stages of archive or deletion of data/information).

In addition to understanding and development information needs, Information Security is a key part of Information Management. The guidance, policies and key decisions on Information security are managed by the Council's Information Security Working Group which aims to balance the need for accessing, analysing and sharing data versus any compliance security requirements.

The Information Security Policy also covers guidance on handling and protection of data/information and ensures that appropriate measures are put in place to protect the Authority's Information systems, services, equipment and supporting infrastructure.

7.2.6 Effective Collaboration Tools

Evidence from the volume of email traffic shows a continued dependency on email (including storage of emails and attachments) as a primary method of communication and use of file stores which increases duplication, costs, it is inefficient and is a barrier for effective collaboration.

The Strategy aims to improve information sharing by introducing the following tools, procedures and rules:

- Reduce the burden on email by introducing alternative communication tools such as instant messaging, voice and video presence. In some areas these tools will work together with email. As covered in the Customer agenda - online forms will replace external email addresses;
- Educate and train on the use of the Intranet for sharing attachments and working collaborative. Design sites and workflow that meet the needs of the service;
- Review (as part of the Document Management project) the storage of shared areas and network drives, with the intended outcome of replacing shared areas with Intranet Document stores and sites;
- Articulate and enforce storage/capacity rules – which would include setting corporate and service specific rules for data storage, archive and retention.

7.2.7 ICT Training Programme for Services

Technology is a tool to support business service delivery. The ability of the Council to gain maximum advantage from its investment in ICT depends crucially upon the existence of adequate operational ICT skills in all areas. This Strategy envisages:

- The establishment of a competency based framework for the generic use of ICT;
- The use of this framework to inform recruitment and selection, appraisals and individual development plans;
- Developing an ICT training programme to embed those competencies;
- Ensuring that adequate training and documentation is in place for corporate and specialist systems which will provide sustainable capacity for routine system administration, reporting and other operational tasks when working with ICT systems.

7.3 Technical Agenda

Objective - To provide a robust, reliable, effective and resilient infrastructure for the efficient delivery of ICT.

This objective outlines the delivery and support of the internal ICT infrastructure and in addition supports the implementation of areas covered in the first two objectives of this Strategy.

7.3.1 ICT Compliance and Standards

ICT standards are applied to ensure consistency, minimising risks, industry compliance and best practice, covering the following three areas;

- Hardware and Networking– the Strategy in this area is to develop infrastructure using standardised, tried and tested market leading solutions. The key requirement for hardware is to ensure it is compatible and interoperable with the underlying software and operating systems, key platforms include [Microsoft](#) and [VMware](#).

802 standards will continue to be applied to ensure port level security is deployed on the network to enable the identification of both the device and the user that is plugged onto the network which then determines the level of access granted.

- Software – working with services and suppliers, the Strategy will comply with principles in areas such as information security, data classification, storage and integration/interoperability. In line with best practice these standards could relate to an ISO Management or Open data standards. BS7666 (standard for spatial datasets) will continue to be complied with for the Council’s corporate addressing system.
- Service Management – [Information Technology Infrastructure Library \(ITIL\)](#) standard principles are used to improve customer satisfaction, and improve reliability and quality of ICT services.

In addition, the IT infrastructure will continue to be assessed to ensure annual compliance for [Public Services Network \(PSN\)](#) and [PCI DSS](#) (information security standard for card payments). Both areas have requirements and compliance standards in hardware, networking and software.

The principles of the [Data Protection Act](#) are adhered to, to protect personal data of individuals from being misused, as well as the [Freedom of Information Act](#) which ensures openness and transparency.

7.3.2 Resilience and Robust Infrastructure

The objective of the Infrastructure is to provide a fast, reliable and robust ICT services. ICT Infrastructure is made up of a number of elements to form a robust system that provides processing power and capacity for applications, a secure and reliable data storage environment, a resilient fault tolerant network for transferring data and a set of procedures to ensure that all elements work together.

The virtual server environment provides efficient use of hardware and improves manageability and availability.

Data from all users and applications is stored on high availability systems to ensure that information can be securely managed and that proper backup regimes can be applied to the information. This control is important in terms of preventing data loss.

Network Management is critical to the provision of Council services, any key changes made to configuration items that support the network are governed by the ICT Change Management process, details of this and the asset register of key network components are managed using the ITIL based Service Desk system (SupportWorks).

Management of the network (including monitoring its utilisation and reliability) is provided by ICS with underpinning support and maintenance contracts in place from external suppliers.

The network is logically separated into three key areas;

- Service Mediation Zone (SMZ) – is that web-facing aspect of the network (also known as the access layer), it protects the network and its communications with the end user devices. Remote workers and any web facing applications would access the SMZ.
- Internal network - the internal network is an Ethernet resilient network which is designed to allow traffic if there is a failure on key parts of the network using Single Transfer Point (STP). The network has a 10GB backbone, allowing 1GB port capacity for users.

Network access is only provided from identified and trusted sources, Network Location Awareness is in place which prevents executable software to be run from unauthorised sources.

- PSN – this part of the network is separated to ensure only approved users have access to required services such as secure email (GCSx). Boundary controls are implemented between our PSN and the internal network and all data is subject to content analysis including virus checking emails and attachments

Further technical details on the hardware setup and software lifecycle processes are covered in the ICT Infrastructure and the Information Security Policies.

7.3.3 Access, Storage and Location

The ICT infrastructure will continue to be developed for handling traffic growth (potential 24/7 access) and mobile working

The Council's data is stored on high availability infrastructure. As covered under section 5.2.6 (Effective collaboration tools), rules governing the usage, storage, sharing, archive and retention of data needs to be developed and agreed with stakeholders

The ICT infrastructure is hosted locally in the Council's data. There are specific applications that are either hosted on the cloud (e.g. paye.net - payment system) or have a hybrid solution in place (e.g. achieveforms).

For the medium and longer term, the Council will continue to evaluate Cloud technologies with the aim of moving towards being 'Infrastructure free' which will reduce local reliance and costs whilst making the most of security and performance delivered by enterprise quality platforms.

Cloud computing is being adopted across the private and public sector as the delivery method of choice. Whilst public bodies have, in the past been nervous about this direction of travel, [official guidance from GOV.UK](#) recommends it.

As the Government Cloud (G-Cloud) matures the Council will review those services that become available, determine business benefits and critical factors such as storage location and costs, recovery and assurance of data, integration, operating costs, scalability, reliability and availability.

Cloud computing can be deployed through primarily four different models - private, public, hybrid and community. The primary differences between these models are in scope and access. For private cloud the infrastructure is managed and operated solely for an organisation; for public cloud the infrastructure is owned by a cloud provider and accessible to the general public or a large industry group; for hybrid cloud some resources are managed in-house and others are provided externally; and for community cloud the infrastructure is most likely shared and managed by several organisations.

7.3.4 Telephony

The telephony estate covers three main areas;

- i) External landlines – The Council has approximately 300 lines, with around 50 critical care lines for supporting alarms and sheltered housing and 30 Broadband lines.
- ii) Main switchboard – covers all internal extensions and telephone circuits accepted into the phone system. The provision of telephony systems and call routing details delivered to the Contact centre (including calls handled for Harborough District Council as part of the shared service).
- iii) Mobiles – includes approximately 250 mobiles in total (for both standard voice packages and the voice and data packages).

Based on the existing Avaya platforms, the Council is in the process of moving towards Unified Communication (UC).

UC refers to the approach of unifying telephony, web conferencing, instant messaging and presence. It basically involves transforming normal desktop computers and phones to a simulated communications platform. Unified communication brings all the available communication modalities together, making them accessible on a strong multimedia interface.

Some of the key benefits this will bring include;

- Enhanced access – UC operates across all communication devices e.g. PC/Laptop, Smartphones, telephone. Unified messaging makes certain that all messages, email and others can be accessed in the chosen format
- Improved flexibility - the options of using different method of communication means customer and colleagues can communicate effectively from various locations (including home or remote working). It's also easier to relocate telephone lines to a different location, if required
- Quicker Disaster recovery – cloud based/externally hosted UC services could minimise the impact on telephony in the event of an incident or disaster

7.3.5 Printing Infrastructure

All 50 Multi-Functional printer Devices (MFDs) have common make and models, the functions of all devices are the same with variance on attachments, trays and fax facilities. The Council's printing approach will continue to be based on 'pull' printing, the benefits of which are:

- Security: The user must release the print job using their Staff ID badge or using the software dashboard which increases print security and privacy policy compliance. Users can ensure no-one else reads private or confidential documents because the user will be waiting at the printer for the printing to finish;
- Flexibility: users can choose to release/collect their print jobs from any of the 50 physical printers. Also multiple jobs can be collected/released in one go (avoid multiple visits to the printer);
- Costs and environment: since its implementation in October 2012, measurable savings have been made from uncollected paper or unrealised jobs.

This centralised approach towards printing also allows reporting, cost and usage information to be produced and monitored.

Printing services are also provided to partners such as Capita staff (for Revenue and Benefits) and to onsite HR Leicestershire County Council staff.

7.3.6 Business Continuity and Disaster Recovery

The Council's backup solution (Simpana, supplied by Commvault) is integrated with our virtual and storage environment and uses a combination of disk and tape media for effective restores and to reduce the storage on servers. The solution was upgraded in early 2015 to include features such as deduplication and offsite storage.

Backup data is retained for a full year Incremental backups are undertaken during the week and a full back up at the end of the week. Details of the Backup cycle and infrastructure are covered in the ICS Infrastructure Policy.

From April 2016, in partnership with Leicester City Council, disk based offsite backup arrangements will be in place that will allow the Council to effectively backup, access and restore its data. This process will improve both backup and restore processes in comparison to the current offsite tape based solution that is hosted at North West Leicestershire District Council.

7.3.7 Refresh Programme and Green ICT

The Council's commitments towards sustainability and the Local Authority Carbon Management Programme will continue to be delivered by:

- Minimising the environmental impact of the ICT infrastructure itself. This includes the data centre, desktops and monitors, communications hardware, the provision of the service and disposal of ICT equipment (to standards such as ADISA and CESH IS 5);

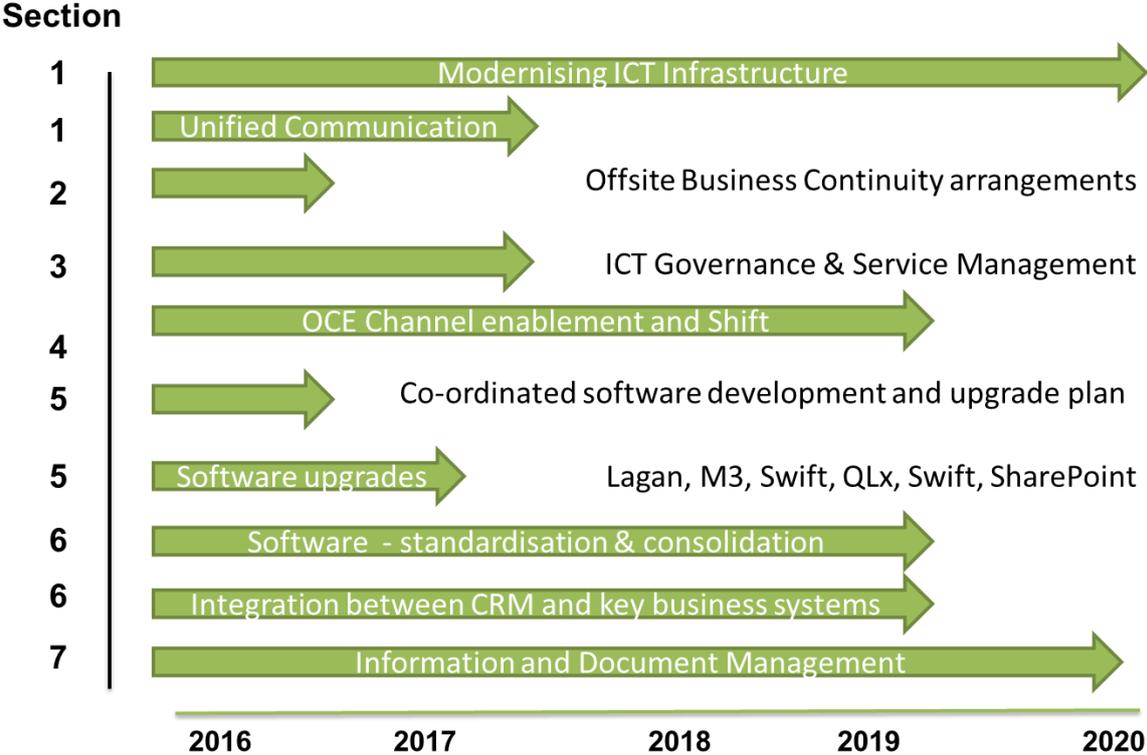
- The investments already made on virtualisation (at both the desktop and Server level) contributes to the Carbon Management programme which has seen a substantial reduction on the Hardware replacement programme for the life span of Servers and end user equipment such as PCs and Laptop;
- The impact of ICT on internal business operations. ICT can enable Council staff to operate in a more sustainable manner by improving operational practices and communications methods for example through Smart Working;
- The review and redesign of the IT Data Server room is being considered to reduce overall power consumption and improve airflow management in the Server room. These requirements will be balanced against Business continuity, restore and resilience needs. The longer term intended move towards being 'infrastructure free' will also reduce future power consumption in the Server room.

7.3.8 Investing in the Structure, Skills and Resourcing of ICT

- a. In order to implement the Strategy it is expected that resources will need to be realigned across the Council in order to provide the cost-effective and efficient arrangements for service delivery. This would need to be done on a case by case basis taking account of all relevant factors.
- b. ICT Skills –industry standard Skills Framework for the Information Age (SFIA) will be used to establish an appropriate balance of generic skills for the ICT service and as a basis for training and development.
- c. Service Management –Service Management improvement will continue by:
 - Migration to the cloud based Hornbill Service Manager Service Desk system – scheduled for May 2016;
 - Production of an ICT Service Catalogue, providing a list of ICT services available to end users and services;
 - Implementation of a self-service portal for support and service requests
- d. Business Change capacity – working with services to define and support the implementation of digital, transformation and self-service processes and platforms covered in this strategy, the critical skillset for business analysis, change and workflow management is essential to the delivery of activities and plans outlined in the ICT strategy.

8. Implications of the Strategy

ICT Roadmap



In order to meet the objectives of the ICT Strategy, the following key tasks and outcomes are expected to be delivered, under the areas identified in the ICT Roadmap above. Inevitably the ICT team will lead on technical areas but corporate engagement and leadership, facilitated by the ICT Steering Group or via corporate initiatives such as the Customer Service Programme, will be necessary for effective implementation of the Strategy.

1) Modernising ICT Infrastructure – key deliverables include:

Key Tasks	Start Date
Completing the migration of all services and systems to Windows 7 and the Virtual Desktop platform	May 2016
Continued annual compliance against the outcomes of the independent IT Health and PSN and PCI DSS requirements	April 2016 (annual)
Replacement of the existing phone system and the implementation of Unified communication, which will bring new facilities such as instant messaging, voice and video presence	July 2016

Key Tasks	Start Date
Support Agile working by implementing Mobile and Field working solutions – building on the existing solution in place for Environment Health and Housing Services	On-going
For the medium and longer term - continue to evaluate Cloud technologies with the aim of moving towards being 'Infrastructure free'	From April 2017 onwards
Consider a move to Cloud computing and/or a redesign of the Data Server room with an aim for reducing power consumption and improving airflow management.	August 2016

- 2) Improving Business Continuity Arrangements – with the intended outcome of delivering a robust and resilient architecture that will ensure the availability of the infrastructure in the event of a significant business continuity event.

Key Tasks	Start Date
Complete offsite backup arrangements with Leicester City Council and test back, access and restore processes	April 2016
Improve onsite Business continuity arrangements – implementation of an onsite generator for backup power	September 2016

- 3) ICT Governance and Service Management – key deliverables include:

Key Tasks	Start Date
Establish an ICT Steering group to review and prioritise ICT developments, key changes and progress against projects/initiatives	July 2016
Service Management (as covered in section 5.3.8) – upgrade the SupportWorks Service Desk system, implement an ICT Service Catalogue and a Self-service portal	October 2016
Develop ICT SLAs with Heads of Service to define usage, responsibilities and expectations which will align with what services currently use, their expectations and future plans	December 2016
As Covered in sections 5.2.7 and 5.3.8, implement an effective ICT Training programme for services and ICT staff	December 2016 (on-going)

- 4) Channel Enablement and Shift – The actions identified in Section 5.1 Customer agenda in relation to developing the Digital Council and Digital engagement will be implemented as part of the Customer Services Programme.
- 5) Co-ordinated Upgrade Plan – key deliverables include:

Key Tasks	Start Date
Completion of software upgrades and migration from obsolete platforms	May 2016
Identify contract periods and SLAs to establish a co-ordinated development/upgrade plan for all ICT System and Infrastructure	January 2017
Define Information system standards to comply with best practice areas such as information security, data classification, storage and integration/interoperability. In line with best practice these standards could relate to an ISO Management or Open data standards	April 2017

- 6) Software Standardisation and Consolidation – key deliverables include:

Key Tasks	Start Date
As covered in section 5.2.3 - rationalise the software application estate into a smaller number, leading to less but better used technology and lower cost of provision.	From 2017 onwards
Review all ICT systems work being carried out, outside of ICT Services with a view to amalgamating into the ICT Services to remove duplication of effort and provide resilience and consistent levels of support	From 2017 onwards

- 7) Information and Document Management – key deliverables include:

Key Tasks	Start Date
As part of the Document Management project, identify the Council's data and information assets.	From May 2016 onwards
Using guidance from LGA, set Standards for identifying and classifying the documents we produce and share	
Implementation of the upgraded SharePoint solution	June 2016

Key Tasks	Start Date
Educate and train on the use of the Intranet for sharing attachments and working collaborative. Design sites and workflow that meet the needs of the service	From June 2016 onwards
Also as part of the Document management project, review the storage of shared areas and network drives, with the intended outcome of replacing shared areas with Intranet Document stores and sites	
Agree and set rules for data storage, capacity and archiving	September 2016

9. Organisational Impact and Resourcing

Delivering the objectives and actions covered in this strategy has the following potential impact on the organisation of the Council and resource allocation.

Centralisation and Consolidation of Existing ICT Resources

The strategic approach set out in preceding paragraphs includes standardisation and consolidation; this can be around technologies, systems or functions. Logically, the resources that support such an approach could also be consolidated to create resilience and economies of scale. These could include procurement, implementation, upgrades, development, maintenance costs (e.g. software licences), software support and administration of key systems into a single Service.

Any decisions around specific resources will need to be subject to an appropriate business case.

Future Developments

Historically, Charnwood's approach to ICT development, particularly in respect of systems acquisition, might be described as a 'best of breed' approach, whereby the best system for a particular service or function has been selected. This approach has been effective in that robust ICT solutions have been implemented, but as a consequence, a variety of technologies and vendors are in evidence across the Council and it is difficult to realise the efficiencies and resilience benefits that are available from a more standardised and consolidated ICT environment.

Implementation of this Strategy, and prospective realisation of standardisation and consolidation benefits that it envisages, therefore requires a more coordinated and corporate approach than has previously been adopted. To facilitate this the envisaged ICT Steering Group will ensure that business, user and technical aspects of developments are all appropriately addressed and a coordinated development plan is prepared.

Membership of the Group has yet to be defined but will include:

- i. One or more members of SMT who will represent the 'business' in making decisions around ICT;
- ii. Permanent user representatives, probably more than one, representing all users across the Council;
- iii. Temporary user representatives; individuals who will attend the Steering Group to represent teams subject to any particular major ICT change under discussion;
- iv. ICT manager, plus other attendees as required, to provide the required technical input into discussions.

Specifically, the Group will:

- ensure ICT developments fully align with the Corporate Plan and Customer Service programme;
- take account of Government Digital Design Principles in any new implementation;

- avoid the default approach of simply upgrading systems without appropriate evaluation of alternatives;
- take an overview role and monitor the implementation of the ICT strategy.

To standardise the ICT service across the Council, and ensure user expectations are clear, the Steering Group will, as mooted previously, also oversee the development of a service level agreement between the ICT professionals and service users.

Implementation of this strategy will require funding. Some will come from existing budgets but significant capital funding may also be required whilst ongoing revenue costs, in respect of ICT, may increase. In these latter circumstances specific funding requests (of capital reserves or the Reinvestment Reserve) will be made in separate Cabinet reports.

10. Monitoring and Review

The principal body responsible for the monitoring and review of the implementation of this Strategy will be the ICT Steering Group, who will ensure that business, user and technical agendas are fully recognised in ICT development.

Software Applications

List of key software applications, include:

Software	IL Rating*	Area of Usage
Agresso	2	Finance, Corporate usage
Capita Revenue and Benefits system (outsourced)	2	Capita, Customer Services, Housing (reports)
Core Legal (OMS)	2	Legal Services
Flare	1	Environmental Health
GCSx	2	ICS and approved GCSx users
Housing – resource appointments and booking systems (Opti-time and CloudDialogs)	1	Housing, Landlord Services
iTrent	2	Finance, HR, Corporate usage
Lagan CRM system	2	Customer Services
M3 Planning Services and I@W Document Management system	2	Planning Services and Land Charges
MS Exchange	2	ICS, Corporate usage
NLPG – corporate addressing management software	1	ICS, key systems
Payment systems – Paye.net, Internet payments, BACS, etc.	2	ICS, Finance, Corporate usage
QLx Housing Management System	2	Housing, Landlord Services
Sentinel ASB Case Management System	3	Community Safety
SharePoint	2	ICS, Corporate usage
Spektrix – Town Hall booking system	1	Town Hall
Swift	1	Licensing
Xpress – Electoral Management	1	Electoral Services

***IL rating refers to the Government’s Security Framework for Business Impact Levels that is likely to result from a loss or compromise of information (IL 0= no impact, IL1 = Not Protectively Market, IL2 = Protect, IL3 =Restricted)**
