ICT Roadmap 2016 - 2024

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Summary

This Information & Communication Technology (ICT) Infrastructure Strategy sets out a medium to long term vision of how ICT will develop to support the Council's business requirements, its future vision, its customers and its members With its increasing dependency on Information Technology (IT), to help enhance the performance of the Council In achieving its mission, vision, streamlining working processes and reducing overall operating costs.

This strategic framework applies to ICT throughout the Council, and impacts on all departments and services, Including infrastructure and connectivity services supplied to the council and its partners.

Departments will be involved in shaping their service specific strategies, which will set out how they will use ICT to meet departmental business priorities within the context of the key principles and the overarching strategic framework set out in this document.

The ICT Roadmap consists of the following elements:

- Introduction

- ICT Roadmap position from Feb 2016

- ICT Topology from Feb 2016

- New world aligned ICT strategy with business vision

- IoT (Internet of things and Artificial intelligence)

- ICT vision

- ICT Roadmap

- Current position

Introduction

The ICT Strategy provides an overview of how we will deploy new technology in support of new, more efficient, sustainable, flexible, and customer focused ways of working whilst minimising risks which could jeopardise the delivery of business critical ICT systems, over the next five years.

The ICT Strategy needs to align with the Business Strategy and the ICT road map provides this synergy. Focused on delivering business efficiencies and providing a model ICT division where the business and ICT vision work together in harmony.

Successful transformation will be dependent on the combination and balance of People, Processes and Technology . The strategy sets out the vision for the key ICT components as shown below

- ✓ Business Services
- ✓ Information Management
- ✓ Applications Management
- ✓ Infrastructure
- ✓ ICT Security Operation
- ✓ ICT Commercial agenda

The roadmap highlights the key projects and gives a high level view of the programme of work over the life of the strategy to provide substation cost savings, efficiency gains, mobile and flexible work force, reduced operation costs and dominated customer service.

ICT Road Map position from Feb 2016

ICT team structure reviewed

Time spent with ICT team to help resolve ongoing infrastructure issues

Introduction of ICT processes and procedures to enhance service delivery and business communication

Change control process reviewed

Monthly ICT updates sent to the business

Infrastructure has been upgraded, now needs a review as this is more than 3 years old

Telephony VOIP rollout procured, and implementation started Phase 1
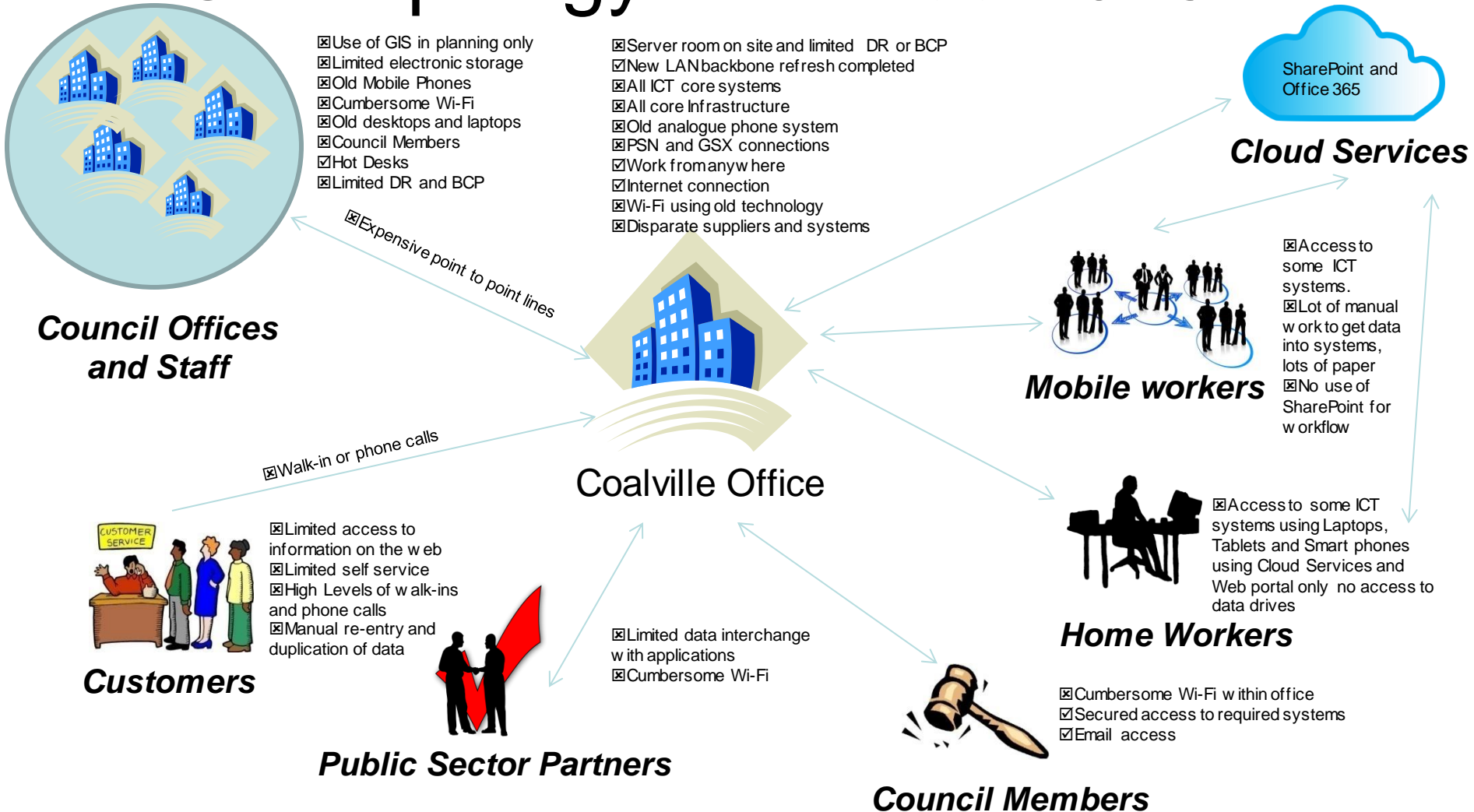
LAN upgrade completed

Email migration to hosted exchange completed

PSN security submission completed

Scanning and archiving documents scanned for all service lines, discussions started on the way forward

Discussions around SharePoint as DMS, Document store and replacement for Achieve forms and E-forms

ICT Topology from Feb 2016

North West Leicestershire District Council

- ☒ Use of GIS in planning only
- ☒ Limited electronic storage
- ☒ Old Mobile Phones
- ☒ Cumbersome Wi-Fi
- ☒ Old desktops and laptops
- ☒ Council Members
- ☑ Hot Desks
- ☒ Limited DR and BCP

- ☒ Server room on site and limited DR or BCP
- ☑ New LAN backbone refresh completed
- ☒ All ICT core systems
- ☒ All core Infrastructure
- ☒ Old analogue phone system
- ☒ PSN and GSX connections
- ☑ Work from anywhere
- ☑ Internet connection
- ☒ Wi-Fi using old technology
- ☒ Disparate suppliers and systems

SharePoint and Office 365

Cloud Services

Council Offices and Staff

☒ Expensive point to point lines

- ☒ Access to some ICT systems.
- ☒ Lot of manual work to get data into systems, lots of paper
- ☒ No use of SharePoint for workflow

Mobile workers

Coalville Office

☒ Walk-in or phone calls

- ☒ Limited access to information on the web
- ☒ Limited self service
- ☒ High Levels of walk-ins and phone calls
- ☒ Manual re-entry and duplication of data

Customers

- ☒ Limited data interchange with applications
- ☒ Cumbersome Wi-Fi

- ☒ Access to some ICT systems using Laptops, Tablets and Smart phones using Cloud Services and Web portal only no access to data drives

Home Workers

Public Sector Partners

- ☒ Cumbersome Wi-Fi within office
- ☑ Secured access to required systems
- ☑ Email access

Council Members

"New world" aligned ICT strategy with business vision

ICT is aligned with Council services and with the Council's "Customer first" strategy.

ICT is a strategic, "enabler" and is seen as a "value add service", which is engaged with the business.

Flexibility for staff, members and partners, with the use of mobile and digital technology.

Modern, secure and resilient, high performance ICT systems and platforms.

Refresh and modernisation of desktop, laptops and infrastructure.

Modern "state of the art" ICT and a model department for other district Councils.

Enhanced performance for the Council and members.

ICT staff are engaged and motivated with the ICT Roadmap and it's operational delivery.

"New world", aligned ICT strategy with business vision

Provides business continuity, disaster Recovery and high availability of systems.

Streamlined business working processes i.e. starter and leaver process, following best practices.

Successful ICT and business compliance processes and information management.

IoT (internet of things i.e. Smarter streets, Public safety, Telehealth, Transport).

Engaged Communities.

Substantial operating cost savings.

Constant review of the ICT processes procedures, strategy and ICT Roadmap to ensure the business stays up to date With new technology.

"ICT Strategy"

A cloud first approach, where applications and systems will be delivered via the cloud, where possible and meets business requirements, utilising IaaS (infrastructure as a service), PaaS(platform as a service and SaaS (Software as a service) and DRaaS (Disaster recovery as a service). This would be dependent on cost of the various operating models.

Infrastructure refresh to include, new desktops and laptops based on Windows 10 x64, with modern up to date applications.

Updated tablets and mobile devices for mobile and remote working, out in the field and from remote locations.

Provision of an agile and hot desk office environment, where profiles are set to roam and users can log into any machine, with the same user experience.

A new approach to on premise server room, and corporate network, with the migration of servers and Infrastructure to a tier four private cloud Data centre, providing 99.99% uptime and a replacement MPLS network across all offices.

Provision for disaster recovery, business continuity and high availability for resilient applications, data and systems, with a relative time object (RTO) of 4 hrs and a relative point objective (RPO) of 24 hours.

Proven and tested business continuity plans (BCP) and disaster recovery (DR) plans, with yearly testing schedules, in line with service BCP plans.

SharePoint used as the corporate document management system(DMS), with the use of One Drive for storage and consolidated data.

To contribute to the provision of good-quality, high-value front line Council services to residents by helping front line service teams and other corporate support teams exploit technology to deliver their services efficiently and effectively. For example digital transformation.

Provision of a 1st Class ICT support service, where the team structure is reviewed yearly to make sure resource levels and skill sets are correct, so that ICT is aligned with services and with the Council's strategic vision.

A "Flex" approach to staffing and resource, where the department can flex as demands increase.

The ICT Service is instrumental in delivering the ICT systems needed to support this programme and as such is aligning its processes and priorities to meet the demands of residents as well as internal customers.

Integration of disparate systems using Firmstep Achieve forms platform, to provide customers services one interface into systems and a light CRM. Field based using tablets and mobile devices for access systems securely.

Provide flexibility for staff, members and partners, when accessing systems and council wide services using a refreshed modern intranet website and a redesigned e-commerce, internet web site.

Ability to access council services 24/7, where the corporate internet website is seen as four stars rating by SOCITM.

Modern "state of the art" ICT and model for other district Councils, with remote working, hot desks and Agile working.

Use of modern applications i.e. Office 365, SharePoint and Skype for business, with a view to moving towards unified communications and SIP(session initiated protocol) for the telephony platform, reducing overall fixed lines costs.

Focus on improving the applications which are used by the services i.e. IDOX, GIS, Finance and Housing systems once the foundations of the new infrastructure and network have been embedded.

Up to date ICT processes, procedures and governance, ensuring compliance and successful ICT audits and assurance.

Cyber security essentials PLUS accredited, which provides assurance of ICT security and kite mark.

Threat management and adherence to best practise security protocols, with successful PSN (public sector network) for our secure email connection and Cyber Essentials PLUS assessments.

Streamlined business working processes i.e. starter and leaver process, following best practice. Processes and procedures are reviewed regularly.

Successful ICT and business compliance processes and information management.

IoT (internet of things i.e. Smarter streets, Public safety, Telehealth, Transport).

Engaged communities, with artificial intelligence (AI) using "Alexa" for supporting our vulnerable customers.

Management information and business Intelligence for producing, dashboards, forecasting, corporate performance and reports, with integration into existing systems.

Substantial operating cost savings and budgets with consolidation of suppliers.

Constant review of the ICT strategy and ICT Roadmap, to ensure it is aligned with the Councils, vision and customer first strategy.

Best in breed ICT department, providing services and consultancy to other district councils, as part of the commercial strategy.

Capitalising on the commercial agenda, where ICT, can contribute to the commercial agenda, providing income generation.

Internet of Things, AI and Bots)

This is the network of physical objects—devices, vehicles, buildings and other items embedded with electronics, software, sensors, and network connectivity that enables these objects to collect and exchange data. This is the future which will revolutionise the way the council does business and interacts with the community.

Today about 14bn objects are connected to the internet. By 2020 that number could be anywhere from 20bn to 100bn

Opportunity presented by smart city technology, and how it can be used to deliver better and more cost-efficient public services. smart in-building energy management systems and street lighting alone could save local councils across the country £402.3m.

The gap in understanding, would explain why smart city technology has not yet been widely deployed – beyond a few test beds in tech-heavy locales such as Bristol and Milton Keynes – to improve lighting, rubbish collection, traffic, public transport management and so on.

Street lights that detect approaching cyclists, CCTV cameras that identify unusual activity, and bus stops that count. Welcome to the future of local public services.

Cheap sensors mean that almost any object can now be made "smart", providing councils with data on air quality, temperature, noise, footfall and a range of other factors. Apply some analytics(Business Intelligence) to all this information, and you can start to manage your physical assets – such as buildings, bins, streetlights and roads – more efficiently, and deliver more targeted or completely new services.

ICT Vision

Council Offices and Staff

- ☑ Flexible working
- ☑ Mobile Extension calling
- ☑ Business intelligence and IM
- ☑ VOIP Telephony and Unified Comms
- ☑ Excellent Wi-Fi for guests and members
- ☑ New desktops and Laptops
- ☑ Scanning and Archiving
- ☑ Hot Desking and roaming
- ☑ High Speed Internet
- ☑ New Housing System(s)
- ☑ Partners
- ☑ Email

☑ Cloud first for all applications and systems
☑ All Council ICT systems in a private Date Centre
☑ SharePoint and Office 365
☑ All core infrastructure
☑ PSN and GCSx connections
☑ IoT(internet of things)
☑ BCP / DR resilience
☑ Secure facility
☑ Work from anywhere always on
☑ Consolidated suppliers

Mobile workers

- ☑ Secure access to all ICT systems
- ☑ Using Laptops, Tablets and smart phones On 4G connections.
- ☑ SharePoint used for all digital forms fed into IDOX, DMS and eDMS

High Speed Connection

4G secure connection

Data Centre / Cloud

☑ Firmstep platform for backend systems integrations and mobile forms
☑ IoT (internet of things)
☑ Self Service
☑ New refreshed Corporate web site
☑ New refreshed Internet site
☑ Skype Business
☑ Social Media feeds

Internet connection

Secure VPN connection

Home Workers

☑ Secure private access to all ICT systems
☑ using Laptops, Tablets and Smart phones using secure VPN connections.
☑ Smart phones used as extension to office number

Customers and Businesses

☑ Streamlined working with partners and businesses i.e. Social Care, Parking, Travel

Public Sector Partners

Internet connection

Council Members

☑ Secure access to internet
☑ Ease of home working
☑ Guest Wi-Fi

Timeline

2016				2017				2018				2019
Feb - April	May - July	Aug - Oct	Nov - Jan	Feb - April	May - July	Aug - Oct	Nov - Jan	Feb - April	May - July	Aug - Oct	Nov - Jan	

Business

- ICT staffing review
- Information Security and Governance GDPR
- Digital Strategy (Intranet web site redesign, Channel Shift, paperless Office, Scanning Archiving, DMS, Streamlined Business Processes
- IT Audit KPMG
- IT Audit KPMG
- ICT staffing review
- Firmstep, CRM light , E-Forms, Offline forms and Business Processes re-engineering

Gains

- 1st Class ICT Service delivery and Culture of Continuous improvement
- Mobile phone replacements
- Flexibility and Adaptability
- Cost savings and Efficiency gains

Applications

- TLC L and charges upgrade
- Housing System Version upgrade
- Leisure System Upgrade
- Microsoft Software Audit
- New Citrix Farm
- Uniform Upgrade
- HR / Payroll replacement
- Home and Mobile working
- Secure Email
- New SharePoint Intranet site
- New Internet E-commerce web Site
- Telephony review and upgrade of unified comms and Skype for Bus

Infrastructure

- Email Migration
- Supplier reviews
- Data Centre BCP / DR resilience
- PEN Test, PSN & Cyber security reassessment
- BCP Testing
- EE Contract Ren and Hands replacemen
- Telephony VOIP Upg 1
- Cyber Security Essentials Plus
- Telephony SIP
- Infrastructure review
- Firewall UTM upgrade
- WAN Upgrade
- Wi-Fi Extension
- Canon MFD Printing Renewal
- Microsoft EA Licence Renewal
- LAN Upgrade
- Active Directory infrastructure redesign
- Laptop replacements
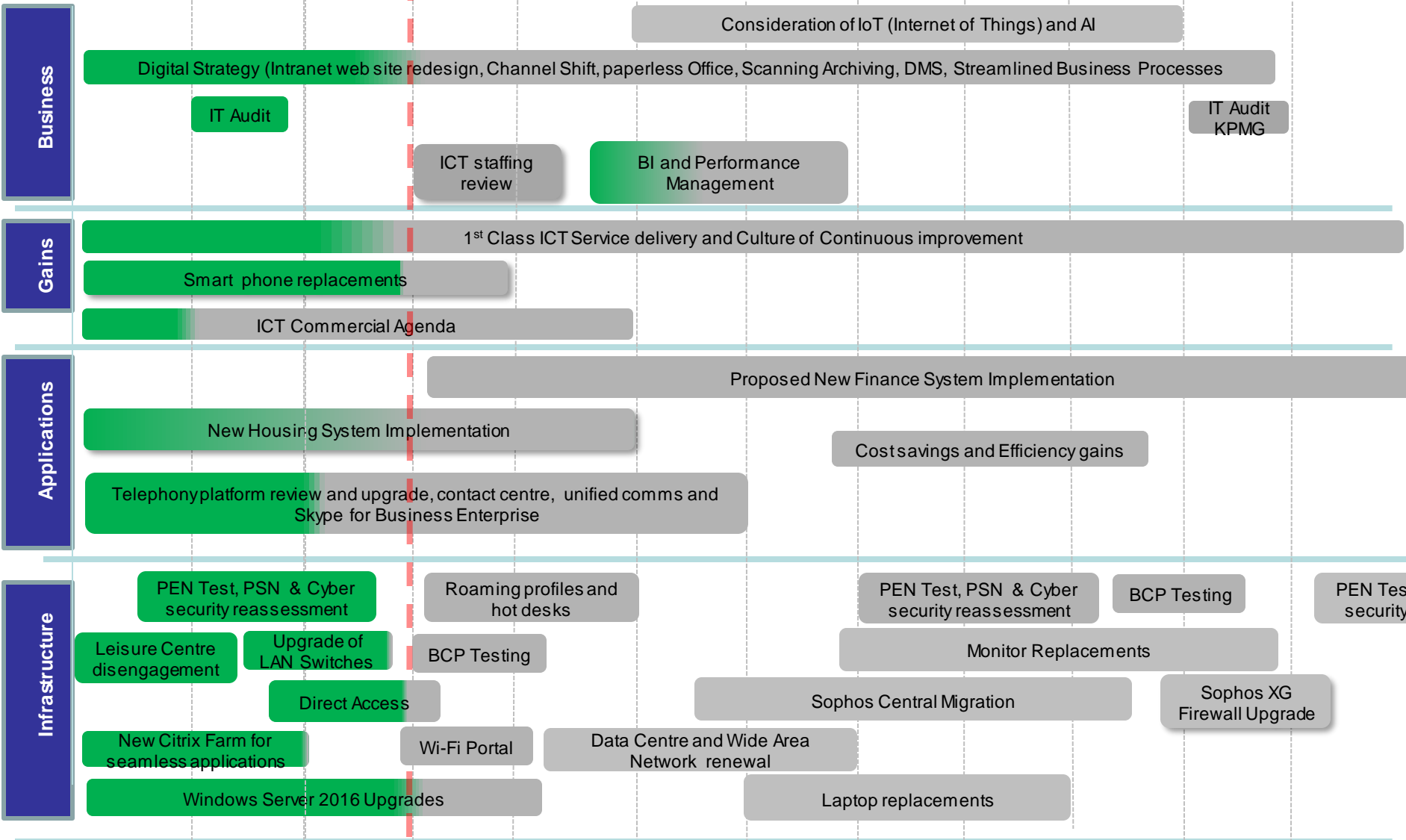- Review of ICT Processes
- Home working / Mobile working VPN
- Desktop replacements
- SAN Migration
- Monitor Replacements

Timeline

2019			2020			2021					2022
Feb - April	May - July	Aug - Oct	Nov - Jan	Feb - April	May - July	Aug - Oct	Nov - Jan	Feb - April	May - July	Aug - Oct	Nov - Jan

Business
- Consideration of IoT (Internet of Things) and AI
- Digital Strategy (Intranet web site redesign, Channel Shift, paperless Office, Scanning Archiving, DMS, Streamlined Business Processes
- IT Audit
- IT Audit KPMG
- ICT staffing review
- BI and Performance Management

Gains
- 1st Class ICT Service delivery and Culture of Continuous improvement
- Smart phone replacements
- ICT Commercial Agenda

Applications
- Proposed New Finance System Implementation
- New Housing System Implementation
- Cost savings and Efficiency gains
- Telephony platform review and upgrade, contact centre, unified comms and Skype for Business Enterprise

Infrastructure
- PEN Test, PSN & Cyber security reassessment
- Roaming profiles and hot desks
- PEN Test, PSN & Cyber security reassessment
- BCP Testing
- PEN Test, security re
- Leisure Centre disengagement
- Upgrade of LAN Switches
- BCP Testing
- Monitor Replacements
- Direct Access
- Sophos Central Migration
- Sophos XG Firewall Upgrade
- New Citrix Farm for seamless applications
- Wi-Fi Portal
- Data Centre and Wide Area Network renewal
- Windows Server 2016 Upgrades
- Laptop replacements

2022				2023				2024				2025
Feb - April	May - July	Aug - Oct	Nov - Jan	Feb - April	May - July	Aug - Oct	Nov - Jan	Feb - April	May - July	Aug - Oct	Nov - Jan	

Business

Consideration of IoT (Internet of Things) and AI

Digital Strategy (Intranet web site redesign, Channel Shift, paperless Office, Scanning Archiving, DMS, Streamlined Business Processes

IT Audit

IT Audit KPMG

ICT staffing review

Gains

1st Class ICT Service delivery and Culture of Continuous improvement

Applications

Proposed New Finance System Implementation

Infrastructure

PEN Test, PSN & Cyber security reassessment

PEN Test, PSN & Cyber security reassessment

BCP Testing

PEN Test, security re

BCP Testing

Desktop replacements and strategy

Wi-Fi Replacement

Firewall Security Upgrade

Windows Server 2016 to 2019 Upgrades

Local Area Network core upgrade

Laptop replacements

ICT Roadmap current position

ICT Team structure reviewed, with a "Flex", operating model

Microsoft Office 365 deployed and embedded into the organisation

No more "fire fighting", as inherent infrastructure issues now resolved.

ICT processes and procedures in place and reviewed regularly.

Change control process reviewed and embedded.

Monthly ICT updates sent to the business.

Onsite server room migrated to a tier 4 data centre, providing backup and high availability.

New wide area network (WAN) in place across all Council offices with backup circuits for redundancy.

Unified communications, telephony and contact centre replacement in flight.

Telephony fixed lines costs reduced by 50%, by moving to SIP.

ICT security is an agenda on the top table and Cyber security is part of corporate risk management.

Cyber security essentials PLUS renewed.

PSN security renewal completed.

Motivated and dedicated IT team who are engaged with the IT strategy and leadership.

IT is seen "as a value add service", with positive feedback from across the business.

Professional development plans in place for all members of staff.

IT team is working as a strategic enabler, with systems implementation projects.

Desktops, laptops all replaced with high performance machines, running latest software.

Consolidated suppliers, reducing cost and account management meetings to manage vendor relationships

ICT Roadmap updated to reflect a 5 year plan