NORTH HERTFORDSHIRE DISTRICT COUNCIL

INFORMATION TECHNOLOGY STRATEGY

2020 - 2025

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1 INTRODUCTION

1.1 **The aim of this Information Technology (I.T.) Strategy is to establish priorities for the future development of, and investment in, an information technology-based environment which will support the Priorities for the District, the business needs of the Council, its Members and Officers and provide improved access for the public to on-line services.**

1.2 The I.T. Strategy will create an environment that provides the means to:

- create effective and efficient business systems and processes
- communicate and collaborate with colleagues at anytime and anywhere
- support colleagues to meet their business objectives
- operate in a well-supported and secure environment

2 BACKGROUND

2.1 In the last fourteen years, the Council as a whole has reduced its revenue expenditure by some £17.7M and the implementation of new technology to streamline processes and reduce the number of staff required to deliver services has contributed towards this total. This has been achieved through a combination of implementing propriety software solutions and writing in-house software solutions and Applications, which work on Android and Smart Phone devices.

2.2 There is little sign that this trend will stop and the list of major projects for the Authority for 2019/2020 required I.T. involvement in 21 out of 26 projects listed.

2.3 In addition, the Team is at the forefront of seeking new solutions to further reduce costs and improve productivity, for example Artificial Intelligence (AI) and Robotic Process Automation (RPA) will capture data at source from electronic forms and populate back end databases. It is also capable of automating mundane manual processes, which will free up officer time. This will save both time and help eradicate errors from being made with double keying of information. This work promotes the Council's stated aim to bring about channel shift migration and promote more self help and use of on-line forms by customers freeing up more staff time and increasing output.

2.4 The use of I.T. has never been more critical to the day-to-day operations of the Council, so much so that hardly any service provided by the Council does not rely on technology in some shape or form to deliver its objectives.

2.5 The same can be said of the vast majority of the Council's customers who increasingly expect to be able to find information, order and pay for services and report incidents 24 hours a day.

2.6 The Team works against the background of stringent security requirements from the Cabinet Office, which are often at variance with the stated aims of the Ministry for Housing, Communities and Local Government around more flexible working. These requirements, which also show little sign of abating, represent a considerable challenge.

2.7 In setting out the strategy for the I.T. Service for the next five years it has to be recognised that this is a rapidly changing environment and priorities have to be regularly reassessed as new requirements are imposed on user departments and technological advances are made. This is therefore a document that will need to be kept under review and updated at appropriate times.

3 THE TEAM

3.1 The structure is shown at Appendix 1.

3.2 The Cabinet Member with responsibility for Information Technology is the Executive Member for Finance & I.T., Councillor Ian Albert. He is supported by the Deputy Executive Member for Finance & I.T., Councillor Sam North.

3.3 Direct line management responsibility rests with the Service Director – Customers, Howard Crompton.

3.4 Overall operational management of the Team rests with the Information Communications Technology Manager, Victor Godfrey who keeps in touch with I.T. industry developments, in Information Compliance and Technology and considers their value to the Council. He regularly liaises with customers and acts as the Authority's software licence controller to ensure that all software loaded on to the Council's network is properly and adequately licenced in line with the agreed Capital and Review budgets.

3.5 The Council is fortunate that it has highly skilled and experienced I.T. staff, which work in three Teams; Technical Services and Cyber Security, Business, Information Compliance & Asset Management and Network & Infrastructure.

3.6 Details of the Teams and their responsibilities are set down in Appendix 2.

3.7 The Council has taken the innovative approach to employ a Computer Science Graduate and a Computer Science work place student to enhance the capacity of the Team and to concentrate in particular on the development of AI, RPA and App Development. If successful, the Council will look to continue with this approach, which will give rise to opportunities to develop these technologies and branch out into iOS (Apple) App developments.

3.8 The skills and experience within the Team make it well placed to deliver the work programme envisaged for the next five years.

4 TEAM ETHOS

4.1 The I.T. Mission Statement enforces the commitment to support the Council's strategic priorities of:

- Be a more welcoming and inclusive council
- Build thriving and resilient communities
- Respond to challenges to the environment
- Enable an enterprising and co-operative economy
- Support the delivery of good quality and affordable homes

4.2 The Team's Mission Statement is:

To work with customers to implement, develop and maintain technology solutions that will help them to achieve their service aims and objectives, improve access for the public and the Council's strategic priorities.

4.3 The Team's objective is to enable customers to develop and implement solutions and work with customers to seek solutions that meet their needs, with the final decisions being taken

by the customer having confirmed with the Information Communications Technology Manager that the solution is compatible with the Council's network infrastructure and with any security requirements. The Team will provide help and advice for customers to make informed choices on the best solutions available to them, which could include in-house developments as well as proprietary products.

4.4 Service Departments with the assistance of the I.T. Information and Business Manager will be responsible for ensuring that a fully costed Business Case is produced, which meets corporate and/or business needs and for ensuring that any benefit realisation is monitored and met.

4.5 The intention will always be whenever possible to find solutions to business needs, not obstacles to prevent those solutions.

4.6 Customers are responsible for appointing system controllers for application systems run by them to maintain the systems, create users, allocate security levels, create passwords, produce output etc. that can be managed from the user interface.

4.7 I.T. will be responsible for database administration and any output that requires programming or system development skills.

Help Desk

4.8 Help Desk support for customers has been greatly enhanced by the implementation of Spiceworks, which is an application that enables the Help Desk to track the progress of calls and which also automatically advises customers of any change in status of their calls. This has reduced the number of "progress chasing" calls to the Help Desk, freeing up resources to actually deal with the content of the calls.

4.9 Help Desk hours have been extended to 07:45 a.m. to 17:00 p.m. which is complemented by the "Out of Hours" service for any major problems that may occur outside of the hours covered by the Help Desk.

4.10 The service intends to continue to promote reporting of Help Desk calls directly by customers through Spiceworks, so that the customers are able to track the progress of their calls without recourse to I.T. staff directly. 91.5% of calls are now being reported via the electronic reporting App and via the on-line Helpdesk Portal to the Help Desk.

4.11 The table below shows the I.T. Help Desk incidents over the last 4 years and how they have stayed around 6,000 to 6,500 per annum until 2019/2020, which saw a significant increase, due user confusion relating to the migration of Windows 10. A more normal frequency of reported incidents equates to an average of between 24 and 26 calls logged per day. The number of Service Requests has increased in the last two years which is due to all I.T. in-house work now also being logged:

Type	2016/17	2017/18	2018/19	2019/20 to 12/02/2020
Incidents	6,608	6,186	6,531	7,488
Service Request	1,472	1,442	1,532	1,831
Feature Requests	86	71	198	54
Information Requests	262	344	292	333
Totals	**8,428**	**8,043**	**8,553**	**9,706**

4.12 For clarity definitions of the above are:

- **Incidents** – A request to fix something that is not working for whatever reason
- **Service Requests** – A request for a service, product or feature that is available to other NHDC customers
- **Features** - Projects, upgrades, products or features that are not yet provided but have a business need and/or would enhance business capability if they were researched, developed and provided
- **Information Request –** I've got a question

4.13 There has been growth over the years for both Service and Feature request which is due to the amount of system changes and upgrades for departmental solutions. I.T. staff often work outside of core hours, upgrading the core infrastructure with security patches to the network so there is no detriment to the day to day services being provided.

4.14 One factor which can often cause increase in Incidents being reported is when new departmental applications or upgrades are rolled out throughout the Council. This supports the view that such applications should be thoroughly tested by departments before being released into LIVE databases and this should be part of any User Acceptance Testing (UAT) plan.

4.15 The Team has developed an on-line survey, which asks customers, who have used the Help Desk for their feedback in order to improve future service delivery. Survey responses are usually very positive.

Prioritisation of Project Work

4.16 Work will be prioritised based on the project's support for one of the following;

- strategic objectives
- requirements from legislative changes
- invest to save projects
- audit requirements etc.
- the amount of effort required by the Team compared with the expected impact.

4.17 This helps the Team to give realistic feedback to customers on when resources for any particular project are likely to be available and how long it is likely to take to bring the project to a conclusion.

4.18 Statistics on the number of customer-led projects over the last 2 years are;

1st April 2018 to 31 March 2019

Total projects	58
Total completed	41
Total still open	17

1st April 2019 to 28 February 2020

Total projects	64
Total completed	49
Total still open	15

4.19 These figures do not include the I.T. led projects, which form part of the I.T. Service Plan each year and typically number more than 20 such projects each year.

4.20 Often these projects, whether customer-led or initiated by I.T. will take many months to complete and require a substantial amount of pre-planning and research. Service Teams are encouraged to identify such projects at the earliest opportunity, include them in their Service Plans and advise I.T. as soon as possible of their likely involvement.

5 WHERE THE SERVICE IS NOW

5.1 The Team currently manages and maintains:

- Just over 300 different applications from large Corporate Solutions like IWorld, Idox, Integra 2, down to SID telephone directory which is an in-house written application.
- Dell Network Switches and WatchGuard Firebox Firewalls
- Servers and Types:
  - There are 6 Physical Dell PowerEdge XC730xd on the LIVE site and 5 x Dell PowerEdge XC730xd Servers running within the Live Service hosting 215 Virtual Servers
- Desktops – Currently there are 362 Dell Workstations
- Laptops - There are currently 26 Laptops in operation
- Tablets – As at 13 February 2020 there are 133 Tablets in use across the authority.

5.2 The replacement value for all the hardware is nearly £1M

5.3 The Council moved to virtualisation technology in 2007 using Virtualisation XenServer and more recently (2015) moved to Nutanix (Hyper Converged)/Hyper-V whilst also investigating cloud services as an alternative. These will be replaced in 2020/2021 as part of the planned and financed hardware refresh.

5.4 This period has also seen a large move towards Officers using their own personal devices for home working. This is not possible where staff access sensitive Department for Works and Pensions data, in which case only Council provided equipment can be used. There has been a major review of Laptop devices in the last 18 months which has seen the requirements for this type of technology drop from 149 down to the current level of 26. With Android Tablet technology coming to the forefront of the business world, the I.T. Service has started to pilot this technology, which also includes Tablet Mobile Device Management (MDM) which controls the device, sets profiles, restricts customers loading any Application they choose and allows for the Tablet to be remotely monitored or wiped if lost or stolen.

5.5 In the last three years the Team has had many notable achievements, too many to document in full. The following gives a flavour of these:

2017/2018

- Relocation of offices back to Town Lodge from the DCO
- Migration of Plantech to Uniform with IDox
- Phase 2 of the Mitel Phone System
- GDPR – Data Protection Preparation
- Relocation of Joint Waste Team to Buntingford Depot

2018/19

- Refurbishment of the DCO and relocation of all staff back from Town Lodge
- Relocation of Careline into the DCO and on to the Council's network
- MOD.Gov paperless Committee Project

- AV equipment – Council Chamber
- I.T. Restructure

2019/20

- Self Serve - In-house App development
- Windows 10 upgrade
- Upgrade of Information@Work
- Outbound Mail Contract
- De-commissioning of Town Lodge, Letchworth Museum and 25 Gernon Road (Print Room)

5.6 In recent years the I.T. Service has been subject to soft market testing for outsourcing and has been through an extensive review to business case stage to test whether it should enter into a Shared Service arrangement with East Hertfordshire District Council and Stevenage Borough Council. In both instances, it was not considered cost effective to go down either of these two routes.

5.7 In line with the Council's Medium Term Financial Strategy, the Council will explore options for Outsourcing and Shared Services where these can show financial benefits to the Council with no reduction in quality to the current services being delivered.

5.8 Aligned to this, the I.T. Service has undertaken work on behalf of other Councils, which has generated around £112K in income in the last five years. The service will continue to offer its services externally provided this does not affect service delivery to in-house customers.

5.9 The I.T. Service will also look to utilise the extra capacity of the server room at the DCO and within the DR server room at Unit 3 with a view to "renting" rack space to other external organisations.

5.10 Since March 2018, the Careline I.T. Service and DR have been migrated into the main core network and infrastructure which saved on costs for external support.

5.11 In summary, the service is now in a position where it has established its new virtual server farm at the DCO, restructured the Team in September 2018 to be better focussed on its primary objectives, established a stable infrastructure, re-organised its Help Desk function, established a process to prioritise projects and complied with the latest Government Security standards and is well placed to move forward with its programme for the next five years to provide technological solutions to improve service delivery to customers and reduce costs to the Council.

6 PRIORITIES MOVING FORWARD

6.1 Key priorities for this Strategy to address in the next five years in no order of priority include but are not restricted to the following:

6.1.1 **<u>Areas for new development</u>**

- Artificial Intelligence (AI) and RPA technology
    - AI and RPA technology is now being used across the world proving that there are huge benefits for customers finding answers to their queries quicker. This will also free up staff time that can either be utilised in other areas of priority work or be taken as efficiencies.

- Channel Shift
    - The government's Digital Programme is continuing to encourage Local Authorities to join up their services to make them seamless. This will form a major strand of work over the life of this strategy and will involve the development of a Channel Shift Strategy and fully costed Business Case.

      Channel Shift is a specific project being led by the Service Director - Customers. Considerable work has been done to promote this in particular by the provision of on-line forms and on-line payments. There is much work still to do.

      I.T. will work with user departments to:

      - Develop an on-line customer portal for customers to access services and information specific to them
      - Implement the use of AI to automate certain processes and develop chat box technology to assist customers to access information quickly and accurately
      - Develop with customers on-line forms for both the capture of data and updating of back office systems
      - Find solutions where possible for data captured by existing on-line forms to update back office systems
      - Support the on-going enhanced functionality of the on-line payment system
      - Support the implementation of on-line reporting applications along the "My Council" model
      - Write App's for Android and iOS tablet usage, which support better access to services for customers. Examples are an App to enable dictated text to be transmitted over a secure line directly into the Council and an App to allow internal customers to report Help Desk calls from their mobile phones
      - Implement propriety App's for example to report noise nuisance

      There are clear benefits for the Council and customers by taking this approach:

      - Reductions in the number of customer contacts with Officers can result in either cashable efficiencies through a reduction in staff levels or non-cashable efficiencies by better use of the resources.
      - Updating of back office systems from information supplied directly by customers will reduce the risk of inputting errors
      - It will result in faster processing times benefitting customers in having their queries dealt with faster and the Council by updating systems and producing bills, invoices etc. in quicker time
      - It will give customers the flexibility to report changes, make payments etc. at a time that suits them
      - Allowing customers to complete all their business with the Council from a single log-in

- Cloud and Hosted services
    - The authority will continue to explore options available for all new projects to ascertain if there are any financial savings where cloud and hosted services can be used. The Council has already moved some of its services into the cloud which benefits and complements flexible working. For Local Authorities, we can only use cloud services that are approved by the Crown Commercial Services (CCS) G-Cloud Framework

- Cyber Security

- Cyber security represents one of the biggest risks facing any public authority and the I.T. Team has made this a top priority. It's extremely important that the I.T. Department keeps abreast and works closely with other Local Authorities across the District to keep up-to-date with new cyber threats. We have agreed within the HertsLink Group to setup a sub regional Hertfordshire Warning Advice Reporting Point (WARP) which works closely with the National Cyber Security Centre (NCSC). This is vitally important work to keep our infrastructure and data secure

- Infrastructure, software and equipment
  - This complements and supports the work mentioned above regarding Cyber Security. Although this is on-going work and very much part of the "business as usual", it is so important that it needs to be emphasised in the strategy moving forward. This involves ensuring regular patching, refreshing of hardware once it has reached end of life, ensuring that software is properly licenced and up-to-date and keeping up-to-date with industry developments

- Environmental implications
  - Environmental implications will continue to be at the forefront when procuring new equipment. The trend within the industry is for continuous improvements in this area and the level of carbon emissions is taken into consideration with any procurement

- Disaster Recovery
  - The disaster recovery site at Unit 3 is relatively new, having been established in December 2016. This coincided with the move from the DCO to facilitate its refurbishment and enabled the Careline disaster recovery to be relocated from the old Committee Room 3 to the new site at Unit 3. It has yet to be used in a live corporate environment and it is tested every quarter. It is used by Careline every month when their office based servers are being patched. It is essential, as an insurance policy, that this facility is always readily available should it ever be needed

- Project Management
  - The procurement and implementation of business solutions are the responsibility of User Departments. The I.T. team will provide guidance and developers to implement chosen solutions. All purchases of software and hardware have to be approved by the I.T. Manager or his/her nominated representative to ensure compliance and compatibility with licencing, infrastructure and security requirements

- The Council's Strategic Priorities
  - I.T., like the rest of the Council will continue to work to and provide solutions that complement the Council's strategic priorities. This will involve ensuring that any business case for new technology has a strategic fit with the Council's priorities

- Supporting Flexible Working and Accessibility for Members and Officers
  - There have been huge strides made in the last eight years to provide the infrastructure and promote flexible working. We now have around 80% of officers with a home working capability, which has helped to reduce the number of staff occupying the DCO resulting in the freeing up of the 2nd floor for commercial letting. The intention is to implement Office 365, which will enable users to access the network via a tablet or other remote device and to share documents and communicate with each other remotely and in real time. (Collaboration). It is also intended to implement video conferencing to complement the conference calling

facilities already available in the DCO. This will result in less travelling for Officers, further reducing the carbon footprint

- Information Compliance – GDPR (Data Protection Act 2018)
  - The implementation of GDPR in 2018 was a big challenge for the Council. This was less in terms of actual compliance but more around being able to document that we were compliant. The challenges moving forward are around being able to "police" continuing compliance with GDPR and the Data Protection Act 2018 and to embed within the culture of the organisation the need to delete data once its intended use has been completed, in line with the Retention Schedules. Automated disposal solutions are in use in a number of the Council's core application systems and work will continue to ensure that these are effectively used and where no such solutions are available.

6.1.2 In establishing its priorities for the next five years, the following has to be taken into consideration where appropriate:

- Does the solution support the Council's priorities?
- Does the solution meet customer requirements?
- Can the solution be accommodated on the Council's network?
- Does the solution meet the Cabinet Office security requirements both current and future?
- Does the solution meet legislative requirements particularly around data retention and management?
- Is it more cost effective to devise the solution in-house, through a propriety application or outsource the solution?

6.1.3 Channel shift and the development of AI and the use of robotics is high on the Council's agenda and investment will be required to ensure a successful implementation, which will improve service delivery, ensure that customers get information more quickly and generate savings for the Council.

6.2 In addition, arrangements have to be put in place to manage and refresh existing assets to ensure that they are fit for purpose:

Infrastructure, Software and Equipment

6.2.1 The current Infrastructure was procured over four years ago and there is a Capital investment to upgrade the Servers, SAN and Storage Blades within the 2019/20 budgets, however this will be moved to 2020/2021 financial year, because of the need to migrate to Windows 10.

6.2.2 The Council has a Microsoft Enterprise Agreement (MEA) which runs until March 2022, which allows the Council to upgrade to all the latest Microsoft Solutions that are currently within our MEA. The intention is to migrate to Office 365 and then carry out a further review of all the software Applications that use Microsoft Office Products with a view to utilising the latest versions of Microsoft Office to enable even more flexible working.

6.2.3 As part of the RM3733 Framework Agreement the Council entered into a fixed price contract for various Microsoft Solutions including Office 365, Windows Operating System etc. under a 3-year contract. The contract was entered into in December 2018 protecting the prices from the Microsoft 18% price increase in January 2019..

6.2.4 During 2018/19, the Council took the opportunity to review the number of licences it requires, bearing in mind the reduction in the Council's workforce and within any new contract will be looking to further reduce licences and costs by using Open Source solutions.

6.2.5 For example, the Council has 20 Microsoft Project Licences at a cost of £10k p.a. In line with the intention to utilise Open Source solutions wherever possible, the Team has evaluated a free product called Project Libre and other such solutions will be sought and implemented wherever possible.

6.2.6 The table below shows the projected I.T. spend for the next five years to refresh equipment in line with the intention to sweat assets for the longest possible period and the aim to decrease the number of laptops in favour of Desktop and Tablet devices where appropriate.

NHDC FUTURE ICT INVESTMENT COSTS 2020-21 TO 2024-25

		2020/21 £	2021/22£	2022/23£	2023/24£	2024/25£	Total £
Infrastructure	Dell Servers	65,000				70,000	**135,000**
	New Blade Enclosure	32,000				40,000	**72,000**
	Replacement SAN	110,000				115,000	**225,000**
	Core Backbone Switch					35,000	**35,000**
	Data Switch Upgrade	15,000				18,000	**33,000**
	Cabinet Switches - 4 Floors		18,000			18000	**36,000**
	Security - Firewalls	13,800		14,000		16,000	**43,800**
	Back-up Diesel 40 KVA Generator (DCO)	20,000			25,000		**45,000**
	40 KVA UPS Device or Battery Replacement		10,500		12,000		**22,500**
	Total: Infrastructure	**255,800**	**28,500**	**14,000**	**37,000**	**312,000**	**335,300**
PC's, Laptops, Thin Clients	PC's - Refresh Programme	17,250	17,250	17,250	17,250	23,000	**92,000**
	Additional PC's - Support Home Working	10,500	12,937	10,500	12,937	15,000	**61,875**
	Laptops - Refresh Programme	6,000	6,000		5,000		**17,000**
	Tablets - Android Devices	12,000	15,000	18,000	12,000	16,500	**73,500**
	Other						**0**
	Total: PC's, Laptops, Thin Clients	**45,750**	**51,187**	**45,750**	**47,187**	**54,500**	**189,875**
Storage	Additional Storage	25,000		12,500			**37,500**
	Back-up Storage	13,000		13,000		14,000	**40,000**
	DR Hardware Refresh Inc UPS Battery Pk				55,000		**55,000**
	Total: Storage	**38,000**	**0**	**25,500**	**55,000**	**14,000**	**118,500**
Software	MS EA + SQL Licence Costs	122,730	122,730	130,000	130,000	130,000	**635,460**
	Total: Software	**122,730**	**122,730**	**130,000**	**130,000**	**130,000**	**635,460**
Other	Virtualisation						0
	Crystal Reports						0
	Security Authentication - Tokens	15,500		12,000		17,500	45,000
	Total: Other	**15,500**	**0**	**12,000**	**0**	**17,500**	**27,500**
		477,780	**202,417**	**227,250**	**269,187**	**528,000**	**1,306,635**

6.2.7 The Council supplies its Officers with a mixture of desktop PC's, laptops and tablets. Requirements differ from Officer to Officer depending on the nature of their work, whether they are home workers and whether they supply any of their own equipment.

6.2.8 The Council encourages home working staff to use their own equipment where possible. This is in accordance with the Ministry for Housing, Communities and Local Government's strategy "Bring Your Own Device" (BYOD). Under existing rules this is not possible for staff in Revenues & Benefits who access Department for Works and Pensions (DWP) data as there is a requirement for this to be accessed only on Council owned equipment.

6.2.9 The Council will continue to provide equipment to those working at home who do not have or choose not to use their own equipment or who are affected by the DWP requirements; however this is restricted in terms of its accessibility to certain web sites, the use of personal email and the ability to download data or applications. The Council provides equipment to 105 staff for homeworking purposes.

6.2.10 There is a clear cost saving for the Council in promoting BYOD as there is no requirement to provide equipment and many Officers welcome the fact that they do not have to have two sets of equipment in their houses.

6.2.11 Laptops are provided to staff who generally work in several locations, however these are more expensive than desktop PC's, have a shorter shelf-life and are not recommended for prolonged daily use. For those reasons, the preference is to supply desktop PC's both in the District Council Offices and for those staff requiring Council equipment at home. The implementation of Citrix allows any Officer to access their network account from any desktop PC linked to the network or any home based desktop PC loaded with the Citrix client software, which generally negates the need for laptops unless there is a specific need to work in multiple locations.

6.2.12 I.T. will work with and discuss the individual requirements of Officers when it comes to the provision of equipment, including specialist equipment recommended by the Health & Safety Officer or Occupational Health Advisors. The intention would not be to prevent the allocation of a laptop, where this would be the difference between an Officer being able to work at home or not.

6.2.13 As part of the strategy to move to more "paperless" meetings, there are currently 133 tablets issued to both Members and Officers across the authority to support mobile working and Paperless Meetings.

6.2.14 The provision of Citrix and its thin client technology has allowed the Council to "sweat" its desktop PC and laptop assets considerably longer than before Citrix was introduced. Typically now a desktop PC will last around eight or nine years before replacement, rather than three years previously. This is however, dependent on there being no de-supporting of operating systems requiring the purchase of new hardware (i.e. Windows XP, Windows 7 etc.) Laptops generally require replacement after 3 years. The intention would be to carry on with these refresh periods. Mobile devices such as tablets need to be refreshed every 2-3 years as the battery packs start to lose holding the charge in these periods.

6.2.15 Nevertheless, with 362 Workstations and 26 laptops plus the expected increase in tablet provision, a refresh programme is necessary and the following replacement costs are expected in the next five years:

Year	Desktop PC's - Office	Desktop PC's – Home	Laptops	Tablets
2020/2021	£17,250	£10,500	£6,000	£12,000
2021/2022	£17,250	£12,937	£6,000	£15,000
2022/2023	£17,250	£10,500		£18,000
2023/2024	£17,250	£12,937	£5,000	£12,000
2024/2025	£23,000	£15,000		£16,500
Totals	**£92,000**	**£61,875**	**£17,000**	**£73,500**

6.2.16 The Council uses the following Government Frameworks and various Lots for procuring Hardware and Software:

- Crown Commercial Services - CCS
- Herts County Council – Supply Services (In-Tend)
- Pro 5
- ESPO
- G-Cloud

6.2.17 The intention is to continue using Framework Agreements where possible to ensure that the Council is obtaining best value for money with its I.T. procurements.

6.2.18 Any specialist software, not available through a Framework Agreement will continue to be procured in line with the Council's Financial Regulations.

6.2.19 To further ensure value for money, the Council will continue to use Open Source software, where this meets the requirements of customers. There at least 33 examples of the use of Open Source software currently in use.

6.3 The Strategy needs to address the environmental implications of the use of technology on a day-to-day basis.

Environmental Implications

6.3.1 The Council has always taken the environmental implications of its on-going I.T. Strategy seriously. The Council's declaration of a climate emergency in May 2019 has created a clearer focus by the Council generally to meet the objective of becoming carbon neutral by 2030. Even before May 2019, the environmental implications of any I.T. developments and procurements were assessed before proceeding and this will continue to be the case. In recent years the virtualisation and reduction in the number of servers has resulted in potential energy savings of £5,791 per annum. The savings in Co2 used amounts to:

- **Non Virtual** – 163,986 kWh = 88,139 kg CO2 = 88 Tonnes Co2
- **Virtual Server Estate** – 84,096 kWh = 45,200 kg CO2 = 45 Tonnes Co2

6.3.2 This is almost a 50% reduction in CO2. The average CO2 emissions per household are 5.5 Tonnes.

6.3.3 Whilst the new server room at the DCO is too small to come under the provisions of the Eco Design and Energy Saving Products Directive, it was designed to maximise the most efficient use of the air conditioning units.

6.3.4 Halogen gas is no longer used for fire suppression in the server rooms and this has been replaced by the more environmentally friendly FM200 which is a clean agent product.

6.3.5 In addition, policies such as promoting BYOD and paperless meetings also have considerable environmental implications.

6.3.6 The technology adopted by the Council to facilitate home and remote working adds considerably to the reduction in the Council's carbon footprint by reducing the amount of travel that Officers have to complete in getting to and from the Council Offices.

6.3.7 The Council has implemented call conferencing facilities and will be implementing video conferencing into all but the smallest meeting rooms in 2020/2021 to further reduce the need for officers and Members to travel into the DCO to attend meetings.

6.3.8 The Council has recently renewed all the Multi Functional Devices (Printer-Copier) and the carbon footprint has reduced by 1.2 tonnes of C02e, or 23%:

- **Old Devices** – 1,874.6 kWh = 5.2 tonnes of C02e
- **New Devices** – 1,441.1 kWh = 4.0 tonnes of C02e

6.3.9 The Council purchases energy saving devices (servers, desktops, monitors, tablets, & laptops) when procuring equipment and will continue to do so.

6.3.10 The Council uses a specialist I.T. Disposal Company called Ecosystems who are ADISA ISO9001, ISO14001 and ISO27001 accredited in accordance with the UK & EU WEEE Directive for all disposals.

6.4 There are a number of functions, which could be considered as "business as usual" but because of their importance to the delivery of the I.T. Service, they need to be considered in this Strategy going forward:

Disaster Recovery & Business Continuity

6.4.1 The I.T. Disaster Recovery strategy, which forms part of the wider Council Business Continuity Planning is to download data from the LIVE environment across a dedicated 10Gb data link into the secure data centre at Unit 3.

6.4.2 As the DCO is connected via a Virgin Media Broadband link, Unit 3 has got a dedicated BT Broadband link installed in the event of Virgin Media data loss in Letchworth.

6.4.3 Typically, it will take 4-5 hours to get the DR services up and start the recovery of the priority systems and the same time to restore them to the network following resolution of the disaster. Consequently, unless the network is likely to be out of commission for more than 2 days, it was not worth invoking any Disaster Recovery provision.

6.4.4 In 2017 the Council built its own Disaster Recovery Centre based on the Cabinet Office, PSN security standards, which has CCTV, door entry system, fire suppression system (FM200), heat sensors, 6 hour UPS system, air condition system and text alerts.

6.4.5 The Main LIVE Data Centre (at the DCO) is supported by a 12 hour UPS system which is also supported by a 24x7 Diesel Generator which automatically starts and stops on power

loss. The DR Services are fully tested every quarter and the diesel generator is started every month.

6.4.6 The Disaster Recovery Centre is supported by a six hour stand-by Uninterrupted Power Supply to deal with spikes or loss in power.

Project Management

6.4.7 The I.T. Team has a number of Prince2 Foundation and Practitioner qualified staff, who can manage projects of various sizes and complexity. Prince2 criteria will generally be used to manage projects but a common sense approach is adopted to determine the degree of compliance depending on the complexity, cost and potential risk associated with any project.

6.4.8 I.T. Project Managers will be allocated to projects based on an assessment of the complexity, associated risk and likely duration of the project based on an initial business case submitted by the customer.

6.4.9 Priority for implementation of projects will be determined by the criteria adopted at 4.16 above.

6.4.10 All acquisitions will be subject to the Council's Procurement Rules.

6.4.11 I.T. hardware and software must be purchased through the ICT Manager or his/her designated deputy to ensure compliance with licencing requirements and to ensure that the Council's asset register, which contains costs of items and Insurance values, is kept up-to-date.

6.5 The I.T. Strategy needs to support the Council's Strategic Priorities and all projects are reviewed to ensure that these priorities are being met.

The Council's Strategic Priorities

6.5.1 As previously stated, the I.T. Mission Statement enforces the commitment to support the Council's strategic priorities of:

- Be a more welcoming and inclusive council
- Build thriving and resilient communities
- Respond to challenges to the environment
- Enable an enterprising and co-operative economy
- Support the delivery of good quality and affordable homes

6.5.2 Significant numbers of customer-led projects intended to meet these priorities require I.T. involvement and this is a major consideration when prioritising projects.

6.5.3 Customers have a role to play in ensuring that I.T. is involved at the earliest possible stage to evaluate any possible I.T. solution to ensure that it can be supported on the Council's network and meets all security requirements.

6.5.4 The final decision on any implementation will be that of the user department provided the criteria around network compatibility and security are met. I.T. will support customers in making that decision.

6.5.5 I.T. will contribute to the strategic priorities by ensuring that optimum value for money is achieved by maximising the life of assets, developing solutions in-house when this is the most cost effective option, assessing the environmental implications of any I.T. procurements and supporting applications which promote channel shift and self-help through the Council's web site.

6.5.6 I.T. can also be used to contribute towards the Council's strategic objectives in the following ways:

- By continuing to use technology to reduce costs with the continuing support of customers
- By exploring emerging technology to reduce costs and improve customer service
- By continuing to work with the Communications and Customer Services Teams to develop the web site and implement more on-line forms to promote self-help by customers and on-line services
- By continuing to work with customers to deliver technological solutions that deliver what customers want
- By continuing to support flexible and remote working to provide staff with the solutions that work best for them
- By continuing to develop solutions for Members that best meet their needs

6.6 I.T. has supported the various office accommodation moves in the last nine years and although the moves themselves have been completed, there continues to be challenges in ensuring that the provision of I.T. within the Council's buildings meets the requirements of users.

Office Accommodation

6.6.1 I.T.'s on-going involvement in this will be:

- To support the Office Accommodation Strategy ensuring that as part of the refurbishment, access to the Council's network is available from fixed and hot desks, touch down points and through Wi-Fi provision in the newly refurbished Council Offices
- To be in a position to offer a Managed Service to prospective third party occupants of part of the newly refurbished Council Offices, should the Council decide to offer this
- To promote the take up of more flexible and home working through the provision of equipment and applications, which support this
- Subject to approval of a viable business case being established, supporting the Strategic Priority to "Respond to challenges to the environment" by providing more video conferencing equipment to help reduce the need to travel to meetings and facilitate face-to-face meetings with home workers.
- Maintenance of the hearing loop facility installed in the Council Chamber for those who are hard of hearing

6.6.2 The refurbishment of the Council Offices and recent changes in legislation has given an ideal opportunity to provide an audio visual facility for the recording of meetings, which can be made available on the web site to promote more openness in the decision making process and help with any matters of doubt over what was said at any particular meeting. The Council has installed 4 x 90" screens in the Council Chamber for the display of maps and documents during meetings, which will be especially helpful to the Planning Committee.

6.6.3 Two portable audio devices are available for the recording of meetings, which take place away from the Council Chamber.

6.7 Associated with the provision of technology in the office environment is the need to support flexible working for Officers and accessibility for Members.

Supporting Flexible Working and Accessibility for Members

6.7.1 Flexible Working including home working is now well established within the Council.

6.7.2 There are currently 332 staff employed by the Council and 306 of these have a home working capability.

6.7.3 Utilisation of this is consistent with an average of 86 staff logged in from home at any one time.

6.7.4 To support the Office Accommodation Strategy and in particular the wish to free up space within the Council Offices to enable this to be let to third parties, further provision of flexible and home working needs to be encouraged, whilst not deviating from the Council's stated position that this is entirely optional for staff that qualify, and provided that the needs of the business are met.

6.7.5 There are a number of staff who have a home working capability but do not use this on an "as able" basis but more a "fixed" date basis. Rather than work at home when diaries allow, there is a tendency to work at home at a fixed time, say every Wednesday. At the same time, they retain a desk within the Council Offices.

6.7.6 There is a need for the Council to be clearer in its policy intention in this regard, but more home working could be encouraged by I.T. investigating the possibility of better conference calling functionality. There are dedicated conference calling units in all the large meeting rooms across the DCO.

6.7.7 Following the recommendations of the Overview & Scrutiny Task and Finish Group on the use of Citrix, I.T. will continue to work with Members to identify I.T. solutions, which meet their individual requirements.

6.7.8 The practice of auto-forwarding emails is not permissible in accordance with the Information Security Policy and PSN security requirements.

- Failure to comply with the Public Sector Network accreditation will put the Council's business access to Government data at risk.
- Failure to comply with Data Protection requirements, particularly around the retention of personal data.
- Difficulties in complying with Freedom of Information requests.
- Requirement for Members to reply from their own personal email accounts.

6.7.9 I.T. will continue to work with Members to enable them to access their Council email accounts directly from a mobile device such as a mobile phone or tablet without the need to go through the dual authentication process. This will be achieved by using the functionality within Microsoft 365, which will allow access to Microsoft Exchange (Outlook) via the cloud. Biometric technology to access devices rather than the use of passwords will be implemented. This will remove the need to auto-forward emails.

6.8 I.T. is a fast changing landscape with new technology being developed on a daily basis. It is vital that our I.T. Team keep up-to-date with these developments and that will continue to be an important aspect of the I.T. Strategy going forward

Assessing Emerging Technology

6.8.1 Keeping up-to-date with emerging technology is a key skill of I.T. professionals and this Council is well advanced in terms of identifying and implementing technology that will support and improve the services that the Council delivers.

6.8.2 It is essential that this continues and that the Council has the flexibility to approve expenditure where this can be used on an "invest to save" basis to implement technology, which will in the short, medium or longer term realise cash savings.

6.8.3 Primary responsibility for this rests with the ICT Manager and other members of the Team will support this by recognising opportunities when they arise.

6.8.4 The use of Cloud technology is an area that will need careful consideration. Whilst this is commonly now used by many businesses, there are restrictions as far as Local Authorities are concerned in terms of security requirements and cost.

6.8.5 Current Cabinet Office security standards make it difficult for Councils to utilise Cloud Technology for the storage of personal or sensitive data. This data can only be held in the Cloud where the supplier has been approved by the Crown Commercial Services (G-Cloud). However, this does not preclude using other Cloud technology for data that is not personal or sensitive. The potential benefits of this technology make it essential that its use even for personal and sensitive data using the Crown Commercial Services (G-Cloud) is properly researched, evaluated and if feasible, implemented.

6.8.6 The cost implications also need careful consideration. In addition to any storage fees for using a Cloud facility, there are the additional communication costs of sending and retrieving the data, which have to be weighed up against the cost of storage on-site.

6.8.7 The majority of uptake for Cloud storage for data that is not sensitive, personal or confidential to date has been adopted by larger Authorities, where volumes make it more cost effective as part of their Document Management and Business Continuity of storage of data.

6.8.8 The cost to have a Live Streaming 1G Data Link from an Amazon Azure Hosts Cloud back to a physical building will be in the region £28k p.a. at today's prices. It will also require an additional link for resilience which again is in the region of £28k p.a. based on a 3-year contract. Total estimated costs for 3 years will be around £168k. These costs have come down considerable in the past 2-3 years.

6.8.9 I.T. is progressing a Web Map Layers project to enhance the Corporate Web services and various App's which are being written by the in-house ICT Team. This will allow pictures and coordinates to be available if required to support calls and enquiries from the public.

6.8.10 The GIS system will be used to provide digital mapping not only to Services within NHDC, but also to partners and to customers. The integration of GIS mapping into solutions will make it easier for customers to report matters such as fly-tipping, missed bins etc. and promote greater use of mobile working. The Council is working with some Parish Councils to produce Digital Map Overlays.

6.8.11 Other emerging technology that will be assessed includes:

- Additional Shareware Software Solutions

- New emerging Desktop and Tablet Technologies

6.8.12 This is of course an area that is constantly reviewed and will continue to be so.

6.9 The importance of Information Management was highlighted during the lead up to the implementation of GDPR in May 2018.

Information Management

6.9.1 Information Management is a key area for the Council to tackle requiring the cooperation of both Officers and Members.

6.9.2 To achieve this, the following needs to be addressed:

- Unnecessary retention of data
- Management of documents to prevent multiple copies of the same document being retained
- Better access to documents using tablets for Officers who require access away from their desktops
- Better enforcement of the use of encrypted emails for sending personal and sensitive data

6.9.3 The Council retains vast amounts of data both within its major application system such as Revenues and Benefits, Planning, Environmental Health & Licencing, etc. and also within network drive folders managed by individual Officers and a small number of Members.

6.9.4 Failure to retain this data in accordance with the Data Protection Act 2018, can lead the Council open to enforcement action (enforcement notices, audit, penalty notices and prosecution). This also makes complying with Freedom of Information and Subject Access Requests more difficult to manage and puts a strain on the Council's data storage capacity. Previously recorded and monitored as a Risk, compliance with the Freedom of Information Act, Environmental Information Regulations and the Local Government Transparency Code still generates large numbers of requests placing high demand on the Team. Effective implementation of processes, procedures and working arrangements has allowed the risk to be managed down to Business as Usual. However, the unnecessary retention of documents (whether physical or electronic) remains a risk and has a significant and increasing storage cost implication for the Council.

6.9.5 There is reluctance amongst some Officers to delete obsolete data on a "you never know when it may come in useful" basis or for purposes of possibly justifying a particular action some time in the future, or because the task never gets to the top of their "to do" list. This is a practice that the Information Team will be targeting to reverse.

6.9.6 I.T. has introduced space quotas within Outlook and on the G: and H: Drives. Work has also taken place using Active Navigation to remove duplicate copies of documents on the network. As Information@Work is used more and more for the storage of information, its built-in Destruction Module can also be utilised to manage the deletion of documents as they pass their retention period.

6.9.7 To improve this still further, it is intended to develop and implement the following:

- Roll out to the remaining service areas of the Council's Document Management System, Information@Work

- Set each folder type with destruction dates within the Destruction Module within Information@Work which relates to the Retention Schedule.
- Continued use of Active Navigation to identify duplicate and obsolete documents within the network drives
- Development of applications to be used as project libraries for project based work
- Continued roll-out of Email Encryption software to all customers
- Ensure that the Data Retention Schedules are complied with

6.9.8 The roll out of Information@Work to the entire organisation will also assist with out-going mail contractor DSI to ensure that any mail is automatically stored with Information@Work at the point it is sent for printing.

6.9.9 The Council needs to work towards a position where duplicate data is removed and retained in a more controlled environment such as project folders using the Information@Work solution rather than the G: and H: Drives. Pilot schemes are currently being deployed to assess the achievability of these aims.

6.9.10 The Council has moved a long way in protecting emails and data with encryption and over the past 18 months has been working with organisation of the new TLS encryption service between Mail Exchange Servers. There are currently 171 companies listed with this functionality, which is growing daily.

6.9.11 There also has to be better management of the requirement to agree Data Sharing Protocols in accordance with the Council's Data Assurance Policy where data is shared with third parties. This is a requirement built into all new business cases supporting the exchange of data in any form with third parties.

6.9.12 I.T. will work with the Council's Data Protection Officer to ensure that processes and technology are in place to reduce the risk of any Data Protection breach.

7 RISKS

7.1 The Council, along with most businesses today is highly dependent on its I.T. delivery and consequently there are risks associated with the management of any I.T. Service. These can be divided between risks to the delivery of the service and those linked to the service itself.

7.2 Risks to the delivery of the service

Risk	Probability	Impact	Mitigation
Heavy work loads	2	3	Staff encouraged to work flexibly and work loads are reviewed regularly
Staff retention	2	3	Restructure recently completed. Every effort made to ensure work is shared evenly in terms of complexity and variety
Failure to keep up-to-date with the changing environment	1	3	Senior Managers have access to industry publications. I.T. Manager attends HertsLink meetings. Staff regularly attend Microsoft training events
Cyber Security	1	3	Ensuring that all patches on servers and firewalls are kept up-to-date. Keeping up-to-date with alerts and industry improvements

7.3 **Risks linked to the Service**

There are a number of I.T. related Risks on the Council's Risk Register, which are regularly reviewed and updated. The risks identified are:

- Risks relating to Data Protection
- Security through the Public Service Network (PSN)
- Cyber Risks

7.4 Full details of these risks are identified at Appendix 4.

8 CONCLUSIONS

8.1 The intention is to deliver benefits through the use of technology for stakeholders:

8.1.1 **For Customers**

- By developing on-line self help solutions, available 24 hours per day
- By making it easier to access information through the web site
- By making accessible, safe and secure services available
- By developing Applications promoting services which are scalable for mobile devices
- By supporting Customers to develop solutions, which improve service delivery to customers
- By making it easier to pay for services on-line
- Make the systems more reliable, easier to use, quick and responsive

8.1.2 **For the Council**

- By using technology to reduce costs and deliver value for money – effective, efficient and economic I.T. solutions
- By using technology to make Officers more productive
- By managing data to reduce the risks of non-compliance with Data Protection requirements
- By procuring hardware and software solutions at the best prices
- By utilising in-house skills where appropriate
- By promoting environmentally friendly solutions
- By making it easier for customers to pay for services on-line
- By providing profitability i.e. commercialisation, offering rack space to outside organisations etc?

8.1.3 **For Members**

- By supporting equipment that best meets the business needs
- By providing or developing solutions that better use technology such as paperless meetings, Members App, I.T. Helpdesk, Learning Management System (Growzone)
- By providing support to Members where required

8.1.4 **For Officers**

- By working with Customers to develop solutions that benefit their services
- By providing equipment that best meets their business needs
- By promoting better use of flexible working

- By improving data storage capabilities to make it easier to manage data
- By providing the degree of I.T. support required to enable other services to become more profitable, changing the ways in which we can seek external partners/deliver services differently
- By increasing the ability of I.T. to configure and support in-house solutions.