REPORT TO:	**FINANCE & MANAGEMENT COMMITTEE**	**AGENDA ITEM: 13**
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REPORT FROM:	**DIRECTOR OF FINANCE and CORPORATE SERVICES**	
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SUBJECT:	**ICT UPDATE AND WORK PLAN 2013 to 2016**	**REF:**
WARD(S) AFFECTED:	**ALL**	**TERMS OF REFERENCE: FM 10**

1.0 Recommendations

1.1 That the proposed Work Plan for ICT for 2013 to 2016 is approved.

1.2 That the level and timing of investment into Paperlite and Customer Access is determined.

2.0 Purpose of Report

2.1 To provide an update on recent developments and upgrades to the Council's Information Communications Technology (ICT) infrastructure, together with the main proposals for ICT until 2016 in the form of a work plan.

3.0 Detail

3.1 The previous ICT plan which was approved in 2011, focused on replacing the core infrastructure to update the IT platform. This included work to upgrade hardware, enhance security and provide consistency in core applications, together with increasing IT capacity and capability.

3.2 This was due to the Council's IT platform becoming outdated and to be able to benefit from developments in IT such as "virtualisation."

Virtualisation or Thin Client Technology

3.3 This is the latest trend in technology where software and operating systems are stored and operated remotely from the hardware that uses it. So for example, individual PC's or other devices do not hold the software, but access it through a common media such as a network or the internet.

3.4 The main benefit is that core operating systems such as email and Microsoft office, can be stored and updated centrally; this negates the need for them to be loaded on individual machines or items of equipment. It then ensures that

all users operate the same version of software at the same time, updates are made available to all users consistently and overall IT capacity is increased.

3.5 Users effectively have what is known as a “virtual desktop.” This is basically just a keyboard and terminal, without the PC unit itself. Standardisation, consistency and security become less of an issue, reducing the associated risks and costs.

3.6 The Council has invested resources into the ICT infrastructure since 2011. This has included the implementation of a *virtual desktop infrastructure (VDI*). Some work is still to be completed. The plan now will be to consolidate and to make effective use of this platform over the coming years.

The Purpose of ICT

3.7 ICT provides the means (or tools) to support more efficient and effective service delivery across the Council. Clearly, ICT is a fundamental part of the modern day world. It is increasingly a key element of service delivery and in many instances poor or ineffective ICT can undermine council operations.

3.8 The key aims of ICT are:

- **Resilience** – so that services keep working.
- **Availability** – enabling systems to be up and running at times which meet business needs; this includes outside of normal working hours.
- **Accessibility** – to enable remote working and the use of different hardware devices.
- **Stability** and up-to-date infrastructure (servers and associated hardware, etc) to provide a fit for purpose platform.
- **Consistency** in key business systems common across the Council such as email and Microsoft office.
- **Security** at a high level to protect data and systems.

Work and Progress since 2011

3.9 The major projects delivered over the last two years are detailed in the following table.

Replacement of the Server Infrastructure	This upgraded all servers which host the Council's systems and data. The servers are the base (or engine) of the IT platform. They were configured and set up with greater storage capacity and to conform to VDI standards.
Replica Storage Area Network (the SAN)	The SAN is the dedicated network that links users to the servers (and consequently systems). This will enable VDI. A replica SAN has been implemented which is located in a separate part of the building; this makes it easier to protect and retrieve data if the main SAN goes down rather than having to rely on back-ups. The SAN is currently being transferred to Oakland Village as part of the Council's Disaster Recovery and Business Continuity arrangements.
Enhancements to the Email System	Separate software was installed to increase the efficiency of the email system. This includes an automatic archiving solution and increases the ease in which email attachments are stored and accessed. This has created greater capacity and streamlined the corporate email system.
New Firewall Installed	This is the system that protects the Council from computer viruses and provides the necessary security for data.
Public Service Network (PSN) Compliance	This is an independent network over which government (local and national) share services, including secure e-mail and access to confidential information, etc. In the future, the Council's infrastructure will have to comply with PSN standards. These standards will be much stricter than the current accreditation to Government Connect.
New Microsoft Enterprise License	This is the corporate license that permits the Council to use the Microsoft office suite of products. Due to the VDI implementation, this allowed the license to be rationalised and for future upgrades to be covered. This, together with VDI, will make it much easier for the Council to keep all users on the up to date software version, without any additional license costs. This new license agreement has provided a cost saving on the previous license of £20,000 per year from 2013/14.
Software and Application upgrades such as Adobe and Microsoft Office	This is also a benefit of VDI as it allows corporate applications to be migrated to the latest versions and used consistently across the Council.
Broadband solution for Rosliston	This solved a long running issue regarding the connectivity between Swadlincote and the Forestry Centre.
Wireless Connectivity in the Council Chamber and Committee meeting areas	This is part of a longer term project to enable Wi-Fi in as many areas of the Civic Offices as possible.
Virtualisation (VDI) Project	As highlighted earlier

E-committees	As part of the Paperlite strategy, the Committee process is now conducted paperless with members using I-pads to conduct committee work and for email communication.

Work Plan 2013 to 2016

3.10 This is detailed in **Appendix 1**. It is proposed that the main focus is in the following areas:

- Complete the remaining phases of VDI and connectivity.
- Consolidate the updated infrastructure against the key ICT aims, to enable more effective use and to ensure that the Council remains in position to benefit from emerging technologies.
- Complete the Disaster Recovery and Business Continuity Work.
- Comply with the updated standards for PSN.
- Support greater mobile, remote and home working.
- Support developments in the Paperlite and Customer Access Strategies (*subject to resources and specific business cases*).

Completing VDI and Remote Connectivity

3.11 Users are being migrated on a phased basis and this is planned to be fully completed by March 2014. In addition, key areas within the Civic Offices have been identified for Wi-Fi and this is planned to be completed by December 2013.

3.12 Currently, remote access to Council systems is through a “Citrix” network. This has become outdated and is being replaced with an alternative solution to make use of VDI. This will include an update of the dual factor authentification, which effectively provides the security to access data and systems remotely.

3.13 This development will provide greater opportunities for remote, mobile and home working.

Consolidating the Infrastructure

3.14 Following recent investment in the IT platform, it needs to be maintained and updated to ensure that the key aims (resilience, stability and availability, etc.) are met. The main servers will be maintained under warranty agreements until December 2017. In the meantime, the following areas need to be addressed.

- ***Retendering the support and maintenance of some network hardware*** such as switches and ports – some may need to be replaced. Switches in particular are an integral part of providing the means for data to flow efficiently.

- ***On-going replacement of PCs, terminals and other equipment***; although replacements are currently being made as part of the VDI project, it is expected that further replacements will need to be made as technology advances.

- ***Ensuring effective security is in place***; currently the Firewall and anti-virus system is being reviewed as new products become available. On-going training of staff in data security will ensure that Council policies are understood and adhered to.

Disaster Recovery and Business Continuity

3.15 The replica SAN is currently be moved to Oakland Village. Work will then commence to allow greater remote access to data and systems in the event of an emergency or disaster.

Compliance with the Public Sector Network

3.16 New standards are currently being introduced and the Council is on target to meet the new requirements by April 2014. However, this could come at an additional cost and place restrictions on the use of mobile devices as the Government look to strengthen security arrangements under PSN.

Mobile, Remote and Home Working

3.17 Following consultation with service managers across the Council, mobile working was considered to be a high priority to improve service delivery, using ICT. VDI will provide the functionality to enable changes in working practices.

3.18 Some limited mobile working currently takes place in Environmental Health, whereby “tablets” are used to carry information and to enable the retrieval and updating of information directly at site visits. Depending on service needs, this is expected to be expanded into Licensing, Planning and Housing services.

Paperlite Strategy

3.19 The strategy is aimed at eliminating as much paper as possible (with associated printing, stationery and distribution) from council operations and making greater use of ICT capability. Several projects have/are currently being implemented.

- ***Outbound Mail;*** Work is well underway to move all bulk printing offsite to a local provider. They have the necessary equipment and economies of scale, to receive and distribute bulk documents (for example Council Tax bills) at reduced cost. Through the use of ICT, this will streamline the production of outgoing documents, reduce costs and free up staff capacity in the Council.

  This is due to be completed by March 2014. The solution being rolled out also includes an on-line facility enabling all staff and Members to create ad

hoc documents which are printed and managed off site in a more cost effective manner.

The solution has been implemented for most documents and correspondence sent out from Revenues and Benefits, together with Planning; Housing Services is currently being implemented. These are the most paper intensive services which will produce savings in paper and associated stationery.

- ***Reduction and Upgrade of Multi Functional Devices (MFDs);*** these are the machines used for printing, photocopying and scanning documents locally. As the Paperlite project develops, it is anticipated that the need for printing will substantially reduce. The current MFDs are nearing the end of their life and are being replaced by a much smaller number of higher specification devices.

- ***Paperless Committees;*** The Council currently uses a Committee Management Information System (CMIS) to store its committee reports and make them available to residents and other interested parties through the Web. To support the reduction of paper across the Council, an E-committee solution has recently been implemented whereby Members access, review and annotate Committee papers via i-Pads and use these devices during Council meetings.

  This has eliminated paper from the Committee process and will save the Council approximately £21,000 per year in paper, printing and agenda distribution. CMIS has the functionality to enable other meetings, forums and board meetings to become e-enabled, together with an additional module for noting minutes and their distribution. This will be reviewed and implemented during 2014.

Next Stage

3.20 Proposals for the next stage of Paperlite will involve a more significant change in the way that the Council operates. It will also require a fairly substantial investment in ICT to facilitate the development.

3.21 Paper potentially provides a high risk to the Council (fire, flood, theft, etc.) and consumes significant storage space which could be released for more productive uses. Therefore, access to electronic data rather than hardcopy paper records is considered to be the next priority.

3.22 There are two potential projects that have been identified.

- ***Archiving*****;** there are approximately 2 million pieces of paper currently stored around the Council and removing this is a key component of the Paperlite strategy. Around a quarter of this volume is expected to require secure destruction (due to its age) with the remainder needing to be scanned and securely stored as electronic images for future retrieval as and when required.

- ***Digital Mail Room - Electronic Document Management (EDM);*** this facilitates the capture, indexing and online retrieval of information from a single source and removes the barriers that exist when information is stored in a variety of different formats and locations. This functionality has been shown to work for many years in Revenues and Benefits at the Council and could now be expanded across other services.
  This would entail increasing capacity of the Document Management IT System used in Revenues, with a separate and secure facility being introduced centrally to deal with all documents and correspondence coming into the Council.

  In addition to overcoming the risks associated with paper, this would provide potential for more efficient working, to free up capacity for staff, to change ways of working, reduce response times and provide opportunities for revenue generation by freeing up office space.

Access to Council Services

3.23 In recent years, the Council has been developing the means to make it more efficient and effective for people contacting the Council to access what they require. Using specific Government funding at the time, the Council implemented an ICT system back in 2003 and following this, a programme of centralising resources into a Contact Centre has taken place to consolidate access for anyone contacting the Council.

3.24 In 2012, the Committee approved a strategy in 3 phases to improve what is known as "Customer Access." The main aim of this is to reduce the amount of direct contact with a person, whether by telephone or face to face, by providing the facility for people to be dealt using ICT, and at the first point of contact.

3.25 Direct contact can be time consuming for both the Council and person concerned. This is a longer term strategy and will not currently suit everyone's needs or solve every enquiry.

3.26 However, increasingly people are contacting the Council using ICT and it is envisaged that in the future, more people will want to use the internet and mobile devices, etc. to deal with the Council. Therefore, it is important that the Council is well placed to respond to this change in contact.

- ***Phase 1: Expansion of the ICT System;*** this will involve centralising more services into the Contact Centre. A review of the potential effect on staffing, training and development has already taken place and draft proposals for implementation have been drawn up. However, investment in ICT will be required to produce new scripting and to integrate systems.

- ***Phase 2: Appointment System***; investment in a corporate system is proposed which can be accessed, ultimately by all stakeholders. This will enable a structured approach to handling enquiries and requests

- ***Phase 3: Self Service;*** this is the ultimate aim of the strategy. More people are using the internet for accessing council services and paying bills, etc.

and the proposal will be to develop this option over the medium term. It will require a greater investment in ICT but will ultimately free up capacity and allow more streamlined contact with people who wish to deal with the Council in this way. Clearly, the Council will still need to make arrangements for those people who still need more direct contact.

In the meantime, a refresh of the Intranet and website will take place which will provide the basis to enable Phase 3.

ICT Beyond 2016 – What's next?

3.27 Once the proposed Plan has been delivered, it is unlikely that this will be the end of investment in ICT and ICT related projects. Technology moves on rapidly and the Council will need to keep up with new developments.

Emerging Technologies

3.28 Developments in technology continue to move forward at a rapid pace. The following areas will be kept under review:

- **Cloud computing** – where systems are accessed directly over a network such as the Internet negating the need for hardware, software and systems to be based locally.

- **Open source** – where the source code (or license) of a computer programme is available, through the internet, to the general public at little or no cost (*see GIS, below*).

- **Bring your own device** – this allows employees to use their own mobile technology for work, on and off site, subject to meeting PSN requirements.

- **Public Service Network** – the Government's programme to unify totally, the provision of network infrastructure across the public sector to increase efficiency and reduce overall public expenditure.

- **Web technologies** – where an increasing amount of communication is undertaken solely through social media.

Geographical Information Systems (GIS)

3.29 GIS is used widely across the Council. This holds information on land and property across the District and is mainly used by Planning, Land Charges and Property Services.

3.30 There is scope for this functionality to be introduced into other areas and be used more effectively. With the potential for introducing an "open source" solution, this will mean the functionality can be provided to more users at minimal cost.

3.31 The open source solution will replace the current software (MapInfo) as appropriate. Once the open source solution is in place, work with service areas to see how efficiencies and improved ways of working can be introduced will be undertaken. This will include a review of how all council systems can be better integrated to reduce duplication in updating systems.

4.0 Potential Risks

4.1 The main risks associated with the proposed Plan are set out in the following table.

Lack of Technical Expertise	The Council's ICT service provider will be supporting and delivering many of the areas in the work plan. They have access to a wider resource base which can be utilised to back up the on-site team if necessary. This has been the case with much of the recent development programme involving VDI, etc.
Insufficient Budgets	The financial implications of the proposed work plan are detailed in **Section 5**. A substantial part of the plan will be financed from within existing ICT budgets and the ICT earmarked reserve. The largest investment is required to deliver the Paperlite and Customer Access strategies. Given the financial challenge that the Council needs to address in the medium term to 2016/17, it may be difficult to earmark sufficient resources to deliver all of the proposals.
Cultural Change	Developments in ICT are usually delivered to provide more efficient and effective services. Smarter technology brings opportunities but this inevitably means a change in working practices and the freeing up of staff capacity. The Council has an established change management policy in place; training and development will be undertaken as part of project implementation. Greater awareness of security by users will be required and it will be important to review policies and provide training where necessary.

5.0 Financial Implications

5.1 Some actions in the work programme will be delivered at no additional cost. Replacement of PCs, terminal and other devices, together with hardware upgrades will be met from within existing ICT budgets/earmarked reserve. Relatively, these costs are not significant as highlighted in **Appendix 1**.

5.2 The cost of implementing the full proposals for Paperlite and Customer Access are estimated at approximately £350,000 in total, although this excludes the move to self-serve, which is still to be costed. The main cost is associated with EDM as the increase in software, hardware and technical support is extensive.

5.3 Definitive savings would be made following the initial investment, but their timing would depend on how quickly new working practices could be revised and new staffing structures implemented. Payback could be quick, but could also be much longer depending on the strategy adopted to achieve the savings.

5.4 In addition, investment would need to be balanced against the overall financial challenge facing the Council with the need to make budget savings in the shorter term.

5.5 Alternative forms of financing the capital investment will be pursued. This includes a potential bid into a new Transformation Fund announced by the Government in July 2013. £100m is available nationally and further details regarding the criteria and timetable, etc. are awaited.

6.0 Corporate Implications

6.1 Potential implications for service delivery and change management are detailed in the report.

7.0 Community Implications

7.1 As highlighted in the report, several of the proposals in the work programme are designed to benefit and meet the expectations of local communities when dealing with the Council.

Appendix 1 – ICT Work Plan 2013 to 2016

	Key Action	Measure / Outcome	Target Dates	Estimated Cost and Financing
1	Digital Mail Room EDM (Electronic Document Management) and Archiving	Introduction of EDM across the Council, with each business area using as appropriate. Change in working practices providing efficiencies and eventually cost savings.	December 2016	Will depend on available resources and is subject to procurement. Estimated costs are £300,000 one-off with £30,000 per year on-going. Some resources will be available in the ICT reserve. Potential bid into the Government's Transformation Fund.
2	Reduction in Paper Outbound Mail	All outbound mail is sent electronically. Electronic archiving or off-site storage of paper. Reduction in paper, postage and associated stationery such as envelopes.	March 2014	No additional costs – this is just extending the current service to take advantage of economies of scale.
3	Reduction in and upgrade of Multi Functional Devices (MFDs)	New devices in place. Reduction in paper and printing.	January 2014	£25,000 one-off cost – already earmarked in ICT Reserve.
4	Development of E-Committees	All meetings and forums being run using technology instead of paper. Minutes recorded and distributed in real time.	September 2014	No additional costs.
5	Modern and flexible working practices – Mobile, Remote and Home working solution	Infrastructure in place to provide the capability for flexible working practices. *Each service area will need to decide on how they wish to implement a solution including a business case*.	On-going as services demand	Devices to be financed from IT replacement budget. Any additional costs/savings to be determined on a service basis.

6	Replacement of Citrix Network and Dual Factor Authentication for mobile, remote and home working. Extend wireless connectivity around the Civic Offices	Secure method in place for accessing required systems remotely. As above	January 2014 December 2013	£2,500 per year funded in ICT budgets. One-off cost of £5,000 funded in ICT budgets
7	Appointment System	System in place for Members, Officers and contractors and ultimately all people contacting the Council	December 2014	£12,000 one-off cost which could be financed from the ICT reserve. Subject to business case.
8	Expansion of ICT Customer Relationship Management (CRM) System across Council Services	Single view of a Customer available. Review of working processes across directorates and move to contact centre. Review of Intelligent Queue phone solution, helping people get to the right place first time.	December 2015	£30,000 one-off cost which could be financed from the ICT reserve. Subject to business case.
9	Move to self service	Reduced cost of service Greater transactional services available using the Web.	December 2016	Not known. Still to be costed and business case approved.
10	Core network ICT Infrastructure upgrade covered by support and maintenance.	Core Network infrastructure reviewed and updated. Support and maintenance contract in place for updated infrastructure (3 years)	March 2014	£25,000 per year within current ICT equipment budgets to replace switches and other equipment.
11	3 Year PC/Thin Client Refresh Programme	Continuing replacement of the existing PC estate each year. Modern and flexible working practices available for users.	On-going from December 2013	Provision for replacement in IT Reserve - £30,000 per year.

12	Ensuring effective ICT Security is in place. Replace Firewall and anti-virus software	Monthly reviews undertaken of any incidents and reported to as part of ICT monitoring arrangements.	On-going Monthly March 2014	No additional costs. One-off cost of £7,500 financed from ICT reserve.
13	Continued compliance with the PSN (Public Service Network)	ICT Health Check undertaken by third party PSN Code of connection submitted and compliance certificate received to demonstrate secure network in place. Switch to required IP address range for PSN	Annually in October	£9,000 in IT budgets to cover independent review and annual audit. Subscription to Code of Connection estimated at £12,000 per year. Any additional costs will be contained within ICT spend
14	ICT Disaster Recovery (DR) and Business Continuity	Implement DR solution to Oakland Village (Swadlincote) and transfer replica SAN. Implement Business Continuity solution to enable remote access.	December 2013 April 2014	No additional costs –hardware and configuration completed in 2013/14. £20,000 software costs funded from ICT Reserve.
15	Geographical Information System (GIS)	Reduction in Map Info usage. Wider utilisation of GIS across the Council. Move to open source solution.	January 2014	No additional costs.
16	Green ICT. Minimise the impact from ICT on the Councils carbon footprint	Equipment recycled appropriately. Reduction in energy use through use and rationalisation of technology.	On-going	No additional costs.

17	Emerging Technologies	Relevant technologies being kept under a watching brief and opportunities utilised appropriately. Next Work Plan completed for consideration	On-going October 2016	To be determined.