Item: 5

Asset Management Sub-committee: 1 June 2021.

ICT Asset Management Plan.

Report by Executive Director of Development and Infrastructure.

1. Purpose of Report

To consider updated ICT Asset Management Plan.

2. Recommendations

It is recommended:

2.1.

That the ICT Asset Management Plan 2021 to 2026, attached as Appendix 1 to this report, be approved.

3. Background

3.1.

The Corporate Asset Management Plan outlines the need for a number of individual asset management plans, including one for the management of IT Assets.

3.2.

On 10 November 2016, the Asset Management Sub-committee recommended that the ICT Asset Management Plan 2016 – 2020 be approved.

4. Updated ICT Asset Management Plan

4.1.

Information Technology is used to support the vast majority of Council activities. Therefore, the depth and breadth of the Information Technology assets reflects the depth and breadth of activities and services performed by the Council.

4.2.

The draft ICT Asset Management Plan 2021-2026, attached as Appendix 1 to this report, which builds on the previous plan, provides an overview of the quantity, existing utilisation, and current performance of the Council's tangible ICT assets. The Plan identifies strengths and weaknesses in current practice and highlights the need for sustained replacement and maintenance effort to match the scale of the estate.

4.3.

Normal depreciation and replacement for Information Technology is 5 years.

4.4.

Given the scale of the IT Estate, current replacement programmes fall short of the required budget and resourcing required to maintain the estate, and some areas have consequently fallen far behind.

4.5.

The draft ICT Asset Management Plan 2021 to 2026, attached as Appendix 1 to this report, sets out a suggested framework for effective management of the IT Estate. While this will, of course, require an Action Plan, it should be noted that meeting the standard of the proposed framework will also be dependent on having sufficient resources, to deliver the objectives.

5. Links to Council Plan

5.1.

The proposals in this report support and contribute to improved outcomes for communities as outlined in the Council Plan Cross-cutting priorities.

5.2.

The proposals in this report relate to Priority 1d – The Council must ensure it makes progress with the implementation of the IT Strategy and Digital Strategy, including the associated capital programme and completion of the review of capacity – of the Council Delivery Plan.

6. Links to Local Outcomes Improvement Plan

The proposals in this report support and contribute to improved outcomes for communities as outlined in the Local Outcomes Improvement Plan priority of Strong Communities and a Vibrant Economy.

7. Financial Implications

7.1.

Although there are no financial implications arising directly from this report, the ICT Asset Management Plan provides an analysis of the physical state of the Council's ICT assets and will shape further investment plans.

7.2.

The replacement value of the entire information technology assets estate is assessed at £15,743,500.

7.3.

This can be grouped as follows:

- Tangible information technology assets directly managed by IT and Facilities is valued at £6,101,500. This includes servers, end-user devices, fixed-wireless network links, firewalls, data storage and backup systems. It also includes server, laptop and desktop PC assets purchased by other services, but does not include other technology such as smartboards, plant and machinery or control systems.
- Property and Passive Infrastructure, which is essential to IT delivery is estimated to have a replacement value of £7,712,000. This includes server rooms, structured cabling, telecommunications masts, power generators and fibre optic-cabling.
- The replacement value of line of business software systems and other IT software is assessed to be £1,930,000.

7.4.

The IT capital replacement budget is currently £420,000 per annum. Given the directly managed estate comprises just over £6 million, based on a 5-year cyclic replacement, this suggests that an annual budget of approximately £1.2 million per annum may be more appropriate.

7.5.

In reviewing this arrangement, it would however be helpful to also understand how the scale and scope of the directly managed IT and Facilities estate may have grown over time and including how any additions were funded.

7.6.

Responsibility for Renewal of Property and Passive Infrastructure does not sit with the IT and Facilities Section and would be subject to a longer lifecycle.

7.7.

The draft ICT Asset Management Plan, attached as Appendix 1, does not detail the planned changes to the ICT portfolio as this will be determined through a process of review and analysis, the outcome of which will be reported to the appropriate Committee.

7.8.

It is not, therefore, possible to determine the financial impact of approving the draft Plan. However, detailed consideration will be undertaken as and when proposals are identified through the plan actions. Approval of any plan will be subject to appropriate resources being identified.

8. Legal Aspects

There are no legal implications arising from this report.

9. Contact Officers

Gavin Barr, Executive Director of Development and Infrastructure, Email gavin.barr@orkney.gov.uk.

Hayley Green, Head of IT and Facilities, Email hayley.green@orkney.gov.uk.

Kenny MacPherson, IT Service Manager, Email kenny.macpherson@orkney.gov.uk.

10. Appendix

Appendix 1: Draft ICT Asset Management Plan 2021 to 2026.

ICT Asset Management Plan 2021 - 2026
14/05/2021
Contents

1. Introduction

This Information and Communications Technology Asset Management Plan 2021 – 2026, hereon referred to as the ICT Asset Management Plan, has been developed in accordance with the Council's Corporate Asset Management Plan 2019 – 2023, under the overarching Council Plan 2018 – 2023 and the Council Delivery Plan 2018 – 2023.

This plan summarises the Council's aims and objectives for its Information Technology assets, to ensure that these are managed, maintained and used in an effective and efficient manner.

The function of asset management normally applies to tangeable, physical assets. However, the essence of Information Technology is the unique combination of "information" and "technology".

Therefore, while many of the themes in this plan correspond with tangible, physical assets of *technology* (IT infrastructure and equipment), there also will be consideration of the management of *information* itself as an asset.

2. Background

The plan follows on from the Information and Communications Technology Asset Management Plan 2016 – 2020, and builds on that plan.

That plan described a framework of asset management based on established practice. It explained some standard building blocks for defining, classifying, recording, monitoring and managing assets. Some key performance indicators were taken to describe the health of the asset base, in some cases to provide assurance of good practice and in others to highlight any particular areas of concern.

This new ICT Asset Management Plan will revisit much of these areas and will provide a measure of progress. However, in recognition of the fast-changing nature of IT, some aspects of this new plan will differ from the frameworks previously set out, where there is an opportunity to improve the benchmarking.

Where possible standard approaches to asset management are used based upon the appropriate International Standards Organisation (ISO) standards. The relevant standards for ICT Asset Management are a combination of the ICT Service Management the ISO 19770 family and the ITIL (Information Technology Infrastructure Library) ICT Asset Management processes.

3. Mission, Values and Strategic Priorities

3.1. Mission

The mission of the Council is working together for a better Orkney.

At the organisational level this translates into activities and objectives as wide and varied as the remit of the organisation.

In the context of information technology, it underlines the importance of integrating technology, and information, both across the internal services and directorates of the Council and also beyond, across the wider Orkney community and geography.

Integration of technology is always easier said than done. Global technology organisations constantly push innovations to leverage competitive advantage – often at the cost of compatibilty.

Therefore alignment of approach is essential. As different technology standards compete for market share, aligning how information technology is delivered plays a key role in facilitating straightforward communication and effective collaboration.

3.2. Values

The values of the Council are resilience, enterprise, equality, fairness, innovation, leadership and sustainability.

IT should support the resilience of the organisation. Previously this would have been an abstract concept, but in the context of the 2020 COVID-19 Pandemic, there has been a clear example of how IT, done well, can support the resilience of the organisation in the delivery of new ways of working, remotely and virtually.

Resilience is also a well understood priority in how IT is organised: Systems can be architected to maximise resilience: computer systems can be built to tolerate equipment failure; communications links can be designed to work via backup routes; risks of single points of failure can be mitigated.

In the specific context of IT asset management in Orkney, it demands that infrastructure is fit to face the demands of salt and time: external equipment should have the required tolerance to face the northern winter; replacement programmes and maintenance regimes should be sufficient to keep the infrastructure tried, tested and up to date.

Enterprise, Innovation and Leadership can be supported by ensuring that: IT is flexible, that solutions to support the organisation can be delivered with agility; that data can be effectively explored, interrogated, and delivered in ways that support decision making to sustain innovation. While standards must be adhered to, they should not act as a barrier or excuse to hinder innovative thinking.

Equality and fairness demand that IT is available everywhere, regardless of geography and regardless of privilege. Within the context of Orkney, this raises the challenge to deliver IT services in hard to reach locations, and to ensure that

performance is “good enough” across all users. It also demands that equipment should be sufficiently up to date for all users, and therefore replacement programmes should extend and reach as far as possible to maintain this.

Digital inclusion delivers sustainability to our island communities. By providing an opportunity to a workforce to work virtually from remote locations, the sustainability of these places is supported. This has been evidenced, not only by the transformations in remote working, but also in the essential move away from paper driven processes which consume physical resources and require physical handling and storage.

Finally, sustainability translates into a call to consider the long-term, and to value strategic benefits and goals over expediency. IT is a field of constant change and improvement, and systems and technology can become obsolete all too quickly. This is an unavoidable consequence but can be mitigated by planning the whole lifecycle of technology – cradle to grave.

It also raises the importance of aggregation, delivering economies of scale where possible into IT, utilising common infrastructure, sharing across services, and delivering corporate solutions. In an economy where individual services have discrete budgets and obligations; it is sometimes difficult to deliver solutions that benefit “the bigger picture” where short term costs are higher so that long term shared benefits can be realised.

Finally, in terms of information, the lifecycle of information is also essential. Information recorded and stored has value is it used effectively. Storage of information should be a means, not an end. Analysis, decision making, and operation are all dependent on good, easy to access, relevant and current information. As information loses currency, its value diminishes. Therefore, how information is maintained is equally relevant to asset management as the issue of how infrastructure is maintained.

3.3. Strategic Priorities

The strategic priorities of the Council are: connected communities, caring communities, thriving communities, enterprising communities and quality of life.

These draw together the mission and values into a set of clearly understood priorities. In the field of IT Asset Management, it can be clear how well-maintained technology infrastructure and well-maintained information underpins the delivery of these. The impact of major failures of IT service can have immediate or far reaching impacts on achieving these priorities and delivering these priorities.

4. IT Asset Management

4.1. Metrics and Key Performance Indicators

Asset Management's essential metrics and key performance indicators therefore cover the entire lifetime of the assets: from initial planning and acquisition (including procurement, implementation, and service transition) through the operational lifetime (including normal operation, performance monitoring, proactive maintenance, and support) ultimately to replacement and disposal. These are:

Value, Condition and Cost	What is the asset valuation at time of supply? What term of depreciation is set (usually 5 years in IT, but some variations occur)? What condition are the assets? What is the operational cost of the asset?
Capacity and Availability	Is the asset sufficient for the requirement through the entire lifetime. Does capacity consider variations in demand. Will the asset survive the expected lifetime within its operational environment?
Operational Performance	Arguably the essential metric: How well does the asset meet its primary purpose?
Maintenance	What regime of monitoring and maintenance is in place to ensure that assets are regularly checked, and any remedial works are done in a timely manner to maximise the lifetime and ensure items are well managed? What arrangements are in place for vendors to provide maintenance and support.
Accessibility and Security	Does the accessibility of information and technology meet the required standard. How well does it allow services to function independent of location and geography? How well does it sustain effective economies of scale? Also – what assurances can be provided that information and technology comply with legislation including the Equalities Act 2010? How well does allow authorised access within and across functions? How well is it secured to prevent unauthorised access?
Environmental Impact	Energy consumption has social, environmental, and economic impacts on the community. What is the energy consumption, and in the context, does it meet the required criteria?
Replacement Plans	What exit processes are in place to manage the transition away from the usage of the asset at the end of its operational service?

4.2. Scope

The Information Technology Estate that comprises the scope of the ICT Asset Management Plan, ranges widely from Cloud Systems to Communications Equipment on Masts, from Databases to Devices. It includes computers used in Schools, in Council Offices and (partially because of the pandemic) laptops and tablets used by staff to work for the Council from homes across Orkney and beyond.

Whilst there have been considerable changes to the delivery of many services via the use of cloud services, the majority of the information technology asset base is still delivered “on premise” and therefore maintaining the continuity, capacity, currency and resilience of these remains a priority.

Property and Passive Infrastructure

While this is not directly managed by IT & Facilities, the places, and locations where Information Technology operates, can directly impact the quality and performance of the service. These are:

- **Datacentres and Server Rooms:** The locations in which Information Technology is usually installed and operated from, including the arrangement for supply of protected electrical power, other essential environmental services (“HVAC” – Heating, Ventilation and Air Conditioning), Access Controls and Security Measures.
- **Structured Cabling:** The passive wiring throughout Council Offices and other buildings is an essential element of delivering IT services straight to the desk. Adequate capacity of network sockets allows for flexibility in locating desks, implementing new technology efficiently and maximising the performance of Information Technology.
- **Mast Sites:** With limited provision of fibre across the Orkney Mainland and often none in the Isles, Fixed Wireless links transmitted via Orkney’s hilltop masts have been essential in connecting up communities and schools, across both the Mainland and the isles. The Council owns and also leases access to various masts across Orkney. These sites are often on the receiving end of the worst of winter weather, exposed to everything the local climate can throw at them. Windshear, wear and water all impact the stability and operational life of these sites, and also complicate the planning of maintenance and support visits.
- **Fibre Services:** Fibre services do exist through some parts of Orkney and the Council has ownership of some and access to others. These deliver connectivity usually untroubled by weather, and therefore operate 365 days a year. However, regular maintenance to ensure that channels are clean and control of access is important. The main risk to service is third party – such as roadworks or other services in nearby channels.

Network Connectivity and Security Solutions

The network is what securely connects the Council's Information Technology together. Maintaining capacity sufficient for the volumes of traffic being delivered across this network is essential to ensure smooth running. This is analogous to any transport network – good well-maintained routes with sufficient capacity have fewer traffic jams than locations with bottlenecks. In information technology, there are three categories:

- **The Wide Area Network (WAN) Infrastructure** are the communications links which connect Council sites to one another (and in some cases, to the Internet). This includes the network devices and routers connected to the fibre optic networks, or it can be the Fixed-Wireless radio and microwave systems transmitting atop masts.
- **The Local Area Network (LAN)** and **Wireless Network (Wi-Fi)** connect all of the computers, servers, and other devices together within a building. These are normally devices called switches and routers which are programmed to handle all of the network traffic, routing it securely to deliver each file, web page request, print job and e-mail to the correct destination.
- **The Security Gateways** are the firewalls and related security systems that protect the Council's Information Technology and permits secure access to and from the Internet and other organisations.

Information Technology Systems and Servers

While the network provides the required connectivity, at the heart of Information Technology are the line-of-business systems that support the wide range of services (e.g. Health & Care Case Management Systems, Planning & Warrant Databases, Housing Systems, Financial Ledger Systems). These and other "back-office" systems are delivered by servers, databases, and storage infrastructure.

- **Servers** are the specialist computers on which operate the software applications and systems used in the Council. These require a higher level of capability and resilience and should be housed securely in datacentres or server rooms where they can benefit from the protected, resilient power supply and other environmental benefits mentioned earlier.
- **Storage Infrastructure** provides a secure and resilient location in which the data is kept. Locating essential data from multiple systems on a central storage system which offers higher levels of performance and resilience is normal practice. However, this raises the criticality of such equipment, and therefore good maintenance and monitoring is essential.
- **Data Backup Systems and Infrastructure** are used to ensure that all of the organisation's data and configuration is copied onto secure storage so that in the event of a loss, it can be restored to a recovery point that minimises organisational loss.
- **Directory and Network Service Systems** are specialist information systems for managing, administering, and organizing every item and network resources, which can include folders, files, printers, users, computers, and other objects. A directory and network service is a critical component of an IT infrastructure.

- **Database and File Systems** are a specialist software for managing data in a structure and are used to hold all the essential data within an organisation.
- **Line of Business Systems** are the business IT systems specific to operational functions within organisations such as Finance Ledger Systems, Case Management Systems, Engineering Design Systems and Operational Transport Systems.
- **Telephone Systems and Videoconferencing Systems** require little explanation and are critical components of any organisation.

User Devices and Peripherals

Finally, the largest part of the asset base are the end-user devices being used day-to-day by Council staff in their roles. Devices and peripherals are a significant portion of the asset estate by virtue of the quantities in use.

- **Council Devices** -The desktop and laptop PC's used corporately across the Council Offices.
- **Schools' Staff Devices** – The desktop and laptop PC's used by teachers and staff in Orkney's Schools.
- **School's Classroom Devices** – The desktop and laptop PC's used by pupils in Orkney's Schools.

Other Technology

It is important to recognise that there are other items of technology not included in the context of this plan. This includes industrial control systems, health and care equipment, schools' electronic whiteboards, security and CCTV systems, radars and weather stations.

While IT provide support services in connection with these, they sit outside of the scope of IT asset management.

4.3. Governance and Processes

As ICT assets play a critical factor in the delivery of efficient delivery of services by other directorates, and as ICT assets are an expensive asset to operate, the Information Services Programme Board (ISPB) provides co-ordination, direction and operational asset management planning.

The ISPB is made up of the officers who are the Senior Management Team and it is chaired by the Chief Executive. It meets four times a year. The ISPB provides an oversight of the management of corporate assets within the Council and is decision-making gateway to ensure that management decisions are undertaken in a corporate manner.

Strategic issues are decided upon by Members, through the Committee structure. Matters relating to ICT, and specifically the ICT Capital Replacement Programme, are determined by the Asset Management Sub-committee.

IT maintains a service catalogue outlining all IT services provided and has in place robust reporting processes to assist Council to make prompt asset related decisions regarding new or changed use of Assets through the Information Services Programme Board.

Effective management requires a monitoring process to provide systematic and timely reporting of performance to enable prompt asset related decision making.

The following reports and Key Performance Indicators are used to ensure that the assets are well maintained and delivering value for money:

- **Quarterly Availability** – a record of asset down time, the impact of this down time and an estimate of productivity losses (compared with national benchmarks). This is delivered within the quarterly IT Service Availability Report to ISPB, and once considered, referred to the Corporate Management Team.
    - Ad-Hoc – major incident management reports are produced following any significant outage.
- **Information Security** - trends and analysis are provided weekly via business intelligence dashboards and are reviewed monthly to the Head of IT and Facilities and reviewed with the Information Security Officer and the IT Service Manager. Summaries are provided quarterly within the Information Security Report to ISPB.
    - Ad-Hoc – major incident management reports are produced following any significant security incident
- **ICT Infrastructure Capacity and Demand** – identifying levels of demand and usage of resources including network bandwidth, internet, email and disk space usage, consumption of software licenses is monitored via dashboards for intervention via operational staff where required. Reports on quarterly usage are provided quarterly within the Information Security Report to ISPB.
- **IT Service Desk Performance** – trends and analysis are monitored daily via business intelligence dashboards and reviewed weekly in by a meeting of IT Support Staff for action and prioritisation. Overall performance and capacity is reported quarterly within the Information Security Report to ISPB.
    - Ad-Hoc – major service management reports are produced following any significant security incident
- **Changes and Projects** – changes to the configuration or delivery of information technology progress are reviewed via a weekly change approval board which acts as an essential gate control to reduce risk that changes have undesired consequences and impacts.
    - Larger scale changes are normally managed via the IT Replacement Programme. Capital asset depreciation lifetime of information technology infrastructure of *n* years so replacement programme funding should normally comprise $1/n^{th}$ of the asset value to ensure timely replacement.

  - Project progress is monitored via a variety of processes with quarterly reports provided regularly to the IT Projects Board or the Information Services Programme Board. Further reporting via the IT Strategy Delivery Plan Update and Digital Strategy Delivery Plan Update is provided to elected members for scrutiny.
  - Ad-Hoc – emergency change requests are submitted for approval from the IT Service Manager or Head of IT and Facilities as and when required.

- **Operating costs** – operating costs per class of assets are assessed as part of normal budget monitoring and reviews annually as part of the budget process.
- **Annual Support Staff ratios** – a record of support resource to end user ratios (compared with national benchmarking) will be established to monitor how well available resources meet the demand for support, maintenance, security patching and other normal helpdesk services.
- **Annual total costs of ownership (TCO) reports on asset classes** – these will be compared with other like organisations to ensure that the council is achieving value for money. ICT assets are disposed of securely
- **Strategic Direction and Investment Requirements** - the Council's ICT strategy is defined in the IT Strategy and Digital Strategy document and this will also outline investment requirements.
- An annual capital report is submitted to Council detailing the forward capital plan needed to maintain the council's assets.

Appendix 1: Asset Condition – High Level Summary

In 2016 the asset management strategy approved by members consider it a number of categories which were then measured to establish a set of metrics. These delivered a working criterion to assess how effective maintenance management and monitoring off physical assets used in the organisation was.

it is of immense value to review these findings as a benchmark of progress and to highlight areas we're further work and focus is required. However, it is also essential to recognise that information technology is such a fast-moving field that it is almost impossible to conduct an “apples for apples” comparison.

The following simple rating model is used to assess groups of assets.

Rank	Description of Condition	Action
1	Very Good Condition	Only normal maintenance required
2	Minor Defect only	Minor maintenance required
3	Maintenance required	Significant maintenance required to bring the asset to an acceptable arrangement
4	Requires Renewal	Significant renewal/upgrade
5	Asset Unserviceable	Over 50% of asset requires replacement

Class	Asset	Overview	Condition[1]	Previous Rating (2016)	Numbers	Asset Value/Replacement Valuation[2]
Property & Passive Infrastructure	Datacentres and Server Rooms[3]	No facilities exist that would achieve the classification of *datacentre*, Instead there are 3 large server rooms situated in various council buildings which act as the main locations for the council's information technology. The nature and fabric of these building are often a major limiting factor ***Ownership of some aspects sit outside of IT but is included due to critical importance in delivery of IT.***	**3 Maintenance Required** These facilities do not fully meet the criteria of a hosting facility, lacking many of the required capabilities. Numerous shortfalls exist in the fabric, flooring, fire-suppression, power protection, heating ventilation and air conditioning (HVAC), access controls and monitoring. While many of the above capabilities are present to a degree, there are significant weaknesses in how these are delivered. These would barely meet the absolute minimum in a commercial hosting facility. Internal arrangements are however good, with well-managed cabling, and significant progress since 2016 to improve the organisation and installation of equipment.	**4 – Requires Renewal**	3	£2,000,000* This would be a fair estimate of rebuilding a datacentre in line with correct requirements. Value of current assets are substantially lower in the region of £250,000. *Ownership sits outside IT but is included due to critical importance in delivery of IT.*

[1] Assets comprise a mixture of assets of varying condition, so the assessment is based on the modal position.

[2] Full replacement value, not adjusted for depreciation

[3] Not fully an "IT asset" but essential as this is crucial to IT operations.

Class	Asset	Overview	Condition[1]	Previous Rating (2016)	Numbers	Asset Value/Replacement Valuation[2]
Property & Passive Infrastructure	Other Network Rooms	There are 106 other network rooms and cabinets distributed throughout Orkney Islands Council offices, schools and other facilities ***Ownership of some aspects sit outside of IT but is included due to critical importance in delivery of IT.***	**2 – Minor Defects** While none of these facilities would fully meet the expected criteria of a datacentre facility, most have sufficient arrangements which are adequate. Many have benefited from action taken to ensure that internal arrangements are well organised.	**2 – Minor Defects**	106	£212,000
Property & Passive Infrastructure	Structured Cabling[4]	Structured Cabling is normally Cat 5e or Cat 6 quality, but in many sites, there is evidence of insufficient concentrations of network points ***Ownership of some aspects sits outside IT but is included due to critical importance in delivery of IT.***	**2 – Minor Defects**	NA	Approx. 100 sites incl. Main Council Offices	Estimated £2,500.000* (based on 100 sites at £25,000 per site) *Ownership sits outside IT but is included due to critical importance in delivery of IT.*

[4] Not fully an "IT asset" but essential as this is crucial to IT operations.

Class	Asset	Overview	Condition[1]	Previous Rating (2016)	Numbers	Asset Value/Replacement Valuation[2]
Property & Passive Infrastructure	Mast Sites[5]	OIC owns and operates a mast site on the Orkney Mainland and additionally has acquired space on a number of 3rd party masts. ***Ownership of some aspects sits outside IT but is included due to critical importance in delivery of IT.***	**3 Maintenance Required** The mast site has benefited from recent maintenance works to ensure structural integrity and to improve cabling and signage. Also works are in progress to repair the backup diesel generator, but current facilities do not protect equipment from weather conditions which will require significant remedy in the form of a building to house the generator.	NA	1	Estimated £1,000,000* *Ownership sits outside IT but is included due to critical importance in delivery of IT.*
Property & Passive Infrastructure	Fibre Services[6]	OIC has a network of ducts and fibre cabling delivering 4 key routes in Kirkwall and 2 in Stromness town areas. ***Ownership of some aspects sits outside IT but is included due to critical importance in delivery of IT.***	**2 – Minor Defects** The biggest issue with the fibre network in Orkney is the lack it. Many of the Council premises do not have access to OIC fibre. There was one major incident in 2018 when damage occurred due to fibre cabling being snagged in Kirkwall but all in all there are few concerns here.	NA	4 routes in Kirkwall 2 routes in Stromness	Estimated at £2,000,000 *Ownership sits outside IT but is included due to critical importance in delivery of IT.*

[5] Not fully an "IT asset" but essential as this is crucial to IT operations.
[6] Not fully an "IT asset" but essential as this is crucial to IT operations.

Class	Asset	Overview	Condition[1]	Previous Rating (2016)	Numbers	Asset Value/Replacement Valuation[2]
Network Connectivity & Security Solutions	Wide Area Networks	A large part of the essential connectivity in Orkney depends of Fixed Wireless and Microwave Links. There are 44 “point-to-point” links connecting sites wireless of which 6 comprise the “trunk” links from Stromness & West Mainland to Kirkwall’s mast. Additionally, Kirkwall and Stromness have 3 point-to-multipoint sectors serving 29 “subscriber” radios installed on Council Premises (Most North Isles premises are Schools served by 3rd-party Pathfinder SWAN services).	**3 - Maintenance Required** Some fixed Wireless and Microwave links are consistently poor-performers operationally and in some cases are vulnerable to radio interference and channel congestion causing disruption. All are vulnerable to the elements and require renewal every 5-7 years. Due to the location of much of the equipment on hilltop masts, access issues can be problematic, requiring qualified third-party providers to gain access when conditions permit, exposing a risk of delayed responses to service incidents. *Estimated replacement programmes will demand £200,000 per annum to maintain estate.*	**4 - Requires Renewal**	48 Point to Point Devices 3 Sector Point to Multipoint Stations 32 Sector Subscribers	Asset Value: £1,086,000 *(comprising:* *6 x “Trunk” Point to Multipoint Links have a value of £120,000* *42 x Other Point to Point Links have a total value of £840,000* *3x Sector Point to Multipoint Links have a value of £30,000* *32x Subscriber Devices with a value of £96,000)*

Class	Asset	Overview	Condition[1]	Previous Rating (2016)	Numbers	Asset Value/Replacement Valuation[2]
Network Connectivity & Security Solutions	Local Area Networks	The Local Area Network comprises an arrangement of 12 high performance "core" network switches capable of operating at 96 Gbps, linked to 202 network distribution switches across council offices, schools, care facilities and other locations.	**1 - Very Good Condition** The "core" network was implemented in 2018 and has functioned well since commissioning. It is arranged with a high degree of resilience and at 96Gbps capability has sufficient capacity for network traffic. Distribution network switches are in a range of ages and conditions with replacement programmes in place or in progress where required.	**2 - Minor Defects Only**	12 "Core" Network Switches/Routers 202 Distribution Switches/Routers	Asset Value: £796,000 *(Comprising:* *12 x Core Network Switches valued at £190,000* *202 x Distribution Switches valued at £606,000)*
Network Connectivity & Security Solutions	Wi-Fi	Wi-Fi services are provided by 300 Access Points managed by a single controller.	**2 – Minor Defects** Wi-Fi services are in the process of being replaces and a further cycle of replacements is in progress.	**3 - Maintenance required**	1 Controller 300 Access Points	Asset Value: £185,000 *300 x Wi-Fi Access Points valued at £150,000* *1 x Wi-Fi Control System valued at £35,000)*
Network Connectivity & Security Solutions	Security Gateways	Security arrangements in place are not detailed.	**1 - Very Good Condition** Updated perimeter security equipment was implemented in 2019 and has worked well. One device is scheduled for replacement in 2021.	**4 - Requires Renewal**	Security arrangements in place are not detailed	Asset Value £150,000

Class	Asset	Overview	Condition[1]	Previous Rating (2016)	Numbers	Asset Value/Replacement Valuation[2]
IT Systems and Servers	Standalone Servers	There are in total 42 servers. Of which, 20 servers are in operation in Council server rooms 12 are in schools. A further 10 are configured to host 120 "virtual" servers.	**2 – Minor Defects** Since the previous report, servers have been updated and previously reported performance and reliability problems have been addressed. The use of virtualisation software allows a single physical server to operate as multiple servers "virtually". This is highly efficient and reduces the power, cooling, and space requirements, consequently reducing costs and the environmental footprint. 8 of the 10 virtualisation host servers are due for replacement as part of a project in progress concerning disaster recover, and replacement equipment is being shipped to Orkney this summer (2021). Most of the other servers in the Council are in good condition and relatively new, and the remainder of older servers are due for replacement soon. However, some of the servers in schools are in poor condition and will require replacement.	**3 - Maintenance required**	42 Servers (Physical) 120 Virtual Servers	Asset Value £256,000 Comprising: Virtualisation servers valued at £120,000 32 standalone servers valued at £136,000

Class	Asset	Overview	Condition[1]	Previous Rating (2016)	Numbers	Asset Value/Replacement Valuation[2]
IT Systems and Servers	Storage Infrastructure	The Storage Area Network is used by to share data in a resilient arrangement on arrays of disk drive. These are built to tolerate equipment failure and minimise the risk of data loss.	**3 - Maintenance Required** Since the previous report it became clear that the Storage Infrastructure was the root cause of much of the chronic service disruption that impacted IT services. Consequently, much of that infrastructure was withdrawn from service and decommissioned in 2017. Addressing this issue played a major part in delivering improved service availability and uptime across all council services. The remaining storage infrastructure has carried to load of IT service well but is now approaching the end of its operational life and new, faster storage with improved disaster recovery capability has been acquired and is schedule for deployment this summer (2021). Once complete this rating should increase to 1 – Very Good Condition	**3 – Maintenance Required** *(in hindsight this should have been rated 5 – Requires Renewal)*	1 Storage Area Network	£300,000

Class	Asset	Overview	Condition[1]	Previous Rating (2016)	Numbers	Asset Value/Replacement Valuation[2]
IT Systems and Servers	Data Backup Infrastructure	Backups operate daily using a blend of methods to suit the range of systems in place.	**1 - Very Good Condition** Since the previous report, a new approach to backups has been implemented with a pair of dedicated backup arrays deployed in diverse locations with security measures to minimise the risk of cyberattacks on backups. Additional offline copies are occasionally taken to supplement this process. The system is further enhanced with the migration of some systems to cloud services which have excellent levels of file protection.	**5** (sic) **- Requires Renewal**	2 Backup Arrays	£80,000

Class	Asset	Overview	Condition[1]	Previous Rating (2016)	Numbers	Asset Value/Replacement Valuation[2]
IT Systems and Servers	Line of Business Systems	The wide range of Services in Orkney Islands Council utilise various line of business systems to support their operations. There are over 30 main line-of-business systems in operation at Orkney Islands Council. These include typical systems common in all organisations (e.g. Financial system, Payroll system) and specialist systems aligned to services (e.g. Health & Care Case Management, Property Management, Housing).	**2 – Minor Defects** There are good governance arrangements in place for the selection of new systems, backup arrangements are in good order, and performance/availability in most cases is good. However, there is still a legacy which reflects varied approaches to how systems have been implemented. This ranges from on-premise implementations managed internally, to some systems hosted on the cloud with fully-managed support services. Most of these systems are implemented individually by services responsible, on individual databases with little interconnectivity. This has limited the opportunity for alignment and interaction and hinders any opportunity to develop a holistic single view of the organisation's status. Furthermore, the wide range of systems places an increased support burden on IT to maintain and update systems.	**3 - Maintenance Required**	Over 30 line-of-business systems.	£1,900,000

Class	Asset	Overview	Condition[1]	Previous Rating (2016)	Numbers	Asset Value/Replacement Valuation[2]
IT Systems and Servers	Directory Services	In line with 95% of organisations, the Council uses Microsoft Active Directory. This provides the foundation for all of the IT devices, users and security controls. The system has been further extended into the adoption of cloud via Microsoft 365 / Azure which has allowed a degree of management of device security to extend into remote working.	**3 - Maintenance Required** The implementation of Active Directory does not fully correlate with the current organisational structure and reflects some legacy teams and groups that precede a Council restructure from over 10 years ago. The main implementation does not extend into Orkney Schools and therefore these networks are effectively standalone with their own IT administration overhead. This is a barrier to collaboration and communication between the Council and Schools.	NA	1200 users	£30,000

Class	Asset	Overview	Condition[1]	Previous Rating (2016)	Numbers	Asset Value/Replacement Valuation[2]
IT Systems and Servers	Telephone & Conferencing Systems	Switchboard Services and approx. 700 extensions are served by a BT/Nortel Phone System located in School Place serving numerous sites. Approximately 40 other smaller systems are in operation at other Council Sites, Schools and Residential Care Facilities. A Cisco Telepresence Videoconference System is defunct and has been superseded by Microsoft Teams.	**4 - Requires Renewal** The condition of the current system in place is very poor, but work is in progress to address this. A new phone system has been acquired and it is scheduled for implementation in Summer 2021. Once completed, this rating should upgrade to *1 - Very Good Condition* Other systems are in a range of conditions, with a few requiring renewals. Where possible, the relevant sites will be integrated into the new system.	**4 - Requires Renewal**		£650,000 *Comprising* *Main OIC Phone System has a replacement value of £250,000* *40 Other Systems valued at £400,000*
User Devices & Peripherals	Council Devices	There are nearly 1200 computers in use on the council network.	**2 – Minor Defects** 10% of Council Staff computers (185) are over 5 years old. Given the footprint of nearly 1200 PC's annual replacement of Council devices needs to achieve nearly 240 replacements per year.	**2 - Minor Defects Only**	1185 Computers 60 Tablets	£888,750

Class	Asset	Overview	Condition[1]	Previous Rating (2016)	Numbers	Asset Value/Replacement Valuation[2]
User Devices & Peripherals	Schools Staff Devices		**3 - Maintenance Required** 43% of School Staff computers (181) are over 5 years old. Current replacement plans do not have sufficient capacity to address this and intervention is recommended to address the scale of this issue. Should these urgent replacements of over 180 devices be done, given the footprint, annual replacement of School Staff devices will need to continue to achieve nearly 85 replacements per year to maintain currency of the estate.	**2 - Minor Defects Only**	425 Computers	£318,750
User Devices & Peripherals	Schools Classroom Devices		**5 – Asset Unserviceable** 57% of Classroom computers (1221) are over 5 years old with 8 devices in Orkney school classrooms dating back to 2009. Current replacement plans do not have sufficient capacity to address this and significant intervention is recommended to address the scale of this issue. Should these urgent replacements of over 1200 devices be done, given the footprint, annual replacement of classroom devices will need to continue to achieve nearly 430 replacements per year to maintain currency of the estate.	**2 - Minor Defects Only**	2140 Computers 160 Tablets	£1,391,000