**ICT Update Report – R&GP Committee (22nd May 2023)**

1. **ICT Strategic Priorities**

In May of 2022 a presentation was given to the Executive Board and the Finance Committee highlighting the ageing condition of the ICT estate and outlining the ICT strategic priorities for 2023 and 2024. These were:

**2022/23**

* Replace all Desktops & Laptops over 9 years old (1,651 devices, £882k approx.)
* Upgrade Wi-Fi across all campuses.
* Replace 1/3rd of Classroom inter-active boards as the 1st stage of a three-year programme.
* Replace phone system with ‘PBX in the Cloud’ to address issues with current Cisco system – integrates with MS Teams and supports hybrid working.
* Conduct a review of the in-house server, storage & backup infrastructure.
* Review the allocation of college mobile phones.

**2023/24**

* Continue with annual Desktop & Laptop refresh cycle (working towards 5 - 6 year replacement lifecycle)
* Continue Classroom A/V refresh/upgrade programme.
* Upgrade the in-house server, storage & backup infrastructure.
* Upgrade the network infrastructure.
1. **Update on Progress**

During 2022/23 we have successfully undertaken the following projects:

**Replace all Desktops & Laptops over 9 years old.**

Due to the conditions attached to the Very High Priority Maintenance Fund (VHPM) (capital infrastructure projects) and the Digital Inclusion Fund (digital poverty) we have been unable to use any of this money to improve the age profile of our desktop & laptop estate. However, by July of this year we will have purchased 400 new laptops from the annual ICT budget at a cost of £187k. These machines will be issued to staff and will replace the older Class-In-A-Box laptops that were issued to enable home working during the pandemic. It will also enable us to reduce the total number of staff desktop PC’s, with these machines being cascaded throughout the college to replace the oldest models. This will also help to decrease the overall total number of devices in the ICT estate (currently 4,500 approx.) by eliminating the need for staff to have access to desktop devices on multiple campuses.

**Upgrade Wi-Fi network infrastructure across all campuses.**

The project to upgrade the Wi-Fi network infrastructure across all campus is underway and is on course to be completed by 31st July. The procurement process was completed on 30th March, with the contract being awarded to IP-Performance at a total cost of £263,346 exc. VAT. The new network will be a Juniper Mist solution utilising AP32 Wi-Fi 6E wireless access points.

**Replace 1/3rd of Classroom inter-active boards as the 1st stage of a three-year programme.**

The final 19 screens were installed at the Cumbernauld and Broadwood campuses in the following rooms:

|  |  |
| --- | --- |
| **Campus** | **Room No.** |
| Broadwood | R1 |
| Cumbernauld | EB101 |
| Cumbernauld | EB217 |
| Cumbernauld | MB213 |
| Cumbernauld | MB214 |
| Cumbernauld | MB215 |
| Cumbernauld | MB226 |
| Cumbernauld | MB227 |
| Cumbernauld | MB229 |
| Cumbernauld | MB309 |
| Cumbernauld | MB313 |
| Cumbernauld | MB206 |
| Cumbernauld | MB320 |
| Cumbernauld | MB324 |
| Cumbernauld | MB330 |
| Cumbernauld | Mezzanine |
| Cumbernauld | MB217 |
| Cumbernauld | MB219 |
| Cumbernauld | W5 |

This brings the total number of new screens installed to 52 at a total cost of £185k. In addition, we were able to install seven new Clevertouch inter-active display panels in the following locations at a total cost of £31,985 (exc. VAT).

|  |  |
| --- | --- |
| **Room** | **Campus** |
| W112 | Motherwell |
| 2016 | Motherwell |
| 1C02 | Motherwell |
| NB108 | Cumbernauld |
| NB010 | Cumbernauld |
| S17 | Coatbridge |
| S24 | Coatbridge |

Clevertouch have been identified as the inter-active screens of choice for the 2nd phase of the three-year refresh programme and having them installed at the three main campuses provides an opportunity for staff to become familiar with the equipment. Formal staff training was conducted at the Motherwell campus by Clevertouch on 18th May.

As previously reported, 4 x hybrid teaching classrooms were commissioned across the three main campuses in December of last year. The college now has a total of five hybrid teaching rooms in the following locations:

Motherwell – 4004 & 3015

Coatbridge – G10 & S46

Cumbernauld – EB208

The total cost of this project was £49,750 (exc. VAT).

**Replace phone system with ‘PBX in the Cloud’ to address issues with current Cisco system.**

As previously reported all of the college’s main phone lines were migrated from ISDN 30 to SIP trunks in November 2022 and the licences for Microsoft Teams were purchased on 1st March 2023. After some delay caused by BT, the DDI number port for the Motherwell campus was successfully completed in April 2023. A small pilot of Teams telephony will be conducted in June and July with a view to rolling out to all staff in August/September. The new system will allow staff to make and receive both internal and external calls, via the college telephone system using Microsoft Teams regardless of their location, i.e. on or off campus. The total cost of this project to date is £62,262 exc. VAT but will generate savings of approximately 25% to 30% on the college’s annual telephone bill.

**Conduct a review of the in-house server, storage & backup infrastructure.**

An internal review of the college’s server, storage and backup infrastructure was completed in March 2023. This will allow us to create the technical specifications for the procurement of the new equipment required to upgrade the infrastructure which is part of next year’s plan.

**Review the allocation of college mobile phones.**

As previously reported the college re-tendered the contract for mobile phones in 2022 and this was awarded to Vodaphone under the Scottish Government Public Sector Framework. At the same time a review of mobile phone use within NCL was undertaken which allowed us to reduce the number of contracts in use from 135 to 90 in total. The migration of the numbers from O2 to Vodaphone was completed in January and has resulted in a saving of approx. £12k per annum.

**Brought Forward**

Obtaining approval from the Funding Council to allocate funds from the Very High Priority Maintenance fund for ICT infrastructure projects has allowed us to bring forward some of projects outlined for 2023/24 into this year. As a result, we have accomplished the following from next year’s plan:

**Upgrade the network infrastructure.**

Upgrade the LAN core switch at the Motherwell campus:

As previously reported the contract for the replacement of the Motherwell campus core network switch was awarded to Stone Technologies Ltd. on 27th January at a total value of £149,784 (exc. VAT). The new switch will be installed at the beginning of July and will allow us to retender for the inter-campus connections between Motherwell and the Coatbridge and Cumbernauld campuses. This will help to improve the performance of the network while simultaneously reducing costs.

Replace the unmanaged network switches at the Cumbernauld and Kirkintilloch campuses with 10 x PoE (Power over Ethernet) Managed Network Switches.

This project will be completed by the 31st July, at a total cost of £90,326, and will provide the connectivity required to support the increased number of wireless network access points resulting from the upgrade of the Wi-Fi network infrastructure.

**Summary of Expenditure 2022/23**

|  |  |
| --- | --- |
| **Project** | **Total Costs** |
| Laptops | £187,000 |
| Wi-Fi Network | £263,346 |
| A/V Display Screens | £185,000 |
| Clevertouch Inter-active Displays | £31,985 |
| Hybrid Teaching Rooms | £49,750 |
| Telephone Upgrade | £62,262 |
| M’well Network Core | £149,784 |
| PoE Edge Switches | £90,326 |
| **Total** | **£1,019,453** |

1. **Priorities for 2023/24**

Continuing with the priorities outlined in the ICT strategic plan the proposed projects for 2023/24 are as follows:

**Continue with annual Desktop & Laptop refresh cycle (working towards 5 - 6 year replacement lifecycle).**

Provision of £118k has been made in the annual ICT budget (pending approval) to continue the Desktop & Laptop refresh. This will provide for a further 200 laptops approximately.

**Continue Classroom A/V refresh/upgrade programme.**

We propose to continue with the three-year refresh programme by replacing a further 60 classroom display panels, across all campuses, with Clevertouch interactive screens. The estimated cost for this is £259,380 which will be met from the Capital Funding Maintenance budget for 2023/24.

**Upgrade the in-house server, storage & backup infrastructure.**

The college server, storage and backup infrastructure is approximately 10 years old. The hardware is End of Life and End of Support and is also no longer supported by 3rd party software suppliers such as VMware. This is preventing us from upgrading to the latest software versions and will threaten our ability to achieve Cyber Essentials certification within the next 18 months to 2 years. Due to the age of the equipment we are finding it increasingly difficult to find companies that are willing to offer hardware support contracts and this leaves us vulnerable to the risk of component failures. We are also exposed to risk in the event of a ransomware cyber attack as our current backup system does not provide for immutable (off line) copies. Therefore, we propose to upgrade the infrastructure, at an estimated total cost of £425k which will be met from the Capital Funding Maintenance budget for 2023/24.

**Upgrade the network infrastructure.**

As previously reported we were able to bring forward the replacement of the Motherwell core switch and the upgrading of 18 network edge switches to 2022/23. The upgrading of the network core at Cumbernauld and Coatbridge will be rolled over to 2024/25 as other projects are of a higher priority. The estimated cost for the upgrade is £180k.

1. **Cyber Security**

NCL successfully achieved Cyber Essentials certification on 3rd March. Cyber Essentials Plus certification was achieved a short time later on 31st March.

John Morrison

Head of ICT

May 2023