GCRB Glasgow Colleges' Regional Board

# Performance and Resources Committee Meeting

| | |
|---|---|
| Date of Meeting | Friday 9 February 2018 |
| Paper Title | Variation to IT Project 2017-18 |
| Agenda Item | 6 |
| Paper Number | PRC3-B |
| Responsible Officer | Jim Godfrey, Finance and Resources Director |
| Status | Disclosable |
| Action | For Discussion |

## 1. Report Purpose

**1.1.** To invite the Committee to consider the request from Glasgow Kelvin College in respect of capital funding allocated for 2017-18.

## 2. Recommendations

**2.1.** The Committee is invited to consider the revised business case presented by Glasgow Kelvin College.

## 3. Background

**3.1.** GCRB agreed its capital funding policy in June 2017. The funding policy allocated 50% of the funds to meet lifecycle maintenance with £2m available to meet strategic priorities. Bids were invited from the 3 colleges and Glasgow Kelvin College submitted a proposal to replace a large number of PCs aged 5-7 years old by improving its LAN infrastructure and implementing a Thin Client Installation.

**3.2.** The rationale for the project was outlined in the College proposal was as follows:

> "The College is seeking to make significant progress in addressing the backlog in ICT replacement, the ICT strategy outlined target replacement cycles and the College is seeking to move towards those as quickly as possible. Due to the large proportion of ICT equipment at the end of life there was an option to consider the implementation of a Thin Client infrastructure. A full option appraisal has been conducted and it has been decided that the Thin Client model is the best way forward for the College to ensure learners have access to excellent ICT facilities which meet fully modern security protocols. This route forward does however have additional costs associated with it. The crucial need for this investment is now being evidenced by student and recent HMIe feedback as part of the routine College engagement with Education Scotland which support the assessment already made by the ICT team.

The proposed investment outlined in the table below is based on an estimate of the scale of work which can be reasonably delivered during academic year 2017/18 and is in addition to the wi-fi upgrade. These facilities provide free access to internet services for a large number of learners and to the wider community throughout the John Wheatley Learning Network within areas who suffer from digital exclusion and have less access to ICT at home than is now the norm. The College is seeking to undertake as much of the installation and configuration work itself to maximise funds available for investment in hardware. It should be noted that the weak value of sterling is increasing the prices of ICT hardware at present.

This investment will also make it easier to maintain the security of College systems and the network and will also help implement the new General Data Protection Regulations due to come into operation in early 2018, organisations must take technical and organisational measures against unauthorised or unlawful processing, accidental loss, destruction or damage of data."

**3.3.** Within the bid documentation the project was summarised as follows:

| **Project** | **Description** | **Status** | **Proposed Funding** | **Estimated Cost (£'000)** |
|---|---|---|---|---|
| Springburn LAN | To improve network performance, learning experience and staff efficiency at Springburn Campus per ICT Strategy and Capital Investment Plan | Specification under development Anticipated cost updated | GCRB | 246 |
| Thin Client Installation[1] | Project to implement an efficient, secure and modern ICT infrastructure over two years per ICT Strategy. The College has 443 PC's on its network which are over 7 years old and a further 651 which are 5-6 years old | Procurement process to commence in June 2017 | GCRB | 264 |

**3.4.** In June 2017, the Performance and Resources Committee used the following criteria to evaluate the bids. The weightings, maximum score and actual score for the proposal from Glasgow Kelvin College are detailed below:

| **Target Area** | **Project types that deliver….** | **Weighting** | **Max Score** | **Actual Score** |
|---|---|---|---|---|
| Equitable services for all | A consistent experience and comparable level of services across Glasgow, widening access to services. | 30 | 5 | 4 |
| Opportunities for learning | Facilities to meet future curriculum/service needs, projects that improve the learner journey, services for those with greatest need i.e. areas of deprivation, low/no skills, flexible provision. | 25 | 5 | 3 |

[1] In addition to the funds requested from GCRB, it was anticipated that further funding of £322,000 would be provided by the Arm's Length Foundation to implement the Thin Client Installation.

| | | | | |
|---|---|---|---|---|
| Sustainable institutions | Improved efficiency, lower running costs, reduced environmental impact/carbon reduction, well-maintained resources, improved resource usage. | 15 | 5 | 3 |
| Developing the region | Aspirational projects, services to meet emerging priorities, a collaborative approach with others. | 15 | 5 | 3 |
| Measuring the benefits | Demonstrable benefits at reasonable cost, a positive return on investment, evidence of project beneficiaries, effective project management, a commitment to project evaluation. | 15 | 5 | 3 |
| | **Total** | **100** | **25** | **16** |

**3.5.** On this basis, the Performance and Resources Committee approved to fund the project put forward by the College.

**3.6.** In December 2017, the College approached GCRB and requested a variation to the project. The College advised that it had re-evaluated the business case for a thin client solution and proposed an alternative approach. A copy of the business case was provided to GCRB by the College.

**3.7.** Following feedback from Committee members it was agreed that a meeting of the GCRB Performance and Resources Committee should be convened to consider the revised proposal from the College. The College has supplied a revised business case (copy attached) and representatives of the College will attend the meeting to present the case and answer questions.

## 4. Risk Analysis

**4.1.** The College is required to commit the capital expenditure by 31 March 2018 and there is limited time available. If the grant is not committed by this time then it may be re-allocated elsewhere.

## 5. Legal Implications

**5.1.** There are no specific legal implications associated with this report.

## 6. Resource Implications

**6.1.** The financial implications associated are set out in the body of the report.

## 7. Strategic Plan Implications

**7.1.** The implementation of the capital funding policy allocates resources to support the delivery of the Regional Outcomes.

**Glasgow Kelvin College**

**Strategic Management Team**

**Desktop ICT Infrastructure Investment**

**Report by Vice Principal – Finance & Corporate Services & Head of ICT Services**

## 1. Introduction

Detailed work on the options available to the College in order to address the ageing desktop ICT hardware within the College is now complete. The purpose of this report is outline the work done to firm up the costs in respect of the options available and recommend a final proposal for progressing this essential investment to support the quality of the learner experience.

The two options considered by the College were to progress a new 'Thin Client' approach to the delivery of desktop services or to replace ageing PCs with new ones alongside further system management enhancements. The requirement to replace ageing PCs was described in detail in the original document which supported the bid for capital funds. The replacement of this equipment remains a critical issue to the College as the high proportion of ageing desktop hardware (PCs and monitors) continues to impact adversely on the learner experience, administrative efficiency and technical servicing and support of the infrastructure.

## 2. Option Appraisal

The initial option appraisal work conducted by the College indicated that the most favourable approach was to move to a Thin Client model. The advantages and disadvantages associated with a Thin Client approach outlined in that paper remain valid and are summarised below:

**Advantages – Thin Client Installation**

- reduced desktop hardware costs as thin clients have a longer life cycle than PCs;
- easier to manage by ICT support team;
- easier to update images, introduce new software and reconfigure end user devices;
- quicker to install updates and patches to address security concerns which in turn reduces the likely impact and risk of the College being vulnerable to cyber attacks;
- better control over data and reduced likelihood of data breaches;
- reduced recovery time from a system failure, security breach or cyber attack;
- reduced power consumption (reduced carbon footprint); and
- reduced electronic waste due to extended replacement cycles.

**Disadvantages & Risks:**

- a thin client model will cost substantially more over a 10 year period;
- the College will be committed to it for a considerable period and will need to continually resource the maintenance and updating of the server infrastructure;
- the installation and roll out project is significantly higher risk in terms of cost and functionality than PC replacement;

- the John Wheatley Learning Network, mobile devices, laptops and some Mac provision cannot be included within a Thin Client solution meaning the College will need to operate much of its current infrastructure and systems;
- there are licensing issues and significant additional recurring costs; and
- the rich media experience for learners is diminished without yet further investment.

The initial appraisal exercise, based on the information available at that time, estimated that the introduction of a Thin Client model would result in additional costs (over and above PC replacement) totalling around £365k over a 10 year time horizon. The judgement made by the College was that the advantages were such that this additional cost represented value for money. It should be recognised that the initial costing was largely based upon outline figures provided by vendors.

Following the approval of a move towards a Thin Client model in principle, significant additional work was undertaken to detail out the technical specification, support and licensing requirements with a view to preparing a tender specification. It was intended that this would seek to ensure the installation would meet performance requirements, enable access to current software provision and manage appropriately the risk associated with implementation. The strategic importance of this decision was well understood and therefore significant additional work / activity has been undertaken to ensure that the approach taken by the College was based on as robust an understanding as possible of all the costs, associated risks and performance of a Thin Client model. This activity included:

- detailed discussion with hardware vendors to firm up specification and likely costs of the backend hardware and annual support costs;
- careful consideration of licensing costs including a review of existing VDI licenses and the comparable costs for implementing Citrix against a VMWare based system;
- detailed review of desktop thin client hardware models, management, costs and Microsoft licensing;
- visits and discussions with ICT professionals and end-users at colleges where a thin client model has been implemented (which highlighted the key Microsoft licensing issue);
- a further review of desktop PC costs, costs associated with power down software and a review of how the revised College ICT staffing structure is operating with regard to endpoint management; and
- software and performance testing utilising thin client technology.

The outcome of this work is that the likely cost of a Thin Client approach relative to PC replacement has increased to an estimated £823k over 10 years.

Following consideration of the option of this detailed option appraisal it is now judged that the College that it should proceed with PC replacement. The rationale for this decision is on the basis of the following key points:

- a Thin client solution will cost considerably more, provides a poorer ‘value for money’ return and represents a financial commitment which will require long-term resources to maintain. The opportunity cost will be capital and revenue investment in other areas including other aspects of ICT services, Estates investment and equipment and facilities for faculties which will impinge adversely on the learner experience;
- no significant advantages for the end user have been identified from the Thin Client model whereas the additional investment in other facilities in the longer term, which will be

enabled through PC replacement, will have a bigger positive impact on the learner experience.

- thin clients produce a questionable experience when using rich media services and applications, which cannot be addressed without further substantial investment;
- the implementation of power down software will enhance the energy performance of PC replacement to offset some of the carbon footprint disadvantage associated with PCs;
- the reduced spend will enable the acceleration of the project to implement an integrated Building Management System which will be specified to facilitate improved energy efficiency across the College estate as part of the Board's Climate Change strategy;
- the College will not be in a position whereby it has to operate both a Thin Client infrastructure and a PC / Laptop based infrastructure (largely as a consequence of the learning network arrangements with partners and increase in mobile working);
- Increasing numbers of staff and students are using laptops or their own devices to access ICT services rather than desktop devices. Natively installed applications (as opposed to thin client delivery) provide a better user experience – this model is key in the College's multi-site environment;
- there would remain a requirement to support PC and laptop based service delivery in a number of areas meaning that a complete move to thin client would not be feasible and dual systems would be necessary, thus reducing the potential operational benefits of the Thin Client model;
- the development of plans to address the new GDPR requirements have identified an urgent need to address the ageing Mac estate;
- a number of concerns in respect of licensing, performance and costs have been identified from visits to other college sites which were not highlighted during the initial review. These licensing issues contribute to increased on-going costs associated with a Thin Client model;
- the balance of risk of additional costs and poorer performance remains with the Thin Client model despite the additional work undertaken to minimise this risk; and
- the management of security and updates to the PC network is now operating much more effectively than it has in the past and further progress on this will be made once new PCs are in place and moderate levels of systems investment are made.

Uncertainty over availability of future funding and other future investment needs makes it particularly difficult at present to commit the College to the long term costs of Thin Client.

Appendix 1 provides a revised costing model which is based on best estimates of costs and energy savings at present. This is based on a straightforward estimated cash flow model and does not seek to discount future costs or estimate future inflation.

**3. Funding**

The College was awarded £264k from GCRB to contribute to the implementation of a thin client solution to replace ageing PCs in the College.

The proposed investment in new PCs addresses the problem just as, if not more, effectively as the Thin Client installation. In these circumstances the College anticipates that GCRB would be willing to allow the College to alter the direction of the project in order to achieve the maximum benefit for learners from the resources available. This is on the basis that the replacement of obsolete

equipment would be achieved at lower cost in the long term and deliver the same, if not better, benefits to learners.

As the revised costing model indicates year one costs for PCs are £301k with a further £100k invested in Mac labs.

This decision has no bearing on the other ICT investment projects, i.e. wi-fi upgrade (complete), LAN switches (contract awarded) and smartboard replacement (first phase now complete).

**4. Recommendations**

The renewal of PCs is now adopted as the most appropriate way forward for delivery of desktop ICT services in the current context.

It is recommended that:

i) SMT approve PC and Mac replacement as the preferred method for delivery of desktop services;

ii) confirmation is sought from GCRB that they are content with this proposal; and

iii) subject to the above, hardware is procured immediately from existing frameworks for rollout to commence in March 2018.

Glasgow Kelvin College
February 2018
JG/AL