8th February 2021

**To: ELT**

# MAC CAPITAL REPLACEMENT

## ISSUE

1. The College Mac fleet has an average age of 9 years and the equipment has become slow, unreliable and unusable and is hazarding learning outcomes.

## RECOMMENDATION

1. The recommendation is to replace the existing fleet of 137 Macs and 1 Mac server with 122 new high-end Windows PCs and 15 new iMacs.
2. Formal approval is being sought for £210k total capital spend. £204k can be deferred to the 1st August and £6k will be required immediately to enable the early completion of the more complex project tasks.
   1. If the technical work is begun now the bulk of the capital purchase can be deferred to 1st August in line with objectives set in the Q2 Finance meetings.
   2. The main rollout can then be optimised into a production-line imaging and physical installation process and the new Mac suites can still be completed for the start of the 2021/22 academic year.

## TIMING

1. £6k is required immediately with a further commitment for £204k for a delivery timed to arrive on 1st August.

## BACKGROUND AND ANALYSIS

1. 137 Macs, 2 Mac servers and local storage were purchased in 2012 to provide access to hardware and software for students in arts, media, photography and music.
2. As the Macs are now 9 years old, they are not capable of upgrading to the latest iMac operating system and hence they were highlighted in the follow up to the cyber-attack as being extremely high risk.
3. In order to mitigate the risk, and in line with KryptoKloud advice, the IT team moved them onto a separate network and isolated them.
4. This means the functionality is severely reduced. Students cannot log on using their college username and password, they have to log on as local Admins. They can use the Mac Adobe and Music software but have no access to all other standard college software (like e-mail, T: drive, S: drive, Word, Excel etc.).
5. The extreme old age combined with the network isolation means that the learning experience is poor.
6. Discussions have been held with all of the curriculum areas affected to explore the potential for replacing Macs which are difficult and expensive to support with Windows computers.
7. The Music section must retain Macs because the curriculum software does not work on Windows but in all other areas high-performance Windows computers are suitable and the curriculum teams support the change.
8. This change would enable most of the £20k annual support payment to Jigsaw to be removed and would also enable the IT team to address the support issues that give rise to complaints from HE students (customised Internet permissions, slow performance etc.) because of the restrictions associated with using Macs as part of a corporate network.
9. Further analysis –
   1. The number of courses and students using the Macs is still being calculated and the paper will be re-issued if this is established before ELT.
   2. If the Macs are replaced like-for-like rather than using high end PCs where possible the cost would increase to £407k plus £20k - £30k per year for external support.
   3. The curriculum areas have been challenged to reduce the number of units and have stated that they need the same quantity. This is currently being challenged via a timetable analysis exercise.
   4. The exact implications of a further delay in replacement are hard to quantify. However, it is likely that that worsening reliability and availability could have a direct impact on learning outcomes in 2021/22.

## SUMMARY

1. The IT team have maximised the lifespan of the Macs but the end-of-life state has now been reached.
2. The Mac fleet needs to be replaced at a cost of £210k and a 3 month internal project split between some immediate tasks and some tasks in August after the main delivery.

## FINANCIAL IMPLICATIONS

1. £210k will replace all of the Macs with high-performance Windows computers except in Music where there are no Windows alternatives for the software used to deliver the current curriculum.
2. Hardware prices fluctuate so there may be some variation in the project cost when formal quotations are received.

## INFRASTRUCTURE AND HEALTH AND SAFETY ISSUES

1. There are no physical infrastructure issues; potentially the health and safety for students will be positively impacted by replacing a slow, unreliable and frustrating experience with a set of reliable and high-performance resources.

## CLIMATE CHANGE AND SUSTAINABILITY

1. The old Mac fleet does consume more energy than modern hardware but the impact will be negligible.

## INTERNAL AND EXTERNAL COMMUNICATIONS CONSIDERATIONS

1. Internal communications to teachers in affected areas will be well received and is likely to produce a morale boost.
2. The new facility could be maximised through external communications of a soft relaunch with the objective of increasing applications to related courses in 2021/22

**A close up of a device

Description automatically generated**

**Graham Harrison (Group Director of IT, Information Management & Projects)**

**Annexes:** Annex A – Initial Cost Breakdown

## ANNEX a – iNITIAL cOST bREAKDOWN

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Campus | Building | Room | Current Hardware | Current Quantity | Proposed Hardware | Proposed Quantity | Unit Cost (incl. VAT) | Total Cost |
| CHT | CHT | Room 2.5 | iMac | 1 | i7, 16GB RAM, 500GB HDD, GPU, Dual High Quality Screens | 1 | £1,367 | £1,367 |
| CHT | CHT | Room 2.4 | iMac | 21 | i7, 16GB RAM, 500GB HDD, GPU, Dual High Quality Screens | 21 | £1,367 | £28,706 |
| CHT | CHT | Room 2.3 | iMac | 20 | i7, 16GB RAM, 500GB HDD, GPU, Dual High Quality Screens | 20 | £1,367 | £27,339 |
| CHT | CHT | Room 2.1 | iMac | 19 | i7, 16GB RAM, 500GB HDD, GPU, Dual High Quality Screens | 19 | £1,367 | £25,972 |
| CHT | CHT | Room 2.10 | iMac | 19 | i7, 16GB RAM, 500GB HDD, GPU, Dual High Quality Screens | 19 | £1,367 | £25,972 |
| CHT | CHT | Room 1.4 | iMac | 21 | i7, 16GB RAM, 500GB HDD, GPU, Dual High Quality Screens | 21 | £1,367 | £28,706 |
| CHT | CHT | Room 1.2C (Studio) | Tower Mac | 2 | i7, 16GB RAM, 500GB HDD, GPU, Dual High Quality Screens | 2 | £1,367 | £2,734 |
| Lincoln | Knights | Recording Studio | iMac | 1 | **iMac** | 1 | £2,750 | £2,750 |
| Lincoln | Knights | Room KO1 | iMac | 14 | **iMac** | 14 | £2,750 | £38,500 |
| Newark | North Block | Studio | iMac | 1 | i7, 16GB RAM, 500GB HDD, GPU, Dual High Quality Screens | 1 | £1,367 | £1,367 |
| Newark | North Block | Studio | iMac | 4 | i7, 16GB RAM, 500GB HDD, GPU, Dual High Quality Screens | 4 | £1,367 | £5,468 |
| Newark | North Block | Production Office | iMac | 14 | i7, 16GB RAM, 500GB HDD, GPU, Dual High Quality Screens | 14 | £1,367 | £19,137 |
| Total |  |  |  | **137** |  |  |  | **£208,015** |