UNI 20 21

THE DIGITAL CAMPUS:

Delivering for students beyond the pandemic

CISCO

FOREWORD

COVID-19 has underlined the value of higher education. Ranging from delivering the research underpinning the international virus response, to training the critical workers of the future, the pandemic has confirmed why universities are among the most respected and beloved institutions in the UK.

For its role in national life and its value as an international export, higher education will be vital to the country's efforts to come back stronger and better.

But as institutions, universities are under significant pressure. The sector already faces financial challenges, with the funding deficit in the Universities Superannuation Scheme widening to between £14.9bn and £17.9bn by March 2020.

The pandemic has transformed university life, as social distancing compromised and even suspended the campus experience valued by students and staff alike.

Universities have adapted quickly and used technology to provide a remote or blended learning experience. But how do students rate universities' efforts? And as universities plan for the future, are leaders really in touch with what matters to students in the new normal environment?

We surveyed 500 higher education decision makers including heads of operations, estates, IT architecture and administration, as well as 2,100 students from a range of institutions across the UK.

This report will explore the struggles and successes of universities in adapting to COVID-19 – and the opportunities technology can offer for supporting long-term growth.

It has been a tough time, and the decisions made now will be vital for universities' future success. But with the right digital investments, universities can improve the student experience, optimise their operations and even find new sources of revenue – to keep delivering the world-class education that the UK is known for.

Tom Kneen
Head Of Academic, Research &
Technology Partnerships at Cisco

DEMOGRAPHICS

This research was undertaken by Coleman Parkes on behalf of Cisco in February and March 2021.
From a diverse range of higher education institutions in the UK, we surveyed:

500 higher education decision makers including:

· Student experience owners
· Heads of operations
· Heads of estates
· Head of IT architecture
· Heads of administration

2,100 students, including:

· 900 freshers
· 900 returning students
· 300 postgraduates

EXECUTIVE SUMMARY

Students are keen for a seamless digital infrastructure to support their university experience, but expectations and reality don't always match up.

Technology plays an important role in student life, as 68% like to use modern digital technology for their studies or research. WiFi (66%), remote lectures (62%) and library book reservations (62%) are the most common digital services used by students.

Students question the quality of many university technologies. Only 58% of students have positive experiences of joining lectures via video call, falling to 47% when attending hybrid lectures.

Many have been surprised and disappointed by the technology on offer. 36% thought their university experience would be more technologically enabled than it turned out to be. 28% were surprised by the poor quality of technology in use.

Many students have been disappointed by how universities have responded to COVID-19 and the remote learning on offer, causing many to question the value of the university experience.

Universities have used technology to adapt to teaching in the pandemic, with students attending video call lectures (63%) and accessing more resources online (57%).

But many students believe universities must invest in making online learning more engaging (65%). 55% report difficulties staying focused during web conferences. Only 45% believe that video lectures are a good replacement for in-person lectures, 62% believe the pandemic has limited the value of university and 51% want to see action to improve the student experience.

University decision makers are well-attuned to the changing concerns and needs of students, and are prioritising investments supporting the university experience.

49% of universities have experienced increased dropout rates as a result of the pandemic.

Leaders have taken measures to improve the campus experience, including online classes and lectures (67%) and investing in technology for day-to-day operations (51%). But while 51% of universities have invested in new technologies to support students, only a third of students have noticed the impact.

Two thirds of leaders recognise they need to do more to improve the student experience. 64% have invested in a digital platform for students, while 23% have plans to.

A lack of technical knowledge is hindering universities from keeping pace with student needs – and a robust infrastructure will be key to supporting future change.

61% of leaders believe their institution is more agile as a result of 2020, with 55% making decisions faster than ever before. However, just 55% believe they can effectively react to changing student expectations. Likewise, only 55% believe their institution is making the most of its investments in technology and digital infrastructure.

Decision-making is being hindered by a lack of funding (55%), difficulty overcoming legacy technology (42%) and a lack of technical knowledge (35%).

Priorities for 2021 include improving the remote learning experience for students (49%) and investing to improve digital capabilities (45%). Only 23% are looking to prioritise investments in public and private cloud computing.

Students:

EXPECTATIONS VS. EXPERIENCES OF CAMPUS TECHNOLOGY

51% OF STUDENTS EXPECT MORE MODERN TEACHING AND RESEARCH

Selecting a university is one of the most important decisions a student will make. But especially in the time of COVID-19, expectations and experiences can be quite different. When it comes to technology, students hope for a seamless digital infrastructure to support their studies, but many are disappointed by the offering on campus – and this can hinder the university experience.

"Surprisingly" poor

A number of factors influence students' choice of university. Reputation (44%) and location (42%) are among the most important when deciding where to go.

But interestingly, once students arrive, their priorities shift. The quality of teaching (58%) and the digital infrastructure provided (49%) become much more important.

This reflects the vital role that technology plays in students' daily lives. The majority of students like to use modern digital technology for their studies or research (68%) to gain control over how and where they work, while two thirds think universities should use technology to support student learning (68%).

Unfortunately, in many cases the reality on campus doesn't match up. Over a third of students admit they thought their university experience would be more technologically enabled than it turned out to be (36%). Three in ten were even surprised by the poor quality of technology in use (28%).

Across the board, more than half of the students surveyed believe it's time for their university to adopt more modern approaches to teaching and research (51%).

Over a third of students admit they thought their university experience would be more technologically enabled than it turned out to be

36%

The digital platform divide

Students use several digital tools offered by their university, but the most common is on-campus WiFi (66%) – ahead of remote lectures (62%) and library book reservations (62%). But the quality of this provision isn't always up to scratch.

Only slightly more than half of the students that use on-campus WiFi rate their connectivity as positive (57%). Similarly, just 58% of students have positive experiences of joining lectures via video call – falling to 47% when attending hybrid lectures, where some students attend in person and others remotely.

It is becoming more common for institutions to offer students a digital platform to help manage their university lives – and two thirds of our respondents benefit from this kind of service (65%). These digital platforms are most commonly used for:

- Contacting staff (70%)
- Reserving library books (66%)
- Booking lectures (63%)

By contrast, the least common functions for these platforms are integrations with transport options (48%) and assistance with navigating campus (52%).

The students without access to this kind of digital platform are clear on the benefits that it could bring. If their university were to introduce a platform, students say they would most value:

- Booking lectures or seminars digitally (58%)
- Reserving desks and study space digitally (51%)
- Digital maps for navigating campus (50%)

Students are aware of the difference that technology could make to the on-campus experience, and by offering new services universities can differentiate themselves and increase student satisfaction.

VIEW FROM CAMPUS

I used to wake up bright and early at 7am and listen to a podcast during my half-hour walk to my morning lectures. Now, I roll out of bed 15 minutes after my third alarm and hop onto a video call while enjoying my morning coffee. It isn't uncommon for me to have two or three different softwares humming in the background at once, leftover from my previous evening's work of simulating circuits and digital designs. The pivot to simulated labs is arguably the hardest hit that students take; we no longer have direct access to help as we work, and many of my friends feel disadvantaged by the lack of hands-on experience which is what we all consider a key part of engineering education.

YOLANNE LEE,
Electrical and Electronics Engineering student at UCL

A TRULY DIGITAL EXPERIENCE

Students today have high expectations for how technology should enrich their experience. It's about much more than video lectures; students expect solutions that will give them control – and continuity – over when, where and how they work. They want support locating resources and getting to the right room at the right time. And they want personalised experiences, attuned to their preferences and behaviours**.**

A truly digital student experience is about using tools to create valuable, engaging interactions. Technology investments should make these experiences feel natural and seamless. But right now, there are still challenges across connectivity and services – and student expectations are outpacing the reality on campus.

Students:

RATING UNIVERSITIES' PANDEMIC RESPONSE
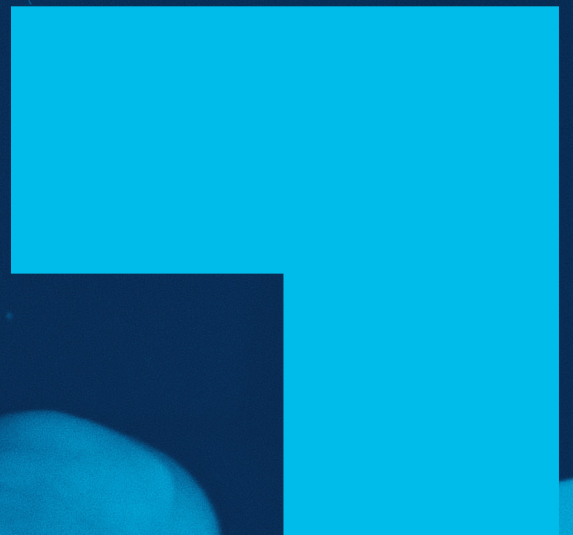
51% OF STUDENTS BELIEVE UNIVERSITY LIFE WILL NEVER BE THE SAME

COVID-19 has transformed higher education in the eyes of students, causing many to fundamentally question the value of the university experience. Many are unsatisfied with how their university has responded to the pandemic so far. Students are failing to notice any increased investment in technology and would like to see further measures to make remote learning more engaging and effective.

Limiting value

Amidst the lockdowns and social distancing of the pandemic, universities have adapted their operations to maintain teaching, often turning to technology.

Two thirds of students report lectures have moved to video calls (63%), while 57% have seen more learning resources shared online.

Students question the effectiveness of these methods at present, however. Most report difficulties staying focused during web conferences (55%), and only 45% believe that video lectures are a good replacement for in-person lectures. Many believe that universities need to invest in making online learning more engaging (65%): a critical part of the transition to a hybrid campus.

Notably, students are failing to see the impact of new technology specifically introduced in response to the pandemic. Just 38% believe their university has invested in new technologies or digital platforms for students as a result of COVID-19.

Nearly two thirds believe the pandemic has limited the value of the university experience

63%

More engaging and flexible

Students are extremely aware of the impact of COVID-19 on university life. Nearly two thirds believe the pandemic has limited the value of the university experience (62%).

Worryingly, 44% agree that had they known the impact it would have on their student experience, they wouldn't have enrolled in university this year, while half say university life will never be the same again (51%).

Looking ahead, 56% of students think people will be less likely to enrol at university as a result of the pandemic.

There are measures that higher education institutions can take. Most students are keen to see universities provide more support as a result of the pandemic (54%), with half asking to see action to improve the student experience specifically (51%).

When asked to select a single change that students would like to see in their time at university, the most common response was greater use of technology to make remote learning more engaging and effective (31%).

Offering greater flexibility to attend classes physically or digitally (27%) and further investment in digital platforms for students to manage their studies (22%) would also be popular measures.

Students are all too aware of the challenges universities have faced during COVID-19. Through tangible changes like making remote and hybrid learning more flexible and engaging, universities can further mitigate the damage of the pandemic – and help students to see the value in their studies.

VIEW FROM CAMPUS

COVID-19 has acted like an amplifier: small issues with communication that were easier to address when we had in-person lectures are now crucial to student success, but distribution and finding the balance between relevant and irrelevant information across so many departments has proven to be a challenge. On the other hand, digital access to all our required material has finally become the norm after years of inconsistency across lectures and professors, allowing us to work and review at our own pace and according to how we like to learn. So many little aspects that were easy to take for granted from both the student and staff sides of things are now integral to what it means to study in a digital world.

The largest hurdle is engagement: it's so easy to tune out of watching live or recorded lectures, and I think one of the "quick fixes" I'd love to see more is the use of mentimeter or other live interactive activities that keep us actively present.

YOLANNE LEE,
Electrical and Electronics Engineering student at UCL

THE HYBRID UNIVERSITY

The student experience was transformed by the move to remote teaching – and many believe that university life will never be the same. In some ways, that's true: but universities have the opportunity to take the positives from this transition by perfecting the hybrid campus. That means blending the virtual environment with dispersed physical environments, for seamless learning, teaching and research experiences.

For students, the digital university experience should be as natural and engaging as their daily lives prior to COVID-19. The hybrid campus should cover smart places, frictionless plug and play access to resources, and even commercial partnerships to bring new services to students. Enabling students to choose and take advantage of applications will be key; this generation of students run their lives through apps and want to see the same at university. This transition will be critical for helping prospective students see the value of university once again.

University decision makers:

THE CONSENSUS ON CHANGE

7

65% OF LEADERS BELIEVE MORE IS NEEDED TO PROTECT THE EXPERIENCE OF PANDEMIC STUDENTS

Leaders at higher education institutions recognise the damage COVID-19 has done to the value of the university experience. Fortunately, these decision makers seem well-attuned to the changing concerns and needs of their students. Many are prioritising greater investment in the technology and infrastructure supporting the university experience, exactly as students are requesting.

Adapting to COVID-19

Like students, higher education decision makers understand the damage caused by the pandemic. Over half believe that COVID-19 has limited the value of the education they can offer their students (56%).

This is reflected in student numbers. Almost half (49%) have experienced increased dropouts as a result of the pandemic, while 47% believe potential students are less likely to enrol at university. Looking ahead, 51% are worried that life will never be the same for students and staff.

However, decision makers have taken proactive measures to adapt the campus experience during the pandemic:

- 67% have moved classes and lectures online to video collaboration platforms

- 65% have shared more learning resources digitally

- 51% have invested in technologies to support the day-to-day operations of the university

51%

OF UNIVERSITY LEADERS HAVE INVESTED IN NEW TECHNOLOGIES OR DIGITAL PLATFORMS TO SUPPORT STUDENTS

Across the board, 51% of university leaders have invested in new technologies or digital platforms to support students – whereas only a third of students have noticed the impact (38%).

Interestingly, despite the need for social distancing, only 31% expanded the range of physical locations for students to study or research – which perhaps suggests a lack of data on physical assets to support this kind of decision-making.

The push for improvement

Students are keen to see more from their universities in response to the pandemic – and encouragingly decision makers feel the same. Two thirds of leaders recognise they need to do more to improve the student experience (65%) and acknowledge the priority to better support students (64%).

Interestingly, university leaders correctly identified that the top priority amongst students today is for the university to use technology to make remote learning more engaging and effective (34%) – closely followed by introducing greater flexibility for remote attendance (29%).

When it comes to remote or blended learning, 71% of decision makers agree universities need to make online learning more engaging. Reflecting students' sentiments, just 40% believe that currently video lectures and seminars are a good replacement for in-person teaching.

Two thirds of decision makers have invested in a digital platform for students (64%), with functions to help manage university life. A quarter have plans to develop a platform (23%), although 7% have no plans at all.

Positively, students and university leaders are well-aligned on priorities for the future, including using technology in a more engaging way to support studies and the campus experience. The next challenge for universities will be moving quickly enough to meet students' expectations.

VIEW FROM CAMPUS

Like most universities, we had to quickly funnel our processes and people into a digital format. This was a big challenge as it wasn't as simple as replicating real life online. We had to configure a new approach that considered individuals' circumstances, was accessible, and targeted a much larger online audience of prospects.

Technology has been key to giving us the flexibility we need to support individuals.

Although our platform is an anchor-point which harnesses our joint culture, those at the innovation hub can research, collaborate and receive support through the channels that best suit them. As a result, we're able to be much more inclusive – no one needs to be local to be a part of The Bayes Centre.

For us, there will always be value in getting together and innovating around a table, but our use of remote working has shown us there's value in incorporating both approaches into The Bayes Centre. The next step will be building out a mosaic of services to tailor innovation programmes to whoever, wherever.


MICHAEL ROVATSOS
Director of The Bayes Centre at the University of Edinburgh

AN ADAPTIVE UNIVERSITY

It's unsurprising that many university leaders match their students' sentiments. There's clearly fatigue with remote teaching, and recognition that video calls alone aren't a good replacement for face-to-face interactions. Now, universities need to create engaging, immersive experiences for students and staff – no matter the restrictions.

Establishing an adaptive digital platform can build resilience and adaptability into the hybrid model, to deliver continuity regardless of how social distancing evolves. This will create a dynamic infrastructure, that can evolve quickly to keep up with student demands: an easy to access, digital platform for the university, enabling all kinds of functions and services for students. That way, universities can ensure they're delivering value for students even in the fastest-changing circumstances.
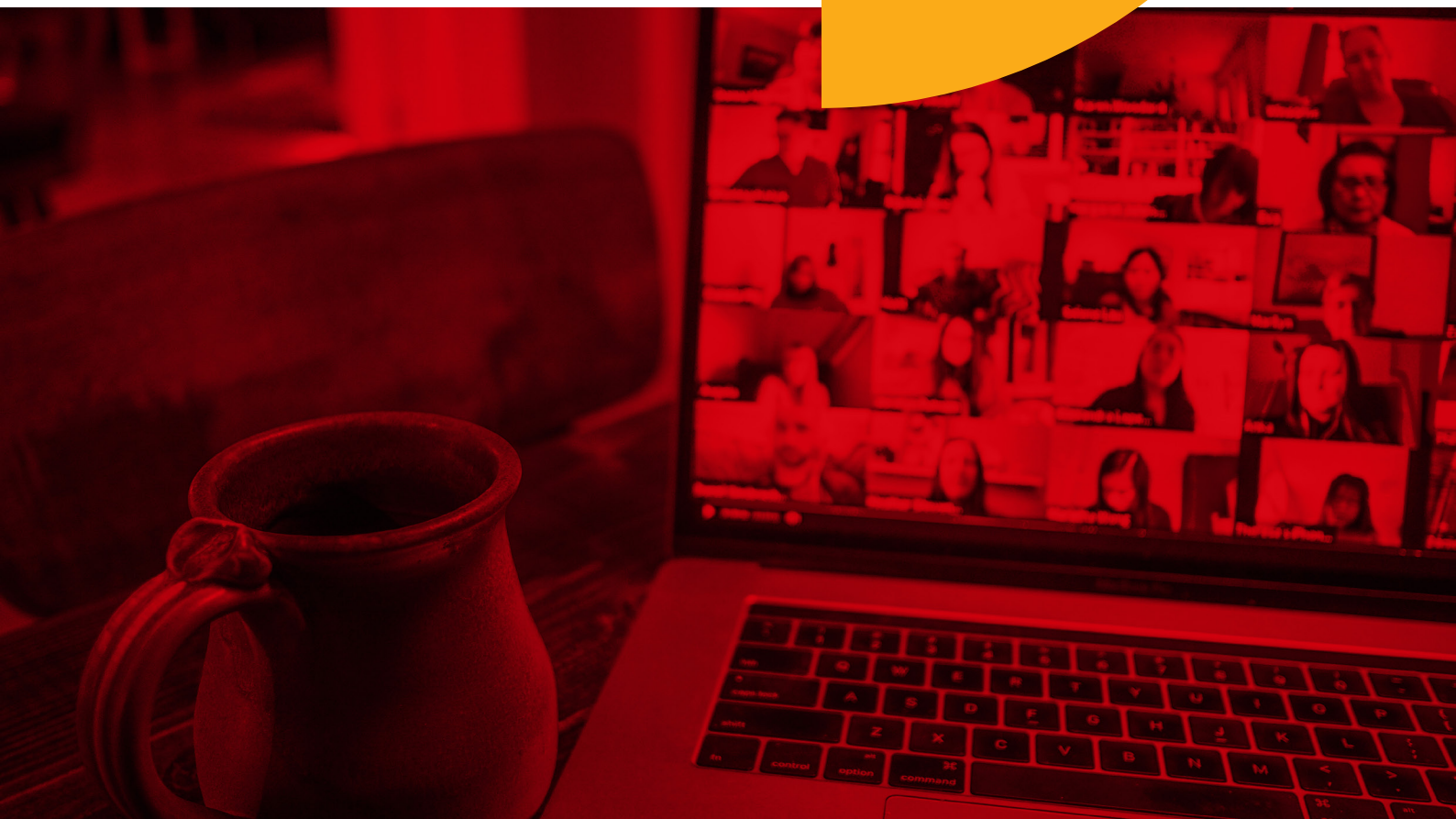
University decision makers:

PLANNING AHEAD

JUST 55% OF UNIVERSITIES ARE MAKING THE MOST OF DIGITAL INFRASTRUCTURE INVESTMENTS

While it's positive that university leaders are in tune with their students' priorities, institutions have a significant task ahead as they change for the future. The events of 2020 have increased agility at many universities, but a lack of technical knowledge is preventing some from making the most of their investments – and keeping up with students' needs. With students expecting tangible changes to their experience, it will be important to put the right infrastructure in place to support further timely change.

Growing agility

The ability to adapt rapidly to changing circumstances has been critical to all universities during the COVID-19 pandemic and will be valuable in the face of further uncertainty. Encouragingly, 61% of leaders believe their institution is more agile as a result of 2020 – with 55% making decisions faster than ever before.

Leveraging existing technology and investing in new tools has been at the heart of many universities' responses, and 71% of leaders agree students and staff now rely more on technology for studies and research. But unfortunately, only 55% believe their institution is making the most of its investments in technology and digital infrastructure.

Other assets are being underused too. Only 40% of decision makers think they're making the most out of their real-estate and facility investments, and less than half believe that research-specific infrastructure investments are being well-used (46%).

55%

OF LEADERS BELIEVE THEY CAN MOVE QUICKLY ENOUGH TO REACT TO CHANGING STUDENT EXPECTATIONS.

Unfortunately, this may be hindering universities' ability to keep up with students' needs. Just 55% of leaders believe they can move quickly enough to react to changing student expectations. And interestingly, only 54% list the satisfaction of their students as the most important factor when making decisions at their institution.

Leaders acknowledge that there are key barriers slowing down decision-making in their organisation:

· 55% point to lack of funding

· 42% cite difficulty overcoming legacy solutions and technology

· 34% list a lack of technical knowledge for identifying and deploying technology

Addressing these hurdles will be key for delivering the tangible, timely changes that students are calling for.

Investing in tomorrow

University decision makers have clear plans for 2021. Understandably, the biggest priority for most leaders is taking precautions against the spread of COVID-19 on campus (57%).

Other priorities are more focused on the student experience:

· Improving the remote learning experience for students (49%)

· Investing in better technology to improve or expand our digital capabilities (45%)

· Making better use of our physical campus infrastructure (40%)

Leaders are also planning digital investments to support these ambitions. Around half are focusing on remote studying solutions for students (54%) or staff (48%), as well as video conferencing technologies for teaching (47%).

However, only 23% are looking to prioritise investments in public and private cloud computing – infrastructure that would be key to delivering other technologies. Nonetheless, most leaders are planning for their future projects to be cloud-first (33%) or follow a hybrid model (29%). Positively, only one in five will be sticking to on-premise computing (19%).

Having a strong digital infrastructure in place will be important for universities to gain the most value from their investments – by improving operational efficiency and the student experience. Putting a robust digital platform in place can help leaders make significant and timely differences to the lives of students and staff, even amidst the ongoing uncertainties of the year ahead.
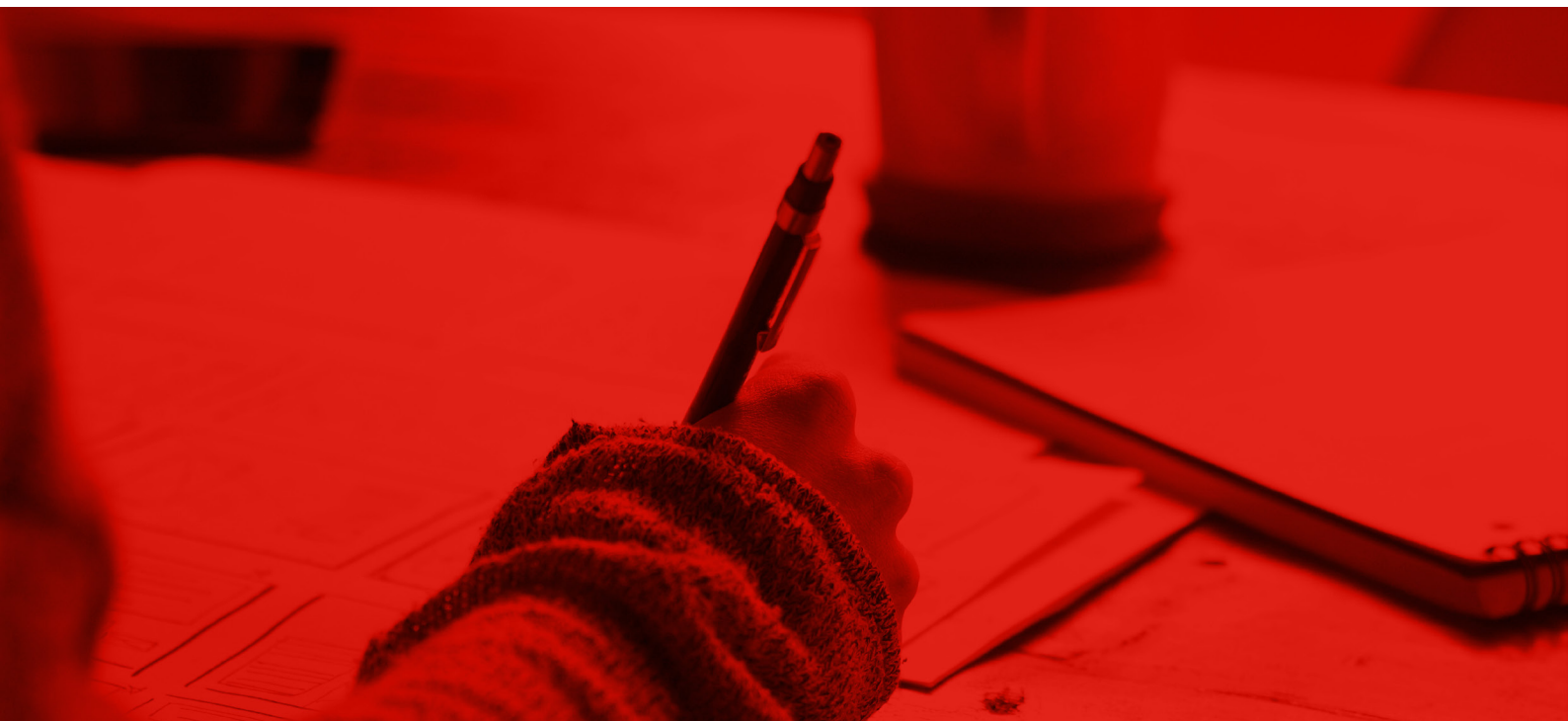
ELASTIC INFRASTRUCTURE

Technology has become central to the university experience. But most university leaders believe that they aren't making the most of what they have, and can't adapt quickly enough to meet student demands. Institutions need an agile, elastic approach to technology, to meet needs across the hybrid campus: whether it's rapidly reconfigurable spaces in their physical buildings or a flexible ecosystem of apps for students to use.

With technology and behaviours moving so quickly, establishing an adaptive digital platform is the best way for universities to create the flexibility they need – and ensure they achieve the best value for money. That means significant changes behind the scenes, from IT operating models to making much greater use of the public and private cloud. But overall, it's the best way to deliver visible change for students – and help the institution keep up with future change.

ESTABLISHING
AN ELASTIC
INFRASTRUCTURE

WHAT MAKES A UNIVERSITY INFRASTRUCTURE ELASTIC?

Following the pandemic, universities have been tasked with creating a hybrid campus, which is an environment designed for learning, teaching, researching, working and living that blends the virtual and the physical – while delivering seamless continuity of experience and access to resources and services.

Creating an elastic infrastructure means going one step further – by building in the ability to adapt to rapid, frequent and unpredictable change. The patterns of how students, researchers and staff work are blurred and oscillating faster than ever before, so establishing seamless continuity is critical.

An elastic infrastructure delivers continuity across:

Location: HQ campus and satellites, hosted campus sites, partner sites and individuals' homes

Space: Physical space and virtual space

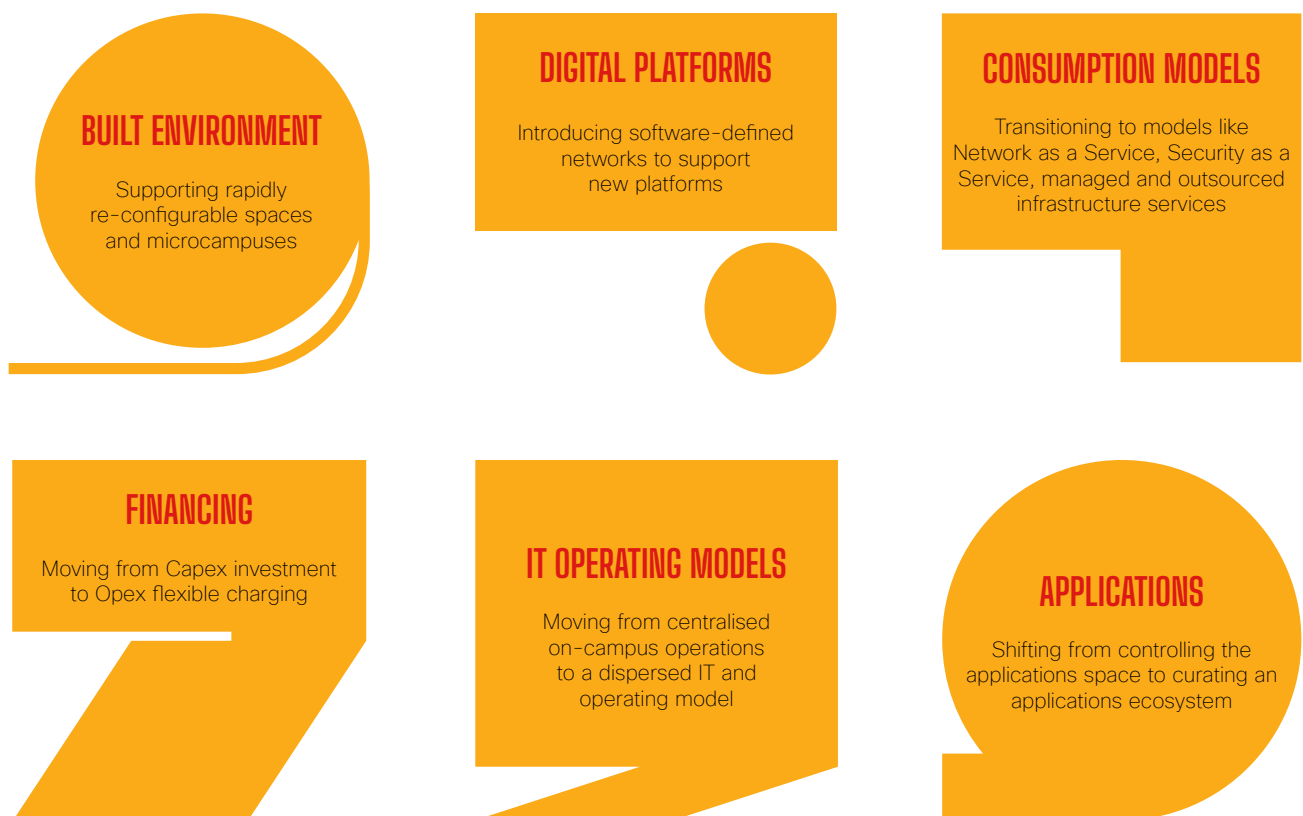**Ways of working:** Clustered in-person working and dispersed individual working

Time: Standard office and term times and always-on availability

Endpoints: Specialist user endpoints like video conferencing portals and generic endpoints like student smartphones

HOW DO WE CREATE AN ELASTIC INFRASTRUCTURE?

To deliver the seamless continuity needed, universities will need to build elasticity into many areas of the hybrid campus.

BUILT ENVIRONMENT

Supporting rapidly
re-configurable spaces
and microcampuses

DIGITAL PLATFORMS

Introducing software-defined
networks to support
new platforms

CONSUMPTION MODELS

Transitioning to models like
Network as a Service, Security as a
Service, managed and outsourced
infrastructure services

FINANCING

Moving from Capex investment
to Opex flexible charging

IT OPERATING MODELS

Moving from centralised
on-campus operations
to a dispersed IT and
operating model

APPLICATIONS

Shifting from controlling the
applications space to curating an
applications ecosystem

This will create an elastic campus that can match the constantly changing ways of learning, working and researching that will be fundamental to the university experience of the future.

CONCLUSION

COVID-19 has had a significant, largely negative impact on life at our universities. By and large, institutions have adapted incredibly quickly – and students are aware of the efforts to continue teaching in the most difficult of circumstances.

As higher education recovers from the pandemic, it's clear that students will expect more from their universities to support their studies and deliver an exceptional experience. Many have been disappointed by the technology on offer and want to see tangible changes in the digital services provided.

University leaders appreciate this need for change – and there are measures that can be taken to maximise the power of investments and create a strong platform for the future:

1. Embrace the hybrid campus approach

Aim to create an environment for learning, teaching, researching, working and living that truly blends the virtual and the physical.

Establish a seamless experience for students and staff: focus on ensuring the continuity and consistency of the learning experience, as well as the availability of services, wherever people are.

2. Focus on an immersive learning experience

Implement rich collaboration tools that can deliver the most engaging experience for students, whether they're attending in person or remotely.

3. Start the journey to an elastic infrastructure

Moving to the cloud and introducing software-defined networks can be important initial steps – as can working with the right technology partner.

4. Always put security first

Security, privacy and trust are fundamental to the hybrid campus, so embed appropriate tools and practices across the infrastructure.

Creating a digital campus can have benefits on all sides: improving the experiences of staff and students, increase the efficiency of university operations, providing a competitive advantage for attracting prospective attendees and even finding new sources of revenue.

COVID-19 has been a learning experience for everyone. But with technology, universities can not only adapt to the challenges of the pandemic but ensure a stronger, brighter future.

Discover more about the hybrid campus and how Cisco solutions can support you.

Cisco.co.uk/education   ukeducation@cisco.com   0800 404 7778