

The IT Network Infrastructure Revolution in Education

FEBRUARY 2021

Author:

Jan Alexa

Research Manager,
Insights Europe, IDC

IDC #EUR147463521

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HIGHER EDUCATION AT CROSSROADS

Higher education continues to be one of the sectors most affected by the fundamental changes to core business processes brought about by the COVID-19 pandemic. These changes have often been accompanied by a massive shift to remote learning and significant changes in how CIOs and CISOs need to operate. Years of incremental change have been squeezed into weeks as universities scrambled to react to a rapidly developing situation. Now, after a period of abrupt change, it's time for consolidation. Universities that can effectively carry out this consolidation will be able to navigate the difficult challenges ahead.



What universities are facing ...

Higher education is still largely figuring out how to make its core processes fit the new normal and how to operate with new financial constraints. According to IDC data, only **16%** of European universities feel they are already emerging from the crisis. The rest are still struggling with business continuity or the financial impact.

The need for innovation has become a constant, with innovation focusing on the core processes of teaching/learning.



CIOs are already being asked to do more ...

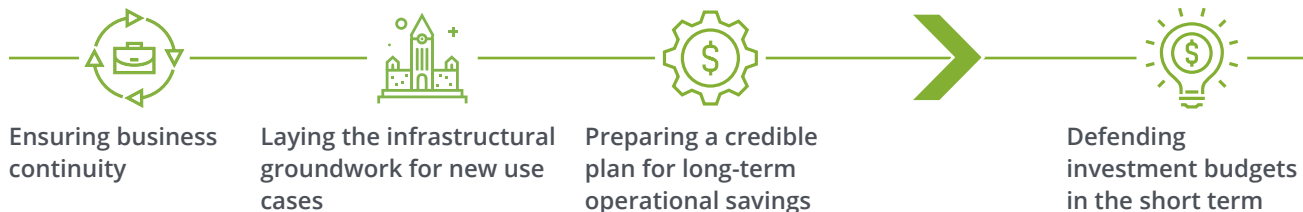
- CIOs have become the guarantors of business continuity.** In the past some teaching/learning could continue even in the event of a catastrophic IT outage. But now, with the increase in hybrid/remote learning, this is no longer a possibility.
- CEOs are starting to really pay attention to SLAs.** Business continuity SLAs often appeared as arcane to non-IT C-level suite members and were left firmly in the domain of the CIO. Now they are being discussed at board meetings.
- With campus operations rejigged, CIOs are being asked **to support new use cases on the current, often insufficient, infrastructure** that is already in place.

... with fewer resources

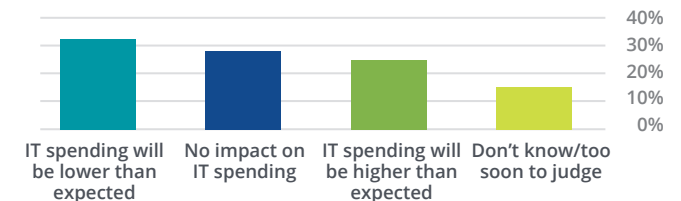


The education sector is undergoing a serious savings drive. This is driven by the short-term financial difficulties stemming from a lack of foreign students (who in many cases are unable to physically even get to the country where the university is based), but also by the long-term outlook and the uncertainty about how the current changes will impact long-term learning preferences. The main question for universities is not when the students return, but how many of them will actually choose to come. For IT leaders, this could mean lower IT budget. IDC data shows that while a significant number of universities are prepared to invest more to match the increased requirements, others will reduce IT spending. Also, a significant percentage of IT managers are facing uncertainty by not having their budgets for 2021 finalised until the last moment and even then being subject to further changes.

Key IT leadership priorities for 2021-2022



Expected impact of current challenges on IT spending in 2021 — European higher education



HIGHER EDUCATION AT CROSSROADS — BUSINESS CONTINUITY AS AN OVERRIDING IMPERATIVE

Key objectives for business continuity for CIOs and CISOs

- Withstanding spikes in system usage
- Preventing critical cybersecurity breaches
- Enabling access from everywhere (on and off campus)



IT networking infrastructure is a key enabler for business continuity in the next normal.



Networking infrastructure role and key features

The IT infrastructure plays a key role in all three business continuity objectives. The demands for flexibility, security and scalability all start with networking infrastructure. To achieve these objectives, CIOs and IT directors are looking for the following capabilities in their networking architectures:



Intelligence to provide real-time awareness and mitigation of threats and network issues



Automation to ease the workload and provide availability for network admins to focus on higher-value-add tasks

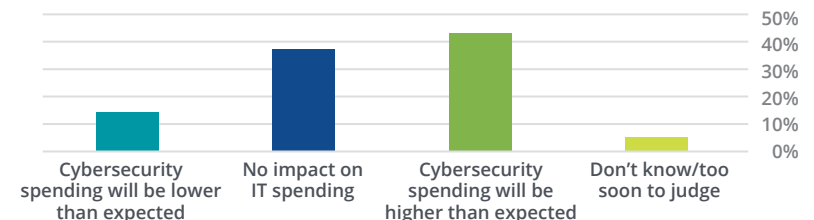


Software-defined management and deployment options, respecting the requirements from the standpoint of legacy networking deployment and management frameworks

Arguments for CIOs when making the case for IT infrastructure for business continuity to C-level management

- Networking infrastructure is fundamental for cybersecurity. Without a secure network, nothing else—including applications and user data—is safe.
- Only modern networking infrastructure can enable access from everywhere. Campus operations relying on outdated networks will experience outages and poor service. This will exacerbate the inequity in access to resources based on physical location.
- Universities in Europe in general recognise the importance of investments in cybersecurity. IDC data shows that despite the financial constraints, most of those universities continue to invest.

Expected impact of current challenges on cybersecurity spending in 2021 — European higher education



Call to action — the next steps for CIOs:



Start the process of moving your infrastructure to **modern cloud**.



Explore how **automation** can help to ensure IT business continuity.

HIGHER EDUCATION AT CROSSROADS — INVESTMENTS AND SAVINGS

With universities embarking on an economy drive, CIOs have two objectives that may seem contradictory at first but are in fact interconnected. According to IDC's survey, **75%** of universities will see a decrease in revenues and **2%** of respondents from European universities predict that they might go out of business.

CIOs should:

- Defend the new and planned investments, especially those tied to business continuity and those enabling multiple new use cases.
- Prepare a long-term plan to achieve opex savings and credibly outline how these savings can be made without endangering quality of service.

CIOs must persuade the rest of the C-suite that they will need to implement the former in order to carry out the latter.

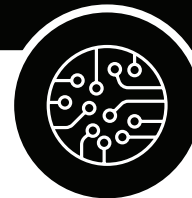


How can CIOs counter the immediate savings argument while contributing to long-term financial sustainability?

ARGUMENT 1

Infrastructure projects are the bedrock for future savings.

Modern IT infrastructure — with multiple network artifacts capable of being managed as a single logical device to reduce management overhead and increase programmability, and embedded with AI, machine learning, and automation capabilities — can deliver a more than 30% cost reduction in network operations.



ARGUMENT 2

Opex and capex financing often come from fundamentally different sources. There will be opportunities in the coming years to utilise outside sources of investment to improve the infrastructure without endangering budget stability.

EU and national authorities have pledged to invest in digital research IT infrastructure. The EU's newly updated Digital Education Action Plan focuses on infrastructure investments, as do most national research and education strategies. Based on already approved policy documents, IDC estimates that €15 billion to €30 billion will be available in subsidies and grants to kickstart digital transformation in education in the coming years.

Call to action — the next steps for CIOs:



Explore the effects of **AI** on possible savings strategies — lower maintenance costs, greater optimisation capabilities.



Prepare a case for the C-suite on how scalability and the agility provided by **modern cloud** can save the resources needed elsewhere.

HIGHER EDUCATION AT CROSSROADS — ROLE OF AI IN BUSINESS CONTINUITY AND OPERATIONAL EFFICIENCY



Why should CIOs think about networking intelligence?

- The flexibility needed in the next normal necessitates good enough information about the “as is” state of networking.
- The lack of data will weaken the CIO’s case for investing in new networking solutions.



Why should this intelligence be artificial?

- Reacting to cyber incidents requires the speed and constant vigilance that AI can offer.
- AI can discover complex patterns in the “white noise” of data, and can flag irregularities and bottlenecks hidden to human eyes.
- AI can react faster to user queries, significantly improving user experience.



The key operational benefits of adopting an AI-driven networking architecture:

Savings in work days allocated to networking deployment and management



Ability to focus more on architectural activities and less on day-to-day management activities



Safer network, rapid response to incidents



Call to action — the next steps for CIOs:



Analyse the prerequisites for successful **AI** deployment in your organisation and chart the way forward towards implementation.



Explore the synergies that AI deployment will bring in relation to your general **automation capabilities**. Utilise the new insights from the first AI deployments to speed up automation across your organisation.