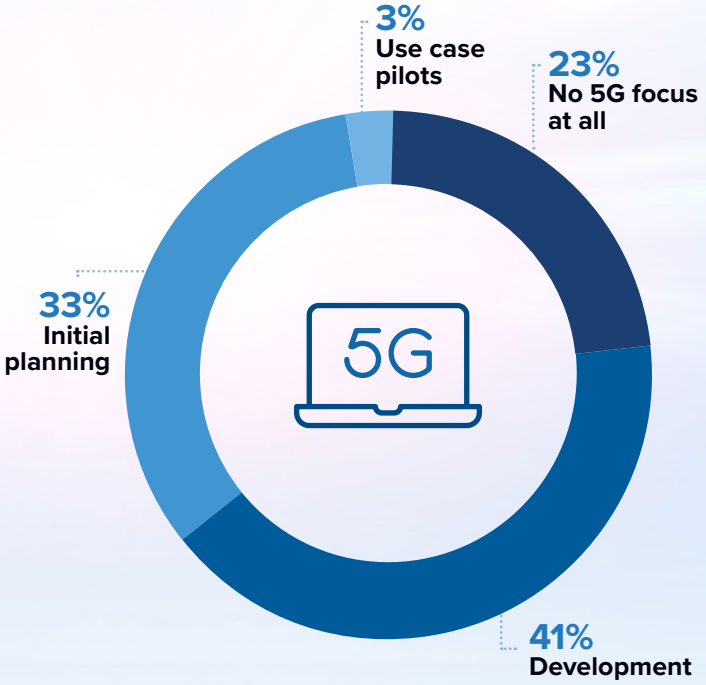
IDC

Higher Education on the Cusp of 5G Transformation

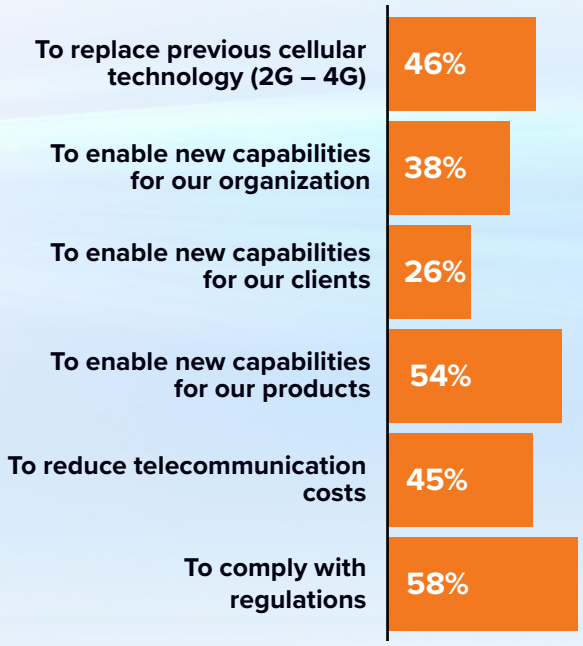
Most Higher-Ed Institutions Are Pushing Ahead with 5G Adoption

Q. How would you classify your organization's 5G activities?



Regulatory Compliance, New Capabilities Top List of 5G Roles in Higher Ed

Q. In what ways do you think 5G cellular network technology will play a role in your organization?



Source: IDC *Industry IT & Communications Survey,* July 2020

5G has arrived and institutions of higher education (IHEs) have taken notice.

75% of higher education institutions are in the initial planning or development stages for 5G deployment. While 5G technology is still maturing and its availability is not yet ubiquitous, many IHEs recognize its potential to transform the education landscape. Today, we see institutions establishing 5G innovation labs and collaborating with mobile operators or industry partners to create testbeds for 5G development, research, and innovation.

However, IHEs are planning more significant 5G investments, albeit on a mid- to longer-term horizon, with three-quarters of institutions targeting scalable 5G use in the 2024–2025 window. 5G investment by IHEs will be evaluated in the near term as institutional leaders carefully weigh potential options for exploration in this space. Higher education is taking a thoughtful and strategic approach to 5G for several potential reasons including:

- Limited understanding and awareness of the technology and its benefits
- The need to balance decades' long investments in 3G/4G networks with finding complementary/supplemental opportunities to incorporate 5G
- Risk aversion (not wanting to be the first to do something)
- Taking a wait and see approach to determine optimal use cases for 5G deployment and for the technology to become more mature

As IHEs start down their 5G journey, the realization that there are many layers of 5G (spectrum differences, RAN versus core network, etc.) can complicate both the infrastructure and services equation. IHEs need to be deliberate in understanding which of 5G's performance KPIs are most relevant to the services they want to deploy. In addition, many IHEs are amid, or just coming off, the upgrade cycle to Wi-Fi 6 infrastructure. Any investments in 5G need to be complimentary to prior wireless spend and must integrate with existing systems to maximize the ROI of both current and future systems.

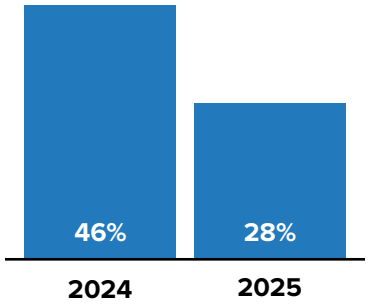
Perhaps the inhibitor of investment today is the lack of a pervasive 5G connection across low-, mid-band and mmWave connectivity options. While some use cases will require IHEs to invest in and build out their own 5G connectivity, to do so across the entire campus can be cost prohibitive, particularly for institutions with multiple distributed campuses. Many will defer until the 5G macro network is more robust and can be relied on to better support the use cases most relevant to IHEs. And that's before considering that some 5G features such as ultra-reliable low latency are not yet formalized and available commercially to the market. However, near-term challenges notwithstanding, as 5G functionality becomes the norm in more device types, network coverage becomes widespread, and use cases mature, IHEs will increasingly find themselves in a 5G world with use cases that can enhance network efficiency and deliver new student experiences. By accelerating 5G investment even a little bit, IHEs can start future-proofing their IT infrastructure and gain valuable 5G operational knowledge, which in turn will ease future 5G use case deployments and integrations.

IHEs are not immune from the pressures of digital transformation, as well and need to extend their capability to educate students wherever and whenever. 5G as the foundational connectivity layer will be critical in building and deploying engaging, immersive educational experiences, both on-campus and for the remote student. Effectively utilizing digital channels and content to deliver education services requires the high-speed, low-latency connectivity that 5G provides. Additionally, the digital transformation journey spurred by 5G investment will provide pathways for updating and optimizing network operations as well as creating new capabilities around smart, connected campuses, real-time data analytics, and autonomous operations. Targeted bespoke 5G deployments, such as private 5G networks, can be designed to aid the institution in meeting various student and employee privacy compliance requirements by ensuring that data is secure and remains on-premises.

Closing

IHEs have built their reputations around being in touch with the latest developments in society and technology. Exploratory investment in 5G will enhance that reputation as an innovative institution that can provide a cutting edge, relevant education for the digital-first world.

Three-quarters of IHEs are targeting scalable 5G use in 2024–2025.



Message from the Sponsor

T-Mobile is once again upending the status quo with America's largest 5G network, imagined for tomorrow but ready to give you an edge today. At T-Mobile for Business, we broke from industry norms to organize our support around your success—from discovery through deployment. And we bring together an elite ecosystem of partners to deliver solutions for higher education institutions to improve your outcomes. T-Mobile has a ready-now 5G network, the continuity and depth of support to accelerate your business goals, and unconventional thinking woven into our DNA to help you deliver on your "now" and your "next."

Learn More about 5G in Higher Education