



Crafting a digital oasis: a Saudi university's journey to smart education

CASE STUDY

CUSTOMER PROFILE



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Organization:

Qassim University

Location:

Saudi Arabia

Industry:

Education

Solution:

Smart classroom,
vehicle & personnel
access control
management,
digital twin

In a rapidly evolving world, the education sector is being transformed by digital technologies.

Qassim University in Saudi Arabia, with its expansive 8 km² campus, embraced this transformation to enhance management practices.

At the Hikvision Shaping Intelligence Summit in October 2024, Mr. Othman bin Muhammad Al-Saqri from Qassim shared the university's journey, highlighting how a digital twin integrated with smart cameras and classroom technologies revolutionized security, operations, and educational excellence.

The challenge

Inefficient and separate systems no longer met the demands of a large, modern campus

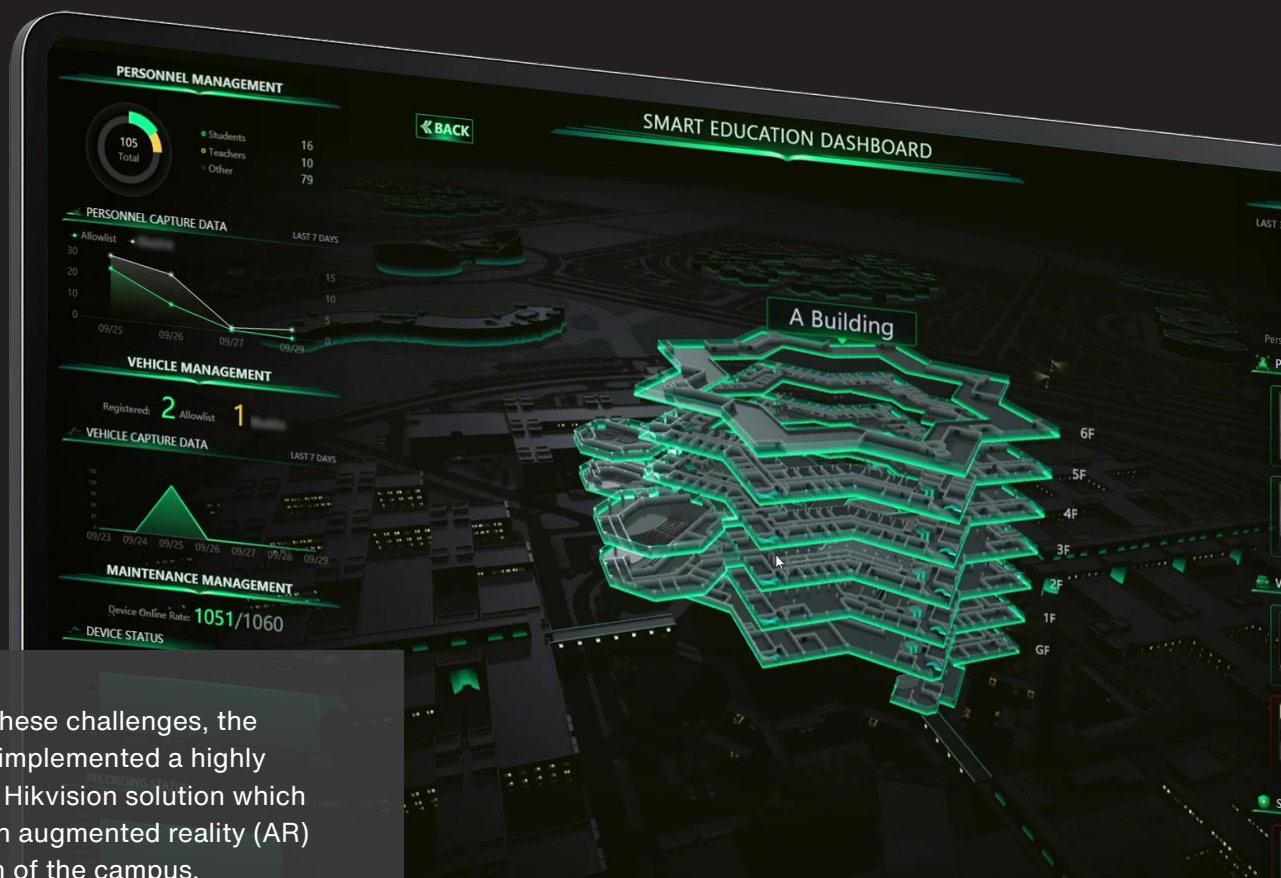
With more than 30 buildings, Qassim University faced management challenges in an increasingly digital world.

Traditional campus management methods relied on outdated cameras and separate management systems, which were inadequate for the university's size. Conventional classrooms, equipped with basic whiteboards and low-resolution projectors, hampered student engagement, especially in larger spaces. Additionally, the access control system, relied on card readers that operated in isolation from the rest of the security system.



The solution

Creating a digital ecosystem with Hikvision



To tackle these challenges, the university implemented a highly innovative Hikvision solution which features an augmented reality (AR) digital twin of the campus.

This approach aims to revolutionize management practices and improve the educational experience. The digital twin consists of a detailed 3D model of all 30 buildings, which facilitates a centralized dashboard for monitoring indoor layouts and structures. This model also serves as a foundation for future smart classroom management.

The 3D model was integrated with over 6,000 smart cameras connected through HikCentral Professional software. This integration allowed for real-time monitoring of physical spaces, creating a safer educational environment for teachers and students. [Traffic cameras](#) (IDS-TCE500-B) were introduced to capture ANPR and monitor violations such as speeding, ensuring safety across the vast campus. Security personnel could now monitor live feeds and alarms from a centralized control room equipped with a comprehensive video wall.



The classrooms were also revamped with smart technology, featuring [86-inch 4K Interactive Displays](#) (DS-D5C86RB/B) and course recording capabilities. This enhancement is not merely about digital content display. It also includes academic operations managed through various applications supported by the panels' built-in Android and Windows systems.

For instance, an AI whiteboard software is now used to automatically recognize the content written on the smart screen, and provide real-time suggestions and feedback based on that content. This has significantly modernized teaching practices. an ANPR camera, barrier gate, lighting and emergency features, as well as two-way audio. The result has been to improve the flow of traffic through the entrance, whilst enhancing security at the same time.



External classroom information is now managed by the [22-inch Electronic Class Board](#) (DS-D6122TH-D/C), which displays campus updates, class schedules, and urgent notices. It also streamlines attendance through facial recognition or ID card scanning, allowing for quick check-ins and efficient attendance management.



An advanced access control system was implemented for vehicles, students, staff, and visitors, enhancing campus security and operational efficiency. This system features [Face Access Terminals](#) (DS-K1T341CMF) capable of verifying identities in just 0.2 seconds using facial recognition, barcodes, QR codes, and access cards. At the main entrance, an [All-In-One Entrance & Exit Manager](#) (DS-TMC407-EH) integrates an ANPR camera, barrier gate, lighting and emergency features, as well as two-way audio. The result has been to improve the flow of traffic through the entrance, whilst enhancing security at the same time.



The digital payoff

Operational efficiency and academic success

“ The implementation of the digital twin at Qassim University has significantly elevated campus management, enabling automatic detection and reporting of emergencies and enhancing response times. ”

Said Othman bin Muhammad Al-Saqri,
Control and Command Center Unit
Manager at Qassim.

The digital transformation has not only streamlined operations, positioning the university as a leading data-driven institution, but it has also enriched its educational framework. Students thrive in technologically advanced environments where interactive displays and immediate feedback promote active learning. Teachers benefit from improved scheduling and attendance management systems, allowing them to focus more on student interaction and academic support. As a result, these innovations foster a more organized and productive learning environment, further boosting academic outcomes and preparing students for future challenges.

Looking ahead, the university plans to roll out additional smart classrooms and access control terminals. This ongoing digital transformation not only addresses current challenges but also prepares Qassim University for future demands, ensuring it remains at the forefront of educational technology.

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