DELL Technologies

K–12 Education | Mexico

Opening up the world for students in remote and underserved K–12 schools, enabling them to dream big

In developing nations, teachers are using edge solutions to boost learning outcomes so students can achieve more in life.



A remote elementary school in Mexico uses Dell Technologies K–12 edge solutions to improve student learning and engagement, extend access to education, and boost teacher capabilities and retention. Schools in underserved areas worldwide are also deploying edge solutions to gain equitable access and similar benefits.

Transformations

Students expand their learning with greater access to knowledge and collaborative resources they never had before.

Teachers engage their classes with the latest learning material to radically transform the student experience.

Administrators meet education goals with economical, secure edge technology that's easy to install and operate.

Outcomes

Brings underserved communities equity in access to learning resources.

Engages students better with modern content and lessons.

Facilitates more creative and effective teaching methods to improve learning outcomes.

Teaches children the value of technology.

In developed countries, K-12 students and teachers worldwide have wireless internet access across a variety of devices, whether inside the classroom, at home or on the go. They take for granted being able to take advantage of readily available information, learning resources and collaborative tools.

But that's not the case in many nations, where such connectivity, resources and tools are limited or nonexistent. Giga,[1] a joint UNICEF and International Telecommunication Union (ITU) initiative supported by Dell Technologies,[2] estimates that almost half of the world's K–12 schools lack internet access.[3] Teachers in many such remote and underserved schools also lack modern learning materials that technology can deliver.

To bridge this digital divide between the world's haves and have-nots, Dell Technologies is helping educators unleash students' learning potential with edge technology solutions tailored to their schools. For students, these solutions can change their lives by giving them access to the most up-to-date education resources and helping them work collaboratively — skills they can turn into exciting careers. Teachers, in turn, can now use modern teaching methods to make learning more interesting and set the stage for a better future for these children.

An edge learning success story in the Yucatán

Until recently, the **May 15 Raquel Dzib Cicero Elementary School** in Mérida, Mexico, was among these schools. One of more than 1,500 public schools in the Yucatán state's largest city of 1.2 million people, it sits in the heart of a working-class neighborhood. Its 12 teachers serve about 230 students.

School Director Martín Herrera Loria explains why connectivity is so important to his school. "Access to the internet and educational resources are vital to our students' learning," he says. "They live in the age of knowledge, and without these tools, they would be left far behind their peers who have them. So when we heard of the possibility of having Dell Technologies help us, we jumped at the chance."

[1] https://giga.global

[2] https://www.dell.com/en-us/dt/corporate/newsroom/announcements/detailpage.press-releases~usa~2022~10~10032022-dell-technologies-partners-with-unicef-usa-to-support-giga-the-global-initiative-to-connect-every-school-to-the-internet-by-2030.htm#/filter-on/Country:en-us

[3] United Nations Children's Fund and International Telecommunication Union, "How many children and young people have internet access at home? Estimating digital connectivity during the COVID-19 pandemic." UNICEF, New York, December 2020.

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> **Martín Herrera Loria**
> Director, Escuela Primaria 15 de Mayo
> Raquel Dzib Cicero, Yucatán, Mexico

Tapping local resources to enhance education outcomes

Working closely with Herrera Loria and external third parties, Dell Technologies personnel brought together software application providers, content creators and the community's telecommunications service provider to develop a comprehensive solution for the school's connectivity and access requirements. The tailored edge technology solution hosts localized learning applications and content with high-speed internet connectivity.

The Dell Technologies edge solution for learning includes:

- **Dell Virtual Edge Platform (VEP) hardware**, a compact server with several sizes depending on the number of users and storage needs.
- **VMware hypervisor** that virtualizes Microsoft Windows 10 as the operating system for various educational applications, content and learning management systems, all of which are localized for a particular country when deployed elsewhere in the world.
- **SD-WAN software** that provides multilayered, secure cloud connectivity as well as wireless local area network connectivity across school premises.
- **Dell Latitude laptops** as classroom endpoint devices.

Space-saving and easy to deploy and operate

As a compact, all-in-one package, the edge-enabled learning solution is designed for both easy installation in small spaces and minimal IT support. The Dell VEP server can intelligently access multiple connectivity sources — satellite, cellular, MPLS, and broadband copper or fiber — all at the same time. This feature maximizes all available means of connectivity. The server can also distribute educational apps and content when offline.

As Herrera Loria sees it, this capability solves a common problem — the lack of connectivity — shared by schools like his in remote and underserved areas worldwide: “With edge solutions like ours from Dell Technologies, we can download content onto the edge server so our teachers and students can access world-class content locally and do so whether or not they have connectivity at the time they need access to those resources.”

Technology as a catalyst for change

Herrera Loria reports that the Dell Technologies learning solution has transformed the school’s instructional environment. “With our Dell Technologies edge computing solution, teachers are conducting classes in new, more interactive ways that capture students’ attention,” he says. “They’re using localized learning applications so students can improve their reading comprehension and mathematical reasoning. Now students can create digital outputs and work more collaboratively in pairs and groups, interacting with each other and with students from other schools and countries. Our school robotics team is using the technology with tremendous results.”

> “The training Dell Technologies provided our teachers in using its edge-enabled learning solution in their classrooms has been essential to their success.”
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> **Martín Herrera Loria**
> Director, Escuela Primaria 15 de Mayo
> Raquel Dzib Cicero, Yucatán, Mexico

The teachers’ technology competency and confidence are critical in this initiative, according to Herrera Loria: “The training Dell Technologies provided our teachers in using its edge-enabled learning solution in their classrooms has been essential to their success.They need to learn how they can use the technology to make the most of their instructional time, motivate their students and make various subjects more appealing.”

Part of a global connectivity effort

This school is just one of several thousand schools around the world that Dell Technologies has enabled with its expertise and innovative technology solutions. The company has built a broad partner edge ecosystem that it leverages to give underserved communities access to affordable, reliable and effective technology regardless of where they’re located. In addition to several schools in Mexico, many more have deployed similar edge-enabled learning solutions in Brazil, Costa Rica, the Dominican Republic, India and Russia.

Herrera Loria values being part of the Dell Technologies global program to connect primary schools with access to applications, learning resources and collaborative opportunities that weren’t available to them before. “My teachers and students are now working at the same level as those in other countries using the Dell Technologies edge solution,” he concludes. “Even a small school like us here in Mérida can be on par with those from other countries, even ones that are much more advanced than ours.”

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