

# TECNOLÓGICO DE MONTERREY AND VICON ARE CHANGING THE MOTION CAPTURE LANDSCAPE OF LATIN AMERICA

VICON

In the last six years, the relationship between Tecnológico de Monterrey and Vicon has deepened even further, with entertainment applications (and virtual production in particular) becoming a driving force in the relationship.

## A FLEXIBLE APPROACH

One strength of the university's VFX program is its flexibility, which allows it to adapt to the rapidly changing needs of the industry. "Part of that comes from the new model that we have. It's called 'Tec21' and it's a model that's focused on competencies rather than content," says Glenn Sidney Miller Montoya, regional director of the digital arts department.

"A lot of people are getting into digital arts through self-education," says Miller. "We needed to give something to our students that would make them better equipped for the field than going down the self-education route.

"So we focus on competencies and not content. Because when it's about content, you become outdated extremely fast, especially in technology. Learn the process. Learn the players. Learn the industry. We teach an attitude and a way of working. I think that's one of our core strengths. It's going to be the commitment of this university for the next 10 years at least.

"What's important is that the students learn to create a narrative, and learn to integrate leading-edge technology into that. We don't dictate what technology. That's up to the professor and the department to define, and it's partially determined by the interests of the students. We are able to define projects so that they match what's going out in the industry. I think it's very rare for an academic or institutional educational institution to work so closely with industry."

The fit between Tecnológico de Monterrey's VFX program and the needs of industry was borne out when it became the first academic partner for Epic Games in Mexico and Central America three years ago. "It's helped us to develop a specific diploma for adults," says Vilchis.

"We are covering how to use Vicon for motion capture to produce animation for use in Unreal Engine. This was an important part of ensuring our training offers a complete package. And we'll offer a virtual production diploma at some point, too," says Vilchis.

Miller commends the university's leadership for committing to its motion capture offer. "Ramiro Estrada, our regional dean of the Architecture, Art and Design School is a visionary



Carlos Vilchis,  
Virtual Production  
Educator &  
Consultant



Glenn Sidney  
Miller Montoya,  
Regional Director  
of the Digital Arts  
Department.

"Tecnológico de Monterrey was the first school in Mexico, maybe in all of Latin America, to offer a digital arts program BA," says Carlos Vilchis, a virtual production educator and consultant who helped the university establish its pioneering motion capture labs.

Tecnológico de Monterrey is a privately owned university based in Mexico. It has 26 campuses in 33 cities across the country, and is widely considered one of the top universities in Latin America. Its first motion capture lab, equipped with Vicon T40s, was established in 2009 for use by the digital arts program.

"The digital arts program became very popular, and as people from the university's life sciences and engineering departments became aware that Tecnológico had these laboratories, they started to ask how they could use it," says Vilchis.

Other departments began to acquire the software licenses they needed to use the system, and additional labs followed. As of 2024, the university has 10 motion capture labs spread across multiple departments and campuses, all operating Vicon systems and covering animation, VFX and virtual production; life sciences and engineering.

Vilchis, who has worked for companies including Industrial Light & Magic, was brought in as a professor and consultant on the development of Tecnológico de Monterrey's motion capture labs and the VFX teaching programs associated with them.





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Tec de Monterrey was the first organization to install a Valkyrie system in Latin America and has made significant contributions to sustainable technologies and infrastructure

and he trusts his team. He's always asking me, 'Glenn, what do we need to do? Whatever you need, we're going to make it happen.' New proposals need that kind of leadership—someone who is ready to bet on new models, new technologies, to have an open mind. It's rare to have that kind of leadership."

**LEADING THE FIELD**

That bet has paid off. A decade and a half after Tecnológico de Monterrey installed its first Vicon system, the university has a laundry list of achievements and successes.

In the VFX world, the university has its Epic partnership and can also boast the first dedicated virtual production stage in Latin America, ownership of Mexico's first Vicon Cara facial capture system and a host of academic contributions to the world of animation.

In the life sciences, the university built Mexico's first biomechanics motion capture lab in Guadalajara, performed the first motion analysis of

a quadruped in Latin America and has made numerous other contributions to the healthcare sector in Mexico.

And, in the engineering world, Tecnológico de Monterrey was the first organization to install a Valkyrie system in Latin America and has made significant contributions to sustainable technologies and infrastructure.

Tecnológico de Monterrey's contributions to motion capture in Latin America have earned it a leadership role in the field. Vilchis refers to it as the flagship Latin American university in the technology space, and says that other institutions are following its lead and adding Vicon systems to their facilities.

In October 2023, the university took this role a step further when it hosted its first virtual production summit. "We had almost fifty of the most important companies who work in virtual production in all of Latin America," says Vilchis.

Crucially, Tecnológico de Monterrey's flexible, forward-facing approach to motion capture is paying dividends for the university's students. "We're already seeing the results," says Miller. "A lot of our students, particularly in the VFX industry, are finding very, very good positions out there."

"The students get employability, and not just in Mexico," says Vilchis. "I'm living in Vancouver now, and every time I meet people working in studios like ILM, Moving Picture Company, etc, I will say almost half of the Mexican people working on VFX/animation in Canada our students because they speak English fluently and they have a different mindset to other graduates in the field. They are placing students in North America thanks to the collaboration with Vicon in teaching these technologies, and improving their opportunities in the field thanks to their experience in mocap."

**A WINNING BET**

If one thing has secured the future of motion capture at Tecnológico de Monterrey more than any other, it's the boom in virtual production.

While Tecnológico de Monterrey's motion capture offer has become a resounding success, that success wasn't inevitable. "It was a challenge 10 years ago, because obviously we made a big bet on this technology, but it wasn't clear whether the students would use it because the industry in Mexico was so small at that specific moment," says Vilchis.

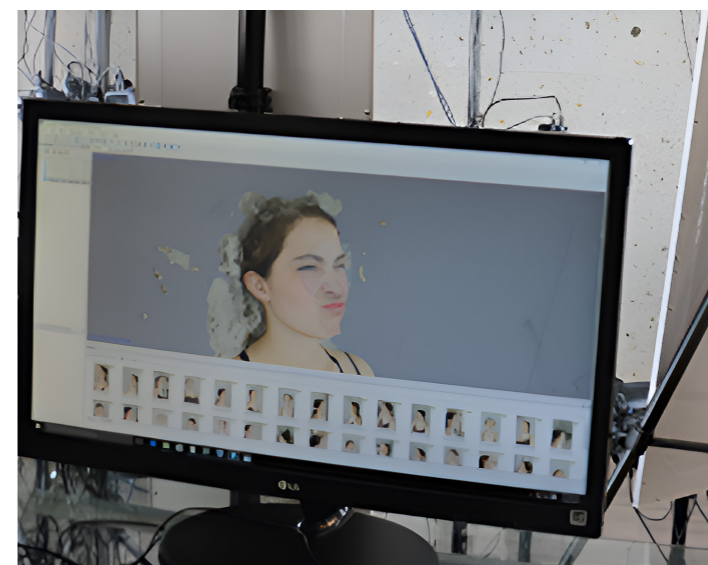
"Before, we had these mocap capabilities and it was cool, but as soon as this craziness of virtual production, real-time technologies and digital humans became so popular, everything went to another level. We had all that technology there waiting for this amazing peak in the industry that has changed

everything. So right now I will say that Tecnológico de Monterrey is prepared for the next five or seven years without any problem," says Vilchis.

Those next five or seven years promise further expansion. "What's amazing is the fact that we are growing steadily," says Miller.

And that growth offers yet more opportunities for future-facing bets on motion capture technology. "Yesterday, we were talking about building the first LED volume stage in all of Latin America in Tec de Monterrey," says Vilchis, "because it's the only place where something like that will be possible."

For more on Tecnológico de Monterrey, visit: <https://tec.mx/en>. For more on the university's virtual production summit, visit: <https://virtualproduction.es/summit/>



VFX