Carlos Ceinos – President & Co-Founder, Principia Puerto Rico



Success is deeply rooted in principles. At Principia, we don't just deliver expertise—we lead with empathy, clarity, and commitment. That's how we build trust, and that's how we grow.

22.05.2025

Tags: Puerto Rico, Principia

Carlos Ceinos, President & Co-Founder of Principia, leads a Puerto Rico-based consulting firm focused on automation, MES, project management, and validation for the biopharmaceutical industry. Since 2019, the company has doubled in size and expanded into the U.S. and Canada, driven by expertise, trust, and flexibility. Now entering a management buyout phase, Principia is applying its skills to new sectors like utilities, while carefully integrating AI and staying grounded in strong values and technical excellence.

The last time we spoke was in 2019. What has changed for Principia since then?

Since early 2019, Principia has experienced organic growth, steady and sustained. In fact, we have doubled our business compared to that time. Our service portfolio remains focused on four core areas: automation, Manufacturing Execution Systems (MES), specialised project management, and validation. What has truly propelled us forward is the trust and confidence our clients place in us. The quality of our work and the care we bring to every engagement have helped us secure more opportunities from existing clients.

As our original team members have deepened their expertise, their evolution has enhanced the value we bring. The foundation we built in Puerto Rico enabled us to expand more strongly into markets like the United States and Canada.

Would you say this growth is primarily a result of increased focus on manufacturing post-COVID? Or has your client base simply matured and deepened?

Manufacturing has expanded, and the pandemic underscored its strategic importance. However, not all our growth can be attributed solely to that shift. What has become increasingly evident is the critical role of MES and automation. These systems make manufacturing faster, more reliable, and more consistent, areas where Principia excels.

As a result, our name continues to circulate within the industry. Clients trust us, and once we start working with a company, we tend to stay involved for years, steadily taking on more complex projects. Our expertise in MES and automation, along with our strengthened foothold in the U.S. market, have both been vital contributors to our expansion.

Could you explain the value of your services? Why do companies need external advisors to enhance productivity?

I spent about 20 years working in various roles in the pharmaceutical industry before founding Principia. Let me begin with the context of Puerto Rico, though the same logic applies elsewhere.

As Puerto Rico’s financial and tax systems began to change, starting around 2006, companies realised they needed to improve cost-efficiency to remain globally competitive. One way to manage costs was to avoid maintaining large internal departments. Instead of hiring and sustaining a full team of highly specialised engineers and project managers, it made more sense to bring in expert service providers like us on a project basis.

We offer clients high-value, specialised support exactly when they need it. For example, a plant launching a major automation project might engage us to manage the entire effort, often turnkey from start to finish. We also provide ongoing operational services, maintenance, and troubleshooting. It is a win-win: companies gain top-tier expertise without the long-term overhead.

What kinds of KPIs do pharmaceutical plants use to measure your performance? How have those evolved with the industry?

In project-based work, the key performance indicators are straightforward: did we deliver on time, within budget, and with the expected quality? Quality is usually measured in terms of rework—how often we need to go back and correct something. For ongoing services, the KPIs revolve around responsiveness: how quickly do we diagnose and solve problems.

Some clients call us from anywhere in the world to help troubleshoot their systems. Speed and precision in response are essential, and we are evaluated accordingly.

Every project brings a human dimension. Introducing new systems means people must change the way they work. Our role is not just technical; we also help manage those cultural transitions. It is vital that external teams understand, follow, and comply with the client's procedures. That is always a challenge, but one we are experienced in handling.

What types of clients do you typically serve—from large pharmaceutical companies to mid-sized firms or generics—and how do you tailor your approach to meet their different needs?

We work with a full spectrum of clients—from top-tier global pharmaceutical companies to mid-sized firms and even some small generic manufacturers. We adapt to all of them. The frequency and complexity of the projects we are assigned are evidence of the strong relationships we have built. Interestingly, we are also branching out into medical devices and even outside of life sciences altogether. The rigorous standards of the pharmaceutical industry have allowed us to develop practices that can be transferred to other sectors. For example, we are now applying our automation expertise to large utilities in Puerto Rico. Our disciplined, protocol-driven approach has proven highly effective in that context.

Would you say that being based in Puerto Rico has been an advantage, especially given the local manufacturing ecosystem? How do you see Puerto Rico's current trajectory in manufacturing?

Being in Puerto Rico, surrounded by one of the most technologically advanced pharmaceutical ecosystems, gave us immediate access to highly sophisticated clients. This helped us reach U.S. markets more easily, often through referrals from local clients who trusted us to manage projects in other states. That said, I may be a little biased because I launched the company during a boom period.

Currently, I would say Puerto Rico's manufacturing industry is stable. I do not see a decline, but we are also not growing at the pace we once did. However, we are well-positioned to scale quickly again when the opportunity arises—when more companies, plants, and investments return to the island.

With reshoring and "Made in America" trends gaining momentum, how do you view the feasibility of a U.S.-centric pharmaceutical supply chain?

From a scientific and technical talent perspective, countries like China are incredibly well-prepared. Their sheer number of engineers and PhDs is staggering, and it is difficult for the United States to match that.

I do not think it is realistic—or politically honest—to say that everything can be made in the U.S. But if the country wants to move in that direction, the right strategy is to invest heavily in education, improve university accessibility, and make public systems more efficient and less bureaucratic.

Automation and artificial intelligence will also play a vital role. These technologies can offset some of the limitations in human capital. But in the end, the world is interdependent. China needs the United States, the United States needs China, and so on. We must collaborate and leverage each other's strengths.

Specifically, for Puerto Rico, upgrading infrastructure like our electrical grid is critical. No matter how advanced the plant, without a reliable power system, manufacturing becomes extremely difficult. Thankfully, there are promising plans in place to address this. With solid infrastructure and a renewed focus on quality, scientific rigour, and efficient systems, I believe we can make real progress.

What has been the key to winning the very competitive North American market?

It is the number one healthcare market in the world, and we are a medium-sized company, so we needed a solid foundation. First and foremost, knowledge. That is non-negotiable. You need a deep understanding of what you are doing. We are consultants; we cannot afford to send people out to "learn as they go." We must be experts from the start, shedding light where clients need guidance. That is our baseline.

But beyond knowledge, there are two other elements that I believe are just as critical. One is something many people overlook: flexibility. This industry is incredibly demanding—intensely so. It operates within a rigorous environment. So, while it is demanding, it also requires precision and discipline. Within this kind of complexity, you are dealing with leaders who must run their plants, manage their manufacturing, and ensure compliance—all within tight frameworks. As a consultant, your job is not just to provide knowledge, but to truly understand their environment. You have to adapt to it. You must be an oasis for the client.

Often, projects change at the last minute. In these fast-changing, tightly regulated contexts, clients need you to offer solutions, not complications. That is where flexibility and a mindset of partnership are crucial. We approach every client engagement with the goal of helping them succeed and shine within their organisation. That mindset is vital.

Mid-sized firms are often held to the same standards as large multinationals, and frequently face long payment delays. How has this impacted your business?

The standard is 90 days, and that may work when you’re two players in Big Pharma, but for mid-size suppliers like us, this may place some stress on the operation. If you want to get paid earlier—say, in 30 days—it typically comes with a discount.

At Principia, we have always maintained a fiscally conservative approach. We are not extravagant, and we scrutinise every expense. We even have a board that reviews spending monthly—why we spent, how, and whether it made sense. Over the years, we have built up financial reserves, which we do not touch. That is a discipline we are proud of.

This is a real barrier, especially for new companies. When we started 15 or 16 years ago, it was very difficult. My partner and I began with very little, investing heavily from our personal savings to get things going.

Looking ahead, what is next for Principia? What sectors will you be involved in?

First, we remain very clear about what our market is and where our expertise lies. We may have branched a bit into utilities, but it is still within our domain of automation and system integration. We are not suddenly manufacturing pipes or doing water treatment—we are applying our automation knowledge where it fits.

We insist on staying current. Our people are always training on the latest trends, tools, and systems—staying up to date is non-negotiable. So, while we will continue to focus on automation, MES, project management, and validation, we might apply that expertise in other sectors where there is demand.

A very positive development has been our succession planning. We started with just two partners—we did everything ourselves. But the company has grown, and we are now executing a management buyout that started two years ago.

Why did you opt for a management buyout rather than selling to private equity or another corporation?

We were approached, of course. Both by companies looking to invest in Puerto Rico and by private equity groups. But we did not build this company just to sell it to outsiders.

The name “Principia” has meaning. It comes from Isaac Newton’s Philosophiæ Naturalis Principia Mathematica—the first rigorous scientific treatise. We chose that name because we wanted our company to be grounded in scientific rigour and strong principles.

When we started Principia, there weren’t that many local consulting firms serving the industry. My partner and I left very comfortable executive roles to build something different. So, when the time came, we chose to give the opportunity to our team, who had worked so hard alongside us for so many years.

How about artificial intelligence—how is it changing how you work?

AI is a powerful tool, but you have to use it carefully. It is not a magic solution. It cannot replace critical thinking. We use it—especially those on our team who are very skilled with it—but always in moderation.

AI helps us speed up document creation, troubleshoot faster, and enhance protocols. It acts like a sophisticated assistant. But we still need human insight, human knowledge, and human judgment. We see it as a valuable support, not a replacement. And yes, AI will continue to evolve and shape our work, but we approach it with both enthusiasm and caution.

Is there anything you would like to add for our international readers?

Perhaps just a few reflections for entrepreneurs and those seeking to make a positive economic impact locally. First and foremost: always be authentic. That is something I learned during my many years at global companies. I recall a story we were told about a plane designer who lost sight of their own expertise, and as a result, everything started to unravel. The lesson was clear—if you are the expert, you must stand by your ideas and stay true to your craft.

Success, in my view, is deeply rooted in principles. That was how we built our company from the outset, and it remains the way we operate today. At Principia, we lead by example. We engage with our team constantly through training, by visiting them at client sites, and by offering ongoing support. That consistent investment in people has paid off. Our staff turnover is significantly lower than the industry average, which I believe reflects the power of strong principles and a purposeful culture.

To anyone building something meaningful: Stay true to your principles. Do not let them become automated, diluted, or compromised. Deliver something you can be proud of—not just now, but years down the line. And always keep your focus on the client.

For me, that comes naturally because I was once in their position—as a manager, a director, and later an executive in the pharmaceutical industry. I understand the pressures they face. Executives are constantly balancing competing priorities. As consultants, our role is not to add to that burden. We are there to support, to enhance, and to lead with empathy, clarity, and commitment.

That is the message I would like to leave with your readers—whether they are industry leaders, plant managers, or entrepreneurs: believe in your people, in your knowledge, and above all, in your principles.

See more interviews