



## Kendall Foster

### Vice President of Technical Operations

#### PERSONAL PROFILE

When the COVID-19 pandemic arrived, the U.S. Government came to ApiJect with an urgent request to begin providing prefilled BFS injectors by late 2020. ApiJect already had a three-year plan to construct brand-new BFS factories on U.S. soil.

ApiJect said it could work with existing BFS facilities to commence fill-finish of vaccine almost immediately. To handle injectable vaccines, these existing U.S. factories will be significantly upgraded with cold chain equipment and Bio-Safety Level 2 environments.

The person heading this extensive, multi-faceted transformation is Kendall Foster, RAPID's Vice President of Technical Operations. He is also deeply immersed in assisting in the planning and execution of RAPID's brand-new factories.

Kendall, who avoids self-dramatization, summarizes his combined tasks this way: "My role is to drive the manufacturing team on everything from engineering, to facility design (for those new RAPID factories), to the tech transfers that we are doing to a CMO (upgrading existing BFS factories), and the device transfer. In every task, we work hand in hand with RAPID's quality division."

Assessing RAPID's potential impact, Kendall employs bolder language.

"The ApiJect single-dose prefilled injector will fundamentally change the landscape for vaccinations in the U.S. and eventually worldwide," he declares. "After that, once this pandemic is behind us, our injector will fundamentally change the landscape not just for vaccines, but for all medical injections."

Kendall acquired his reputation for accomplishing giant, complex tasks quickly and efficiently during a globe-hopping, 14-year pharmaceuticals career.

**"Deep in my heart,  
I really want to  
leave the world  
a better place."**

— Kendall Foster —

He has held increasingly responsible posts at companies like Novartis, Stallergenes Greer, Talecris Biotherapeutics, Spectranetics, and most recently Kymanox, the professional services organization providing engineering, scientific, quality, and regulatory support to life sciences companies.

At Novartis, Kendall began his career

in process engineering before jumping to product development during the H1N1 pandemic and licensing a novel vaccine in the U.S., Europe, and Japan. He later worked in contract manufacturing for the global supply chain of pediatric vaccines.

At Greer, Kendall began by overseeing manufacturing of sterile injectables, API, and medical devices for allergies and immunotherapy. Later, as VP of Technical Operations Americas, he oversaw three production sites, actively managing the largest.

Kendall earned his undergraduate degrees in chemistry and chemical engineering from NC State, followed by a Harvard MBA.

Accepting his first biotech job, he says, "was the best decision I ever made."

His expertise across multiple disciplines is apparent in any five-minute conversation. But his idealism is never far from the surface.

"If you look at ApiJect's BFS injector from an investment standpoint, it's a better mousetrap," he says.

"But once the industry sees how the injector performs, then everything changes: the economics, the delivery model, scalability, and many other factors. It's truly a disruptive innovation with the potential to do a lot of humanitarian good."

## “Aseptic Filling of Vaccine Injectors is Achievable”

Kendall Foster is happiest on a perpetual learning curve, where constant iteration leads to quick evolution of products and processes.

**RAPID Vice President of Technical Operations Kendall Foster is fascinated by evolution. That includes the evolution of ideas, organisms, science, medicine, technology, products and even the evolution of humanity itself.**

**He believes that conscious, careful, self-directed evolution is an exciting possibility on many fronts, including biotech and the delivery of medicines and vaccines—and he’s eager to be part of it.**

**INTERVIEWER:** Kendall, can you tell us about the evolution of the ApiJect single-dose injector, as you have seen it?

**KENDALL:** When I was first introduced to this innovative solution, the supporting technologies of Blow-Fill-Seal and needle hubs were well established, and had been around for decades.

However, integrating them into a new kind of injection platform was basically just a great idea. As with every brand-new idea in its earliest concept phase, there was not yet a working prototype. No clinical studies had been done. There were some CAD drawings and some test models, but that was all.

**There was also a vision that you found persuasive.**

I found the vision exhilarating. In every industry, innovation and excitement typically come from newer companies. I could see that happening with ApiJect, RAPID’s parent company.



Kendall and his bride Tacy mastered the all-important skill of elephant riding during the Thailand portion of their adventurous 2014 honeymoon.

**Why did you find ApiJect’s vision exhilarating?**

Hearing the story of why ApiJect was founded and how its technology is designed to function, immediately made me think: “Obviously this can work. And, once the pharmaceutical industry and the healthcare community experiences it working, they will embrace it. This solution could have fundamental, world-changing impact, first on pandemic defense, and then for global public health.” Based on that belief, I told my colleagues I want to support this effort in any way I can.

**At the time you were working as a Principal Advisor at Kymanox, which provides services to companies in the life sciences.**

Yes. Kymanox provides clients with support on their needs across the board: engineering, scientific, quality, and regulatory. So I first became part of the ApiJect and RAPID team as a fulltime or nearly fulltime consultant, from Kymanox.

**Now you are officially part of the RAPID organization. You seem very comfortable with managing Jumpstart, the RAPID move to convert existing U.S. BFS facilities to vaccine-capable fill-finish operations. What in your previous career prepared you for this?**

In my former role, I was responsible for manufacturing of sterile injectables and medical devices. I oversaw three production sites in the U.S. and Canada and I closely managed the largest



A casual bike ride in Da Nang, Vietnam, during Kendall and Tacy’s 6-week, 5-country honeymoon. They began in Bali and ended in Thailand.

manufacturing site in that network. I even had the same job title!

**Evolution plays a central role in your thinking about pharmaceuticals, medicine, technology and product development. Can you tell us something about that?**

When I came into the biotech industry with my first job at Novartis Vaccines and Diagnostics, we were asking questions such as: “How do you make a protein? How do you make the vaccine we need?”

I specialized in viral replication, or viral production. But now we can genetically modify viruses. And instead of a virus causing a disease, we can create a vaccine against the disease. It is a form of jujitsu, deployed to defeat a natural enemy. An organism that was destructive, can be modified to make the world a better and healthier place.

**Can this process be seen as a form of “directed evolution” in some cases? If so, does this approach also apply to technology?**

Yes and yes. As technology has evolved, it’s the exact same approach. Even the language reflects this, with the metaphor of a meme that goes viral, or a software

virus that infects your computer. From a business philosophy standpoint, you can always do something better, but at some point you have to decide to stop innovating and start executing.

Steve Jobs didn’t make the iPhone 10 first. Apple made nine earlier versions. In technology you constantly iterate because working through small, constant iterations again and again, is worth a lot more than trying to get something 100% perfect the first time.

**Eric Schmisser, RAPID’s quality leader, also believes in this philosophy. He’s adopted Voltaire’s famous line as his motto, which roughly translates as: “Don’t let the single-minded pursuit of perfection become the enemy of achieving the good.”**

Exactly. This idea of consciously directed evolution also applies to us as human beings, as we use the latest science to shape our futures in new ways.

Viewed in that context, what we do in the biotech industry, in healthcare, and in innovations from gene therapies to vaccines, is something that I find exhilarating and thrilling.

In effect, we have an opportunity to modify ourselves, to advance our own biology as individual human beings, and as a species.

It’s an opportunity to move beyond just being another animal species living on this planet.

**Like many young companies with an ambitious vision, ApiJect and RAPID are also planning for “directed evolution” of their business activities and their technology. What do you see as the company’s greatest challenge going forward?**

At some point, after the COVID-19 pandemic is well in hand, RAPID will transition—or evolve—to a phase where the bulk of our funding comes from competitive commercialization, rather than from the U.S. Government as our



Daughter Adalyn, 3 months old, is introduced to the Golden Gate Bridge by mom and dad (Kendall and Tacy).

emergency customer. There are many pharmaceutical companies which have never managed to succeed in making that critical shift to commercialization. For this reason, I believe the biggest challenge we are going to face will come when the world changes and the government has less urgent need to provide financial support to the pharmaceutical industry broadly, and to our company in particular.

**How do you envision that transition to more commercial activity going?**

I am highly optimistic, based on the intrinsic value that the ApiJect single-dose injector can bring, and will bring, to the rest of the world. Of course, we will need to find the correct balance between generating revenues and bringing our solutions to the poorest countries and the poorest people of the world.

To make that happen, we will work with pharmaceutical companies as our partners. But it comes to making this shift to commercialization, we will have a tremendous advantage—because a device that works, and a technology that actually does what our injector will do, sells itself.

**Thank you, Kendall.**