



Marc Koska

Head of R&D

PERSONAL PROFILE

Introducing a world-changing inventor, social activist, and health entrepreneur.

Marc Koska is the originator of the ApiJect BFS Prefilled Injector. It includes the world's first vaccine container suitable for injections, produced at remarkably high speeds and high volumes by utilizing a well-established technology called Blow-Fill-Seal (BFS) for aseptic plastics manufacturing.

“The rise of coronavirus has led to an extraordinary acceleration of global demand for a better way to give injections, and a better way to ensure that everyone can be vaccinated quickly,” says Marc. “Of course, we at ApiJect Systems Corp. are dedicated to supporting this massive lifesaving mission.”

Saving lives with “simple yet highly sophisticated” technology has been a 35-year crusade for Marc. In the 1980s he was a forensic modelmaker, providing visual aids for courtroom demonstrations, when he changed course to become a self-taught medical inventor.

Appalled by the worldwide spread of HIV-AIDS through contaminated medical syringes, he created the K1 Auto-Disable syringe. Since it can only be used once, it cannot spread blood-

borne diseases such as HIV, hepatitis and many others.

Next came a years-long battle for public awareness. Marc launched Safepoint Trust, a foundation promoting syringe and injection safety. Eventually, he was instrumental in motivating the World Health Organization and UNICEF to mandate use of Auto-Disable syringes.

“My mission has not changed for 35 years. I want to make sure everyone in the world can have safe injections of vaccines and medicines.”

— Marc Koska —

Over the past 15 years, the K1 has saved an estimated 12 million lives. In recognition of his “contribution to global healthcare,” Marc was made an Officer of the Order of the British Empire. The K1 continues to save an additional million lives each year.



Marc has traveled the world for nearly four decades, visiting health clinics in dozens of countries. He estimates he has witnessed over 10,000 injections.

As Head of R&D for ApiJect, Marc relishes the opportunity to focus on his passion for engineering design and hands-on R&D in public health, while working closely with a team of immensely talented individuals who focus on the thousand and one critical functions required to launch and support ApiJect, including manufacturing, marketing, finance, government relations and more.

“My original mission from 35 years ago has not changed,” Marc declares. “It is my fervent hope that we will overcome COVID-19 in a couple of years—and then I am looking forward to using our BFS single-dose injectors to provide the whole world with safe access to vaccines and medicines.”

“A new day is coming for injections of vaccines and medicines.”

The COVID-19 pandemic has awakened the world to the urgent need for better, safer injections, says ApiJect Co-Founder and Head of R&D Marc Koska.

Marc Koska is not a trained engineer, a Silicon Valley software titan, an MD or a credential scientist. Yet he has changed the world's thinking and medical practice on a key scientific and economic issue, and thereby saved millions of lives.

Marc is pursuing a 35-year mission to bring the world low-cost yet ingeniously designed syringes that prevent unsafe medical injections. In the COVID-19 era, he has accepted an additional assignment: bringing the world the fastest possible vaccinations.

INTERVIEWER: Marc, you spent decades as a “voice crying in the wilderness,” attempting to raise awareness of the dangers of unsafe medical injections and the cost in human life. You ultimately prevailed, but it has been a long, hard struggle. What made this mission so challenging?

MARC: I have learned that unless people have a personal connection and direct, first-hand experience with a particular issue, most individuals have a very hard time relating to it. They will hear what you say, and they will understand it intellectually. But it won't resonate emotionally. It doesn't really mean anything to them. You can always get people to nod their heads and agree that a certain situation is morally wrong, but most people don't



Marc on the water in Cornwall, enjoying the sport of “wake surfing.” Here he’s about to let go of the tow rope and surf down the wake of the boat.

take an ethical and active stance until it's personal.

Why not? Do they lack empathy?

The problem is not that they are bad people. It's that they can't really imagine certain conditions actually exist in the world until they see it, touch it and experience it for themselves. Without that personal experience, it remains an abstraction, it seems unreal. So there has to be that emotional connection.

For example?

In the Western world, caregivers would never dream of reusing a syringe. Doctors and nurses know that if one patient has a blood-borne disease like malaria, hepatitis or HIV-AIDS, and if you give that patient an injection and then reuse that same syringe on a second patient, there is an extremely high risk of infecting the second

patient with the first patient's disease. Most patients in the developed world also understand this.

When you tell a Western doctor, scientist or patient that in many parts of the world, a patient can walk into a clinic and the doctor will give them an injection using the same syringe, including the same needle, that has been rolling around on their desk for three weeks, and has already been used on dozens of other patients, it is simply unreal to them.

Until you have seen it 10,000 times in clinics around the world, as I have, it is simply too fantastic for most people in our part of the world to believe that any patient or practitioner would calmly accept this life-threatening danger. Yet they do, by the millions.

In the same way, when you share a statistic like, “Half a million children are dying in Africa every year because they are not getting vaccinated, even though they easily could be if we just did A, B and C”—that doesn't seem real to most people, either.

Has COVID-19 changed this dynamic?

To an astonishing degree, it has. Suddenly everyone understands what the concern has been all these years. COVID-19 has raised the stakes for injection speed and safety by making the issue personal for everyone on the planet. Now each of us knows that our own personal health, or the health of people we care about, is at risk. This has vastly accelerated the world's

interest in better injection technology. It has allowed people to understand the value of BFS single-dose injectors, and why we need them, in a very visceral way.

As the saying goes, you are “not letting a crisis go to waste.”

Actually, we got involved in pandemic preparedness before anyone heard of the novel coronavirus. In the fall of 2019, the U.S. Government became aware of ApiJect and said, “We want you to help us prepare for the possibility of a pandemic.” And then, just a few months later, the COVID-19 pandemic arrived.

Talk about being in the right place at the right time! What has been the impact?

The momentum and the urgency behind adopting ApiJect have accelerated in ways we could not have imagined a year ago. It has been an amazing validation of our work. Before this, we simply never would have had the opportunity to—in the space of one or two years—make the ApiJect BFS Prefilled Injector one of the world’s primary vehicles for vaccinating hundreds of millions of people, and eventually billions.

Now it’s happening at a speed that takes your breath away. It’s truly shocking to me because, in the world of global health, I’m accustomed to things moving at a pace where it takes years to get anything done, if not decades.

Three years ago, you partnered with Jay Walker, a fellow inventor and entrepreneur, on ApiJect Systems Corp.

I’ve known Jay about 12 years. We started talking about ApiJect three or four years ago. He said, “I can help.” He wanted to support me as a friend, of course. But even more, he was passionately interested in the challenge and benefits of bringing ApiJect to the world.

When Jay and I teamed up, some good friends of mine said: “Congratulations, Marc. This is exactly what you have always wanted. Someone with the



Marc and wife Anna celebrate their 30th anniversary in casually elegant style—with tennis shoes on feet and champagne glasses in hand.

vision, determination, experience and connections to drive your dream to the finish line with you.”

They were absolutely right. Now that Jay has instilled his magic into our company, we have moved with phenomenal speed to build a world-class team and to assemble a network of alliances that I find extraordinarily impressive.

Having that world-class team of experts at your side means they can handle the lead responsibility for things like pharmaceutical manufacturing, fundraising, financial management, government relations, marketing, regulatory processes and so on—leaving you more free to devote more of your time and energy to what you love best, which is practical design and engineering.

Of necessity, I used to be much more of a generalist. Now I’m able to be far more focused and to professionalize my role. You know, I was not formally schooled as an engineer. I work more by gut feel and intuition, and then I test out my designs and inventions by observation in the real world. Now I can really immerse myself in that process.

And yet you’re not working alone on this. You’re supported by world-class technologists who help translate your vision into reality.

It’s very exciting. For example, our supplier in Oxford is one of the world’s leading additive manufacturing professionals. When I design a new machine mold for our injection-mold manufacturing process, they use leading-edge 3D printing technology to create a prototype. That involves building up a metal part out of titanium dust particles, micron layer by micron layer, and fusing them together with a high-energy laser.

What is the advantage of this technology?

Speed! Instead of taking five weeks to get the finished part, we can get it in five days. We can then use that new mold to produce test samples of the plastic component that will become part of ApiJect’s single-dose injectors. It’s almost literally a case of—one day you have the idea, the next day you design it, and a few days later you’re holding the finished product in your hand. It is literally the best prototyping technique in the world.

Looking beyond COVID-19, what is your long-term vision for ApiJect?

I have always had a single-minded focus. My interest wasn’t primarily pandemics but finding a way to ensure universal access to safe delivery of medicines and vaccines. Of course, all of us at ApiJect Systems Corp. are dedicated to supporting this massive lifesaving mission in the global crisis of COVID-19. After we have prevailed against the disease, I know there will be a hundred other opportunities for ApiJect to help save the lives of people around the world.

I’m looking forward to being able to travel the world as the creative front man for that cause.

Thank you, Marc.