

Conor Madigan, '00 PhD

Founding Kateeva to put flexible and large-size OLEDs in the mainstream

If you had the choice to be a professor in electrical engineering at potentially any major university, or to start a manufacturing company to produce a new high technology product that would be at the forefront of a new industry, what would be your choice?

Conor Madigan is a thorough kind of person – especially when it comes to decisions. This particular choice in his career came as he completed his PhD in 2006 under Prof. Vladimir Bulovic and was working as a postdoc on printing OLED materials for low-cost scalable manufacturing. His decision required careful thought and a bit of time. Fortunately, good faculty positions at that time were hard to find.

Working with his colleagues (EECS graduate students) Gerry Chen, who was advised by Bulovic, and Valerie Gassend (then Valerie Leblanc) who was advised by Prof. Marty Schmidt, brought Madigan the satisfaction of returning to work that was related to several projects he had enjoyed as an undergraduate at Princeton under Prof. Jim Sturm. He had learned at the time that he was fascinated by working with OLED science and engineering, and one of these two projects ironically involved inkjet printing to produce OLED.

So Conor Madigan took advantage of his long association with Vladimir Bulovic to discuss his career choices following his postdoc. The two had met at Princeton when Vladimir was finishing his own postdoc and preparing to start his new lab as a faculty member at MIT. He invited and convinced Conor to come to MIT as one of his two new graduate students. With Seth Coe Sullivan, Madigan jumped in to build the Bulovic lab (in the summer of 2000).

In 2007 Madigan found his answer to his career choice was increasingly weighted towards building a new company. Developing his startup pitch deck was an exciting process. And jumping into two business classes at the Sloan School got him closer to his choice. By late 2007, he asked Vladimir, Marty, Gerry and Valerie to join him in the new company and halted faculty position applications.

Conor's recounting of the steps that led to forming Kateeva is an exercise in startup knowhow.

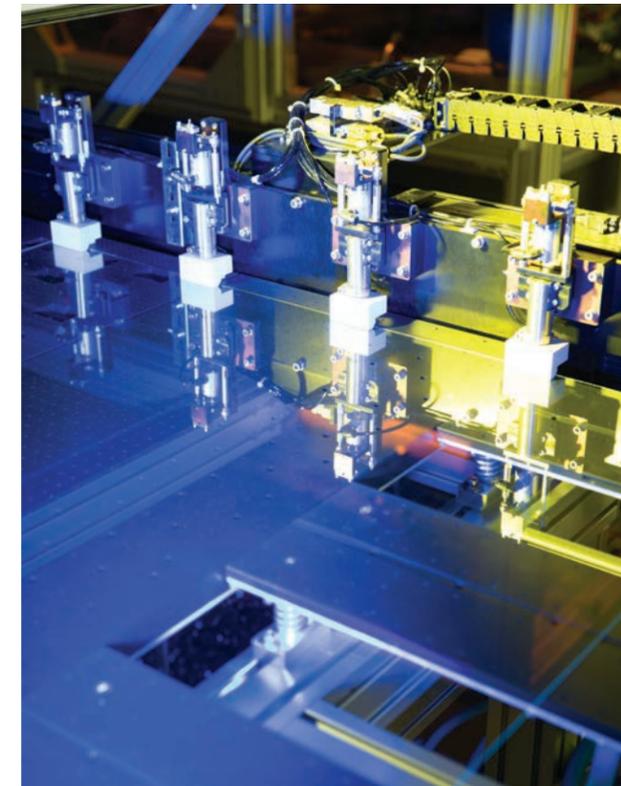
Incorporating Kateeva (in Delaware) was as simple as following online instructions. In less than a month, Conor gave the first pitch presentation at the logical starting point – a printed electronics investor conference in Silicon Valley. The value of associations instantly kicked in, as Conor met with Dr. Sass



Somekh, former EVP of Applied Materials and former President of Novellus—fortuitously arranged through Marty Schmidt. "Sass is considered a legend in the Silicon Valley semiconductor equipment industry – the architect of key products that made Applied Materials a \$10B company," Madigan notes.

Madigan gets excited as he relates the next steps: "At that first meeting, I pitched Sass on the idea of forming a company to commercialize our MIT technology to enable low-cost OLED manufacturing. He was intrigued."

Sass Somekh was not just intrigued. Following a successful meeting with a potential customer in Asia, Sass joined Kateeva as the sixth and final co-founder, also becoming the executive



Print-head Module on Kateeva's YIELDjet [tm] Platform. Courtesy: Kateeva

chairman. He held that position until retiring from the Kateeva board in mid-2013.

"The key to the Kateeva pitch was OLED," Madigan notes. OLED in early 2008 was just getting commercial visibility following earlier hype-bust cycles. Sony's release of an expensive but gorgeous TV that offered better color, contrast ratio and viewing angle than LCD – and paper thinness and flexibility, lower power and (ultimately) lower cost was perfect timing for Madigan's pitch. Sony's release helped Madigan persuade potential investors that by changing the production economics, OLED could seize the \$100B/year flat panel display industry from LCD – potentially opening up a \$1B+/year market opportunity for equipment manufacturers like Kateeva.

Following a marathon pitch day with six VC firms, all of them requesting additional meetings – Kateeva accepted a term sheet for a \$10M investment led by a premier VC. By the end of April, Madigan moved to SF, closed the MIT patent license and the first investment round and Kateeva was up and running. "I was so busy that I never stopped to think that 90% of the things I was doing every day were completely new to me," he recalls.

Conor Madigan continues to build Kateeva through collaboration, learning on the fly, timing, and being ultra-nimble in the face of change. Kateeva's key proprietary inkjet printing technologies were developed through close collaboration with leading OLED manufacturers. Madigan has learned that a startup CEO needs to be ready to "do it all," though he credits Kateeva's steady and speedy growth to the contributions of his team – including an engineering brain trust – individuals who are passionate about inventing. Fortunately, OLED has been growing explosively since 2008 – now a \$10B a year industry and heavy-weight advocates Samsung and LG are pushing OLED as the display technology of the future. Kateeva also turned on a dime several years ago successfully rebuilding their printing approach.

"Turns out it was a smart move," Madigan notes about this nimble turn around in Kateeva's production technique approach. "Since then, we've executed well. We have first prototype systems in the field with first production systems planned for shipment this year."

"By any measure", he continues, "that's tremendous progress for a complex science-based hardware product in such a short time frame. Beyond that, we've also recently expanded our executive team. We recruited Alain Harrus, PhD, a semiconductor industry veteran and respected VC, as our new CEO to help position Kateeva for the next growth stage and I have stepped into the role of President. Overall, it's exciting momentum. And we're pretty proud!"



Kateeva's YIELDjet [tm] Platform. Courtesy: Kateeva