

Interview: Mike Pilliod, Tesla
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Longer article

Designing to a vision

Mike Pilliod, one of the highly anticipated Opening Speakers at GPD 2019, will challenge the audience to question technology, push the limits and build to visions rather than take the easy way out – things he and his team are already doing through their work. As Director of Manufacturing Innovation at Tesla for the past six years, Pilliod has made major contributions to product design and engineering for all of its vehicle, energy and solar products. He is on a mission to expand the designer toolbox and use glass in ways previously considered unthinkable.

Although this will be his first-ever GPD event this year in Tampere, Finland, on June 25, Mike Pilliod has heard a lot about the conference through his work with Glaston. He was therefore pleased to be invited as one of the opening speakers and looks forward to experiencing the event and networking with experts and strategic partners in raw materials.

“I’m excited to discuss the conversion of raw materials with other professionals,” Pilliod says. “Making the part is as important as what it is made of. My career focus has been finding the intersection of materials and manufacturing technologies.”

Pilliod began his impressive career after studying ceramics at Alfred University in New York. His first job after college was working for General Electric’s Global Research team in ceramics development for fuel cell and coatings for GE energy and aircraft engine businesses. Mike then moved to the plastics division of General Electric working on healthcare and composite application development. In 2008, he accepted a job with Apple in product design. “During the interview, I was asked if I’d like to take on a role focusing on new materials. I couldn’t believe it! The company wanted us to do engineering – they celebrated engineers,” he emphasizes.

He went on to work with some of the best designers in the world. “We thought a lot about how the materials could enable product design. And this was in the early stages, before glass was ubiquitous to iPhones, iPads or laptops,” Pilliod says.

Introducing new materials to vehicles, solar and energy products

In 2013, after just over six years at Apple, Pilliod moved on to Tesla and began working on new product development and launches. His primary role at Tesla is to introduce new materials and process technologies, focusing on glass development and how to best integrate it into various products. His team focuses on development rather than research through their work with modeling, simulations, application development, prototypes and glazing.

“In glass, we look at the balance of multiple product attributes with the appropriate tint levels, thermal properties, optics, transmission of signals and additional engineering requirements,” Pilliod says. “We also always focus on how to scale up. This has been one of the key differentiators for Tesla when using glass – because we’ve been able to use larger glass than anybody else in the industry at high-volume production.”

Tesla has proven it is possible to achieve swooping and complex windshields and large roof glass on all vehicles, and that is where process comes in. Pilliod feels it is vital to understand the limitations of the process equipment to understand the choices for overcoming them.

In solar and energy products, Pilliod also supports his team in finding new material applications in these growth areas and finding new ways to scale up industrialization as quickly as possible. Glass is an incredible material that enables product development across multiple industries.

“That’s what I plan to speak about at GPD – the idea of staying true to the design intention and figuring out the glass size limitations based on the furnace, autoclave or installation equipment,” he says.

Educating on possibilities

Pilliod elaborates more on his opening speech: “I’ll focus on educating the design teams on what’s possible. That’s what my team and I do best. I’ll aim to expand their toolbox and explain how it’s possible to design into a vision. We’ve proven very clearly that huge pieces of glass can be industrialized – from the front of the windshield all the way to the back. The primary idea wasn’t the material. It was a vision – and proving that it could be done.”

When the team designs new cars or solar products, advanced glass and its shaping are simply part of their toolbox. This is now innate in their design language and evident in all of Tesla’s products. “Many times the voice of the customer comes from the supply chain or manufacturing. So, you need to start with the vision and then ask how to build to that vision,” says Pilliod.

“Glass has been a major part of almost every product launch ever since I’ve worked at Tesla – be it the Model S panoramic roof, the Model X panoramic windshield, the largest one in production, upcoming all-glass roofs and even solar glass roofs,” he goes on. “I think it’s an amazing material – like a thread running through the company. It’s part of our innovations and a driver for us as a company.”

If we look at a semi-truck, as an example he explains, heavy impact-resistance is a key attribute. Research reveals that people are really afraid of breaking windshields in semi-trucks. However, the Tesla semi-truck has the biggest windshield of any truck in history – giant, complex and wrap-around. But, most importantly, it is exceptionally safe.

Growing and improving with new technologies

Excited about continued growth, Tesla is investing in new technologies and building new, state-of-the-art factories to meet the growing demand for more vehicles.

“The easiest thing would be to just use what has worked for the past 30 years, and copy and paste that into the new factory,” he explains. “Instead, our teams are questioning if a specific technology is something we should use. That’s one of the things I love about Tesla – we continue to find ways to make things faster or scale things faster.”

Moving forward in many ways

Pilliod enjoys spending time with his 3.5-year-old daughter, who keeps him really busy. He also enjoys swimming and participating in the New York City Marathon every year. “I run and support an

organization called Project Purple, a pancreatic cancer research organization, which is really important for me,” Pilliod says.

Additionally, he loves to travel, having just returned from a trip to Chile in South America. One of the next trips coming up is to the GPD event in Tampere, Finland, at nearly the other side of the earth.