
The Materialise World Summit 2017: Day Two



Young Innovators, Virtual Patients and the Future of 3D Printing

After the excitement of Day One of the [Materialise World Summit](#), it was going to be difficult to top the experience on Day Two. But expectations were definitely met with some really informative, as well as moving presentations in the Healthcare Session, and a stellar panel discussion entitled "Are We Prepared for an Additive Future?" in the AM Session.



The Additive Manufacturing Session

Starting off with an opening speech from Materialise CTO Bart Van der Schueren, the Additive Manufacturing session on Day Two was characterized by unique 3D printing applications and expectations of what the future of the technology would bring. In an inspiring visualization of what 2030 might look like, Bart Van der Schueren described how current trends in Metal 3D Printing and their associated research could contribute to futuristic space missions in the coming decades.

 *The AM Session in the Copper Room*

A dynamic talk on "Innovating the Future" was given by three young innovators at Materialise, allowing them to explain how the company keeps itself creative at heart and passionately curious.

Then we heard from Nicola Belli at [Safilo](#), speaking on the give-and-take between craftsmanship and 3D Printing in the field of eyewear, Professor Thierry Rayna on how co-creation plays a key role in innovation, and Reto Rindlisbacher from [Tailored Fits](#) on how a product such as ski boots can benefit from the customization afforded by Additive Manufacturing.

"We can no longer talk just about products. They're platforms now," says Thierry Rayna, pointing out why brands which fail to recognize their products as potential platforms for mass customization are losing out: sometimes to consumer-initiated customization.

 *The AM panel discussion*

At 14:30, the much awaited panel discussion began. With panelists from [Gartner](#), [CECIMO](#) and [Jaguar](#), this lively discussion was skillfully guided by [Rachel Park](#), a key journalist in the 3D printing industry who has been around since the early days of the technology. The panel went through four scenarios of how an additive future might look, from customized footwear at retail stores to the decentralization of production, and discussed the role of education, policy and research in making that vision a reality.

Another highlight in the afternoon was Mohammed Ehteshami from [GE Additive](#), whose decades of experience in aircraft engineering and additive technologies brought a flood of interesting questions from the audience. Continuing the theme of additive technologies in aerospace, Marko Bosman from [GKN Aerospace](#) explained what materials science is contributing to the advancement of the technology.

Bringing the AM summit to a close, Uwe Fresenborg from [Deutsche Bahn](#) declared that the massive railway company has the vision to 3D print as many as 15,000 spare parts as early as 2018. And that's not to mention other applications for AM. The panel discussion had already established that the audience feels we're ready for an additive future: the closing speech confirmed that the industry is committed to making that future a reality.

The Healthcare Session

At the same time, 3D Printing in healthcare was being thoroughly discussed and dissected in the Healthcare Session.

The overarching theme of the morning was the concept of the virtual patient. So what is the virtual patient and how is it useful in hospitals? Professor Marco Viceconti, Dr. Adriano Henney and Dr. Mark Palmer all highlighted a fundamental issue - populations are ageing and this means that healthcare needs to get more competitive.

 Erik Vollebregt, lawyer at Axon, during the Healthcare Session

And although there is plenty of medical device testing done with animals and people, tests done with a computer model, or testing on a "virtual patient" remain scarce. But there is hope. As Prof. Dr. Ir. Matthieu De Beule stated in his presentation,

"The idea of a surgeon implanting a (patient)-specific stent, selected by means of a numerical presurgical planning tool, no longer seems like science fiction."

The afternoon followed with some fascinating presentations on the use of 3D-printed implants in surgery. From Professor Jinfen Liu from the [Shanghai Jiaotong University School of Medicine](#) who gave the audience a unique perspective on how 3D Printing was being incorporated in China, to the seven years of experience of Dr. Thomas Schouman from the [Groupe Hospitalier Pitié-Salpêtrière](#) in Paris, the key takeaway seemed to be that 3D-printed implants produced very predictable, positive outcomes. As Professor Ian Stockley said in his talk on total hip replacement procedures,

"A third of patients need to be revised. Those numbers are unacceptable today."

With his use of the [Materialise aMace](#) system (a 3D-printed hip implant which is tailor-made to the patient's anatomy and remaining bone), patients suffering from the severest hip bone deformity - Paprosky III - have been given a new lease on life.

 The 3D-printed splint which saved Kaiba's life

Finally, the last hours of the Healthcare Session focused on the future. Erik Vollebregt from [Axon](#) brought the legal perspective into focus, highlighting that although 3D Printing has amazing potential for healthcare, it is also tricky to regulate and brings many new issues to the forefront which need support from a legal and regulatory framework.

In a particularly inspiring speech, Professor Dr. Richard G. Ohye from the [University of Michigan](#) revisited the story of [baby Kaiba](#), a baby who suffered from severe tracheobronchomalacia which caused his windpipe to collapse and prevented him from breathing properly. Together with Materialise, the doctors at the University of Michigan created a bioresorbable splint, which would keep Kaiba's airways open until his windpipe strengthened with age. Dr. Ohye brought home our priorities by saying,

"This did not make Materialise a lot of money - they do these projects because it's absolutely the right thing to do."

Finally, the session was closed by our CEO, Fried Vancaen, who emphasized the need to make this technology accessible to all. Even though there are regulatory hurdles and practical implications such as cost, the benefits of 3D Printing for healthcare were clear to everyone at the conference. But although it's a slow-moving process, the future does look bright.

Source & Image Credit: [Materialise Medical](#)

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