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Software Updates from formnext 2016: 3YOURMIND, MachineWorks, Materialise, Sigma Labs

by Sarah Anderson Goehrke | Nov 30, 2016 | 3D Design, 3D Printing, 3D Software, Business, Exclusive Interviews, Metal 3D Printing, Science & Technology |

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As we continue to look back to Frankfurt and the incredible amount of news relayed from [formnext](#), it's easy to see in the rearview mirror that the conference certainly lived up to its high hopes of [becoming a go-to event](#) for industry professionals involved in additive manufacturing. After all, here we are two weeks out and still talking about all the show brought us! Wrapping up our [coverage from formnext 2016](#), I will be presenting in this three-part series details from more of the conversations I was privileged to have there, focusing on updates in [business](#), [hardware](#), and software.

On the software side of the event, formnext was filled with booths showcasing and press conferences announcing the latest in 3D design software. After all, the most advanced hardware is only a metal/plastic paperweight without the appropriate software capabilities to ensure operations that live up to the potential that machinery brings. Several of the companies I spoke with in Frankfurt focus their energies on 3D software capabilities, and I am happy to share their insights now.



3YOURMIND

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Philipp Stelzer, Head of Sales & Marketing, 3YOURMIND

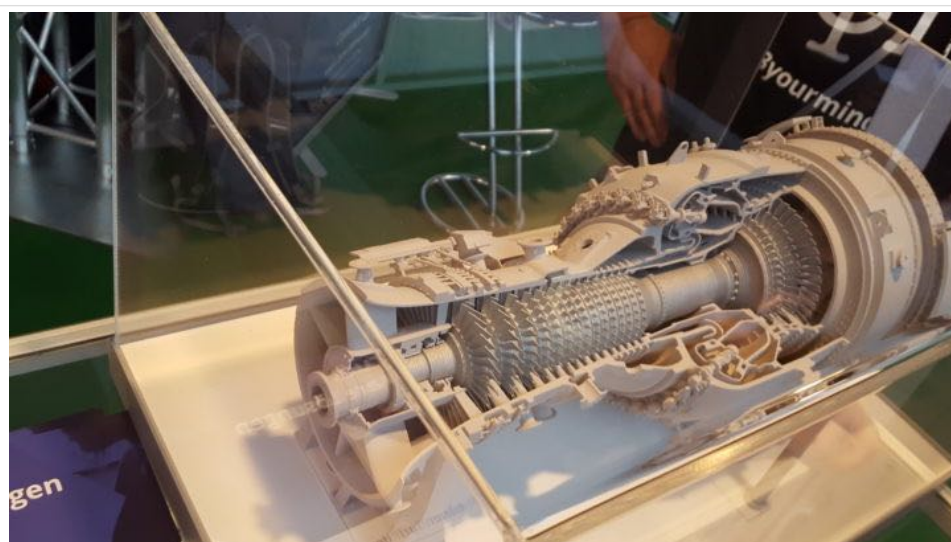
The first booth I visited for an interview was that of Berlin-based **3YOURMIND**, where I had the pleasure to speak with Philipp Stelzer, Head of Sales & Marketing. Stelzer told me that they had come to formnext in order to showcase their software solutions for 3D printing services and for businesses.

"For 3D printing services, we offer integration so there's no need for them to do their own marketing. We offer an online store, so there's no need for their own infrastructure, which streamlines the process. Rather than look at weeks to order a part, it cuts down to minutes," he told me. "For businesses, we offer the analysis of parts to ensure they are printable. There is no wasting money with unprintable files, and we offer immediate quotes. Users can compare options and decide quickly. This extends the product range they can manufacture."

3YOURMIND started off by building their own Ultimaker 3D printer, Stelzer told me, then working with architects, where they discovered that the problem was in receiving unprintable files. It was from there that the team decided to focus on a software solution for ensuring this was no longer a common occurrence. Headquartered in Berlin with a new office in San Francisco (that opened only about 1.5 months ago) and an office in Poland, 3YOURMIND was officially founded in 2014. The company's main investor is the EOS venture fund, which they note adds validation to their efforts. Now, the company is "growing with demand, as bigger businesses are approaching us and we see lower barriers to using the technology, making technology more accessible." 3YOURMIND sees a heavy European user base, but is also seeing growth in the US as demonstrated with their San Francisco office, where the focus is in the automotive industry.

"It's about getting the right processes in place," Stelzer told me. The keys to success for 3YOURMIND are making the process "quicker, easier, price-conscious, and with notifications of status and order process standardization."

Later in formnext, 3YOURMIND was named as the **winner of the conference's Start-up Challenge**. The company has certainly **been busy** lately, and shows no signs of stopping; they will be participating in the **Frontier Tech Showdown** held on December 14th as part of **Inside 3D Printing San Diego**.



3YourMind's software options allow for detailed prints

MachineWorks



Mike Nicholson, Sales & Marketing Director and Cristina Sesma, Marketing Manager, MachineWorks

I had the pleasure of attending [MachineWorks'](#) press conference held on the Wednesday of formnext, in which Cristina Sesma, Marketing Manager, and Mike Nicholson, Sales & Marketing Director, presented [detailed information](#) about the company's [Polygonica](#) software. While not many may be familiar with the Polygonica name, the mesh processing software is in fact very widespread — with OEMs and such big names as Stratasys and Renishaw integrating this technology. As Sesma told us, OEMs use these libraries under their own branding; Polygonica is not sold to end users, as it needs that OEM front end.

"Most end users only want to press a button and print," Sesma noted of the motivation to enter the 3D field.

Users have long run into problems when they require watertight designs, and MachineWorks has been providing solutions since 1994 for CAM, machine tool, and CNC control manufacturers; from these decades of experience, about six years ago the company turned to 3D printing when they realized that users were still experiencing the same sorts of problems. They created Polygonica to perform healing and other Boolean operations.

"We'd like to get to the point where you don't have to think about the STL files anymore," Nicholson told us of the drive for automation. "We handle the triangles." As Polygonica will remesh within a preset tolerance range, the software can reduce the triangles commonly resulting from 3D scans. "You don't really need 20 million triangles, you might need 1 million triangles."



[Image: Polygonica]

The duo told us that approximately 60% of CAM software today uses MachineWorks' technology. And, indeed, "most things manufactured today have gone through a process using MachineWorks" in the subtractive field, due to their long establishment and high levels of integration.

Materialise



Stefaan Motte, Vice President, Software, Materialise



We'd been looking forward to formnext this year, as it represented a clear point of growth in additive manufacturing — that is, as [Materialise](#) has been pointing out, the industry is growing up. Vice President of Software Stefaan Motte has been expounding this message — “It’s time for 3D printing to grow up” — for a bit now, and I had the opportunity to speak with him at the busy Materialise booth early in the show. Motte, a speed talker, told me that, indeed, “Play time is over, and we are seeing this on different fronts.”

“The industry is transitioning,” Motte told me bluntly. “Additive manufacturing niche verticals like custom implants, etc., have been established, but the big change in the last 12 months is that we are looking now at series production, larger-volume end-use production. This all shows that 3D printing needs to grow up. Play time is over. For 26 years, Materialise has been working toward what’s possible end-to-end. Not just printing, but repetitive, repeatable manufacturing. Our collaborations in the eyewear industry are huge, working with HOYA, we are able to work toward not only aesthetics but skin contact and precise lens positioning. This is possible because of our software backbone, ensuring consistency, reliability.”

Turning toward what’s new, Motte told me about Inspector, where the focus is on the quality of parts, consolidating and synthesizing data points so users can make their own decisions. With 3D printing “not niche anymore, Materialise delivers parts that meet standards.”



“This is the shift the industry needs to make,” he continued. “We must take into account the existing ecosystems, complex systems in place now — PLM, walled garden systems — that does not work in mainstream manufacturing.” A key here is in openness: “Co-creating, co-developing, with the example of HOYA. These are the best ways to take into account and to use technology. It’s not just about printing a part — we must always be raising the bar on what’s possible. Scrap rates must be low, we are working toward delivering cost-effectiveness, creating an ecosystem around it, working with machine manufacturers. Looking toward the digitization of design, we look to the machines themselves — compare to classical CNC. Production integration is tighter, not just sending a job, but with a close link, with monitoring, and synthesized over the entire production floor. This is Industry 4.0, this connectivity, higher quality assurance, repeatability. It’s neat to see — this work translating to software systems. And it needs that backbone to tie it all together.”



Sigma Labs



Ron Fisher, Vice President of Business Development, Sigma Labs

At the [Sigma Labs](#) booth, I had the opportunity to speak with the engaging Ron Fisher, Vice President of Business Development, who walked me through some of the company's history as well as what's new for them. About three years ago now, the company developed their process monitoring software, PrintRite3D, designed as a third party add-on for metal additive manufacturing.

"Things are progressing really well for us right now," Fisher told me.

With several big names validating the software — including a [Siemens contract](#) that represents "a good vote of confidence" — Sigma Labs has seen about a dozen installations. The company is currently targeting uses in:

- End users (e.g., Siemens)
- Machine OEMs (to embed in machine controls, hoping to become as ubiquitous as Intel Inside)
- Service bureaus (e.g., contract metal printing)

Sigma Labs' goal is to get the leading names to require this software on their machines, and they seem to be progressing toward that goal smoothly, as now machine manufacturers are approaching them and inquiring about PrintRite3D. At formnext, Sigma Labs released INSPECT 2.0, with new features based on feedback from users reflecting the wants and needs of the industry following the [most recent update](#), as it was changed to be web-based and industrial Internet of Things (IIoT) compatible.



"The early generation was standalone," Fisher explained, but "as technology moves toward serial production, we see the drive to re-architect for multi-machine client server architecture and send to cloud data from each machine. Instead of looking at a layer-by-layer view, we now assess part-by-part on the build plate, with individual part monitoring. Through the 3D point cloud, we can see within the part via 2D and 3D position mapping, where issues may be. Now we generate live notifications, delivered by text message or email. That's what sets us apart: we have the means to generate actionable quality metrics."

Fisher narrated the video playing at the booth describing some of the high points of PrintRite3D:

Sigma Labs' PrintRite3D Software



Discuss in the [formnext software](#) forum at 3DPB.com.

The software offerings at formnext 2016 were extensive, as we have been keeping a close eye on since before the show began. With additional developments from [such companies as 3D Systems](#) showcased during the event, and several booths drawing attention to the importance of the software being used, formnext underscored that the development of software is critical for keeping apace with the growth of the industry as a whole. Keep an eye out for looks covering conversations centering around hardware and [business](#) offerings from the show!






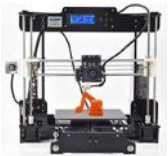
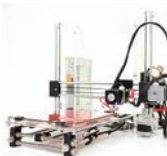

[All photos/videos taken by Sarah Goehrke at formnext for 3DPrint.com, unless otherwise noted]

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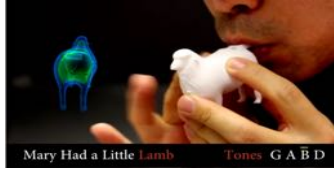
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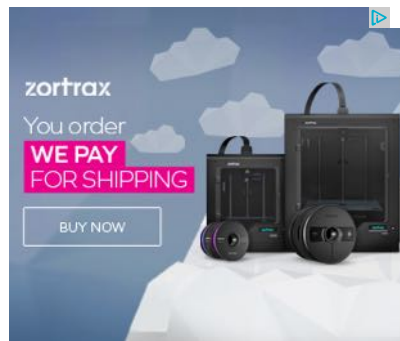
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