Materialise Czech Republic Celebrates 10 Years of their 3D Printing Factory for Vacuum Casting and ColorJet Printing

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Ústí nad Labem, Czech Republic – June 06, 2014. Materialise Czech Republic has reached its 10 year anniversary mark, serving Materialise's clients with vacuum-casted and ColorJet-printed components since 2004.

Speaking about the momentous event, Materialise's CEO Fried Vancraen said, "Since I started Materialise in 1990, I have seen the company evolve from running a single stereolithography machine to maintaining full-fledged factories for 3D Printing. In the Czech Republic, it's now been 10 years that one of these factories has been dedicated to two key technology for manufacturing, vacuum casting and ColorJet Printing. This anniversary is a proud moment for Materialise as we fondly look back on the successes of the past ten years in the Czech Republic and look forward to the years to come as customers continue to find innovative ways in which to put vacuum casting and ColorJet Printing to use."

To celebrate this occasion, Materialise organized a customer conference dedicated to all their technologies on May 22nd and 23rd. The event was a time to express thanks to our customers for being with us and also to attract them for even more cooperation. Materialise welcomed important customers from automotive and industrial design fields.

The conference itself consisted of many interesting presentations. The opening speech was given by Svatopluk Dvorak, Managing Director of Materialise Czech Republic, followed by impressive presentations of Fried Vancraen, CEO of Materialise; Bart Van der Schueren, Vice-President, Materialise; Stef Thulie Sales Manager, RapidFit+; Jean-Francois Blanchard, Axson and ended with a very inspiring presentation by Craig Prihoda, Project Engineer Bang&Olufsen. Also over the course of the two days, the guests went on a factory tour to see vacuum casting up close.

The conference served as a place for many professionals to meet and discuss prototyping and printing for a series. There was a diverse group of people, from those who have come to rely on 3D Printing, to Materialise's representatives to many other industrial professionals.

3D Printing Factory for Vacuum Casting

Vacuum casting is a process to make small series of high-quality plastic components. After making a stereolithography master, a silicone mold is made based on that master. Once the mold is dry, it can then be filled with another material to make a cast, most often polyurethane (called PU in the image below). Once the part is cast, it can then be finished by Materialise's highly-skilled finishing team. All products have a high-quality of finish before they leave our factory.

3D Printing Factory for ColorJet Printing

ColorJet Printing is a process where a roller places a thin layer of powder on the build platform, and there is an inkjet printing head that moves across the powder, depositing a liquid binding material at specific locations. This process continues whereby a thin layer of powder is placed over the previous layer and binds the powder together. This method of printing allows for a wide-range of colors and materials, including ceramics.

Materialise's team in the Czech Republic has an expertise in printing ceramics. After the object is printed using the process described above, it is placed in a drying oven to increase the strength of the model. Then, the model is extracted from the powder bed and excess powder is removed. The part is then fired in an oven to become even stronger.

Here is a diagram showing the entire ColorJet Printing process for ceramics:

Once this process is completed, the object is ready to be finished with a high-quality glaze. To do this, the object will be fired twice with a glaze put on it before each. The final result reveals a shiny smooth glaze coating.

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About Materialise

With its headquarters in Leuven, Belgium, and branches worldwide, Materialise has been playing an active role in the field of Additive Manufacturing (AM) since 1990. In addition to having the largest capacity of AM equipment in Europe, Materialise also enjoys a stellar reputation as a provider of innovative software solutions. They have used their experience and expertise to create a better and healthier world through their involvement in AM for industrial and medical applications, and by providing bio-medical and clinical solutions such as medical image processing and surgical simulations. Materialise has developed unique solutions that make a world of difference for its many customers with their prototyping, production, and medical needs. These customers range from large companies in the automotive, consumer electronics, and consumables sectors; to famous hospitals, research institutes, and clinicians; to individual consumers interested in bringing their own unique creations to life through i.materialise or who want to purchase a celebrated .MGX design.