SINGAPORE

Creatz3D Ceramics: The Ceramic Focused 3D-Printing Service Bureau in Singapore

The adoption of innovative technologies in Asia is generally conservative, with one such technology being 3D-printing where companies are usually uncertain about the applicability for their businesses. This led Creatz3D to the idea of creating a service bureau to review technologies thoroughly for their feasibility before pushing them out. Sean Looi (SL), General Manager of Creatz3D, gave us some insights ahead of formnext 2018, in an exclusive interview on the development of Additive Manufacturing (AM) with ceramic pastes in Singapore.

Fig. 1
Sean Looi, General Manager of Creatz3D (l.), and Ye Pengcheng, Ceramic Engineer (r.)

***CA:** When did you set-up the company?*
SL: Creatz3D Ceramics was formed in 2017 as a subdivision of its parent company, Creatz3D, which has over 15 years of experience in providing 3D-printing solutions in Singapore. As a 3D-printing hub, Creatz3D's vision is to accelerate AM adoption of commercial applications, collaborate with local manufacturing companies, and educate how AM can impact and benefit their manufacturing processes.
***CA:** What is the scenario regarding 3D-printing in general in Singapore?*
SL: In recent years, there has been a concerted push by the Singapore government in promoting AM adoption in light of the Industry 4.0 movement.
According to INSEAD's Global Innovation Index 2015, Singapore is the 6th most innovative city in the world and the first in Asia Pacific. Innovating to stay ahead of the pack has always been in Singapore's DNA, and companies have tapped on our relentless drive to innovate to create new solutions with a global impact.
With the initiatives playing a huge role in accelerating AM ecosystem development across industries like medical, aerospace, and many more, Singapore is well-positioned be the world leader within this space.
***CA:** What was the entry for your activities in the AM of ceramics?*
SL: The applicability of ceramics AM was and is still unknown due to its positioning unlike matured technologies like plastics and metals in our local market. The expertise and knowledge of 3DCERAM Sinto/FR in Technical Ceramics printing thus led to Creatz3D to pursue a partnership with them.
In November 2016, 3DCERAM Sinto and Creatz3D entered into a partnership which facilitated the installation of 3DCERAM Sinto's CERAMAKER 900 ceramic 3D-printer at the Advanced Remanufacturing Technology Centre, in Singapore, and pooled together both companies' years of AM expertise.
We then setup Creatz3D Ceramics in 2017 and also launched a dedicated website in July 2018, which represented a significant step towards being a full-fledged service bureau in providing quality ceramics 3D-printing services.
It is our strategy apart from being a reseller of ceramic 3D-printers, to also provide 3D-printing services for ceramics production. We aim to push boundaries through research and development of new applications and accelerate the adoption of ceramics AM in Singapore.

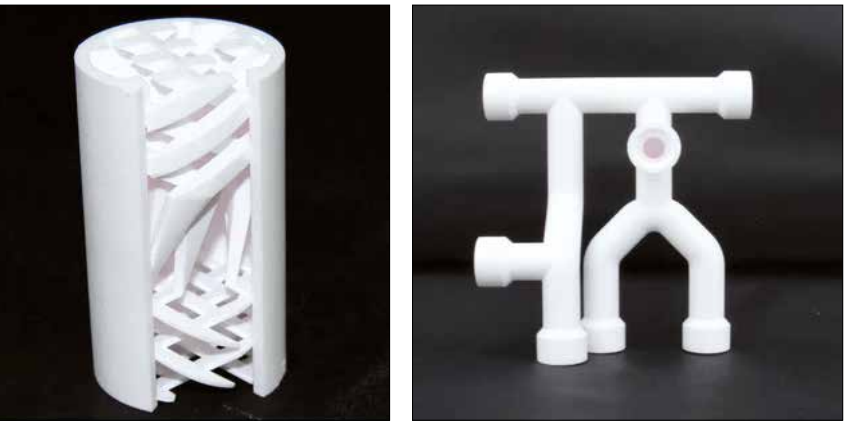

Fig. 2
Static mixer and ceramic manifold printed by the Creatz3D Ceramics team with the 3DCERAM Sinto CERAMAKER 900

CA: *Creatz3D started to work with ceramic materials only two years ago. What is the support that you need from your suppliers like 3DCERAM Sinto?*

SL: System integration is always the first priority for customers and our extensive market research showed that 3DCERAM Sinto had a significant advantage over others, with their over 10 years of progressive experience in ceramics AM.

Their turnkey system especially stood out with tight integration between their CERAMAKER ceramic printing technology, 3DMIX pastes, and personalised support capabilities. The training provided by 3DCERAM Sinto also allowed Creatz3D engineers to operate the machines confidently but also trained them in optimisation to achieve high-quality ceramic parts. The training and support provided by 3DCERAM Sinto are thus critical in helping Creatz3D Ceramics meet the demands of customers. The addition of ceramics to Creatz3D's portfolio ensures that we can stay ahead of the pack in the competitive 3D-printing landscape, and the expertise can demonstrate the game-changing capabilities that the technology has to offer to help advance design, engineering, and manufacturing.

CA: *What is the market response in Singapore on AM ceramic materials?*

SL: With the AM industry calling out for alternative material options, the opportunities and market potential for ceramics could be transformative by promoting certain unique characteristics.

For us as component manufacturers, the flexibility of CERAMAKER 900 is a big advantage. This is particularly useful during machine operations as it minimizes material loading and the overall printing time.

Customers who have relied on Creatz3D Ceramics to do service printing using the CERAMAKER 900, were notably impressed with the surface quality of the 3D-printed ceramic parts they had received.

The CERAMAKER system is the first of its kind in Singapore and Creatz3D is extensively involved in the research of ceramics 3D-printing possibilities to drive, prove, and provide industry to not only users and companies in Singapore, but with an eye to go global in time to come.

As the first installation of CERAMAKER 900 in Singapore, it represents a significant milestone for not only 3DCERAM but also Creatz3D as awareness of the suitability of technical ceramics for 3D-printing applications grow.

CA: *What will make ceramics AM a success story in Singapore?*

SL: Apart from achieving consistency and reliability in printing alumina and zirconia parts, having customers refer to ceramics as their first consideration for specialized industries like aerospace, biomedical, and more, ahead of mature technologies like plastics and metals, as well as seeing the growth of ceramics AM adoption across industries – that in my opinion would make it a success story in Singapore.

CA: *Thank you for talking to us.* KS