

## **High-speed precision printing of 3D ceramics**

*Pablo Gonzalez, ADMATEC Europe, Materials Science Specialist*

High-tech ceramics are regarded as superior materials although hard to shape. Additive manufacturing allows shaping ceramics of complex structures and catalyzes the design of improved components that would not be possible by traditional techniques, such as powder injection molding (PIM). Products can be directly designed targeting final applications while adding form freedom, light weight and less material usage. This has the potential to change the industry of the future, where applications rule over design. Currently, the most reliable additive technique is based on Digital Light Processing (DLP), and it uses a mix of photoreactive polymers and ceramic powders that is used to produce high resolution parts through pixel-by-pixel control. Key to obtain dense and functional components lays on a careful materials development, yielding microstructures undistinguishable from products obtained by other shaping techniques. To overcome industrial upscaling challenges, Admatec has developed the Admaflex DLP technology allowing economically viable production of high tech components in ceramics and, most recently, metals.