

# How Additive Manufacturing supporting new entrepreneurs to support indigenisation in India?

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MimyK Medical Simulations Private Limited, a deep-tech spin-off from the Indian Institute of Science (IISc), Bengaluru, is building intelligent and immersive solutions for medical procedures. Their first product, the "EndoMimyK" simulator, is an advanced endoscopy training system that incorporates haptics, virtual reality (VR), and kinematic simulation technologies. The simulator replicates human internal organs, enabling medical professionals to practice endoscopy procedures with lifelike interactions and tactile feedback. With the goal of improving access, outcome, safety, and efficiency in medical procedures, the "EndoMimyK" aims to enhance the skills of medical students and doctors for safer and more effective endoscopic examinations and treatments in the future. The application is form, fit, and good surface finish has been achieved by using Stratasys FDM Technology. The Lead team from MimyK is happy with the results of 3D Printing technology and they would like to continue to choose 3D Printing services from Altem Technologies for their prototyping needs.

MimyK team was looking for 3D Printing of certain critical parts of the simulator and approached Altem Technologies Pvt. Ltd. Bangalore. Team at Altem used FDM 3D Printing Technology and created the 3D Printer models with required strength and surface finish. The utilization of FDM Technology Stratasys 3D Printer

provided several significant benefits for the development these critical parts of the Mimyk simulator. With design flexibility, complex and custom parts could be easily manufactured, tailored to the specific needs of the simulator. Rapid prototyping capabilities enabled quick iterations and refinements, saving time and resources. Moreover, 3D Printing reduced material waste, as it only used the necessary material to build each part. The technology's additive nature allowed the creation of complex parts without the need for internal support structures, simplifying assembly and reducing potential failure points. Customization and personalization were made easier, catering to specific requirements and ensuring a better fit for the simulator's components. Integrating features directly into the parts during manufacturing improved functionality. The time and cost savings with utilization of 3D Printing machine further expedited the development process, bringing the simulator to market more efficiently. Additionally, the technology fostered a culture of innovation, facilitating easy iteration and experimentation with different designs.

Overall, the adoption of 3D Printing technology proved instrumental in creating the Mimyk simulator, offering versatile design capabilities, cost-effectiveness, and rapid prototyping while enhancing the simulator's functionality and performance.



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## About Altem Technologies Pvt. Ltd

Altem Technologies is a well-established 3D digital experience company that has been actively contributing to the industry for nearly 15 years. Initially rooted in PLM software and 3D Printing, Altem has successfully transformed into a prominent provider of comprehensive 3D digital solutions. Altem's 3D Innovation platform offers an extensive array of products catering to various applications, including design, reverse engineering, asset digitization, prototype manufacturing, life science, healthcare, culture and heritage, and consultancy services, among others.

With a diverse clientele spanning automotive, aerospace, manufacturing, healthcare, research academia, and more, Altem adeptly addresses the unique requirements of each industry through a combination of expertise and innovation. Our team comprises skilled professionals, including Scientists, Application Engineers, Designers, domain experts, and software specialists, all working collectively to deliver exceptional solutions to our valued customers.

Altem Technologies Pvt Ltd, besides being a major provider of 3D Scanning services in India, is also a leading provider of 3D Printing Services in India with 3D Printing technologies like FDM, Polyjet, DLP, Metal, etc. Altem offers a complete solution around 3D Digitization and Innovation, and has emerged as a one-stop-shop for all 3D Printing, 3D Scanning, CAE, PLM, and Life Sciences needs, offering a wide spectrum of products for engineering and life sciences companies in India.

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