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IISc houses world's first 3D printer for implant grade silicone

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To accelerate the translation of personalised implants for soft tissues such as breast from research labs tohospitals

Bengaluru-based startup Prayasta 3D Inventions has developed the world's first 3D printer for implant-grade silicone and is partnering with the Centre for BioSystems Science and Engineering (BSSE) at the Indian Institute of Science (IISc). A Memorandum of Understanding (MoU) was signed to formalise this partnership earlier this year.

Prayasta's specialised 3D printer, Silimac, can directly 3D print implant-grade silicone material to make an implant within the hospital itself. 3D printing allows personalisation of implants on a one-to-one basis which not only improves outcomes of the surgeries for the patients but also reduces the average time a surgeon must spend for achieving the same results using standard implants.

Prayasta and IISc will work together to accelerate the translation of personalised soft tissue implants from research to hospitals, to test the 3D printability of novel materials in a fast-track mode and also to develop the necessary skills for faster market penetration of 3D printing technology.

Vikas Garg, Cofounder, Prayasta stated, "Silicone is one of the best implantable materials today and yet not 3D printable. Conventional printers cannot handle implant-grade silicone due to its inherent two-part requirement for cross-linking, form factor and extremely high viscosity. That is why, we have taken a fresh approach and developed a novel 3D printing technology from scratch."