

3D Multi Material Printing System

The Objet Connex 500 is a state of the art 16 micron resolution 3D multi material printing system capable of creating realistic, full size, soft tissue like anatomical models using a mix of 14 different materials (ranging from compliant to rigid) generated from computer models or medically generated scans (CAD, MRI or CT).

This is the first Connex 500 printer in an Irish Higher Education Institution. This system will be used to produce anatomical phantoms of healthy and diseased tissue and organ structures in hard and soft materials. These will be used to develop biofidelic test beds of cardiovascular vessel networks, organs and other physiological systems. The location of this unique facility at the University of Limerick will further strengthen the pivotal collaborative role that UL plays in biomedical engineering and medical device innovation research in association with Irish medical technology companies. These medical devices companies (start-ups and large multi-nationals) will use the phantom organs in their R&D and bench testing of device concepts. Surgeons will use bespoke phantoms to support research in surgical innovation. Academic institutions will use the printer to create phantoms for bench testing of numerical and physiological models.

This infrastructure will support research contributions to the Medical Devices national priority research area, further strengthening Ireland's position as a hub for medical devices, to maintain and support the Irish Medical Devices industry, which is a key driver of the Irish economy. The infrastructure will aid in enhancing employment growth in the medical devices industry through concept innovations, as per the National Development plan (2011-2014).

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