

Working with us – Biomedical devices

Biomedical devices encompass a large range of products from bandages to complex, life-saving implantable devices and for imaging, health monitoring and diagnostics.

CSIRO's team of researchers draw on skills across biology, chemistry, engineering and computer science. We collaborate with clinicians and industry to enable innovation of new materials and processes towards commercial reality. Our state-of-theart facilities and infrastructure include high-through-put robotic synthesis platforms and ISO accredited labs for the fabrication and evaluation of prototypes.

This science 'one-stop-shop' focuses on translating great ideas into commercial successes, making CSIRO your ultimate R&D partner.

Support for SMEs

CSIRO offers start-ups and small-to-medium enterprises (SMEs) some excellent opportunities to work with us through faciliated R&D programs, such as incubators, accelerators and more. We also offer matched funding support and training. We're here to help you navigate the research ecosystem and access our world-class facilities and researchers.

Case study: 3D printed silicone

Researchers from our biomedical polymers lab have developed a family of new silicone products.

Parts printed with the silicone boast a suite of attributes including biocompatibility, super softness, great compressive elasticity, high transparency and tuneable mechanical properties.

The new resins are capable of printing complex designs in high resolution (see the example of a heart pictured above), including irregular shapes, thin walls and hollow structures. What's more, they can be used with off-the-shelf printers, without any need for modification.

The silicones have applications in 3D printed medical devices and customised products such as dental devices, hearing aids and cochlear implants, prosthetics, and other patient specific medical devices. These unique 'designer' resins have the capability to help fast track prototyping some of these biomedical devices.



Working with us -

Our medical device and biomaterials capabilities

Academia	a/SMEs	CSIRO					SMEs/Pharma		
Medical device development pathway							Advanced development		
Concept		Proof concept	Device dev	velopment	Device optim	nisation	Preclinical t	esting Cli	nical trials
	\$ 3			©° I		- (1-7i)			
Clinical input	Scoping study/white	•	High throughout	design &		development cale-up	Techno trans		Phase I
Unmet clinical need	gel, Biologica	Mo al Surface ad s modification bioc	ditive/ syr onjugate fun	aterial N			Biomedical translational BMT	al facility	Phase II
	\$			(°, '\$)	(%; * (%; *		Controlled cleanroom fabrication Device component t		Phase III
Manufacturing input	Market anal IP landsca analysis, bus development commercialis	pe characterisation iness nt &	Biochemical n assays	Cytotoxicity, bespoke cell & bacterial assay testing	OGTR Certified PC labs	in vivo target efficacy, safety target specificity, animal models	component t	csung	