

Product Name	Description	TRL 2-3	TRL 4-5	TRL 6-7	TRL 8-9	Market
<b>Advanced Manufacturing</b>						
Ultrathin Single Crystal Diamond Membranes	Self-supporting ultra thin (100nm) diamond windows for advanced optical and photonics applications.					
Diamond moth-eye	Antireflective surface modification for sustained high-power applications.					
Quantum molecular microscope	Spatially map molecules for their atomic structure using quantum properties as a next-gen NMR.					
Rotating quantum probe magnetometry	Magnetometry device detecting magnetic fields using quantum effects.					
Next-Gen Wireless	High bandwidth, reliable, wireless comms for factories of the future. (spin out)					
<b>AgTech</b>						
Evaporation control of agricultural dams	37% reduction in water loss from agricultural water assets.					
Nitrification Inhibitors	Efficient nitrification inhibitors that enable concurrent application with urease inhibitors.					
<b>CleanTech</b>						
Catalytic CO2 capture	Direct Air Capture (DAC) using catalytic nanofluids. (spin-out)					
Smart Grids	Model-Driven and Model-Free Electrical Calculations for electricity networks.					
H2 from Air	Producing hydrogen through water electrolysis from air moisture.					
Embodied carbon forecasting tool	Platform for forecasting embodied carbon in the development of buildings.					
Direct Air Capture of CO2	Uses air moisture as a source of steam to release CO2, boosting cycle efficiency.					
Stabilising for proteins and enzymes	New platform technology for stabilising proteins and enzymes via cross-linking chemistry. (spin out)					
Oil separation	Shear-induced phase inversion of complex emulsions for oil separation.					
CO2 capture by microalgae	Enhanced CO2 delivery for improved algae farm yield with potential cost saving of over 25%.					

**For further information regarding any of these assets, please contact the Knowledge and Technology Transfer team:**

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<b>Energy</b>						
Carbon coating materials for graphite	Enabling domestic graphite coating for anode production. (spin out)					
Bloop – battery recycling	Single solvent extraction to recycle critical metals from lithium-ion batteries black mass leachate.					
<b>IT</b>						
Intelligent Cost Manager	SaaS product for quantity surveying industry. (spin out)					
AirHealth- pollen forecasting software	Machine learning software and method for forecasting aerobiological particles and pollen counts. (spin out)					
Quantum computing optimisation algorithm	A method for calculating Hamiltonian moments to converge towards a solution efficiently.					
Cybersecurity for hardware circuits	For low-power hand-held devices such as smart cards, POS terminals or mobile phones.					
Digital Twin	Digital visualisation of infrastructure. (spin out)					
Fuzzing data security	Detecting Excessive Data Exposures in Web Server Responses with Metamorphic Fuzzing.					
Landslide predictor	Micromechanical modelling that enables the early warning of landslides in open-pit mines.					
CyberSecurity Knowledge Leakage Films	CyberSecurity Knowledge Leakage Films elaborating on the importance of cybersecurity for companies.					
<b>Materials</b>						
3D Printed Hydrogels	A step change in speed to produce hydrogels, enabling complex designs and biologic delivery.					
Microfluidic fabrication of core-shell polymer inclusion beads	Highly effective extraction of ionic and non-ionic constituents from process streams.					
Se Nanoparticles for antimicrobial applications	Se Nanoparticles for antimicrobial applications.					
Carbon Monoxide selective membrane	Carbon monoxide (CO) from other gases (such as carbon dioxide, oxygen, nitrogen, methane and hydrogen).					
Vanadium oxide coatings	A scalable method of producing Vanadium Oxides with a tuneable switching temperature.					
Dewatering Rolls	High-Pressure Dewatering Rolls for efficient removal of water in solid suspensions.					
Thermal Hyperspectral Imaging	Point-and-shoot camera to identify materials precisely from their thermal fingerprint.					

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