



Formulation Technologies		TRL 1-3	TRL 4-5	TRL 6-7	TRL 8-9
Crop Protection	Silica carrier particles that encapsulate active ingredients (AI) to provide UV protection, increased rainfastness and easier formulation of hydrophobic AI.		4		
UAVs and Robotics		TRL 1-3	TRL 4-5	TRL 6-7	TRL 8-9
Y4	A more efficient quadrotor UAV design with longer duration suitable for industrial applications.			6	
Safety Rotor	A lightweight safety feature for minimizing blade impact in UAV operation.			6	
Forcesensor	Novel method of detecting force and torque for UAV/robotics and industry.			6	
Novel LIDAR	A novel multi pixel solid state LIDAR.	3			
Big Data Solutions – Health, Telecommunications		TRL 1-3	TRL 4-5	TRL 6-7	TRL 8-9
Med Rank	Evidence based decision making that brings together more than 10 medical million data sources for custom diagnosis and treatment support.				8
Data Fusion	A new method of sampling and compression that enables the extraction of meaning from large datasets.				8
Digital Pathology	The first stand-alone, ultra-fast, fully automated, microscope-free, fully certified analysis and diagnostic platform for pathology slides				9
Big Data ICU	Data sampling algorithm that connects multivariate ICU time-series data a data bank of medical information to predict potential contamination, infection or organ failure.			6	
Alarm Management System	A novel method of alarm prioritisation, focusing on all process as a predictive, prescriptive alarm management solution, covering alarm life cycle.		5		
Electromagnetic Calculations	New faster (70-80% time reduction) method of solving Maxwell's equations applicable to a broad range of electromagnetic problems.		4		
Spectrum Enhancement	New calculation for increased spectral efficiency in telecommunications. Out of band power suppression.		4		
Water and Environmental		TRL 1-3	TRL 4-5	TRL 6-7	TRL 8-9
SeweX	Algorithm based software for H2S and corrosion reduction. Commercial projects all over Australia.				9
Lodomat	For use in wastewater treatment plants: a novel process for increasing biogas production and reducing sludge disposal costs from anaerobic digestion, reducing the cost of nitrogen removal and improving the efficiency of the anammox process.		4		
E-waste Recycling	Low capex/opex hydrometallurgical process for recovering gold and other metals from e-waste.		4		
Microbial Fuel cell	Power source and sensors for continuous measurement of sewer conditions.	3			
Advanced Materials		TRL 1-3	TRL 4-5	TRL 6-7	TRL 8-9
Tenasitech	Manufacture-friendly additives for superior plastics: scratch resistant acrylics, nylons and tougher thermoplastic polyurethanes, with retained flexibility.			7	
Nanocomposite Elastomers	Strong, tough, yet low modulus elastomers enabled by reinforcement with flexible, tough nanofibers of cellulose.		5		
Nanocellulose	High aspect ratio, extremely tough nanofibers of cellulose for reinforcement and other applications.		5		

		TRL 1-3	TRL 4-5	TRL 6-7	TRL 8-9
Mining and Energy Innovation					
Frother Measuring System	An in-situ device to accurately measure frother concentration in a flotation cell to increase efficiency, yield and revenue of a mining process.		4		
Nickel Cobalt Separation (SAC)	An efficient low cost leaching process for separating high purity nickel, cobalt and NCM from MHP.		4		
Magnetometer Sensor	Ultrasensitive chip sized detection of magnetic fields for mining resources exploration.	2			
Foam-assisted lift for coal seam gas wells	Advanced foam assisted lift system, for new and old CSG wells and no need to slurry pump.	3			
Medical Technologies					
Vaccine Delivery	Nanoparticle delivery/ adjuvant systems for vaccines that reduce dose number or enable more efficient delivery of DNA vaccines.		5		
High Sensitivity Immunoassays	Nanotechnology-enabled amplification of signals in immunoassay to lower limits of detection.	3			
R&D Expertise					
	Description				
Water remediation	Multiple projects in advanced site remediation, water recycling and tailings improvement.				
Materials performance	Expertise in metal and non-metal failure analysis. Systematic investigation of the mechanisms and causes of equipment failure and damage.				
Renewable energy and storage	Chemists and engineers work on a broad suite of challenges from renewable energy deployment and storage to pioneering research targeting specific challenges with existing technologies.				
Water and Mining	Award winning multidisciplinary researchers and research portfolio covers the breadth of the urban industrial water cycle with proven success in achieving sustainable outcomes for the global mining and water industries.				
Asset management and machine learning	Advanced proactive asset management to optimise maintenance costs using machine learning solutions				
Robotics and UAV design	Expertise in customised robotic and UAV designs.				

▼ Definition of Technology Readiness Levels (TRLs)

- | | |
|---|---|
| TRL 1 Basic principles observed and reported | TRL 6 System/subsystem model or prototyping demonstration in a relevant end-to-end environment |
| TRL 2 Technology concept and/or application formulated | TRL 7 System prototyping demonstration in an operational environment |
| TRL 3 Analytical and experimental critical function and/or characteristic proof-of concept | TRL 8 Actual system completed and "mission qualified" through test and demonstration in an operational environment |
| TRL 4 Component/subsystem validation in laboratory environment | TRL 9 Actual system "mission proven" through successful mission operations |
| TRL 5 System/subsystem/component validation in relevant environment | |

Source: esto.nasa.gov/files/tri_definitions.pdf

▼ ABOUT UNIQUEST

UniQuest is the commercialisation company of The University of Queensland, one of Australia's leading and most innovative teaching and research universities. Ranked in the world's top-50¹, 100% of UQ's research is at or above world standard.

UniQuest specialises in the transfer of UQ's world-class intellectual property. UniQuest's 30-year track record includes the commercialisation of the HPV vaccine Gardasil®, the Triple P Positive Parenting Program, image technology used in two-thirds of the world's MRI machines and Spinifex Pty Ltd – a biopharmaceutical company acquired recently in one of Australia's largest ever biotech deals.

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Contact UniQuest and discover how you can connect with UQ's groundbreaking research:

Alister I. W. Morrison

Senior Director, Commercial Engagement - Physical Sciences

a.morrison@uniquest.com.au

Tel: + 61 7 3365 4037 or + 61 448 237 418

www.uniquest.com.au