



THE HON PAUL FLETCHER MP

Minister for Communications, Urban Infrastructure, Cities and the Arts

MEDIA RELEASE

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Investing in 5G innovation to support Australia's future

The Morrison Government is accelerating the adoption of productivity-boosting applications of 5G, today announcing nearly \$20 million in funding for projects under the 5G Innovation Initiative.

The Initiative was announced in the 2020-21 Budget as part of the Morrison Government's Job Maker Digital Business Plan to accelerate the digital transformation of Australian businesses and create jobs.

"The projects being funded under the Initiative will use a range of complementary technologies to take the benefits of 5G further, such as Internet of Things devices, edge computing, artificial intelligence, and augmented and virtual reality," Minister for Communications, Urban Infrastructure, Cities, and the Arts, the Hon Paul Fletcher MP said.

The funding will support 19 projects across key sectors of the economy, including agriculture, construction, manufacturing, transport, and education and training. The projects include:

- **5G Remote Controlled Firefighting Tank:** Using 5G to support long-range remote control of an autonomous 'Firefighting Tank' capable of traversing extremely dangerous terrains to support rescue, path clearing and firefighting missions.
- **Lifesaving pathology supply:** 5G-enabled telecommunications infrastructure for Unmanned Aircraft Vehicles in remote and unserviceable locations, for precise monitoring of location in supply chain of medicines and temperature of cargo during critical medical supply delivery.
- **5G-enabled livestock counting:** Using 5G for high-quality 4K video streams to count sheep at a regional livestock exchange, automating the process and removing human error. A supporting 5G edge network will process the counting on site and relay the data in real time back to farmers on a tablet or mobile device.
- **5G and Sydney Ferries:** Sydney Ferries to deliver a safer environment for its passengers using 5G network capacity and performance to support live video-stream viewing.

"The Initiative will help businesses take advantage of innovative digital technologies, creating jobs and supporting Australia's economic recovery in the 'Year of 5G'," Minister Fletcher said.

"This is a critical technology and these projects will help Australians realise the benefits of 5G sooner."

More information about the Initiative is available at www.communications.gov.au/5GInitiative.

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List of Round 1 projects to be funded:

Recipient	Project description	Grant
AGSENSIO PTY LTD	<p>5G Enhanced Mobile Broadband for Agricultural Applications with Zetifi</p> <p>This project will enable rigorous testing of innovative, ruggedised long-range 5G gateways in agricultural applications across various regional, rural and remote locations, and showcase the productivity benefits that high bandwidth, low latency connectivity can deliver to primary producers and the wider agriculture sector.</p>	\$932,850
AQURA TECHNOLOGIES PTY LTD	<p>Aqura 5G Underground Experience Initiative (A5UX)</p> <p>The Aqura 5G Underground Experience (A5UX) Initiative is focused on the creation of a private 5G LTE network technical architecture and commercial model to be delivered in an operating underground mine. The project will seek to test 5G as a viable underground network wireless broadband technology, validate a commercial business case to enable other underground operations to acquire the technology, and validate the 5G LTE underground network via a number of technology use cases.</p>	\$1,931,254
AUSTRALIAN MEAT PROCESSOR CORPORATION LTD	<p>Smart Food Safety Verification for Australian Meat Processing Exporters</p> <p>This project will implement a 5G-enabled technology platform to address improvements in the quality assurance process of meat production, addressing regulatory costs and eliminating human inspection errors. Specifically, the project will:</p> <ul style="list-style-type: none"> • implement streaming of high definition video data from meat processing plants for use by On-Plant Vets (OPVs) and Food Safety Meat Assessors (FSMAs); and • augment human decision-making abilities based on video steam data, using edge computing as well as artificial intelligence-enabled machine vision analysis of meat production. 	\$412,000
BRIMBANK CITY COUNCIL	<p>Mobile 5G IoT Solution for Data Driven Road Asset Maintenance in Brimbank</p> <p>This project will demonstrate a mobile 5G-based Internet of Things (IoT) solution that:</p> <ul style="list-style-type: none"> • automates asset condition monitoring and auditing, reducing the cost of asset auditing by more than 50%; • reduces time (to within a week) to identify and document all of Brimbank’s road and roadside assets requiring maintenance; and • provides timely information in real time to maintenance crews via an online map with locations of assets that require maintenance. 	\$1,181,258
CONIGITAL PTY LTD	<p>Remote operation of an autonomous vehicle</p> <p>This project will test 5G’s capabilities in remotely controlling a vehicle, switching ownership between the driverless and remote-control systems and exchanging necessary data for vehicle-to-everything (V2X) communications. These tests will be compared to tests taken over existing infrastructure such as 4G.</p>	\$1,446,982

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<p>GIDARJIL DEVELOPMENT CORPORATION LIMITED</p>	<p>Exploring Land & Sea Country Using 5G-enabled Drones and HD Video</p> <p>This project will demonstrate full high definition video streaming, remote participant interaction and remote participant control of drones via the internet. It will engage our Elders present and emerging in care for land and sea country by removing physical barriers that have previously made it difficult to attend remote locations. It will reduce risk, increase productivity and create employment opportunities in scientific data collection and caring for land and sea country by indigenous communities. It will combine traditional knowledge and story-telling with innovative technologies and methods. It will allow us to share our traditional, contemporary and future knowledge of land and sea country with the broader community.</p>	<p>\$284,000</p>
<p>HMI TECHNOLOGIES PTY LTD</p>	<p>Enhanced Mobility for Disabled and Elderly using Automated Vehicles</p> <p>This project will demonstrate 5G applications that enable safe, efficient and reliable operation of Automated Shuttle Vehicles (ASVs), in order to provide enhanced mobility for disabled and elderly passengers. ASVs can provide an effective solution to a key missing link in current public transport ecosystems – first and last kilometre travel. This project will demonstrate that high-speed, low-latency communications are essential to achieve the full potential of ASVs, comparing 4G and 5G operations to demonstrate 5G’s superior performance.</p>	<p>\$1,428,420</p>
<p>LIMINAL VR PTY LTD</p>	<p>Interchange: VR and AI soft skills training streamed at low latencies</p> <p>Liminal will develop Interchange, a 5G-enabled virtual reality (VR) soft skills training program which will use artificial intelligence to generate real-time, animated responses by high fidelity virtual humans. Animated responses will be determined by real-time emotional analysis of verbal statements made by trainees, using IBM’s Watson cloud-based cognitive computing system. Interchange will demonstrate the capabilities of commercially available 5G networks to a range of industries across Australia - made possible by innovation leaps driven by 5G, edge computing, AI and VR..</p>	<p>\$793,736</p>
<p>MAXART PTY LTD</p>	<p>Real-time streaming of construction site 3D scans over retail 5G networks</p> <p>This project involves the implementation, testing and trials of 5G-enabled software for real-time streaming of construction site digital twins between workers on site and their office colleagues, using retail 5G mobiles and networks. This technology will harness the potential of 5G technologies to improve how every worker in the construction industry visualises and communicates complex problems on construction sites, ultimately improving worker productivity and safety whilst creating new jobs.</p>	<p>\$250,000</p>

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NOKIA SOLUTIONS AND NETWORKS AUSTRALIA PTY LTD	<p>5G Connected Cobots (Collaborative Robots)</p> <p>This project aims to demonstrate how 5G can be used to offload both sensor data and intensive processing from the cobot to a powerful edge cloud compute platform capable of processing this data and based upon this, instruct the cobot how to interact with its surroundings including nearby humans in real-time. The project will explore the feasibility of this process and aims to develop key learnings applicable to 5G-based remote control of cobots and autonomous entities such as cars, robots, and drones.</p>	\$923,613
NOKIA SOLUTIONS AND NETWORKS AUSTRALIA PTY LTD	<p>South Australia National 5G Industrial Incubation Lab</p> <p>Nokia and the South Australian Government are proposing a ‘National 5G Industrial Incubation Lab’ to be established in Adelaide to deliver three key user cases covering:</p> <ul style="list-style-type: none"> • Rail Safety in Rail corridor via camera and scene analytics using big data, • Airport situational awareness for securing public safety using HoloLens and video cameras, and • power over voltage management in a power network via distributed edge compute via 5G connectivity. <p>These 5G user cases will be supported by partner eco systems from Adelaide Airport, South Australian Power Network and Department for Infrastructure and Transport. This includes utilisation of local expertise from The Australian Institute for Machine Learning (University of Adelaide).</p>	\$1,913,013
OPTUS NETWORKS PTY LIMITED	<p>Project Endeavour: Enhancing Electricity Grid Reliability & Safety with 5G</p> <p>Optus in partnership with Endeavour Energy, Unleash live and Amazon Web Services will trial the use of drones and vehicles equipped with 5G-connected ultra-high definition (UHD) cameras with computer vision to intelligently monitor Endeavour’s critical electrical infrastructure. If successful, this technology has the potential to reduce the time to diagnose faults, increase safety and reduce carbon emission from vehicles and helicopters.</p>	\$648,000
QUBE HOLDINGS LIMITED	<p>Qube Next-Gen Moorebank Logistics Park 5G Autonomous Cargo Vehicles</p> <p>Qube is developing the Moorebank Logistics Park (MLP), an intermodal rail terminal. Central to the value proposition of MLP is the efficient movement of containers from Port Botany to onsite warehouses. This project will install 5G communications to link automated vehicles to the central fleet management and safety system with the low latency and high reliability of 5G used to create safe, reliable operations. The project will evaluate the performance and benefits of 5G and automated transport systems.</p>	\$2,000,000

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RHEINMETALL DEFENCE AUSTRALIA PTY LTD	<p>5G Remote Controlled Firefighting Tank</p> <p>Rheinmetall are developing an autonomous/remote control 'Firefighting Tank' (called the Fire Tank) which is a purpose built firefighting vehicle capable of traversing extremely dangerous terrains to support rescue, path clearing and firefighting missions.</p> <p>This project will investigate using low-band 5G to support long-range remote control of these vehicles. The project is focused on investigating the feasibility of this technology and development of a drone based 5G range extension capability.</p>	\$1,496,627
SPATIAL INFORMATION SYSTEMS RESEARCH LTD	<p>5G Precise Positioning Testbed - Demonstrating economic benefits of 5G</p> <p>Precise positioning of consumer devices to within 10cm is now possible through 5G. However, users are unable to access this capability due to infrastructure and device interoperability barriers. A 5G Precise Positioning Testbed using the Optus network supported by global telecommunications and positioning leaders Ericsson and GMV, will demonstrate and measure economic benefits of four business applications using 3GPP in the agriculture and consumer sectors, and help inform future 5G investment decisions.</p>	\$1,127,100
SWOOP AERO PTY LTD	<p>5G-enabled UAV for lifesaving pathology supply and coastal monitoring</p> <p>This project will develop 5G-enabled telecommunications infrastructure to enable two key innovations:</p> <ul style="list-style-type: none"> • ultra-reliable Unmanned Aircraft Vehicle (UAV) command and control across remote and unserviceable locations, with 100% uptime for precise monitoring of location in supply chain, and temperature of cargo, during critical medical supply delivery; • advancing upon this, real-time high definition/4K video streaming for low-latency machine-driven analysis enabling life-saving coastal monitoring. 	\$816,750
TPG TELECOM LIMITED	<p>5G enabled livestock counting with real-time data validation</p> <p>This project aims to demonstrate how 5G networks can complement artificial intelligence-enabled image processing, computer vision and edge computing technologies to deliver benefits and efficiencies to the agricultural sector. The project will use 5G to enable multiple high quality 4K video streams to count sheep at a regional livestock exchange, automating the process and removing human error. A supporting 5G edge network will process the counting on site and relay the data in real time back to farmers on a tablet or mobile device.</p>	\$1,455,000

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<p>TRANSDEV SYDNEY FERRIES PTY LTD</p>	<p>Transdev Sydney Ferries 5G Trials for CCTV and HelpPoint</p> <p>Transdev Sydney Ferries will install equipment on a subset of ferries that will use 5G to support applications including:</p> <ul style="list-style-type: none"> • help points (requiring high availability of 99.5%, and low latency); • CCTV streaming (multiple streams to multiple locations); and • CCTV offload (>300GB per day per vessel offload expected). <p>This project will measure and compare performance metrics of ferries fitted with both 5G and non-5G technologies.</p>	<p>\$380,860</p>
<p>VAPAR INNOVATION PTY LTD</p>	<p>Improving wastewater pipe inspections using Artificial Intelligence and 5G</p> <p>Thousands of kilometres of pipes are inspected every year in Australia and around the world to maintain the condition of sewer and stormwater networks. Today this process relies on visual observations of busy operators and defects are often missed. VAPAR has developed AI (Artificial Intelligence) to automatically detect defects in pipes. Thanks to low latency and massive machine-to-machine communication, 5G will now allow for this analysis to be done in real-time to assist operators to better identify defects. This technology will make condition assessment faster and cheaper, benefiting public infrastructure and the cost of water for all Australians.</p>	<p>\$120,000</p>