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## AVICENA AWARDED \$3M TO ACCELERATE AUTOMATED PATHOGEN DIAGNOSTICS

**AVICENA TO LEAD A RESEARCH CONSORTIUM TO AMPLIFY AND ACCELERATE ITS AUTOMATED PLATFORM FOR FASTER, MORE ACCURATE, AND AFFORDABLE PATHOGEN DIAGNOSTICS.**

West Australian medical technology company, [Avicena Systems](#), has been awarded a \$3 million grant from the Australian Department of Industry, Science and Resources to develop a transformational diagnostics platform in partnership with the [University of New South Wales](#) (UNSW).

The system aims to match the speed of Rapid Antigen Tests (RAT) with accuracy that meets or exceeds the [PCR](#) gold standard, and to be capable of identifying a variety of pathogens, including respiratory illnesses such as influenza, RSV, and COVID-19.

This technology seeks to address challenges in identifying infectious individuals, particularly those lacking symptoms (where RAT tests have proven unreliable), for high-risk settings such as hospitals and aged care.

Awarded under the [Cooperative Research Centres Projects](#) (CRC-P) grant program, which aims to boost Australian industry and competitiveness through collaborative research projects, this initiative supports the development of an accelerated platform for faster, more scalable, and cost-effective diagnostic tests. It could fundamentally transform disease detection, public health, and biosecurity responses.

The grant underpins a ground-breaking research collaboration between Avicena and several Australian institutions. These include the UNSW and commercial partner [BioPoint](#), with clinical partners [St Vincent's Care Services](#), and [HEALius Pathology](#). All will collaborate on initial validation of the new technology using Avicena's combined Influenza/COVID-19 test with samples collected from Aged Care facilities.

Avicena's Chief Scientific Officer, Dr Paul Watt, said Consortium scientists will advance a new approach to developing diagnostics by combining two sophisticated technologies: Avicena's '[Sentinel LAMP](#)' platform and 'NanoCircle', a cutting-edge amplifier of '[CRISPR-based](#)' diagnostics developed at UNSW with BioPoint support.

"The combination of the amplified CRISPR with automated [LAMP](#) technologies has the potential to create the world's fastest and most accurate molecular diagnostic tests, setting a new standard beyond PCR by offering greatly reduced running costs and turnaround times," Dr Watt said.

The project will draw on the expertise of [UNSW Professor Ewa Goldys](#), recipient of the prestigious Eureka prize and an internationally acclaimed authority on biosensors such as CRISPR.

"This uniquely scalable application of the UNSW's "NanoCircle" technology could significantly advance the capabilities of large enterprises, including health authorities and defence forces, to swiftly identify pathogen threats to human and animal populations at scale, with potential to fundamentally transform disease detection, public health, and biosecurity responses," said the Professor.

The [Defence, Science and Technology Group](#) (DSTG), an agency of the Australian Department of Defence, is also a project collaborator and will have access to training on cutting-edge Sentinel technology with potential for bio-defence applications.

Tony Fitzgerald, CEO of Avicena, highlighted the global urgency for more efficient pathogen screening.

“With increasing pathogen outbreaks worldwide, efficient and scalable screening is essential for rapid containment of transmission. This research is poised to significantly enhance global capacity for affordable and ultra-rapid biosecurity screening for protection of vulnerable populations lacking immunity to new pathogen threats” he said.

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## About the University of New South Wales

*UNSW Sydney is one of the world’s leading research and teaching-intensive universities, known for innovative, pioneering research and high-quality education with a global impact.*

*Since our foundation in 1949, our aim has been to improve and transform lives through excellence in research, outstanding education, and a commitment to advancing a just society.*

*Our cutting-edge research impacts a wide range of areas, including housing affordability, water technology, waste management, hydrogen energy storage and cancer research.*

*A member of the prestigious Group of Eight (Go8), a coalition of Australia’s leading research-intensive universities, UNSW is ranked in the top 53rd\* globally with over 65,000 students and 7000+ staff. We are committed to making a difference by focusing on areas critical to the future.*

*\*Based on the 2022 Aggregate Ranking of Top Universities (ARTU)*

## BioPoint

*BioPoint develops and manufactures microbiological testing products and reference materials. BioPoint’s products are supplied globally to water and environmental testing laboratories. BioPoint has worked with Professor Ewa Goldys’s group at UNSW for five years on the development of the CRISPR technology and is now working with UNSW to commercialise the technology.*

## About Avicena Systems

*Avicena Systems is a Perth-based medical technology company that has developed the ground-breaking Sentinel biosecurity platform. Avicena’s award-winning Sentinel system combines the best features of PCR and Rapid tests into an integrated and scalable solution, ideal for large-scale surveillance screening across a broad spectrum of human and animal pathogen threats.*

*The end-to-end platform offers a unique surge capability, efficiently processing up to 5,000 samples per hour on-demand, using LAMP chemistry suitable for various sample types, including saliva, nasal swabs, blood, and skin lesions.*

# AVICENA

*Based on LAMP, a sensitive molecular diagnostics technology similar to PCR, Sentinel can readily adapt to detect various human and animal pathogens, including COVID-19\*, Influenza A/B, RSV, and Dengue in humans, and Lumpy Skin Disease, Swine Flu, Herpesvirus, and Avian flu.*

*The Sentinel instrument is listed on the Australian Register of Therapeutic Goods (ARTG), being authorised by the TGA to run ARTG-listed IVD tests.*

Avicena's rapid-response systems offer a cost-effective and scalable means to fortify biosecurity defences and manage the risk of outbreaks.

\* Dewhurst et al., (2022) Validation of a rapid, saliva-based, and ultra-sensitive SARS-CoV-2 screening system for pandemic-scale infection surveillance. Scientific Reports <https://www.nature.com/articles/s41598-022-08263-4>