Simble completes initial UV and Wavelength detection testing on the NanoSensor Platform

14 September 2026

Sensor fabrication and initial capability testing are complete, with laboratory testing demonstrating detection across the UV-A, UV-B and UV-C bands and into the visible spectrum. Formal benchmark testing is now underway.

KEY HIGHLIGHTS

- **Initial UV and Wavelength Detection Results Achieved:** Laboratory testing of the patented NanoSensor has demonstrated detection capability across the UV-A, UV-B and UV-C bands and into the visible spectrum. The underlying architecture supports extension into higher wavelength ranges as application requirements are further confirmed.
- **Zero Visible-Light Interference Where It Matters:** The NanoSensor design delivers precise wavelength selectivity critical in environments where conventional UV sensors are compromised by lighting conditions, particularly in defence, sterilisation verification and outdoor environmental monitoring.
- **Formal Benchmarking Underway:** With sensor fabrication and initial UV and wavelength detection testing complete, the workstream has entered formal benchmark testing to systematically characterise performance under application-relevant conditions.
- **Wavelength Sensing Opens New Application Categories:** Beyond UV, the NanoSensor's wavelength detection capability opens pathways into application areas such as optical communication, space-based sensing and atmospheric monitoring.
- **Designed for Drone and Defence Deployment Pathways:** The NanoSensor's sub-millimetre form factor supports potential integration into drone payloads, defence-grade wearables and autonomous monitoring platforms, subject to further benchmarking and validation.
- **Complementary Polymer-Platform Development:** The transparent, stretchable polymer workstream provides a potential physical foundation for future wearable formats.
- **Directly Extends SimbleSense and CarbonView:** The NanoSensor aims to integrate precision optical-sensing layer to Simble's existing commercial monitoring platform, with future UV and wavelength data intended to support environmental compliance, exposure monitoring and ESG reporting.

Simble Solutions Limited, Level 2, 383 George Street, Sydney NSW 2000
P +61 2 8208 3366 **E** hello@simble.io ABN: 17 608 419 656

Simble Solutions Ltd (**ASX:SIS**) (Simble or the Company) is pleased to announce that its exclusively licensed NanoSensor Technology has achieved initial UV and wavelength detection results under laboratory conditions, demonstrating detection across the UV-A, UV-B and UV-C bands and into the visible spectrum.

These results validate the design principles of the NanoSensor Technology and establish the baseline for formal benchmarking. The underlying architecture supports extension into higher wavelength ranges as application requirements are confirmed.

These results represent the second capability output from the NanoSensor development program announced on 10 June 2026, following the Company's initial gas-detection results announced on 1 September 2026.

With sensor fabrication and initial UV and wavelength detection testing now complete, the workstream has entered formal benchmark testing. This next stage will systematically characterise the NanoSensor's performance parameters under application-relevant conditions and inform functional-prototype specifications and customer-validation pathways.

Where the Program Sits Today

The UV and wavelength workstream is advancing along the same defined five-stage pathway as the gas-detection workstream. Sensor fabrication and initial UV and wavelength detection testing are complete, and formal benchmark testing is now in progress.

Figure 1: *UV and wavelength sensing workstream within Simble's five-stage NanoSensor development framework.*

Formal benchmarking will characterise spectral response, sensitivity, selectivity, response and recovery times, repeatability, stability and performance under application-relevant conditions. These results will guide the functional-prototype stage and the prioritisation of commercial pathways, with customer trials to follow as a planned stage.

Initial Results Establish the Benchmarking Baseline

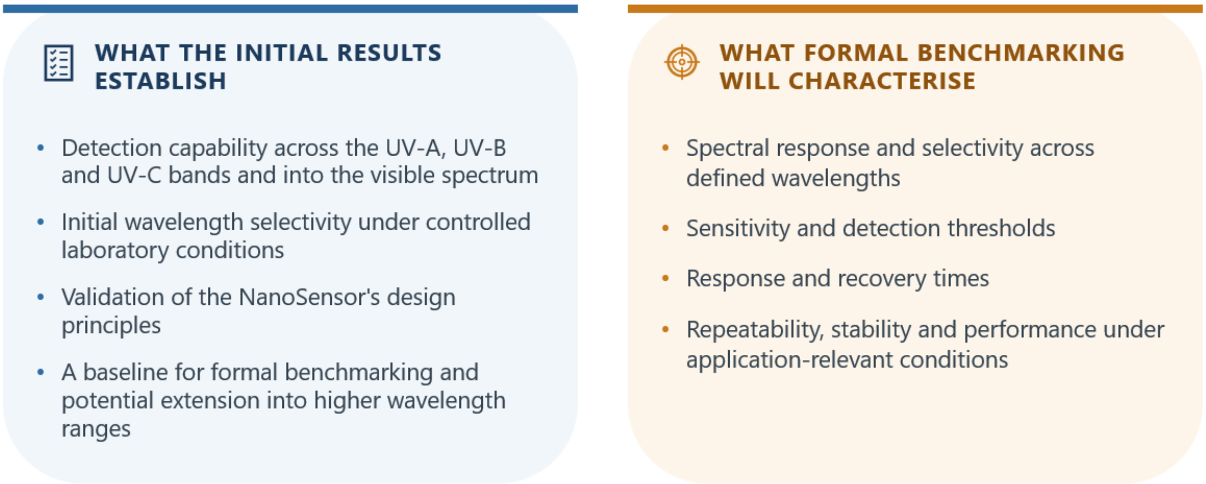

Figure 2: *Initial laboratory results (left) establish the baseline for formal benchmarking (right), which will characterise the sensor's performance under application-relevant conditions*

Where Conventional UV and Wavelength Sensing Falls Short

Demand for precision UV and wavelength sensing is accelerating globally, driven by expanding defence modernisation programs, tightening sterilisation and medical compliance standards, the rapid proliferation of commercial and military drone applications, and growing environmental monitoring obligations. Across each of these markets, conventional UV photodiode technology is increasingly unable to meet the precision, form-factor and deployment requirements that next-generation applications demand.

Conventional UV sensors typically rely on silicon-based photodiode architectures that respond across both UV and visible wavelengths. This cross-sensitivity means signals from ambient light can mask, distort or mimic UV measurements, requiring complex optical filtering and signal processing to extract meaningful data. The result is bulkier devices, higher power consumption and reduced reliability in real-world deployment environments where lighting conditions are uncontrolled.

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UV and wavelength detection is one of the most technically demanding requirements in defence, medical, environmental and space-communication applications. The ability to detect optical signals with precision, in real time and without interference from ambient conditions is critical where false readings carry significant operational, safety or regulatory consequences. This is where conventional UV photodiode technology has historically fallen short, and where Simble's NanoSensor is designed to represent a meaningful step forward.

Conventional UV Photodiode Technology	Simble NanoSensor Platform
Cross-sensitive across UV and visible light	Selective response to UV wavelengths only
Bulky, power-hungry hardware	Sub-millimetre form factor, ultra-low power
Unreliable in uncontrolled lighting	Precision detection in real-world conditions

***Figure 3**: Design characteristics of the NanoSensor architecture compared with conventional silicon photodiode technology. Comparative performance remains subject to formal benchmarking.*

Commercial Application Pathways

The initial results point toward applications that conventional UV hardware handles poorly: environments needing a small sensor, low power draw, and the ability to separate UV from ambient light under uncontrolled conditions.

The NanoSensor's sub-millimetre form factor may support integration into drone payloads, defence-grade wearables and autonomous monitoring platforms, including CBRN field monitoring. The same characteristics may have relevance to optical and space-based communications, where photodiode hardware faces similar engineering limits. Each remains subject to benchmarking, prototype development and customer validation. Simble will use benchmark data from the next stage of the program to decide which to prioritise.

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Drone Atmospheric Surveying

Sub-millimetre, ultra-low-power sensing integrable into drone payloads for real-time UV and atmospheric capture.

Medical Sterilisation

UV-C dose verification across hospital, pharma and food settings, plus phototherapy monitoring.

Water Purification

Dose verification for water-treatment operators where compliance depends on measurement accuracy.

Defence & Security

Zero cross-sensitivity for CBRN field detection and covert sensing in compact field kit.

Space & Optical Comms

Suited to CubeSat payloads and optical ground terminals, extensible into near-infrared.

Solar & Renewable Energy

Continuous UV monitoring of solar assets, feeding degradation data for predictive maintenance.

Figure 4: *Potential UV and wavelength-sensing deployment pathways under evaluation.*

Connecting the NanoSensor Architecture to Future Wearable and Digital Platforms

The NanoSensor is built on an architecture designed for compact, low-power integration across multiple device formats. Its sub-millimetre form factor creates a pathway to flexible and body-conforming formats, while the transparent, stretchable polymer workstream is developing the physical foundation required for future e-skin and wearable applications.

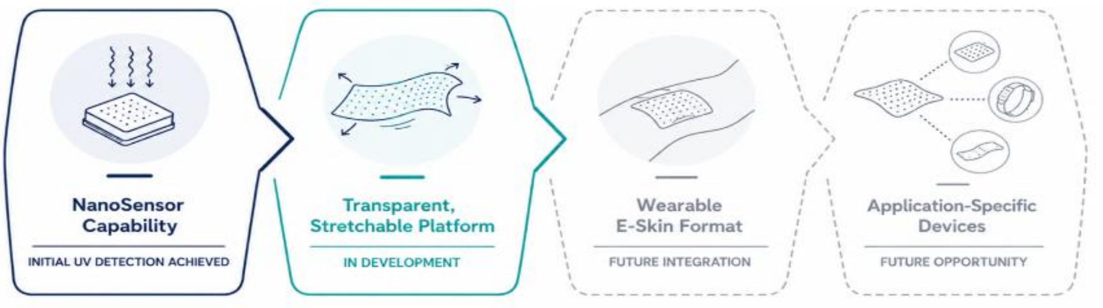

Figure 5: *The NanoSensor sensing capability and the transparent, stretchable polymer platform as complementary workstreams. Wearable e-skin formats and application-specific devices are future stages, subject to successful benchmarking and integration.*

A key strategic advantage of the NanoSensor program is the potential to connect future sensing devices with Simble's existing software ecosystem. Subject to successful prototype development and validation, NanoSensor-derived UV and wavelength data could be ingested by SimbleSense and visualised alongside existing energy and environmental information.

CarbonView could provide a further reporting layer where UV or irradiation data supports operational, safety or sustainability-related records. Platform-readiness work is being advanced in parallel so data-ingestion and visualisation requirements can inform future prototype design.

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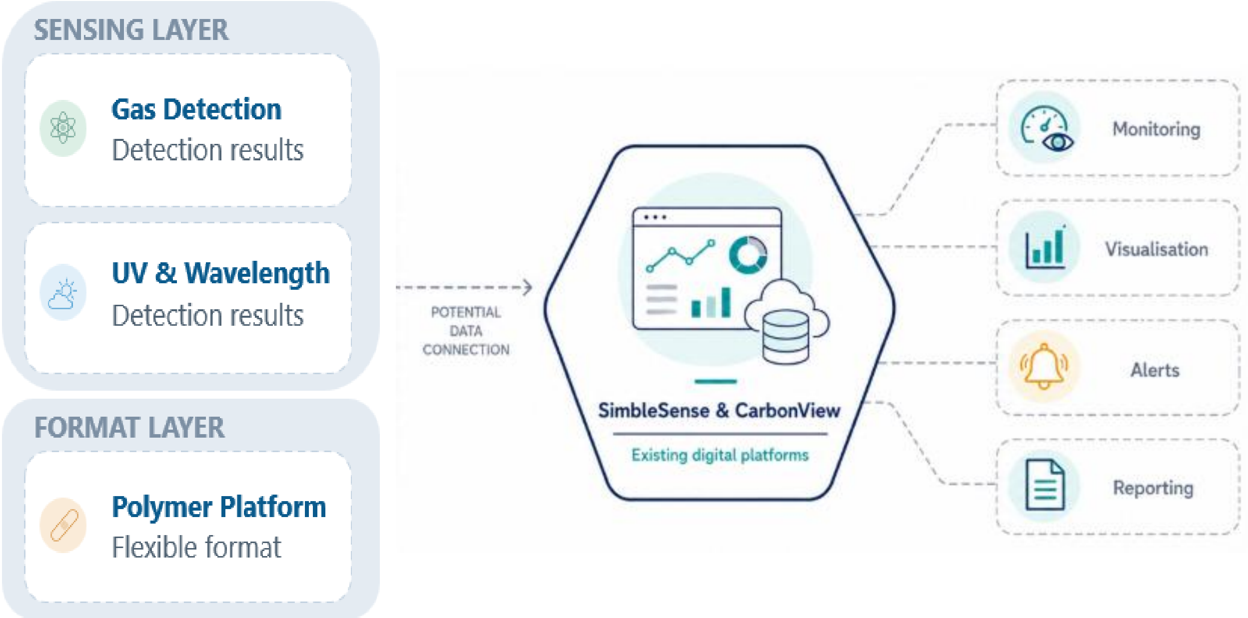

Figure 6: *Potential pathway from NanoSensor-derived sensing data into the existing SimbleSense and CarbonView platforms.*

Together, these hardware workstreams are focused on producing the physical device — the sensing element, the flexible substrate and the form factor. On their own, however, sensors generate raw signals rather than actionable information. The commercial value of any future NanoSensor-based device will depend as much on how that data is ingested, processed and presented to the end user as on the underlying hardware itself. This is where the second half of Simble's dual-track approach becomes relevant.

> ***Simble's Chief Executive Officer, Fadi Geha, said:***
>
> *"Achieving initial UV and wavelength detection results is the second capability output from our NanoSensor development program, following the initial gas-detection results. Completing this capability testing gives us the laboratory baseline we need for formal benchmarking, and the next step is to measure how the sensor performs under conditions relevant to the applications we are considering.*
>
> *"The workstreams have distinct roles: the NanoSensor provides the sensing capability, the polymer could provide a wearable format, and SimbleSense and CarbonView offer a potential route to connected monitoring and reporting.*
>
> *"We will use the benchmark data to define prototype specifications and prioritise applications. Functional-prototype development and customer trials remain planned stages, with progression dependent on the results."*

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This announcement has been authorised for release by the Board of Simble Solutions Limited.

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ABOUT SIMBLE

Simble Solutions Limited (ASX: SIS) is a global Energy and Sustainability provider with integrated solutions across energy efficiency, sustainability and renewable energy development, supporting the global transition to Net Zero.

Following the December 2025 acquisition of exclusive rights to the patented **NanoSensor Technology**, Simble is advancing a structured evaluation program to investigate the platform's commercial potential across multiple application areas.

SimbleSense is an integrated hardware and real-time software solution that enables businesses to visualise and control their energy systems and reduce energy costs.

CarbonView is an enterprise-grade Carbon and Sustainability Reporting platform that allows companies to measure and reduce their carbon emissions and meet their reporting obligations.

Simble operates across the Commercial & Industrial and SME segments, distributing directly via B2B sales and through multiple channel partners, with offices in Australia, the United Kingdom and Vietnam.

simblegroup.com | carbon-view.com | simbleenergy.com

Investor & Corporate Enquiries
Fadi Geha
Chief Executive Officer
Ph: +61 2 8208 3366
E: invest@simble.io

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