# Simble NanoSensor Unlocks New Opportunities in High-Precision UV Sensing

**25 November 2026**

*With formal benchmarking underway, Simble is advancing its high-sensitivity UV NanoSensor towards application-specific devices across solar monitoring, wearable technologies and connected digital platforms.*

## KEY HIGHLIGHTS

- **Benchmark Testing Underway:** Sensor fabrication and initial UV and wavelength capability testing are complete. Formal benchmarking is now assessing spectral response, sensitivity, selectivity, response and recovery times, repeatability, stability and application-relevant performance.
- **Peer-Reviewed Architecture Supports High-Sensitivity UV Detection:** Published research underpinning the licensed architecture reported film porosity of up to 98%[1], detection of low-intensity UV signals and very low dark current, providing the technical basis for Simble's current benchmark program.
- **One Platform, Multiple Applications:** Film porosity and structure can be tuned during fabrication[2], allowing the NanoSensor to be configured for different wavelengths and end markets rather than being limited to a single fixed sensor design.
- **Multiple Commercial Pathways with an Established Route to Market:** Solar monitoring, wearable UV sensing and connected monitoring are being evaluated in parallel. SimbleSense and CarbonView give Simble an existing customer base and data platform for validated NanoSensor applications.
- **Built for Cost-Effective Scale:** The combination of high sensitivity and low background current may reduce the need for optical filters and cooling components. The underlying fabrication methods have also been applied across a range of nanomaterials, supporting compact, lower-cost devices produced at scale.

## NanoSensor Development Update

**Simble Solutions Limited (ASX:SIS)** ("Simble" or "the Company") is pleased to provide an update on the technical foundation and commercialisation pathway for its exclusively licensed NanoSensor Technology, positioning the Company to pursue emerging commercial opportunities across solar monitoring, wearable technologies and intelligent sensing applications.

At the core of the NanoSensor is an innovative ultraporous zinc oxide (ZnO) architecture. Peer-reviewed research underpinning the licensed technology reported film porosity of up to 98%, detection of low-intensity UV signals and very low dark current[1]. This highly engineered structure has been shown to enable highly sensitive UV detection while maintaining very low background electrical current, offering a compelling technological advantage for compact, energy-efficient and high-performance sensing solutions across multiple industries.

Building on the UV and wavelength-detection capabilities announced on 14 September 2026, Simble is advancing its NanoSensor platform towards commercial applications in terrestrial solar monitoring and next-generation wearable technologies. These opportunities build on the Company's previously announced development pathways and highlight the potential for NanoSensor technology to expand Simble's market reach while strengthening its existing digital monitoring and analytics ecosystem.

With sensor fabrication and initial UV detection testing successfully completed, Simble has progressed to formal performance benchmarking, marking an important step towards commercial readiness. This phase will evaluate the NanoSensor's capabilities under application-relevant conditions, providing critical performance data to guide prototype development and future customer validation.

## Development Status and Commercialisation Roadmap

Simble's NanoSensor workstreams are progressing under the five-stage framework announced on 10 June 2026. The UV and wavelength workstream has completed sensor fabrication and initial capability testing and has entered Stage 3, formal benchmark testing.

As benchmark data becomes available, Simble will use it to define functional-prototype requirements, evaluate application-specific configurations and determine readiness for customer validation.

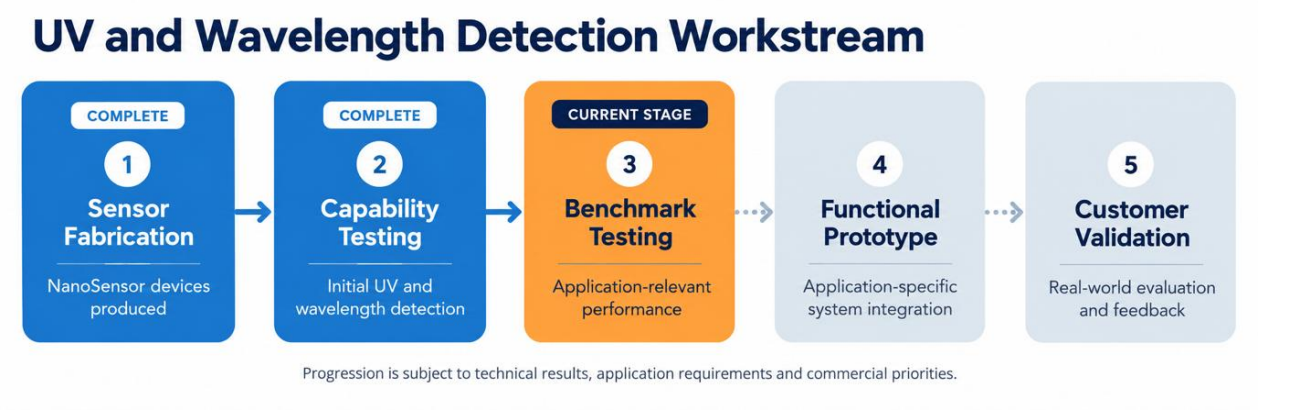


***Figure 1**: NanoSensor UV and wavelength-detection development pathway. Sensor fabrication and initial capability testing are complete, with formal benchmark testing underway.*

## Why the Ultraporous Architecture Matters

Conventional UV sensing technologies can require trade-offs between sensitivity, device size, power consumption and cost. Depending on the application, optical filters, cooling systems or additional signal-conditioning components may be required, increasing system complexity.

Simble's ultraporous architecture is designed to increase the accessible surface area available for interaction with UV light while maintaining a compact form factor. The open, interconnected structure shown in Figure 2 provides a potential pathway to stronger signal generation than a dense film; the performance advantage remains subject to formal benchmarking.

For Simble, the commercial relevance is the potential to develop compact, energy-efficient sensing components for solar monitoring, wearable devices and connected monitoring systems. Any application-specific product will require prototype development, integration and validation.

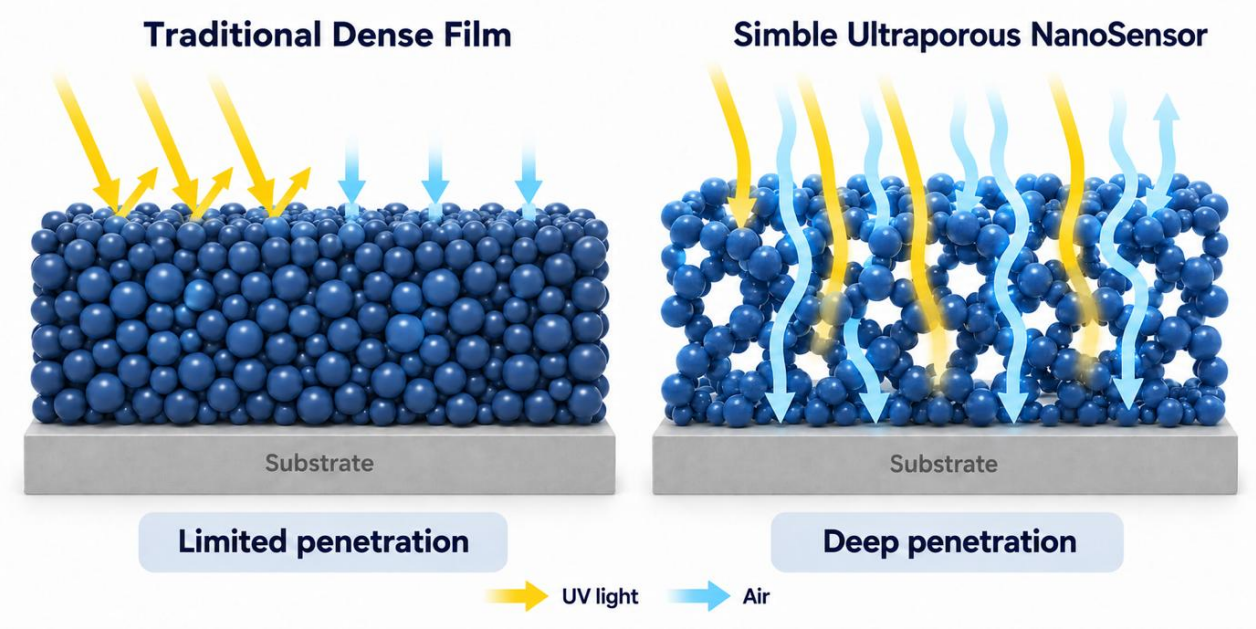


***Figure 2**: Conceptual comparison of Simble's ultraporous NanoSensor architecture with a conventional dense sensing film, illustrating how the open, interconnected structure may increase interaction with UV light and the surrounding environment.*

## High-Sensitivity UV Response

Published research on the licensed ultraporous architecture reported a strong electrical response to UV exposure and very low background current in darkness[1]. The interconnected nanoparticle network is intended to increase interaction with UV light without relying on a large sensing area.

Simble's own initial testing, announced on 14 September 2026, demonstrated detection across UV-A, UV-B and UV-C and into the visible spectrum. Formal benchmarking is now required to quantify sensitivity, spectral selectivity, detection thresholds and performance under application-relevant conditions.

If benchmarked performance supports the published design principles, the architecture may allow compact UV sensing devices with reduced supporting hardware. This potential remains subject to prototype design, system integration and field validation.

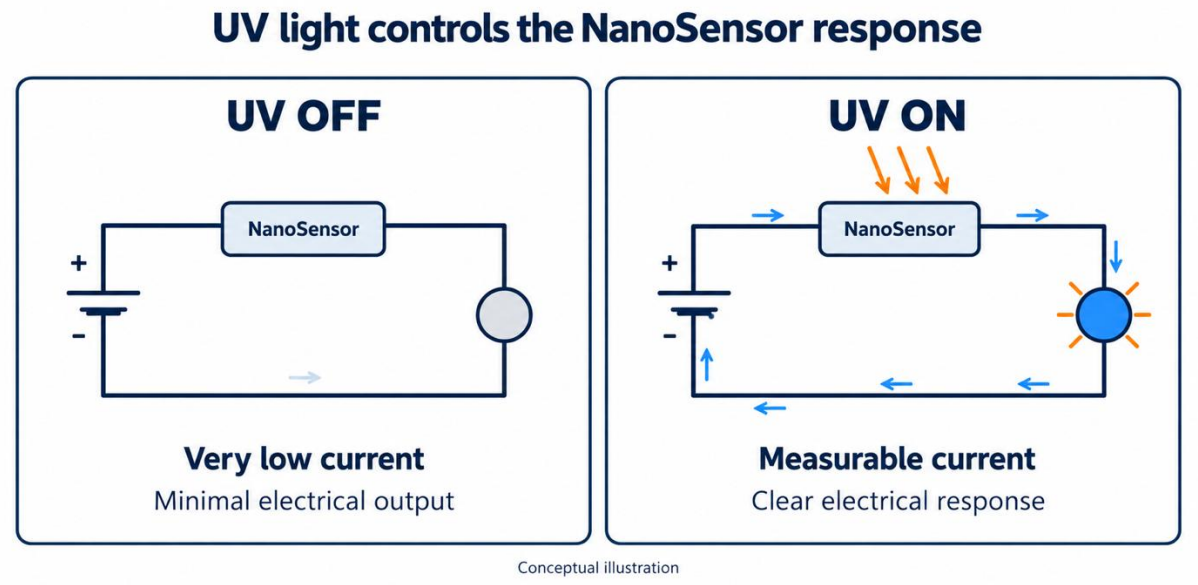


***Figure 3**: Conceptual illustration of the NanoSensor response, showing minimal electrical output without UV exposure and a measurable electrical response when UV light is applied.*

## Application-Specific Design and Manufacturing Potential

A key competitive advantage of Simble's NanoSensor platform is its adaptable architecture. Research published in 2026 demonstrated that film porosity can be precisely tuned[2], providing a foundation for engineering the sensing layer to different requirements and developing application-specific sensing solutions, potentially allowing Simble to address multiple industry needs through a common technology platform.

The fabrication methods underpinning the NanoSensor have been applied across a range of nanomaterials[35], offering the potential for scalable, cost-effective manufacturing. This flexibility could support the development of multiple sensor products, providing a pathway towards broader commercial deployment and market expansion, subject to further development and validation.

## Commercial Application Pathways

Solar performance monitoring is the most immediate commercial pathway under evaluation, as announced on 22 September 2026. The opportunity is to assess whether compact UV and wavelength sensing can provide more localised information on solar-panel condition and performance than conventional monitoring approaches.

SimbleSense and CarbonView provide an existing digital pathway for any validated NanoSensor-derived data. Subject to device and software integration, sensor data could support monitoring, visualisation, alerts and reporting through platforms already used by Simble customers.

Wearable UV monitoring is a second pathway. The transparent, stretchable polymer workstream announced on 5 August 2026 is intended to provide a future physical platform for body-conforming devices. The NanoSensor has not yet been integrated into a wearable prototype.

Other potential pathways include industrial UV verification and environmental monitoring. Each will require application-specific benchmark criteria, prototype development and customer validation before a commercial decision is made.

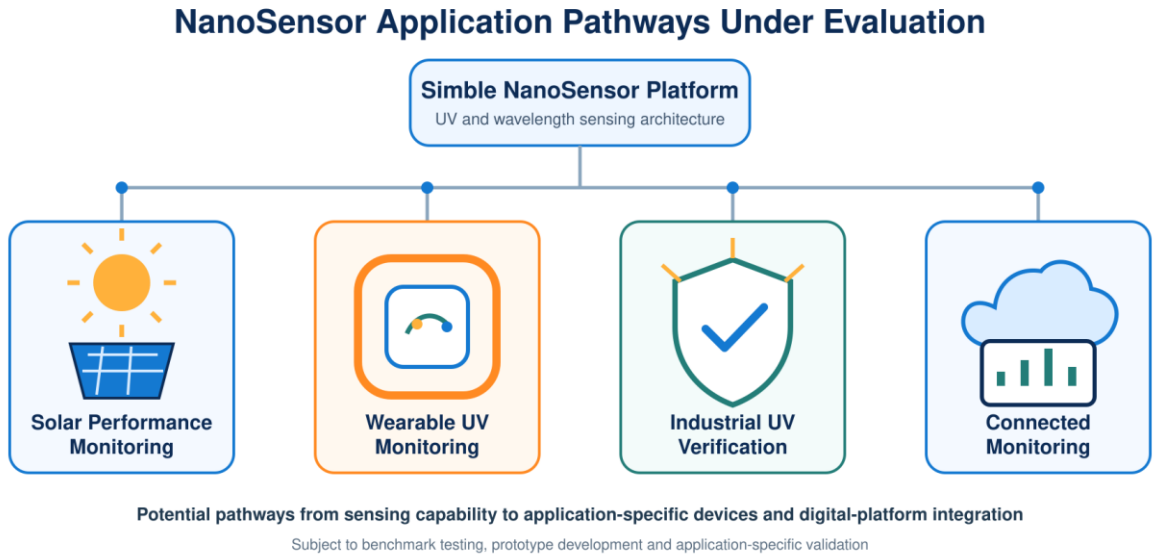


***Figure 4**: Priority application pathways under evaluation for the NanoSensor platform. Progression is subject to benchmark testing, prototype development and application-specific validation.*

## Benchmark Testing and Next Steps

Simble is progressing its NanoSensor technology through a structured development and commercialisation roadmap, with formal performance benchmarking currently underway. This critical phase will establish key performance benchmarks, guide the development of application-specific prototypes and support the Company's strategy to advance the technology towards commercial opportunities in solar monitoring and wearable sensing.

Subject to satisfactory testing outcomes, the next stages are expected to include:

- **Performance Optimisation:** Enhancing the NanoSensor's performance and design to meet the requirements of targeted commercial applications.
- **Prototype Development:** Developing and evaluating application-specific sensor prototypes, laying the foundation for future product integration and deployment.
- **Industry and Customer Validation:** Evaluating sensor prototypes under relevant operating conditions and engaging with prospective customers and industry partners to assess commercial suitability.

- **Digital-Platform Integration:** Exploring integration with SimbleSense and CarbonView to enable more detailed, sensor-driven insights and expand the Company's intelligent monitoring capabilities.

Simble will continue to prioritise development activities based on technical performance, market opportunities and commercial potential, ensuring a focused and commercially driven approach to advancing the NanoSensor platform. Progression through each stage will remain subject to successful validation, application-specific requirements and the Company's strategic priorities, with no assurance regarding development timelines or commercial outcomes.

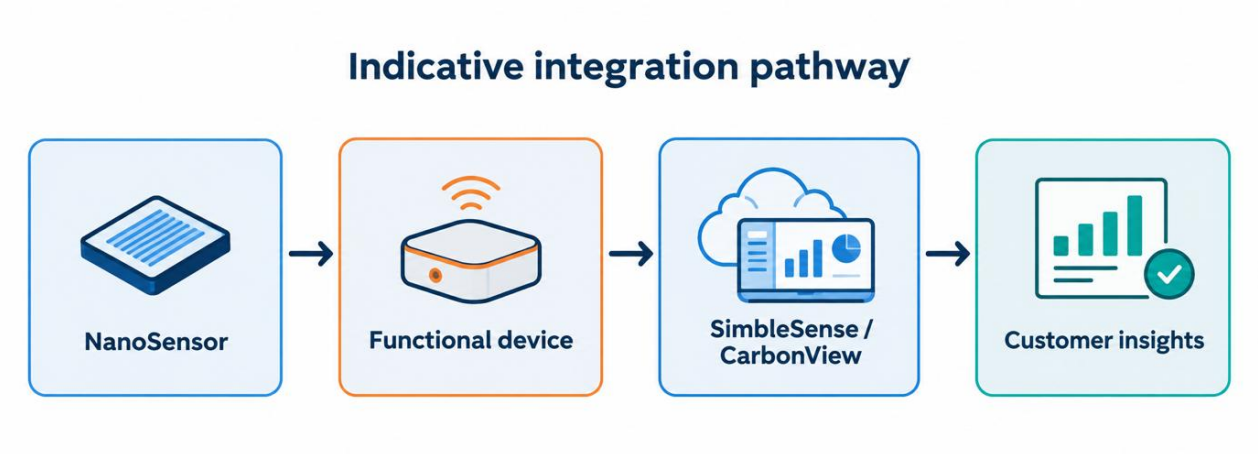


***Figure 5**: Indicative pathway from NanoSensor technology to application-specific devices, SimbleSense or CarbonView integration and customer-facing monitoring outputs.*

Simble's structured development strategy is designed to accelerate the transition from laboratory-demonstrated sensing capability towards commercially viable solutions, while prioritising applications with the strongest market potential. By leveraging a versatile NanoSensor platform across solar monitoring, wearable technologies and other emerging sensing applications, the Company aims to maximise the commercial value of its technology and establish a foundation for long-term growth, subject to successful development and validation.

## CEO Comment

**Simble's Chief Executive Officer, Fadi Geha, said:**

*"Our NanoSensor technology represents an exciting opportunity to expand Simble's capabilities into next-generation sensing markets. Its ultraporous architecture has demonstrated very high UV sensitivity in published research, providing a strong technological foundation for developing compact, high-performance sensing solutions across multiple industries."*

*"What makes this technology particularly compelling is its versatility and potential for commercial scalability. Building on our demonstrated UV detection capabilities, we have set solar performance monitoring as our immediate priority, with wearable technologies representing an exciting longer-term opportunity."*

*"By combining NanoSensor technology with our established digital platforms, SimbleSense and CarbonView, we see significant potential to expand our intelligent monitoring capabilities, deliver greater value to customers and unlock new commercial opportunities. Our focus remains on advancing the technology through benchmarking, prototype development and validation to establish a pathway towards commercial deployment."*

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

**ENDS**

## 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

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