3 Decades and More of Connected Everything: SunMan Engineering's IoT Leadership Comes Into Focus

San Jose-based SunMan Engineering developed a fully integrated connected vehicle platform in 2005–2008, years before 4G networks or smartphone apps existed.

SAN JOSE, CA, UNITED STATES, April 27, 2026 /EINPresswire.com/ -- To understand just how far ahead SunMan Engineering was, it helps to remember what the world actually looked like in 2007. The first iPhone had just launched, GPS navigation was a separate device you suction-cupped to your windshield. Bluetooth in cars was a premium feature found only in luxury vehicles, and even then it handled phone calls only. Streaming music did not exist. 4G networks did not exist publicly.

SunMan had already built it. SunMan Engineering partnered with industry leaders including Intel, Vodafone, Verizon, and Clearwire, delivering and transferring key intellectual property for next-generation semi-autonomous vehicles.

During 2005-2008, SunMan Engineering developed ConnectCar platform Technology including a single head unit named DashTop™, also referred to as a semi-autonomous driving platform, a fully integrated connected vehicle system that combined internet connectivity, speech recognition named Genie through

the Dragon NaturallySpeaking platform owned by Nuance Communications, real-time sensor fusion, GPS, wireless communications, live weather integration, predictive vehicle diagnostics, a multi-channel connectivity stack running 3G, 4G, Wi-Fi, and Bluetooth simultaneously, geofencing, context-aware natural language processing, and hands-free control of navigation, communication, entertainment, and climate, all in a single head unit DashTop™.

Genie could read emails and text messages aloud to the driver and accept spoken replies hands-free, while simultaneously monitoring live road conditions including speed limits, construction zones, and traffic ahead. It could watch your eyes for signs of fatigue, track driver alertness through behavioral sensors, and monitor vehicle dynamics in real time.

A suite of sensors processed environmental data from multiple inputs simultaneously to build a continuous picture of everything happening around the car. It could connect to social platforms, search the internet, manage your entertainment, and alert you to speed limit violations, all without requiring you to take your hands off the wheel or your eyes off the road by Genie assistance. The wireless infrastructure to support this at consumer scale barely existed yet and 4G networks would not arrive until 2009. The ultimate vision behind ConnectCar was a fully driverless vehicle, one that would deliver and provide safety, security, performance, and entertainment as a seamless and unified experience, removing the human burden of driving entirely while keeping the passenger informed, connected, and in control. (click to see Connected car functions and features)

SunMan in partnership with Intel introduced 4G WiMax in the first application for 4G car connectivity and communications for safety, security, performance, and entertainment. App ecosystems as we know them today did not exist. SunMan built ConnectCar anyway, engineering around the constraints of the moment while designing for a future where the infrastructure would eventually catch up. SunMan was among the first to pioneer and revolutionize autonomous vehicles.

Telemetria Technology (SunMan Company) is a company designed and built specifically to deploy telematics applications that transform the driving experience into a connected, smart, and safe lifestyle.

On the technical side, the platform was hardware agnostic, built on Windows 7, which at the time was a notoriously limited and unstable environment that made this sophisticated integration exponentially more difficult, yet with straightforward portability to Android, Apple iOS, and other operating systems. It integrated four enabling technologies simultaneously: speech enablement, car-aware sensor integration, 3G and 4G wireless connectivity, and software integration through open APIs. That combination is what makes non-distracted driving possible while keeping the driver productive and connected.

The business architecture is equally forward-thinking. SunMan's cloud-based and head unit DashTop™ design supports a location-aware, profile-driven advertising revenue model, one that

accounts for where the driver is, what applications are running on the head unit, and who the driver is. In an industry where most telematics players were still thinking about hardware margins, SunMan had already designed for a software and services economy.

The outside world took notice. MotorWeek, the long-running PBS television program, featured Telemetria Technology (SunMan Company) in a segment hosted by Steven Chupnik. Nejah used the platform to draw a clear line between what the industry was building and what Telemetria Technology set out to do: "Infotainment is always part of the package but our focus is to provide safety and security services in addition to efficiency like green driving." Chupnik, summarizing the experience for viewers, put it simply: "It is not only about going to point-A to point-B but having fun and being safe while doing it." (Telemetria Motorweek)

The comparison to the iPhone was not lost on observers. Just as Apple's device transformed the way people interact with each other through a phone, Nejah's invention set out to revolutionize the way people connect with the world from inside their car. Both arrived at the same moment in history. Only one of them became a household name. The other kept building.

INTELLECTUAL PROPERTY AND PATENTS

SunMan Engineering's early leadership in connected vehicle platforms and IoT ecosystems was reinforced by a strong portfolio of patented innovations spanning crash detection, wireless communication architecture, embedded computing platforms, and smart infrastructure design.

- Techniques for detecting and reporting a vehicle crash — Patent number: 10282922

- Computer architecture for a mobile communication platform — Patent number: 8370605

- Digital antenna — Patent number: 8290456

- Voice-over-IP telephone devices and systems — Patent number: 7664100

- Voice-over-IP device using dial-up modem — Patent number: 7620035

- Audio scrambler and recorder for cellular telephones — Patent number: 7209732

A PORTFOLIO BUILT ON CONNECTIVITY

SunMan Engineering was founded in 1990 by Allen Nejah, an engineer whose career has been defined by building what technology could be, not merely what it was. Over 3 decades and more, the company has completed more than 1,670 engineering projects for over 450 clients, a portfolio spanning deep-space instruments, surgical robotics, consumer electronics, industrial

automation, and everything in between.

But look across that portfolio with fresh eyes and a consistent pattern emerges: connectivity. SunMan has shipped IoT and wireless products spanning Wi-Fi, Bluetooth, Zigbee, LoRaWAN, and 5G, each protocol demanding its own RF design approach, regulatory certification path, and power management strategy. That breadth of wireless expertise is not common. Most engineering firms specialize in one or two protocols. SunMan has done them all.

Its clients tell the story clearly. SunMan has delivered engineering work for NASA's Ames Research Center, Lockheed Martin, Intuitive Surgical, Apple, IBM, Cisco Systems, NVIDIA, Sony, and Hewlett-Packard. These are not companies that accept mediocre execution. They are organizations with tolerance requirements measured in parts-per-million and compliance frameworks that span multiple regulatory bodies simultaneously.

The variety of problems SunMan has been brought in to solve reflects that reputation. In one notable project, Early 2000, Nike approached the company to develop a sensor embedded inside a ball to track performance data. The technology was ultimately redirected into footwear, with the sensor tracking movement and performance from inside a shoe. It is the kind of project that defines SunMan's value: a client comes with one vision, and the engineering capability is flexible and precise enough to follow wherever the best solution leads.

"The companies building IoT products today don't just need hardware expertise. They need a partner who understands every layer of the system and can get all of it through certification and into production."

— Allen Nejah, Founder, SunMan Engineering

WHAT IOT PRODUCT DESIGN ACTUALLY REQUIRES

There is a widespread misconception in the technology industry that IoT product development is primarily a software challenge. It is not. Building a connected device that performs reliably in the real world requires solving an entire stack of simultaneous engineering problems and solving them in ways that do not conflict with each other.

SunMan's IoT product design process reflects this reality. It begins with concept development: translating a client's vision into a clear functional specification, defining the target audience, and mapping every performance requirement before a single component is selected. From there, the company's engineers move into hardware design, selecting sensors, microcontrollers, and communication modules, then designing PCB layouts that optimize for performance, thermal management, and manufacturability simultaneously.

Embedded systems development follows: the firmware, drivers, and communication protocols

that make a device actually work in the field. This is where many IoT products fail. The hardware can be excellent; if the embedded software is inefficient or poorly structured, the device will behave unpredictably, drain its battery ahead of specification, or fail certification testing.

SunMan's engineers write firmware that is efficient, reliable, and secure, built to the same standards the company applies to its aerospace and medical device work. The result is embedded software that doesn't just pass tests in a lab but performs consistently in the messy conditions of actual deployment.

RAPID PROTOTYPING AND THE SPEED ADVANTAGE

One of the most critical factors in IoT product development is time. The connected device market moves fast. A product that reaches market six months behind its window can find itself competing against second-generation competitors before it has established distribution.

SunMan's rapid prototyping capabilities are designed around this reality. Using advanced 3D printing, CNC machining, and modular development platforms, the company can move a concept from whiteboard to functional prototype in a fraction of the time required by traditional development cycles. Connectivity testing, validating that a device performs as specified across Wi-Fi, Bluetooth, Zigbee, and other protocols under real-world conditions, is integrated into the prototyping process rather than deferred to a later stage.

Cloud and mobile integration happens in parallel. SunMan connects IoT prototypes to cloud platforms and mobile applications during the prototyping phase, so clients can validate the complete product experience, device, connectivity, data pipeline, and interface before committing to tooling and production.

The iterative refinement cycle that follows is where the company's engineering depth becomes a competitive advantage. Power consumption analysis, environmental stress testing, interference characterization, and system stability evaluation are all performed as the design evolves. Issues that would be costly to address in production are identified and resolved while the design is still malleable.

INDUSTRIAL IOT: A DIFFERENT ORDER OF COMPLEXITY

Consumer IoT products are challenging. Industrial IoT systems are a different category of problem entirely. In a factory, a logistics hub, or an energy facility, the stakes of connectivity failure are not inconvenience; they are production stoppages, equipment damage, or safety incidents.

SunMan's Industrial IoT (IIoT) practice is built on 3 decades and more of engineering work in

environments where reliability is non-negotiable. The company designs IoT system architectures that integrate with existing industrial infrastructure, develops custom sensors for real-time data collection across manufacturing lines and asset management systems, and implements edge computing solutions that process data locally before routing it to cloud analytics platforms.

Predictive maintenance is one of the highest-value applications of IIoT, and one where SunMan has developed particular depth. The company's systems use machine learning algorithms to identify failure signatures in equipment data before those failures manifest, enabling maintenance teams to intervene on schedule rather than in response to breakdowns. The economic case is straightforward: unplanned downtime in manufacturing typically costs orders of magnitude more than the predictive systems that prevent it.

Security and regulatory compliance are treated as design requirements, not afterthoughts. SunMan's IIoT systems are engineered to meet ISO, CE, FCC, and application-specific standards from the architecture stage. In regulated industries, this is the difference between a product that can be deployed and one that cannot.

THE FULL-STACK ADVANTAGE IN A FRAGMENTED MARKET

The IoT market has a fragmentation problem. Companies that need a complete connected product — hardware, firmware, wireless connectivity, cloud integration, mobile interface, regulatory certification, manufacturing — typically have to assemble that capability from multiple vendors. Each handoff between specialists introduces risk: integration failures, timeline delays, accountability gaps when something goes wrong.

SunMan's full-stack orientation eliminates most of that risk. The company provides hardware prototyping to firmware development, seamless integration with legacy systems and modern cloud platforms, and end-to-end manufacturing support under one roof. Its proprietary quality system includes over 100 verification steps. Its teams operate under standards satisfying FDA, ISO, FAA, FCC, and CE requirements depending on the application. It is an infrastructure that took decades to build and cannot be quickly replicated.

For a medical device company building an AI-assisted diagnostic tool with IoT connectivity, that means a single partner who understands both the FDA compliance requirements and the RF engineering challenges. For an automotive supplier developing connected vehicle systems, it means a team that has done exactly that work before, having built Genie, years before the industry had a name for what it was.

THE MARKET THAT HAS ARRIVED

The global IoT market is no longer a future projection. It is an operating reality. Analysts estimate

the broader AI hardware and intelligent systems market will expand from approximately $94 billion in 2025 to nearly $931 billion by 2034, representing a compound annual growth rate approaching 29 percent. IoT infrastructure is foundational to that expansion: every autonomous vehicle, every smart factory, every connected medical device requires the embedded systems, wireless protocols, and data pipelines that SunMan has been engineering for three decades.

The companies competing in this market share a common challenge. They have ambitious product concepts and they understand their industries. What most of them cannot do quickly is build, validate, certify, and manufacture the hardware that makes those concepts real. That gap is precisely what SunMan has spent 3 decades and more positioning itself to close.

SunMan offers comprehensive IoT services that span the full development lifecycle across sectors including Smart Home, Wearable Technology, Healthcare, Industrial IoT, Agriculture and Environmental Monitoring, Automotive, Transportation, and Smart Cities. In each of these verticals, the company brings not just technical capability but the regulatory knowledge, manufacturing relationships, and quality infrastructure that turn development work into shippable products.

The IoT world is now ready. The infrastructure exists. The market is growing at a rate that will produce a trillion-dollar industry within a decade. The companies that can actually build connected products — and not just design them but engineer, certify, and manufacture them at scale — are the companies that will define what gets built.

SunMan Engineering is one of those companies. It has been building for this moment since 1990.

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