

Connecting legacy to AI



Entrepreneur KOSTAS SIOURTHAS founded TOMORROWX to solve the AI bottleneck: integration with legacy systems. Validated by global brands, this Australian innovation is now scaling globally with partners Amazon Web Services, Deloitte and NVIDIA.

ARTIFICIAL INTELLIGENCE IS ADVANCING FASTER than any general-purpose technology in modern history. Yet inside the world's largest organisations, and across entire economies, its real-world impact remains stubbornly constrained.

The limitation is no longer intelligence. It is access.

Across industry and government, the systems that matter most were built decades ago. In 2026, these systems still underpin almost every facet of modern life: healthcare delivery, payments, energy grids, transport and national security. Despite unprecedented investment in AI, these systems remain largely unreachable.

A PROBLEM TWENTY YEARS IN THE MAKING

For Kostas Siourthas, founder and CEO of Australian deep-tech company TomorrowX, this moment has been decades in the making.

"We've been building and validating for this exact situation," Siourthas says. "AI was always going to become powerful enough. The real question was how to connect it with the world's legacy systems and unlock that potential, securely."

Siourthas identified that the software economy had become a constraint. Enterprises have layered code upon code—middleware, APIs and integration platforms – to manage complexity. The

result is an economy optimised for building software, not governing data.

"The data that underpins the internet and the economy has been buried beneath layers of code," Siourthas says. When modern AI models are asked to execute tasks – like approving a transaction, updating a medical record, or triggering a grid response – they collide with decades of accumulated abstraction.

RETURNING TO FIRST PRINCIPLES

Rather than adding another software layer, TomorrowX began by removing them. The starting point was first principles: what actually moves through digital systems? The answer is data packets.

"Every instruction, every transaction... they all move as a packet," Siourthas explains. "We decided to remove the overhead and operate at the packet level instead."

TomorrowX's platform sits in front of legacy systems, accessing data in flight. Policy, validation and control can be applied without altering the underlying system. This allows AI agents to gain governed access without rewriting applications or forcing migration.

Beyond access, this architecture has also uncovered another potential solution to the AI bottleneck: energy use. The company is currently conducting research that may change the entire narrative about the amount of energy required to run industrial and enterprise AI.

SOVEREIGN AND COMPLIANCE-FIRST AI: SOLVING THE EXECUTIVE DILEMMA

For Boards and executives, the primary risk lies in the inability to connect legacy systems with modern AI infrastructure, knowing that modernising these critical systems has proven extremely time-consuming and costly.

TomorrowX solves this deadlock. Because the platform operates at the protocol level, organisations can retrofit modern capabilities – including Data Observability, Multi-Factor Authentication (MFA), data movement, governance and controls—onto legacy systems immediately.

This not only enables integration across multiple legacy systems without the need for full-scale modernisation, but it also delivers the critical compliance policies required to safely connect data from legacy systems to the AI infrastructure. This effectively allows organisations to "lock the door today" against threats while simultaneously opening the door to AI.

VALIDATED BY GIANTS

This approach has been validated in production across some of the world's most demanding enterprise environments, including Experian, Commonwealth Bank, UniSuper, Standard Chartered Bank, PayPal and American Express.

From his first meeting with Siourthas, Aaron Sempf, AWS Field CTO and author of AWS' Prescriptive Guidance on Agentic AI, recognised the strategic alignment.

"Data access and control is emerging as the cornerstone of scalable, sovereign AI. The ability to govern your data in motion will define how fast, and responsibly, you adopt AI."

"Agents that only operate inside a single silo risk producing incomplete, biased, or contradictory decisions," Sempf says. "To act intelligently at an enterprise level, agents must integrate data across sources, and preserve governance boundaries."

Subsequently, Sempf has been closely involved in shaping TomorrowX's strategy.

SPEED WITHOUT DISRUPTION

This reality underpins Deloitte's Strategic Alliance with TomorrowX.

"One of the things that really attracted me to TomorrowX is getting rid of the need for developers," says Deloitte partner Rob Parker. "The conversation starts and ends at the business level."

Major General (Ret.) Dr. Marcus Thompson AM, former head of the Australian Defence Force's Information Warfare Division, sees this as a strategic necessity.

"This is an opportunity for a fraction of

the cost of replacing enterprise networks in order to bring a contemporary approach to legacy systems," Thompson says. "You can do it quickly."

FROM INSIGHT TO ACTION

The industry's inflection point became clear in June 2025, when NVIDIA CEO Jensen Huang convened leaders in Paris to focus on the shift from conversational AI to execution.

Siourthas attended by invitation, alongside Stuart Mackenzie, TomorrowX's Head of Product.

"AI will not transform organisations because it can write content," Siourthas notes. "It will transform them when it can act, responsibly, auditably and securely, inside the most important legacy systems that still run our economies."

AI SPARK

This philosophy underpins AI Spark. Designed to bring AI closer to operational relevance without escalating risk, it evaluates and governs outputs strictly at the point of system interaction.

This enables organisations to demonstrate control in live operation without centralising data or altering legacy code. Consequently, programs operate within existing accreditation boundaries, ensuring mission critical systems remain untouched while establishing the authority to act.

As organisations move to operationalise AI at scale, the winners will be those who can safely connect intelligence to the systems that already run the world.

LEARN MORE AT tomorrowx.com/forbes