Kronus – One Pager

Problem

- Certification for flight-critical compute is slow, manual, and fragmented, consuming 50–70% of engineering time and delaying programs by months.
- Every spacecraft, UAV, and safety-critical system rebuilds its certification workflow from scratch, duplicating years of hardware, software, and verification effort.
- Teams manually generate traceability, testing, and documentation artefacts across disconnected tools, driving cost overruns and integration failures.
- Fragmented hardware and tooling prevent reuse, forcing organizations to re-qualify everything for each mission, inflating avionics budgets by 25-40%+ and slowing delivery.

Solution

Our platform, lets teams *certify as they build*, turning manual certification effort into automated evidence creation. Teams build on a single platform where development produces certification-ready artefacts by default.

- Ship missions faster: avionics that come with built-in traceability and reusable compliance evidence, eliminating years of qualification and re-certification.
- Reliable and certifiable: unified tooling and software frameworks which guarantee certifiable behaviors and provide safety-ready libraries for control, I/O, onboard AI, and more.
- Test once, use everywhere: automated testing that generates certification-ready reports as teams iterate.
- AI-accelerated development: the SDK enforces certifiable patterns by construction, making uncertifiable code paths impossible and turning AI agents into safe automation layers for implementation.
- One platform: the same hardware and software tools extend to telemetry, communications, payloads, and autonomy, replacing scattered tools with a single ecosystem.

Beyond space: The same certification headaches exist in automotive, medical devices, power infrastructure, mining, and more. Our platform is positioned to become *the* cross-industry certifiable compute platform.

Why Now?

Hardware and AI tools let small teams build sophisticated avionics faster than ever, but certification hasn't kept pace. Modern spacecraft, defense systems, UAVs, and climate-critical infrastructure need edge compute *now*, where even small delays hit missions, revenue, and national capability.

Fabrication costs have collapsed, opening the door for new entrants, just as regulators tighten safety standards and demand deeper, more consistent evidence. Teams can't rely on bespoke, hand-built certification pipelines anymore; they need a repeatable, automated pathway that matches modern development speed.

The Kronus platform sits at this intersection as the first unified compute platform built for an industry that must move faster, prove more, and deploy safely.

Team

Patrick Bellamy – Ex-Flight Software @ Rocket Lab; led University of Melbourne Rocketry to international success; IAC-published. Expertise in flight-critical software + leadership of teams of 100+ engineers.

Jack Ulbrich-Baker – Ex-GNC @ Rocket Lab; led Monash Rover Team; IEEE-recognized publications. Deep control systems expertise and hardware execution + leadership of teams of 100+ engineers.

Jack and Patrick met whilst working at Rocket Lab. The two were united over projects resulting from fragmented certification and testing pipelines. Once back in Australia, the two reunited to tackle this bottleneck. By leveraging their unique technical insight, industry networks, and experience leading top international student engineering teams, the two are primed to rapidly deliver, test, and deploy our ecosystem at scale.

Market Opportunity

- The global space economy is projected to grow to $1.8T by 2035 (McKinsey, 2023).
- Over 70,000 satellites are expected to launch this decade (Goldman Sachs, 2024).
- Defense autonomy & AI systems are growing at ~13% CAGR (Grand View Research, 2024).

The Kronus Platform directly addresses the compute gap in these markets:

Sector	Market Size	Certifiable Compute Opportunity
Satellites & Launch	$200B+	$7-10B+ (Satellite + Launch Avionics)
Defense Autonomy	$120-180B	$10-20B+ (C2, ISR, UAV swarms)
Automotive Safety	$600B+	$90–160B+ (ISO 26262 systems, ADAS/robotaxi)
Medical Devices	$1.3T	$90–160B+ (surgical robotics, imaging, infusion)
Industrial, Energy, Adjacent Infra*	$800B+	$55–150B+ (industrial automation, power grids, rail, maritime, mining)

*Adjacencies include power & rail signaling, maritime robotics, and autonomous mining systems.

TAM: **$250–500B+** by 2035

Kronus begins with aerospace and defense, a $17-30B+ beachhead market today, but every one of these high-growth markets relies on certifiable compute. This positions Kronus to provide *the* universal certifiable compute platform.

Roadmap

We are raising AUD 600k to deliver the FPGA dev board, software platform V1, and first deployments in 2026. This positions us for an institutional seed round in late 2026 to productize the platform, expand the team, and establish a US presence. The roadmap below outlines how each stage builds toward widespread, cross-industry adoption.

Pre-Seed (Current)	Seed (Q3 2026)	Series A (Q3 2027)	Beyond
FPGA development board functional prototype. Software platform V1 with deterministic libraries (control, autonomy, inference). Testing harness with UAV and rocket engine demos. SDK-constrained AI agents capable of certifiable implementations First 3 FTE hires. First revenue-generating deployments.	Productize platform with DO-178C-aligned dev libraries + frozen APIs. Team expansion + US relocation. IP filings (architecture + certification framework). Expand to 8-12 industry pilots; prime + government pilot programs seeded. Modular certification framework accepted for pilot use with regulatory partners.	RTL (chip design) + fabrication partners locked. Space and defense heritage: ≥3 active deployments. Cross-industry expansion: ≥3 strategic partnerships and first non-aerospace safety-critical deployments.	First silicon tape-out (production-ready chip). Platform adopted as baseline architecture across multiple regulated industries. Ecosystem expansion: third-party library support, integrators, and certification partners.