BERLIN · ANGEL ROUND · 2026

coscope

The AI copilot for hardware bring-up & debug.

It reads your schematic, firmware, and bench instruments at the same time - so a new board comes up in hours, not weeks.

01 - THE PROBLEM

Bringing up a new circuit board is still a manual, undocumented guessing game.

When a freshly assembled board hits the bench, a senior engineer ($150–300/hr, fully loaded) has to reconcile three things in their head:

Schematic & BOM
what it *should* do

Firmware
what it's *trying* to do

Bench instruments
what it's *actually* doing - scope, logic analyzer, DMM, power supply

No tool holds all three at once. So the engineer works it out by hand - and the only record of how survives like this:

> *"9 out of 10 times, someone snaps a pic with their phone."*
> - practising EE, Hackaday, 2024

Phone photos → Slack → a Word doc nobody opens again. When the engineer moves on, the knowledge walks out the door.

Time

Bring-up burns the most expensive minutes in the whole product cycle - senior EE bench time, a major gate at each stage of product development.

Knowledge loss

> *"Single source of truth is the biggest, biggest problem in embedded/hardware products."*
> - Head of Embedded, araCreate

Handoff tax

A board handed to another engineer, or revisited after three weeks, has to be re-understood from scratch.

02 - WHY NOW

Three things became true in the last 18 months.

They didn't exist when the incumbents were built.

1. **AI can finally reason over messy hardware data.** LLMs can now read datasheets, schematics, and instrument traces together. Proof it works: an Amazon EE lead built an internal design-checker, injected dozens of errors - properly guided, a frontier model caught **100%**.

2. **AI can now operate the bench, not just read it.** Agentic tool use almost always points at software tools (MCP servers, APIs). We point it at *physical instruments* - scope, logic analyser, power supply - driven in a loop against the live PCB, captures read back.

3. **The incumbents are from the '90s or earlier.** Altium, Cadence, Rhode & Schwarz, Tektronix, National Instruments - the working paradigm hasn't fundamentally changed in 30 years. The bring-up/debug step has *no* dedicated tool from anyone.

> The plumbing now exists, the AI is now good enough, and nobody has wired them together for the engineer at the bench.

03 - THE SOLUTION

The one place that holds your design *and* your measurements - and reasons across both.

You connect your project (schematic / BOM / firmware) and your bench. Then the agent does what a senior EE does, but instantly and tirelessly:

Design-aware debugging

"This rail should be 3.3 V ±5%, but the DMM reads 3.8 V - check R47 and C23." It knows intent, so it knows when reality disagrees.

Cross-instrument correlation

Scope + logic-analyzer + DMM + PSU, lined up against the design and firmware state - automatically, not by eyeballing four screens.

A journal that writes itself

Every probe, reading and conclusion captured as a searchable, time-stamped record - handoff doc and compliance artifact, for free.

Works alongside Altium, KiCad, Cadence - not instead of them. We read your design files; we don't ask you to switch CAD tools.

Reliability is verifiable. Output is checkable against an instrument reading - right or wrong is measurable.

No rip-and-replace. We sit beside the incumbent CAD tools and bench. Zero switching cost.

Cross-vendor by design. Keysight, Tektronix, Siglent, Rigol, Saleae - one agent across all.

04 - THE FOUNDER

For 15 years I've either been at this bench myself or leading the teams doing the work.

Tom Elliot - Founder

Built the industry's first all-day, wrist-worn heart-rate sensor at Fitbit - the lowest-power PPG of its time. R&D to factory line in Fitbit Surge; Sensor Systems Lead for Fitbit Ionic. I've personally lived hundreds of hours of this pain.

Led hardware teams from IoT to industrial: Head of Hardware Engineering at INFARM, Head of Engineering at Senic. Coached teams to ship reliably - I know how hardware orgs actually work and buy.

Bootstrapped B2B SaaS for 3 years, consistent income the last 18 months - honed product, sales and engineering chops under real operating constraints.

Credibility customers trust on day one

I've sat where my users sit. They open the door because I speak their language, not a pitch.

I run the company the way the product thinks

AI-native by design. Compute over headcount - the company is itself the first proof of the thesis.

05 - VALIDATION

The pain is real, the buyers are senior, and the pull is already there.

FROM THE BENCH (CUSTOMER DISCOVERY)

A Berlin **embedded lead (araCreate)** runs board bring-up "purely manual, with an oscilloscope" and hand-keeps a "bugs and fixes" log - "the most crucial part is how I fixed it; the issue recurs after six months and I can't remember." He has already built his own driver loops to pull readings off his bench instruments (Rigol et al.) and is "trying to make it work generically." He is building coscope himself, without us.

An EE at a **7-EE audio hardware team (Teufel, ~12 products/yr)** takes notes on "everything" during bring-up and - unprompted - described our exact core loop: AI to review his logic-analyzer I²C streams and work out where it went wrong. In his board-spin tracker, most issues originate in debug/bring-up.

PROOF THE APPROACH WORKS

An **Amazon EE lead** built an internal AI design-checker, injected dozens of errors - a frontier model caught **100%**. He secured **VP-level budget** to build it in-house. Big companies are validating the thesis with their own money.

06 - MARKET & VALUE

We sell time back to the most expensive engineers in the building.

BOTTOM-UP LOGIC (THE NUMBER THAT MATTERS)

- A senior EE costs **$150–300/hr** fully loaded.
- Bring-up & debug is a **gating, weeks-long** step on every board revision; the early revs alone run **20–40 hours each**.
- Across a year that's a few hundred senior-EE hours - **$25k–90k of one engineer's time**, in a phase with no dedicated tool.

> Wedge ACV is a per-seat number anchored to that labour, not to a CAD licence.

Beachhead

Well-funded robotics & hardware startups (Foundation, Bedrock, Mytra, et al.) and product teams / consultancies shipping in a hurry - they feel bring-up pain weekly and move fast on tools.

Expand

The EDA tools market alone is **~$10B/yr** (Altium + Cadence), on top of a **~$40B** engineering-tools market - the direction of travel once the wedge lands.

Why now, structurally: AI is driving a proliferation of new hardware products. More boards, brought up faster, by leaner teams - exactly the workflow we serve.

07 - COMPETITIVE LANDSCAPE

The AI-EDA wave is all aimed at *designing* the board. Nobody is at the bench *after* it's built.

WHERE MONEY'S GOING	PLAYERS	WHAT THEY DO	WHY IT'S NOT US
Prompt-to-hardware (for beginners)	Schematik ($4.6M, Lightspeed-led), Atech ($800K, Sequoia · a16z · Lovable)	Plain-English idea → code, wiring, modules, first prototype	Idea→first prototype, not bring-up/debug of a real board
Physics-driven layout	Quilter ($40M)	Autonomous PCB placement & routing	Pre-fabrication design; not schematic gen, not bring-up
Browser AI copilots	Flux (~$49M), Allspice, Circuit Mind	In-browser design + chat copilot	"Debug" = pasting a scope screenshot; not instrument-integrated
Code-as-source EDA	JITX, atopile, tscircuit, Diode	Define hardware in code	New design front-end; doesn't touch the bench
Incumbents	Cadence (Allegro X AI), Siemens, Altium	AI folded into 30-yr-old suites	System-level design + simulation; not the cross-vendor bench

The wedge is open. Nobody is shipping a closed-loop, design-aware, cross-instrument agent.

Defensibility: cross-vendor & design-aware from day one, plus a proprietary data flywheel - design intent paired with measured outcomes nobody else collects.

> **"Won't the scope vendors just add their own AI?"** They will - and it will be single-instrument and brand-locked, while real benches are mixed-vendor. The opening is precisely where a Keysight copilot can't go: across all your instruments, tied to your design.

08 - BUSINESS MODEL

Start as per-seat SaaS. Grow into the hardware the software runs on.

TODAY - SOFTWARE, PRICED AGAINST LABOUR SAVED

- Per-seat subscription per bench engineer. Land with the lead EE, expand across the team.
- We save a $150–300/hr engineer real hours monthly; a four-figure seat is a rounding error - **ROI is self-evident.**
- Reference: hardware-in-the-loop tools already sell at **~$5K/year.**
- Lands in the **labour budget** - the largest, least-defended line - not the contested CAD-licence line.

THE ARC - SOFTWARE OPENS THE MARKET, HARDWARE IS THE LONG-TERM MOAT

As AI drives the cost of software toward zero, code stops being defensible. The durable advantage is the bench itself - **our own debug & capture hardware**, designed around the agent. When every competitor can ship the software, the hardware is what drives adoption and retention.

- Software lands us in every hardware team; owning the instruments the agent runs on is what keeps us there.
- **The moat:** a closed software-defined-instrument loop an incumbent scope vendor can't copy without rebuilding their software, and a SaaS competitor can't copy without building hardware. It's also the definitive answer to the "won't Keysight add AI?" threat (slide 07).

09 - THE ASK

Raising a $250k angel round on a rolling SAFE to prove the wedge with paying design partners.

TARGET
$250k

INSTRUMENT
Rolling SAFE
single cap, uncapped tranches

STAGE
First investor conversations
investment window mid-July to mid-August

WHAT IT BUYS - 12 MONTHS TO A PRICED SEED

1. Ship the MVP that closes the schematic ↔ firmware ↔ instrument loop on real benches.
2. Get 3+ design partners paying (a cheque is the proof the pain is real and engagement is genuine).
3. Prove the wedge segment (funded robotics/aerospace teams).
4. Automate internal ops.

WHAT I WANT FROM YOU, BEYOND THE CHEQUE

- Intros to hardware teams (robotics, aerospace, consumer EE) for design partners.
- Conviction that hardware development is about to accelerate like software did - and that this is the tooling layer for it.

Why $250k goes far: AI-native inside and out - **compute over headcount**. Tokens are the largest cost, not salaries, so this round behaves like a bigger one - and that cost line is the one falling fastest in the whole economy.

Back to top ↑