



Every device, drone and washing machine
needs a chip.
Few can design one.
Until now.

Sovereign chip design, AI-Native

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THE GAP

The gold rush needed shovels.

The AI boom needs chips.

Two US incumbents own the shovels — on 1980s tooling. Chipforge is the **sovereign alternative** — built for a global market of governments, enterprise and research.

Duopoly Market Cap

~\$190B

Cadence + Synopsys
combined.

Sovereign Funds Committed

\$115B^[1]+

Governments globally,
since 2022

Last Major Tech Shift

1988

38 years ago. Process largely
unchanged.

Who **Chipforge** serves.

01 Government & Defence

02 Enterprise

03 Manufacturing

04 Universities

THE PROBLEM

Chip design is outdated.

Custom silicon is essential, unaffordable for most, and 92% built on one fragile island.

Time

12 – 24⁺

Months per design.

Cost

\$5M⁺

Minimum cost per design

Concentration Risk

92%

Of advanced fabrication in Taiwan.

First silicon fail rate

86%

of human chip designs fail first pass

You can't hire your way **to a chip.**

1M

Chip engineers the world will be short by 2030.

[2]

Top 6 still can't do it alone

Apple, Google, AWS, Meta, Microsoft, Tesla all have internal chip teams, and **still outsource ASIC work** to Broadcom & Marvell

Pipelines don't fix it

A senior chip designer takes **10+ years** to train. The talent gap widens every quarter.

The capital is already there

\$115B+ [1] in sovereign funds chasing this gap, and **the design layer is wide open.**

The shortage is structural. **AI-assisted design is the only path that closes it in time.**

WHY NOW

AI's bottleneck isn't compute. It's power.

50 – 500x

Energy Efficiency savings in custom chips, beating general-purpose silicon on energy for AI workloads.

[3]

The new constraint

Robots, drones and devices now compete on **watts**. Longer flights. Smaller devices. Lower cooling. The thermal envelope is the product spec.

One chip for all is over

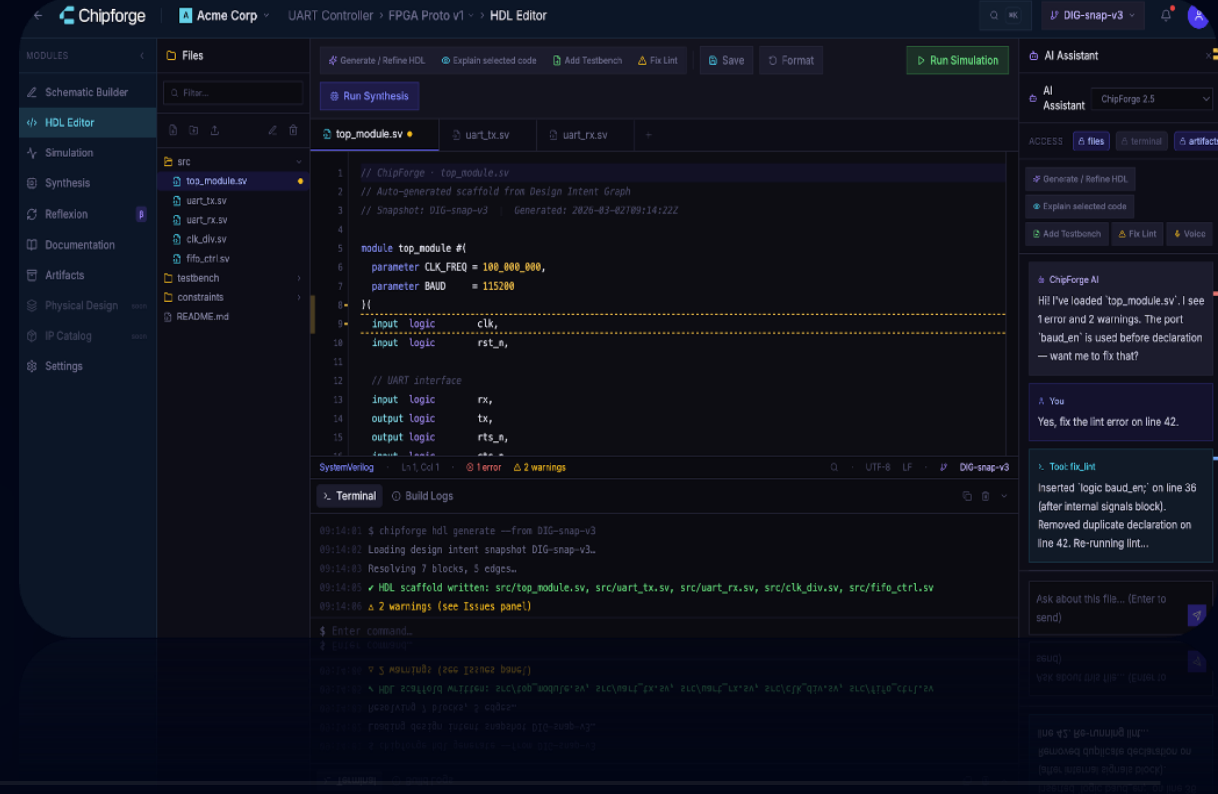
Every workload needs its own silicon, and the only way to build it fast enough is **software-speed design**.

The wedge is open today

Models, tooling and sovereign capital all converged in the last 24 months. **A rare open window.**

THE SOLUTION

- Al-native design.
- Building for autonomy.
- Reducing the design time by upto 70%.



01

Al does the chip design.

Engineers set intent and stay in the loop. Chipforge runs the heavy lifting between generation, verification, simulation, synthesis, implementation....end to end.

02

Every customer makes us stronger.

Each design built, feeds a private knowledge engine. The longer they use us, the harder we are to leave.

03

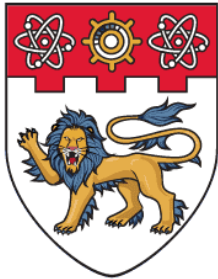
Deploy where the customer needs it.

Cloud, sovereign cloud, or fully air-gapped on-premise. The customer chooses.

THE FOUNDATION

Two decades of NTU research. Held by Chipforge alone.

Perpetual, worldwide commercial licence over hardware-AI portfolio. No other company has it.



**NANYANG
TECHNOLOGICAL
UNIVERSITY**
SINGAPORE

AI Research, globally

#1 ^[4]

By ShanghaiRankings, the publication-count methodology used across academic AI research.

Commercial Licence

Exclusive.

IP licence held by Chipforge, sole commercial route for
NTU's hardware-AI capabilities

Peer-Reviewed Papers

36+ publications underpinning the
platform.

Inventor Portfolio

IEEE CEDA Lecturer • Top 2% Scientist • Multiple
exits.

Industry Collaborations



Microsoft



Simple pricing. Built to flex.

Industry-standard base

Consumption- and token-based pricing, aligned to how the chip-design industry already buys.



Built-in flexibility

Shaped to each customer's secure infrastructure and support requirements.

Who Chipforge serves.

Sovereign & Defence



Defence ministries and national programs that can't deploy US-controlled tools.

Aerospace & Space



Primes building avionics, satellites and mission-critical chips for one specific job.

Autonomy & Edge



Automotive, robotics and edge compute, all competing on watts per workload.

Hardware Innovators



Startups, OEMs and design houses priced out by the cost of incumbents EDA.

Universities



Training the next 270k chip designers on Chipforge. NTU is the anchor.



Custom silicon sits underneath everything that matters.

Chipforge is the design layer the world is missing.

Contact

investors@pathkey.ai

Web

[Chipforge.ai](https://chipforge.ai)

Listing

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SOURCES & REFERENCES

[1]

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\$115B+ sovereign semiconductor programs.

US CHIPS & Science Act \$52.7B – EU Chips Act €43B (~\$46B) – South Korea \$19B – Japan ~\$25.3B – India ~\$10B, UK \$1.47B.
Sources: CSIS “World of Chips Acts” 2024 – CRS R47558 – Semiconductor Engineering global funding tracker, Dec 2024.

[2]

Slides 05

1M chip engineers short by 2030.

Semiconductor Industry Association & Oxford Economics, “Chipping Away” (2023); Deloitte 2024 semiconductor outlook.

[3]

Slides 06

Custom chips 50-500x more efficient

Hennessy, J. L. & Patterson, D. A., “A New Golden Age for Computer Architecture,” *Communications of the ACM*, 62(2): 48–60, 2019; Jouppi, N. P. et al., “A Domain-Specific Architecture for Deep Neural Networks,” *Communications of the ACM*, 61(9): 50–59, 2018; Hameed, R. et al., “Understanding Sources of Inefficiency in General-Purpose Chips,” *ISCA '10*, ACM, 2010. Production neural-network ASICs (Google TPU) deliver ~30–80× perf/Watt over contemporary CPUs/GPUs; workload-specialised silicon reaches higher multiples on fixed-function workloads.

[4]

Slides 09

NTU #1 globally in AI research.

Nanyang Technological University, ShanghaiRanking, Global Ranking of Academic Subjects 2025 — Artificial Intelligence, 2025 (NTU 1st of 400; Tsinghua 2nd; U. Toronto 3rd).