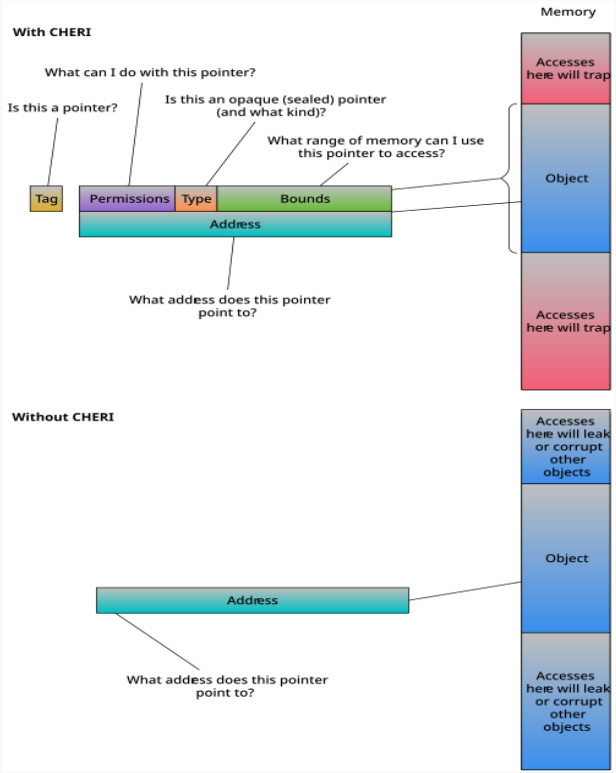
WYVERN
GLOBAL

Wyvern's Mission

"To transform cutting-edge research into security solutions that protect systems, businesses, and nations; built on end-to-end CHERI-based technologies."

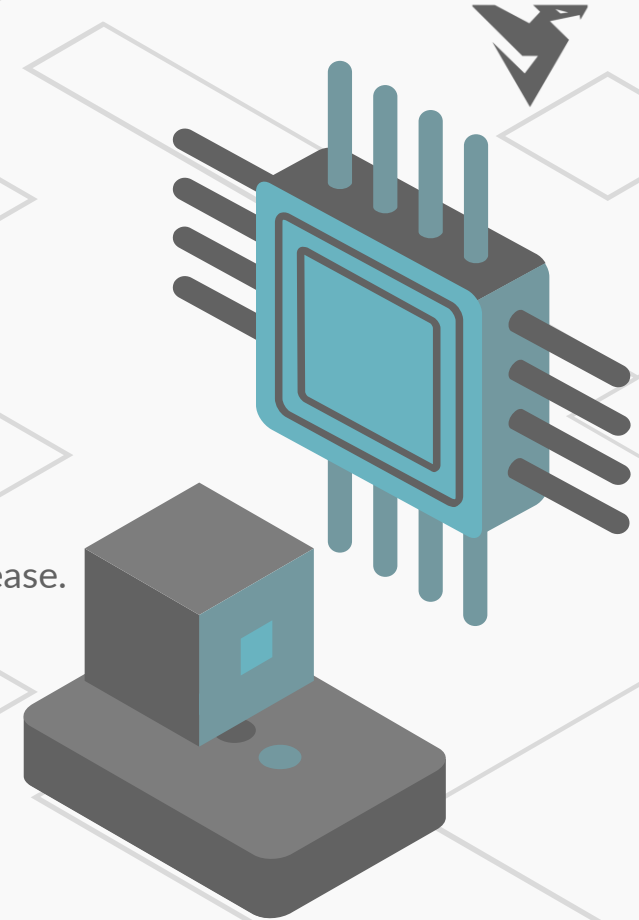
BUSINESS CONCEPT

We are striving to be the first company with a commercially available CHERI-native (Capability Hardware Enhanced RISC-V Instructions)-native System on Chip, and to be the first to offer OEM adoption services to integrate our architecture into existing control systems and technology stacks. Taking the security of CHERI and integrating it into the Sovereignty of RISC-V.



Don't trust us...
Trust facts

- ~70% of all cyberattacks are due to a lack of memory safety.
- A proven hardware research chip design, CHERI, completely removes these issues due to new hardware chip design.
- By utilising capabilities instead of pointers, robust memory integrity without interference is guaranteed.
- CHERI-enabled processors can run existing legacy code with ease.
- Relying on CHERI hardware ensures no software backdoor – automatically rejecting dangerous code.



Don't Stick to the Status Quo

No current devices use CHERI commercially

This means memory is at risk and manufacturers don't have any choice.

The Status Quo keeps the insecure chips around

No big chipmakers want to undermine the current market by introducing something revolutionary.

WE provide the solution

WARP is the first commercially available CHERI enabled SoC in the world which can be customised for OEM applications.

All non-WARP Control Units are vulnerable to hardware, software and memory exploits by nature.

Our Key Partners
CHERI Alliance

Google

A founding member of the CHERI alliance with a foot in a wide range of industries.

Siemens

Siemens is a full member of the CHERI alliance and a key player in the automotive industry.

University of Cambridge

University of Cambridge is a forerunner of research in CHERI. We use UoC rocket chips within WARP.

NCSC

We aim to have WARP used in critical national infrastructure for sovereign benefit.

CHERI Alliance
Non-member backers

ARM

ARM is one of the most prominent leaders in research of CHERI based devices.

DARPA

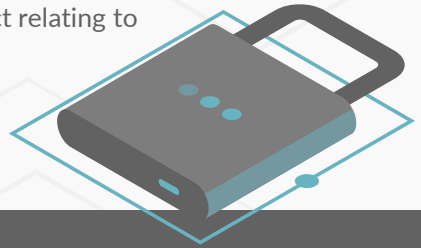
“the agency that shaped the modern world”, DARPA initially funded the research into CHERI back in 2010.

Microsoft

Developer of hardware, software and cloud services, Microsoft has expressed public interest in the future of CHERI devices.

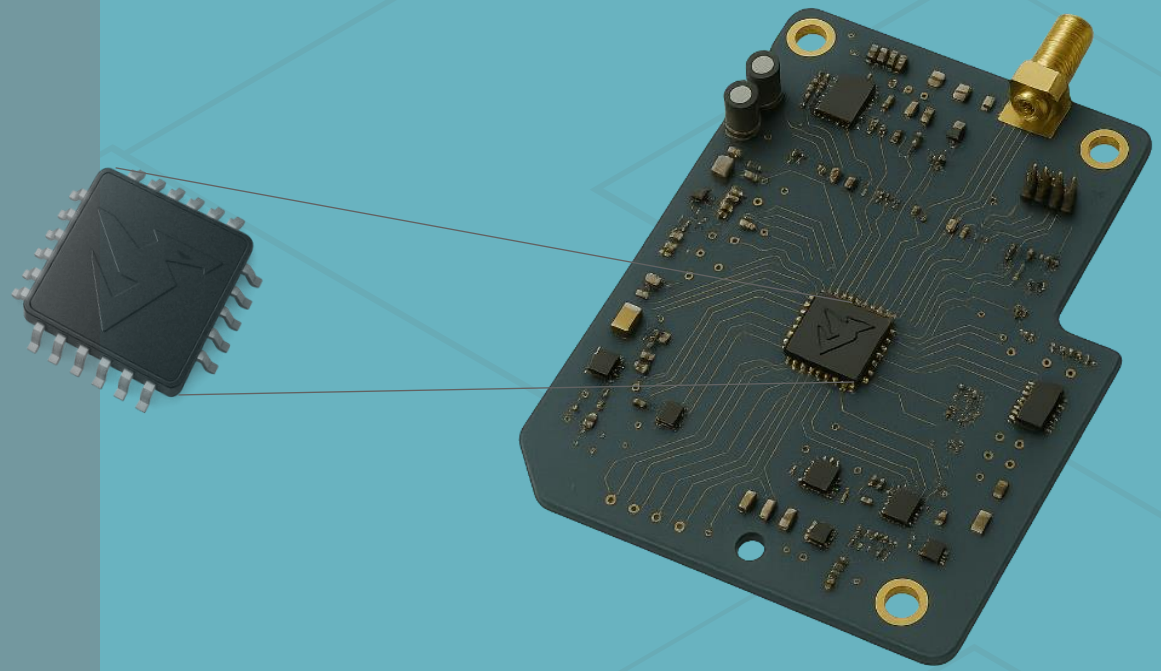
UKRI

UK Research and Innovation has invested in many project relating to advancing CHERI.



WYVERN ADVANCED RISC-V PROCESSOR

WARP



Visual representation only

4 visions
1 Ecosystem

CURRENT SERVICES

WARP OEM Consultations

Custom instances of WARP architecture, which we license to partners and provide MPW services through our web dashboard and end-to-end team.

Labyrinth Access Control

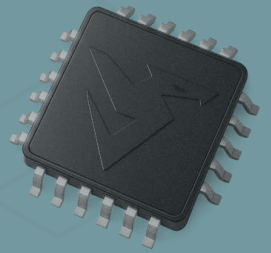
Blockchain-hosted decentralised private access control application, using TOTP codes, meaning users are immutable, and **all** data is private.

WARP Ecosystem

FUTURE PRODUCTS

WARP 2532 SoCs

In-house generic SoCs for developer boards and low-volume industrial devices, support from our toolchain team comes part-and-parcel to integrate WARP into non-CHERI systems without compromise.

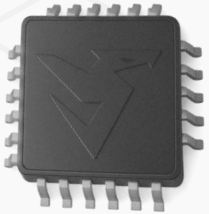


WARP Basilisk Storage

Labyrinth-protected WARP-controlled secondary storage devices for impenetrable, access controlled, data storage.

WYVERN ADVANCED RISC-V PROCESSOR

What is WARP?



CHERI native

Eliminates 70% of IP and memory vulnerabilities by design; like preventing a car crash by flying.

RISC-V sovereign

Mitigates reliance on closed ecosystems and ARM processors.

Secure by Design

Vulnerabilities are prevented via memory pointer rules, not convoluted cryptography.

In demand

Over £30m of UKRI funding has been allocated to developing CHERI processors in the past 5 years. With letters of intent from multiple name brands.

UK designed

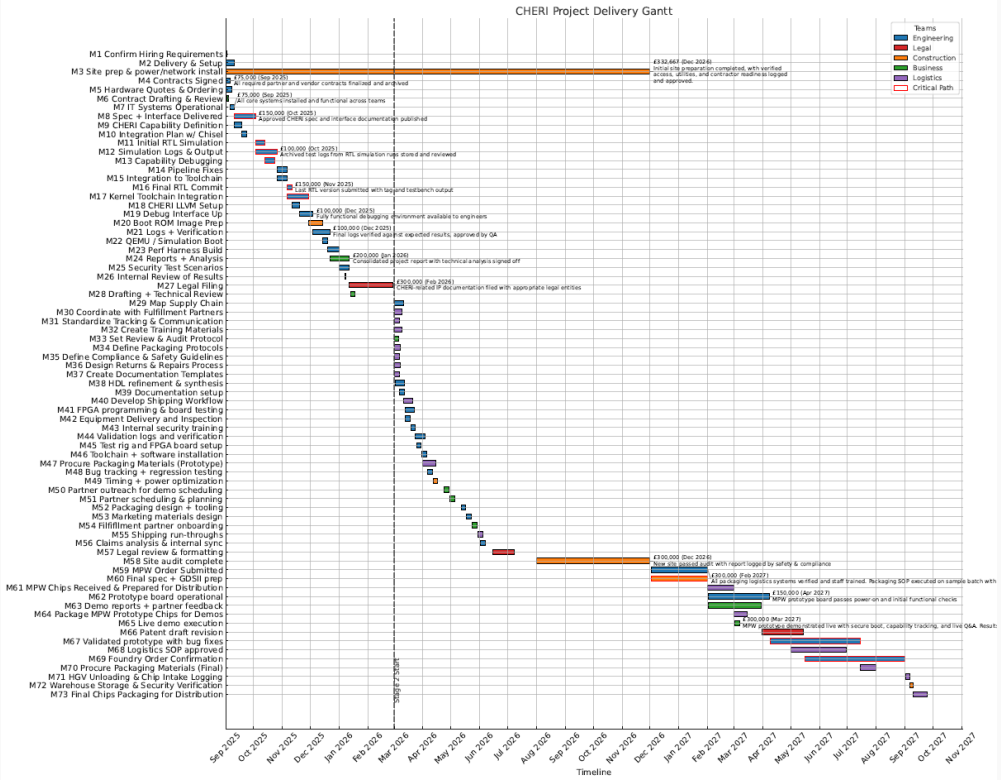
Abides by UK and ISO / BS regulations and supports local growth.

Vital for the future of computing

Will be necessary for IP protection, memory security and sovereignty in coming years, especially in edge computing and embedded systems.

Feasible, Practicable, Realistic

- Fully costed operations plan and feasibility study completed, with varying budgets from £2m - £5m with the latter being the most productive due to facility leasing costs & skills pool investment returning greater comparative success than a shoestring budget.
- Built on decades of Cambridge research, CHERI is a mature, but un-adopted technology, meaning WARP is at the perfect point to take advantage of the paradigm shift that major chipmakers fear undercutting their existing market.



Investment requirements

- Seeking a total investment of ~£5m
- Sustains business for first 3-5 years of operation including labor, facility and its maintenance's costs, logistics, consulting and patents
- Includes funding up to delivery of first WARP SoC chips to be ready to ship to our logistics hub within first 19 months.
- Profit opportunities present from day 1 due to OEM licensing and consultation, our main business model; which can be delivered within 6-12 months of contract signing.

Role	Employees in role	Yearly salary (pre-tax)	Yearly cost (pre-tax)	Yearly cost (post tax) 1y	Yearly cost (post tax) total
Accountant	1	50000	50000	58600	117200
Custodial	2	30000	60000	70300	140600
Cybersecurity Staff	1	50000	50000	58600	175800
Embedded SW engineer	1	60000	60000	70300	210900
Engineering lead	1	70000	70000	82100	246300
FPGA engineer	2	60000	120000	140700	422100
HR	1	40000	40000	46900	140700
HW design / DV engineer	2	60000	120000	140700	422100
IT staff	1	40000	40000	46900	140700
Legal	1	50000	50000	58600	175800
Sales	1	50000	50000	58600	175800
LLVM/GDB SW engineer	1	60000	60000	70300	210900
Logisitician	1	50000	50000	58600	175800
Payroll	1	40000	40000	46900	140700
Project Manager	1	50000	50000	58600	175800
Forklift operator	1	30000	30000	35100	70200
Purchasing	1	40000	40000	46900	140700
Security Guard	2	30000	60000	70300	140600
Stock manager	1	40000	40000	46900	93800
Warehouse staff	3	30000	90000	105500	211000
Direct Labour Total	26	930000	1170000	1465100	3727500

Direct non-labour costs	Cost
Design Budget (Chipyard, Chisel, Verilator, CHERI LLVM, GDB)	80000
Hiring and HR operations	50000
Software costs	32000
FPGA boards & lab equipment	30000
Patent costs	35500
Licenses	15000
Travel, food, accommodation	20000
Cloud computing	67000
External consulting	45000
Electric fleet (2 Vans for low volume MPW fulfilment)	110000
Logistics setup & operations	30000
Insurance	80000
Prototyping review/refinement	80000
Facility Lease (3 year)	444000
MPW setup	50000
Direct Other Total - Initial TSMC order	100000
Direct non-labour costs total	1268500

Indirect costs	Cost
Laptops/personal equipment	20000
Holiday/Benefits (5% of total employment costs)	186375
Marketing & Launch	50000
Total overhead	256375

Total cash runway required (3y)	5252375

WARP vs ARM

ARM

- Vulnerable to hardware hacks
- No buffer overflow protection
- No memory isolation

WARP

- Immune to memory-based hardware hacks
- No buffer vulnerabilites
- Better memory isolation of components
- Custom OEMs available

Backed by household brands

Direct CHERI support and WARP adjacency:
Letter of Intent

Direct Wyvern Global Support:
Letter of Support

Open Communication with:

TARGET MARKETS – OEMs

4 sectors that would benefit from WARP implementation – None use CHERI in any capacity commercially

CNI & High Security infrastructure

Memory exploit and critical systems protection.

£22m pledged by UKRI in 2025 to CHERI development

£12.2bn UK 2023

Automotive & Transport

Total IP and jailbreak protection in ECU and control systems.

£13.3bn UK 2022 (pure manufacturing)

Aerospace & Defence

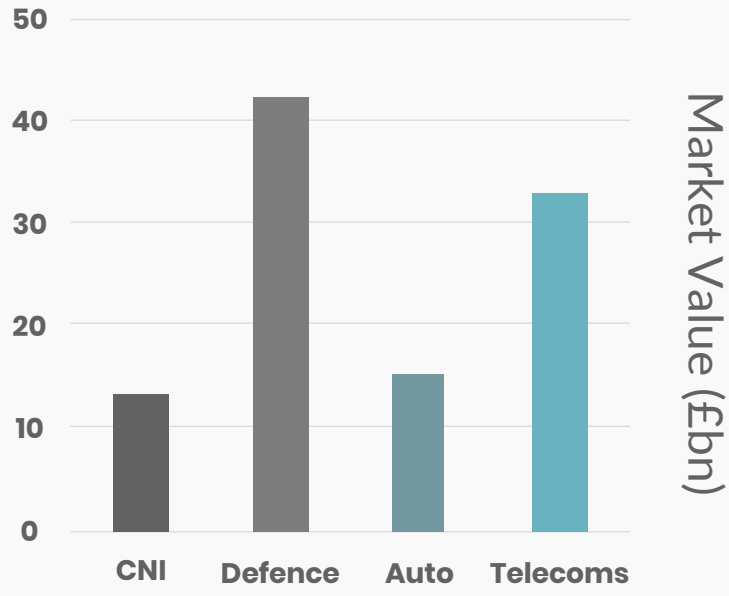
Critical systems protection, immutable control system software.

£42.2bn UK 2024

Telecommunications

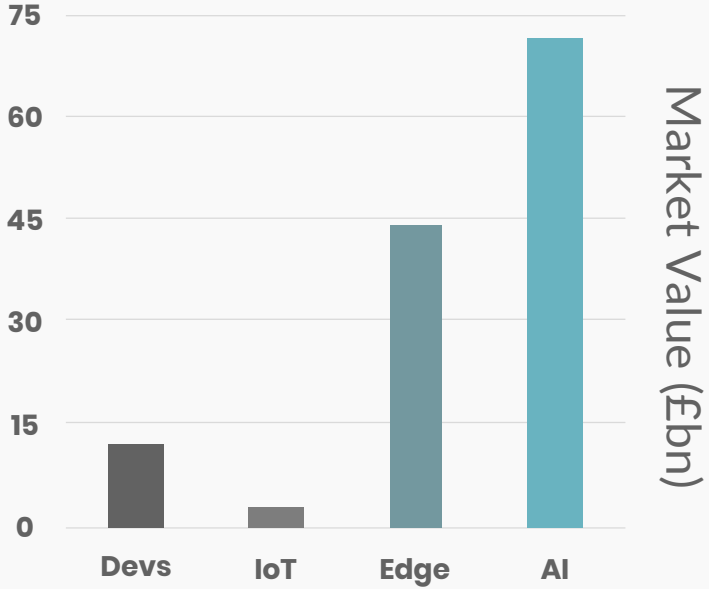
Total memory exploit protection, cross-platform benefits.

£32.8bn UK 2023.



TARGET MARKETS – SoC Partner Boards

4 sectors that would benefit from WARP 2532 implementation – None use CHERI in any capacity commercially



Developers & Education

Advances skills pool of CHERI-enabled SoCs and software

£12.65bn UK 2022

Edge Computing

Eliminates memory exploits in edge computing applications

£44.5bn Global 2024

Industrial IoT

Critical systems protection, immutable control system software, secure by design

£3.22bn UK 2023

Artificial Intelligence

Total memory exploit protection. Bleeding edge secure AI models become more efficient

£72.3bn UK 2024

MARKETING PILLARS

S Security - eliminates computing vulnerabilities by design.

A Assurance - trusted by top organisations and a member of the CHERI alliance.

F Flexibility - custom packages tailored to system needs.

E Efficiency - system performance is uncompromised.

Marketing Strategy

TR — **Technical Report**

Publish deep dives and benchmarks on CHERI vs traditional architectures

DO — **Developer Outreach**

Distribute documentation and run subsidised dev board programs

CP — **Conference Prescence**

Attend exhibitions and talk on CHERI-certified panels

AB — **Account-Based**

Target key companies to run outreach and workshops

TS — **Trust Signals**

Gain certifications and partnerships. Push on alliance membership

TA — **Targeted Ads**

Google and LinkedIn

Our OEM Process

Stage 1

Specification

Representatives of the company work with our engineering team to understand how WARP needs to be modified to integrate with their systems and vice versa.

Stage 2

Development

Our engineering team is set to work adapting WARP to the OEM specification, ensuring each interface and system is secure.

Stage 3

Testing

We provide custom FPGA boards for integration tests with your systems prior to our MPW runs or licensing to rule out bugs and compatibility issues.

Stage 4

Procurement

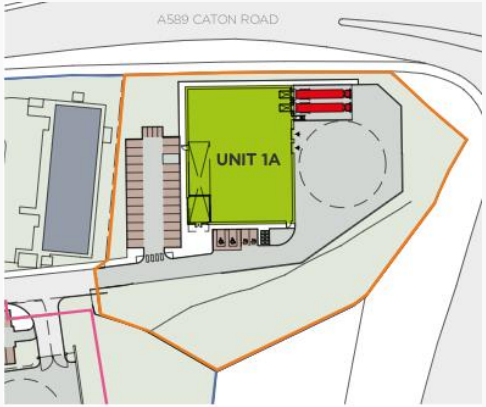
Either licenses are provided for internal chip sourcing, or we will provide MPW services through our industry connections and handle all logistics up to SoC handover, including storage and distribution. Depending on volumes we can also arrange long-term shuttle agreements.

MANAGEMENT STRATEGY

- **Workers' Welfare** – Maintaining a strong and dedicated skills pool in an emergent technology pays dividends further down the line.
- **Partnerships** – Our relationships with our industry peers and competitors are paramount to our success in the industry.
- **PR** – Public opinion and knowledge of the benefits of WARP will set us ahead of the adoption curve, becoming a household name is a possibility in new technology.
- **Local Infrastructure and Education investment initiatives** – Giving back to our local community will grow our public opinion and will grow the industry's skills pool with enthusiastic engineers.
- **Engineering-first lightweight management structure** – Focusing on delivering tangible results rather than corporate box-ticking will keep our workforce engaged and our clients happy.

FUTURE GOALS

- We have a short-term goal of signing off the pre-lease agreement on a 13,000 sq ft distribution, consultation, and R&D facility in Lancaster as our HQ, correspondence and planning permission has been confirmed, awaiting funding.
- Within 3 years we plan to have full SoC shuttle runs with TSMC for our WARP 2532 SoCs for dev board applications.
- In the future we would be aiming to expand our customer base from industrials to AI and research orgs through Edge Computing clusters and funding research initiatives.



Any questions?

Contact us at:

https://app.wyvern.global/contact

contact-us@wyvern.global

+44 7562 361102