



Introduction to the CHERI Alliance

Why / What / How?

Executive Summary

○ The CHERI Alliance is an independent entity

- Non-profit
- Focused on accelerating CHERI adoption
- ISA-agnostic
- Worldwide reach
- Drive / stimulate ecosystem
 - Industry
 - Research
 - Government
 - Communities
- Industry financed
 - Long-term sustainability
- Start-up phase with financial support of



Department for
Science, Innovation,
& Technology

○ The CHERI Alliance stimulates CHERI adoption



Technical

- Guidance, best practices
- Tech enablement (code, examples...)
- Interoperability, compliance



Promotion

- Technical & marketing info
- Media
- Policymakers, regulation



Community support

- Open-source software support
- Platform for collaboration
- Education, networking

Current members



Benefits for members



Demonstrate
security
leadership



Network, learn
and get visible



Accelerate
adoption of
CHERI



Save on costs
(learning, promotion,
development, ...)



Collaborate
with the
community

The complete story

“

Unite industry leaders, system developers, users and security experts to **drive and promote CHERI** as an efficient security standard

CHERI Alliance's mission

”

⬡ Why a CHERI Alliance?

◆ Accelerate adoption!

◆ CHERI cannot just be a specification

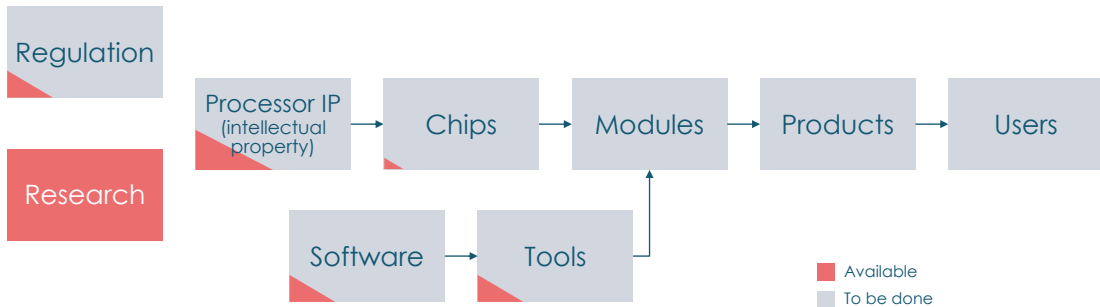
◆ Need to go further

- ◆ Bring an ecosystem together – industry, users, government and academia
- ◆ Promotion of security (and CHERI in particular)
- ◆ Technical alignment
- ◆ Demonstrate industry adoption
- ◆ Manage communication / branding
- ◆ Educate, support community
- ◆ Network

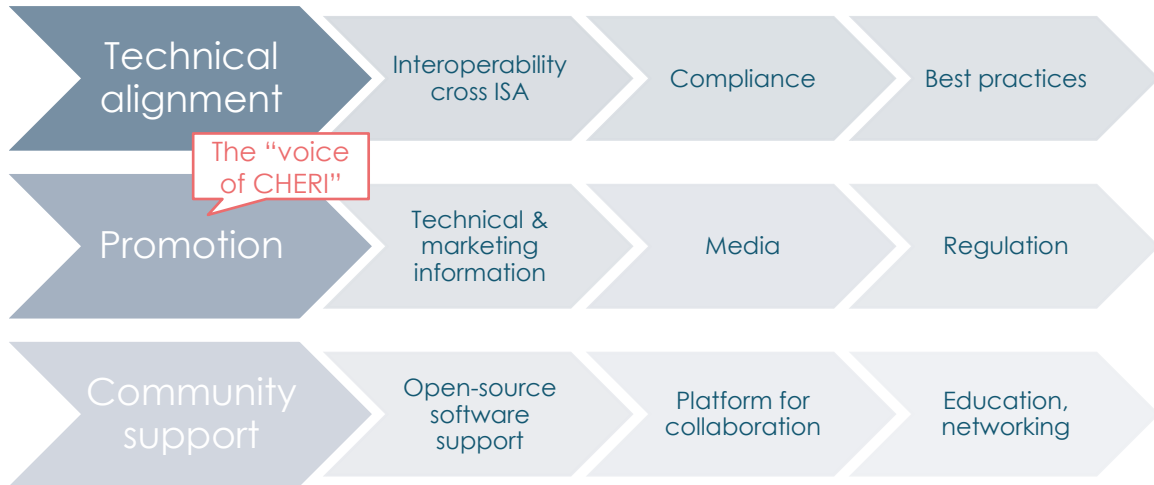
Getting CHERI adopted

How to stimulate the industry?

Show benefits
Make it easy to adopt
Highlight risks (lack of security / upcoming regulations)

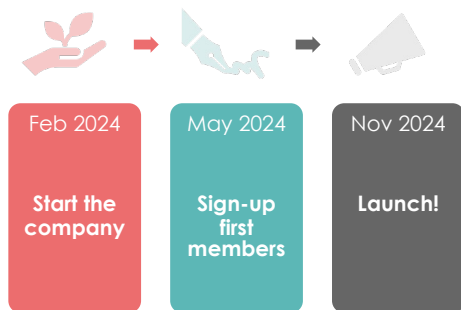


○ Role of the CHERI Alliance



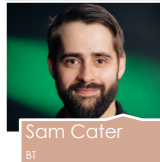
○ A non-profit, independent entity

- ISA-agnostic
 - CHERI could be added to Arm, x86, MIPS, RISC-V, ...
- Country-agnostic
 - Initially driven by UK/US, but security is not country-dependent
- Not just one company
 - Aim for broad industry adoption
 - Connect with communities
- Manage CHERI brand



Structure & Governing board

- Non-profit organization
 - Community Interest Company (CIC)
 - Special type of company – asset lock, no shareholders
 - Audited on community purpose
 - Based in Cambridge, UK
- Governing board
 - 8 elected by members
 - 1 selected by directors of the CIC



CHERI Alliance members – on 13 August 2026

Updated list and members' details
<https://cheri-alliance.org/memberships/>

Industry / govt



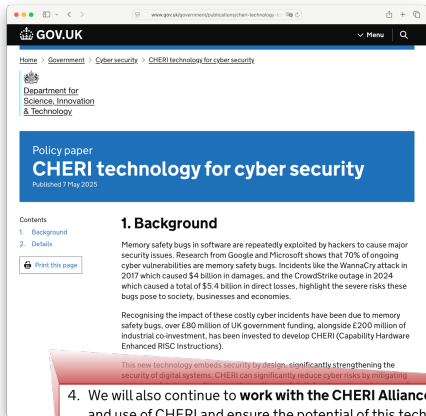
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Research / Universities



UK gov't's partner for CHERI adoption



GOV.UK

Home > Government > Cyber security > CHERI technology for cyber security

Department for Science, Innovation & Technology

Policy paper

CHERI technology for cyber security

Published 7 May 2025

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Print this page

1. Background

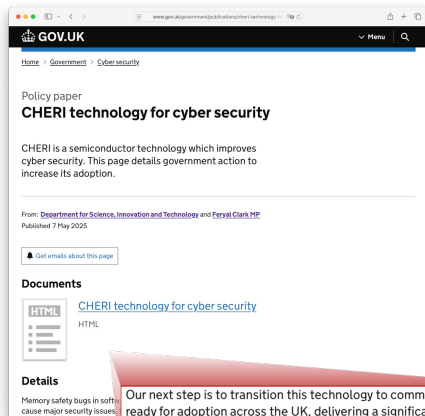
Memory safety bugs in software are repeatedly exploited by hackers to cause major security issues. Research from Google and Microsoft shows that 70% of ongoing cyber vulnerabilities are memory safety bugs. Incidents like the WannaCry attack in 2017 which caused \$4 billion in damages, and the CrowdStrike outage in 2024 which caused a total of \$5.4 billion in direct losses, highlight the severe risks these bugs pose to society, businesses and economies.

Recognising the impact of these costly cyber incidents have been due to memory safety bugs, over £80 million of UK government funding, alongside £200 million of industrial co-investment, has been invested to develop CHERI (Capability Hardware Enhanced RISC Instructions).

This new technology embeds security by design, significantly strengthening the security of digital systems. CHERI can significantly reduce cyber risks by mitigating

4. We will also continue to **work with the CHERI Alliance**, to encourage the take up and use of CHERI and ensure the potential of this technology is realised. Finally, we will work with international partners to persuade governments and industry to prioritise secure by design and memory safety.

<https://www.gov.uk/government/publications/cheri-technology-for-cyber-security/cheri-technology-for-cyber-security>



GOV.UK

Home > Government > Cyber security

Policy paper

CHERI technology for cyber security

CHERI is a semiconductor technology which improves cyber security. This page details government action to increase its adoption.

From: Department for Science, Innovation and Technology and Feryal Clark MP
Published 7 May 2025

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Documents

CHERI technology for cyber security
HTML

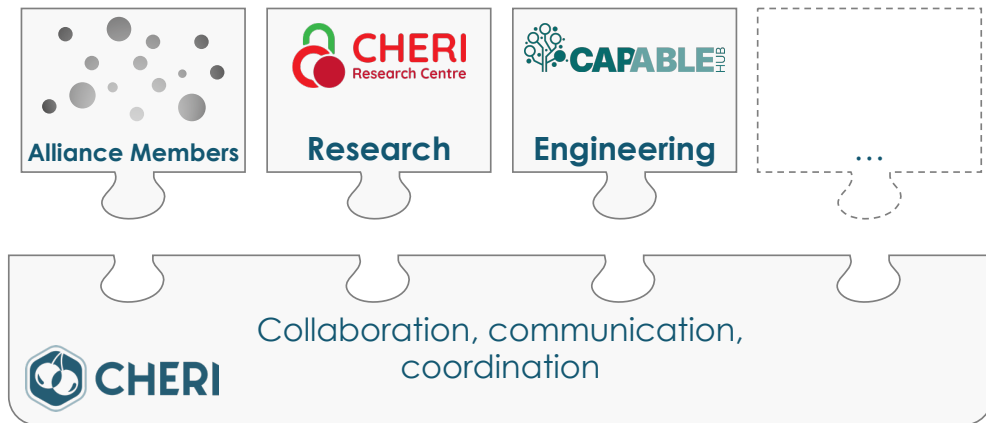
Details

Memory safety bugs in software cause major security issues.

Our next step is to transition this technology to commercial products, ready for adoption across the UK, delivering a significant advancement in innovative cyber security. Leveraging industry co-investment, we will **partner with the CHERI Alliance**, InnovateUK, the University of Cambridge and other stakeholders to drive this effort.

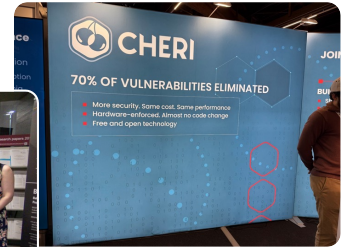
<https://www.gov.uk/government/publications/cheri-technology-for-cyber-security>

Orchestrating the CHERI ecosystem



Organizing conferences

- 2 conferences / year
 - CHERI Blossoms Conference
 - CHERITech Conference



Governance

Members
(yearly membership fee)

Community
(free)



Governing Board (elected)

Committees

Working groups

Governing board

Composition

- 5-10 people
 - 1 chair + seats from paying members
 - 0-2 community seats
 - 1 representative of C.I.C.
- Max 1 person per company

Functioning

- Elected for 2 years
 - Elected by Members
 - Chair elected by board
 - ½ of board elected each year
- 1 seat = 1 vote
 - Majority voting
 - Quorum 2/3
- No remuneration

Role

- Control structure
- Approve new working groups / projects
- Approve major initiatives from committees
- Allocate budget / approve accounts
- Organize referendums

Committees

Composition

- Max 5 people
- Max 1 person per company

Functioning

- Selected by gov board
 - Members propose candidates
 - Chair selected by board
- 1 seat = 1 vote
 - Majority voting
 - Quorum 3 people
- No remuneration

Role

- Propose new working groups / projects
- Propose initiatives
- Manage working groups
- Prioritize work
- Review / approve WG results
- Publish / open results

Working groups

- Focus on key topics
 - Promotion
 - Software / OS / Tools porting
 - Recommendations / compliance
- Opportunity to
 - Collaborate and show expertise
 - Influence outcome
 - Learn
 - Access exclusive content
 - Network
- Open to all members



Marketing



Technical

Discover working groups

<https://cheri-alliance.org/who-we-are/working-groups>

Current Working Groups

	Certification Program	Mike Effimakis	CHERI Alliance
	CHERI C/C++	David Chisnall	SCI Semi
	CHERI FreeRTOS	Oliver Gray	Codasip
	CHERI in SoC	Ben Fletcher	Codasip
	CHERI Linux	Allison Randal	Capabilities Ltd
	CHERI QEMU	Alfredo Mazzinghi	Capabilities Ltd
	CHERI seL4	Hesham Almatary	Capabilities Ltd
	CHERI Virtual Machines	Jeremy Singer	Glasgow University

	CHERI Zephyr	Jennifer Jackson	Birmingham University
	Marketing	Adam Finney	CHERI Alliance
	MMU-less systems	Murali Vijayaraghavan	Google
	OS Support & Portability	Brooks Davis	SRI
	Promotion & Ambassador Program	Mike Effimakis	CHERI Alliance
	Repository Management	Marno van der Maas	lowRISC
	Rust + CHERI	Edoardo Marangoni Sarah Harris	SCI Semi University of Kent
	Safety + CHERI	Maricel Ventura Thierno Sene	Codasip

Target activities

Standardization & best practices

- Promote the CHERI specification and align across ISA
- Support CHERI adoption in open-source software
- Focus on efficient implementation and optimization
- Drive standardization, other organizations
- Establish best practices, guidelines, and implementation methodologies

Marketing

- Advocate for the adoption of CHERI by industry players
- Raise awareness about importance of robust security
- Educate industry stakeholders and regulatory bodies
- Promote and protect the CHERI brand

Compliance

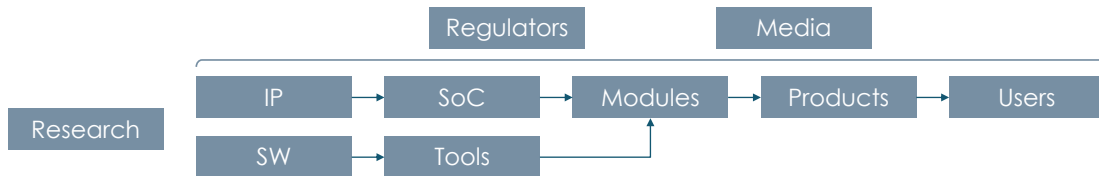
- Develop a compliance program
- Manage testing process
- Manage branding and promotion of compliant products

Collaboration & knowledge sharing

- Foster collaboration among Alliance members
- Facilitate networking opportunities, conferences, and workshops
- Collaborate with related / complementary security initiatives
- Host SW repositories
- Promote HW reference models

Audience

Group	Desired impact of CHERI Alliance
Govt / Regulators	Requesting a higher security level in products
End users	Create awareness, pull for CHERI-enabled products
OEMs	Implement CHERI into their products
Tech providers	Release CHERI-enabled products (IP, tools, SoCs, modules...)
SW community	Port software to CHERI, use CHERI features (e.g. compartmentalization)
Media	Create awareness, get visibility
Research community	Get them involved, develop future extensions
CHERI Alliance members	Show leadership, drive CHERI, benefit from networking



CHERI Alliance deliverables

- CHERI tech alignment (for all architectures)
- Tech collaterals and recommendations
- Marketing collaterals and campaigns
- Conferences
- Educational material
- Web site
 - Information / Education / Networking
 - Access to deliverables
 - Member visibility
 - Ecosystem support (repositories, forums, collaboration tools...)
 - “CHERI Enabled” product listing

Join the Alliance now!



Demonstrate
security
leadership



Network, learn
and get visible



Accelerate
adoption of
CHERI



Save on costs
(learning, promotion,
development, ...)



Collaborate
with the
community

Member benefits



For all members

- Demonstrate security leadership
- Vote in elections, get elected
- Join committees / working groups
- Drive alignment and standards
- Leverage joint open-source efforts
- Early access to CHERI code
- Network and exchange
 - Member-only address book
 - Member-only content, reports, info
- Accelerate adoption of CHERI
- Benefit from CHERI marketing
- Free visibility on CHERI Alliance Website
 - Member page
 - Blog
- Free visibility at events *
 - Speaking slots, webinars
 - Booth, demo
- Show product compliance **

○ Example of marketing benefits

- Web presence
 - Highlights on LinkedIn / YouTube / social media
 - CHERI Alliance Website
- CHERI Alliance conferences
 - Talks, exhibition, networking...
- Embedded World
 - Demo pods on the CHERI Alliance booth
 - CHERI session in the conference



CHERI Blossoms
Conference 2026

Organized by the CHERI Alliance

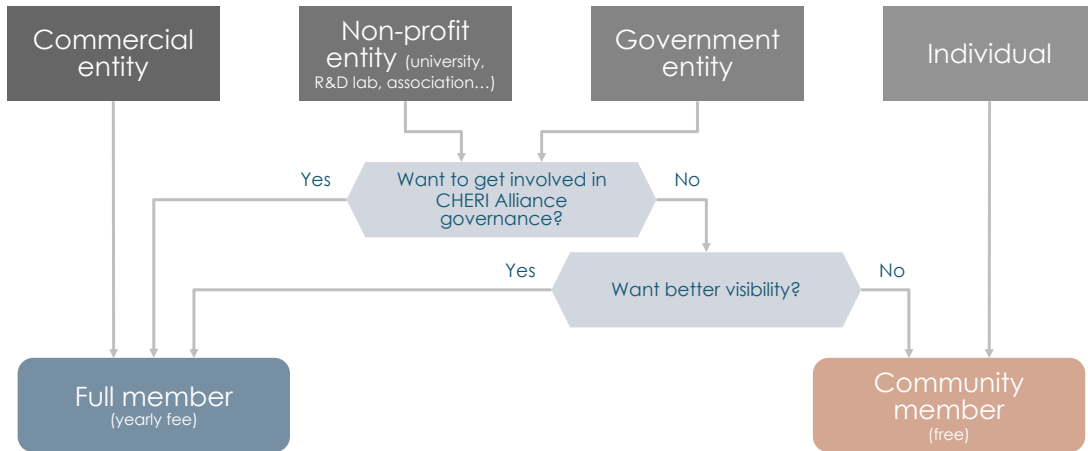
CHERITech

- Technical focus
 - Free entry (even non-members)
 - Talks, demos, workshops
 - Research updates
- Next edition
 - CHERITech'2026
 - 12-13th November 2026
 - Munich

CHERI Blossoms Conference

- Main event
 - Free entry (even non-members)
 - Talks, demos, networking
 - Published online
- Next edition
 - CHERI Blossoms Conf 2027
 - 22-23rd April 2027
 - Cambridge

○ How to decide membership type?



Membership tiers

	Full Member (mandatory for commercial companies, possible for other entities)	Community (accessible only to non-profit – universities / research / govt / associations / individuals / ...)
Gov board participation	● [5-7 seats]	● [0-2 seats]
Vote to elect gov board	■ [for member seats]	■ [for community seats]
Committees' participation	●	○
Working groups participation	■	■
Full members benefits (directory, visibility, product listing...)	■	
Cost	Depends on organization size	Free

 Micro
(≤ 5 people)
  Very small
(≤ 25 people)
  Small
(≤ 50 people)
  Medium
(≤ 250 people)
  Large
(> 250 people)

■ Yes

● Yes, if elected

○ By invitation only

○ Ensuring sustainable activity

- Use of funds
 - Organizing conferences
 - Legal & administrative costs
 - Web site dev & maintenance
 - Marketing activities
 - Infrastructure (hosting, cloud, SW...)
 - Member & Community management
- ... In the future
 - Compliance testing?

- Alliance financed by the industry
- With grant from



Department for
Science, Innovation,
& Technology

○ The Alliance relies on members' participation



- Exchange with other experts
- Provide feedback
- Contribute code & content
- Collaborate



- Participate to CHERI marketing
- Publish your CHERI-related news
- Promote / amplify the message



- Get involved in working groups
- Support and educate the community
- Network

No formal obligation...

but the more we work together,
the more efficient we will be



CHERI

THANK YOU

Contact contact@cheri-alliance.org

Web www.cheri-alliance.org

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13 August 2026

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