

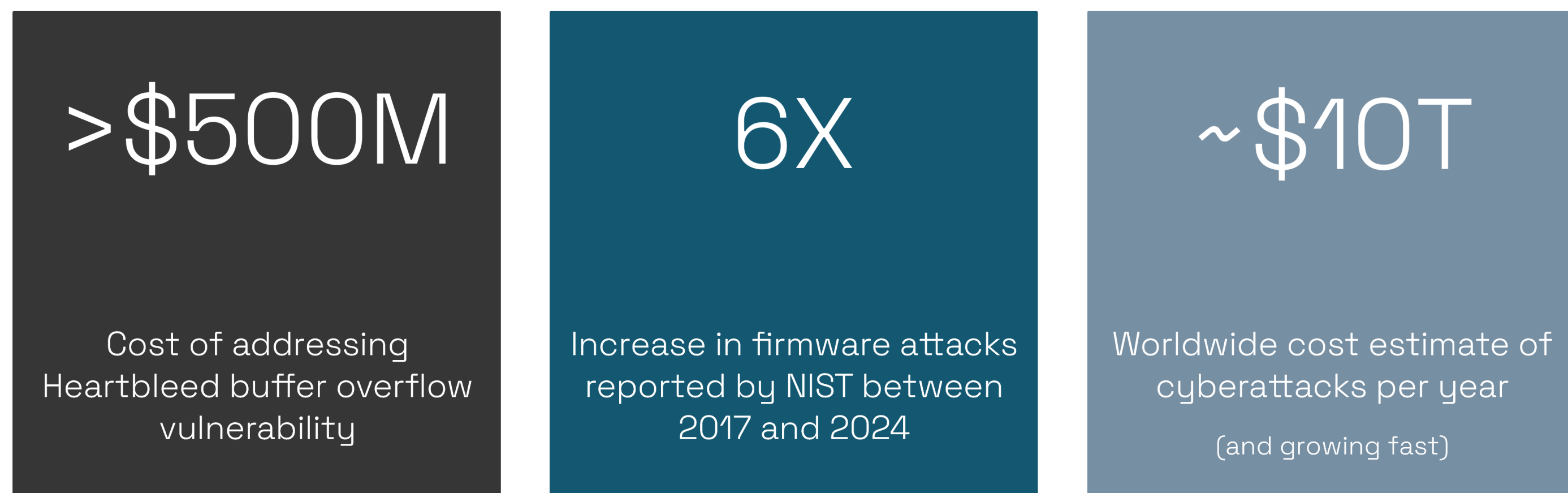
The CHERI Alliance

Getting the Industry Together to Tackle a \$10T / Year Problem

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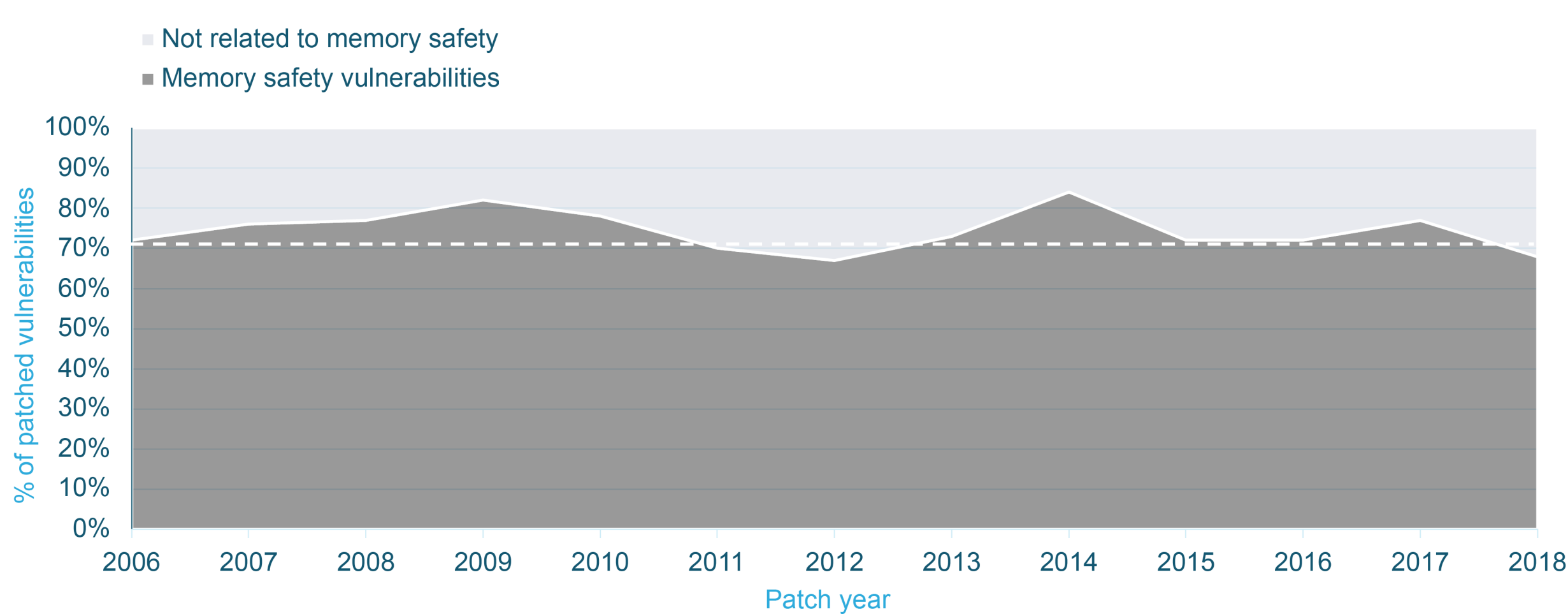


Data breaches are very costly



Memory safety is necessary

- Memory abuse (e.g. buffer overflows) is the main attack vector
- Constant ratio over the past 20 years
- ... even with the work done on software to avoid this



Source: Trends, challenge, and shifts in software vulnerability mitigation - Microsoft 2019

CHERI solves this!

What is CHERI?

Fine-grained memory protection

- Hardware-based solution to help software be more secure
- Reuse existing code (with just recompilation and less than 0.5% of change)
- Dramatically improve system security

Extend conventional hardware ISAs

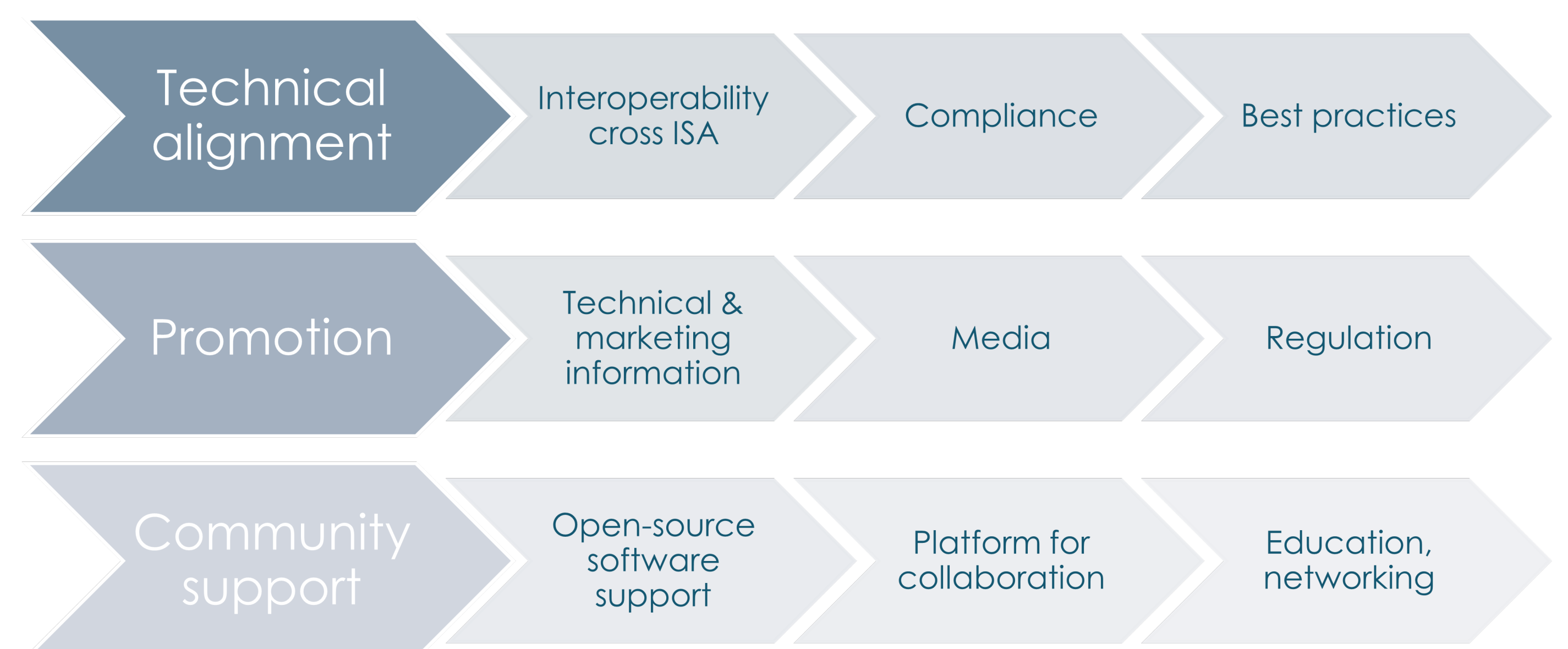
- Memory protection
- Scalable compartmentalization

~ £300m invested by government and industry

- After 14 years in the lab, CHERI is now mature
- Governments are demanding memory safety
- High interest by a number of other governments worldwide
- White House publicly supporting it
- Leading companies are getting involved
- Processors are now available
- Software is being adapted
- Today's leaders in security invest in their future
- Proactive security is several orders of magnitude cheaper than reputation damage
- Users and governments will push liability to high-tech companies

It's time to **act!**

The role of the CHERI Alliance



 Demonstrate security leadership

 Network, collaborate and exchange

 Accelerate adoption of CHERI

 Share promotion costs

 Activate the community

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

CHERI Alliance's mission

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