



Delivered by Innovate UK,
EPSRC and ESRC

Digital Security by Design

Digital Security by Design (DSbD) is transforming the way that computers run software. It's empowering developers with new ways of working to enhance the resilience, integrity and security of their software.

DSbD's aim is to deliver a more secure and trustworthy digital world.

DSbD is delivered through £80m of UK Research and Innovation (UKRI) funding which has been matched by more than £200m of industry co-investment.

It's a collaborative programme that is bridging the gap between hardware and software and academia and industry. By bringing together communities that usually work in isolation it has enabled new possibilities for innovation and collaboration in future applications, AI and critical infrastructure.

DSbD technologies can block the exploitation of approximately 70% of ongoing vulnerabilities.

By making suppliers explain how they will work to block attacks from memory safety vulnerabilities and how they have constrained the severity of remaining vulnerabilities, DSbD is advocating for reducing the cyber-attack surface by default in the products we use and is seeking to protect us from exploitation by design.

The Morello Board is a Technology Platform Prototype built by **Arm Ltd.**

This high performance computer incorporates the ground-breaking hardware capability technology (CHERI) from the **University of Cambridge.**

An open-source RISC-V microcontroller platform will also be available early 2024 through the lowRISC and Microsoft **Sunburst Project.**

These prototype boards and associated software stacks and toolchains allow us to explore and demonstrate this new technology and measure its impact on the security and performance of software. Through the various funded collaborative projects and industry-led demonstrators, we can evidence that fixing the foundations of technology will benefit us all.

People need the freedom to learn, trade, play, automate and collaborate safely

Benefits of Digital Security by Design

The potential benefits emerging from the funded projects are:

- Reduction in the number and severity of zero-day vulnerabilities
- Increased software integrity and resilience
- Increased developer productivity
- Reduction in the need for and number of software patches
- Lower costs to maintain cyber security
- Removal of entire classes of errors used by cyber attackers
- Finding errors in existing software run on today's hardware
- Protecting against vulnerabilities in third-party libraries
- Reduction in severity of a vulnerability
- Enabling of more secure products and services
- Development of new skills and jobs in the UK

How can Digital Security by Design help you?

The costs of managing vulnerabilities are not inevitable. There are more secure and resilient solutions. DSbD technology prototypes, Morello Boards, are available through www.DSbD.tech for organisations and academics to explore the technology and understand how this revolutionary technology could benefit you.

Find out more.

Sign up to the DSbD newsletter to stay up to date with events, news, insights and opportunities. Scan the QR code or visit www.DSbD.tech



UKRI's Digital Security by Design Challenge is delivered by Innovate UK, ESRC and EPSRC. Its goal is to transform digital technology and create a more secure and resilient foundation for a safer digital future. The UK government is supporting the DSbD vision as a key part of both the UK's National Cyber Strategy and the National Semiconductor Strategy.