Government invests £10 million to help make future technologies more secure

- Nine winners of the Digital Security by Design grant competition will share £10 million investment

The government will provide £10 million over four years to develop groundbreaking cyber security technologies, Digital Secretary Oliver Dowden will announce later today at London Tech Week Connects.

Nine grant winners have been revealed as the latest recipients in the government's Digital Security by Design programme, which aims to help the tech infrastructure of UK organisations and digital devices be more resilient to cyber attacks.

The winning research teams that will share the £10 million investment include the University of Southampton's HD-Sec solution, which aims to speed up the process and reduce errors and security vulnerabilities in software design that could have been exploited by hackers.

The University of Glasgow-led AppControl will also receive a share of the fund to leverage state-of-the-art microprocessors, developed earlier in the programme, to make sure vital systems that could be used in cars, medical robots or nuclear power plants remain digitally secure.

And the University of Birmingham has been awarded funding for leading the digital solution CAP-TEE, which will use prototype microchips to protect systems that shield sensitive, personal data from hackers.

The Digital Security by Design programme, launched last year, has the potential to prevent hackers from remotely taking control of digital systems such as autonomous cars, personal computers or smart home security systems as well as cyber attacks and data breaches, meaning people and online businesses are better protected.

Almost half of businesses (46 per cent) and more than a quarter of charities (26 per cent) have reported experiencing cyber security breaches or attacks in the last 12 months, according to the Cyber Security Breaches Survey 2020. The report estimates the average cost of a cyber attack on a medium or large-sized business has increased to £5,220.

Digital Secretary Oliver Dowden said:

> We have a world-class cyber security sector and together we are working hard to make sure the UK is the safest place to work, connect and live online.
>
> With government support these projects will build cutting-edge, secure technologies that will give people and businesses further

> confidence in our digital services and help weaken the threat of cyber attackers.

Science Minister Amanda Solloway said:

> Cyber attacks can cause significant economic and social damage and leave a lasting mark on affected businesses.
>
> Today’s funding will allow some of the country’s most innovative businesses and academics to work together on digital solutions to tackle these threats. The UK not only has a proud heritage in computing, but is a world leader in digital security and we are committed to ensuring our country remains one of the safest places to do business online.

The funding forms part of the government’s commitment to increase investment in research & development by 2.4 per cent of GDP by 2027.

The earlier phases of the initiative saw research and development of cutting-edge microprocessor technology known as Capability Hardware which has safeguards built in to make it more secure and can be used in anything from a supercomputer to a server, laptop or smartphone. This technology will soon underpin secure digital devices and services around the world.

Grant winners will use the new funding to build on this progress and create enhanced software and applications that make sure software code is secure and any hacking attempts can be contained.

Organisations such as banks, healthcare services or online retailers could use the highly secure software in their day-to-day systems, giving people increased confidence in digital services and reducing costly cyber attacks or data breaches for businesses.

Each team will create a working example of their solution, using the prototype chips, to showcase the economic and societal benefits of their new secure technology.

UKRI’s challenge director for Digital Security by Design John Goodacre said:

> The Digital Security by Design programme will radically update the security foundations of the digital computing infrastructure that underpins the entire economy. I’m honoured that these leading universities and researchers have aligned their expertise to this challenge.
>
> These projects will increase the knowledge and skills around this new technology, as well as research the opportunities this fundamental change offers to the security of computers across business and society in the future.

The government last month launched the new ‘Cyber Aware’ campaign which offers advice for people to protect passwords, accounts and devices. And while doing the basics correctly is the best defence for homes and businesses right now, having innovative hardware and systems solutions is a vital step in defending digital technologies in the long term.