



**Research Institute in Trustworthy
Interconnected Cyber-physical Systems**

Quarterly Update

October 2018

Funding News

[Open Call](#)

This call closed on 31 August 2018. Each project could gain funding of up to £400,000 over up to 16 months.

The main topics for research involved a series of challenges encompassing safety and security, autonomous systems, incident response and forensics, cyber controls and supply chain.



Eight proposals were received, and these were assessed at a panel meeting that took place on 3 October 2018 at [National Cyber Security Centre](#) (NCSC), Nova South, London. The projects funded after this panel meeting are:

‘AIR4ICS: Agile Incident Response For Industrial Control Systems’, Professor Helge Janicke, Dr Richard Smith, Dr Ying He, De Montfort University.

‘Cloud-enabled Operation, Security, Monitoring, and Forensics (COSMIC)’, Professor Sakir Sezer, Dr David Laverty, Dr Kieran McLaughlin, Queen’s University Belfast.

‘Developing Pedagogy to Optimise Forensic Training in Safety-Related Industrial Control Systems (ICS)’, Professor Chris Johnson, University of Glasgow.

‘Interconnected safe and secure systems (IS3)’, Dr Peter Popov and Professor Robin Bloomfield, City University.

[NIS Directive call](#)

The first call from the second phase of RITICS closed on 8 June 2018. Six applications were received, and these were assessed at a panel meeting held at NCSC on 20 July 2018, by the RITICS Advisory Board. The theme of the call was the impact of the [Network and Information Security Directive](#) (known as the NIS Directive).

The grant proposals were of up to £500,000 in value, with a duration of up to 2 years.

The projects funded from this call are:

‘Establishing a Scientific Baseline for Measuring the Impact of the NIS Directive on Supply Chain Resilience’, Professor Chris Johnson, University of Glasgow.

‘Effective Solutions for the NIS Directive – Supply Chain Requirements for Third Party Devices’, Dr Tom Chothia, Dr John Easton, Richard Thomas, University of Birmingham.

‘How Many Shades of NIS? Understanding Organisational Cybersecurity Cultures and Sectoral Differences’, Professor Awais Rashid, Dr Dirk van der Linden, Dr Sveta Milyaeva, University of Bristol.

Recent Events and Research News

Privacy, Security & Trust

28-30 August 2018 – Titanic Belfast

Belfast – Northern Ireland – UK

The Annual International Conference in Privacy, Security & Trust (PST) provided a premier forum for sharing advances in cybersecurity research and security applications addressing emerging trends in cyber threats, cybersecurity technologies and research. The PST2018 Industrial Day, in particular, provided a platform for industry and academia to showcase emerging cybersecurity technology, research demonstrators, vendor exhibitions, and opportunities for Industry-to-Industry and Industry-to-Academia engagements and knowledge sharing. PST2018 was held in Northern Ireland in the spectacular setting of the Titanic Belfast in the Titanic Quarter.



RITICS Showcase 2018 proves a hit with industry

The first Showcase of the second phase of RITICS took place at the National Cyber Security Centre, Nova South, London on 18th October 2018.

We had a record turnout for the event, with around 130 people coming along. As well as academics and government figures, there was a very strong showing from industry, including companies such as AWE, National Grid, EDF and Virgin Trains. This demonstrated the strong interest that industry, especially transport, infrastructure and energy companies have, in cyber-security.



The event was chaired by Professor Chris Hankin from Imperial College, and included talks from Robert Orr of Context Information Systems, as well as researchers funded through the first two calls of the second phase of RITICS. There was also a panel discussion on security vs usability, a series of 5-minute talks from doctoral students, and a testbed demo run by Dr Barney Craggs and Joe Gardiner of the University of Bristol.

Much of the discussion during the event focussed on standardisation and regulation of cyber security, the emerging use of the cloud, and artificial intelligence.

WIHST Scoping Workshop highlights the importance of cyber security in healthcare

Up to this point in time, there has been little work done on cyber security in the healthcare domain. This is perhaps surprising, as research into healthcare and healthcare technologies has generally been very well funded.

This is the rationale behind the NCSC-funded initiative *Workshops in Healthcare Science and Technology* (WIHST).



These workshops look into what the main healthcare technologies are in the coming years, and what threats arise from these technologies.

The aim of the WIHST Scoping Workshop was to scope out what the developing technologies in healthcare were. We identified seven themes:

- Integrated electronic health records and data capture
- Ubiquitous computing
- Assisted living
- Virtual GP
- Interconnected medical devices and sensors
- Robotics
- Home exam kit

Five of these priorities: interconnected medical devices, integrated health records, assisted living, robotics and virtual GP, will be discussed further in the second workshop, taking place on 26th November 2018, at Woburn House, London.

RI Conference

The RI Conference was held at the Montcalm Hotel, Marble Arch, London on 17th October 2018. The theme was “Showcase and Opportunity” and demonstrated to the audience the current and ongoing value of the Research Institutes, including RITICS.

There were over a hundred delegates from government, industry and academe.



The keynote speaker was Sir Mark Walport, Chief Executive of UKRI, the leading funder of research in Britain. A talk was also given by Ciaran Martin, the CEO of NCSC. Professor Chris Hankin, Director of RITICS, gave a talk on current and recently-funded research in the RITICS programme, and there was a panel discussion chaired by Dr Henry Pearson, UK Ambassador for Cyber Security.

Forthcoming events

WIHST Technical Workshop

Date / Time: Mon 26 November 2018 / 09:30 – 15:10 GMT

Location: Tavistock Room, Woburn House, London, WC1H 9HW

Registration: Please email p.sakya@imperial.ac.uk to say you would like to attend

You are invited to a one-day technical workshop for the National Cyber Security Centre (NCSC)-funded project “Workshops in Healthcare Science and Technology” (WIHST), hosted by Professor Emil Lupu, Professor of Computer Systems at Imperial College and Deputy Director of the EPSRC-funded PETRAS Research Hub.

The healthcare technologies sector is booming in the UK. Yet very little work has been done in the area of cyber security and internet technologies as they apply to health.



We see a future where healthcare records across the country will be integrated and standardised. Where medical devices are interconnected and easily accessible by computers and mobile devices. Where technologies such as health test kits and robotics will be used to help the elderly and infirm. And where computers and mobile devices can provide a virtual GP service that uses AI to deliver healthcare to patients and the general public.

But with these developing technologies come inherent risks. These interconnected systems can be vulnerable to attack by viruses, trojans and malware by a range of malicious actors. Data can be obtained fraudulently and used to blackmail healthcare providers. How can we protect against this? This is where the WIHST workshops come in. If you want to play a role in this developing initiative, you must attend this workshop.

The Safety and Cyber Security of Industrial Control Systems

Date / Time: Tue 20 November 2018 / 09:30 – 16:30 GMT

Location: NCSC London SW1E 5LB

Pre-registration: Please ctrl-click [here](#) to register your interest.

Cyber attacks against safety systems are now a reality and could significantly impact our way of life. How can we take this option off the table for attackers?

This event will be organised jointly by NCSC and our Industrial Control Systems Community of Interest (Col).

The subject of this event is the Safety and Security of Industrial Control Systems and Operational Technology (ICS/OT).

It is intended for anyone who has a responsibility or interest in control systems from UK based users to integrators and suppliers of ICS/OT. These will include asset owners, vendors, integrators, UK policy makers, regulators and academia. The event will be based around a representative cyber-attack on automation and safety systems. There will be presentations from NCSC and wider government figures, industry and academic to outline problems and possible solutions. The aim is to familiarise attendees with key NCSC guidance, tools and techniques to defend networks and systems.

The event will also encourage networking and the building of the UK-wide ICS Col.

Digital policing – The changing role of technology in law enforcement

Date / Time: Wed 14 November 2018 / 17:30 – 18:30 GMT

Location: Sir Alexander Fleming Building, Imperial College London, SW7 2BX

Registration: Register for tickets at: [Eventbrite.com](https://www.eventbrite.com)

The Institute for Security Science and Technology, Imperial College London are delighted to announce that the Commissioner of the London Metropolitan Police Service, Cressida Dick will deliver the 2018 Vincent Briscoe Lecture on 14 November.



Commissioner, Cressida Dick, will discuss effective digital policing and the need for careful ethical application of technology in law enforcement.

The lecture will be followed by a drinks reception.

Get in touch!

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