

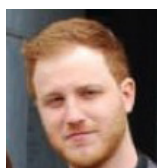
9:15am Exhibition area opens to the public

9:30 - 10:15 'How do Multicore Devices Effect Security and What is Security Anyway?' (Boardroom)

**Presenter: Alex Wilson (Wind River)**

This briefing covers software aspects of security, from power up to data transmission, focusing on how Confidentiality, Integrity, and Availability can be implemented to defend modern software systems from attack. The briefing will also look at how multicore devices might affect the systems security of devices and what steps could be taken to mitigate these new risks.

10:30 - 11:15 'Accelerating Insights Through Visual Analytics' (Boulevard Room)

**Presenter: Tom Crauwels (Luciad)**

Sensors surge and big data grows. What if we equip all cars, ships, and aircraft with environmental sensors? How do we gain knowledge from all that data? Visual analytics, the science of analytical reasoning facilitated by interactive visual interfaces, can be a key enabler to tackle this challenge. With the right data architecture, analysis tools and visualisation capabilities, any user can be turned into a powerful analyst that can make sense out of all geo-enabled and temporal data.

11:15 - 11:45 Morning Tea

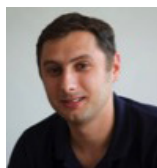
11:45 - 12:30 'The IIOT Evolution' (Boardroom)

**Presenter: Dr Howard Wang (RTI)**

This presentation will briefly explore the Internet of Things revolution with a focus on the Industrial Internet. The Industrial Internet of Things "industry" is predicted to cover 2/3's of the World's economy within the next 20 years. Interoperability and connectivity between independently designed systems are the main challenges that must be addressed for this future vision to be realised.

12:30 - 13:30 Lunch

13:30 - 14:15 'Building Reliable Software: Programming Languages Do Count' (Boulevard Room)

**Presenter: Eric Perlade (AdaCore)**

As the industrial IOT sphere has expanded, more and more software is running on critical devices. To help meet the resulting reliability challenges the latest version of the Ada language standard, Ada 2012, builds on Ada's longstanding support for software engineering and has introduced a contract-based programming facility that can simplify the verification effort. This presentation will cover contract-based programming as well as other features that assist in the static or dynamic analysis of your software. It will also describe the role of formal verification using SPARK 2014 and associated tools.

14:30 - 15:15 'Embedded Motor Control Using Simulink' (Boardroom)

**Presenter: Ruth-Anne Marchant (MathWorks)**

In this session, learn how you can design a new motor control system using Embedded Coder® from MathWorks and the C2000™ family of microcontrollers from Texas Instruments. We walk through a demo of Simulink running two three-phase motors simultaneously using the F28069M LaunchPad™ development kit and discuss how it fits into the larger model-based design workflow.

15:15 - 15:45 Afternoon Tea

15:45 - 16:30 'Mechanical Packaging for Electronics' (Boulevard Room)

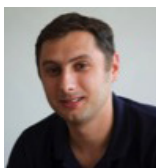
**Presenter: Rajiv Seshadri (Schroff)**

This seminar will focus on heat generated by electronics, the environment in which electronics are deployed, standards and regulatory concerns and the challenges faced by 'Mechanical Packaging of Electronics'.

8:45am Tea and Coffee

9:00 - 12:30 'Ada 2012 on Embedded Real-Time Systems' (Boulevard Room)

This half-day session will comprise of a tutorial and a developer workshop, demonstrating how to use Ada 2012 to program real-time embedded systems. We will cover the various run-time library choices with a focus on the Ravenscar tasking profile, and also introduce Ada 2012's contract-based programming features. The hands-on workshop will use an ARM-based embedded target platform with a Ravenscar-compliant run-time environment. AdaCore will provide an Ada 2012 toolchain and several ARM-based target boards. (Students must provide their own computer having at least one USB port and the ability to run Windows or Linux either natively or in a virtual machine.)

**Presenter: Eric Perlade (AdaCore)**

Eric is in charge of the technical interactions with major AdaCore European accounts. As a software engineer and aerospace enthusiast he started his career working for Airbus on hard real-time critical software. Eric holds a Masters in critical software engineering from Université Paris 7 as well as a pilot licence.

9:00 - 12:30 'Flexible Architecture for Lightweight & Big Data Use Cases' (Boardroom)

Luciad provides products for building state-of-the-art geospatial situational awareness applications that can be deployed on any platform and architecture. In this workshop, Luciad will provide a product overview and explain the design and architectural principles employed that enable building both lightweight applications for browser, desktop, and mobile use, and more heavy big data applications deployed in the cloud or other distributed architectures.

**Presenter: Tom Crauwels (Luciad)**

Tom holds a degree in Informatics at the Catholic University of Leuven (Belgium). He also studied at the Vrije Universiteit Brussel (Belgium). Before moving into his current role, he was a Software Engineer in the Operations Department of Luciad where he was involved in custom development and consultancy for projects developed with Luciad products. He is also one of Luciad's senior trainers on how to deploy Luciad products.

12:30 - 13:30 Lunch

13:30 - 17:00 'Securing Distributed Networked Systems Using DDS' (Boardroom)

In this workshop, we will learn what it means to have a secure network covering threat models, system vulnerabilities, and security policies. We will then understand the various methods that network security can be achieved using Data Distribution Service (DDS), an open real-time, high performance data-centric publish-subscribe middleware specification by OMG (the same software standards organisation behind UML, CORBA, SysML, etc). Dr Wang will also present the new DDS Secure specification and exploring how it would be deployed and used in practice through RTI's new Connex DDS Secure implementation.

**Presenter: Dr Howard Wang (RTI)**

Dr. Howard Wang is an expert in embedded real-time systems and the practical application of DDS technology to end user systems. Howard joined RTI in 1996. He has consulted with the NASA Kennedy Space Centre in helping to rewrite the launch and processing software for the Space Shuttle, with Alstom Schilling Robotics in developing control software for robotic manipulators and remotely operated vehicles, and with a variety of companies working on distributed, networked applications. Howard holds a PhD and an MS in Aeronautics and Astronautics from Stanford University, as well as BSEs in Aerospace and Computer Engineering from the University of Michigan.