

# EMBEDDED CONFERENCE SCANDINAVIA 2018

EUROPE'S LARGEST EMBEDDED CONFERENCE

## EXCERPTS FROM THE PROGRAM:

**INTERNET OF THINGS:** Two full days program covering the whole scenario of IoT. From FPGA and  $\mu$ -Controllers and connected IoT systems to infrastructure and security aspects. We will also look at IoT from a broader application perspective; such as the use of IoT for smart homes, an airbag-equipped helmet for biking and digitalized green plant walls. We also address the use of machine learning in the context of embedded systems.

**SOFTWARE DEVELOPMENT:** Agile methods. Modeling and compiler technology. Software security, test and verification. Operating systems. Open source development for embedded applications. EMC design and testing. Wireless communications.

**IN-DEPTH TUTORIALS:** Wireless communication including 4G, 5G as well as Bluetooth long range IoT networks, code coverage and testing methodologies, design of microcontrollers, and more.

### HANDS-ON WORKSHOPS:

- Cortex-M with Nohau Solutions
- Code Coverage on  $\mu$ -Controller with Verifysoft Technology
- Automated system testing with CIM Software Testing
- Microcontroller design, Arrow Electronics

Register for free attendance at  
>> [embeddedconference.se](http://embeddedconference.se)

## KEYNOTE SPEAKERS:



**5G – Connecting Everything**  
Magnus Frodigh  
Ericsson Research



**Why the Embedded World needs Open Source Communities**  
Philippe Krief  
Eclipse Foundation Europe



**Vulnerability in the infrastructure "If a country is being hacked"**  
Richard Oehme  
PwC



**The state of security: Is lasting security for the IoT achievable?**  
Haydn Povey  
SecureThingz

NOVEMBER 6-7, 2018  
KISTAMÄSSAN • STOCKHOLM  
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**embedded  
conference**  
**scandinavia**

# EMBEDDED CONFERENCE SCANDINAVIA GOING FROM STRENGTH TO STRENGTH!

Over the last few years **Embedded Conference Scandinavia**, the internationally renowned meeting place for professionals in the field of embedded technology, has been growing and is now considered the largest embedded conference in Europe. ECS has maintained its successful concept of a compact exhibition, a world-class conference and popular social activities and now draws some 2,000 participants. With visitors and exhibitors from more than 25 countries around the world, Embedded Conference Scandinavia is now also more international than ever.

At the ECS exhibition around 80 companies and organizations will be presenting all the new products, services and trends covering all the needs of the industry. We will as always offer an internationally top ranked conference with more than 70 seminars, presentations and workshops as well as reputable keynote speakers and of course the presentation of this year's winners of the Swedish Embedded Award.

ECS is truly a not to miss event! Welcome to join us November 6-7!

## Svensk Elektronik/ The Swedish Electronics Trade Association



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# KEYNOTE SPEAKERS

**HAYDN POVEY • KEYNOTE 1, ROOM M1, NOV 6 09:40-10:20**

## The state of security: Is lasting security for the IoT achievable?

Security remains one of the industry's hottest topics. Data breaches affect millions. Cars and pacemakers have been hacked. Baby and home monitors weaponized and used in attacks. The threats are real. While legislation is being rolled out and GDPR has taken effect to mandate greater protection, the stories of hacking, theft and counterfeiting still persist...and bad actors only keep coming. There are substantial discussions, and confusion, around evolving device security covering software, hardware, manufacturing, architectures, platforms, foundations, root of trust, and chains of trust, but companies require simple and actionable solutions. The industry needs to come together to deliver trust from design through manufacturing and beyond in cost-effective form factors. Given the bewildering array of architecture frameworks, best practices and ecosystems, and hundreds of companies offering some sort of security solution, has there really been an impact to deliver a secure IoT or is such a myriad of solutions only muddying the waters for the industry? In this keynote Haydn Povey, a globally recognized leader in IoT security, will cut through the noise and discuss whether the industry truly has moved the needle when it comes to more secure devices and a secure IoT. Haydn will share the latest in best practices to help provide a framework to drive security within the system, and offer considerations for decisions made in the development, deployment and delivery of a project that may affect a product during its lifecycle.



**PRESENTER:** Haydn Povey, Founder and CEO, Secure Thingz

Haydn is the Founder & CEO of Secure Thingz, a company focused on developing and delivering next-generation security technology for the IoT and other connected systems. Haydn also currently sits on the Executive Steering Board of the IoT Security Foundation. Haydn has been in senior management at leading global technology companies for over 20 years, including 10 years in senior marketing and business development roles at Arm. While at Arm, Haydn most recently looked after the company's strategy and product roadmaps for security within IoT and M2M marketplaces, and he led the development and introduction of the Cortex-M microprocessor family.

**MAGNUS FRODIGH • KEYNOTE 2, ROOM M1, NOV 6 13:30-14:10**

## 5G – Connecting Everything

using cellular technologies, five years from now. New 4G and 5G technologies with wide-area, global reach are suitable for connecting anything from low-power devices with low data speeds and infrequent communication needs, to devices that need megabit transmissions, to ultra-reliable low-latency connections suitable for mission critical applications. A major difference with 5G compared with previous generations is that it is very use-case driven and it will be more generically applicable for industrial applications. An important technology is edge computing where generic computing resources – without electrical power restraints – can be offered close to the devices, thus enabling off-loading of computational tasks from the devices to a machine just a few milliseconds away.



**PRESENTER:** Magnus Frodigh, Acting Head, Ericsson Research

Prior to taking up this position, Magnus was Research Area Director for Network Architecture and Protocols at Ericsson Research, he was responsible for research in network architecture and protocols covering radio networks, transport networks and core networks including network management. Magnus joined Ericsson in 1994 and has since held various key senior positions within Ericsson's Research & Development and Product Management focusing on 2G, 3G, 4G and 5G technologies.

**RICHARD OEHME • KEYNOTE 3, ROOM M1, NOV 7 09:40-10:20**

## Vulnerability in the infrastructure "If a country is being hacked"

A large-scale IT incident could shut down large parts of critical infrastructure. Our society today depends on functioning IT system; it covers everything from food supply, transport and energy supply to healthcare, first responders and police or military operations. IT systems with high operational reliability and strong protection against external attacks are therefore of great importance to the security of society and for the ability to handle different crises. Embedded system is also a vital part of this critical infrastructure.



**PRESENTER:** Richard Oehme, Director Cyber Security and Critical Infrastructure Protection, PwC Sweden

Richard Oehme is Director Cyber security and Critical infrastructure Protection at PwC's Sweden business area Cyber security, risk and resilience. He has decades of experience in Security policy, Crisis preparedness, Civil Defence, Cyber security, Intelligence operations and in the protection of Critical infrastructure as well as years of experience regarding national policymaking. Over the years this has given him a unique insight in national and international security policy and how to build sustainable security solutions in a changing world.

**PHILIPPE KRIEF • KEYNOTE 4, ROOM M1, NOV 7 13:30-14:10**

## Why the Embedded World needs Open Source Communities

Automation to Transportation, whose requirements include managing features such as sensors, in-vehicle infotainment and robotic applications. And, similar to the Internet of Things, each domain builds specific platforms and standards, creating essentially an 'Internet of Silos'. In this context, we will describe how Open Source communities are able to break down silos towards a more efficient development environment. We'll describe the best practices that allow these communities to participate in open collaboration and open innovation while achieving their individual organizational goals. To conclude we'll present two research projects, RobMoSys and Appstacle, where the Eclipse Foundation participates and describe how these projects are breaking down silos in their systems engineering projects.



**PRESENTER:** Philippe Krief, PhD, Director Research Relations, Eclipse Foundation Europe

Philippe Krief is the Research Relations Director of the Eclipse Foundation Europe. He received his PhD in Computer Science from University Paris VIII, France in 1990. Before joining the Eclipse Foundation staff, he was Senior Architect on Embedded System developments, Eclipse committer, Agile evangelist on Jazz, the Rational Collaborative platform, and R&D Development Manager for IBM. He has a passion for Eclipse since its beginning, early 2000, when he was involved in the early versions based on VisualAge Micro Edition, which supported development of embedded Java applications and cross system development.

**DAY 1 • NOVEMBER 6, 2018**

Nov 6	Track 1 Room M1	Track 2 Room M6	Track 3 Room M2	Track 4 Open stage	Track 5 Room M5	Track 6 Room M3	Track 7 Room M4
09:10-09:40	<b>Open source</b>  <b>9:10 Example application: joining embedded IoT, industrial I/O, cloud, AI &amp; historian in a suitcase</b> Presenter: Nils-Erik Thorén, Prevas	<b>Wireless communication</b>  <b>9:10 Value creation at the networks Edge</b> Presenter: Niclas Norlén, LumenRadio	<b>Embedded systems in smart homes</b>  <b>9:10 Technology Enabling New Sensing Capabilities in the IoT</b> Presenter: Joep van Eijden, Caster Communications	<b>Embedded software development and use</b>  <b>9:10 Agile Development of Embedded Systems for Functional Safety - a Contradiction in Terms?</b> Presenter: Michael Jastram, Jama Software	<b>Software quality, testing and maintenance</b>  <b>9:10 Code Coverage on CUDA</b> Presenter: Sebastian Goetzinger, Verifysoft Technology	<b>Workshop</b>  <b>9:10 MDK workshop: Develop IoT application with Cortex-M</b> Presenter: Kristoffer Martinsson, Nohau Solutions Max no of participants: 20	<b>Wireless Communications</b>  <b>9:10 Accelerating a Smart and Interconnected World</b> Presenter: Rune Domsten, Indesmatech
09:40-10:20	<b>KEYNOTE 1, ROOM M1</b> <b>The state of security: Is lasting security for the IoT achievable? - Haydn Povey, SecureThingz</b>						
10:20-11:00	<b>COFFEE &amp; EXHIBITION</b>						
11:00-12:00	<b>Embedded security</b>  <b>11:00 Improving safety of cyber-physical systems by improving security</b> Presenter: Niheer Patel, RTI	<b>Embedded software development and use</b>  <b>11:00 Towards Next Generation Embedded Systems</b> Presenter: Zain Ul-Abdin, Halmstad University	<b>FPGA, multicore</b>  <b>11:00 Designing Compact Convolutional Neural Network for Embedded Stereo-Vision Systems</b> Presenter: Mohammad Loni, Mälardalen University	<b>Wireless Communications</b>  <b>11:30 How to stay connected to 4G/5G-LPWA/NB-IoT for 10 years or more</b> Presenter: Hans Andersson, Acal BFI	<b>Operating Systems</b>  <b>11:00 Unleashing multi-core in real-time systems</b> Presenter: Daniel Morris, eCosCentric	<b>Workshop</b>  <b>11:00 MDK workshop: Develop IoT application with Cortex-M Contd.</b>	<b>Wireless Communications</b>  <b>11:00 Build your own Long Range IoT network</b> Presenter: Rune Domsten, Indesmatech
	<b>11:30 Secure Communication with TLS using wolfSSL</b> Presenter: Chris Conlon, wolfSSL	<b>11:30 A Design-by-Contract Approach to Distributed Embedded Software Development</b> Presenter: Yuri Durodie, Siemens PLM	<b>11:30 Hardware and Software Co-Design for Motor Control Applications</b> Presenter: Jonas Rutström, MathWorks		<b>11:30 Balancing high performance embedded systems with real time and functional safety</b> Presenter: Marcus Nissemark, Green Hills Software		
12:15-12:30	<b>OPENING SPEECH</b> <b>To be confirmed</b>						
12:30-13:30	<b>LUNCH &amp; EXHIBITION</b>						
13:30-14:10	<b>KEYNOTE 2, ROOM M1</b> <b>5G – Connecting Everything, Magnus Frodigh, Ericsson Research</b>						
14:20-15:20	<b>Machine learning, development and use</b>  <b>14:20 A platform for efficient and dynamic people recognition on edge devices</b> Presenter: Luca Ruzzola, Agile Lab	<b>Wireless communication</b>  <b>14:20 OMA Lightweight M2M - solve your IoT networks congestion issues with a unified and elegant approach</b> Presenter: Krzysztof Berezowski, Thaumatec	<b>Embedded security, software quality</b>  <b>14:20 Finding Security Issues via Dynamic Testing</b> Presenter: Andrew Jones, Vector Informatik		<b>Low power design, processors and systems</b>  <b>14:20 Internet of Things: back to the edge</b> Presenter: Vladimir Marchenko, ARM	<b>Workshop</b>  <b>14:20 Code Coverage on µ-Controller</b> Presenter: Sebastian Goetzinger, Verifysoft Technology Max no of participants: 15	<b>Workshop</b>  <b>14:20 Introduction to automated system testing</b> Presenter: Jeppe Badstue, CIM Software Testing Max no of participants: 20
	<b>14:50 Optimized Deep Learning on FPGAs</b> Presenter: Yasser Bajwa, Grazper	<b>14:50 SDR with AI algorithms in practical applications</b> Presenter: Iurii Voitenko, Wireless P2P Technologies	<b>14:50 Static analysis for source and binary: Improving security while reducing time-to-market</b> Presenter: Joakim Nilsson, Nohau Solutions		<b>14:50 Design of PillCam RF-ASIC for endoscopy</b> Presenter: Marcus Movér, ShortLink		
15:20-16:00	<b>COFFEE &amp; EXHIBITION</b>						

The program may be subject to change. Please check [www.embeddedconference.se](http://www.embeddedconference.se) for updated and detailed version including abstracts.

**DAY 1 • NOVEMBER 6, 2018**

Nov 6	Track 1 Room M1	Track 2 Room M6	Track 3 Room M2	Track 4 Open stage	Track 5 Room M5	Track 6 Room M3	Track 7 Room M4
16:00-17:00	Embedded product development	Wireless communication	Embedded software development and use	Wireless communication	Software quality, testing and maintenance	Workshop	Workshop
	<b>16:00 The journey to make a beloved product even better and safer</b> Presenter: André Floreby, Prevas Amin Malalla, Hövding Peter Floderus, Hövding	<b>16:00 Challenges and Solutions for 5G Testing</b> Presenter: Mike Bartley, Test and Verification Solutions	<b>16:00 Ramifications of the relational database in automotive and other real-time systems</b> Presenter: Karl-König Königsson, Mimer Information Technology	<b>16:00 Future-Proofing your connectivity solution</b> Presenter: Niclas Norlén, LumenRadio	<b>16:00 Debug driven development</b> Presenter: Marcus Nissemark, Green Hills Software	<b>16:00 Code Coverage on µ-Controller Contd.</b>	<b>16:00 Introduction to automated system testing Contd.</b>
16:00-17:00			<b>16:30 Electronic shelf labels – Software optimization for low power modules with limited resources</b> Presenter: Milan Konjikusic, Comtrade Digital Services		<b>16:30 The Quest for Zero Defects: Improving the Quality of Embedded Software</b> Presenter: Fredrik Häbring, MathWorks		
17:00-19:00	Industry Reception and presentation of the winners of the Swedish Embedded Award 2018						

**DAY 2 • NOVEMBER 7, 2018**

Nov 7	Track 1 Room M1	Track 2 Room M6	Track 3 Room M2	Track 4 Open stage	Track 5 Room M5	Track 6 Room M3	Track 7 Room M4
09:10-09:40	Embedded security	Embedded systems for the industry	Embedded software development and use	Software quality, testing and maintenance	IoT case study	Workshop	
	<b>9:10 Secure your next IoT product</b> Presenter: David Källberg, IAR Systems	<b>9:10 Why Commercial Linux?</b> Presenter: Iisko Lappalainen, MontaVista	<b>09:10 Tools to create software for industrial edge devices</b> Presenter: Aurindam Jana, The Qt Company	<b>9:10 Choosing better software properties and evaluation methods in software development</b> Presenter: Séverine Sentilles, Mälardalen University	<b>9:10 Digitalization of Green Plant Walls with Embedded Systems</b> Presenter: Yu Liu, Linköping University	<b>9:10 MDK workshop: Develop IoT application with Cortex-M</b> Presenter: Kristoffer Martinsson, Nohau Solutions Max no of participants: 20	
09:40-10:20	<b>KEYNOTE 3, ROOM M1</b>						
	Vulnerability in the infrastructure "If a country is being hacked" - Richard Oehme, SOFF & PwC						
10:20-11:00	<b>COFFEE &amp; EXHIBITION</b>						
11:00-12:00	Safety in embedded software development	Wireless communication	Embedded software development and use	Embedded security	Software quality, testing and maintenance	Workshop	
	<b>11:00 Connecting Safety Certifiable Open Architectures for Unmanned Systems</b> Presenter: Niheer Patel, RTI	<b>11:00 Bluetooth Mesh and the Zephyr RTOS</b> Presenter: Martin Woolley, Bluetooth SIG	<b>11:00 Embedded IIoT platforms - the right path to Digitalization?</b> Presenter: Norbert Hauser, Kontron	<b>11:00 Leveraging Embedded Security as the Key to Industrial Economy Renaissance</b> Presenter: Stefan Bamberg, WIBU-Systems	<b>11:00 Implementing a unit testing practice at scale</b> Presenter: Miroslaw Zielinski, Parasoft	<b>11:00 MDK workshop: Develop IoT application with Cortex-M Contd.</b>	<b>11:00 EMC Challenges and Solutions in Embedded Systems</b> Presenter: Paul Worthington, Analog Devices
	<b>11:30 Why functional safety in embedded systems?</b> Presenter: Rafael Taubinger, IAR Systems		<b>11:30 Optimize workload consolidation and accelerate the IT / OT convergence</b> Presenter: Bruno Rouchouse, Wind River				

**DAY 2 • NOVEMBER 7, 2018**

Nov 7	Track 1 Room M1	Track 2 Room M6	Track 3 Room M2	Track 4 Open stage	Track 5 Poom M5	Track 6 Room M3	Track 7 Room M4
12:15-12:30	Svensk Elektronik & Smartare Elektroniksystem, Open Stage						
12:30-13:30	LUNCH & EXHIBITION						
13:30-14:10	KEYNOTE 4, ROOM M1						
	Why the Embedded World needs Open Source Communities - Philippe Krief, Eclipse Foundation Europe						
14:20-15:20	Embedded software development and use	Software quality, testing and maintenance	Embedded security	Safety Certification	Open Source	Workshop	Software quality, testing and maintenance
	<b>14:20 Agile Internet-of-Things System Development using Simulation at Multiple Abstraction Levels</b> Presenter: Jakob Engblom, Intel	<b>14:20 Design verification of embedded software using high-level debugging</b> Presenter: Elena Strabykina and Mattias Mohlin, HCL Technologies	<b>14:20 Test automation and security go hand in hand</b> Presenter: Harri Susi, Etteplan	<b>14:20 Best Practices and Strategies for Navigating Safety Certification Challenges in UAS Platforms</b> Presenter: Niheer Patel, RTI	<b>14:20 Automating Test Maintenance as Code and Requirements Change</b> Presenter: Matt Davis, QA Systems	<b>14:20 Design your own microcontroller, easily!</b> Presenter: Nikolay Rognlien, Arrow Electronics	<b>14:20 Code coverage for small safety-critical embedded targets</b> Presenter: Sebastian Goetzinger, Verifysoft Technology
					<b>14:50 Zero-defect software – myth or reality?</b> Presenter: Jason Masters, Vector Software		
15:20-16:00	COFFEE & EXHIBITION						
16:00-16:30	Software quality, testing and maintenance	Embedded security				Workshop	
	<b>16:00 Automated Test System for Automotive Embedded Device</b> Presenter: Miloje Zecevic, Comtrade Digital Services	<b>16:00 Hypervisors: Making the case for separating and isolating safety-critical components from non-safety critical functional domains on a single compute platform</b> Presenter: Matt Chandler, BlackBerry				<b>16.00 Design your own microcontroller, easily!</b> <b>Contd.</b>	

## EXHIBITOR LIST

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*Exhibitor list as per September 12. The list may be subject to change. We accept no responsibility for possible changes or printing errors. The organizers have reserved the right to abbreviate company names when deemed necessary.*



**EMBEDDED CONFERENCE SCANDINAVIA 2018**

**DATE** November 6-7, 2018

**VENUE** Kistamässan, Stockholm, Sweden

**ABOUT THE CONFERENCE**

All sessions are free of charge, but pre-registration for the event on [embeddedconference.se](http://embeddedconference.se) is mandatory. Please register and print out your badge in advance to save time onsite. Coffee and light lunch is free of charge to all visitors. The conference language is English. Please check signage onsite for the location of the different sessions.

**ABOUT THE EXHIBITION**

Around 80 exhibitors from the embedded industry will showcase the latest news and products. They include top international suppliers, universities and the nominated companies and students of the Swedish Embedded Award. The exhibition is free of charge and no further registration than to the conference is needed (please see above).

**EXHIBITION OPENING TIMES**

Tuesday, November 6: 08.45-17.00

Industry Reception & Awards Ceremony, Swedish Embedded Award 17.00-19.00

Wednesday, November 7: 08.45-16.30

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