



EMBEDDED CONFERENCE SCANDINAVIA 2016

A LEADING EMBEDDED AND INTERNET OF THINGS EVENT

NOVEMBER 22-23, 2016
KISTAMÄSSAN • STOCKHOLM
SWEDEN

EXCERPTS FROM THE PROGRAM:

- **INTERNET OF THINGS:** Two full days program covering the whole scenario of IoT. From FPGA and μ -Controllers and connected IoT systems to infrastructure and security aspects. We will also look at IoT in practice; Experience from real life projects and applications in automotive.
- **SOFTWARE DEVELOPMENT:** Agile methods, Modeling and compiler technology. Software security, test and verification. Open source development for embedded applications.
- **IN-DEPTH TUTORIALS:** Reliable code with MISRA C, model-oriented software engineering, code coverage and testing methodologies
- **HANDS-ON WORKSHOPS:**
 - IoT applications made easy using KEIL MDK
 - Analog simulation using LTspice

Register your visit and
print out your free badge on
embeddedconference.se

KEYNOTE SPEAKERS:



Digitalization – The Fourth Industrial Revolution!?

TOMAS LAGERBERG

Manager automation solutions
– **ABB Corporate Research**



Knowledge – the true shortcut

KRISTINA FORSBERG

Technical Specialist in Safety-
Critical Systems – **SAAB**



Securing the embedded Internet of Things

HENRIK VIKBERG

Strategic Solution Sales
Specialist IOT – **Cisco Systems**



Only great developers make great IoT solutions

MAGNUS MELANDER

Founder – **SMSE** and
Co-founder – **THINGS**

A new level for Embedded Conference Scandinavia!

LAST YEAR EMBEDDED CONFERENCE SCANDINAVIA, the internationally renowned meeting place for professionals in the field of embedded technology, took a giant leap. With the same successful concept, a compact exhibition, a world-class conference and appreciated social activities, Embedded Conference Scandinavia has grown over the years and is now a must-attend event for everybody in the European embedded and IoT industry.

WITH ALMOST 2 000 PROFESSIONALS VISITING the conference and the exhibition the Conference has established itself amongst the largest embedded events in Europe. With visitors and exhibitors from more than 25 countries around the world, Embedded Conference is now more international than ever.

EMBEDDED CONFERENCE SCANDINAVIA OFFERS YOU a comprehensive exhibition with some 80 companies and organizations presenting all the new products, services and trends covering all the needs of the industry. We will as always also offer an internationally top ranked conference with more than 70 seminars and presentations, well known key-note speakers and of course the presentation of this year's winners of the Swedish Embedded Award.

ECS is a truly not to miss event! Welcome to join us November 22-23!



Lena Norder

CEO

Svensk Elektronik/

The Swedish Electronics Trade Association

Together we create the future for the electronics industry.

Svensk Elektronik has strengthened competitiveness in focus, for our members and for the Swedish electronics industry in total. In power of our members we improve the future for the business.

Svensk Elektronik provides an exclusive network of knowledge, inspiration and business where you meet new partners and customers. We surveil new regulations, inform about new terms in the trade and voice the opinion of the electronics industry.

Embedded Conference Scandinavia is initiated by our members - and of course members are favoured by discounts.

Welcome to a network that empowers you and your business.

The Swedish Electronics Trade Association
+46 8-782 08 50
info@svenskelektronik.se
www.svenskelektronik.se



**SVENSK
ELEKTRONIK**

Proudly presents
embedded conference
scandinavia SCANDINAVIA'S LEADING EVENT
IN EMBEDDED TECHNOLOGY

NOVEMBER 22, 10.00

Only great developers make great IoT solutions

An IoT application is a quite complex thing, involving at least three industries to collect data, manage it and distribute the results in the right format at the right place and time. All efforts are basically useless until the end result shows up when and where we want it: the package is delivered, the carbon oxide level is too high, too much vibrations in the fan, the door is unlocked, there is a free parking space further down the road and so on. It is hard to calculate ROI on the the investments needed to capture the information we are looking for, but it's even harder to visualize what will happen when our application is implemented. We need prototyping, testing with our employees and clients and agile development approaches to optimize our solutions. To do that we need developers mastering the prototyping tools, software and hardware, but we also need great developers to make sure our final solution delivers sustainable customer and business value which require top class UX, architectures supporting future privacy requirements, efficient antennas, excellent power management and so on. Great IoT solutions simply require brilliant developers.



PRESENTER: Magnus Melander, Founder - **SMSE** and Co-founder - **THINGS**

Magnus is Swedish entrepreneur and independent consultant in general management, sales, marketing, branding, business development, M&A. His speciality is helping companies to improve their business by leveraging new technology, and his focus since 2010 is Internet of Things. He founded the IoT consulting company B3 Connect Compute and the IoT blog connectcompute.com in November 2011. He initiated the alliance for Swedish IoT entrepreneurs, SMSE, in March 2012 and was nominated for the Mobile Initiative of the year award "Guldmobilen" 2013. In 2014 he co-founded THINGS, a co-workspace for startups with hardware as part of their solution. He has 34 years of international ICT industry experience, including positions with Springworks, IBM, Apple, 3Com, BrainHeart Capital, 7Signals and B3IT, and board experience from a handful of companies including Evothings, Mobil Business, THINGS, Square Publishing, Possio, April, Clue, La Yin, Calazo, Edgware, Radionet Oy, Åkerströms, Service Factory and Excilan. Magnus is a frequent speaker at international industry events, has spent a lot of time with China and was the author of the BrainHeart Wi-Fi Chronicle 2001-2005. He started The Internet of Everything Chronicle in August 2013 and has written "What decisions makers need to know about M2M aka Internet of Things".

NOVEMBER 22, 13.20

Digitalization – The Fourth Industrial Revolution!?

Digitalization has already to a large extent revolutionized our daily life. Just think about how we listen to music today, or do bank business, or shop, or learn new stuff etc. The smartphone has quickly become an important part of our life. For young people even the center of gravity, the thing that their life is spinning around! This digital revolution really started when Apple announced their first iPhone back in 2007, i.e. less than 10 years ago. This has in turn accelerated development of mobile communication, computer graphics, CPU chips, sensors, cloud storage, embedded systems etc. When people talk about the fourth industrial revolution they are talking about that digitalization now really are starting to impact and transform also industrial sectors. Companies that want to survive in the future must embrace new technology and use it to increase their competitiveness in a global market.

Tomas Lagerberg will talk about the important technologies that are driving this fourth industrial revolution, as well as how it might affect industrial companies. Some questions that might be answered during his presentation are "what does computer gaming have to do with industrial automation?", "where do humans fit into the future digital plant?" and "what is the significance of the fact that Gangnam Style has more than 2.5 billion YouTube viewings?"



PRESENTER: Tomas Lagerberg, Manager automation solutions, **ABB Corporate Research**

Tomas Lagerberg, born in Sandviken, Sweden 1959, graduated in Computer Systems from the Royal Institute of Technology in 1983. He is married with three children and is a passionate fan of the Leksand icehockey team. He joined ABB as an executive trainee the same year and has remained with ABB ever since. He has held various positions including global marketing and product management for ABBs control systems business as well as forming and heading a global business unit on Industrial IT Platform. Since 2004 Tomas has been with Corporate Research and headed automation research for ABB Sweden. His department currently consists of around 60 researchers working in areas such as control, optimization, software, user experience, mechanics, robotics and industrial communication.

NOVEMBER 23, 10.00

Securing the embedded Internet of Things

Internet of things is growing in a unprecedented rate creating new opportunities for companies to utilize. But with everything connected, cyber security needs to be up to par to counter attacks on data, software and the infrastructure. Come and see what Cisco is doing to secure the management, transport and data plane.



PRESENTER: Henrik Vikberg, Strategic Solution Sales Specialist IOT, **Cisco Systems**

Henrik Vikberg is the North Europe Business Development Manager leading the sales in both commercial and technical areas for Cisco Systems Internet of Things focused on Connected Industries and Energy. Focusing on verticals manufacturing, transportation, utility, energy, mining, and oil and gas customers to establish business case, architecture and integrated communications network strategies for a variety of delivery value chains.

NOVEMBER 23, 13.20

Knowledge – the true shortcut

When designing dependable systems it is essential to understand the intended function and the level of safety connected to the function. If this is known, we can apply classic redundancy and fault tolerance concepts to achieve sufficiently safe designs. This talk will address what is necessary in order to design safety critical embedded systems (fail-stop and fail-operational) using experiences from the avionics industry. Further, the talk will touch upon challenges with increasing and more advanced functionality - mostly enabled through software. In such software intensive systems, the understanding of intended function and a deterministic behaviour in presence of faults and errors is becoming more difficult.

This trend, with ever increasing integrated functions, in embedded systems combined with insufficient assessment methods to cope with the complexity of verifying correct behaviour is truly a future challenge in dependable systems design. We know what we know, and to some extent, we know what we don't know - but we can't handle problems that we don't know that we don't know.



PRESENTER: Kristina Forsberg, Technical Specialist in Safety-Critical Systems, **SAAB**

Kristina Forsberg received a M.Sc. in Electrical Engineering 1998 and a PhD in Computer Engineering 2003 from Chalmers University of Technology. Since 2003, Kristina has worked as a Systems Engineer at Saab AB, specializing in the field of system safety – ranging from design to safety assessment of fault tolerant architectures. She has gained experience in product development, analysis, safety assessment and problem solving from both civil and military projects. Kristina has given several presentations, courses, seminars, and lectures, in both academia and industry, in System Safety, Integrated Modular Avionics, Fault-Tolerance and Certification. 2012-2015 Kristina also worked at Mälardalen University as Adjunct Professor in Computer Science, Avionics. Her role was to develop new advanced courses related to the field along with supporting ongoing research in the field of safety critical engineering.

DAY 1 • NOVEMBER 22, 2016

Nov 22	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6
09:15-10:00	Embedded systems in the automotive industry 09:15 A flexible test solution to test embedded systems in multiple domains; The C-ITS and IoT use cases Presenter: Dr. György Réthy - Ericsson	Embedded security, components to system 09:15 Is IoT security a nightmare? Presenter: Dr. Shahid Raza - SICS Swedish ICT	Operating systems 09:15 Selecting an Embedded Operating System Presenter: Colin Walls - Mentor Graphics	Connected systems of embedded systems 09:15 The Prevas Simple Connect (PSC) Presenter: Daniel Rasmussen - Prevas	Workshop 1: 09:15 IoT applications made easy using KEIL MDK Presenter: Björn Skånberg, Nohau Solutions. 2,5 hrs. <i>Hands-on session. Limited Seating.</i>	
10:00-10:20	KEYNOTE 1 Only great developers make great IoT solutions - Presenter: Magnus Melander - SMSE, THINGS					
10:20-11:00	COFFEE & EXHIBITION					
11:00-12:00	Embedded systems in the automotive industry 11:00 Software trends in automotive embedded systems Presenter: Marcus Nissemark - Green Hills Software 11:30 Automotive ADAS feature saves lives with flexible HW (FPGA etc.) – practical implementation reference Presenter: Trygve Mathiesen - Qamcom R&T AB	Embedded software development and use 11:00 Is UML Dead? The New Future of Executable Modeling Presenter: Leon Starr - Model Integration 11:30 Lower your software development costs through code analysis Presenter: Martin Gisbert - IAR Systems	Embedded security, components to system 11:00 Security design and assessment of IoT products + Q&A Presenter: Cheng Jiang - Atsec 11:30 Code coverage for safety critical embedded systems Presenter: Olivier Casse - Verifysoft Technology	Connected systems of embedded systems 11:00 Software Ecosystems for the Internet of Things Presenter: Prof. Jakob Axelsson - SICS and Mälardalen University 11:30 Bluetooth Technology Update Presenter: Martin Woolley - Bluetooth SIG	Workshop 1: 11:00 IoT applications made easy using KEIL MDK <i>Continued</i>	Embedded Software Development and use 11:00 Reducing the time, cost and risk of safety critical software development - Reusable Software Components Presenter: Mark Pitchford - Lynx Software Technologies
12:00-12:15	OPENING SPEECH Tomas Lagerberg - ABB					
12:15-13:20	LUNCH & EXHIBITION					
13:20-13:50	KEYNOTE 2 Digitalization – The Fourth Industrial Revolution!? Presenter: Tomas Lagerberg - ABB Corporate Research					
14:00-15:00	Embedded systems in the automotive industry 14:00 Writing Reliable Code with MISRA C Presenter: Colin Walls - Mentor Graphics	Embedded software development and use 14:00 C++11/14 features: what's new and why should we care Presenter: Stefano Cadario - ARM Compiler 14:30 Verification at scale: Fitting static code analysis into Continuous Integration + Q&A Presenter: Steve Howard - Rogue Wave	Software quality, testing and maintenance 14:00 Code Coverage on μ-Controller Presenter: Sebastian Goetzinger - Verifysoft Technology	Connected systems of embedded systems 14:00 Decompositional Safety Analysis of Automotive Software: From Functional Safety to Component Testing Presenter: Dr. Mohammad Mousavi - Halmstad University 14:30 Design Exploration Framework for In-node Processing in Smart Sensors Presenter: Dr. Muhammad Imran - Mittuniversitetet	Workshop 2: 14:00 IoT applications made easy using KEIL MDK Presenter: Björn Skånberg, Nohau Solutions. 2,5 hrs. <i>Hands-on session. Limited Seating.</i>	

Nov 22	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6
15:00-15:30	COFFEE & EXHIBITION					
15:30-17:00	Embedded software development and use	Embedded software development and use	FPGA, low power design, processors and systems	Connected systems of embedded systems	Workshop 2:	
	15:30 Implementing Continuous Delivery for embedded software product: best practices, tools, and challenges Presenter: Andrey Devyatkin - Pragma	15:30 Models to Code with no Mysterious Gaps Presenter: Leon Starr - Model Integration	15:30 Will Dark Silicon constrain the the data center business, will flexible HW (FPGA etc.) be the answer? Presenter: Tryggve Mathiesen - Qamcom R&T AB	15:30 The frequency spectrum, a limited natural resource and the most valuable asset for successful IoT deployments Presenter: Niclas Norlén - LumenRadio	15:30 IoT applications made easy using KEIL MDK <i>Continued.</i>	
	16:15 Test Automation in Embedded Systems: Meeting the challenge Presenter: Jacob Lärfors, Emenda Nordic	16:15 The Mobile Application as User Interface in industrial IoT Solutions Presenter: Karin Edström - Evothings	16:00 The Standards for Computer-On-Modules are evolving Presenter: Christian Eder - congatec	16:15 Learning From Mistakes in Testing Automotive Software Presenter: Dr. Mohamad Mousavi - Halmstad University		
			16:30 Semicustom - Partitioning industrial systems architecture with COTS-platforms and customdesign Presenter: Patrik Björklund - Trittech			
17:00-19:00	Industry Reception and presentation of the winners of the Swedish Embedded Award 2016					

DAY 2 • NOVEMBER 23, 2016

Nov 23	Track 1	Track 2	Track 3	Track 4	Track 5	
09:15-10:00	Embedded software development and use	Operating systems	Software quality, testing and maintenance	FPGA, low power design, processors and systems	Workshop 3:	
	09:15 Common RTOS-related bugs – How avoid and detect? (Perc01) Presenter: Dr. Johan Kraft - Percepio	09:15 OE-lite Powering Industrial Linux! Presenter: Dr. Kim Højgaard-Hansen - Prevas	09:15 Self-testing in Embedded Systems Presenter: Colin Walls - Mentor Graphics	09:15 Reach highest Computing Performance Levels with Server-On-Modules Presenter: Christian Eder - congatec	09:15 Analog simulation using LTspice Presenter: Thomas Ginell, Linear <i>Technology. 2 hrs. Hands-on session. Limited Seating.</i>	
10:00-10:20	KEYNOTE 3					
	Securing the Embedded Internet of Things - Presenter: Nils Steen - Cisco Systems					
10:20-11:00	COFFEE & EXHIBITION					
11:00-12:00	Embedded systems in the automotive industry	Operating systems	Software quality, testing and maintenance	Embedded security, components to system	Workshop 3:	Embedded Systems in the automotive industry
	11:00 How safe does my code need to be? Presenter: Martin Gisbert - IAR Systems	11:00 The multicore challenge to embedded real-time systems Presenter: Patrik Strömblad - ENEA	11:00 Advanced trouble-shooting of critical real-time systems Presenter: Bernd Hufmann - Ericsson	11:00 Technologies for Securing Telecom, NFV, and IoT platforms using Embedded Linux Presenter: Iisko Lappalainen - MontaVista Software	11:00 Analog simulation using LTspice <i>Continued.</i>	11:00 Using a Separation Kernel to Protect against the Remote Exploitation of Unaltered Passenger Vehicles Presenter: Mark Pitchford - Lynx Software Technologies
	11:30 Securing the connected car Presenter: Marcus Nissemark - Green Hills Software	11:30 Virtualization Impact on Embedded System Performance Presenter: Alexander Smirnov - ilbers		11:30 Trust - the Biggest Challenge for the Internet of Things Presenter: Anders Englund - Attentec		

Nov 23	Track 1	Track 2	Track 3	Track 4	Track 5	
12:00-12:15	Svensk Elektronik & Smartare Elektroniksystem Presenters: Lena Norder, Svensk Elektronik and Magnus Svensson, Smartare Elektroniksystem					
12:15-13:20	LUNCH & EXHIBITION					
13:20-13:50	KEYNOTE 4					
	Knowledge – the true shortcut - Presenter: Kristina Forsberg - SAAB					
14:00-15:00	Embedded software development and use	Operating systems	Software quality, testing and maintenance	Embedded software development and use	Open source	
	14:00 Web-based university courses in software engineering for professional software developers Presenter: Prof. Hans Hansson, Mälardalen University	14:00 Using Hypervisor-Technology for Safe and Secure IoT Devices Presenter: Mehmet Özer - SYSGO	14:00 Still debugging with printf? Presenter: Marc Khouzam - Ericsson	14:00 Power Management in Embedded Systems Presenter: Colin Walls - Mentor Graphics	14:00 PolarSys industry working group, open source solutions for embedded system Presenter: Dominique Toupin – Ericsson	
	14:30 Debugging techniques for IoT applications Presenter: Martin Gisbert - IAR Systems	14:30 HASPOC: Secure virtualization on ARMv8 Presenter: Dr. Rolf Blom - Swedish Institute of Computer Science (SICS)		14:30 Improving Software Quality with Static Code Analysis Presenter: Fredrik Håbring, MathWorks	14:30 Does Open Hardware enhance or deteriorate quality? Presenter: Per Olof Hedekvist - SP	
15:00-15:30	COFFEE & EXHIBITION					
15:30-17:00	Embedded software development and use	Open source	Software quality, testing and maintenance	Connected systems of embedded systems		
	15:30 Qt for Device Creation Presenter: Laszlo Agocs - Qt	15:30 Building large-scale automation frameworks for Embedded projects Presenter: Dr. Oleg Nenashev - CloudBees Inc	15:30 Consistent and repeatable metrics for managing testing activities Presenter: Michal Jablonski - Vector Software	15:30 Automating service management for 5G networks - Challenges & Initial Solutions Presenter: Dr. Rafia Inam - Ericsson	15:30 Edge Technology - Key component for I(OT) Presenter: Davor Tonicic - HMS Industrial Networks AB	
	16:15 IoT – An Industrial (R)evolution? Presenter: Hans Christian Lønstad, Data Respons	16:15 Linux Perf for User Space Developers Presenter: Milian Wolff - KDAB	16:15 Fuzz testing for embedded, connected systems – Experiences and Benefits Presenter: Simon Elén – Tritech	16:00 From Idea to the Field : Industrial Open Hardware for IoT running Open Source software Presenters: Hans Andersson and Luigi Tondo - Acal Bfi Nordic	16:15 Deep learning in the field: from the cloud to industrial embedded systems Presenter: Michael Gielda - Antmicro	

EXHIBITOR LIST

AAEON	Etteplan	Realtime Embedded
Acal BFi	Green Hills Software	rt-labs
ACTE Solutions	Halmstad University / CERES	Rutronik Nordic
Advantech	Hectronic	Scania
Altera	IAR Systems	Sensor ECS
Antmicro	KDAB	Smartare Elektroniksystem
Avalon Innovation	KTH ICES	SMSE
Avnet Embedded	Linear Technology	Svensk Elektronik
Avnet-Memec Silica	Lynx Software Technologies	T2 Data
Bluetooth SIG	MathWorks	Testhouse Nordic
Broadband Technology	Martinsson Elektronik	THINGS
congatec	Montavista Software	Toshiba Electronics
Data Modul	Multicomponent	Triacon Scientific
Data Respons	Mälardalens Real-Time Research Centre	Tritech Solutions
Digi-Key Electronics	Nohau Solutions	Vector Software
Eclipse Open Source Tools	Nortelco Electronics	Verifysoft Technology
EG Electronics	NOTE	Würth Elektronik
Elektronik i Norden	NXP	Xelmo
Elektronikkonsult	Orcam Systems	ÅF Technology
Elektroniktidningen	Prevas	
Emenda	QNX Software Systems	
ETAS	Qt	

Exhibitor list as per September 16, 2016. 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 is proudly presented by



**SVENSK
ELEKTRONIK**

The innovations of tomorrow start with great embedded development tools

Learn more in booth 67-68
at Embedded Conference Scandinavia.

www.iar.com

IAR
SYSTEMS

**WE HAVE A PASSION FOR RESOLVING
TECHNOLOGICAL CHALLENGES.**

With advanced expertise in product development, embedded systems, industrial IT and automation, Prevas provides solutions and consulting services that fulfill our customers' needs – today and tomorrow.



Prevas
Innovation for Growth

INFORMATION

DATE November 22-23 2016

VENUE Kistamässan, Stockholm, Sweden

ABOUT THE CONFERENCE All sessions are free of charge, but pre-registration on www.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 sessions is needed (please see above).

EXHIBITION OPENING TIMES

Tuesday, November 22:	09:00-17:00
Industry Reception & Presentation of the Swedish Embedded Award:	17:00-19:00
Wednesday, November 23:	09:00-16:00

GOLD SPONSOR:



SILVER SPONSORS:



BRONZE SPONSORS:



MEDIA PARTNERS:



ECS 2016 IS ORGANIZED BY:

