



NOVEMBER 3-4, 2015 KISTAMÄSSAN, STOCKHOLM SWEDEN

A leading Embedded and Internet of Things Event

EXCERPTS FROM THE PROGRAM:

- INTERNET OFTHINGS: Two full days program covering the whole scenario of IoT. From low power sensors and sensor networks to infrastructure and security aspects. We will also look at IoT in practice; Experience from real life projects.
- **SOFTWARE DEVELOPMENT:** Agile methods, Modelling and compiler technology. Software security, test and verification. Open source development with Linux and Android for embedded applications. Windows 10 for IoT.
- IN-DEPTHSTUTORIALS: HTML5 for embedded, Bluetooth Low Energy programming and An IP fast path implementation.
- HANDS-ON WORKSHOPS:
 - Power Design
 - IoT running Open Source
 - · ARM9/Linux trace and debug
 - AutomaticTest Case Generation
 - Linked-Data and OSLC for Tool Interoperability

KEYNOTE SPEAKER:



The road towards autonomous transport solutions

Daniel Frylmark
Head of Driver Assistance Controls
Scania CV AB

KEYNOTE SPEAKER:



The Internet of Things: Why is the promise taking so long to fulfil?

William Webb

Professor, CEO Weightless SIG and President **IET**

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

SOME OF THE SPEAKERS:



DANIEL MORRIS
Polarion Software



JASON MASTERS
Vector Software



JONAS RUTSTRÖM MathWorks



COLLIN WALLS
Mentor Graphics



Welcome to the 10th edition of Embedded Conference Scandinavia, the internationally renowned meeting place for professionals in the field of embedded technology.

It all started by the initiative from member companies and their customers. They wanted a special arena for sharing knowledge about embedded technology, still very unknown at the time. Together we created this conference and exhibition to meet the needs. We got it right.

With 10 years of success Embedded Conference Scandinavia has developed to be one of the most important events for the European embedded industry. Join us to celebrate the anniversary and meet 1 500 dedicated embedded specialists from all over the world.

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 must-attend event for everybody in the European embedded industry. We will as always have international top ranked key-note speakers and this year we will focus especially on the Internet of Things.

And don't miss the Embedded Dinner Party, where the winners of the Swedish Embedded Award are presented. The fabulous band Lady B Goode will really get the party going!

Welcome to join us for the 2015 edition of Embedded Conference Scandinavia and to celebrate 10 years of success with us. We promise it will be memorable!



Lena NorderCEO
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



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embedded conference

KEYNOTE PRESENTATIONS AT

EMBEDDED CONFERENCE SCANDINAVIA 2015

November 3 13:20-13:50 • Keynote Presentation:

The road towards autonomous transport solutions

In the transport industry, truck fleet owner's profitability, environmentally friendly solutions and increased safety walks hand in hand on the road towards sustainability. Major improvements are achieved by utilizing Advanced Driver Assistance Systems. These systems fill the gap between fully human-controlled vehicles and completely autonomous vehicles. They increase safety and reliability, while decreasing the CO2 footprint.

This presentation will discuss development strategies and methods to face embedded system challenges in the fascinating and quickly expanding areas of Intelligent Transport Systems and Autonomous Transport Solutions. Rapid advances in increased electrification, simulation driven software development and centralized sensor fusion play key parts. The presentation will also touch on how lean development methods and value driven leadership make the journey towards autonomy an evolution rather than a revolution.

November 4 13:20-13:50 • Keynote Presentation:

The Internet of Things: Why is the promise taking so long to fulfil?

The IoT promises much – to make our world work better, improve healthcare, reduce congestion and so much more.

Over 50 billion devices are predicted within a decade. And yet, little has happened to date. The talk discusses why that is and explores the lack of wireless connectivity standards in some areas and the plethora in others. It discusses why this is, how standards are formed and become widely accepted, the key drivers and motivators of the major players in the industry and predicts how we might resolve the connectivity issue and finally get to the promised 50 billion.

It finishes by describing the Weightless standard - the only open standard for wide-area IoT connectivity.



Presenter:
Daniel Frylmark
Head of Driver Assistance Controls
Scania CV AB

Daniel has a Master of Science degree in Applied Physics and Electrical Engineering and has worked with development of Embedded Systems at Scania since 2003. He began as a function developer within Chassis Control Systems and was appointed Senior Engineer within automatic controls in 2007, before changing carrier to focus on leadership in 2008. Since 2011, his main responsibility is development of Advanced Driver Assistance Systems.



Presenter: Professor William Webb CEO Weightless SIG and President IET

William is CEO of the Weightless SIG, the standards body developing a new global M2M technology. He is a Director at Webb Search, an independent consultancy, and President of the IET – Europe's largest Professional Engineering body.

He was one of the founding directors of Neul, a company developing machine-to-machine technologies and networks, which was formed at the start of 2011 and subsequently sold to Huawei in 2014 for \$25m. Prior to this William was a Director at Ofcom where he managed a team providing technical advice and performing research across all areas of Ofcom's regulatory remit. He also led some of the major reviews conducted by Ofcom including the Spectrum Framework Review, the development of Spectrum Usage Rights and most recently cognitive or white space policy. Previously, William worked for a range of communications consultancies in the UK in the fields of hardware design, computer simulation, propagation modelling, spectrum management and strategy development. William also spent three years providing strategic management across Motorola's entire communications portfolio. based in Chicago.



NOVEMBER 3 – For detailed program, go to www.embeddedconference.se

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Track 1 STEW

Softwai

Track 2

Program on 09:15 page 6 Produ

Software Development Methods

09:15 Reduce Coding Errors using Production Code Generation with Model-Based Design

Presenter: Fredrik Håbring; MathWork 09:45 AUTO-CAAS:

Model-Based Fault Prediction and Diagnosis of Automotive Software Presenter: Wojciech Mostowski; Halmstad University Operating Systems

Track 3

09:15 Windows 10 vs. Linux for IoT Devices
Presenter: Christian Eder: congatec

09:45 Microsoft Win 10 IOT Core & .NET framework Front end solutions at the edge for IOT Presenter: Nick Donaldson; Avnet

Front end Application Trends in Machine-toge for IOT Machine Communications Ildson; Avnet Presenter: James Gross; KTH

Track 4

Technology?

IoT Development

09:45 Research and

09:15 Industry 4.0 - Politics or

Presenter; Andreas Rosengren: Prevas

Track 5

Workshop 1 Linear Technology

09:15 Power design in practice, a lab session Presenter: Thomas Ginell and Mats Hellberg; Linear Technology

Hands-on session Limited seatina. Track 6
Workshop 2

Acal BFi
09:15 From Idea to the Field:
Industrial Open Hardware for IoT
running Open Source software

Presenters: Kristoffer Martinsson; Acal BFi Nordic Hans Andersson; Acal Bfi Nordic Thibault Cantegrel; Sierra Wireless

Hands-on session Limited seatina.

10:15-11:00 COFFEE

11:00-12:00

STEWContinued

Software Development Methods

Continued

11:00 Working agile but also in a traditional way! Building bridges without loss of information
Presenter: Daniel Morris; Polarion

11:30 Agile development

— Feature stories with TDD for embedded systems

Presenter: Peter Risberg: Tritech

Operating Systems

Continued

Embedded

11:00 How to Measure RTOS Performance

Presenter: Colin Walls; Mentor Graphics

11:30 Benefits of Virtualization in Embedded Systems

Presenter: Alexander Smirnov; ilbers

IoT Development

Continued
11:00 Scalable IoT Simulation for
Software and System Testing
Presenter: Jakob Engblom; Wind River,

11:30 Processing at the edge: Why is a Reconfigurable Input/Output architecture ideal for the IoT?
Presenter: Jimmie Adolph; National

Workshop 1
Continued

Workshop 2
Continued

12:00-13:20 LUNCH AND EXHIBITION

13:20-13:50 KEYNOTE PRESENTATION

The road towards autonomous transport solutions
Presenter: Daniel Frylmark; Scania CV AB, Head of Driver Assistance Controls

14:00-15:00

STEW *Continued*

Software Development Tools

14:00 Joint Analytical and Simulation-Based Design Space Exploration for Mixed-Criticality System

Presenter: Ingo Sander; KTH
14:30 Continuous Delivery of

Presenter: Mike Long; Praqma

Embedded Systems

Small Formfactor Boards

14:00 **The Future of Computer-On-Modules**Presenter; Christian Eder; congatec

14:30 Make and buy - systemdesign with COTS-platforms

Presenter: Patrik Björklund; Tritech Solutions AB IoT In Practice

14:00 Multidimensional Hierarchical Graph Neurons (mHGN) for Real-time and Detailed (in-depth) Weather Forecast utilizing Server-less Real-time Communities Communication (SRCC) of mobile phones

Presenter: Benny B. Nasution; State Polytechnic of Medan, Indonesia

14:30 Make IoT Happen
- experiences from implementing
IoT from chip to apps!
Presenter: Joakim Eriksson, SICS

Swedish ICT AB / Yanzi Networks

Workshop 3 Nohau

14:00 **Get started with debug and trace ARM 9/Linux Target**Presenter: Björn Skånberg, Nohau
Solutions AB

Hands-on session Limited seating. Workshop 4
Quviq

14:00 Automatic Test Case Generation

Presenter: Hans Svensson; Quviq Hands-on session Limited seating.

15:00-15:30 COFFEE

15:30-17:00

STEWContinued

Software Development Tools

15:30 Dynamic Memory Allocation & Fragmentation in C & C++ Presenter: Colin Walls; Mentor Graphics

16:00 Writing Secure and Reliable C/C++ Code

Presenter: Marcus Nissemark; Green Hills Software

16:30 The inefficiency of C++, fact or fiction?
Presenter: Andreas Wallberg; IAR Systems

Trus

15:30 FPGA and SoC Design from Idea to Implementation
Presenter: Jonas Rutström;
MathWorks

16:00 The new Software Define "everything" tools for FPGAs will provide familiar CPU-, GPU- and ASSP-like programming environments to system and software engineers

Presenter: Tryggve Mathiesen; Oamcom IoT Security

15:30 Component Trust - A Corner Stone for Safety in IoT Presenter: Johan Thulin: Combitech

16:00 Bringing military grade security to the Industrial Internet of Things

Presenter: Mark Pitchford; Lynx Software Technologie

16:30 Security by Separation; Reliable security for IoT devices Presenter: Mehmet Özer, Sysgo Workshop 3

Continued

Workshop 4

Continued

17:00-18:00 INDUSTRY RECEPTION

18:00 The Embedded Dinner Party – 10th anniversary edition! Dinner, drinks & entertainment. Don't miss the Swedish electronics industry own Oscar Awards and a pop, rock and disco extravaganza with Lady B Goode. Note: Separate registration necessary. Tickets are SEK 595 plus VAT.





NOVEMBER 4 – For detailed program, go to www.embeddedconference.se

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Track 1 ARROWHEAD

Track 2

Program on page 6

Software Quality

09:15 Code coverage for embedded targets and tool qualification Presenter: Olivier Casse; Verifysoft

09:45 Coding Standards -"everything has its place" Presenter: Dr Frank van den Beuken; PROA

Track 3 **Low Power Design**

09:15 Open

09:45 High performance power design using efficient tools Presenter: Thomas Ginell; Linear **Technology Corporation**

Track 4 IoT Tutorials

09:15 How to secure the Industrial Internet of Things

Presenter: by Alan Grau; Icon Labs

Track 5 Workshop 5 **KTH and ICES**

09:15 Linked-Data and OSLC for Tool Interoperability - A hands-on

Workshop leaders: Jad El-Khoury, researcher at KTH, and Frederic Loiret, researcher at KTH and at OFFIS Full Day Workshop

Hands-on session , Limited seating

10:15-11:00 COFFEE

11:00-12:00

ARROWHEAD **Software Quality**

> 11:00 Test Driven Development (TDD) in an Agile-programming environment

Presenter: Jason Masters; Vector Software

11:30 5 ways to protect your software supply chain from hacks, quacks, and wrecks Presenter: Steve Howard; Rogue Wave

11:00 Debugging beyond printf Presenter: Martin Gisbert; IAR Systems

11:30 Runtime visualization on ARM Cortex-M devices Presenter: Dr. Johan Kraft; Percepio AB

IoT Tutorials

11:00 IoT that really matter

Presenter: Per-Erik Svensson; ublox

Workshop 5

12:10-13:20 LUNCH AND EXHIBITION

13:20-13:50 KEYNOTE PRESENTATION

The Internet of Things: Why is the promise taking so long to fulfil?

Professor William Webb; CEO Weightless SIG and President IET

14:00-15:00

Continued

ARROWHEAD **Open Source**

> 14:00 Realising Efficient Industrial **Linux Development** Presenter: Kim Højgaard-Hansen;

> 14:30 Automotive Grade Android **Driving Vehicle Connectivity** Presenter: Björn Rudin; Combitech

HTML 5 Tutorial

14:00 HTML5 - a Real Option for **Embedded Software User Experience** Presenter: Joakim Hedenstedt and

Tommi Leino; Movial

IoT Sensors/ Networks

14:00 Technologies for Securing an NFV or IoT System in Embedded

Presenter: lisko Lappalainen; Monta-

14:30 ARM mbed for Things of Internet – Boosting the Internet and the Things

Presenter: Jaakko Ala-Paavola; Espotel

Workshop 5 Continued

KTH and ICES

Attendees will develop OSLCcompliant tool adaptors, based on the OSLC4J

Hands-on session Limited seating

"Smartare Elektroniksystem"

14:00 Multimillion program for electronics Learn more about this national multi-

million program - how to get involved and participate Presenter: Magnus Svensson, Program

Manager, Smartare Elektroniksystem 14:30 Nyfiken på Branschorganisa-

tionen Svensk Elektronik? Svensk Elektronik hjälper dig. På 30 min berättar vi hur. Presentatörer: Maria Månsson,

ordförande, Lena Norder, vd, Branschorganisationen Svensk Elektronik

(In Swedish)

15:00-15:30 COFFEE

15:30-17:00 ARROWHEAD

Continued

Open Source Continued

Technologies

15:30 The future of embedded networking nodes - an open approach to Network Function Virtualization Presenter: Daniel Forsgren; Enea

16:00 Axiom 4K open filmmaking camera - a success story of collaboration around open source Presenter: Michael Gielda; Antmicro

16:30 Tips and tricks for making the MinnowBoard an outstanding **Embedded Platform** Presenter: Berth-Olof Bergman; WinZent **Internet of Things**

15:30 Edge to Enterprise - without

the wires

Presenter: Alastair Worth; Avnet Embedded

16:00 Testing and Tuning your Appcessories

Presenter: Tom O Raghallaigh; Frontline

Programming and the standard API Presenter: Lars Hamren; Svensk

Workshop 5 Continued

16:30 Bluetooth Low Energy

Datorutveckling

17:00 END

17:00

END



SWEDSOFT STEW – NOVEMBER 3 **Activity** Time 9:15 Swedsoft - introduction and information 09:35 Visual GUI Testning – A new technology for a new SW Industry Presenter: Emil Alégroth, Chalmers University 10:15 COFFEE 11:00 Open Innovation through the Lens of Open Source Tools Presenter: Hassan Munir / Johan Linåker, Lund University 11:30 Value - Engineering it! Presenter: Tony Gorschek, Blekinge Institute of Technology LUNCH 12:00 **KEYNOTE** 13:20 14:00 **Emergent Configurations of Connected Systems** Presenter: Romina Spalazzese, Malmö University 14:30 From Partial Evaluation to Symbolic Algebra Presenter: Walid Taha, Halmstad University 15:00 **COFFEE** 15:30 **Intelligent Homes** Presenter: Wagner de Morais, Halmstad University 16:00-17:00 **Swedsoft Members Meeting** 17:00 **ECS INDUSTRY RECEPTION** THE EMBEDDED DINNER PARTY – Note: Separate registration necessary. Tickets are SEK 595 plus VAT. 18:00

ARROWHEAD – NOVEMBER 4 Activity Time 9:15 Arrowhead Framework: concepts and basic architecture Presenter: Prof. Jerker Delsing; Lulea University of Technology 09:45 Core services enabling local and global IoT clouds Presenter: Pal Varga; AITIA International Inc 09:55 Core services supporting smooth application creation Presenter: Fredrik Blomstedt, BnearlT AB 10:15 **COFFEE** 11:00 Arrowhead documentation system Presenter: Prof. Luis Lino Ferreira; Polytechnic Institute of Porto 11:20 SOA protocol transparency technology Presenters: Iker Martinez De Soria Sanchez; TECNALIA and Hasan Derhamy; Lulea University of Technology 11:40 Test tools ensuring application functionality and compliancy Presenter: Per Olofsson, BnearIT AB LUNCH 12:00 **KEYNOTE** 13:20-13:50 14:00 Common architecture and services for energy cost optimization in multiple domains: manufacturing, lift/hoisting, and water distribution Presenters: Chloé Desdouits and Claude Le Pape; Schneider Electric 14:20 End to end security automotive test applications Presenters: Andreas Aldrian; AVL and Thomas Ruprechter; Infineon Technologies Austria AG 14:40 Automating the process of creating Arrowhead and IEC61850 compliant Adapters Presenter: Aitor Urbieta; IK4-IKERLAN 15:00 15:30 Arrowhead communication framework in electromobility domain Presenters: Michele Ornato; CRF and Federico Montori; University of Bologna 15:50 Dynamic operation and maintenance system Presenter: Mika Karaila; Valmet Automation 16:10 Integration of energy usage and energy production to an virtual market of energy Presenters: Arne Skou; Aalborg University and Per D Pedersen; Neogrid



EXHIBITOR LIST

AAEON Europe	Halmstad University / CERES Realtime Embedded		
ACAL BFi Nordic	Hectronic rt-labs		
Accurate Nordic	IAR Systems Rutronik Nordic		
ACTE Solutions	Innodisk Corporation	S.E.E., Scandinavian Electronics Event	
Antmicro	IT Centrum Väst	SICS	
Arrowhead*	KTH ICES SPTekniska Forskningsinstitut		
Avnet Memec-Silica/Avnet Embedded	Linear Technology	STMicroelectronics	
BraMässor	Lynx Software Technologies	Swedsoft	
Broadband Technology	M2M Summit Scandinavia	ia Svensk Elektronik	
Combitech	Martinsson Elektronik	T2 Data	
congatec	MathWorks	Testhouse Nordic	
Data Modul	MontaVista Software	vare Tingco	
Data Respons	More Electronics Toshiba Electronics		
Digi-Key Electronics	Mälardalens Real-Time Research Centre Triacon Scientific		
Elektronik i Norden	Nexus Tritech Solutions		
Elektronikkonsult	Nohau Solutions Vector		
Elektroniktidningen	Nortelco Electronics	co Electronics Vector Software	
Emenda Nordic AB	Option Wireless Technology	nology Verifysoft Technology	
ENEA	Orcam Systems		
Farnell element14	ublox	Xelmo	
Freescale Semiconductor	Umeå universitet	ÅFTechnology	
Garz & Fricke	Prevas		

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*Arrowhead – represented companies:

Green Hills Software

Aalborg University ACCIONA Infraestructuras Aktiebolaget Elektronik-Konstruktion Innovation (Abelko) AVL List GmbH BITRON SPA BnearIT AB CRF EUROTECH SPA Fagor Electrónica S. Coop.

Ford Motor Company
Fully Distributed Systems Ltd
High Speed Sustainable
Manufacturing Institute
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Schneider Electric industries SAS SINTEF

THT Control OY
University of Bologna

Exhibitor list as per September 4th, 2015. 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.



INFORMATION

DATE November 3-4, 2015

VENUE Kistamässan, Stockholm, Sweden

ABOUTTHE 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.

ABOUTTHE 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).

STEW – Software Technology Exchange Workshop – The fourth edition of STEW, organized by Swedsoft, will be held in parallel with ECS on November 3. For further information please visit **www.swedsoft.se**

ARROWHEAD – The Arrowhead track will be presented on November 4. For further information please visit **www.arrowhead.eu**

EXHIBITION OPENINGTIMES

Tuesday, November 3: 09:00-17:00 Industry Reception: 17:00-18:00

Embedded Dinner Party: 18:00-22:00 (SEK 595 plus VAT)

Wednesday, November 4: 09:00-16:00

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