

NTF

NORDIC TEST FORUM

invites to

TestForum 2014

*A Nordic event for exchange of experience and know-how
within the field of production test of electronics.*

*Meet colleagues and experts, gain knowledge about trends
and best practices in the area of test of electronics.*

Tuesday and Wednesday, November 25th and 26th, 2014

Radisson Blu Hotel, Malmö, Sweden



Test Forum 2014 November 25^h & 26th Malmö, Sweden

On behalf of the committee I'd like to invite you in Malmö to the annual NTF conference. The 2014 edition of TestForum has an outstanding technical program. We invited key experts to share the news and technological breakthroughs in their respective areas. This year we have speakers from the Nordic countries as well as from France, Italy, Germany and USA.



Among the highlights of the Technical Program, it is a pleasure to point out a few excellent speakers. **Sören Mellgren (Sweden)** will review the "**Historical perspective and future visions of test development in Ericsson**" in his keynote address. **Bill Eklow (USA)** will give an invited talk entitled "**Applying Learnings from Emerging Component Test to Board and System Test**".

Other presentations cover a range of important aspects of test domain, which find use in leading industries throughout the world. Besides the regular talks, we have organized an evening Panel Debate on "Why do test people fail to prevent faults like No Fault Found?". TestForum attendees will have a chance to challenge the invited experts with curious and controversial questions as well as share their own personal views on this exciting topic. The technical and business discussions will continue during the conference dinner.

This year, the BASTION Fringe Workshop is arranged in conjunction with the Test Forum. The BASTION workshop is due to an European FP7 research collaboration and is a separate event, but is free of charge for NTF attendees.

Every year, TestForum is an event for professionals, which is important to attend. Missing this opportunity means missing the forefront of the electronics industry's test technology.

At the TestForum 2014 you will see many new faces in addition to your old fellows and friends.

On behalf of the committee, I wish to welcome you to TestForum 2014!

Yours sincerely



Knut Båstoløkken
Chairman of *Nordic Test Forum*

Key Note Speaker

Sören Mellgren

Head of Test Development Product Area Radio

Ericsson AB, Sweden

Sören Mellgren is key responsible and member of a global team for Ericssons global test strategies and test platforms and a key driver of the future of test strategies within Ericsson globally. Sören has a solid background within supply with prior positions such as Technical Director for a production plant and Production Manager. Along with his global commitment Sören is closely involved in strategic work when the latest technology is introduced long before production is planned and has an extensive network and collaboration all the way from Design to volume production and beyond. Few people resides the experience and knowledge of Ericsson's historical and future challenges in this professions.



Invited Speaker

Bill Eklow

Distinguished Manufacturing Engineer

Cisco, USA

Bill Eklow is a Distinguished Manufacturing Engineer at Cisco Systems, Inc., USA. In his role, Bill works with design engineers, component suppliers, board and system integrators and test engineers to identify and implement processes and tools which will improve the "end-to-end" (supplier to customer) quality of Cisco's products. Prior to joining Cisco, Bill worked at Tandem Computers for 12 years as a Senior Test Engineer/Test Architect. Before Tandem, Bill worked as a test engineer at Fairchild.



Bill has been involved in the test industry for over 35 years and has been involved with IEEE for more than 20 years. Bill was the chair of the 1149.6 working group and has been involved in the 1149.1, 1149.2 and P1687 working groups. Bill is also the general chair for the IEEE Board Test Workshop and is currently the Vice Program Chair for ITC. Bill has published several papers at ITC, DATE, ETS, BTW and EBTW. He has also contributed to two books and an article on 1149.6 in IEEE Design and Test.

Nordic Test Forum in Brief

Test Forum is an annual event that *Nordic Test Forum (NTF)* runs every fall/early winter. TestForum typically has 3-thematic areas and cover a broad balance of test and inspection.

Test Forum has its roots back the late eighties, where it originated as an event for the Norwegian electronics industry. However, from the late part of 2001 a group of people from Sweden, Norway and Denmark established the network, *Nordic Test Forum*. Later on, this activity (including the *Test Forum* event was extended to include all the Nordic countries. The language of the official presentations is English. Content and focus of the Test Forum varies over time, but always within topic areas in focus at a given point in time.

Test Forum has its main emphasis on issues relevant to production managers, engineers and technicians working in the fields of production, test, inspection and validation of electronics. At Test Forum events we offer technically relevant presentations on methodology, tools, modules/instruments and available technology. The interaction between users and suppliers within the focus areas is an important asset of Test-Forum, and this balance and interaction is pursued in presentations, panel discussions, and in the planning of the events.

Test Forum Aims at:

- Creating and sustaining a relevant, balanced and coherent interaction between users as well as between users and suppliers of solutions for test, inspection, validation and production of electronics.
- Providing an up-to-date view on new methodologies and tools for relevant test, inspection, validation and production of electronics.
- Establishing a relevant and balanced view on equipment, systems, tools and software from tool vendors in the domain.

Target Audience of Test Forum

Engineers and technicians, managers and planners within the fields of electronics production and test, inspection and validation. Includes also decision makers in organizations that procure equipment, tools and systems for production and test, inspection and validation of electronics.

Executive Committee of Test Forum event and NTF organization

Knut Båstoløkken	Kitron AS, Norway (Chairman)
Birger Schneider	DELTA, Denmark (Treasurer)
Bjørn B Larsen	NTNU, Norway
Stig-Gunnar Jensen	Eltek AS, Norway
Mick Austin	JTAG Technologies Finland, Finland
Artur Jutman	Tallinn University of Technology, Estonia
Erik Larsson	Lund University, Sweden
Lars Kongsted-Jensen	EP-TeQ A/S, Denmark
Magnus Rönqvist	Syntronic Test Systems AB, Sweden
Mauri Aalto	Teleste Corporation, Finland
Bill Eklow	Cisco Systems, USA (associate member)

Become a Member of Nordic Test Forum

If you are involved in production test, validation test, and inspection of electronics and your professional work is related to activities in the Nordic countries as a test professional, design engineer, manufacturer, supplier of solutions, consultant, etc., you may register as member of Nordic Test Forum (NTF) in order to benefit from:

- Exchange of know-how in testing
- Increased contact network in the Nordic countries
- Surveillance and information of International activities in the area of test and inspection
- Discounts at NTF seminars and Test Forum events
- Membership list

Please register on the WEB page: <http://www.NordicTestForum.org>

Test Forum 2014 Local Organizer

The local organizer is:

Erik Larsson
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Dept. of Electrical and Information Technology
Box 118,
SE-221 00 LUND

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Technical Program of Test Forum 2014

Nordic Test Forum (NTF) Annual Assembly, November 24th 2013

The NTF organization holds an annual general assembly a day before the Test Forum conference. This year it will be held on **November 24th at 20:00**. The agenda and motions will be dispatched to the members in a separate mailing.

Tuesday, November 25th, 2014

Time	Titles	Speakers or additional info
8:30-9:00	Registration	
9:00-9:15	Welcome/Introduction	Knut Båtstøløkken
9:15-10:15	Key Note Session	<i>Chairman: Knut Båtstøløkken</i>
9:15-10:15	Historical perspective and future visions of test development in Ericsson	Sören Mellgren, Ericsson
10:15-10:45	Exhibitor Forum: short presentations	<i>Chairman: Mick Austin</i>
10:45-11:15	Coffee Break / Exhibition	
11:15-12:45	Session 1: JTAG based test	<i>Chairman: Lars Kongsted-Jensen</i>
11:15-11:45	Combining Boundary Scan and Functional Test using a JTAG controlled Tester on Chip (ToC)	Jan Heiber, Göpel ESA
11:45-12:15	JTAG and Analog circuits	Mick Austin, JTAG Technologies
12:15-12:45	IJTAG Case Study: Chip Fault Diagnostics in a Board Environment	Kent Zetterberg, Asset Intertech
12:45-14:00	Lunch	
14:00-15:30	Session 2: Test Strategies and Test Quality	<i>Chairman: Birger Schneider</i>
14:00-14:30	Measurement System Analysis - Can You Trust Your Measurement System?	Mattias Ericsson, AddQ Consulting
14:30-15:00	Test & Quality Strategy	Morten Pedersen, CIM Industrial Systems
15:00-15:30	Accurate Calibration of Time and Frequency	Staffan Johansson, Testhouse Nordic AB
15:30-16:00	Coffee Break / Exhibition	
16:00-17:30	Session 3: Functional Test 1	<i>Chairman: Bjørn B. Larsen</i>
16:00-16:30	Test Platform Standardization: Increase product quality with reduced cost of test	Johan Hillergren, NI
16:30-17:00	Problems related to version changes in LabVIEW and TestStand	Tapani Talvitie, Teleste
17:00-17:30	Fruit & Refreshments / Exhibition	
17:30-19:00	Panel debate: "Why do test people fail to prevent faults like No Fault Found?"	<i>Panel moderator: Birger Schneider</i>
19:30	Dinner	

Wednesday, November 26th, 2014

Time	Titles	Speakers or additional info
9:30-10:30	Session 4: Invited speaker	<i>Chairman: Magnus Rönnqvist</i>
9:30-10:30	Applying Learnings from Emerging Component Test to Board and System Test	Bill Eklow, Cisco Systems
10:30-11:00	Coffee Break / Exhibition	
11:00-12:30	Session 5: Functional test 2	<i>Chairman: Mauri Aalto</i>
11:00-11:30	Platform Based Test System Development - increased quality and lower development cost	Karin Hellqvist, DVel Juha Ojaniemi, Espotel
11:30-12:00	Modular NI TestStand applications	Claus Sørensen, DSE
12:00-12:30	Overcoming the challenges of making a reliable fiber optic connections in ATE applications	Gary Clayton, MAC-Panel
12:30-13:30	Lunch	
13:30-15:00	Session 6: Automatic inspection and structural test	<i>Chairman: Erik Larsson</i>
13:30-14:00	Welcome to the 3rd-Dimension! 3D-SPI, 3D-AOI, 3D-AXI, everything from a single source. Outstanding 3D technologies ensure maximum test coverage	Andreas Türk, Göpel, AOI/AXI
14:00-14:30	How to integrate the Flying Probe as a flexible test solution	Lothar Diez, SPEA
14:30-14:45	Closing Session: Test Forum concluding remarks and Introduction to the BASTION Workshop	<i>Knut Båtstøløkken Kitron Artur Jutman, Testonica Lab</i>

Exhibition

As usually, a mini exhibition will take place in frames of Test Forum event where vendors are welcome to present their tools and methodologies related to production test. Exhibitors can make arrangements with NTF about exhibition space. If nothing special has been agreed, a table of about 60x120 cm², as well as space for posters or similar material will be provided. Every exhibitor will be given 7-8-minute slot in the program for a brief introduction.

BASTION Fringe Workshop @ NTF'2014 (free of charge for NTF participants. No registration required)

Time	Titles	Speakers or additional info
14:50-15:10	Coffee Break	
15:10-16:10	Board test coverage challenges for high-performance electronics	<i>Chairman: Thomas Wenzel, GOEPEL electronic</i>
15:10-15:30	Defect classes, testability metrics, DPMO	Christophe Lotz, Aster Technologies
15:30-15:50	No Failure Found problem and embedded instrumentation solutions	Artur Jutman, Testonica Lab
15:50-16:10	Combining functional test and embedded instruments	Matteo Sonza-Reorda, Politecnico di Torino
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16:10-17:10	IEEE 1687 IJTAG and hierarchical test	<i>Chairman: Gunnar Carlsson, Ericsson</i>
16:10-16:30	Challenges in hierarchical test and monitoring	Carsten Laudert, Infineon Technologies
16:30-16:50	IEEE 1687 IJTAG standard: design and optimization strategies	Erik Larsson, University of Lund
16:50-17:10	Verification of IEEE 1687 IJTAG infrastructure	Rene Krenz-Baath, HSHL
17:10-17:40	Coffee break	
17:40-18:40	Ageing failure resilience in the field and lab	<i>Chairman: Gerard Rauwerda, Recore Systems</i>
17:40-18:00	Ageing mechanisms: effect detection and test instrumentation	Hans Kerkhoff, University of Twente
18:00-18:20	Can we have a fast and accurate NBTI-aging assessment at the gate-level?	Jaan Raik, TU Tallinn
18:20-18:40	IEEE 1687 Instrumentation networks for ageing failure management	Artur Jutman, Testonica Lab
18:40-19:30	Wine and Cheese Panel: discussing the presented topics in-depth with audience	<i>Chairman: Bill Eklow, Cisco Systems</i> <i>Panel: all the 8 workshop speakers</i>

Registration and hotel booking

The **Conference Fee** is EUR 390 for NTF members, EUR 195 for students and EUR 425 for others. The fee includes participation, food and refreshments from Tuesday morning to Wednesday afternoon as well as forum proceedings on the USB memory. Exhibitors pay EUR 750, which also includes the participation of a single person.

The seminar fee will be invoiced directly to the organization, from which the participant comes. In the event of cancellation after the final registration date, or in the event of failure to appear, the entire fee is still due. On request, another person from the same organization can participate instead.

The hotel rooms are booked through the seminar registration, but the room rate is paid directly by each participant to the hotel (i.e. not included in the seminar fee). **The room rate** is 1495 SEK single room and double room per night, including breakfast.

Booking of rooms at the conference hotel is **not** mandatory for participation at the seminar.

The **registration deadline is Tuesday 11th, November, 2014**, in order to **guarantee hotel room**. **Registration after this date is also possible**. However, we cannot guarantee that hotel rooms are available at the conference hotel.

Registration for TestForum 2014 can be done through the NTF website by using the following link.

- <http://www.NordicTestForum.org>

Alternatively, one can contact the TestForum secretariat at

Att.: Suzanne Holte
Tel.: +45-2088 5972
Email: suzanne@nordicestforum.org

Please indicate, whether you register as:

- | | |
|--|---------|
| • NTF member | EUR 390 |
| • A non-member | EUR 425 |
| • A student (with valid student ID) | EUR 195 |
| • An exhibitor, i.e. want to exhibit in the small exhibition | EUR 750 |

Please indicate whether you need a room at the conference hotel:

- Dates of arrival and departure
- Single or double room

Radisson BLU, Malmö, Sweden

Nordic Test Forum 2014 will take place at Radisson BLU Malmö, which is situated within walking distance to the center of Malmö. Details about the hotel is at: <http://www.radissonblu.com/hotel-malmo/location>

Getting to the hotel

By air:

- From Copenhagen Airport - 30 km; trains from Copenhagen Airport to Malmö Central Station depart every 20 minutes and take about 20 minutes.
- From Malmö Airport - 30 km; the airport bus from Malmö Airport to the city center takes 40 minutes. The bus stops about 100 meters from the hotel.

By car:

- The drive from Copenhagen Airport to the hotel via the Öresund Bridge takes about 20 minutes. The hotel is centrally located in Malmö and offers garage parking with direct access to the lobby.



By train:

- Malmö Central Station - 500 meters

