

NTF

NORDIC TEST FORUM

invites to

Test Forum 2009

*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, December 1st and 2nd, 2009
Scandic Infra City, Upplands Väsby, Stockholm, SWEDEN**



Test Forum 2009, December 1st and 2nd, Upplands Väsby, Stockholm, SWEDEN

2009 has been a year marked by the global financial crises. This has also affected the electronics industry within the Nordic countries. However, there are now signs indicating that the bottom is reached and that in some areas the recovery has started.

This years TestForum will address the current situation in presentations as well as in the panel debate.

As keynote speaker we are pleased to welcome back Bill Eklow from Cisco Systems. Bill also gave the keynote at last years TestForum and is well known for his contributions at the International Test Conference, Board Test Workshop and other test related events. The title of his is speech "Is There Any Innovation Left in Test?".

Jyrki Sippola from Nokia is this year's invited speaker. He will address new instrument requirements in his speech "From Technology Trends To Requirements – New Views About Instruments"

The topics this year will, as usual, cover structural test, functional test and boundary scan as well as other topics like BIST and emulation type testing.

In times like these it is important to build new competence to meet future challenges. I hope many of you take the opportunity to seek information about the current trends of electronic testing and to meet colleagues working in our filed of interest.

On behalf of the committee I wish you welcomed to TestForum 2009.

Yours sincerely



Knut Båstoløkken
Chairman of *Nordic Test Forum*

Key Note Speaker

Bill Eklow

Cisco Systems

Bill Eklow is a Distinguished Manufacturing Engineer at Cisco Systems, Inc. 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 30 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.

Among Bill’s hobbies are: golf, dining at 3 star restaurants and visiting Starbucks coffee shops all over the world.

Invited Speaker

Jyrki Sippola (B.Sc)

Nokia Oyj, Salo, Finland

Jyrki Sippola has been working 15 years in mobile phone industry, most of the time in various test technology management positions in Nokia.

Currently he is responsible for manufacturing test and programming related research activities at Nokia.



Nordic Test Forum in Brief

Test Forum is an annual event that *Nordic Test Forum (NTF)* runs every fall/early winter. NTF may also run thematic events during a year, but these are focused events addressing basically only one topic area, each in the area of test and inspection of electronics, whereas TestForum typically has 3-thematic areas and cover the broader balance of test and inspection as well.

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 TestForum, 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 and NTF

Knut Båststøløkken	Kitron AS (Chairman)
Birger Schneider	National Instruments Engineering ApS (Treasurer)
Bjørn B Larsen	NTNU Department of Electronics and Telecommunications (Secretary)
Stig-Gunnar Jensen	Flextronics International Norge AS
Bengt Magnhagen	Elektronikindustriföreningen
Mick Austin	JTAG Technologies Finland
Jürgen Sedlacek	Alvetec KonTest AB
Jukka Antila	Nokia Siemens Networks
Artur Jutman	Tallinn University of Technology

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://NordicTestForum.org>

Test Forum 2009 Local Organizer

The local organizer is:

Jürgen Sedlacek
Alvetec Kontest AB
Fakturavägen 6
175 62 Järfälla
Tel.: +46 8 626 4057
Fax.: +46 8 754 88 67
Email: jurgen.sedlacek@alveteckontest.se

In Association with

The Test Forum 2009 event is in association with the following Nordic organizations:



Technical Program of Test Forum 2009

Nordic Test Forum (NTF) Annual Assembly, November 30th 2009

The NTF organization was established in 2001. Since then, it holds an annual general assembly a day before the Test Forum conference. This year it will be held on **November 30th at 19:30**. The agenda and motions will be dispatched to the members in a separate mailing.

If you do not intend to participate in the Annual Assembly, the Test Forum 2009 starts with registration on 1st December from 9:00 to 9:30.

Tuesday, December 1st, 2009

Time	Titles	Speakers or additional info
9:00-9:30	Registration	
9:30-9:40	Welcome/Introduction	Jürgen Sedlacek
9:40-10:40	Key Note Session	<i>Chairman: Knut Båstoløkken</i>
9:40-10:40	Is There Any Innovation Left in Test?	Bill Eklow, Cisco Systems
10:40-11:00	Exhibitor presentation	<i>Chairman: Jürgen Sedlacek</i>
11:00-11:30	Coffee Break / Exhibition	
11:30-13:00	Session 1: Structural Test	<i>Chairman: Mick Austin</i>
11:30-12:00	Probe design and material selection for optimal lead free board testing	Bruce Valentine, IDI
12:00-12:30	Using Wave Form To Test For Opens On Component Packages	Michael Smith, Consultant
12:30-13:00	Testing High-Density Electro-Optical Backplane	Knut Båstoløkken, Kitron
13:00-14:00	Lunch	
14:00-15:30	Session 2: Structural/Functional Test	<i>Chairman: Birger Schneider</i>
14:00-14:30	Laser Height Measurement Monitoring Solder and Placement of BGA, uBGA and Flip Chips	Michael Smith, Consultant
14:30-15:00	Hardware In the Loop (HIL) testing is mainly used in Aerospace and Automotive but is suitable to use for many other embedded products.	Hans Nyström, Prevas
15:00-15:30	Functional Test Developing Under The Economic Crises without reducing testability	Stig-Gunnar Jensen, Flextronics
15:30-16:00	Coffee Break / Exhibition	
16:00-17:00	Session 3: Various Test Techniques 1	<i>Chairman: Artur Jutman</i>
16:00-16:30	The Benefits of FPGA-Enabled Instruments In RF and Communications Test	Johan Olsson, NI
16:30-17:00	News from Conferences	<i>Chairman: Artur Jutman</i>
17:00-17:25	Fruit & Refreshments / Exhibition	
17:25-19:00	Panel debate: <i>Will Test survive the economic crises and can we afford quality variations</i>	<i>Panel moderator: Birger Schneider</i> Panelists: TBD
20:00	Dinner at Scandic Infra City Hotel	
22:30	Social get-together in the Bar at Scandic Infra city	

Wednesday, December 2nd, 2009

Time	Titles	Speakers or additional info
9:00-9:30	Invited Speaker	<i>Chairman: Knut Båtstøløkken</i>
9:00-9:30	From Technology Trends To Requirements – New Views About Instruments	Jyrki Sippola, NOKIA
9:30-10:30	Session 4: Boundary Scan	<i>Chairman: Stig-Gunnar Jensen</i>
9:30-10:00	BS2VHDL and Other Embedded Techniques for BS Test Acceleration	Artur Jutman, Tallinn University of Technology
10:00-10:30	Deployment of JTAG Based HW Self-Test in a Radio Base Station	Thomas Kronqvist, Saab
10:30-11:00	Coffee Break / Exhibition	
11:00-12:30	Session 5: Boundary Scan	<i>Chairman: Bjørn B. Larsen</i>
11:00-11:30	RAM testing with Boundary Scan - Structural Test or Functional Test?	Jan Heiber, GOEPEL Electronic
11:30-12:00	Using Configurable Logic And Boundary Scan To Test Advanced Board Interface Protocols	Anthony Sparks, JTAG Technologies
12:00-12:30	Non-Intrusive Board Test Strategies For The Intel Xeon Processor 5500 Series	Kent Zetterberg, ASSET InterTech Inc
12:30-13:30	Lunch	
13:30-15:00	Session 6: Various Test Techniques 2	<i>Chairman: Bengt Magnhagen</i>
13:30-14:00	An (Almost) C-Testable Strategy For NoCs	Kim Petersén, HDC
14:00-14:30	How To Optimize Your PXI Functional Test System combined JTAG Boundary Scan Technology	Victor Fernandes, Geotest.Marvin Test Systems
14:30-15:00	Acoustical Noise Problems in Production Test of Elektroacoustical Units and Electronic Cabinets	Birger Schneider, NI
15:00-15:15	Closing Session: concluding remarks	<i>Knut Båtstøløkken</i>

Dinner and Social Get-Together

At 20:00 we will enjoy a dinner surrounded by a tropical environment enclosed by palm trees and a pond.

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.

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 SEK 1490 (approximately Euro 149) single room or SEK 1590 (approximately Euro 159) double room per night including breakfast

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

The **registration deadline is Monday, November 16th, 2009**, in order to guarantee hotel room. **Registration after this date is also possible.** However, we cannot guarantee that hotel rooms will be then available

Registration for Test Forum 2009 can be done through the NTF website by using the following link.

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

Alternatively, one can contact the Test Forum secretariat at

CHAMAJ Consult ApS
Skovgraensen 3
DK-2960 Rungsted Kyst
Denmark

Att.: Suzanne Holte

Tel.: +45-20 88 59 72

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

Test Forum 2009 Conference Venue

Test Forum 2009 will take place at Scandic Infra City situated only a 15 min drive from Arlanda Airport and a 20 min drive from down town Stockholm. The hotel offers a great environment with a pond and tropical garden as the foundation around which you can relax during breaks and after a long day at the seminar.

Travelling to and from Stockholm

Stockholm is the capital of Sweden – and just about in the center of the Nordic countries, with about one-hour flight to Helsinki, Tallinn, Copenhagen and Oslo.



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By Plane

Stockholm Arlanda Airport (ARN) will be your destination if you arrive by plane. Scandic Infra City is only a 15 min drive with taxi from Arlanda airport.

Taxi

From the airport you have two options, either step out to the taxi line and take a taxi there, or you can call Taxi Norrväst at the number below.

Call number **+46 8 89 40 00** and book a taxi remember to ask for a **fixed price**, approximately SEK 250 or approximately 25 Euro one way from the airport to Scandic Infra City in Upplands Väsby. You can pay with most credit cards. In case of payment is made with cash, they only accept local currency. They will of course need your name, arrival time and flight number in case there are delays.

Bus from the airport

There is a local bus from the airport which will take about 40 min. They do NOT accept anything but local currency for payment. For more detail on bus please use link www.sl.se

By Boat

Port of Stockholm have two main places, Silja Line arrives at Värtahamnen and Viking Line at Stadsgårdskajen. You can go by taxi from here, see number above please ask for **fixed price** and the cost is about SEK 350 or approximately 35 Euro one way to Scandic Infra City in Upplands Väsby. Both locations also offer public transportation to Stockholm Central the center point for all public transportation Stockholm. At Stockholm Central you select the train to Upplands Väsby. Trains are marked with end destination and you need to select the train to MÄRSTA from Stockholm Central. Arriving in Upplands Väsby, please check for busses to Infra City as this will be your final destination. Again, only local currency is accepted as payment.

By Train

You will arrive at Stockholm Central and then go by local train to Upplands Väsby. Trains are marked with end destination and you need to select the train to MÄRSTA. Arriving in Upplands Väsby, please check for busses to Infra City as this will be your final destination.

Scandic Infra City Hotel offers a tropical environment with a garden and a large pond with fish and fountains. In December we might also be lucky and have a light snow fall covering the roof windows which will create an even more enclosed environment enhancing the warmth feeling a sunny beach normally offers. This will be surroundings we have during our breaks and of course the dinner. After the dinner one can relax close to the pond and as always after a seminar such as NTF there are subjects that needs to be discussed with colleagues from the industry. Also it is a good opportunity to extend your network. For those who want to start the day with some exercise the hotel offers swimming pool and a sauna.

