Nordic Test Forum

invites to

TestForum 2007

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

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

Tuesday and Wednesday, November 27th and 28th, 2007

Comwell Borupgaard, Snekkersten, Denmark

The Program for TestForum 2007

It is now four years since the last time TestForum was held in Denmark. During this time, significant technical progress has taken place in industry, not least in the electronics industry. Different methodologies of work have been introduced and outsourcing has changed not least the Nordic theater of electronics manufacturing. However, the challenge of testing of electronics has in no way diminished, and we are faced with growing complexity and changing needs in our focus of ensuring high quality in electronics products. TestForum, that is held every year in the month of November, is one important event that helps sharing good practices in testing and at the same time showing significant examples of new methodologies for testing of electronics. In this respect, Test Forum 2007 is no exception, and many important results and methodologies will be reported during the two days of the TestForum event.

Michael J. Smith from Teradyne, well known from earlier TestForum events, will present the keynote speech. He topic is "The Next Five Years in Test and Inspection" and I am sure this will be very interesting and inspiring.

One of the sessions will focuses on remote testing. It will include an update on the work the University of Oulu is doing on a Universal Test Communication Standard. The Test Strategies session will include user presentations from AXXE logistics and Elcotec.

We will also get news from the areas of Automatic Optical Inspection and X-Ray Inspection as well as Fixturing, Functional Test and Boundary Scan Test. RF testing will receive special focus, not only in presentations, but also in an evening panel session. I am confident that we will experience a lively and inspiring debate on the topic.

The venue for TestForum 2007 is Comwell Borupgaard Conference Center, Snekkersten, just north of Copenhagen. This location has good connections by train and road to Copenhagen and Kastrup Airport and is close to Elsinore (Helsingør) with ferry connection to Sweden.

On behalf of the committee I wish you welcomed to TestForum 2007.

Yours sincerely

Knut Båtstoløkken

Knut Båtstoløkken
Chairman of *Nordic Test Forum*

Key Note Speaker

Michael J Smith
Teradyne

Michael J Smith is currently a technologist for Teradyne's Assemble Test Division based in North Reading Mass. He has over twenty years of experience with Automatic Test Equipment starting with simulator based functional test systems in the early 80's, through to traditional electrical inspection systems, image based inspection systems and process monitoring and control. He has written numerous papers and articles as well as being the National Electronics Manufacturing Initiative (NEMI) Roadmaping Chair for Test and Inspection in 2000 and 2002 and IPC Technical Committee Member for APEX 2002,2003 and 2004. With a European background in technical support and sales he has been actively involved in product development based on his relationships with major customers worldwide.

Local Organizer

The local organizer is:
Birger Schneider
Tel.: +45 4576 2100
Email: bsc@microlexsys.com

In Association with

The TestForum 2007 event is in association with the following Nordic organizations:

abelia innovasjon

Elektronik-industriföreningen

>tekniQ EXPERTKOMPETENS INTELLIGENTA PRODUKTER

Program

Nordic Test Forum (NTF) Annual Assembly, November 26th 2007, 20:30 hrs

NTF was established at TestForum 2001. We hold our annual assembly for NTF at 20:30 November 26th, 2007. 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 TestForum 2007 starts with Registration on 27th November from 9:00 to 9:30.

Tuesday, November 27th, 2007

Time	Titles	Speakers or additional info
9:00-9:30	Registration	
9:30-9:40	**Welcome/Introduction**	Birger Schneider
9:40-10:45	**Key Note Session**	*Chairman: Knut Båtstoløkken*
9:40-10:45	"The Next Five Years in Test and Inspection".	Michael J. Smith, Teradyne
10:45-11:00	Coffee Break / Exhibition	
11:00-12:00	**Tutorial and Exhibitor presentations**	*Chairman: Bengt Magnhagen*
11:00-11:30	Analog to Digital Conversion – Old and New Methods and their Features	Thomas Lagö, Acticut International AB
11:30-12:00	Exhibitor presentations	*All Exhibitors*
12:00-12:30	Exhibition	
12:30-13:30	Lunch	
13:30-14:30	**Session 1 Test Strategies, Test Data Management**	*Chairman: Artur Jutman*
13:30-14:00	Description of AXXE Logistics internal manufacturing test system	Rolf Østvik, AXXE Logistics
14:00-14:30	Design for Manufacture: A Key Factor in Cost Reduction for Telecommunications Infrastructure	Arno Kolk, Elcoteq
14:30-15:00	Coffee Break / Exhibition	
15:00-17:00	**Session 2: X-Ray Inspection**	*Chairman: Mick Austin*
15:00-15:30	Beating the chip counterfeiters	Keith Bryant, Dage
15:30-16:00	X-ray nanoCT: Visualizing of internal 3D-Structures with Submicrometer Resolution	André Egbert/Dirk Neuber, Phoenix|X-ray
16:00-16:30	Benefits of Combining 2D & 3D AXI	Michael J. Smith, Teradyne
16:30-16:45	Fruit & Refreshments / Exhibition	
16:45-17:15	News from Conferences	Mick Austin; Artur Jutman, Mike Smith;
17:15-18:30	Panel debate: "The New Age of Wireless – RF Testing in Perspective"	*Panel moderator: Birger Schneider*
20:00	Dinner	
21:30	Social get-together	

Time	Titles	Speakers or additional info
8:30-10:00	**Session 3 RF Testing**	*Chairman: Birger Schneider*
8:30-9:00	RF Testing	Leif Johansson, National Instruments
9:00-9:30	Bluetooth, RFID & Zigbee Short Range Technologies, Test Requirements Seen From a T&M Supplier	Tomas Rønberg, Rohde-Schwarz
9:30-10:00	RF Testing	Kristian O. Johansen, Notelco
10:00-10:30	Coffee Break / Exhibition	
10:30-12:00	**Session 4 Functional Testing/Remote Test**	*Chairman: Stig-Gunnar Jensen*
10:30-11:00	Introduction to the Remote Access Testing Platform Project	Juha Häkkinen, Oulu University
11:00-11:30	Protocol Requirements in an SJTAG/IJTAG Environment	Erik Larsson, Linköping TU
11:30-12:00	Synthetic Instruments User Case	Birger Schneider, microLEX
12:00-13:00	Lunch	
13:00-14:30	**Session 5 Fixturing**	*Chairman: Bengt Magnhagen*
13:00-13:30	Enhancing Mass Interconnect performance in PXI based test systems	Gary Clayton, MAC Panel.
13:30-14:00	Importance of a Good Test Interface	Peter Van Oostrom; Virginia Panel Corporation
14:00-14:30	Test Challenges in the Norwegian Market	Espen Evjenth, Testpro
14:30-15:00	Coffee Break / Exhibition	
15:00-16:30	**Session 6 Boundary Scan**	*Chairman: Mick Austin*
15:00-15:30	Combined Boundary Scan and analog testing	Alex Vestergaard; FOSS Analytical
15:30-16:00	Why JTAG / Boundary Scan, with Technology and Market evolution	Joao De Oliveira; XJTAG
16:00-16:30	A low cost board tester built on IEEE std 1149.4	Anthony Sparks; JTAG Technologies
16:30-16:40	TestForum Close	Knut Båstoløkken

Exhibition

As in previous years, there will be a mini exhibition related to the tools and methodologies relevant to the TestForum event. Suppliers can make arrangements with NTF about exhibition space. If nothing special has been agreed, a table of about 70x140 cm^2, as well as space for posters or similar material will be made available.

Practical information

The **Seminar Fee** adds to EUR 390 for NTF members and EUR 425 for others. The fee includes participation, food and refreshments from Tuesday morning to Wednesday afternoon as well as documentation on CD. Exhibitors pay EUR 750, which also includes the participation of a single person.

The seminar fee will be invoiced directly to the organisation, 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 organisation 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 EUR 133 (DKK 985) single and EUR 160 (DKK 1185) double per night, including breakfast.

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

The **Final Registration is Monday, November 12th, 2007**, 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

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

- http://www.nordictestforum.org/events/ntf07_registration.htm

Or by contacting the TestForum 2007 secretariat at: microLEX Systems

microLEX Systems A/S
Dr. Neergaards Vej 5C
DK-2970 Hoersholm
Danmark

Att.: Suzanne Holte

Tel.: +45-45 76 21 00
Fax: +45-45 76 22 00
Email: sho@microlexsys.com
Web: www.microlexsys.com

Please indicate, whether you register as:

NTF member	EUR 390
A non-member	EUR 425
An exhibitor, i.e. wants to participate in the small exhibition:	EUR 750

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

- Date of arrival
- Date of departure
- Single or double room

Become 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, or similar, you may register as member of Nordic Test Forum, NTF e.g. of the following reasons:

- 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 TestForum events.
- Membership list

You can register for NTF membership on the WEB page: http://NordicTestForum.org

Nordic Test Forum in Short

TestForum 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.

TestForum 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 *TestForum* event) was extended to include all the Nordic countries. The language of the official presentations is English. Content and focus of the TestForum varies over time, but always within topic areas in focus at a given point in time.

TestForum 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 TestForum 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.

TestForum 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 Group of TestForum

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 TestForum and NTF

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

Comwell Borupgaard, Snekkersten, Danmark

Located in beautiful North Zealand (Nordsjælland), you find one of the most attractive hotel and conference centers in Denmark. An old manor house with the addition of a new, modern-style wing creates a unique atmosphere combining old fashioned charm with completely modern facilities.

Comwell Borupgaard offers 158 bright, comfortable rooms including 4 suites, two fine restaurants and a banqueting hall (seating capacity 450), indoor pool, fitness center and beautiful surroundings. The charming city of Elsinore (Helsingør) with Hamlets castle Kronborg, Sweden and Louisiana Museum of Modern Art are all close by.

Transport to Comwell Borupgaard

Comwell Borupgaard is located 400 m from Oeresund (Øresund), about 40 km North of Copenhagen (København) and 3½ km South of the city center of Elsinore (Helsingør).

Copenhagen(København). If you arrive from Copenhagen, it is quite easy to come by public transportation. Take the train on the coastal route (Kystbanen), direction Elsinore (Helgingør). You may leave from the Central Station, from stations at Nørreport or Østerport or other stations on the costal line. Trains are leaving every 20 minutes. The trip to Snekkersten is about 45 minutes. Snekkersten is the second but last station before Elsinore. Upon arrival at Snekkersten, leave the station towards North, step across the street and here you see the small lane leading up to Comwell Borupgaard. You will have to walk about 250 m.

Kastrup, Copenhagen Airport. You may take public transportation. Take the train, one level down from the arrival hall, direction Elsinore (Helgingør) via Copenhagen Central Station. The trip takes 1:02 hours.

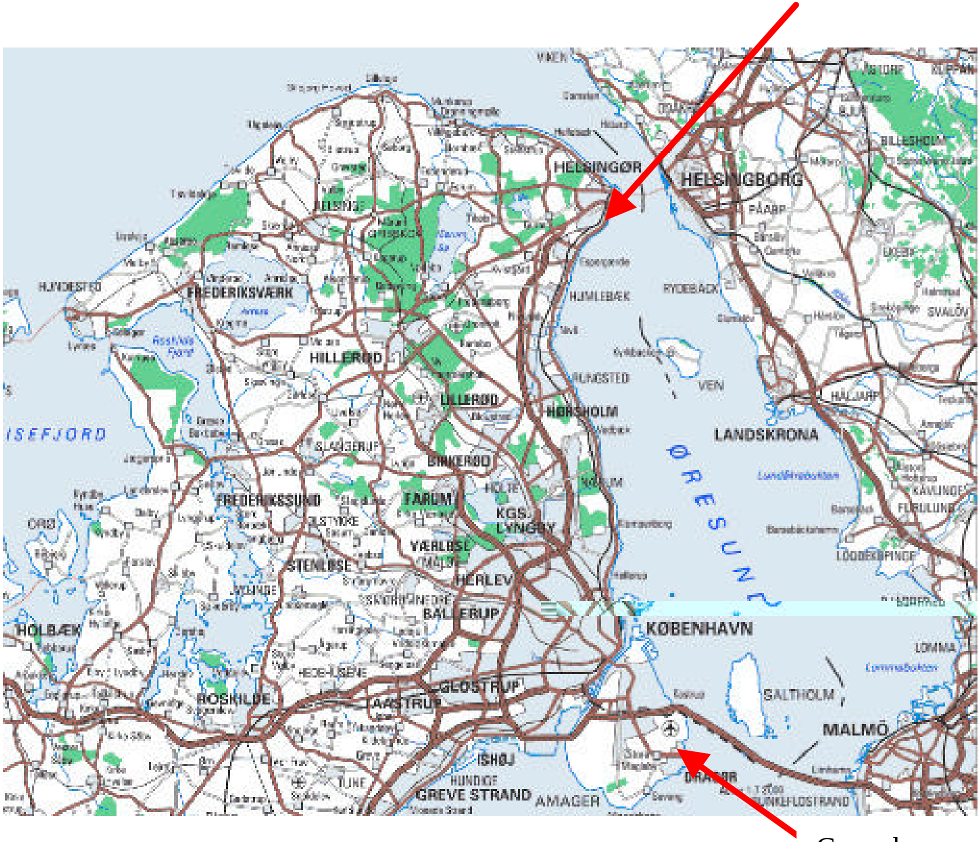
Normally you need not change at Copenhagen Central Station but can remain in the same train. Follow the same procedure as above (Copenhagen).

Elsinore (Helsingør). Take the train Southbound for Copenhagen one station and get off at Snekkersten, or get a taxi for the 3½ km ride. (Ferries to and from Sweden leave every 20 minutes from Elsinore to Hälsingborg in Sweden. The ferry to Oslo may be boarded at Hälsingborg).

By Car via Motorway E47/E55. Drive North, direction Elsinore (Helsingør). When the motorway ends, continue straight on towards Elsinore on the Kings Road (Kongevejen). At the second roundabout turn right towards Snekkersten following O3, “Klostermosevej”. Drive about 1½ km until you reach a railway viaduct. Do not go under this but turn left on “Nørrevej”. After about 800 m you reach the entrance for Comwell Borupgaard on your left.

By Car on the Coastal Road (Strandvejen). Halfway between the 38 km milestone, at Skotterup, og the 39 km milestone, at Snekkersten, you see a road, ”Klostermosevej” leaving in the direction of Northwest (opposite th coastal side). Follow this about 650 m until you have passed under two railway viaducts. Now turn right on “Nørrevej”. After about 800 m you see on your left the entrance to Comwell Borupgaard.

Comwell Borupgaard, Snekkersten



Copenhagen Airport, Kastrup


Snekkersten
Comwell Borupgaard
Railway Station
STAGET
JOLLEN
STOLBERGVEJ
KLOSTERMOSEVEJ
STRANDVEJEN
0
100 m