



# NMI FACR2008 “Quality & Reliability”

## Exhibitor Handbook

5&6<sup>th</sup> March 2008  
Wolfson Microelectronics – Edinburgh

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# 1 Introduction

Welcome to NMI's Failure Analysis, Characterisation & Reliability Network event. The theme of this 2008 event is "Quality Assurance of Semiconductor Products ". The event is split over 2 Days, dealing with two major topics related to Quality Assurance.

**Day 1:** Failure Analysis and the challenges of technology diversity and evolution

**Day 2:** Quality Options: Dealing with advanced nodes, products and applications

To complement the proceedings, table-top demonstrations and exhibitions will be available from leading service providers listed in this companion handbook.

## 2 List of Exhibitors

<b><i>Company</i></b>	<b><i>Table Top No#</i></b>
CEMMNT	1
eXceptionPCB	2
Optocap	3
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## 4 Exhibitor Information

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Sir Denis Rooke Building  
Holywell Park  
Loughborough University  
Loughborough  
Leicestershire LE11 3TU  
UNITED KINGDOM

The Centre of Excellence in Metrology for Micro and Nano Technologies (CEMMNT) provides unrivalled measurement, characterisation, analytical and systems engineering services. We have the most comprehensive capability in the UK, offering over 50 different metrology and surface analysis techniques and the problem solving expertise of 250 specialists from industry leading partners.

The cost benefits of systematic metrology and surface analysis for organisations developing products and processes which utilise micro and nanotechnologies are substantial and are highlighted by our comprehensive range of applications. CEMMNT accelerates innovation by delivering rapid response solutions in all industrial market sectors from single technique surface analysis to bespoke R&D projects.

## Table No. 2 eXceptionPCB

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Tel: +44 (0) 1684 292448  
Addr: Alexandra Way,  
Ashchurch Business Centre  
Tewkesbury  
Gloucestershire UK  
GL20 8NB



### Supply and Service Provided

eXception PCB specialize in manufacturing prototypes and low volume, high technology Rigid, Substrates and Flexible Printed Circuit Boards with or without Blind/Buried/Micro Via's from our factory in Tewkesbury, UK. Supply lead times are from 24 hours and we supply PCB's across all of the UK, Mainland Europe, Africa's as well as Asia and USA.

We are a very dynamic, customer focused manufacturing option and believe in the concept of total support from design/engineering through to support post manufacture.

### Capabilities:

- . Micro Via and Flat Pad Technology
- . Quick Turn supply of Flipchip, CSP and WL Packaging Substrates
- . Copper filled Blind and PTH Vias
- . Micro Via Tower (4+N+4) constructions
- . Impedance Control
- . Fast Turn Prototypes
- . Lead Free Manufacture
- . Extensive range of material options (HiTG FR4, Ceramic, Halogen etc)
- . Flex and Flex-Rigid
- . DFM support (on site within 24hrs)
- . Volume supply/sourcing
- . PCB assembly

### Table No. 3 Optocap Ltd

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5 Bain Square  
Kirkton Campus  
Livingston  
EH54 7DQ



Optocap is a design, engineering and manufacturing service provider for packaging and assembly in the Microelectronic/Optoelectronic industry. Optocap provides advanced packaging solutions to a world-wide client base of blue-chip multinationals and leading-edge start-ups.

Optocap offers the following services;

- Package design, modeling and verification
- Prototype and Pilot assembly
- New product introduction
- Automated volume manufacturing process development
- Volume manufacturing process transfer
- Volume sub-contract manufacturing
- Supply chain management
- Environmental testing
- Failure analysis

Optocap utilizes its capabilities and know-how into a wide variety of optoelectronic technology platforms including;

- High power laser diode bars, stacks and single emitters
- Fibre coupling
- TOSA/ROSA modules
- High Brightness LED's
- OLED's
- Medical Devices

## Table No. 4 Maser Engineering

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Tel: +44 (01367) 252-265  
Addr: UK Branch Office  
Redcroft Associates  
Hambridge Lane  
Lechlade  
GLOS  
GL7 3ED



### **MASER Engineering services include:**

#### **Reliability Test**

- Qualification tests
- ESD / LatchUp
- HALT / HASS
- Drop / Shock / Vibration

#### **Physical Analysis**

- Failure Analysis
- Construction Analysis
- Non Destructive Analysis → XRAY(2D&3D) / C-SAM
- Fault localisation → EMMI / OBIRCH / Structural E-Test
- Microscopy → Optical / SEM/EDX / (S)TEM/EDX / Dual-Beam FEGSEM+FIB
- Front & Back side Integrated Circuit Edit including copper metal edit
-

## Table No. 5 SiVenture

Contact: John Walker  
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Maidenhead, Berkshire,  
SL6 7BU, UK



SiVenture offers the following services.....

- Security Analysis
- Circuit Edit
- Failure and Process Analysis
- Micromachining and Nanotechnology
- Specialised Device Processing
- Circuit and Device Testing

## Table No. 6 SOLIDO Design Automation

Contact: Ian Yates  
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Saskatoon, SK,  
Canada S7N 3R3



Solido Design Automation provides Process Variation Solutions for Transistor Level Designers.

SolidoStat is a second generation statistical variation tool suite which allows process effects to be considered early in the design cycle. It provides designers with an insight into complex, non-linear circuit behaviour and allows them to automatically explore design options to maximise robustness while avoiding over-design, so increasing yield and reducing the risk of re-spins.

**Table No. 7**                      **IBM Global Engineering Solutions STG**

Contact:     Andy Buick  
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Addr:         Normandy House, PO Box 32, Bunnion Place  
               Basingstoke, Hants, RG21 7EJ  
               IBM Systems & Technology Group  
               Microelectronics Division  
               UNITED KINGDOM

**About Andy Buick:-**

Andy is a Senior FAE with IBM Microelectronics and is Team Leader for the European Foundry FAE team. Prime responsibilities include being the prime local technical interface for Foundry clients into IBM. He is now in his eleventh year with IBM, having joined from ST Microelectronics. Andy gained a BEng (Hons) in Electronic Systems and Control Engineering from Sheffield Hallam University.

**About IBM Microelectronics:-**

Associated enablement and IBM foundry services provide end-to-end solutions for the consumer electronics, networking, automotive, wireless communications, power management, media and entertainment, and aerospace and defence markets. Our offerings include bulk complementary metal-oxide-semiconductor (CMOS), low-power CMOS, RF CMOS, silicon-germanium (SiGe), high voltage, and silicon-on-insulator (SOI) technologies

Other services offered include Test and Packaging services.

**Table No. 8 FEI Company**

Contact: Ed Clark  
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Web: [www.feicompany.com](http://www.feicompany.com)  
Tel: +44 7776 162108  
Addr: FEI Company  
NanoElectronics Division  
UNITED KINGDOM

**Broad product line that creates and measures nanostructures**

- Scanning Electron Microscopes for Imaging and Analysis on a Micro and Nano scale
- Focused Ion Beam Systems for Nano-machining and Cross sectioning
- DualBeam™ Systems combine SEM and Ion Beam for Machining and Imaging together
- Scanning and Transmission Electron Microscopes for Imaging and Analysis on an Atomic Scale

## Table No. 9 Hamamatsu Photonics Uk Ltd

The logo for Hamamatsu Photonics UK Ltd, featuring the word "HAMAMATSU" in a bold, red, sans-serif font.

Contact: James Owens

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Addr: Hamamatsu Photonics UK Ltd.

2 Howard Court

10 Tewin Rd

Welwyn Garden City

Hertfordshire

AL7 1BW

Established in 1988, Hamamatsu Photonics UK Ltd (HPUK) is a wholly owned subsidiary of Hamamatsu Photonics KK. Located in Welwyn Garden City, HPUK provides technical sales support for the UK, Eire, South Africa and India.

Hamamatsu is renowned as an innovator and manufacturer of high quality products, designed to cover the entire optical spectrum. We provide standard and customised solutions for a wide variety of applications such as analytical instruments, medical diagnostics, biotechnology, consumer electronics and industrial control.

Whether you are looking for a single cell photodiode for photometry, or an ultra-fast optical detection streak camera for analysis of material properties, we can help. Our highly qualified sales engineers provide expert assistance in finding the optimum solutions from our wide range of state-of-the-art optoelectronic products.

HPUK supports the advancement of industry and research, through discovery of new opportunities using Photonics technology. Building strong working relationships is central to this philosophy and HPUK aims to create partnerships with our customers, enabling us to provide the best possible service.

Hamamatsu Photonics UK Limited is certified to ISO-9001:2000.

## Table No. 10 Reltech

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Lower Cam,  
Dursley,  
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Reltech provides Start up and Established Fabless Semiconductor companies with full Turn-Key solutions to Biased Life Test Qualification Testing of new devices prior to volume manufacture

Qual Planning and Biased Test Strategy Development,  
Test Hardware, Software - design and manufacture,  
Performing Biased Life Testing – High Temperature Operating Life  
(HTOL), Temperature Humidity Bias (THB), HAST & Power/Temperature Cycling.

### Technologies Served

Highly Integrated Single Chip solutions  
CMOS VLSI 180nm - 65nm Semiconductor devices  
RF, Digital,

## Table No. 11 Teradyne

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The Western Centre,  
Western Road, Bracknell,  
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Teradyne is a leading worldwide supplier of automatic test equipment for logic, RF, analog, power, mixed-signal, and memory technologies. Teradyne deliver test solutions to developers and manufacturers of a broad range of integrated circuits, packaged separately or integrated as cells in system-on-a-chip (SOC) devices. ICs tested by Teradyne are used in computing, communications, consumer, automotive, identification, and internet applications.

Teradyne's Test Assistance Group provides turnkey solutions for all aspects of Test program generation, from helping to define device test specifications, to delivering test solutions to production. The Test Assistance Group also provides test hardware design and manufacture services for both final test and probe applications.

## Table No. 12 DELTA

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Tredomen Business Park,  
Ystrad Mynach ,  
Hengoed, CF82 7FN



DELTA is known throughout the world for its position at the forefront of technological development and complex testing. The company brims with creative minds and highly skilled technicians whose job is to both develop and carry out many kinds of stringent tests for customers that plan to release new products on the market.

DELTA's core technologies are electronics, microelectronics, software technology, light, optics, acoustics, vibration and sensor technology. Within these specialist fields, DELTA carries out a vast range of assignments targeted at solving specific customer problems and enabling them to meet their objectives.

DELTA also carries out a multitude of electronic equipment tests, exposing products to anything from cold, heat, humidity and vibrations to knocks and splashes of water. Using real-life situations is a good test of durability and performance. The fact that half the products fail their test proves that the DELTA test centre has an important role to play in product development and in ramping products up for launch.

## Table No. 13 EURIMEL Reliability Eng. Service cluster

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Bailrigg

Lancaster

LA1 4YR

- Reliability Analysis (Accelerated life testing, statistical data processing, failure analysis)
- Test structure design
- Research Services (PoF, Reliability Methodologies)
- Consultancy
- Training
- A cluster of experts:
- international team (15 European research institutes and universities),

## Table No. 14 LSA

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Addr: PO Box 5016  
Holywell Park  
Ashby Road  
Loughborough  
Leicestershire  
LE11 3WS

The logo for LSA, consisting of the letters 'LSA' in a large, blue, serif font. A horizontal blue line is positioned directly beneath the letters.

LSA provides a responsive, confidential, professional contract surface analysis service to industry and universities.

LSA is well established and has a high reputation in the surface analysis community. The company was founded in 1997 by Alison Chew, Mike Petty and David Sykes with a vision of creating a contract analysis facility able to apply surface chemical analysis techniques to the widest range of technological problems.

The company's staff is experienced at working with a wide range of industries and assisting with

- failure analysis
- materials characterisation
- contamination identification
- process matching
- quality control
- reverse engineering
- research and development

## Table No 15 UNISEM

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Addr: Parkway,  
Pen-y-Fan Industrial Estate  
Croespenmaen, Crumlin  
South Wales, NP11 3XT  
United Kingdom

UNISEM Europe services include the following:

- New Package selection review and advice (including SiP and MCM)
- Package design and development for wide variety of package styles
- Failure analysis
- Reliability and qualification testing
- Test development, Test consultancy via partners
- Fast turn prototyping (BGA, QFN)

Benefits include:

- Part of the international Unisem Group
- UK Location
- Communications links
- Flexibility
- Responsiveness
- Time zone
- Range of packaging, test and support services.
- And transfer of mass production to Unisem's low cost Asian plants.