

INVITATION ◀

OCTOBER 18TH | 2012

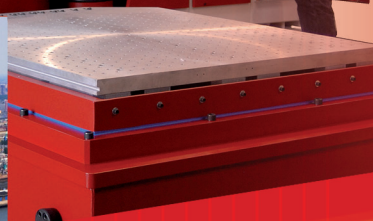
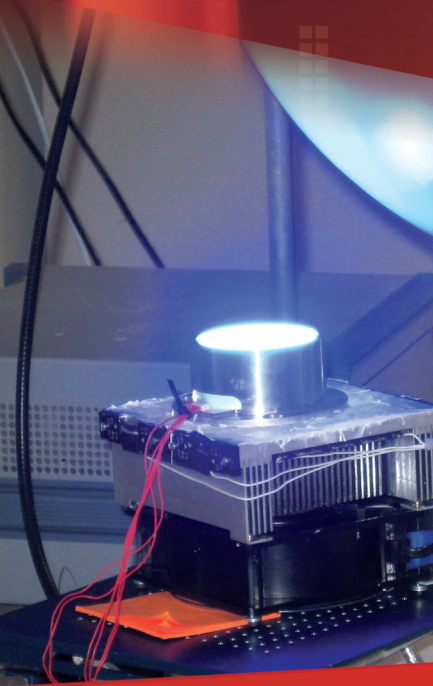
CONFERENCE ON ENVIRONMENTAL TESTING

LOCATION: RDM CAMPUS

ROTTERDAM

EUROPEAN CEEES SEMINAR

EUROPEAN RELIABILITY AND ENVIRONMENTAL TESTING CONNECTED



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PLOT, the Dutch Association for Environmental Engineering (Platform Omgevings Technologie) aims at stimulating the development and popularity of Reliability and Environmental Testing. First by providing an extensive competence network and second to share information to the industry as extricated by this network.

The organisation of a yearly conference is one of the PLOT activities, which is brought this year into European CEEES perspective because of PLOT's upcoming presidency of CEEES. CEEES stands for Confederation of European Environmental Engineering Societies, the European umbrella over local organisations in Austria, Belgium, Czech Republic, Finland, France, Germany, Italy, the Netherlands, Portugal, Sweden, Switzerland, United Kingdom and others.

The conference theme "European Reliability and Environmental Testing Connected", is not just a theme, it is the base for the broadest European knowledge network, enabling you to make the right connections in Europe. "Connected" means to be connected to current and future developments in this rapid growing area, as well as to be connected to the CEEES members, leading industries, knowledge centres and trend watchers. Special focus is on the three technical advisory boards within CEEES: mechanical environments, reliability & environmental stress screening, and climatic & atmospheric pollution effects.

The future of "Reliability and Environmental Testing" technology will be destined by the drive for product reliability and sustainability during the complete lifecycle. This has to be guaranteed already in the early design phase of a new product in a cost and time efficient way. To bring these demands to reality, new methods and techniques are being developed and applied in industry and science. Considerations from life cycle analysis, (virtual) simulation, modelling followed by accelerated testing and analysis, and with respect to the green environmental footprint.

The framework for the whole conference is set by two questions:

- What is the state-of-art today in "Reliability and Environmental Testing" and how does this develop?
- Where can I find actual, relevant knowledge in this perspective, which is of course not written in books yet?

Bringing this all together, results into a unique and realistic overview of today's and tomorrow's 'hot' topics in just a one day seminar. Of course, more details can be achieved connecting to one of the CEEES members. Besides the technical presentations, demonstrations and further information will be given in an exhibition by CEEES members. And last but not least, the day will be closed by an 'Innovation Tour' where brand new developments by young professionals will be shown in the 'innovation dock'. The connection between theory, testing, applied science and practice.

We hope that you will join this seminar at the historic RDM wharf in Rotterdam and that you become connected to CEEES and PLOT to join us in this challenging and growing area. Looking forward to meet you!

For more information: www.fhi.nl/plot2012, www.rdmcampus.nl, www.ceees.org

WHO SHOULD ATTEND

The European CEEES seminar 2012 should be attended by representatives of the following industries:

- Electronic products manufacturers
- Automotive industry
- Aerospace & defence
- Building materials industry
- Shipbuilding industry
- Machine construction industry
- Packaging industry
- Transport
- Insurance companies

From these industries the following employees are expected to participate in the conference:

- Product designers/developers
- Quality Assurance officers
- Production technologists
- Product specialists
- Test engineers
- Technical management
- Purchasing officers
- Damage experts

LOCATION & ROUTE DESCRIPTION

RDM Campus

Heijplaatstraat 17
3008 KA Rotterdam
The Netherlands

Route description:
www.fhi.nl/plot2012

Programme

09.30 - 09.55

Opening and introduction of the day

In times of crisis, savings and prolonged product use, the economic value of reliability and environmental testing enjoys a steadily and rapidly growing interest. Never, the developments in this area went so fast as today, leading to faster test techniques, more efficient testing and more tailored. Besides, the growing interest in green environment and sustainability is leading to longer and different product use, other materials and recycling aspects. Aspects as well strongly connected to Reliability and Environmental Testing.
Chairman PLOT - Harry Roossien (Tonalite)

10.00 - 10.25

Megatrends, industrial innovation and the role of supply chain management

In the present third industrial revolution we are confronted with so-called megatrends: fast appearing causes and often long-term consequences. It is of critical importance that companies respond quickly. An integral approach is needed to manage nowadays innovations. Supply chain management has always moved along, particularly for the last twenty years. As well for Siemens! What do these megatrends mean for industrial innovations and supply chain management and which developments did Siemens go through?
Yvo Janssens - Siemens

10.30 - 10.55

Coffee break

11.00 - 11.25

Track: climate and atmospheric Pollution effects

Sunburned products: numerical ageing caused by sun exposition

A methodology will be presented which allows to predict the accumulated effects of environmental impacts (solar radiation, temperature, humidity etc.) on components by given material, geometrical, geographical and environmental data as well as exposure time by means of computer simulation.
Axel Müller and Teodora Vatahska - HTCO

Track: mechanical environments

Interlaboratory comparison

A dedicated model has been designed to allow comparison of measurement results during vibration tests between test laboratories. These comparisons can be used to evaluate and compare the lab measurement performance. This presentation covers the design issues and early results of such a comparison study.
Filip Nauwelaerts - Laboratoria de Nayer

Track: reliability and environmental Stress screening

Ageing performance of relays - evaluation based on a 13 year in-service study and life testing

Electromagnetic relays are still extensively used in nuclear power plants. Although proven highly reliable and stable there is a need to know their remaining useful lifetime and to detect possible ageing phenomena early. Results of life tests in laboratory and a 13 year follow-up in the field are presented.
Helge Palmén - VTT Expert Services Ltd

11.30 - 11.55

Atmospheric corrosion tests - the trends in the advanced cyclic climate tests

Ever increasing manufacturer's requirements for improving the quality of their products, extended product lifetime, shorter development time, global sourcing and increasing range of environmental regulation are just a few relevant matters that strengthen the need for advanced and accelerated atmospheric corrosion testing. This presentation is about providing key insights in modern means of corrosion testing.
Darko Antic - VLM

Six degrees of freedom vibration testing of spacecraft and launch vehicles

Testing of large payloads and full launch vehicles can require more force than can be produced by a single actuator. One solution to this problem is a table with multiple actuators to produce the higher force levels. These systems include hydrostatic bearings and couplings that allow the table to produce multiple degree of freedom of vibration. This configuration presents a number of challenges for the vibration control system. In this paper, we describe a novel multi-axis sine vibration control system designed by data physics corporation for single-axis testing using multiple degree of freedom vibration tables.
Ad Bastiaanssen - ABtronix

Knowledge Based Qualification of Semiconductor Devices

In 2008, NXP introduced the knowledge based qualification method via its internal policy document, the NXP quality & reliability specification. To make this method effective, knowledge needs to be accessible. Therefore, NXP developed a framework that connects the "daily user" to reliability knowledge, data, tools, and methods. A high level overview of the NXP knowledge framework will be presented. An important framework element is the reliability knowledge matrix of failure mechanisms, based on the robustness validation knowledge matrix published by ZVEI and JEDEC publication on failure mechanisms. This presentation explains the benefits of "collective knowledge".
Rene Rongen - NXP Semiconductors

12.00 - 12.25

Simulating sun and other weathering conditions

Fundamentals of weathering emphasizes lightfastness and weathering durability testing techniques. Those techniques include natural and accelerated outdoor exposure testing as well as laboratory accelerated methods and instruments. An introduction of how various factors of weathering and climate, such as solar radiation, heat and moisture effect materials. Attention will be given to the testing techniques of different industrial application as protective coatings, automotive material, molded plastics, etc.
Mark de Waard - Rycobel

Shaken, stirred and floating around

The mechanical environment for space products is subject of this presentation. Products are designed against contradictory requirements, they must be as light-weight as possible, but still withstand the launch into space. In this zero-gravity situation they might encounter great temperature differences that will lead to high thermo-mechanical stresses. Some products even have to survive a re-entry into the earth's atmosphere. With some examples the simulated environmental tests are shown. Testing is very important in space industry; you can't ask your satellite to be brought back to do some re-work....
Jan Geerse - Dutch Space

Accelerated testing: physics-of-failure

Since determining a product's reliability involves testing all parts of that particular product this is a tedious, time consuming and expensive work. Therefore the (electronics) industry seeks means to speed up test procedures, for instance by designing accelerated tests and developing predictive models. In this contribution some aspects will be discussed that play a role in physics-of-failure: material properties, testing and modeling.
Hans de Vries - Philips

12.30 - 13.25

Lunch

13.30 - 13.55

Heineken; innovation and testing

Innovation is at the heart of our company strategy to deliver top-line growth. We work to continually surprise and excite our consumers and meet changing consumer preferences. Our innovation projects are supported by an innovation process with several product testing activities to prevent quality deviations at market launch. Various tests are executed by internal and external laboratories on beer quality, technical performance, product handling and transport. We work together with the "Topa institute" to forecast transportation influences in the development phase of new packaging. This way of working is explained with some examples of recent innovations.
Jan Pieter van Kempen - Heineken

**Track: climate and atmospheric
Pollution effects**

14.00 - 14.25

Solar testing in climate chambers

Determining the performance and reliability of solar energy as well as bio energy products is critical for the success and reputation of these renewable energy sources. Especially since these industries are fast growing and under constant development. Therefore, controlled environmental testing conditions are required to an increasing extent. This demands a test setup that generates any combination of temperature, humidity and accurate solar irradiance in particular.
Stefan Roest - Eternal Sun

Track: mechanical environments

Impact of shipping and distribution on product reliability: a forgotten testing parameter?

Poor packaging or shipping damages can cause out-of-the-box failures immediately at the beginning of the life of the product and even worse unpredictable somewhere during lifetime. And that, where in the market „infinite“ product reliability is expected and required. Product developers tend to extensively test products reliability for life-time conditions. However the „pre-stressing“ effects of shipping and distribution are not part of this common reliability testing protocols. And shouldn't it be? IPS Technology will show some examples of regular non-destructive shipping test programmes. Also examples to incorporate shipping and distribution tests alongside the normal reliability testing will be shown.
Marten Ries - IPS Technology

**Track: reliability and environmental
Stress screening**

Life cycle analysis

Structural durability of truck components: specification of test criteria and test methods.

In the development of heavy goods vehicles durability tests are performed to safeguard structural integrity; the criteria for these tests are developed to serve 2 purposes:

- A criterion in terms of component loads to be used in the design process
- A sign off criterion for durability testing.

Vehicles that pass the sign off tests are expected to last in the field: the failure rate must be so low as not to affect the perception of reliability in any significant way. Also safety shall never be impaired. At the same time this must not lead to a costly degree of over-design.
Simon de Cock - DAF Trucks NV

14.30 - 15.00

Break

15.00 - 15.25

Sensor technology in agriculture

Agriculture is facing the challenge of a fast growing global population wanting safe and sustainable produced food. At the same time issues like the availability of land for food production and the availability of good quality irrigation water make it difficult to meet this challenge. Dacom has developed "Agri Yield Management", the intelligent use of a combination of sensor technology, agronomic knowledge, internet technology and information of the field. Agriculture counts for 70% of the global water usage. By implementing AYM it has been proven that the irrigation amounts can be reduced by 30 - 50%.
Jan Hadders - Dacom

Compliance assessment for chemical substance regulations - another view on environmental testing

REACH, ROHS and other substance regulatory requirements are restricting the choice of specific materials and substances. Since these restrictions may have impact on product reliability it is important to include these requirements in the early design phase. Philips is working closely with its suppliers and is asking to provide product compliance information by making BOMcheck declarations. There are a number of hurdles to overcome such as awareness raising and confidentiality issues. A further challenge is how to connect the compliance data within the product design tools (PLM systems) to enable designers to include this information in their (eco-) design decisions.
Poppe Onrust - Philips Healthcare

Reliability assessment based on accelerated de-rated strength approach

A general product development trend is the reduction of the Time to Market (TTM). TNO has developed a novel reliability assessment concept, which shortens the number of required test cycles and therefore often directly contributes to a shorter TTM and a reduction of the overall product development costs. The concept is based on a combination of de-rated strength testing and multi environment loading and uses both simulation and physical testing techniques. The possibilities of the concept were explored using a Ball Grid Array (BGA) test carrier. Especially suitable for assessing the potential of new materials and technologies.
Erik Veninga en Sander Gielen - TNO Technical Sciences

15.30 - 15.55

Environmental simulation in the e-mobility

Environmental Simulation in the e-mobility is an important part of future developments in the (car)industry. Not only Li-Ion batteries need to be developed and tested on multiple criteria, but also electronics, motors and fuel-cells have to be tested. In our presentation we would like to show the different components, their specific test requirements and our test solutions for these components in the e-mobility.
Dirk van Manen - Weiss Enet

Using modeling and simulation to test and optimize the performance of a printing process

The printing process plays an important role in digital manufacturing. When developing a new digital manufacturing application, chances are high that one or more phases of the printing process will form a challenge. Insight in the printing process is a requirement to overcome these challenges and develop a robust printing process and application. Next to real live experiments, simulating the phases of the printing process will provide the necessary insight at an early stage of the development process. An overview will be presented of a set of simulation models covering the different phases of the printing process.
Jakko Nieuwenkamp - Reden

MEMS device application based testing

The growth in applications of MEMS devices has impact on the test and screening procedures for these devices. Since these devices transfer physical parameters into an electronic system vice versa, these physical parameters have to be part of the testing procedure. Many MEMS devices use packaging techniques of the electronic industry. MASER Engineering is involved in application specific test procedures for MEMS. This presentation will give an overview of MEMS related tests and some examples of the MASER Engineering experience with the adaption of test procedures for this class of devices.
Kees Revenberg - MASER Engineering

16.00 - 16.25

Trends in high tech systems

Lecture on important technology, sustainability and management trends in the high tech systems and high tech systems industry 2020
Joost Krebekx - Berenschot

16.30 - 17.30

Innovation Tour + drinks

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Exhibitors

 <p>ABTRONIX B.V. Professional T&M Equipment</p>	 <p>Airtest solutions</p>	 <p>j.j. bos b.v.</p>	 <p>hielkema TESTEQUIPMENT B.V. Temperature (& humidity) chambers</p>
www.abtronix.com	www.airtest.nl	www.jjbosbv.nl	www.hielkematest.nl
 <p>LABORATORIA DENAYER</p>	 <p>MASER ENGINEERING</p>	 <p>reden research development nederland</p>	 <p>rycobelgroup</p>
www.labodenayer.be	www.maser.nl	www.reden.nl	www.rycobel.nl
 <p>S2T: YOUR DYNAMIC PARTNER</p>	 <p>technex bv</p>	 <p>WEISS ENET ENVIRONMENTAL SIMULATION</p>	
www.s2t.nl	www.technex.nl	www.weissenet.nl	

Partners

 <p>CEEES</p>	 <p>e elektronica + embedded systems</p>	 <p>Environmental Engineering JOURNAL OF THE SOCIETY OF ENVIRONMENTAL ENGINEERS</p>	 <p>TW TECHNISCH WEEKBLAD</p>
www.ceees.org	www.engineersonline.nl		www.technischweekblad.nl

Plenary speakers

 <p>Berenschot</p>	 <p>Heineken</p>	 <p>SIEMENS</p>	 <p>tonalite</p>
www.berenschot.nl	www.heineken.nl	www.siemens.nl	www.tonalite.com

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Organisation

The European CEEES seminar 2012 is organised by PLOT, secretary and facilitation by FHI, federation of technology branches. The conference programme is defined and implemented by the members of the board of the PLOT association:

- Harry Roossien - Tonalite
- Boudewijn Jacobs - Philips Innovation Services
- Jan Geerse - Dutch Space
- Peter Hielkema - Hielkema Testequipment
- Kees Revenberg - Maser Engineering
- Erik Veninga - TNO
- Ronnie van Leeuwen - Thales Cryogenics