The Tire Technology Conference is the most highly regarded annual tire conference in the world, with attendees coming from more than 45 countries. Delegates will have the opportunity to see presentations over three days. Speakers are selected from among the world’s leading experts on tire development and manufacturing. This respected conference, coupled with an impressive exhibition, makes the event essential for anyone involved in the tire-making process! Read on for more information...
What is the background to your presentation?
We hope to encourage rubber manufacturers to use micronized rubber powder and our new product EkoDyne functional compound in high-performance applications (for low rolling resistance and high wet grip) like the silica-silane, S-SBR rubber tire treads. We have done some basic testing of physical properties and dynamic testing for predictions of wet grip, rolling resistance and banker tire traction. These materials are sustainable and more environmentally friendly, and can be used to achieve performance targets. We will discuss different incorporation and formula modifications for optimizing performance.

What stage of development is the EkoDyne compound in?
Right now it’s in the experimental phase and we are performing validation tests with selected customers for feedback. If this feedback is positive, we’re planning to produce pilot samples in the first half of 2015, with commercialization at the end of the year. This will include Europe, where we are setting up a production facility to supply our customers there.

What is the pilot study you’ve conducted, on which your presentation is based?
In Canada, consultations to develop a tire consumer information program have begun and industry has agreed that winter tires should be included. Recently, the Government of Canada undertook a pilot project, for which I was project leader, on a small sample of winter tire models. The pilot project begins to answer several questions with respect to test procedures, methodologies and approaches to report the fuel efficiency of winter tires in cold ambient temperatures, and the relationship between a winter tire’s rolling resistance and traction on wet and snow-covered surfaces.

What did it involve?
The pilot project involved randomly selecting 10 winter tire models from those available on the Canadian market, and testing the tires for rolling resistance, snow traction, and wet traction. Preliminary results, which we hope to present at the show, will give an indication of the relationship between tire performance parameters, and the quantity of tires required to give statistically valid results.

What is the pilot study you’ve conducted, on which your presentation is based?
In Canada, consultations to develop a tire consumer information program have begun and industry has agreed that winter tires should be included. Recently, the Government of Canada undertook a pilot project, for which I was project leader, on a small sample of winter tire models. The pilot project begins to answer several questions with respect to test procedures, methodologies and approaches to report the fuel efficiency of winter tires in cold ambient temperatures, and the relationship between a winter tire’s rolling resistance and traction on wet and snow-covered surfaces.

What did it involve?
The pilot project involved randomly selecting 10 winter tire models from those available on the Canadian market, and testing the tires for rolling resistance, snow traction, and wet traction. Preliminary results, which we hope to present at the show, will give an indication of the relationship between tire performance parameters, and the quantity of tires required to give statistically valid results.

What is the background to your presentation?
We hope to encourage rubber manufacturers to use micronized rubber powder and our new product EkoDyne functional compound in high-performance applications (for low rolling resistance and high wet grip) like the silica-silane, S-SBR rubber tire treads. We have done some basic testing of physical properties and dynamic testing for predictions of wet grip, rolling resistance and banker tire traction. These materials are sustainable and more environmentally friendly, and can be used to achieve performance targets. We will discuss different incorporation and formula modifications for optimizing performance.

What stage of development is the EkoDyne compound in?
Right now it’s in the experimental phase and we are performing validation tests with selected customers for feedback. If this feedback is positive, we’re planning to produce pilot samples in the first half of 2015, with commercialization at the end of the year. This will include Europe, where we are setting up a production facility to supply our customers there.

What is the pilot study you’ve conducted, on which your presentation is based?
In Canada, consultations to develop a tire consumer information program have begun and industry has agreed that winter tires should be included. Recently, the Government of Canada undertook a pilot project, for which I was project leader, on a small sample of winter tire models. The pilot project begins to answer several questions with respect to test procedures, methodologies and approaches to report the fuel efficiency of winter tires in cold ambient temperatures, and the relationship between a winter tire’s rolling resistance and traction on wet and snow-covered surfaces.

What did it involve?
The pilot project involved randomly selecting 10 winter tire models from those available on the Canadian market, and testing the tires for rolling resistance, snow traction, and wet traction. Preliminary results, which we hope to present at the show, will give an indication of the relationship between tire performance parameters, and the quantity of tires required to give statistically valid results.

What is the background to your presentation?
We hope to encourage rubber manufacturers to use micronized rubber powder and our new product EkoDyne functional compound in high-performance applications (for low rolling resistance and high wet grip) like the silica-silane, S-SBR rubber tire treads. We have done some basic testing of physical properties and dynamic testing for predictions of wet grip, rolling resistance and banker tire traction. These materials are sustainable and more environmentally friendly, and can be used to achieve performance targets. We will discuss different incorporation and formula modifications for optimizing performance.

What stage of development is the EkoDyne compound in?
Right now it’s in the experimental phase and we are performing validation tests with selected customers for feedback. If this feedback is positive, we’re planning to produce pilot samples in the first half of 2015, with commercialization at the end of the year. This will include Europe, where we are setting up a production facility to supply our customers there.

What is the pilot study you’ve conducted, on which your presentation is based?
In Canada, consultations to develop a tire consumer information program have begun and industry has agreed that winter tires should be included. Recently, the Government of Canada undertook a pilot project, for which I was project leader, on a small sample of winter tire models. The pilot project begins to answer several questions with respect to test procedures, methodologies and approaches to report the fuel efficiency of winter tires in cold ambient temperatures, and the relationship between a winter tire’s rolling resistance and traction on wet and snow-covered surfaces.

What did it involve?
The pilot project involved randomly selecting 10 winter tire models from those available on the Canadian market, and testing the tires for rolling resistance, snow traction, and wet traction. Preliminary results, which we hope to present at the show, will give an indication of the relationship between tire performance parameters, and the quantity of tires required to give statistically valid results.
Elastomer and Tyre Research Institute
(HASETRI)
Dr Shaun Immel, chief technology officer, Micro-Poise Measurement Systems
Dipl Ing Dieter Disselbeck, consultant, formerly Hoechst AG
Dr Hans-Joachim Graf, consultant, H JG Consulting
Dr Christopher Hardiman, director of technology, Industrias Negromex
Bernd Helbing, director, C4s, elastomers and derivatives, Europe, Middle East and Africa, IHS Global
Tiuro Tapio Trullila, director, chairman of the board, Test World Ltd
Brad Richard, engineer, Transport Canada
Akhay Sharma, engineer, HASETRI
Katarina Zaludkova Tancarova, European region marketing manager, Mesnac European Research and Technical Centre

Dr Mohamed K Hassan, executive director, Mesnac American Research and Technical Centre, Mesnac Co Ltd
Ritwick Paul, global product technology manager, SKI Carbon Black India Pvt Ltd
Dipl Ing Bernhard Müller, head of R&D, Elaststoff Industries GmbH
Dr Radek Stoeck, head of research, PRL Polymer Research Lab
Lutz Hermann, head of sales TBM, Harburg-Freudenberger Maschinenbau GmbH
Dr Daniel Javier Jufre, I+D Research, Kodel SA
Dr Andreas Schneider, innovation and product development BL rubber, Rhein Chemie Rheinbau GmbH
Dr Dina Malomo, lecturer/researcher, Federal University Oye Ekiti
Bernhard Lens, manager and head of T&L, Datalogic Automation Srl
Achim Sonntag, manager inspection systems, Micro-Epsilon Optotechnik GmbH

What stage has development reached and what have you discovered?
We are focusing on two types. We have relied on techniques used in the past but we have fine-tuned the formulations. The more advanced approach replaces the RF resin with other chemical substances that are able to form cross-links. We also found that a major influence comes from the latex that is applied, and that is one of the key factors toward success in making it work for all fibers. The second approach is currently under development for rayon only, but we are convinced that we can extend it to other fibers, too. The basic idea is to change or modify the surface of the fiber in such a way that new interactions with rubber are possible.

In what way do you believe your developments will impact the industry?
What is the background to your presentation?
Formaldehyde was recently confirmed as a highly carcinogenic substance. Environmental health and safety experts expect it to be banned from use in Europe years to come. Our intention was to create a resorcinol formaldehyde (RF)-free dipping solution not only for polyester and polyamid, which most tire manufacturers and suppliers have recently worked with, but also for rayon. Our target is to have a solution that is REACH compliant and comparable to the current available technology, which is the industry standard.

What is the problem you are addressing?
We are working on methods to reduce the use of formaldehyde in the rubberization of fibers. We have identified two different approaches. The first approach has found that a major influence comes from the latex that is applied, and that is one of the key factors toward success in making it work for all fibers. The second approach is currently under development for rayon only, but we are convinced that we can extend it to other fibers, too. The basic idea is to change or modify the surface of the fiber in such a way that new interactions with rubber are possible.
Short courses at Tire Technology Conference 2015

**NEW for 2015!** Cords and Steel Wire: their properties and performance in tires

**Tire Mechanics Short Course**
This four-day course will provide engineers and scientists with the latest developments surrounding tire engineering. The basic aspects of the mechanics of pneumatic tires will be introduced by internationally renowned experts in tire mechanics.

**Foundations of rubber behavior for modeling tires and other applications**
The conflicting demands of weight reduction and reduced rolling resistance, coupled with increases in abrasion resistance and wet and dry friction performance, make the tire designer's life difficult. This course is designed specifically to give a detailed overview of all the core concepts involved in the design of rubber products.

**Tire Regulations Short Course**
The course will be delivered by Lars Netsch of TÜV Süd and Michelin’s Dr Joachim Neubauer, who have considerable knowledge of the current tire regulations in Europe and beyond. These are particularly critical as tire labeling and new type approval regulations are introduced. Some indication of the future in terms of tire regulations will be discussed and a brief outlook on the impact on tires of the EU’s chemical regulation, REACH, will also be given.

**Tire Mathematical Modeling Course**
This course covers the computer modeling of tires within a full vehicle system. It is aimed at engineers and researchers working in both industry and academia. The subject matter will be of primary interest to vehicle dynamics, for whom the tire is the primary force and moment generation element on the vehicle.

In addition to the main conference running for three days, a comprehensive program of courses will be held in Cologne during the same week. New this year is Cords and Steel Wire: their properties and performance in tires, taking the total number of courses available to seven!