



North Rhine-Westphalia in the Heart of Europe

Geographically central position in Europe – 17.8 million people – Gross State Product: 543 billion euros (21.7% of German GDP) – economic hub of Europe – region with the highest density of universities and research institutions in Europe: 69 universities, more than 50 national research centres – among them 12 Max Planck Institutes, 11 Fraunhofer and 11 Leibniz Institutes, all jointly funded by federal and state governments – and some 100 research facilities attached to universities.

www.wissenschaft.nrw.de

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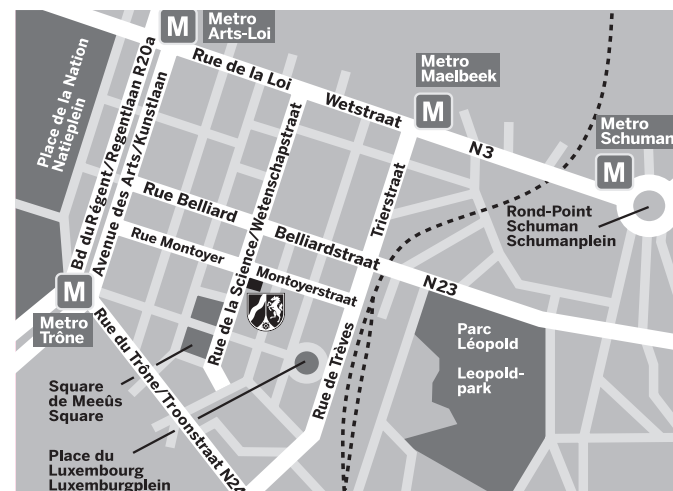
The Grand Challenges range from climate change to the ageing society to the efficient use of energy resources – issues of great complexity which require the full commitment of research and innovation across Europe. North Rhine-Westphalia is putting in considerable effort, aiming in particular at strengthening international links and utilising the instruments provided by the European Research and Innovation Area.

Grand Challenges: Answers from North Rhine-Westphalia

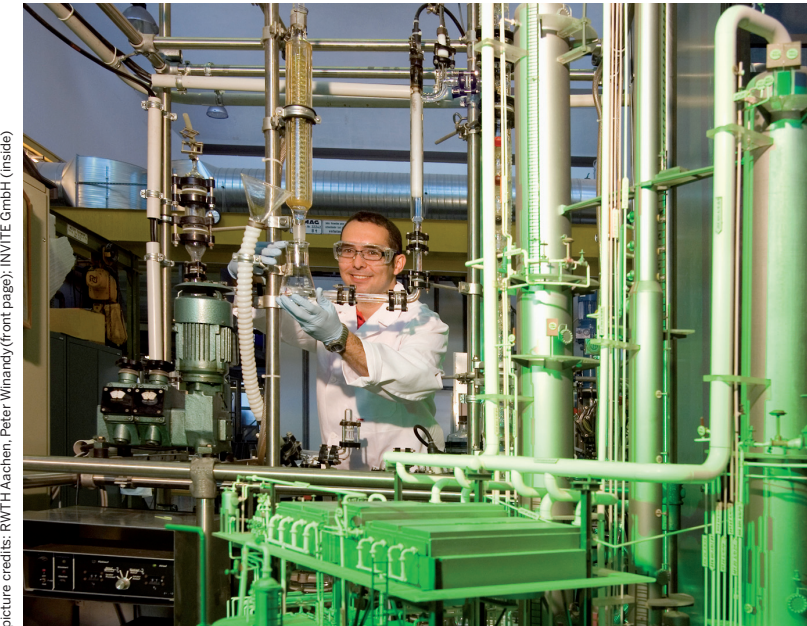
The conference series is directed to European decision-makers, with North Rhine-Westphalia presenting its proposals for addressing the key issues. There will be ample opportunity for dialogue amongst Europe's political leaders, innovative business operators and researchers.

Venue:

Representation of the State of North Rhine-Westphalia to the European Union
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Grand Challenges: Answers from North Rhine-Westphalia Resource Efficiency. Novel Approaches – Products and Processes for a Sustainable Society

21st March 2012, Brussels



Invitation

Grand Challenges: Answers from North Rhine-Westphalia
Resource Efficiency.

Novel Approaches – Products and Processes for a Sustainable Society

21st March 2012, Brussels

11:45 am Welcome

12:00 pm Beginning

Rainer Steffens

Head of the Representation of the State of North Rhine-Westphalia to the European Union

Svenja Schulze

Minister for Innovation, Science and Research of the State of North Rhine-Westphalia

Dr. Rudolf W. Strohmeier

European Commission, Deputy Director-General, DG Research

F³-Factory – fast, flexible, future – a FP7 story. “Flexible, continuous production of chemical intermediates” a successful Industrial case study

Dr. Frank Stenger

Evonik Industries

Dr. Sigurd Buchholz

Bayer Technology Services

The INVITE research centre.

The Backbone-Facility of F³-Factory and PPP Engagement between University and Industry

Prof. Dr. Sebastian Engell

TU Dortmund University

MoBiDiK – Modular Bioproduction. Disposable and Continuous. A Project in the INVITE research centre

Dr. Andrea Vester

Bayer Technology Services

Outlook to HORIZON 2020: SPIRE – Sustainable Process Industry.

A PPP to realize European Competitiveness through Resource and Energy Efficiency

Ed d’Hooghe

Cefic (European Chemical Industry Council)

Questions and Answers

Moderation: **Dr. Bernward Garthoff**, BIO.NRW

1:15 pm Get-together and buffet



Resource Efficiency. Novel Approaches – Products and Processes for a Sustainable Society

Global chemicals and manufacturing industries consume large quantities of non-renewable fossil-based raw materials and energy whilst generating equally large quantities of by-product, CO² as well as logistical congestion. At the same time they are at the core of our modern industrial society, developing and producing the key chemicals, materials, medicines and products that allow us to achieve ever better standards of living.

Current grand societal challenges, research, development and innovation trends offer important opportunities to renovate and transform those industries in eco-efficient high-tech solution providers, by switching to bio-based feedstock, by improving efficiency of industrial processes, by recycling and reusing waste materials and by looking at the industry as an integrated system.

Finding sustainable “cleantech” solutions requires a strong commitment between research and industry to establish a new paradigm in sustainable production methodology for the European chemical- and bio-industry. Novel approaches are for example:

- to develop radically new “plug and play” modular chemical production technology
- to deliver holistic process design methods applying process intensification strategies
- to trial novel reactions and processes in modern production plants under laboratory conditions, closing the gap between research and industrial application.

North Rhine-Westphalia provides an excellent network of proven competence in these scientific “cleantech” disciplines at several universities and research institutions in tandem with industrial engagement.