



**European Society for Engineers and Industrialists**

*Société Européenne des Ingénieurs et des Industriels -  
Europäische Gesellschaft der Ingenieure und Industriellen -  
Sociedad Europea de los Ingenieros y de los Industriales - Società  
Europea degli Ingegneri e degli Industriali - Europejskie  
Stowarzyszenie Inżynierów i Przemysłowców - Европейское  
Общество Инженеров и Промышленников*



***International Round Table Conference***

**Educating the European Engineer for  
the challenges of the 21<sup>st</sup> century**

**Brussels – 20<sup>th</sup> November 2009**

***In cooperation with :***

**SEFI** European Society for Engineering Education  
Europäische Gesellschaft für Ingenieur Ausbildung  
Société Européenne pour la Formation des Ingénieurs



***Council of Associations of long  
cycle Engineers of a University or a  
Higher School of Engineers of the  
European Union***

# Context

The beginning of this 21<sup>st</sup> century is characterized by two unprecedented events, namely a sudden technological explosion and an acceleration of the pace of change, as compared with the transition from one generation to the next.

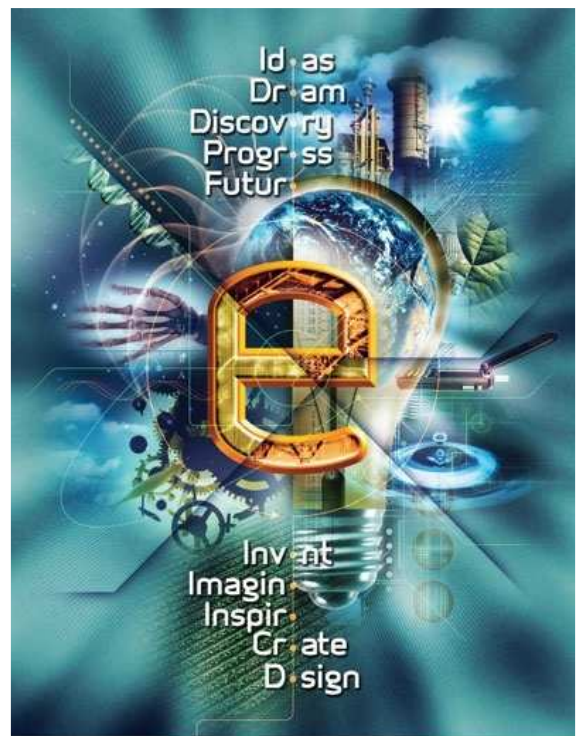
This is happening in a double and equally unprecedented context : an economic context linked to globalization, a social context linked to demographics and a number of critical challenges ( as water supply, energy demand, global warming, security, ... ).

Engineers are particularly concerned with those events and Engineering Education has to adapt to the new situation. The problem is worse in Europe, which essentially relies on its “grey matter” and has to overcome national and cultural differences.

Two years ago, CLAIU-EU with the International Seminar “*The Engineer in the European Union of Knowledge*” in February, and SEII with the International Round Table Conference “ *What Engineers for a competitive Europe ?* ”

in November, brought some information and reflections about the relationship between engineers and their main employer, industry. This year, in July, the 37<sup>th</sup> Annual Conference of SEFI, “*Attracting Young People to Engineering*” tackled the relationship between young people and engineering studies.

This International Round Table Conference will essentially consider the relationship between Technological Universities ( and similar institutions ) and the competencies required for engineers to be and stay efficient in their work. It aims at taking stock of the situation and at proposing new tracks of reflection and of action.



Engineers Make It Work

# Programme of the conference

**8 h 30 Welcome of participants**

**9 h 15 Introduction to the Conference**

**9 h 30 First session :**

9 h 30 Introduction by the Chairman of the session, **Frederik D'HULSTER**, Professor of Mechanical and Industrial Design at the University College of West-Flanders

9 h 40 **Anette KOLMOS**, Professor of Engineering Education at Aalborg University, President of the UNESCO chair in PBL and President of SEFI : *“Challenges for Engineering Education : global innovation and sustainability”*

10 h 20 **Mervyn E. JONES**, Imperial College London ( Professor and former Director of the Centre for Professional Development ), President of IACEE ( International Association for Continuing Engineering Education ) : *“Issues in 21<sup>st</sup> century Engineering Education”*

11 h 00 Coffee break

11 h 20 **Bruno LINDORFER**, Managing Director of the OÖ Technologie- und Marketinggesellschaft ( Linz / Austria ), former Senior Vice President Corporate Innovation of SIEMENS VAI : *“The European Engineer of the 21<sup>st</sup> Century : the Unique Tamer of the Exploding Complexity of Technological Systems of the Century”*

12 h 00 **Nico DEBLAUWE**, Innovation Advisor for the Belgian Flemish Government ( IWT ), former Secretary General of European Young Engineers ( EYE ) : *“Cooking an Engineering Education together : a pragmatic approach”*

**12 h 40 Walking lunch**

**13 h 50 Second session :**

13 h 50 Introduction by the Chairman of the session, **Jean-Marie DUJARDIN**, Professor at the University of Liège ( Management and Didactics of Economics ) and at HEC Liège

14 h 00 **Hervé BIAUSSER**, Professor and Director of Ecole Centrale Paris, and President of CESAER ( Conference of European Schools for Advanced Engineering Education & Research ) : *“Facing Globalization : how to adapt Engineering Education ?”*

14 h 40 **Michel FEUTRIE**, Professor of Sciences & Technology at the University of Lille 1, President of EUCEN ( European University Continuing Education Network ) : *“Lifelong Learning : the new challenge for HEIs”*

15 h 20 **Joi L. ROBERTS**, Design Ambassador, MOTOROLA Consumer Experience Design, USA : *“Renaissance Engineer : broadening the perspective of the 21<sup>st</sup> century Technologist”*

**16 h 00 Round Table :**

Panel composed of the speakers and the chairmen of both sessions.

**Moderator** : **Frank-Stefan BECKER**, Senior Consultant “SIEMENS Generation 21” Universities

**Special guest** : **Léopold DEMIDDELEER**, Vice President of the New Business Development Board of the SOLVAY Group, President of EIRMA ( European Industrial Research Management Association ), member of the Royal Academy of Belgium

**17 h 00 Conclusion cocktail**

# Committee of Honour

**The Committee of Honour is composed of ( in alphabetical order ) :**

- Professor Giuliano AUGUSTI, University of Rome “La Sapienza”, President of ENAEE
- Dr.-Ing. Frank-Stefan BECKER, Senior Consultant “SIEMENS Generation 21” Universities
- Professor Hervé BIAUSSER, Director of “École Centrale Paris”, President of CESAER
- Professor Claudio BORRI, Director of CRIA-CIV, University of Florence
- Professor Calogero CONTI, Rector of the “Université de Mons”
- Ir. Louis COOREMAN, President of KVIV ( Association of Engineers from a Dutch-speaking Belgian University )
- Professor Paul DE KNOP, Rector of the “Vrije Universiteit van Brussel”
- Professor Bruno DELVAUX, Rector of the “Université Catholique de Louvain »
- Professor Ralph EICHLER, President of the “Eidgenössische Technische Hochschule Zürich”
- Professor Sebastião FEYO de AZEVEDO, “Universidade do Porto”, Vice-President of ENAEE
- Dr.-Ing. Willi FUCHS, Director of VDI ( Verein Deutscher Ingenieure )
- Professor Antoni GIRÓ ROCA, Rector of the “Universitat de Catalunya”
- Baron André JAUMOTTE, former Rector of “Université Libre de Bruxelles” and Honorary President of CAPAS ( Comité de l’Académie pour les Applications de la Science – Belgium )
- Mr Christian JOURQUIN, CEO of the Solvay Group
- Professor Anette KOLMOS, Aalborg University, President of SEFI
- Professor Norbert KRAKER, President of IGIP ( International Society for Engineering Education )
- Dr. Denis Mc GRATH, Registrar of Engineers Ireland, President of CLAIU-EU
- Professor Francesco MAFFIOLI, “Politécnico di Milano”
- Professor Karin MARKIDES, Rector of the Chalmers University, Vice-President of CESAER
- Ir. Luc MINNE, President of FABI ( Association of Engineers from a French-speaking Belgian University )
- Professor Lueny MORELL, Manager of the Strategic & Innovation Office of Hewlett-Packard Company, President of IFEES
- Ir. Fernando NAREDO, Vice President for European Affairs, Westinghouse Electric Company
- Dr.-Ing. Marcel OBERWEIS, Professor at the University of Luxembourg, Member of the Parliament of Luxembourg
- Professor José Carlos QUADRADO, President of the “Instituto Superior de Engenharia de Lisboa”
- Professor Yuri POKHOLKOV, Rector of Tomsk University, President of the Russian Association for Engineering Education
- Professor Bernard RENTIER, Rector of the “Université de Liège”
- Professor Ir. Jan-Eric SUNDGREN, CEO of Volvo AB ( Sweden ), former Rector of the Chalmers University
- Professor Paul VAN CAUWENBERGE, Rector of the “Universiteit van Gent”
- Ir. Michel VAN HECKE, President of SEII
- Professor Frans van VUGHT, President of “European Strategic Management of Universities” ( ESMU ), former Rector of Twente University
- Professor Philippe VINCKE, Rector of the “Université Libre de Bruxelles”
- Professor Miroslav VLCEK, Vice Rector of the Czech Technical University at Prague, Secretary General of CESAER
- Professor Mark WAER, Rector of the “Katholieke Universiteit van Leuven”

# **Some questions to be tackled**

## **1. The challenges of the 21<sup>st</sup> century for Europe**

1. In your opinion, are they mostly scientific and technological, competitive and economic, or human and ethical ?

## **2. The role of Universities and Higher Schools of Engineering**

1. Whom are Universities working for : the industry, the society, the students, the scientific community ?
2. Are Universities in business, therefore including competition ? If so, are they autonomous businesses, or do they have to cooperate with industry ? What is the role of the spin-offs ?
3. Do Professors have to play a more active role than teaching and research ?
4. Our educational system, where pupils and students come to a certain place called “school” in order to receive knowledge, is a very old system. Isn't it time, at least for the older students, to think of a more modern system ?

## **3. Engineering Education itself**

1. Can Universities adapt as fast as the world for which they are educating their Engineers ? Is Long Life Learning an effective remedy to that difficulty ? Doesn't have Engineering Education to reverse the paradigm, becoming proactive instead of reactive ?
2. We are more and more speaking of converging technologies. Don't we have to set up also a converging Engineering Education ? Don't have students in engineering to get some practical experience before studying the relevant theory ?
3. Do have human sciences a role to play in Engineering Education ? Why is there a sort of Manichean opposition between human sciences and natural sciences ?
4. Aren't there too many committees, task forces and commissions about Engineering Education, making too much smoke concealing too little fire ? Isn't that making it difficult to reach a common vision on Engineering Education?
5. Isn't it true that our traditional educational system, based on vertical thinking, is not adapted to creativity, which requires lateral thinking ?

## **4. The Engineers themselves**

1. Historically speaking, the first engineers were military engineers. Now, it has slightly changed, as war has been replaced by competitiveness. Does it mean that Engineers are considered just as competitive tools ?
2. Does the Engineer of the 21<sup>st</sup> century have to be an entrepreneurial engineer, who has access to all knowledge, can do anything, works with anybody anywhere and can transform what he is imagining into reality ?

# Practical information

**Date :** Friday 20<sup>th</sup> November 2009

**Venue :** Royal Military Academy, Hobbema Street 8, 1000 – BRUSSELS

## Registration terms and conditions for participants :

Normal registration fee : **125 €**per participant

Reduced to **100 €**if registration and payment before 31 October 2009

Limited to **25 €**for students

Payment to bank account : IBAN BE87 3630 5817 6394 ( BIC/Swift : BBRU BE BB ), with the mention : IRTC-2 and the name(s) of the participant(s)

For on-line registration : <http://www.seii.org/online-registration.php>

**Accommodation possibilities for participants :** please contact us at [seiimg@abuco-consult.com](mailto:seiimg@abuco-consult.com)

