eye-Contact

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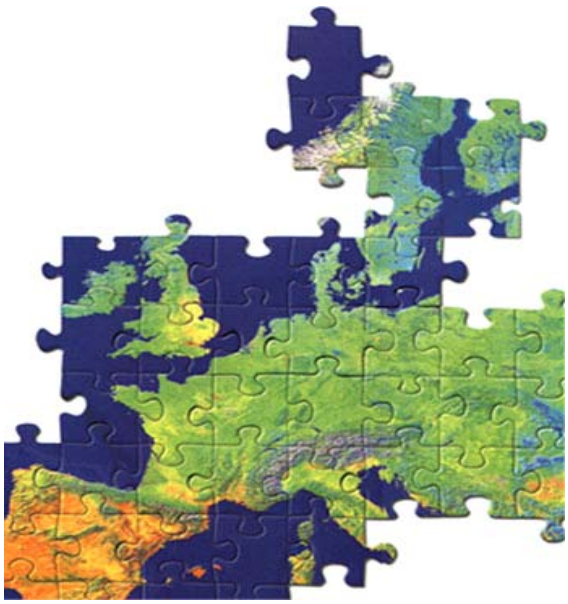
Content



Insight EYE

EYE Conference in Wales 3rd-5th June: Entrepreneurship

The first EYE event of 2005 is to be held in Cardiff/ Wales from 3rd-5th June. The theme of the conference is Entrepreneurship: Creativity and Innovation.

Creativity and Innovation are natural characteristics of engineers. However bringing these characteristics together and using them for wealth creation is an area we find more difficult. We spend several years at university learning a wide range of technical skills but very few engineering courses include in depth teaching of the concepts of entrepreneurship.

So, why is entrepreneurship important? Within small, medium and large enterprises an entrepreneurial attitude is critical to business success providing business growth through innovation. This challenge will be addressed throughout the programme of the EYE Wales conference:

Friday 3rd June

Morning	Council meeting
Lunchtime	Registration
Afternoon	Industrial visits
Evening	Dinner and Opening Ceremony

Saturday 4th June

Morning Workshops – Choice of :

- Thinking Creatively
- Knowledge Management
- How to grow ideas into achievement
- Strategic Development
- The Essentials of Successful Selling

Afternoon	Mini-Symposium: Creating and innovating in the workplace
Evening	Medieval dinner at a Welsh Castle

Sunday 5th June

Morning	Cultural visit to St. Fagans Museum of Welsh Life
	Council meeting
Afternoon	Lunch, Closing ceremony and transfer of EYE Presidency

Mini-symposium

Speakers including entrepreneurs, industry and academia will address the challenges of good entrepreneurship and the associated risks. A choice of interactive workshops will help improve your entrepreneurial skills. Finally, a choice of industrial visits will enable you to see innovation and creativity applied in large and small companies.

EYE Wales Workshops

Thinking Creatively

What is creativity and how do we become creative. This workshop will help you find out how to be creative or use your creative talents you already have. The workshop is designed to help you to learn about different approaches to thinking and help you to apply them to problems and situations to find creative solutions.

Knowledge Management

The value of companies is increasingly in their people, and in the knowledge they have recorded in procedures and systems, rather than in their facilities. The vision for knowledge management in Rolls-Royce is to "enable and encourage each individual to share knowledge across organisational boundaries to achieve customer satisfaction and increased profitability through better decisions and quicker problem resolution" This workshop will provide an understanding of the techniques and approach to knowledge management.

How to grow ideas into achievements

Successful Entrepreneurs are the people who turn their ideas into achievements – Everyone has good ideas and mostly that's just how they stay – bright thoughts that rise to the surface and disappear – some linger long enough to take shape but die because it's too difficult and so much else is going on. On completion of this workshop delegates will be able to use tools to bring their 'good idea' to life and to GROW it into a goal successfully achieved.

Strategic Development

Strategy development Skills will enable you to discover how you can integrate the strategic considerations of marketing, operational, finance and change issues when making critical business decisions.

The Essentials of Successful Selling

Sales and selling is the lifeblood of any business whether that business employs one person or a thousand people. Without continuous sales any business is doomed to failure. If we hold the previous statements to be true then each and every business needs to create a force of "Super Salespeople" if they are to compete and indeed flourish in today's increasingly competitive market place. This course is aimed at every one involved in sales whether they are new to sales or experienced in this field but feel

that they are not hitting their maximum potential. The course is designed for those who are deadly serious and committed to becoming successful in their chosen field.

EYE Cultural visit

EYE Wales will give you the chance to enjoy Cardiff, the capital city of Wales and experience traditional Welsh culture with a medieval banquet at Cardiff Castle. If you have any energy left, the local Welsh brewery is close at hand!

The cultural visit will be to the museum of Welsh life. The Museum shows how the people of Wales lived, worked and spent their leisure time over the last five hundred years; and over the past fifty years it has inspired generations of visitors with an appreciation of Welsh history and tradition. The Museum stands in the grounds of the magnificent St Fagans Castle, a late 16th century manor house generously donated to the people of Wales by the Earl of Plymouth.

The detailed programme will be available at www.eyewales.org. Conference registration details will be available on the web-site and sent out via the EYE Info System so please make sure your details are up to date.

We look forward to seeing you all in Wales in June.

Mike Brownsword, EYE President

EYE Conference Belgium in autumn 2005: 18.-20. November 2005

It's already three years ago that VIK organised an EYE Conference in Brugge, which is certainly remembered by most attendees because of the culinary surprises. And now, a new Belgian edition of the EYE Conference is being prepared, by the young engineers of K VIV this time. It will be held in Leuven from the 18th till the 20th of November 2005. The central theme for this event will be: SOIL, standing for Surface Of Innovating Life. This SOIL will serve as a solid basis to build the further programme on.

As usual, the programme will start on Friday afternoon with several company visits to shed a light on Flanders' industrial strengths. Followed by the opening reception and gala dinner, the conference will start officially. On Saturday professional workshops are offered to give new insights into each one's interpersonal skills. At the end of the day, networking skills will become more important at the gigantesque EYE party.

The weekend closes on Sunday with a brunch and a cultural visit to Leuven or Brussels. Located near to Brussels, Leuven is an exquisite location to welcome the conference delegates since it hosts the oldest Belgian university and the famous Stella is brew here. Info will soon be available on the event's webpage, which you can find at http://www.kviv.be/eyeconference/ .

Inge Nelissen & Nico Deblauwe

Relaunch EYE webpage

The webpage is the backbone of the communication with our members and all those interested in our work. The latest news about our conferences, access to documents and presentations, contacts to our members and our officials – the newly designed and relaunched EYE webpage puts it all together: www.e-y-e.org .

Jörg Niehoff

Malta becomes member of EYE

At the occasion of the Strasbourg conference the delegation from UESA, Malta, joined EYE. UESA stands for University Engineering Students Association and is a non-political student organisation which is directed towards students who are enrolled in the Faculty of Engineering at the University of Malta. Since its birth, UESA's main aim is to help the engineering student familiarise and accustom himself with the university life, offer help and aid for his various needs and also providing him with both local and foreign working traineeships. UESA's objectives are achieved by building a good relationship with the staff at the faculty so as to serve as a bridge between the student and the lecturers, and by organising various activities such as parties, football tournaments and other events to spice up the engineering student's life during his studies. UESA also organises conferences, where engineers are invited to give talks on different subjects to help the aspiring engineer get an insight in his future profession. UESA is also recognised by the Chamber of Engineers, by having its own active representative in the chamber's executive. Basically UESA is an organisation which does its utmost to be close to the student to aid him in his daily life at the university academically and compliment his studies with loads of fun!!!

Ian Buhagiar

Results of the last Task Force Meeting in March

The last Task Force meeting took place in Brussels (11.-13.3.) and covered in addition to the preparation of the conference in Wales the following topics:

- Debriefing Conference in Strasbourg
- Upcoming Conferences
- Re-launch EYE webpage
- International co-operation
- Preparation Seminars Cardiff
- The future of EYE – design of scenarios
- Financial situation: contributions from member organisations

The minutes are available on www.e-y-e.org (Inside EYE – EYE Task Force).

Jörg Niehoff

EYE Family

The VIK joins the WFEO

From January 1st 2005 on, the Flemish chamber of engineers has become a member of the World Federation of Engineering Organisations (WFEO), the world network for engineers associations that is under the protection, supervision and lead of the UNESCO (United National Educational, Scientific and Cultural Organization). The UNESCO was founded in 1945 and has its office in Paris since 1958. It employs over 3000 people who come from the 185 countries that are member of UNESCO. It is the largest international institution in Paris.

Proudly we can announce that the negotiations concerning the accession based on a strong file have been successful. A new and exciting period in the history of the VIK is dawning.

The WFEO was founded in 1968 in the womb of the UNESCO. This world network consists of engineers associations from 77 countries. All continents and important states are represented. The WFEO has as chairman an engineer for a term of 2 years. Current chairman (since January first 2004) is the Chinese electronics engineer Dato Lee-Cheong. In the beginning of November 2004, he presided the world congress in Shanghai, which over 3000 engineers, coming from 70 countries, participated.

The congress, the largest ever in its kind, was called into being by UNESCO, the powerful Chinese Association for Science and Technology (CAST), the Chinese Academy of Engineering (CAE), the Chinese government, companies and higher educational institutions from Shanghai. China tries to convince the world of the role it wants to play the following years on economical, technological, technical and scientific level. The recent economical mission of our country, lead by the Prince, is no stranger to that.

WFEO has a broad network to offer to the different engineering branches.

The last phase in the accession to the WFEO network was sealed December 13th 2004 in the head office of the UNESCO. The VIK thanks its accession to a number of its pillars: the international networking, defending the interests of the engineers whom it represents as the largest engineers organisation of Belgium, and its humanitarian contribution. During the general conference of the WFEO, the VIK has one vote, as do all the other members.

The recognition of the VIK worldwide is undoubtedly a new landmark in the history of the Flemish industrial engineers.

Noël Lagast + Wim Baert

European Summit Meeting dedicated to: "The Engineer in Europe

FEANI in collaboration with Deutsche Messe AG organizes on 11 April 2005 in the framework of the Hanover Fair an European Summit Meeting dedicated to the "Engineer in Europe" Right now, the "European Engineers' Forum ", one of the pillars of this event, is

being finalized. Important personalities will attend this event: Mr. Philippe Busquin, Ex-European Commissioner for Research and Development and Member of the European Parliament, Mr. Konstantinos Alexopoulos, President of FEANI, Dr. Malcolm Kennedy, Nonexecutive Director of the UK Renewable Energy Centre and Chairman of the PB Power, Mr. José Massol, Directeur des Opérations Internationales Thalès, Prof. Dr. Hubertus Christ, President of the Deutscher Verband Technisch-Wissenschaftlicher Vereinigungen (DVT), Prof. Dr. Klaus Wucherer, Member of the Board Siemens AG.

Furthermore, FEANI will be present at the fair at the booth of the VDI (Verein Deutscher Ingenieure). Documents and brochures on FEANI activities will be at disposal. If you are at the fair, having taken advantage of the "special package", don't hesitate to visit us at the fair. A planning of the lectures and activities is available on the website of FEANI in the section events.

Furthermore EIIL (European Institute for Industrial Leadership) organizes a three days workshop on "The Leadership of Innovation", designed to provide an in-depth understanding of the multiple facets of innovation and the importance of the correct positioning and exploitation of innovation in a company's strategy. The workshop start on Monday afternoon and will be moderated by Dr. Guido Bognolo, Module Director EIIL, and a former Director of Innovation at Uniqema, with a number of contributions from leading industrial innovators. For more information:

FEANI website: http://www.feani.org

EIIL Website: www.eiil.net

Hannover Messe website: http://www.hannovermesse.de

FEANI

Europe EYE

Gender gap in top levels of science closing, but too slowly

The number of women in top positions in science is growing, but only slowly. At EU level, women only make up 14% of top academics, but constitute 44% of graduates in science and technology subjects. In a report on Gender Equality in Science, the European Commission sets out the actions on-going and under preparation at European level to promote the role of women in science. Increasing the number of women engaged in science is a crucial element in achieving the EU's target of 3% of GDP invested in Research and Development.

In its 2005 report "Women and Science: Excellence and Innovation – Gender Equality in Science" the Commission details some of the major statistics relating to the position of women in science, as well as on-going work to counter the gender imbalance.

Some of the current initiatives include:

- Development of a range of gender-sensitive indicators to measure and compare success rate of women and men in senior positions. Targets should be formulated and adopted at EU as well as at national, regional and institutional level.
- Working with industry to improve the situation of women in industrial research. A new expert group on Women in science and technology – the business perspective started its work in February 2005
- Supporting projects to promote gender research, analyse existing measures, creating ambassadors for women in science,
- Setting targets for participation in Commission programme (40% female participation in committees, groups and panels, amongst project coordinators and receiving Marie Curie Fellowships)
- Establishing the Gender Watch System to monitor progress towards a more balanced participation of women and men in the Framework Programme Support tools include a guide to gender mainstreaming for scientific officers and evaluators.
- A network on gender aspects in food quality and safety, examining how gender differences in susceptibility to disease, risk assessment and consumer behaviour can have an impact on food quality and safety measures.
- Working with academic institutions to minimise gender bias in the definition and measurement of scientific excellence
- Research projects and programmes should include measures to improve gender equality – following the aims addressed in the Code of Conduct for researchers.

For the future, a further €5.7m has been earmarked for Women and Science in 2005-2006, bringing the total in the Sixth Framework Programme to around €20m.

Press release European Commission

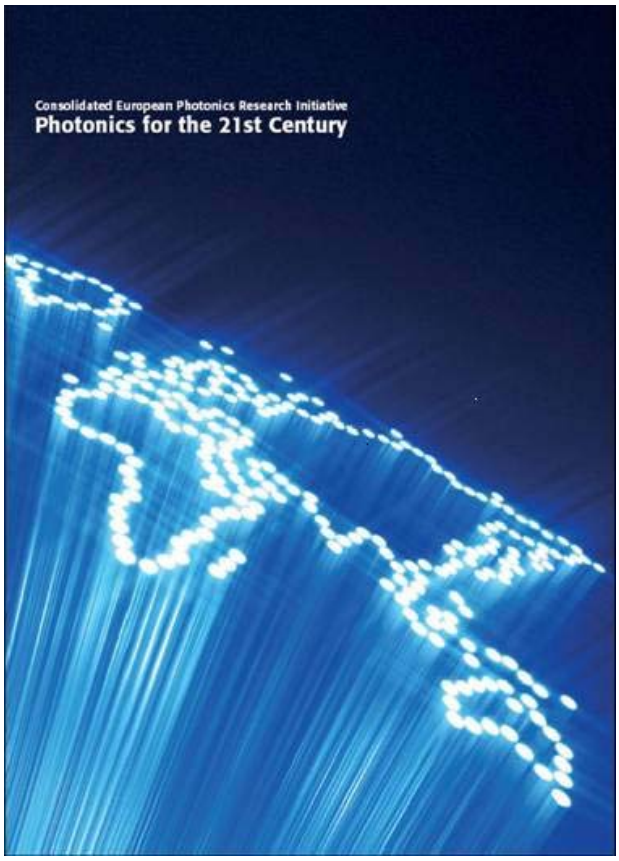
Photonics for the 21st century – a European stakeholder initiative

The VDI in cooperation with a high-level group of representatives of research and industry in Photonics as well as user industries and other stakeholders have launched a European initiative to promote Photonics in the European Research Area. A major result of VDI's initiative is the document "Photonics for the 21st century" which provides the rationale and the justification for the important political process that is needed to implement a coordinated action plan among all stakeholders.

The document has been endorsed by more than 60

personalities, covering 16 European countries and furthermore seven European associations.

Photonics is one of the most important key technologies for markets in the 21st century. It influences all aspects of our lives and is essential to Europe's industrial competitiveness. The photonics industry plays a vital role in securing leadership in areas such as information and communication, lighting, manufacturing, security or life science and health. Photonic technologies have already revolutionised the world-wide exchange of information and data flow by forming the technological backbone of the World Wide Web. Because photonics technologies are at work, we are now benefiting from the convergence of an industrial society with the information society and dynamic growth due to their synergies.



Our entry into the "photon century" requires a shared European initiative that enables industry and research to uphold their outstanding initiatives to explore the nearly limitless future applications of light and to reap the expected benefits in terms of creating both jobs and wealth. Only a coordinated approach can make use of the economies of scale that are necessary to sustain economic production in Europe and to reach the critical mass of investment to address the big markets of the 21st century.

To achieve leadership for the benefit of Europe and our citizens, an ambitious programme is required to:

- Supply the necessary research environment capable of supporting the visionary and industrially relevant R&D activities for photonics components, systems and their application over a broad range of industry sectors;
- Establish strategic links between mainly SME based photonics industries and principal user industries to share their long-term vision and to mobilise a critical mass of resources;
- Foster cooperation and smooth out the current fragmentation of national and European R&D activities.

The document can be downloaded at: http://www.vdi.de/vdi/english/organisation/schnellauswahl/bruessel/poea/11447/index.php

Jörg Niehoff

EYE Opener

Application Engineer for Paper Machines – what's that?

Hi, I am Jan Lepper, working as an application engineer (surprise, surprise) at Voith Paper (Machine supplier) in Southern Germany. During the last EYE Conference in Strasbourg, I was elected into the EYE Taskforce Team, and so I decided to share with you a bit of my background.

For the job of the application engineer, please imagine the following: You are a proud owner of a paper production plant, yearly producing 100.000 tons of copy paper. This is a 24 hours, seven days a week, process. The paper is produced at a speed of 800 meter/minute on rolls. You are lucky, since the demand for your paper is higher than your output. So you decide to upgrade your paper machine and get in contact with Voith Paper.

This is the moment when the application engineer starts: together with a sales engineer and several experts (i.e. Technology, Design, Startup, etc.) he defines a tailor-made upgrade solution for your paper machine. To start with, the application engineer needs to find out as much as possible about your paper machine. This is often a "hunting and gathering" of machine data (e.g. CAD drawings, machine data, age of the equipment, original supplier, etc.). This information is often gathered in a first meeting with you, the customer. If your paper plant (remember, you are still the proud owner) is now located in sunny Brazil, the application engineer is lucky.

Subsequently, in the concept phase for the rebuild, the creative input of the application engineer is the strongest. It is important to find a balance between several issues, like the quality requirements for your inkjet paper, necessary steps to increase machine's speed, limitations (hall dimensions, crane capacities, secondary equipment),

the available budget, similar projects, and what was learned there.

It takes about 3 to 6 weeks to get a first draft, which includes: CAD drawing with the rebuild proposal ("project drawing"), a description of the hardware and services required ("specification") and a cost estimation for the rebuild ("price sheet"). Life would simply be too easy if now, in the 2nd meeting you, the customer, would say: "Oh, I like your solution, I am happy with the scope of supply and the total amount of 12.500.000 € is not too much. Where shall I sign the contract?"

During several follow-up meetings, the fine-tuning of the proposed solution takes place. A project easily runs 6 to 12 months until an order is won or lost. It is the responsibility of the application engineer to ensure that (amongst others): the concept for the rebuild is matching the customer's requirements, the cost calculation for the rebuild is accurate, and to find a balanced way to communicate the point of view of sales ("Everything is possible!) and technics ("Oh-ooh, there is a problem!) towards the customer.

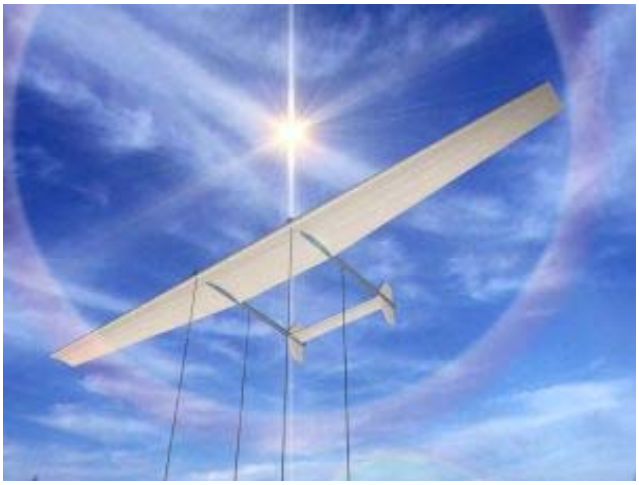
Shortly: you have an exiting mix of international customers, you balance technology and economics, but you also have to chase internal suppliers, do endless number crunching and spend weekends on airports in Usbekistan. Well, I like it!

Jan Lepper

EYE of Eye?

The purpose of the KitEye project is to design a large kite which is able to break the world altitude record for a single kite on a single line. This altitude record is currently at 4.422 meters. An unofficial record is set at 8.200 meters. Therefore, the goal of the KitEye project is to ascent to 10.000 meters altitude. To reach such an altitude, the kite must be completely statically and dynamically stable. Corrections by tugging on the cable cannot be done due to its enormous length. The stability of a kite is much more complex than that of an conventional aircraft. Both the high flexibility of the construction, as well as, the presence of the cable makes the whole system difficult to analyze. The presence of the cable itself introduces a few modes of vibration which do not exist in conventional aircraft. A low wing loading is essential to obtain a stable kite.

With increasing altitude, the length of the hanging cable increases as well. This will introduce an ever increasing load on the kite during ascension. Pressure drag, friction and gravitational forces on the cable ensure that the cable will arc from the ground to the kite. An altitude of 10km for the kite will entail a total cable length of 20km, hanging freely in the air. The weather is of extreme importance during a record attempt. The models on which the KitEye project is based are taken from a KNMI database of 20 years of wind data. A wind speed - altitude profile was created using this data.



From a structural point of view, the kite will have to be extremely light. At present, inflatable beams are investigated to serve as structural members. Currently, a 1:5 scale model made out of foam and composite materials is being flown and investigated. Once the flight characteristics are documented, the structural design will begin on the full scale kite.

Mariska van Cronenberg

World Solar Challenge

The world Solar Challenge is a race for solar powered cars in Australia from Darwin to Adelaide. Every two years teams gather from all over the world to compete in the 3000 kilometer race.

In 2000, a team of students from the Delft University of Technology set out to compete in the World Solar Challenge 2001. With their Nuna solar car they managed to finish first and win the race. For the race in 2003, a new team was assembled. This new team built the much improved Nuna II. And again, the Dutch team overcame all other opponents and won the race. Currently, a new team is being assembled to race for the third time in 2005. The new solar car, Nuna III, will be on the absolute cutting edge of modern technology in order to win the World Solar Challenge for the third time in a row.

Solar racing demonstrates both the power of solar energy, as well as, the multi-disciplinary character of sustainable engineering. Students in the fields of mechanics, aerodynamics, electronics, ergonomics and computer sciences are working together on what will be the most advanced solar car ever built. The team will have to accomplish lofty goals in a limited timeframe. Success requires a "go and do it" mentality. This positive attitude is a cornerstone of ASSET-thinking.

Mariska van Cronenberg

EYE Forecast

The next EYE conferences

The schedule for the following conferences is the following:

- **Spring 2005: Cardiff, Wales**
- **Autumn 2005: Belgium**
- **Spring 2006: Sofia, Bulgaria**

Imprint

The eye-contact is compiled by the EYE Task Force and puts together articles about EYE activities like the EYE-conferences, the member organizations as well as about EU activities relevant for young engineers. The circulation of eye-contact is strongly encouraged.

EYE at the VDI Office Brussels

Jörg Niehoff
31, rue du Commerce
B-1000 Bruxelles
Phone : +32/2/500.89.65
Fax : +32/2/511.33.67
E-Mail : eye.office@e-y-e.org
Internet : www.e-y-e.org

Our Member Organisations

ACE Association of Consulting Engineers (United Kingdom) www.acenet.co.uk

ANEIL Association Nationale des Etudiants Ingénieurs Luxembourgeois (Luxembourg) www.aneil.lu

BNEI Bureau National des Elèves Ingénieurs (France) www.bnei.org

FNTS Federation of the Scientific - Technical Unions (Bulgaria) www.fnts-bg.org

Future Net (United Kingdom) http://www.scenta.co.uk/community/kcHome.cfm?kcid=6

FWI France Femmes Ingenieurs (France) www.femmes-ingenieurs.org

IDA Ingeniorføreningen i Danmark (Denmark) www.ida.dk

IEI Institution of Engineers of Ireland (Ireland) www.iei.ie

IL Insinooriliitto (Finland) www.insinooriliitto.fi

KivI-NIRIA (The Netherlands) : www.kiviniria.nl

KLV Koninklijke Landbouwkundige Vereniging (The Netherlands) www.klv.nl

KVIV Koninklijke Vlaamse Ingenieurs-vereniging (Belgium) www.kviv.be

MTESZ Muszaki es Termes-zettudomanyi Egyesuletek Szovetsege (Hungary) www.mtesz.hu

UESA University Engineering Students Association (Malta) www.uesa-malta.org

VDI - Association of German Engineers (Germany) www.vdi.de

VIK Vlaamse Ingenieurskamer (Belgium) www.vik.be