easie
Ensuring Advancement in Sandwich Construction Through Innovation and Exploitation

e-newsletter #3

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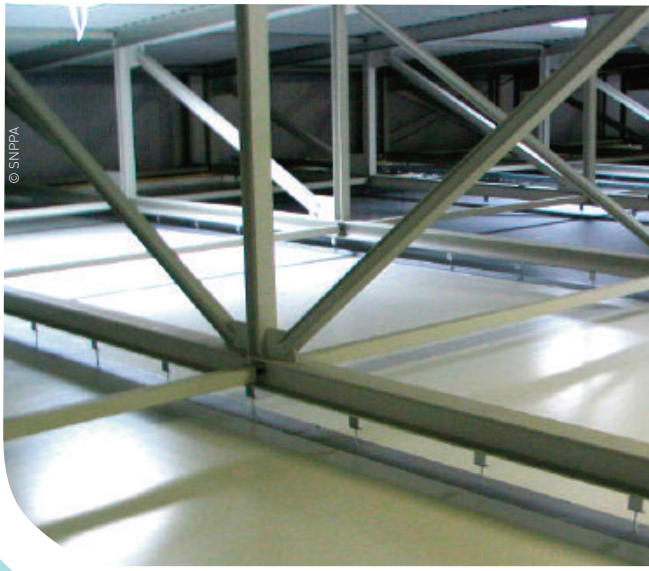
Foreword

Bernadette Fulton

**Secretary General SNPPA,
Panama-International, EPPF.
WP6 Leader**



It is a great pleasure for me to address the EASIE readers and web surfers. As Secretary General of Panama International and of the European Federation of Profile sheet and Panel manufacturers (EPPF), I am responsible for the promotion of this project and the dissemination of its results over the next 3 years, across the members of the European Union.

For professional organisations, such as Panama International, EPAQ, Apipna or SNPPA, which are all partners in EASIE, such projects are real opportunities to help developing the industry they represent through improvement in processes and products and through dissemination of technical knowledge throughout the membership.
For us, who are responsible for directing and managing these organisations, it is the fulfilment of our missions, combining technical research, European recognition and the promotion and acknowledgement of our work. It is all the more exciting than we are trying to anticipate future technological and commercial trends while taking actions and developing tools in order to gain market shares and to disseminate the know-how of our industry. Those actions lead us to get closer to the different components of the industry, first of all our members but also their suppliers and all those who are concerned with the same business.

This newsletter is meant to introduce the different partners in our project, should they be large companies, SME's, professional organisations or Universities. We are presenting the main actors and their research programme, their organisation and the first results they have achieved. In this third issue, we are focusing on the University of Darmstadt and on its work in particular in the field of e-learning part, which is fast becoming a very important teaching medium for universities, with the potential to reach vast audiences not only of students but also of practitioners in industry. Euromedia, an SME based in Budapest is contributing its unique blend of training expertise to this work on this package too and presenting its added value for the project. In addition, you will also be able to get a better understanding of the inner workings of the project through a review of the activities of three of its key committees: the Industrial committee and the Management Committee which met in Paris last April and the Gender Committee.

**Looking forward to meeting you on our website,
I wish you a good read and a good summer**

Bernadette Fulton

WP1 Improvement of thermal and structural behaviour in openings and joints

WP2 End user Focussed Design Strategy

WP3 Use of sandwich technology to optimise the global resistance of buildings

WP4 Retrofitting, durability and maintenance

WP5 Holistic, elearning based education on sandwich construction

WP6 Training, skill development and dissemination

WP7 Management and Governance

Darmstadt University

Steel team of **TUD** during a break from work

The Institute of Steel Structures and Material Mechanics is part of the faculty of civil engineering at Technische Universität Darmstadt, one of the leading technical universities of Germany. Its main tasks are the combination of research and teaching on the academic level as it is common practice in German universities. Prof. Dr.-Ing. Jörg Lange (chair of steel structures) and Prof. Dr.-Ing. Michael Vormwald (chair of material mechanics) and 17 research assistants form the academic staff.

The main focus is laid on structural engineering problems from the design of buildings and bridges in steel to theoretical basics of stability, fracture mechanics, and fatigue. Composite members using steel profiles for office floors and bridges or thin steel sheets for roofs or cladding are a field of special interest in research and teaching. This follows a long tradition. Prof. Dr. Otto Jungbluth, one of the inventors of continuous lines for sandwich panel production was head of the institute from the early 1970th until 1983. He started many research projects with regard to composite members using steel as a major load bearing partner. The combination of PUR-foam and thin steel cover layers was a very new and innovative issue in these days. Many people still remember the smell of chemistry and foaming agents in the laboratory that is usually used to load columns or girders with loads of up to 5.000 kN.

Since the appointment of Prof. Lange in 1997 this tradition is continued. Prior to his work for TU Darmstadt he was head of the department "composite structures" of a large steel fabricator. This led to research projects that were derived from his experience, at the beginning in steel-concrete composite but soon afterwards in the area of thin and light steel. Close local ties to Prof. Klaus Berner from the University of Applied Science in Mainz resulted in many research and development projects in the area of sandwich panels, like openings in panels, air and moisture permeability of joints, and optimisation of panels. In 2007 a new test rig for permeability tests according to EN 12865 and EN 12114 was developed and is now in use. This work ensures actual input in the development of new codes, like EN 14509 "Sandwich Panels". Prof. Lange is chairman of the German mirror group to this code. He also chairs ECCS TC 7 "Cold-formed thin-walled sheet steel in buildings".

ECCS TC7 is one of the institutions that formed EASIE. Due to the good cooperation of researchers and industry in this group a valuable basis for this EU-funded project was given. The steel structures group of TU Darmstadt has special interest in two work packages one regarding openings and one the dissemination of the results by E-Learning. The behaviour of sandwich panels with openings has been a major research topic.

Two aspects were covered in recent projects and are also covered within EASIE. One is the strength of panels with openings including their load bearing behaviour in cooperation with neighbouring elements that have no voids. The second topic is the building physics aspect: water and air permeability and heat transfer through joints. First results of this work package are published in the "Report

test rig for permeability tests

on existing Structures".

Prof. Lange and his team were awarded with the "best e-teaching award 2006". They have significant experience with the use of technical enhanced teaching, which is especially helpful and valuable in continuous education. When engineers are absorbed by their regular work they do not find time to travel to seminars to get informed about new products and methods. Here E-Learning opens a new way of spreading the news to people who want this information by the internet. Work package 5 of EASIE forms the frame for online-lectures and internet based repositories for important information on the design and processing of structures using sandwich panels.

The laboratory of the institute has a wide experience in testing structural members. The load bearing capacity of little steel cans, as they are used for soft drinks was tested as were building parts with the height of three stories. A climatic chamber allows tests on members with a length of up to 4 m in temperatures between -20° and + 90°C with regulation of the humidity.

More than 1.000 students are currently enrolled in civil engineering at TU Darmstadt. They can attend courses in steel structures and special courses in steel-concrete-composite and lightweight structures. In some lectures of "steel structures" they can listen to the professor via internet. E-Learning or "technical enhanced teaching" is a booming field at this university. The great experience in this field made the steel team of TU Darmstadt the natural work package leader in E-Learning.

Best E-Teaching Award

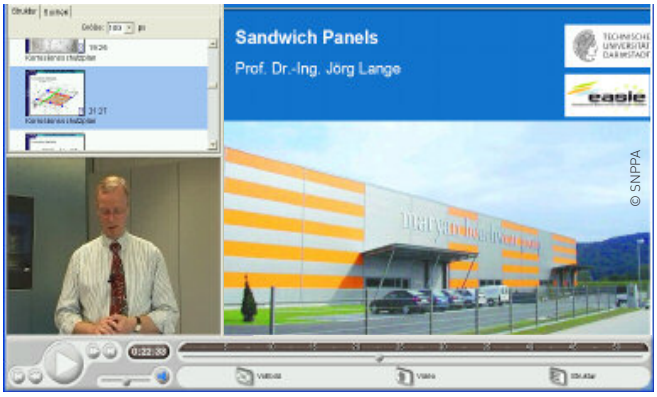
Holistic, e-learning based education on sandwich construction

Though the market share of sandwich elements is constantly growing and reached up to today a volume of over 100 Mio square meters of wall and roof claddings per year in Europe, sandwich construction is not taught at universities. Sometimes it is taught as a special subject but like many other special subjects it cannot find a major role in education. This is one of the reasons why sandwich panels are still seen as a "new" construction product, although a large amount of knowledge has aggregated during many years of experience. Since the EU supports the dissemination of information on EU-supported research we develop an internet-based teaching unit on the design and processing of sandwich panels. This is divided into three parts:

- lectures on the use, processing, and design of sandwich panels,
- an online register giving information on all aspects of sandwich panels, to give the users in-depth information in addition to the basic lessons,
- an online library/database making key printed matter on sandwich panels available for the whole community.

The new findings of EASIE will form an important part of the lectures but basic information will also be given. This will allow people who have no experience with this material to get acquainted with it.

Currently a total of 12 lectures for students in civil engineering and architecture, 4 additional lectures for practicing engineers and 2 additional lectures for companies in building construction will be produced. The lectures will be given in an electronic form using the Lecturnity® software. This enables us to present simultaneous the presentation (e.g. PowerPoint slides), a moving picture of the lecturer and the voice of the lecturer. The lectures will be prepared and given by various partners of the EASIE project and will be available to all persons who are interested in the subject. The lectures will be hosted on the EASIE-website.



Furthermore the field of printed matters that are in relation to the lectures, e.g. manuscripts, pdf- files containing the slides of the lectures, background documents are covered. These documents will be hosted on the EASIE-website too. A virtual bookshelf which will provide all literature that is available (with respect to copyright) on sandwich panels and structures and on the publications that will be prepared within the other tasks of EASIE is made available. This work package will be oriented towards science and technical development as well as cover the area of standards and regulations, therefore giving a strong connection to CEN and national normative and legislative associations. The steel structures group at TU Darmstadt has very much experience with E-Learning and therefore will develop and host the Sandwich-E-Learning initiative. Major support in the handling of software packages and lecture preparation and presentation will be given by EUMED, our partner from Hungary, which has a long and strong expertise in internet based learning and education. APIPNA, the Spanish organisation of PUR-panel producers, is the sub-project leading in the area of codes, regulations, and standards.

WP5

Interview

Gabor Kitley
Managing Director
Europa Media Psc.

What was the reason you originally established "Europa Media"?

At the time, I was involved with another company called Geonardo Environmental Technologies Limited. Based in Hungary, Geonardo was one of the first SMEs from the region receiving funding from Community programmes. Hungary was still just a Candidate country then and understanding the complexities of EC rules and requirements was quite a struggle. While it would have been great to have somebody tell us what to do in respects to financial reporting and management issues, we really felt as if we were in uncharted territories. We realized other companies would probably encounter the same dilemma, so we organized a few courses to teach other SMEs about these funding opportunities and the process of applying. These first courses gave us the idea to start a company, Europa Media, helping other Eastern European organizations compete for funding and submit proposals to the EU.

How did the company develop?

Well, from the beginning we simply organized educational and information days in Hungary, in the Hungarian language. Word spread about how useful these services were and soon we began to work with some Croatian organizations in English, down by the border in Southern Hungary. Other regional companies recognized the importance of good training and we soon were invited by Bulgarian, Romanian and Turkish firms to teach them about funding opportunities. Since these early days, we've now expanded and led training sessions with participants from across the globe.

What do your courses cover?

Our most successful course is the FP7 Financial and Project management intensive course. Participants really seem pleased with the two-day event and we really listen to their feedback as well. It's certainly improved a great deal from when we first began. There are other courses focusing on proposal development, reporting and audits as well. We also arrange other events that aim to share partners' experiences and networking. Obviously we offer fusions of all this and individually designed events if someone requests it.

There appears to be many similar programs in the EU, what was unique in your approach?

I think what is important is that we always combine our trainings and events with an e-learning opportunity and emphasize workshop/group work activities. Our approach is honestly the "learning by doing" methodology and it's been very successful. We always stress our experiences and use real life examples to illustrate our points. The e-learning is also crucial because within one training course or event we could have participants coming from 15-20 different counties with different backgrounds and experiences and this tool gives them a space to engage with each other even prior to meeting. During the e-learning we learn as much as possible about out students and of course it is important that the beginners can catch up with the others by carefully studying our detailed e-material.

What is your role exactly in the EASIE project?

Primarily we are contributing to the EASIE project with our knowledge of e-learning, dissemination, and media activities. Clearly we are willing to assist in other respects as well, but our expertise really stresses this and its what our partners need from us. In this project, we'll use advanced software, Lecturnity Enterprise, to implement the e-learning. Europa Media will prepare and maintain the e-surface, registration of participants, recording and editing the video presentations from scientific experts within the consortium and, of course, disseminate this learning opportunity across Europe. The series of video recordings will take place within the workshop organised in Turkey, most likely on 22-23 April 2010. It is also a great opportunity to disseminate further information about the project and about the e-learning component.

Are you able to record the presentations with your equipment?

We have smart and experienced technicians, but we will need to rent some of the additional equipment we require. Obviously we will test our recording capabilities in advance to get the best results for the e-learning and are eager to begin this. We see great opportunities to increase our training's value by recording presentations and using cutting-edge technologies.

How else could you contribute to the project?

As we are not a research company in this field, but have several years experience with organising trainings, conferences and events, we could also contribute by developing training workshops. As our project managers lack a background in sandwich panels, they may see things from a different perspective. One observation already noticeable is that there are quite a few people who have never heard about these technologies and we believe we could contribute with our extensive knowledge and familiarity with teaching people new material, like when we first started teaching about funding many years ago. We're proactive and really trying to promote the EASIE project, raising awareness about the project and its objectives.

Professional organisations & the promotion of EASIE: the example of EPAQ

EPAQ, the European Association for the Quality Assurance of sandwich panels has started workshops for producers of sandwich panels, where experts combine explanations on the quality assurance system, the European standards and the future developments that the EASIE project will provide to the sandwich panel industry.
2 workshops have already taken place, In March with 20 participants, sales people and technicians from 6 countries, mainly Eastern Europe and another one in June with 35 participants. Some more are forecasted up to the end of this year.
Those workshops consist in half day presentations and discussions introducing the new European regulations on sandwich panels and the EASIE project, to inform the salesmen and the technicians about the technical evolutions of the market which they themselves communicate to their customers.
The feedback of those workshops is very good: actually, there is a deep need of information of that sort inside the companies.

For more information please contact : Dr. Ralf Podleschny, EPAQ, **ralf.podleschny@epaq.eu.**

WP6

Event

The EASIE research up to a flying start

Two well-attended and productive meetings of the EASIE partners took place in Paris during the first week of April 2009, at the invitation of SNPPA and of Panama International.
The second meeting of the Management Committee was the first opportunity for the researchers and industrialists to focus on the research and to build the basis of a fruitful dialogue.
Welcome addresses were given by Ms. Annie-Claude Bourcier, Director of Research and Development, Arcelor/Mittal Construction and President of SNPPA and EPPF and by Mr.Thierry Suin, Chief Executive Officer of Dagard and President of Panama International.
This was followed by an in-depth review of the project implementation plan, of the research timetable and of the milestones, deliverables and output indicators for the first year of the work
The first meeting of the Industrial Committee saw the establishment of this central plank of the project's dissemination and industrial strategy. The role of this Committee, which is chaired by Mr. Decabane from Coolkit Iberica (NGP) is to deal with all issues relevant to the industrial Partners, to address the needs and requirements of SMEs and to generally ensure that the project is industry led at all times. Its' main functions are strategic and advisory.
The transfer of knowledge and the Industrial Committee has a central role to play in the implementation of the Project's Industrial Plan, the Plan for Use and Dissemination of Foreground and of the experimental strategy.
In May 2009, the project team reported to the European Commission on its first six months of activity. All the research tasks are now active and progressing well. The experimental programme , in particular, has not suffered from the problems and delays usually associated with building and commissioning new test facilities and with sourcing test samples. Tests are underway on openings and joints, focusing on issues of thermal loss and permeability, on supported panels with positive and negative loading to assess various design methods and on panels with and without load-bearing substructures to find ways of optimizing the global resistance of panel systems.
A number of purpose-built test rigs have been constructed including a large demonstrator made of sandwich panels with a 40 m3 usable volume which has been loaded and exposed to outdoor conditions for long term monitoring.
The next opportunity for all the partners to meet and to exchange notes will be in early October 2009 in Helsinki when Helsinki University of Technology (TKK) will be acting as the host.

Daniel A Spagni, EASIE Manager

Focus

EASIE Gender Manager

Neus Comas
Secretary General
of Apipna

In the beginning, when we knew that we had to have a "Gender Plan" in the EASIE Project, we didn't really know why we needed it. On the EASIE project, the presence of women is quite high and all of us have university degrees and pretty good professional career. So, why a "Gender Plan"?

After having a look around the European sandwich-panel industry we saw that it is very important to promote the role of women in our industry.

Inside the EASIE project we are going to follow the "Gender Plan" we did. In that plan, we indicate that in our project we are going to promote the participation of female researchers on every EASIE working project and also to increase the representation of women scientists in the evaluation, consultation and implantation processes.

And how are we going to do it? All, men and women, will have the same role in all different aspects of EASIE. Both will participate in research activities, at conferences, in e-learning as teachers, at the stands at construction fairs ...

But, what can we do through EASIE to increase the role of women in research and in the sandwich panel industry ? This is one question which is not as easy as witting a "Gender Plan", it is a challenge that we have and we'll do our bit to improve the role of women in the European sandwich-panel industry.

We will use our newsletter to promote the Gender equality in sandwich panel industry.

Schedule

September 2nd	WP5 WP6	Common meeting in Paris
November 11th	WP7	Management committee meeting in Helsinki
November 11th & 12th		EPPF/EPAQ and PANAMA INTERNATIONAL annual congress in Helsinki

For more information : **www.easie.eu**