

---

**The 15th ANNIVERSARY OF THE AEDS SIG  
- APPLIED ENGINEERING DESIGN SCIENCE  
SPECIAL INTEREST GROUP IN PILSEN**

S. Hosnedl

*Keywords: Applied Engineering Design Science, Special Interest Group*

## **1. Introduction**

The activities of the interest group in Pilsen started in 1995 and originally held the under auspices of the 'International Society for the Science of Engineering Design - Workshop Design - Konstruktion' (WDK). The members of the group gradually became involved in many WDK research and organizational activities. The chairman of the group was honoured to be invited with several others to represent WDK during the establishment of its successor - the Design Society (DS) - in 2000, and he also became a member of its Advisory Board.

The first president of the DS, Prof. H. Birkhofer soon invited our Pilsener group to establish officially one of the DS Special Interest Groups (SIGs). We welcomed this challenging task, and considering both our academic and industrial background and long standing interest in development of Engineering Design Science (EDS) in its applications, we proposed to call our group 'Applied Engineering Design Science' – AEDS SIG. Its title and preamble were approved by the DS Management Board at the Rigi meeting in 2003.

The AEDS SIG was established to bring together those who are interested in research & development, education and practical implementation of integrated knowledge, methodical and creative support of design engineering of branch specific technical products, and retrospective contributions to the development of general engineering design science knowledge. Its current policy is to encourage the application of theoretical advances to real conditions in practice. The AEDS SIG is open to academics, engineering designers, researchers and students throughout the world. So what is the background of the SIG?

## **2. History in brief**

### **2.1 Cycle of WDK Seminars 'Increasing the level of Design Engineering in the World' 1991-92**

It was 4. February 1991, only 14 months after the Velvet Revolution in the former Czechoslovakia (in 1989), and only 6 months after our first meeting with Prof. V. Hubka from ETH Zürich, President of the WDK Society, at the ICED 1990 in Dubrovnik. Dr. H. von Massow from ETH had given a lecture at a seminar for 120 engineering designers and university teachers in Pilsen. Two days later he repeated it in the capital Prague. It was the first seminar in a series of 12 very successful international seminars within two years, which were prepared, sponsored and performed by the WDK Society under the leadership of Prof. V. Hubka. The aim of these seminars was to introduce Engineering Design Science knowledge to our country to help to overcome its 40 year isolation from the world's more advanced countries.

We remember with enormous gratitude the respective seminars by Prof. H. Meerkamm from University Erlangen-Nuernberg, Dipl.-Ing. J. Staněk, Consulting AG from Wiesendangen, CH, Prof. J. Eekels from Delft Univ. of Technology, Prof. M. M. Andreasen from Technical University of Denmark, Dr. C. Hales from Triodyne Inc., Niles, USA, Prof. A. Birolini from ETH Zürich, Prof. K. H. Roth from TU Braunschweig, Prof. U. Pighini from University of Rome 'La Sapienza', Prof. E. Rovida from Politecnico di Milano, Prof. K. Ehrlenspiel from TU München, Prof. G. Pahl from TU Darmstadt, and Prof. W. Beitz from TU Berlin.

Our small group from the Department of Machine Design at the Faculty of Mechanical Engineering of the University of West Bohemia, a seed of the future AEDS SIG, provided the necessary professional support to all these seminars, attended by about 1500 participants from industry and academia.

### **2.1 WDK Workshops and Seminars 1992-93**

After these successful pioneer seminars several more complex international workshops concerning EDS took place in Prague, Pilsen and other Czech cities with the support of the WDK Society in 1992 and 1993. Dipl.-Ing. J. Staněk, Consulting AG from Wiesendangen, Prof. V. Hubka from ETH Zürich, Prof. M. M. Andreasen from TU of Denmark, Prof. G. Pahl from TU Darmstadt, Prof. A. Breeing from ETH Zürich, Prof. W. E. Eder from RMC Kingston, Prof. K. Wallace from Cambridge University, Prof. P. Engler from NT Buchs, CH, Prof. A. Kostelic from TU Zagreb, and Dr. P. Ferreirinha from Mirakon, Zürich gave their lectures in these workshops, which had a total more than 350 participants.

### **2.2 SKODA WDK Motivational Seminars 1994**

Due to the increasing interest of Czech industrial companies in EDS knowledge, the foreign lecturers at the above seminars and workshops were also asked to perform special in-company trainee courses. These were started in SKODA Pilsen in 1994, and were completed by about 150 SKODA engineering designers. The increasing level of our acquired EDS knowledge gradually enabled us to lecture these trainee courses together with foreign WDK lectures, for example in courses for top SKODA managers, which were completed by about 50 participants in 1994.

### **2.3 SKODA and other WDK Supported Training Courses 1995-2000**

We were then asked to prepare our own Czech language trainee course on EDS knowledge. Four extensive two semester WDK supported courses accredited by the Czech Ministry of Education were completed by more than 70 SKODA design engineers from 1995 to 2000.

A larger invited trainee course under the auspices of the EU Tempus Project also took place at the TU Ostrava in 1998. This course, which had lectures by both foreign and Czech WDK lecturers was successfully completed by 30 expert designers from industrial companies in northern Moravia, and was evaluated by its EU providers as the best course for industry out of all the projects at that time. Further invited lectures on EDS for top Czech industry managers took place in Prague in 2002, and another large EU training project is currently being prepared.

### **2.4 WDK books**

WDK support also consisted in providing us free of charge with many books from WDK authors including the copyright for translation of the WDK1 book and its fully granted publication. Prof. V. Hubka also donated about 2000 books from his personal library to the 'Educational and Research Library of the Pilsener Region'. The AEDS SIG together with the management board of the library is at present planning to develop this unique historical 'seed' under the auspices of the Design Society in to a more complex 'EDS Treasury'.

### 3. WDK and AEDS SIG Workshops

Our special interest group has also held a series of WDK and later international DS workshops concerning EDS: EDE 'Engineering Design Education' (1992), SDS 'Specialised Design Sciences' (1994), EDC 'Engineering Design and Creativity' (1995), IDM 'Integrating Design Methodology' (1996), EED 'Education for Engineering Design' (2000), and AEDS 2004, and AEDS 2005 Workshops 'Applied Engineering Design Science'. AEDS 2006 Workshop is currently being prepared to take place in Pilsen on 27 – 28 October 2006.

More than 350 participants, 150 of whom were from abroad, participated in these workshops. We are very happy and proud that the following spontaneous evaluations of participants were not exceptional:

*'... I would like to thank you once more for the excellently organised and on a high quality level carried out AEDS-workshop discussions. I spoke to several participants and there was a unanimous feeling, that this workshop was an event with splendid presentations and fruitful and profound discussions. Also the supporting program was a delight ...', or 'Thank you very much for an excellent symposium. While returning I thought that if someone wants to make an initiative for a Europroject on the topic, we would be interested to collaborate on psychological dimension', or 'I myself became enthusiastic already last year ... My colleague comments on the workshop: 'the best engineering workshop I have ever attended in Europe'. He was seemingly happy with the contact to the EDS theories ... and especially pleased to the vivid discussions ...'.*

### 4. Conclusions

The Scientific Council of the University of West Bohemia has so far acknowledged the worldwide contributions of our foreign partners in this field and their contributions to our university with two honorary doctorates Dr.h.c. – to Prof. Hubka in 1994 and to Prof. Eder in 2005, the second being also awarded the UWB Commemorative Medal in 1997.

Our AEDS SIG is currently being managed by a steering committee consisting of Prof. em. W. E. Eder, Dr.h.c., RMC Kingston, Canada, Prof. Dr.-Ing. H. Birkhofer, Dr.h.c., TU Darmstadt, Prof. Dr.-Ing. Christian Weber, Saarland Univ., Saarbruecken, Germany, and author of this paper, Prof. Dr.-Ing. S. Hosnedl, Univ. of West Bohemia, Czech Republic, who is a chairman.

Prof. em. V. Hubka, Dr.h.c., ETH Zürich, Switzerland, is an honorary member.

We are very much looking forward to fruitful cooperation with you.

Pilsen, September 2006

Stan Hosnedl

Stanislav Hosnedl, Professor, Dr.-Ing.  
University of West Bohemia, Department of Machine Design  
Univerzitni 8, Pilsen, 306 14, Czech Republic  
Tel: +420 377 638 266, Fax: +420 377 638 202, E-mail: hosnedl@kks.zcu.cz