

*GUEST EDITORIAL***PLANNING INSTRUMENTS IN CONSTRUCTION MANAGEMENT****Oleg Kapliński***Poznań University of Technology, Poland**E-mail: oleg.kapliński@ikb.poznan.pl*

Tradition and outstanding reputation are two major attributes of research co-operation reaching beyond national borders. Between on 23–25 October 2007, the 11<sup>th</sup> Lithuanian-German-Polish colloquium took place in Kołobrzeg (Poland), whose main subject was: “Planning instruments in construction management”. The gatherings usually take place, in turn, in academic centres of the 3 countries. This time, Poland was the conference organiser, i.e., the Poznań University of Technology – Chair of construction engineering and management. Special atmosphere surrounds these gatherings.

The Colloquia are an example of collaboration in exchanging views, swapping research information, consultations regarding research work and promotional work, reviewing, developing joint publications, working out planning tools in construction engineering projects. Approximately 250 published papers and articles have emerged in effect of those meetings – they are to be discussed first – and more than 30 books have been published (mainly co-authored by our colleagues from Lithuania and Germany). A large number of promotional work was researched by professors from co-operating countries.

The subject matter of initial gatherings was limited to utilisation of mathematical methods in organising and planning the building site, theory of decision-making and optimisation. At the further stage of the meetings the problem area extended towards decision-supporting systems (DSS), multicriterion optimisation methods, intelligent systems, programs working on databases, knowledge bases and their usage in construction.

Throughout all 11 colloquia, the issues of planning instruments and management tools have always been highlighted. During the recent colloquium, 28 papers have been presented, preceded by speeches given by the Dean, Prof. J. Jasiszak, and leaders of other academic centres. The floor was also taken by Prof. O. Kapliński (Poznań), Prof. E. Zavadskas (Vilnius), Prof. B. Reichelt (Leipzig), Prof. R. Seeling (Aachen). Subsequent debates fell into 5 sessions.

During the session on building market, construction economy and rationalisation, a review of planning techniques and decision-making was made; financial state of construction company; German construction market, including PPP; distance learning quality; flexibility management have been presented (based on the example of building roads and airstrips it has been proved that this approach brings substantial savings). Apart from the possibility of comparing the markets in the 3 countries, the character of papers was informative, regarding research carried out in specific academic centres. It constituted a foundation for work taken up in further sections.

The debate at the next section was devoted to issues of construction engineering, management and rationalisation and embraced the following: reports from interesting research work on a voice stress analysis system, and research organisation regarding early age of shrinkage in concrete; moreover, internalisation of small and large companies (in view of the European market); decision-related problems in designing buildings.

Multi-criteria decisions in civil engineering dominated another session. Papers presented during that session were quite detailed, and embraced the following issues: compromise solutions in MCDA; retrofit of panel houses – application of a new geographical method; web-based model for ethical behaviour; grey analysis by means of the COPRAS method for simulation of multi-attribute problems; applying of the MOORA method on example of design of the motorway. The issues presented within the framework of this session have been developed the longest in the Lithuanian-German-Polish triangle. Therefore, even sophisticated issues in collaboration with specialists representing other domains of science (e.g. mathematicians) have been presented.

The problems of facility management were very well represented, this is why 2 sessions were devoted to this subject matter only. Both sessions focused on new resources facilitating or assisting planning. The first concentrated on communications within the framework of PPP; GPS in concreting process (Management Information System); new aspects in concreting massive structures; information in cost analysis of constructed buildings; knowledge management and information technologies. Therefore, the discussion embraced practical aspects of costs, technologies and, furthermore, the significance of information.

The second session consisted of the following: expert knowledge, the hybrid advisory system (application of neural networks), modelling in the whole life cycle (on example of road pavement), social software, multicriterion aspects of brand management in the company, expert systems (on the example of construction of monolithic silos). The discussion during this session concentrated on the issues of artificial intelligence and its usage in future PhD theses.

The following general conclusions of the 11<sup>th</sup> colloquium can be drawn:

- In comparison to earlier colloquia, the subject matter has been largely extended by such areas as: retrofitting, project controlling, the building market, and even distance learning.
- In the tool approach, there were less research papers devoted to the games theory and operational research itself. We have seen work based on classic experiment: voice stress analysis (based on the example of real estate developers), early age of shrinkage in concrete, controlling construction process with GPS.

- The issues based on DSS and artificial intelligence were dominant: from multiattribute problems, examples of specific models, to knowledge bases, IT, and even intellectual training.
- The relationship between presented areas with implemented promotional work was quite visible.
- A discussion on modifications to the formula of the gatherings have been initiated. The conditions of fostering contacts between collaborating academic centres have changed. It was suggested that more time should be devoted to discussions. Therefore, papers to be presented should be submitted earlier.
- Notwithstanding the formula of the colloquia, they constitute a perfect platform for young research workers.

This issue contains selected papers, presented during the recent colloquium. Special words of appreciation are addressed to the management of VGTU for the possibility of publishing those papers in this journal.