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## Editorial

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Dwellings are constructed in order to meet as many as possible of residents' requirements. Human needs include physiological and social and relate to security, respect and self-expression. People want their houses to have an attractive aesthetic exterior and to be in an accessible place with a well-developed infrastructure, convenient communications and good roads. Besides these aspects, the dwelling should be comparatively cheap, comfortable, with low maintenance costs and have sound and thermal insulation walls. People are also concerned with having an ecologically clean and almost noiseless environment, sufficient options for relaxation, shopping centres, fast access to work or other destinations and good relationships with their neighbours and community.

It must be admitted that the most serious housing problems (unemployment, vandalism, lack of education facilities, divorce, hooliganism and robberies, etc.) are not related to the direct physical structure of the dwelling. Increasing investment

in the development of infrastructures, a good neighbourhood and dwelling maintenance programmes and better education facilities for young people may solve the above-mentioned problems.

Privatisation, the purchase and sale of a dwelling, its registration or giving it as a present are related to legal issues. The Lithuanian legal system aims at reflecting the existing social, economic, political and technical state of the country and the requirements of its market economy.

From a social perspective, housing can affect the society, as well as individual groups of people and individuals with special requirements. For example, poor dwellings are non-aesthetic, uncomfortable, and can be sources of various diseases or pose acute social problems (dirty environment, drinking, hooliganism, etc.) and are avoided by many people. These factors affect neighbours from various aspects. In some countries, low-income households (retirees, large families, the unemployed) often cannot afford to pay for the utility services (heating and hot water) without state support. In the case of failing to solve such problems at the national level, the ruling party can lose considerable constituency support during the next election. Thus, the problem is not only social but also political. Similar problems occur when governments attempt to create better conditions for long-term mortgage loans and must therefore intervene in the country's financial markets.

Buildings are not only constructed on an empty space. During their lifecycle (brief, designing, construction, maintenance, facility management, renovation, demolition and utilisation) buildings are affected by various micro, meso and macro level factors.

For 20 years conferences have taken place concerned with decision-making in construction and the real estate sectors, organised by professors from Lithuania (Professor E. Zavadskas), Germany (Professor F. Peldschus) and Poland (Professor O. Kaplinski). The 10th conference, "Decision Making in Project Management", was held in Leipzig on the 19–20 May, 2005 and was aimed at solving the aforementioned and other problems. More than 48 participants from eight countries attended this conference, and this special issue has been prepared on the basis of selecting and including the best presentations.

The conference focused on the maintenance of buildings, facility management and modelling of facility management, housing services and maintenance strategy, their external and internal environment with special emphasis on taking a technological and facilities approach. The paper 'Decision aiding related to maintenance of buildings: technical, economic and environmental aspects' describes investment problems related to decisions taken at the stage of maintenance and the usage of buildings and highlights its multidimensional character. Replacing or modernising existing heating systems brings about a reduction of both energy consumption and environmentally harmful substance emissions. The paper 'Facilities management development in Europe' analyses the historical background of facilities management development, as well as the legal system of a particular country. The study concerns one general question: Why are FM definitions different? A research methodology is proposed that can be used for the development of the sustainable FM structural model for the purpose of its implementation in the European Union. The research object of the paper 'Modelling of facilities management alternatives' is facilities management process, interested parties striving to attain their goals and micro and macro environments that make up the integral whole. A comprehensive research into the above object required the development of a new method of multiple criteria analysis enabling one to thoroughly assess variable

micro (consultation, planning, procurement, implementation and monitoring; space, administrative and technical management; innovation, types of contracts, etc.) and the macro (technological, legislative, political, social, economic and other aspects) environment of facilities management alternatives. All these variable factors can be optimised and in order to demonstrate the optimisation of the above variable factors, a case study will be considered below.

Discussions on the provision of good quality housing management and maintenance services are well established in various disciplines. The paper 'Knowledgeability and capacity of the owners: assuring professionalism when providing housing services' was an attempt to enlarge studies in this field towards an interdisciplinary conceptualisation approach. By joining the perspectives of facilities management studies and sociological considerations, the paper aims at contributing to an understanding, which considers both parties, i.e., the service providers and the clients – as equally important in the partnership of producing quality services in the housing sector. It is the prime concern in this paper's discussion, to emphasise that by shaping knowledgeable property owners and increasing this 'shaping' way, individual property owners as well as institutional capacities to act partnership relations will gain/increase professionalism among the service providers. By raising the knowledge and/or know-how of interested parties is considered to be an indicator of professionalism in the field of management and maintenance of housing. The paper 'The model for selection of a maintenance strategy for municipal buildings' considers the problem of alternative strategy evaluations for the proper maintenance of municipal buildings, as well as public and private property, with an emphasis on their rapidly changing internal and external environmental conditions. The main objective of the above paper is to develop a theoretical model and to propose a criteria system for the complex analysis of maintenance processes and for the preparation of building maintenance strategies.

In addition, use of state-of-the-art information, intelligent and telecommunications systems and their integration in external and internal housing environment received considerable attention throughout the conference. The need to effectively integrate decision-making tasks, together with knowledge representation and visualisation tasks, inference procedures that model an expert's thinking process, and has strained research attempts to integrate Decision Support Systems (DSS) with knowledge systems and multimedia in the direction of the development of knowledge-based DSS. The authors of the paper 'A building's refurbishment knowledge-based decision support system' participated in the project Framework 6: "Bringing Retrofit Innovation to the Application of Public Buildings" (BRITA in PuBs). One of the project's goals was to develop 'A building refurbishment knowledge-based decision support system' (BR-KDSS). In order to demonstrate the integration of knowledge and decision support systems, the BR-KDSS was considered as an example in the paper. By basing oneself on the developed BR-KDSS, it is possible to perform an alternative design of a building's refurbishment, do a multiple criteria analysis and complete the negotiation process. By finding, capturing, and sharing explicit and tacit knowledge, real estate companies can significantly improve results of customer requirements. One of the main roles of explicit and tacit knowledge management in the real estate sector is the sharing of best practices. Throughout the world there are many examples of the adoption of best practice by major real estate players namely: appraisal services, brokers, consulting, facility management, insurance, matching/listing services, mortgages, property management, project development, real estate finance, real estate's transaction process, and relocation

services. In order to demonstrate the application of best practice, explicit and tacit knowledge to the real estate sector, a Web-based Intelligent DSS for Real Estate (IDSS-RE) has been considered as an example in the paper 'Web-based intelligent DSS for real estate'. The paper 'Implementation of future service requirements in building management' highlights Facility Management (FM) that in recent years was developed as a know-how-oriented service. Equally, Building Automation attained prime importance in the creation of optimised operations through digital systems for measurement and monitoring. The target of future solutions is to combine the central Building Automation Systems with the FM systems for integrative usage. In this case the existing services can be improved or new services can be created. The shown results of completed scientific research projects were determined in the creation of an applicative interface between the systems of FM and Building Control, the definition of the system's architecture and new services. The paper 'Highway noise management using advisory system' analyses highway noise problems and their solutions in built environments.

A third group of conference topics was related to various problems solved at the level of construction and the housing industry. The paper 'Future cooperation trends in the building industry' analysed advanced forms of cooperational concepts in the construction industry, as inspired by visionary cooperation between companies in other industries. In a building context, there is a tendency towards more and more parts of a building's supply chain to participate in concepts such as resource basins or third generation partnering. These cooperation concepts strive for continuous improvements with regard to both, delivering more value to the client and removing waste in the supply chain. Experiences so far in different countries (and experiences from other industries) reveal that cost reductions of up to 50% and the reduction of lead time of up to 80% is possible. Such reduction can set new standards for the construction industry and raise productivity as demanded from governments. However, further research and testing is needed within the construction industry. In the same paper the development of co-operational trends within the Danish construction industry is/was presented along with theories of how to move further on. The paper 'Housing in the context of economic and social development of Lithuanian regions' points that housing construction plays an important role in the development of regions (counties). Depending on the level of economic development of particular regions, housing directly affects and forms their social environment. Therefore, qualitative evaluation of cooperations and partnerships require the integration of all criteria describing housing both quantitatively and qualitatively into a single criterion (or indicator). This may be achieved by using multicriteria evaluation methods. The analysis of housing in its relation to economic and social development of various regions has shown that regional policies for the states are ineffective. The long-term strategy of economic development approved in 2002, in Lithuania, opened new vistas for housing development in the country's regions. The paper 'Modelling multidimensional redevelopment of derelict buildings' considers the problems of the redevelopment of derelict buildings. The aim of this paper's research was to complete an analysis of the renewal of disused and derelict buildings as a complex process and do a search for rational decisions on derelict buildings management with an emphasis on sustainable development. A technique for an effective model conforming to the main principles of sustainable development was proposed and its essential planning and technical components were described. Several statements to guide the selection of potential redevelopment variants of derelict buildings are formulated in the paper and it is proposed to describe redevelopment variants of buildings according to a set of

criteria, i.e., sustainability indicators. The appropriate multi-criteria decision-making method VIKOR is selected for ranking of alternatives. A case study is presented and redevelopment problems relating to derelict buildings in Lithuania's rural areas are analysed by the proposed techniques in the same paper.

The fourth group of papers analysed decision-making methods (e.g., multiple criteria, comparison approach, multiple regression, game theory, verbal decision analysis methods, etc.) and their practical application to solving various external and internal housing environment problems. For example, the paper 'The analysis of property value increase as a result of infrastructural investment projects' looks at the way in which uncertainty can be incorporated into the explicit model of a sales comparison approach. One presented model is based on the classic sales comparison approach, another one focuses on the application of the multiple regression, another on the application of the Monte-Carlo simulation and another on the game theory. The paper 'The possibilities of verbal decision analysis methods for construction solutions' presents an overview of existing methods for choosing the best object and a new multicriteria method called Scale of Normalised and Ordered Differences (SNOD), which is based on a verbal decision analysis approach.