

Institute for Construction Management and Organization

The Institute for Construction Management and Organization at the Munich Bundeswehr University has been headed by Professor Dr.-Ing. Jürgen Schwarz since September 2006.

Our purpose:

Teach practice-oriented knowledge from all subject areas of construction, including tunnel construction:

Organization, planning, determination, control and management of costs, deadlines and resources; tasks and aims of project and object phases (ranging from the planning of a structure to its dismantling); quality; facility management; issues and problems related to construction projects abroad; as well as construction business administration, types of contracts and the legal aspects of planning and construction.



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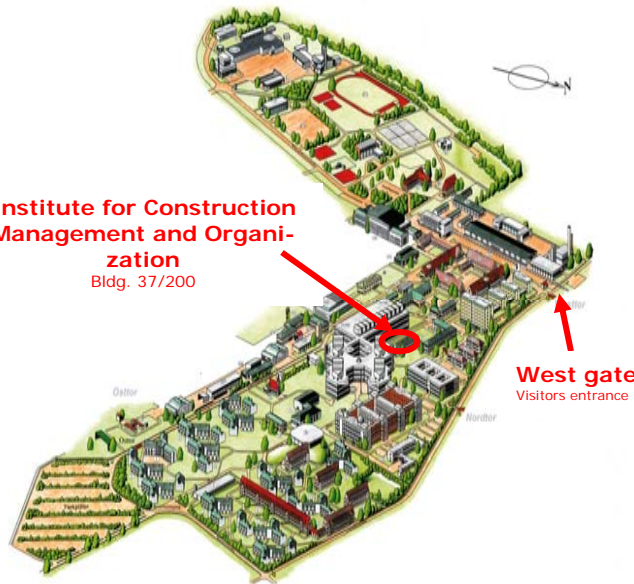
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Institute for Construction Management and Organization



Research

Objectives

Cooperation

der Bundeswehr
Universität München

Research Activities/I

Evaluating of risks and opportunities related to construction projects through risk management on the basis of decision theories

Developing of tools for the evaluation and optimization of processes in the development phases of construction projects. These tools are to be combined in consideration of both risk-based and non-risk-based criteria and by applying decision theories. They are designed to create transparency in the construction industry and the achievement of goals (quality, cost and time) and to support project managers, project controllers, builder-owners, users and investors.

Improving the project management of construction projects abroad by analyzing the conflict potential and the susceptibility of construction management and organization processes to interruption and failure

The aim is to develop and depict steering instruments that are easy to handle and implement for project management and for the control of construction projects abroad. Ultimately, the intention is to make an overall assessment of all phases and the entire service spectrum of a project abroad, giving due consideration to the particularities of the specific country as the overriding parameters. In this process, the foci of attention are on the structural and organizational procedures, contracting, risk management, calculation and specific legal problems, and the related interactions.

Process management for infrastructure tasks of public customers

Process development, preparation of related project manuals. This includes the development of guidelines and tools (templates, checklists, etc.) for the project management concerning the establishment of military infrastructure for operations abroad.

Research Activities/II

Optimizing the life-cycle costs of buildings on the basis of an economic forecasting and planning model

Development of a manageable and practicable calculation procedure for long-term financial and resource planning for owners, proprietors and investors of buildings. Economic evaluation of recorded inventory data, taking into account important decision criteria of the owner as well as relevant parameters. Development of a tool to determine the point of time and the effort required for renovation, repair and modernization measures.

Development of sustainable buildings in the projects and the portfolio of a major real estate company

Participation in the implementation of sustainability within the company by describing and optimizing the different certification processes and their integration into the overall project process in the form of a project manual on sustainability: Examination of how economic a certification is in relation to the costs of a certification, and compilation of the criteria for the correlation of sustainability and cost-effectiveness.

Life-cycle costs of tunnels – a decision aid for the evaluation of planning and maintenance alternatives

The aim is to develop an evaluation scheme for the integrated assessment of the expected costs of tunnel planning, construction and use. Based on the evaluation of existing structures, deductions are made as to the required scope and intervals of renovation, repair and modernization work for the various types of construction and modes of operation. This is to enable owners to establish financial and resource plans at an early stage so that they will have to reserve funds only as necessary.

Structuring of a process-oriented evaluation model for sustainable regional flood protection

At present, the evaluation of flood protection measures is limited to linking the costs of the measures with the benefit of prevented damage events. A full evaluation in the sense of the sustainability guide model does not exist as yet. The aim of the process-oriented model is to evaluate different protective measures by applying comprehensive scientific parameters with a view to sustainability. Thus, optimization through alternative protection solutions can be evaluated in a general societal context, as can individual measures or combinations thereof. The result is an evaluation model able to support decisions concerning flood protection projects by means of transparent and comprehensible evaluation possibilities within the context of sustainability in small and large catchment areas (meso and macro scales).

Project developments and modernizations of existing buildings with the objective of sustainability and cost-effectiveness.

The first step in our research activities is a goal-adequate evaluation of the project development and modernization potentials of existing buildings. On this basis, development measures are evaluated for strategic preferences in terms of quality and quantity from the perspective of property owners and project developers. For this, a method is provided that estimates the effects of property-related and constructional-technical decisions on sustainability and cost-effectiveness. The aim of our research activity is to provide a procedural model describing and optimizing the processes for the sustainable and economic further development of existing buildings.

***Have we raised your interest?
Please feel free to contact us!***

Prof. Dr.-Ing. Jürgen Schwarz
and the team of the Institute for Construction Management and Organization

Neubiberg, March 2011