

# Table of contents

*Preface*

*Organisation*

## ***Keynote papers***

European competitiveness; new business and work paradigms supported by the EU research  
*B. Salmelin*

Advanced computer methodologies for solving future challenges in engineering and construction  
*D. Hartmann*

Strategies for life cycle-oriented integration of information processes  
*P. Mossack, P. von Both*

## ***Workshop: R&D Strategies for ICT in Construction***

Towards strategic actions for ICT R&D in construction  
*A. S. Kazi, M. Hannus, A. Zarli, M. Bourdeau, B. Martens, O. Tschuppik*

## ***Process Modelling and Management***

Towards an improved steering of design process in architecture  
*A. Laaroussi, A. Zarli, J. C. Bignon*

From process models towards total building project management  
*C.E. Firat, J. Kiiras, P. Huovinen*

Integrated business process modeling and simulation - a case from the construction industry  
*K. Sarshar, Th. Theling, P. Loos*

Errors and omissions management – new forms of collaboration  
*K. Menzel, M. Keller*

Consistent representation and manipulation of hierarchical graph systems for process modelling  
*J. Stilhammer, A. Klinger, V. Berkhahn*

Basic concept and reference model for exception handling in collaborative workflows  
*Th. Theling, P. Loos*

Collaborative Management of Process Models in Enterprise Networks  
*D. Vanderhaeghen, P. Loos*

## ***Building Information Modelling and Interoperability***

Mapping FIDE model into IFC model

*S. Garrido, M. Martínez*

Integration of control-oriented user behavior models in building information systems

*A. Mahdavi, L. Lambeva, C. Pröglhöf, A. Mohammadi, E. Kabir*

Modeling conditions required for recognition of building elements from site images

*P. Podbreznik, D. Rebolj*

Semantic integration of product model data in fire protection engineering

*U. Rüppel, M. Lange, A. Wagenknecht*

An interface object model for interface management in building construction

*Q. Chen, G. Reichard, Y. Beliveau*

Interoperability of building information – myth of reality?

*G. Aranda-Mena, R. Wakefield*

Application of 4D at field - applying 4D to control materials

*J. V. Sota, S. V. Zegarra*

Assessing construction interoperability using a MDA and SOA architecture from an e-business perspective

*A. Grilo, R. Jardim-Goncalves, A. Steiger-Garcao*

## ***IFC Use in Theory and Practice***

EIGAPEV, integrated environment for automatic managing of building projects

*A. Mediavilla, J. Pérez, C. Azaola, J. del Canto, A. Olalquiaga*

Software design for building model servers: concurrency aspects

*K.A. Brunner, A. Mahdavi*

Analysis of the geometric data exchange using the IFC

*T. Pazlar, Z. Turk*

Testing collaboration using IFC based software

*R. Drogemuller*

EU- project STAND-INN-Integration of performance based building standards into business processes using IFC to enhance innovation and sustainable development

*S. E. Haagenrud*

A buildingSMART ontology

*H. Bell, L. Bjørkhaug*

The HITOS project - a full scale IFC test

*M. A. T. Lê, F. Mohus, O. K. Kvarsvik, M. Lie*

University/industry experimental research program: ventilated facades envelopes & energy saving - components' integration for innovative and sustainable building envelopes

*E. Arlati*

## ***Supporting Model-Based Cooperation***

Tracking differences between IFC product models: a generic approach for fully-concurrent systems

*G. Arthaud, S. Soubra*

A model-driven approach to design two assistance tools for building construction coordination

*S. Kubicki, G. Halin, J. C. Bignon, A. Guerriero, D. Hanser*

Semantic-Based Decomposition of Long-Lived Optimistic Transactions in Advanced Collaborative Environments

*V. A. Semenov, A. A. Karaulov*

Preservation of meaning in mapped IFCs

*R. W. Amor, H. Ma*

Supporting model-based cooperation in distributed web spaces

*P. Katranuschkov, U. Wagner, M. Weise, R. J. Scherer*

## ***Information and Knowledge Management Methods and Tools***

Relating civil engineering concepts intentionally by Galois connections

*A. Eir*

Management and integration of virtual enterprise information on grid spaces through semantic web ontologies

*A. Gehre, P. Katranuschkov, R.J. Scherer*

A virtual roombook as an internet based building data repository

*R. P. Gessmann*

Conceptual framework for capturing tacit knowledge in construction projects

*S. Kivrak, G. Arslan*

Information life cycle management

*M. A. Alcalde Cazorla*

Development of a management model with integrated system in architectural software

*O. Çetiner*

Ontology, Management of Project Process, and Information Technologies

*P. F. R. Rabelo, S. R. L. do Amorim*

Road Construction Planning (Roadsim): a Knowledge-based Simulation System

*S. Castro*

Modeling and simulation of dynamic user behavior in buildings - a lighting control case study

*G. Zimmermann*

Construction information classification: an object oriented paradigm

*A. Dikbas, K. Ercoskun*

Text integration based on a construction information resource sharing ontology

*S.-E. Schapke, R. J. Scherer*

Data mining for associated temporal patterns of seismic waves

*R. J. Scherer, J. Bretschneider*

### ***Distributed Web and Grid Systems and Services***

Collaborative editing process and tailored dissemination solutions in the frame of the EPBD buildings platform project

*F. Andrieux, B. Vinot, N. Bus*

ISM, interoperable smart module in  $\delta$ -Government facilities

*I. Liović*

Experiences Using Grid Services in Structural Dynamics

*J. M. Alonso, V. Hernández, R. López, G. Moltó*

Grid service oriented provenance support for product modelling defect resolution

*E. Petrinja, T. Žiga*

### ***Mobile Computing***

Mobile multimodal construction data entry: moving forward

*I. L. Kondratova*

On-site deployment of mobile computing devices

*S. Kajewski, S. Alwi*

Internet provision on small construction sites: the i-MO Solution

*N. Carter, T. Thorpe*

Integration of computer aided facility management data and real-time information in disaster management

*U. Walder*

### ***Context Aware Building Automation Services***

A query processing framework for deriving multiple views of facilities in the operation phase

*G. Suter*

Construction of self-updating and reusable space models via vision-based sensing

*O. İçoğlu, A. Mahdavi*

Context-sensitive information spaces for construction site applications

*K. Eisenblätter, H. Deckarm, R. J. Scherer*

Energy-efficient lighting systems control via sensing and simulations

*A. Mahdavi, B. Spasojević*

### ***Ecology, Sustainability and Environmental Management***

Product model-based optimization of the eco-efficiency of buildings

*M. Egger, C. van Treeck, Z. Wassouf, E. Rank, M. Steger*

Supporting participatory settlement development - integrative modular tools for the assessment of sustainable neighborhood

*M. Peter, R. P. Gessmann*

Real-time noise control system for building work noise areas

*J. Gosalbez, A. Salazar, I. Bosch, J. V. Fuente, J. V. Sabater*

Set-up and running of a pilot test for GESPREENS: an e-safety and risk prevention tool for the construction site

*S. Muñoz, M. Martínez, R. Ros, J. M. Molina*

### ***eBusiness in Design, Construction and Supply Chain Management***

Modelling the order promising process for collaborative networks

*F. Alarcón, M. M. E. Alemany, A. Ortiz, F. C. Lario*

Industrialised building, project categories and ICT - a comparison with shipbuilding

*A. Robertson, A. Ekholm*

E-NVISIONING the participation of European construction SMEs in a future e-business scenario

*I. Angulo, G. Eduardo, N. Peña, V. Sánchez*

Web-based subcontractor evaluation system

*G. Arslan, S. Kivrak*

Interoperable framework to support collaborative business processes in eProcurement at AEC-FM

*R. Costa, P. Maló, R. Jardim-Gonçalves, A. Steiger-Garção*

IT supported construction project management based on IFC and ISO9001:2000

*K. U. Gökçe, P. Katranuschkov, R. J. Scherer*

Architecture description for the resolution of the product pack order promising process in a collaborative context

*M. M. E. Alemany, A. Ortiz, F. Alarcón, F. Rodriguez*

Developing a new commercialization model for the residential construction industry

*A. P. McCoy, W. Thabet, R. Badinelli*

### ***eRegulations***

Web service for intelligent retrieval of normative information

*G. Bravo-Aranda, F. Hernández-Rodríguez, A. Fernández-de-la-Puente*

Towards a knowledge-based comprehensive approach for the management of (e)regulations in Construction

*C. Lima, A. Yurchyshyna, A. Zarli, B. Vinot, G. Storer*

A European network of decentralized portals enabling e-business with building regulations – the CONNIE project

*T. Cerovsek, G. Gudnason, C. Lima*

AEC Personalization framework for regulation retrieval

*T. Cerovsek, M. Padula*

### ***eLearning***

Knowledge management and e-learning management as a basis of the conceptualization of information for construction companies

*N. Forcada, M. Casals, M. Gangolells, X. Roca*

A collaborative initiative to deploy blended learning continuing professional development in the construction industry

*J. Wall, D. Smit, V. Ahmed*

Virtual reality as a tool for graphic presentation in architectural education

*T. O. Odeyale, V. Balogun*

### ***ICT Indicators, Adoption and Evaluation***

End-user views on electronic document management in construction

*M. Hjelt, B.-C. Björk*

The effects of information and communication technology (ICT) on architectural profession

*H. Penttila*

Extended performance management within enterprises network

*R. R. Rodriguez, J. J. A. Saiz, A. O. Bas, M. A. B. Escribano*

A framework for a construction intelligence quotient

*Y. Jung, T. Mills, W. Thabet*

### ***Case Studies, Best Practice and Lessons Learned***

Information and knowledge management in the design and construction of movable pitches for multifunctional football arenas.

*S. Wilbrenninck*

3D model-based collaboration and geometry control; research needs for contractual standards: A case study of the Main Street Bridge, Columbus, Ohio

*K. Ku, S. N. Pollalis*

BAR\_CODE HOUSING SYSTEM: towards an integrated environment to support the design and construction of housing blocks

*L. Madrazo, Á. Sicilia, D. Pascual*

The Norwegian buildingSMART program

*J. Sjøgren*