

Table of contents

Preface	VII
Organisation	VIII
Implementing EDI and STEP in the Construction Industry <i>Almeida, L., Grilo, A., Rabe, L., and Duin, H.</i>	1
Integration of Product and Process Models as a Keystone of Concurrent Engineering in Construction: the ProMICE Project <i>Anumba, C.J., Cutting-Decelle, A.F., Baldwin, A.N., Dufau, J., Mommessin, M. and Bouchlaghem, N.M.</i>	9
An integrated 3D approach for handling geometry and simulation data in planning process <i>Apian-Bennewitz, P.</i>	21
CaribCAD: a technology to outsource CAD production work <i>Augenbroe, G., and Lockley, S.</i>	29
Product Data Technology in Integrated A/E/C Systems: Past, Present & Future <i>Augenbroe, G., Rombouts, W. and Verhoef, M.</i>	37
Application of Process Modelling to Building Design Management <i>Austin, S., Baldwin, A., Li, B. and Waskett, P.</i>	47
Information Management in the Briefing Process <i>Bacon, M.</i>	55
A Comparison of Design Management Techniques in Construction and the Automotive Industry <i>Barber, P.R., Sheath, D.M., Walker, S., Graves, A.P. and Tomkins, C.R.</i>	67
Rapid Modelling of Viable Steel Frames <i>Barlow, R.</i>	75
Object Modeling of Building Performance Metrics for Building Commissioning and Operations with Industry Foundation Classes (IFC) <i>Bazjanac, V., Hitchcock, R.J., Piette, M.A. and Selkowitz, S.E.</i>	83
The O.P.E.N. Platform enabling virtual enterprises <i>Beetz, K., Junge, R. and Steinmann, R.</i>	91
A Product and Process modeling paradigm in building restoration projects <i>Bikas, D. K. and Spyroglou, O.</i>	101

Step Application Development with the concad Step Toolbox <i>Büchau, R. and Ingenbleek, B.</i>	109
Business Objects in Construct IT <i>Buckley, E., Zarli, A., Reynolds, C. and Richaud, O.</i>	117
Enterprise modeling for integration in the AEC industry <i>Christensen, L.C., Christiansen, T., Gjølme, J-E., Johansen, K. and Rishoff E.</i>	131
Design Tool Integration within the COMBINE Project <i>Clarke, JA., Hand, J., Mac Randal, D.F. and Strachan, P.A.</i>	141
Issues in WWW Management and Delivery of Libraries of 3 D CAD Components <i>Counsell, J.A.M.</i>	151
STEP and its Implementation in Factory Design - the STEP-CDS Initiative <i>Csavajda, P., Haas, W.R. and Kalpakidis, G.</i>	161
State of the Art of Construction Site Application Integration <i>Dado, E. and Tolman, F.P.</i>	171
An Information Server for the Building Industry: Interest of a STEP/IFC Based Approach <i>Debras, P., Monceyron, J-L., Bauer, F. and Ballesta, P.</i>	179
The Implementation of the IFC in a Distributed Computer Integrated Environment <i>Faraj, I., Alshawi, M., Aouad, G., Child, T. and Underwood, J.</i>	187
Hypermedia and Collaborative Design <i>Gilleard, J.D. and Lee, Y-C.</i>	199
Modelling the Process of Conserving Historic Buildings: an Approach based upon the Concept of Intervention <i>Glen, M.C. and Lockley, S.R.</i>	209
Towards Integrated Modelling of Intelligent Building Systems <i>Gomes, L., Barros, J-P. and Costa, A.</i>	219
The Exchange of 3D CAD Building Models Using STEP AP225 - Scope, Functionality and Industrial Practice <i>Haas, W.R.</i>	229
Procedure for the Product-Oriented Evaluation of User Requirements Illustrated by the Example of Cost Planning for the Technical Equipment of Buildings <i>Harjesm, J. and Mangels, B.</i>	239
ESPRIT #22056: the funStep project Integration of product and business data for furniture industry <i>Jardim-Gonçalves, R., Sousa, P., Pimentão, J. and Steiger-Garvão, A.</i>	245
Design Genes: Knowledge Representation for an Evolutionary Design Process <i>Jo, J.H.</i>	251
Product Modelling Technology - the Foundation of Industry Foundation Classes <i>Junge, R. and Liebich, T.</i>	259

The Process Protocol: Process and IT modelling for the UK Construction industry <i>Kagioglou, M., Aouad, G., Cooper, R. and Hinks, J.</i>	267
Product Data Server for Concurrent Engineering in A/E/C <i>Katranuschkov, P. and Hyvärinen, J.</i>	277
Application of Computer Based Photogrammetric Techniques to Building Modelling and Costing <i>Knight, M.W. and Kaka, A.</i>	289
Document modelling of the prefabricated concrete structural design system MonCAD <i>Kovacic, I., Marolt, V. and Dolenc, M.</i>	297
BOUWPUT++, a modelling and engineering tool for building pits <i>Krom, R.P.</i>	303
Denotation of Objects in Building Projects <i>Laufer, H-J. and Huhnt, W.</i>	311
Global Engineering Networking Intelligent Access Libraries – a construction company's perspective <i>Leonard, C.D., Radeke, E., Buckley, E., Carpentier, G., Debras, P., Kesteloot, P., Salminen, V., Schürmann, F.G. and Seifert, L.</i>	317
Highlights of the Development Process of Industry Foundation Classes <i>Liebich, T. and Wix, J.</i>	327
The Construction Information Gateway <i>Lockley, S.R. and Amor, R.</i>	337
The Integration of the National Building Specification with the Industry Foundation Classes <i>Lockley, S.R. and McGregor, C.D.</i>	349
Product Buildability Assessment Through Modelling <i>Moore, D.R.</i>	357
Modelling Briefing and the Design Decision Making Process in Construction <i>Morris, J., Rogerson, J. and Jared, G.</i>	365
Construction Management and Economics A Computer model holding all process related research relevant to construction <i>Morris, P. W. G., Bower, D.A., Patel, M. and Pearson, B.D.</i>	373
Integrating the Business Process with Automation through Object technology in a Foundation Company <i>Mure, N., Scott, J., Seward, D., Quayle, S. and Collins, S.</i>	395
Translation of Manufacturer's Product Data for the ARROW Product Search System <i>Newnham, L. and Amor, R.</i>	405
An Intelligent Component Model for Building Design <i>O'Brien, M.J. and Baig, A.</i>	413
A Personalized Multimedia System for Optimizing Civil Engineering Processes <i>Partsch, G., Specker, A. and Weber, M.</i>	425

From Product Modeling to Project Modeling <i>Ranglack, D.</i>	433
Standardised Process Improvement for Construction Enterprises (SPICE) <i>Sarshar, M., Hutchinson, A., Aouad, G., Barrett, P., Minnikin, J. and Shelley, C.</i>	439
A Framework for the Concurrent Engineering Environment <i>Scherer, R.J.</i>	449
Virtual Enterprise using Groupware tools and distributed Architectures <i>Stephens, J., Böhms, M., Köthe, M., Ranges, J., Steinmann, R., Junge, R. and Zarli, A.</i>	459
CONCUR: Building a Bridge to Industry <i>Storer, G.</i>	469
An Information Architecture for the Virtual AEC Company <i>Stouffs, R., Kurmann, D., Tunçer, B., Mieusset, K.H. and Stäger, B.</i>	479
Integration of CAD, Product Model and Distributed Building Component Databases <i>Sun, M. and Parand, F.</i>	487
Developing Standardised Architectural Building Product Models for Spaces and Space Enclosures <i>Svensson, K., Aouad, G. and Sarshar, M.</i>	495
Towards a Common Language for Risk Knowledge Sharing <i>Tah, J.H.M. and Carr, V.</i>	505
A Product Modeling Approach to Competitive Tendering In the Building and Construction Industries <i>Tolman, F.P. and Ozsariyildiz, S.S.</i>	515
Regulation processing in ToCEE <i>Turk, Z., Cerovsek, T. and Duhovnik, J.</i>	523
Roofing System Product Model: Life Cycle Economic Implications <i>Vanier, D.J. and Nesje, A.</i>	533
Shared Process Models for Distributed Co-operative Engineering <i>Wasserfuhr, R.</i>	543
Industry Foundation Classes Some Business Questions Examined <i>Wix, J. and Liebich, T.</i>	553
A Common Construction Vocabulary <i>Woestenenk, K.</i>	561
A Cross-Sector Business Model for Interoperability <i>Yum, K-K. and Drogemuller, R.M.</i>	569
Author index	581