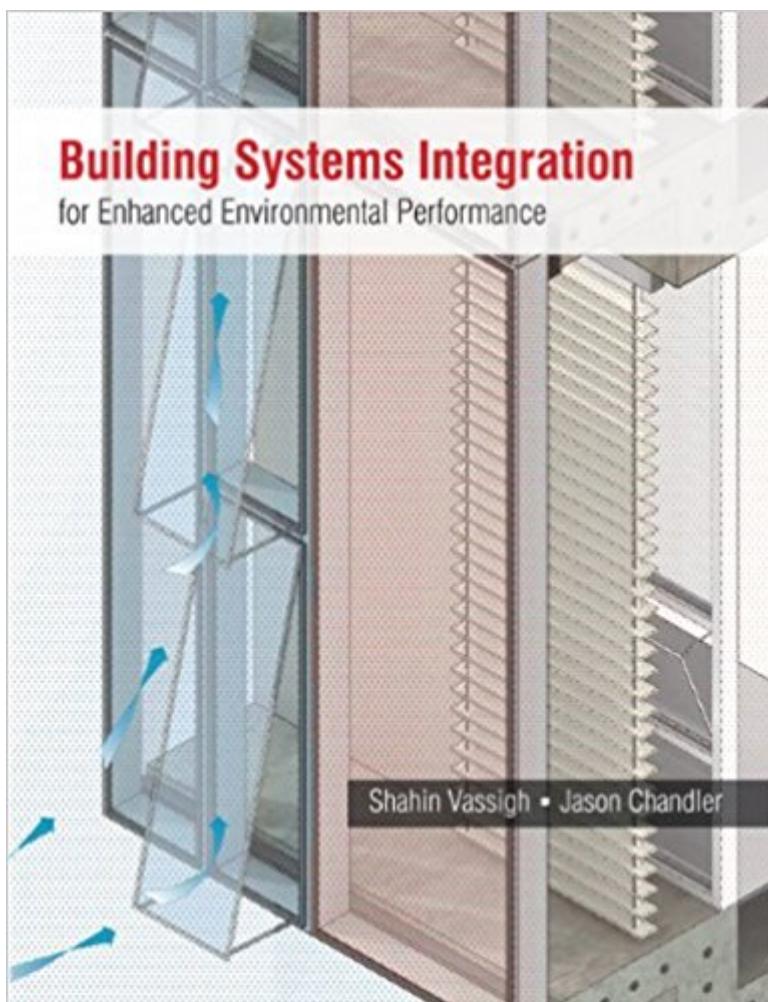


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# Building Systems Integration For Enhanced Environmental Performance



## Synopsis

As the environmental impact of buildings becomes increasingly recognized, the role of building designers and the initial decision-making process, which determines materials, systems, and construction processes, becomes more critical. This timely book addresses sustainability in building design through the development of a series of examples presented as three-dimensional models of well-integrated building systems. The book is organized into three sections based on the integration of paired building systems -- structure, envelope, and mechanical -- demonstrating the performance of each systems pair in terms of interaction and contribution of each individual system and the synergetic benefits resulting from the unique pairing. The last section of the book addresses buildings that have a higher degree of integration and, therefore, cannot be studied as paired systems. Each building is illustrated with a full graphical display, text and analytical drawings to demonstrate its performance in a particular environment. Key Features: --Incorporates an innovative and unique approach for introducing and organizing building systems into categories based on pairing systems interaction and their performance metrics rather than the traditional typological organization of building systems: structural, mechanical, electrical, envelope and interior systems --Provides opportunities for learning to optimize the environmental performance of a building system by presenting focused study and analysis of two paired systems represented as models rather than presenting case studies of entire buildings --Presents the material as both a catalogue of illustrated building systems and as an interactive matrix of possible building systems utilized for building design --Allows you to assign different performance criteria to each building system during the schematic design process and thereby equips you to evaluate the overall performance of the entire building --Utilizes an easy-to-understand methodology, illustrated by models, to detail the interaction of systems with a concise narrative, graphics, charts, and tabulated values Table of Contents

Introduction Section 1. Structure + Envelope Singapore National Library, Singapore William J. Clinton Presidential Center, Little Rock, Arkansas, USA Heifer International Headquarters, Little Rock, Arkansas, USA Paul L. Cejas School of Architecture, Miami, Florida, USA Agbar Tower, Barcelona, Spain Rehab Basel, Basel, Switzerland Thermal Baths, Vals, Switzerland Arup Campus, Solihull, England Manchester Civil Justice Center, Greater Manchester, England Section 2. Envelope + Mechanical Caltran District Headquarters Building, Los Angeles, California, USA Bregenz Art Museum, Bregenz, Austria Debis Headquarters Building, Berlin, Germany Housing Estate in Kolding, Kolding, Denmark Helicon Building, London, England Section 3. Structure + Envelope + Mechanical Council House 2, Melbourne, Australia San Francisco Federal Building, San Francisco, California, USA Loblolly House, Taylors Island, Maryland, USA Yale Center for

British Art, New Haven, Connecticut, USA Manitoba Hyro Place, Manitoba, Canada Braun AG Headquarters, Kronberg, Germany BRE Environmental Building, Watford, England Bibliography Index

## **Book Information**

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## **Customer Reviews**

Shahin Vassigh is an associate professor at the Department of Architecture at Florida International University and teaches courses in structures and building technologies. Vassigh has built a nationally recognized body of research work focused on improving building technology and sustainable building design education by developing alternative teaching pedagogies. She is a recipient of two major federal grants for A Comprehensive Approach to Teaching Structures and Building Literacy: the Integration of Building Technology and Design in Architectural Education

But i enjoy this book for it's references and graphical use. For my studio class it is helpful to understanding a plethora of options for wall assemblies.

Buildings are becoming more and more complex. The players that are required to complete a building are numerous and the products used to implement in a building are vast. The architecture, engineering and construction industry has generally relied on individual players to manage different aspects of the technology of a building including mechanical, and architectural. These have traditionally related to the systems of HVAC, and enclosure/interiors. With the advancement of

technology a flattening of both the process and products of buildings is beginning to occur. This is necessary in order to bring costs down, increase the environmental efficiency, and increase the quality of construction. Through illustrative environmental performance analysis and beautiful 3D renderings of case study examples, this book is focused on communicating the flattening or integrating of what is traditionally been mechanical, structure and enclosure systems. It is an appropriate text for educating both practitioners who are interested in honing their technical knowledge in building systems integration and students of the built environment to learn about the new world of integrated systems thinking and practice. The book is a welcome partner to Kiel Moe's Integrated Design published by PAP and the much loved Birkhauser texts that communicate concepts and demonstrate the concepts through built works.

Much has been written over the last few years about sustainability in architecture. This book takes it a step further by discussing not only the environmental systems but their integration with the rest of the building systems including structure and envelope. This book is beautifully illustrated showing exactly how all of the systems work using contemporary case studies. This book is a must have for every architectural student and intern. I would also highly recommend it for all of us older registered architects trying to stay up to date with today's changing technology.

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