

## Value for engineering executives

*Advanced Project Portfolio Management and the PMO*, **Gerald I. Kendall and Steven C. Rollins**, ISBN 1932159029; 434 pp; **J. Ross Publishing**

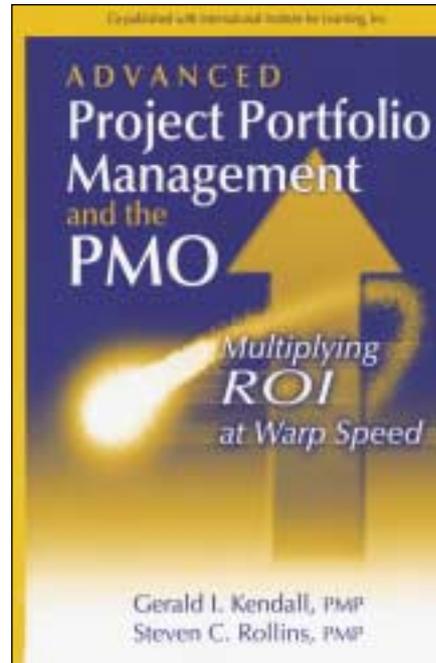
This book bridges the gap between executive strategy and project management, providing a detailed implementation plan that includes both strategic planning and a Project/Program Management Office (PMO). The implementation plan aims to give you measurable results in weeks, without false starts and missteps. The authors distill their vision of project management improvement into four processes: choosing the right projects through alignment/adjustment of a strategic plan; permanently linking strategies to projects; managing the project portfolio; and holistic measurement of the PMO. If all goes according to plan, a PMO gets off the ground much faster, driving bottom-line value almost immediately.

The PMO is the fastest growing new concept in project management today, as it is key to effective implementation of project management across the organization. To keep pace with customer expectations, competition, and economic conditions in the fast-paced, globalized economy, organizations must do more using fewer resources. The book shows you how to turn your PMO into a value machine.

Project managers typically face resource conflicts, project delays and getting the full commitment of team members. Executives also face complex issues in changing their organizations quickly enough to meet their targets. My own experience has shown me that an organization's strategic plan is often presented as a list of ideas or initiatives. There is no attempt to validate if those initiatives are sufficient by themselves to meet the organization's goals and to plan for their implementation. "Total Portfolio Management Process" requires a strong inter-connection between the functional operating units (business strategies) and the PMO and provides the needed alignment. Management must not only plan and execute, it is equally responsible to validate and adjust projects and resourcing priorities. The use of a "Governance Board" removes the "too much work" that I have seen clog the arteries in many organizations.

The book shows why the current project management model must change drastically from being cost-driven to being profit-driven. The approach must be holistic to fully address project management problems. It blends the Deming, Goldratt and Six Sigma methodologies, and is neatly summed up with a quote in the book by Goldratt: "The purpose of a measurement system is to drive the parts to do what is good for the system as a whole."

Often project managers point the finger at executives, claiming that executives constantly bombard them with new projects, without consideration of the resources available. Executives hear the complaints but are not brought into the resource



issue, so they pressure their project managers to deliver and create an adversarial system within their organization. The conflict resolution techniques used are effective to avoid pitting project and resource managers against each other.

The book uses many case studies, graphics, models, charts and diagrams very effectively. The layout of the book lends

itself for future use as a reference book as it offers downloadable templates, models, assessment tools and plans, including a detailed plan for implementing a PMO that covers the first two years of operation. The book is a useful read for project and consulting engineers, and should be required reading for all engineering executives.

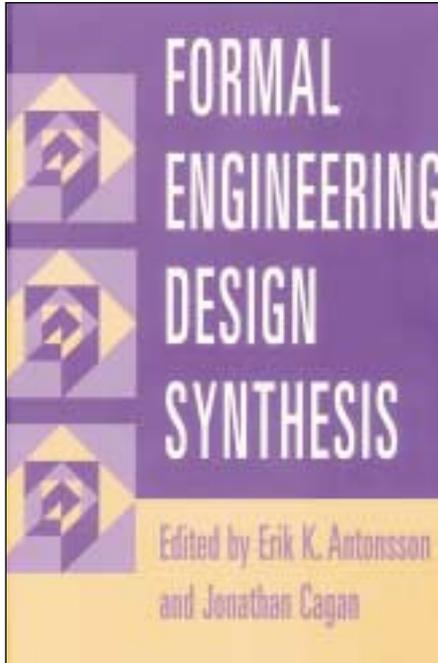
*Reviewed by Kim Allen, P.Eng., MBA  
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## Design technologies aimed at specialists

*Formal Engineering Design Synthesis*, edited by **Erik K. Anonsson and Jonathan Cagan**, US\$100.00 hardcover 0-521-79247-9, 470 pp., **Cambridge University Press**

This book is a collection of articles on the topic of synthesis in design, which the editors define as: "the conception and postulation of possibly new solutions to solve a problem and connect directly to the creative capacity of the human mind." However, they also write that "formal in this context means computable, structured, and rigorous, not ad hoc."

The tension between the generally accepted lack of structure in creative design engineering, compared to the structure of formal methods, would have made for a very interesting discussion, but subsequent articles in the volume did not address this. Instead, the articles focus on specific technologies, largely from the areas of shape grammars (a kind of formal language), bond graphs and artificial intelligence techniques, showing how relatively simple



yet interesting design problems can be addressed with such tools. Extensive use of diagrams and graphics to augment the text make the book very readable.

The book does demonstrate some interesting possibilities. For example, how an extremely wide variety of geometries for coffee makers can be generated automatically by a very simple shape grammar—that can

make one think that someday computers may exhibit real creativity. However in the near term, these efforts are, for the most

part, exploratory.

This book is not for the practising engineer, but for the R&D specialist and the academic, who are interested in knowing about the cutting edge in the development of various tools and methods, any of which may someday become the next great “best practice” in design. For those so interested, this volume is very useful.

The breadth of expertise of the contributors is impressive, but little is made of the efforts to connect “formal synthesis” methods in the different fields, i.e. chemical, mechanical and electrical engineering, as well as architecture. Without an account of the underlying principles that guide these efforts, the reader will only really understand those articles in his or her own field of specialty, and may not appreciate a substantial portion of the book.

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*Engineering Dimensions* reviews books of general interest to professional engineers. Comments made are the opinion of the reviewer.