

Springer

1st
edition1st ed. 2021, XXI, 201 p.
158 illus.**Printed book**

Hardcover

Printed book

Hardcover

ISBN 978-3-030-75629-1

£ 109,99 | CHF 153,50 | 129,99 € |
142,99 € (A) | 139,09 € (D)

Available

Discount group

Science (SC)

Product category

Monograph

Series

Studies in Systems, Decision and Control

Other renditions

Softcover

ISBN 978-3-030-75631-4

Engineering : Complexity

Iordache, Octavian

Polytopic Roadmaps

- **Introduces a ground-breaking field of most important practical and theoretical interest and a roadmap for the higher development stages for operations, equipment, technologies, industries, and societies**
- **Is useful book for engineers, researchers, entrepreneurs, and students in different branches of engineering, systems sciences, and applied mathematics**
- **Written by an expert in the field**

This book is useful to engineers, researchers, entrepreneurs, and students in different branches of production, engineering, and systems sciences. The polytopic roadmaps are the guidelines inspired by the development stages of cognitive-intelligent systems, and expected to become powerful instruments releasing an abundance of new capabilities and structures for complex engineering systems implementation. The 4D approach developed in previous monographs and correlated with industry 4.0 and Fourth Industrial Revolution is continued here toward higher dimensions approaches correlated with polytopic operations, equipment, technologies, industries, and societies. Methodology emphasizes the role of doubling, iteration, dimensionality, and cyclicity around the center, of periodic tables and of conservative and exploratory strategies. Partitions, permutations, classifications, and complexification, as polytopic chemistry, are the elementary operations analyzed. Multi-scale transfer, cyclic operations, conveyors, and assembly lines are the practical examples of operations and equipment. Polytopic flow sheets, online analytical processing, polytopic engineering designs, and reality-inspired engineering are presented. Innovative concepts such as Industry 5.0, polytopic industry, Society 5.0, polytopic society, cyber physical social systems, industrial Internet, and digital twins have been discussed. The general polytopic roadmaps, (GPTR), are proposed as universal guidelines and as common methodologies to synthesize the systemic thinking and capabilities for growing complexity projects implementation.

Order online at springer.com/booksellers**Springer Nature Customer Service Center GmbH**

Customer Service

Tiergartenstrasse 15-17

69121 Heidelberg

Germany

T: +49 (0)6221 345-4301

row-booksellers@springernature.com



ISBN 978-3-030-75629-1 / BIC: GPFC / SPRINGER NATURE: SCT11022

Prices and other details are subject to change without notice. All errors and omissions excepted. Americas: Tax will be added where applicable. Canadian residents please add PST, QST or GST. Please add \$5.00 for shipping one book and \$ 1.00 for each additional book. Outside the US and Canada add \$ 10.00 for first book, \$5.00 for each additional book. If an order cannot be fulfilled within 90 days, payment will be refunded upon request. Prices are payable in US currency or its equivalent.

Part of **SPRINGER NATURE**