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Titolo	STEM in the Technopolis: The Power of STEM Education in Regional Technology Policy // edited by Cliff Zintgraff, Sang C. Suh, Bruce Kellison, Paul E. Resta
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Nota di contenuto	Foreword -- Preface -- Part 1 -- 1. The Virtuous Cycle: Global Cases of K-12 STEM Education in the Technology Policy of Cities -- 2. Regional Industry Clusters: A STEM Center of Gravity for Educators, Industry, Government and Non-Profits -- 3.The Education Philosophy, Theories and Models that Enable STEM Policy Integration -- 4. The STEM Technopolis Wheel: In Motion through STEM Learning -- 5. Moving Toward Digital Equity in the Technopolis -- 6. The Quantitative View: How to Measure STEM in the Technopolis -- Part 2 -- 7. Medellín, A Case of Self-STEAM (Esteem) -- 8. San Antonio's Cybersecurity Cluster and CyberPatriot -- 9. Case Study: Taiwanese Government Policy, STEM Education, and Industrial Revolution 4.0 -- 10. Greater Austin STEM

Ecosystem -- 11. Fundão, Portugal: Using STEM Education to Help Build a New ICT Technopolis -- 12. Mexico's Movimiento STEM and Related Developments in the State of Querétaro -- 13. Verbal and Mathematical Literacy Education and STEAM in the Technopolis of São Carlos, Brazil -- Part 3 -- 14. Tracking STEM Education Development in China: National, Regional, and Local Influences -- 15. Case Study: STEM Contribution in Indian IT Clusters -- Part 4 -- 16. Intentional Integration of K-12 STEM Education with the Challenges of Cities: Do This, Avoid That, Here are Tools.

Sommario/riassunto

This book addresses how forward-thinking local communities are integrating pre-college STEM education, STEM pedagogy, industry clusters, college programs, and local, state and national policies to improve educational experiences, drive local development, gain competitive advantage for the communities, and lead students to rewarding careers. This book consists of three sections: foundational principles, city/regional case studies from across the globe, and state and national context. The authors explore the hypothesis that when pre-college STEM education is integrated with city and regional development, regions can drive a virtuous cycle of education, economic development, and quality of life. Why should pre-college STEM education be included in regional technology policy? When local leaders talk about regional policy, they usually talk about how government, universities and industry should work together. This relationship is important, but what about the hundreds of millions of pre-college students, taught by tens of millions of teachers, supported by hundreds of thousands of volunteers, who deliver STEM education around the world? Leaders in the communities featured in STEM in the Technopolis have recognized the need to prepare students at an early age, and the power of real-world connections in the process. The authors advocate for this approach to be expanded. They describe how STEM pedagogy, priority industry clusters, cross-sector collaboration, and the local incarnations of global development challenges can be made to work together for the good of all citizens in local communities. This book will be of interest to government policymakers, school administrators, industry executives, and non-profit executives. The book will be useful as a reference to teachers, professors, industry professional volunteers, non-profit staff, and program leaders who are developing, running, or teaching in STEM programs or working to improve quality of life in their communities.
