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Nota di contenuto	1 Fundamentals -- 2 Basics on Minimal Surfaces -- 3 Approximation and Interpolations Theorems for Minimal Surfaces -- 4 Complete Minimal Surfaces of Finite Total Curvature -- 5 The Gauss Map of a Minimal Surface -- 6 The Riemann–Hilbert Problem for Minimal Surfaces -- 7 The Calabi–Yau Problem for Minimal Surfaces -- 8 Minimal Surfaces in Minimally Convex Domains -- 9 Minimal Hulls, Null Hulls, and Currents -- References -- Index.
Sommario/riassunto	This monograph offers the first systematic treatment of the theory of minimal surfaces in Euclidean spaces by complex analytic methods, many of which have been developed in recent decades as part of the theory of Oka manifolds (the h-principle in complex analysis). It places particular emphasis on the study of the global theory of minimal surfaces with a given complex structure. Advanced methods of

holomorphic approximation, interpolation, and homotopy classification of manifold-valued maps, along with elements of convex integration theory, are implemented for the first time in the theory of minimal surfaces. The text also presents newly developed methods for constructing minimal surfaces in minimally convex domains of Rn, based on the Riemann–Hilbert boundary value problem adapted to minimal surfaces and holomorphic null curves. These methods also provide major advances in the classical Calabi–Yau problem, yielding in particular minimal surfaces with the conformal structure of any given bordered Riemann surface. Offering new directions in the field and several challenging open problems, the primary audience of the book are researchers (including postdocs and PhD students) in differential geometry and complex analysis. Although not primarily intended as a textbook, two introductory chapters surveying background material and the classical theory of minimal surfaces also make it suitable for preparing Masters or PhD level courses.