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Nota di contenuto	The Dawn of Fluid Dynamics A Discipline between Science and Technology; Contents; Preface; 1 Diverging Trends before the Twentieth Century; 1.1 Galileo's Abstraction; 1.2 Hogs' Bladders in St. Paul's Cathedral; 1.3 Ballistics; 1.4 D'Alembert's Paradox; 1.5 New Attempts to Account for Fluid Friction; 1.6 Revival of Ideal Fluid Theory; 1.7 Reynolds's Investigations of "Direct or Sinuous" Flow; 1.8 Hydraulics and Aerodynamics: A Turn Towards Empiricism; 1.9 Fluid Mechanics ca. 1900; 2 The Beginnings of Fluid Dynamics in Gottingen, 1904-1914; 2.1 Prandtl's Route to Boundary Layer Theory 2.2 "Per Experimentum et Inductionem Omnia"2.3 The First Doctoral Dissertations on Boundary Layers; 2.4 Airship Research; 2.5 The Discovery of the Turbulent Boundary Layer; 2.6 The Beginnings of Airfoil Theory; 3 Aviation and the Rise of Aerodynamics in the First World War; 3.1 A Symbiotic Relationship; 3.2 War Contracts; 3.3 Gottingen Profiles; 3.4 Max Munk and the Foundation of Airfoil Theory; 3.5 Theory and Practice in Airplane Design; 4 The Internationalization

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	6.3 Karman and Junkers: The Beginnings of Industrial Consulting in Aeronautics6.4 Profile Measurements; 6.5 Airfoil Theory; 7 New Applications; 7.1 Gas Dynamics; 7.2 Cavitation; 7.3 Meteorological and Geophysical Fluid Dynamics; 7.4 The Scope of Fluid Dynamics by the Early 1930s; 8 Prandtl, Fluid Dynamics and National Socialism; 8.1 Preparing for War: Increased Funding for Prandtl's Institute; 8.2 Aeronautical Science as an Instrument of Nazi Propaganda; 8.3 Goodwill Ambassador; 9 New Centers; 9.1 Aachen; 9.2 Pasadena; 9.3 Zurich; 10 Fluid Dynamics on the Eve of the Second World War 10.1 Airfoil Theory10.2 Turbulence; 10.3 Gas Dynamics; 11 Epilogue; Appendix; Abbreviations; References; Author Index; Name Index; Subject Index
Sommario/riassunto	This is the first publication to describe the evolution of fluid dynamics as a major field in modern science and engineering. It contains a description of the interaction between applied research and application, taking as its example the history of fluid mechanics in the 20th century.The focus lies on the work of Ludwig Prandtl, founder of the aerodynamic research center (AVA) in G?ttingen, whose ideas and publications have influenced modern aerodynamics and fluid mechanics in many fields. While suitable for others, this book is intended for natural scientists and engineers as well as his