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	Nota di contenuto	Innovation in Wind Turbine Design; Contents; Acknowledgements; Foreword; Preface; Introduction; 0.1 Why Innovation?; 0.2 The Challenge of Wind; 0.3 The Specification of a Modern Wind Turbine; 0.4 The Variability of the Wind; 0.5 Commercial Wind Technology; 0.6 Basis of Wind Technology Evaluation; 0.6.1 Standard Design as Baseline; 0.6.2 Basis of Technological Advantage; 0.6.3 Security of Claimed Power Performance; 0.6.4 Impact of Proposed Innovation; References; Part I DESIGN BACKGROUND; 1 Rotor Aerodynamic Theory; 1.1 Introduction; 1.2 Aerodynamic Lift; 1.3 The Actuator Disc 1.4 Open Flow Actuator Disc 1.4.1 Axial Induction; 1.4.2 Momentum; 1.5 Generalised Actuator Disc Theory; 1.6 The Force on a Diffuser; 1.7 Generalised Actuator Disc Theory and Realistic Diffuser Design; 1.8 Why a Rotor?; 1.9 Basic Operation of a Rotor; 1.10 Blade Element Momentum Theory; 1.10.1 Momentum Equations; 1.10.2 Blade Element Equations; 1.11 Optimum Rotor Theory; 1.11.1 The Power Coefficient, Cp; 1.11.2 Thrust Coefficient; 1.11.3 Out-of-Plane Bending Moment Coefficient; 1.12 Generalised BEM; 1.13 Limitations of Actuator Disc and BEM Theory; 1.13.1 Actuator Disc Limitations 1.13.2 Wake Rotation and Tip Effect 1.13.3 Optimum Rotor Theory;

Sommario/riassunto	Innovation in Wind Turbine Design addresses the fundamentals of design, the reasons behind design choices, and describes the methodology for evaluating innovative systems and components. Always referencing a state of the art system for comparison, Jamieson discusses the basics of wind turbine theory and design, as well as how to apply existing engineering knowledge to further advance the technology, enabling the reader to gain a thorough understanding of current technology before assessing where it can go in the future. Innovation in Wind Turbine Design is divided into four