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Titolo	System Lightweight Design for Aviation // by Martin Wiedemann
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Nota di contenuto	Motivation -- Classic lightweight design -- Lightweight system design with integration of passive functions -- Lightweight system design with integration of active functions -- Literature.
Sommario/riassunto	This open access book presents technologies and methods of lightweight system design to support future low-emission aviation in achieving climate targets. It will be shown how reduction of weight and aerodynamic drag affects the energy consumption of commercial aircraft and what characterizes lightweight system design. Methods, design principles, production technologies and options for functional integration are available for more energy-efficient aircraft. Research results from the last decade are presented, which are intended to encourage the reader to further research and, above all, to implement them in future aircraft. The Author Prof. Dr.-Ing. Martin Wiedemann heads the DLR Institute of Lightweight Systems and holds a professorship for Adaptive Systems at the Technical University of Braunschweig. He combines his experience from 15 years in the aviation industry with his research expertise in the field of lightweight system design, a combination of lightweight composite structures and function integration. Martin Wiedemann is board member in the Cluster

of Excellence "Sustainable and Energy Efficient Aviation - SE2A" at the Technical University of Braunschweig and board member in the German wind energy research association. He is co-leader of the DLR Alliance for Lightweight Production Technologies and member of the German CFRP Fuselage Forum, a DLR cooperation with Airbus.
