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Titolo	Robotic Vehicles Design : A Coding Approach with the New ArduPilot Libraries // by Julio Alberto Mendoza-Mendoza, Orlando Garcia-Perez, Jorge Fonseca-Campos, Juan Luis Mata-Machuca
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ISBN	979-88-6881-751-9
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Descrizione fisica	1 online resource (229 pages)
Collana	Maker Innovations Series, , 2948-2550
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Soggetti	Makerspaces Open source software Maker Open Source
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Note generali	Description based upon print version of record.
Nota di contenuto	Chapter 1 Mechatronics preamble and new Ardupilot settings -- Chapter 2 New ardupilot libraries basic commands -- Chapter 3 New ardupilot libraries advanced commands -- Chapter 4 Guided mechatronic application one-motor aeropendulum -- Chapter 5 Guided mechatronic application two-motors aeropendulum -- Chapter 6 Guided mechatronic application quadcopter embedded in a spherical joint -- Chapter 7 Guided mechatronic application free-quadcopter controlled in altitude and orientation.
Sommario/riassunto	This book is your gateway to mastering advanced robotic programming. Covering everything from hardware to software, Robotic Vehicles Design seamlessly connects theory with real-world applications in the development of unmanned vehicles. The book introduces the latest Ardupilot libraries, complete with detailed, hands-on examples. These include cutting-edge mechatronic projects: a single-motor aeropendulum, dual-motor aeropendulum, a quadcopter embedded in a spherical joint, and a free-quadcopter controlled in both height and orientation. You'll find four fully guided mechatronic examples, thoroughly covering mechanical, electronic, and control designs, along with complete code. These examples provide a step-by-

step guide for users to build their own prototypes and replicate the book's core programs. Designed for a wide audience, from high school students to postgraduates, this book is written in an accessible yet comprehensive style. It breaks down complex concepts, walking readers through everything from the simplest details to final implementation. Whether you're just starting out or looking to sharpen your skills, this book is the perfect resource to elevate your robotic programming expertise. What You'll Learn How to use the new Ardupilot libraries How to employ them in mobile robots How to design mechatronics and aerospace projects from scratch.

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