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Sommario/riassunto	This open access book summarizes the results of the European research project “Twin-model based virtual manufacturing for machine tool-process simulation and control” (Twin-Control). The first part reviews the applications of ICTs in machine tools and manufacturing, from a scientific and industrial point of view, and introduces the Twin-Control approach, while Part 2 discusses the development of a digital

twin of machine tools. The third part addresses the monitoring and data management infrastructure of machines and manufacturing processes and numerous applications of energy monitoring. Part 4 then highlights various features developed in the project by combining the developments covered in Parts 3 and 4 to control the manufacturing processes applying the so-called CPSs. Lastly, Part 5 presents a complete validation of Twin-Control features in two key industrial sectors: aerospace and automotive. The book offers a representative overview of the latest trends in the manufacturing industry, with a focus on machine tools. .