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Sommario/riassunto	Cyber-physical system (CPS) innovations, in conjunction with their sibling computational and technological advancements, have positively impacted our society, leading to the establishment of new horizons of service excellence in a variety of applicational fields. With the rapid increase in the application of CPSs in safety-critical infrastructures, their safety and security are the top priorities of next-generation designs. The extent of potential consequences of CPS insecurity is large enough to ensure that CPS security is one of the core elements of the CPS research agenda. Faults, failures, and cyber-physical attacks lead to variations in the dynamics of CPSs and cause the instability and malfunction of normal operations. This reprint discusses the existing vulnerabilities and focuses on detection, prevention, and compensation techniques to improve the security of safety-critical systems.