Record Nr. UNINA9910686773503321 Autore Lyu Ling Titolo Advanced Wireless Technologies for Industrial Network Systems / / by Ling Lyu, Xinping Guan, Nan Cheng, Xuemin Sherman Shen Cham: .: Springer International Publishing: .: Imprint: Springer. . Pubbl/distr/stampa 2023 **ISBN** 9783031269639 9783031269622 Edizione [1st ed. 2023.] Descrizione fisica 1 online resource (210 pages) Collana Wireless Networks, , 2366-1445 Disciplina 004.6 Soggetti **Telecommunication** Industrial engineering Automation Computer networks Communications Engineering, Networks Industrial Automation Computer Communication Networks Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Chapter 1. Introduction -- Chapter 2. Advanced Wireless Technologies for Industrial Automation -- Chapter 3. Sensing and Control Oriented Transmission for Industrial Network Systems -- Chapter 4. Edge Assisted Transmission for 5G Enabled Industrial Network Systems --Chapter 5. Spectrum Constrained Efficient Transmission for Industrial Network Systems -- Chapter 6. Conclusion and Future Works. This book provides a comprehensive overview of wireless technologies Sommario/riassunto for industrial network systems. The authors first describe the concept of industrial network systems and their application to industrial automation. They then go on to cover the role of sensing and control in industrial network systems, and the challenge of sensing and control in the industrial wireless environment. Then, the existing techniques for resource efficiency information transmission are introduced and

studied. Afterward, the authors introduce sensing and control-oriented transmission for industrial network systems, which take advantage of

spatial diversity gain to overcome the interference and fading, which in turn improves the transmission reliability without expending extra spectrum resources and enlarging the transmission delay. Subsequently, edge assisted efficient transmission schemes are introduced, which integrate the capacities of communication, computing, and control to relieve the contradiction ofresource limitation and massive data. Finally, the authors discuss open research issues and future works about information transmission in industrial network systems. Presents the uses of wireless technologies for industrial network systems, and their application to industrial automation; Discusses the role of sensing and control in industrial network systems, and the challenge of sensing and control in the industrial wireless environment; Includes open research issues and future works about information transmission in industrial network systems.