

## **Industrial automation and information technology**

This book is a comprehensive guide exploring automation technology from an IT and software perspective.

It covers the fundamentals of IT architectures, communication, and control software used in various industrial products and production systems. The book provides an overview of the current environment in which automation technologies are deployed, answering critical questions about key technology on the basis of three case studies. The main topics are as follows:

- What is automation and how is it used?
- How is automation software created?
- How to implement IT networks on an industrial scale?
- A case study on cognitive sensors for autonomous mobile systems.
- A case study on IT integration in industrial automation
- A case study on automotive IT today and in the future
- How does automation technology add value?
- What are the pathways to practical implementation?
- What future directions are starting to take shape?

The book is aimed at those seeking an IT and software perspective and is suitable for undergraduate and graduate students, engineers, and other professionals who wish to broaden their knowledge.

The author

Prof. Dr.-Ing. Dr. h. c. Michael Weyrich is a distinguished expert with extensive experience in the field. He leads the Institute of Industrial Automation Technology and Software Engineering at the University of Stuttgart. His years of research in academia and industry along with his scientific publications make him a trusted source in the field. He also serves as the chairman of the Society for Measurement and Automation Technology of the VDI/VDE.