

# Preface

Nowadays one of the most important objectives of the nations is the protection of their critical infrastructure against cyber threats. Several countries already issued directives or laws requesting operators of critical infrastructures to fulfill a minimum set of security requirements. The standard IEC 62443 has the objective to cover the various dimensions of industrial cybersecurity and is therefore widely used for the development of holistic protection concepts for operators as well as for product suppliers.

When I started to work in the area of cybersecurity applied to industrial environments, it became rapidly clear to me that the topic is manifold. Protection against cyber threats requires a number of different, often independent measures. For example you have to pay attention among others to user management, malware protection as well as patch management. Three measures, which are totally independent, but of equal importance. A holistic approach for a sustainable protection of industrial facilities during operation requires in general the contribution of product suppliers but also of integrators and operators and includes technical as well as organizational measures.

I participated actively in the emergence of the standard IEC 62443 and developed several of the concepts described in this book. These have shown their value when implemented in the company where I made my longstanding career and I am happy to continue to promote the standard IEC 62443 as a consultant. The standard is bulky, reflecting the complexity of the topic. This book is a tentative to facilitate the access to the standard by giving an overview and describing the main concepts which are underlying the standard. These are also the basic principles when designing and deploying protection concepts for industrial installations as well as integrating security in the product development lifecycle. It is intended to be useful for decision makers, managers, technical leaders, engineers and technicians as well as for students.

This edition reflects the last developments in the IEC 62443 since 2017 and describes in more details the holistic approaches for the development and practice of a protection scheme for industrial facilities. It also goes deeper in the description of secure development lifecycles of products.

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