**Chapter 1**

**Industrial Informatics: What We Know and What We Don’t Know**

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**ABSTRACT**

This book investigates information technology in the context of the process industry. When this context is examined, the implications of information technology go far beyond the contemporary accounts of IT in manufacturing processes – it also includes after-market sales, service production, sourcing, e-maintenance and so on. The sum effects of these changes are rapidly transforming the process industry.

**INTRODUCTION**

From a research perspective, the process industry is often characterized in terms that limit the scope of discussion to the actual manufacturing processes. This book broadens the scope to include the broad set of enablers that are transforming the industry into a service industry, and the interaction processes that are emerging in the process industries. We argue in this book that the role of information technology is profound in today’s process industry and is likely to be even more profound in the future.

The history of the process industry has from the start been one of extensive use of technology. This was true long before the era of information technology – the mining industry, the pulp industry and the manufacturing industry have all co-evolved with technology. This has been the case with technologies of the past, and this is the case today with information technology. That is the reason why a broad view of the ongoing transformation in the process industry is necessary to understand the effects of information technology on an industry as large, diverse, and complex as the process industry.

The contemporary developments on the Internet are likely to enhance the ongoing changes. To this point, they have not yet done so, and it is difficult to predict whether or how they will. Given these challenges facing the process industry this book sets out to explore information technology in the context of the process industry from an industrial informatics approach. This approach takes the recent