

# Data centers and critical technologies



Claes Ryttoft

## Dear Reader,

You may be surprised to learn how deeply involved ABB is in the dynamic and continually expanding sector of data center technology – and has been from its very beginning.

Data centers began to develop in earnest around the time of the so-called dot-com bubble in the 1990s when demand for fast and continuous Internet connectivity began its steep growth, and in-house resources of individual companies could no longer keep pace. Large facilities called Internet data centers (IDCs) were created to handle increasingly large-scale computing. In his book “The Big Switch,” Nicholas Carr describes seeing a data center for the first time in 2004. He observed that a data center was much like a power plant – a computing plant that would power the information age much as power plants had powered the industrial age.

While accurate, Carr’s analogy seems so vastly understated today: The data center has become the most crucial IT asset for nearly any 21st century enterprise. The path of increasing digitalization is rendering the uninterrupted flow of data absolutely essential for day-to-day (even fraction-of-a-second to fraction-of-a-second) operations. The IT industry analyst 451 Research predicts that global data traffic will reach 11 zetta-bytes/month by 2017 (zetta means  $10^{21}$ ). Data centers are becoming ever larger, more complex and more costly to run. This edition of *ABB Review* looks at these trends, explores how data centers operate and – importantly – how their reliability can be maintained.

While the layperson may associate data centers foremost with arrays of servers processing information, the associated

power supply and its control (including such functions as cooling) are equally vital. In fact, with the global power consumption of data centers rapidly approaching that of countries like Argentina or the Netherlands, the effective use and management of this energy (while upholding extremely high levels of reliability) is becoming a topic of ever-increasing societal relevance.

Building on its background in supplying mission-critical power and automation technologies, ABB has similarly become a player in the supply of key components and systems to the IT industry. While other suppliers are assembling data centers from components designed for commercial and office use, ABB offers inherently reliable, robustly designed and energy-efficient products and systems. The value of ABB’s contribution to data centers is evident not only in the quality of individual products but also in the company’s ability to develop and implement entire systems, covering both the power delivery chain as well as automated monitoring and control.

Beyond the articles related to data centers, this issue of *ABB Review* also looks at an electric bus that recharges in 15 s, automation on board a dredger and a robust wireless communications system for industry.

Enjoy your reading.

A handwritten signature in blue ink that reads "Claes Ryttoft". The signature is fluid and cursive, with a prominent loop at the end.

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Group Senior Vice President  
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