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#### The energy link

Electricity is a driving force of the economy and indeed of human society as we know it. But it is not just the basic availability of this energy that is taken so for granted: Both industrial and domestic users rightly expect its supply to fulfill the highest standards of reliability and predictability.

The vital infrastructure that makes this possible is continuously developing and must fulfill rapidly changing demands. Increased trading of power means that electricity is being transported over longer distances, placing new demands on infrastructure. The rapid development of emerging economies is leading to massive investment in long-distance transmission to keep the lights on in the major cities. At the same time the search for alternative sources of energy is leading to a boom in renewables. The variable availability

of the latter creates new challenges, for example in scheduling or because generation is often concentrated in sparsely inhabited areas where the existing infrastructure was not designed to cope with such an influx of power. All these factors are calling for new approaches in the planning and operation of electricity supplies. One possible solution lies in the transition to so-called smart grids, in which state-of-the-art control and monitoring methods permit the transmission infrastructure to be used with a flexibility that was previously not possible – and this without compromising its reliability and robustness. The upcoming edition of *ABB Review* will investigate some of the technologies required for this to happen.

We trust you will have an energizing read.