

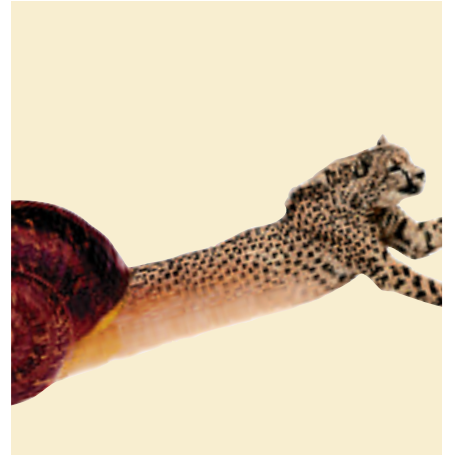
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Smart and looking the part



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Substation building blocks



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Soft and gentle

## **6 Looking good**

Fusing visually pleasing forms with sound engineering and good functionality, to unite natural materials with smart performance makes perfect sense in an industrial context.

## **13 Transformed**

Large and small products are benefiting from ABB's industrial design process. Follow this process as it is applied to large transformers for distribution networks.

## **18 Greater flexibility in substation design**

ABB's module based substation design approach results in reduced lead times, high flexibility, and easier and faster installations.

## **22 Smooth ride from the start**

Programmable soft starters have grown increasingly sophisticated in terms of capability and adaptability, and are now easier to use than ever before.

## **27 Breaking news**

It may still look the same but it's packed with performance and functionality. Meet the 'new' Emax range of low voltage circuit breakers.

## **32 AquaMaster™**

ABB's AquaMaster™ electromagnetic flowmeter sets the standard in the way water is metered and managed around the world.

## **36 Parts per billion**

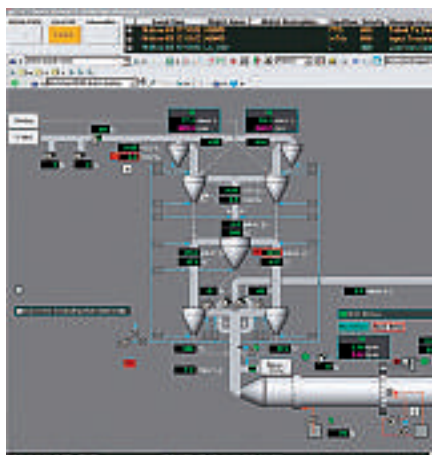
Continuous gas analyzers from ABB show how innovative approaches permit industrial metrology to achieve higher sensitivity – in parts per billion!

## **41 VirtualArc®**

Transforming welding from 'black art' to practical science, VirtualArc® is an expert system providing in-depth analysis of the arc welding process.



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Pushing the frontiers of sensitivity



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A control room in your pocket



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An investigative success

## 45 50 years of Pressductor®

Since its development in the 1950's, ABB's Pressductor® technology has led to the launch of many innovative and successful products that have greatly impacted the global metals industry.

## Innovative engineering

### 50 Made in China

In just six short years, ABB's transformer factory in Chongqing has developed into one of the largest transformer factories in the world.

### 54 On the move

The traditional factory control room is now 'on the move' thanks to advanced communications technology and its application in an industrial environment.

### 58 Creating currents in the Caucasus

ABB is playing its part in the major oil and gas project underway in the Caucasus by supplying offshore and onshore equipment as well as equipment to control two pipelines.

## R&D digest

**61** Quality of oil makes the difference. ABB discovers the solution to transformer breakdowns.

**64** ABB Group R&D center – Bangalore, India.

## Tutorial

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### New

In this issue you can read Part 2 of a three-part tutorial on risk management. Dealing with risks is an inherent part of business, and the author provides insights with benefits for suppliers and customers alike.