

TQ
THE
QUINTESSENCE

OF SENSOR TECHNOLOGY

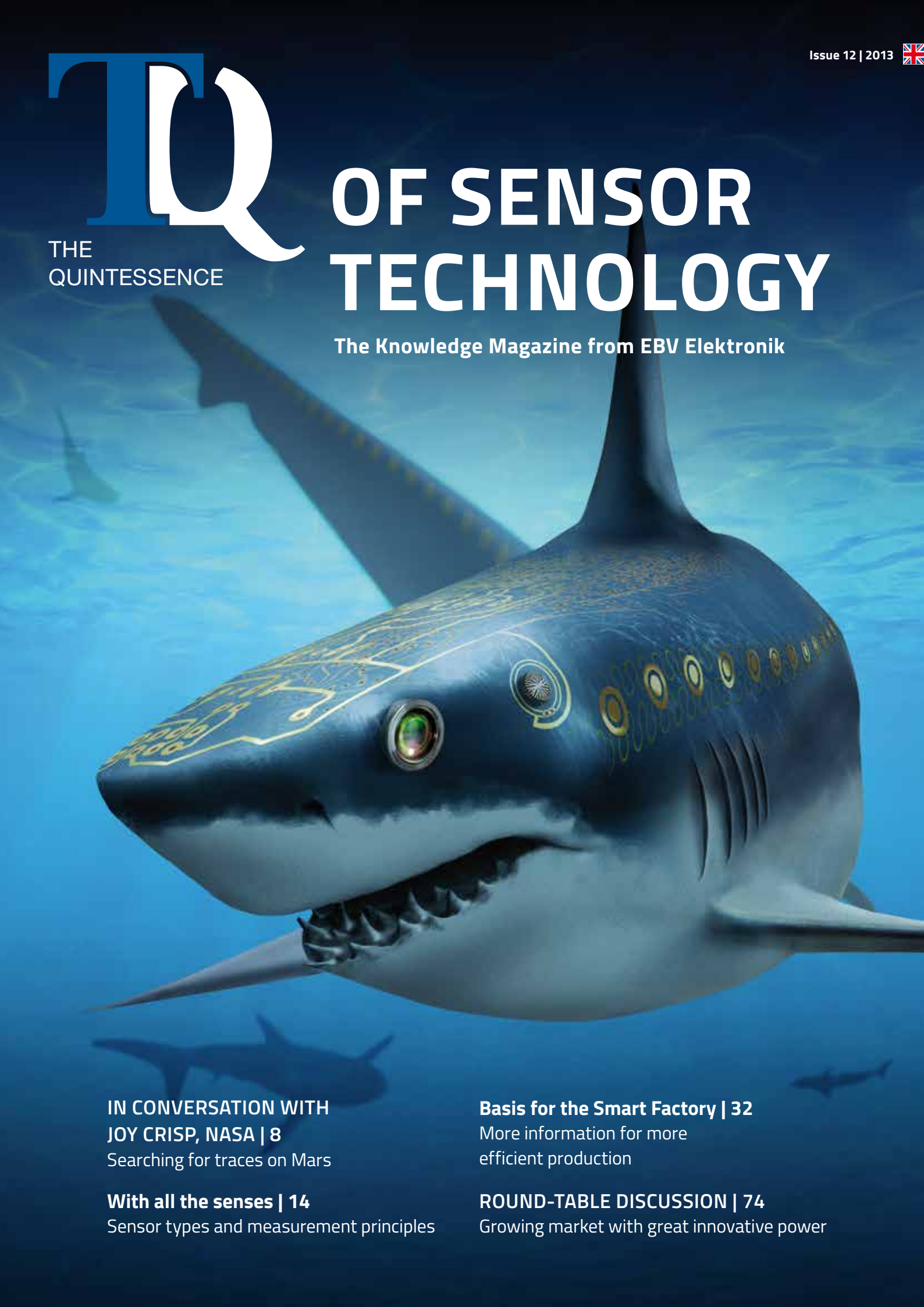
The Knowledge Magazine from EBV Elektronik

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Sensors – the basis for intelligent technologies

Sensors are increasingly becoming part of a wide variety of industries and application areas, and entirely new potential uses are opening up on a regular basis. Efficient manufacturing technologies, state-of-the-art motor vehicles, innovative medical products, smart power supply systems or user-friendly building services – none would be conceivable without sensors.

Unsurprisingly, the global sensors market has seen impressive growth in recent times as a result. According to the “Sensor Markets 2016” report from Swiss consultants Intechno Consult, it increased from 81.6 billion euros in 2006 to 119.4 billion euros in 2011 – and that figure only covers the non-military sector. Intechno Consult’s research predicts that the market will grow to 184.1 billion euros by 2016. That represents an annual growth rate between 2011 and 2016 of around 9 percent.

Semiconductor sensors are playing an increasingly important role in this growing market because the continually rising demands for higher accuracy, self-test capabilities and ever faster data transfer mean ever smarter sensors are essential. Sensors made using semiconductor technology are relatively low in cost and easy to manufacture, and can be easily connected to the micro-electronics of state-of-the-art control systems. Moreover, smart sensors are capable of performing functions such as complete microcontroller signal preparation and processing.

The opportunities for growth in some sensor designs are quite breathtaking. This is well illustrated by combo-sensors, which combine a variety of motion sensors – accommodating for example an acceleration sensor, a gyroscope and a compass in one housing. Driven by applications in smartphones and tablet PCs, this market grew by a staggering 700 percent between 2011 and 2012 according to market research organisation IHS iSuppli, and currently generates revenues totalling over 189 million dollars. The combo-sensor market is forecast to grow to 1.4 billion euros by 2016.

However, this growth is also leading to a redistribution of market share among the various global regions. Western Europe is losing out because most of its sensor buyers are in established industries, while the USA and Japan are leaders in IT and communications engineering – the fastest-growing markets for sensors.

Whatever the global markets and applications for which smart sensors are needed, EBV can not only supply the necessary components but also has the relevant know-how – providing customers with the ideal basis to profit from the growing sensors market.

Slobodan Puljarevic
President & CEO, EBV Elektronik



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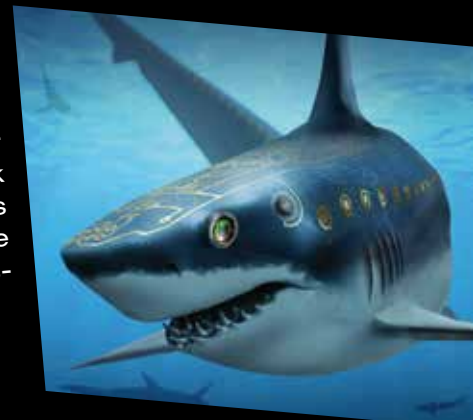


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ELEKTRONIK PRAXIS

Dear Reader,

Have you ever actually asked yourself why sharks are so successful? They have after all been in existence for over 400 million years. As opposed to the dinosaurs, which only appeared some 235 million years ago, they have managed to survive. One reason for that durability is doubtless their highly evolved sensory system. They can see in the dark better than cats; their sense of smell is ten thousand times better than a human's; their hearing is superb; they sense current flows, detecting even the tiniest differences in pressure and locating their prey by means of electrical fields.



No shark on the cover of your issue? Then you are one of the lucky readers with a copy featuring an interactive cover page.

State-of-the-art sensor technology enables you to play a little tune on the imprinted miniature keyboard. The electronics for it is provided by Texas Instruments.



A shark is a prime example of the extensive capabilities of sensor systems – which is why we chose to picture this highly successful hunter on the cover page of our latest issue*. Technology is in fact also currently entering a new evolutionary stage. As the experts taking part in our round-table discussion report, the numbers of sensors being fitted in technical equipment and machinery are rising steadily. Sensors provide the basis for the development of increasingly intelligent machines capable of handling their tasks faster, more precisely and autonomously – whether in a car, in medicine, or in the smart factory. They are even enabling machines to search for the very origins of life, as NASA scientist Dr. Joy Crisp recounts. Fitted out with lots of high-tech sensors, the Mars rover 'Curiosity' has since last August been sending back data indicating how hospitable – or inhospitable – to life the Red Planet was in its past, and how future manned missions might be able to survive there. Despite all the innovations in sensor technology, however, one question still seems appropriate to ask: Can present-day technology really measure everything? Are there not perhaps some things which are beyond physics as we know it today? The existence of paranormal phenomena is a controversial topic. Towards the end of this issue, we invite two experts with opposing views to put their arguments. Decide for yourself who is right! This is in keeping with the philosophy underlying 'The Quintessence', which seeks to investigate subjects beyond merely the current status quo in science and technology. I believe that is an approach which provides the ideal basis for a highly interesting and entertaining read. And incidentally, you can also read this issue on your tablet. The "TQ by EBV" app enabling you to do so is available from the various app stores. As ever, I look forward to receiving your feedback to bernd.schlemmer@ebv.com.

Best regards,

Bernd Schlemmer
Director Communications, EBV Elektronik

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