# SMS is a technology which was invented as a sort of sideline

Wireless communication is all the rage. Where are the trends in contactless communication leading? Which technologies will prevail? Ulrich Wydler, Head of Access + Data Systems EMEA at the Kaba Group, talked to Professor Niels Kuster, Director of the Foundation for Research on Information Technologies in Society.

Prof. Niels Kuster

Ulrich Wydler

**Prof. Niels Kuster (NK)** A technology only establishes itself if it can be applied in a way which brings benefits to the user. In mass markets, the technology also has to be cool.

**Ulrich Wydler (UW)** It is always fascinating to see which ideas end up catching on and which ones don't. It is surprisingly difficult to predict. Biometrics is a good example: 20 years ago, widespread use of biometrics was being predicted.

**NK** Yes, but only the terror attacks awakened a need for clear identification and helped this technology become better established.

**UW** The greatest skill in marketing is the ability to awaken simmering market needs. We succeeded in doing this with our electronic safe locks. Now we are the world market leader. And we are at the same stage today with our new RCID technology.

**NK** I'd install this technology right away. I've never liked badges. In fact, I almost prefer keys. But something which works smoothly and invisibly – I'd go for that every time.

**UW** As part of our work in the Global Technology Management Team, the Kaba Group's think tank, we came across patents from the 1960s which revolved around capacitive data transmission using the human body. We gave a team of young developers who were fascinated by the idea the chance to try it out and develop the TouchGo product line. We have put in seven patent applications for this so far. After four years of development, we now have the first pilots installed, to test out the technology in a day-to-day environment. If everything goes well, the first product will be on the market in the fall of this year.

**NK** So you'll be the first to introduce concrete uses for RCID. The application makes a lot of sense. So I think the

products stand a good chance of establishing themselves.

**UW** I agree. And we are also combining the whole thing with RFID. This means RCID is not replacing RFID but complementing it. – You do research in a related area, wireless technology. Where are the trends leading to here?

**NK** It is difficult to predict these things accurately. In the past, the predictions about mobile telephony had to be constantly updated. A few years back it was inconceivable that there would one day be more cell phones in Europe than people, or that approaching four billion people worldwide would be using them. SMS, too, is a technology which was invented as a sort of sideline, and nobody imagined it would be used so eagerly and that a business could be created out of it. On the other hand, the appeal of wearable computing applications was hugely overestimated. In the mid-1990s, MIT predicted that this technology would soon be booming, but no serious applications have yet appeared on the market.

**UW** The Swiss Federal Institute of Technology is mainly a teaching and research institution: how are your technologies turned into marketable applications?

**NK** Since the end of the 1980s the Institute has been helping and encouraging researchers to set up spin-off companies. We research the technologies, and our three spin-offs then develop them for the marketplace. By turning technologies into commercial applications, the spin-offs create highly skilled jobs and generate earnings which are then invested in our research. The result is a very high level of expertise.

**UW** Taking technology to the marketplace also involves standardizing it.

**NK** That is true, and it is extremely important. We invest a lot of time and energy in standardization. But it's not always easy. Often every company does its own thing, in an effort to gain an advantage in the market. And at some point it is realized that the different products are actually very similar. But then it is difficult to create a common standard.

**UW** I think that's the main reason why biometrics has not seen the level of take-up people expected. We see these problems with RFID technology as well. Instead of one standard, there are several, which have to be combined using multifunctional readers, a difficult task.

**NK** Do you see advantages or disadvantages in early standardization?

**UW** Well, that's a bit of a dilemma. As a technology leader, you have to give a lot away to the competition to allow a standard to be created. On the other hand, a new technology will rarely establish itself on the market without competitors. A middle course is licensing, as we did with Legic for RFID. With RCID we are still weighing up the options. – What technology would

**Prof. Niels Kuster** was born in Switzerland in 1957. He received his master's degree and doctorate in electrical engineering from the Swiss Federal Institute of Technology (ETH) in Zurich. In 1993, he was appointed Assistant Professor in the Department of Information Technology and Electrical Engineering at the ETH. He has been a visiting professor at Motorola's Electromagnetics Laboratory in Florida and at the Metropolitan University in Tokyo. In 1999, Niels Kuster became Director of the Foundation for Research on Information Technologies in Society. His research interests are currently focused on measurement technology and computer simulation for physical processes in biology, and related technological and medical applications, including applications for reliable on-/in-body wireless communication. Niels Kuster is a member of several standardization bodies and has advised a number of government agencies on safety in mobile communications.

**Ulrich Wydler** is a Swiss citizen. As Head of Access+Data Systems EMEA, he is responsible for Kaba's closely connected business in physical access systems, access management and time+attendance systems in Europe, the Middle East and Africa. Ulrich Wydler has worked for the Kaba Group since 1984 and has been a member of the Group Management Committee since 1994. From 1972 to 1984 he was employed by Oerlikon-Bührle Contraves as Head of Development with responsibility for major projects in the air defense division. Ulrich Wydler is Chairman of the Board of Directors of Bridge Betriebsdaten AG. He studied at the Technical University in Brugg (Switzerland) and graduated with a degree in electrical engineering.

"A technology has to be cool and bring benefits to the user."

Prof. Niels Kuster, Director of the Foundation for Research on Information Technologies in Society

# “It is fascinating to see which ideas end up catching on and which ones don’t.”

Ulrich Wydler, Head of Access + Data Systems EMEA at Kaba Group

you like to see in the future in the field of locks and access solutions?

**NK** For me, Kaba is synonymous with keys. Both my grandfathers worked for Securitas. So I’ve always been impressed with big bunches of keys. But I’m fascinated by RCID. It would be great if a person’s different physical characteristics could be used for identification.

**UW** You mean, if certain features could be isolated in a person’s electromagnetic properties which could be used by biometric applications? So that a door will only open if the right person is carrying the RCID chip?

**NK** The idea of an electromagnetic biomarker fascinates me. The possibilities and limits of this could be investigated quite easily.

**UW** I would be very happy to do research in that direction. And if the application could also draw on energy from its environment, then the RCID components would be so small that you could place them anywhere.

**NK** What is your target market?

**UW** Market analysis has shown that older people will draw great benefit from our TouchGo products. The authorization medium is carried close to a person’s body, such as in a trouser pocket. When you touch the door handle, the lock identifies whether the person is authorized to open the door or not, and then opens (or doesn’t). This means you don’t need to rummage around for your key – a big relief for the old and disabled. We identified this segment as our first target market. But there are also countless other areas of application. RCID is not a close-range mode of communication like RFID, but is very selective and extremely convenient. To this extent we are confident that TouchGo will find a wide range of applications.

**NK** Which takes us back to the central point: it is the application of the technology which makes the difference. With RCID, Kaba has a compelling technology, and knows how to make effective use of it. That gives it potential.