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NFC Hype, the Future of Bluetooth Beacons and Ultracode 2-D Color Bar Codes

Twice a year, all members of AIM-D, the German branch of the organization for automatic identification, data capture and mobile data communication, meet to report about their

activities, and to discuss current topics of the auto-ID industry. At this autumn's gathering, held on Oct. 15-17 in the city of Cologne, with the support of Cologne-based auto-ID developer PANMOBIL, the discussions focused on Near Field Communication (NFC) and Apple's iPhone 6, as well as the future of Bluetooth beacons and the Ultracode 2-D color bar code.

iPhone 6 NFC Hype: Exciting Application Scenarios Are in B2B Segments

"Without the right end user, the NFC in iPhone 6 and iPhone 6 Plus won't really rev up in Germany," Infineon Technologies' Jörg Schmidt told AIM members, while presenting the recent results of his Near Field Communication working group. "At this point," Schmidt said, "NFC has an enormous coolness factor, but it lacks uniform payment systems, a reasonable integration of coupons or member cards—the end user doesn't really know what to do with NFC." The most exciting application areas for NFC are in the business-to-business (B2B) segment, which is why his team has drawn up recommendations regarding all of the applications for which NFC can be used, how to effectively use the chips' data structure, and which tags actually suit the application field of NFC.



"The main question is, Why, in Germany, aren't we able to transform technologies like NFC, whose foundations were invented here, into revenue and projects?" said Nikolas Beutin, from accounting and consulting firm PWC. "Why are the Americans always able to do so?" To date, in the fields of mobile payments and mobile wallets, three-digit million

amounts have been invested—but here in Germany, no one tells us what technologies like NFC actually accomplish during the payment process. The German empathy to accept the new technology is still missing, while other countries, like Great Britain and the United States, already understand its advantages. “Fifteen years ago, most people hesitated to pay with their credit cards on the Internet—that was too doubtful for most people,” Beutin said. “Now, paying by credit card on the Internet is established, and the same will develop with payments by smartphones—in a few years, nobody will ask about the safety or sense of this system. It will be established.”

In the future, mobile wallets will not be good only for payments, but also for member cards and coupons. When all other countries are able to pay via NFC, then the demand in Germany will follow. In the room, everybody agreed to one thing today: The exciting NFC applications do not involve payments, but rather using NFC to manage such things as changing your winter tires or keeping track of medical prescriptions. Apple Pay, in the consumer field, is not at the top of using NFC technology.

Simplifying the Transfer of Auto-ID Data

“Auto-ID—meaning RFID and bar code, all of it—is a fantastic technology,” said Peter Schmidt, PANMOBIL’s executive director, during his opening speech. “But most companies, especially small companies, shrink from its introduction, because they are afraid of the high investment and follow-up costs! This can’t be happening anymore.”

“It is not a problem to buy a bar-code scanner,” Schmidt said. You can find those in every corner of the Internet—especially now, at the beginning of the inventory phase. The main problem is this: When you start to work with it, how does the captured data transfer, for example, to the merchandise managing system, or to the staff who evaluates the data? It is most likely that you would need to buy software in addition to the scanner, by which the data would be transferred from the

scanner to the computer. And if that were not enough, the suitable interface would also need to be programmed for the scanner to actually transfer the data somewhere.

To address this problem, PANMOBIL offers bar-code and RFID scanners that independently transfer the captured coding data without any user intervention or interposed computer. The user automatically sends the data to the desired server via a Wi-Fi Internet connection. The software that implements this simple connection, known as EMMware with SCOUTtechnology, is designed to put an end to difficult systems integration.

Günther Trautzl, the key account manager for industrial solutions at software developer ICS, sees it similarly, and discussed the AIM SI (system integration) team during the meeting. The interface to transfer auto-ID data to merchandise-managing systems needs to be simplified and facilitated, he said. Therefore, the AIM SI team has worked together with the OPC Foundation to develop a software specification that will be published under the description Companion Standard at next year's Hannover Messe industrial fair.

The Ultracode

Regarding Optical Readable Media (ORM) technology, Pepperl+Fuchs' Wolfgang Weber talked about a revolution: the creation of the rectangular Data Matrix code. Previous Data Matrix codes were too big to fit on pharmaceutical packaging. Now, there are 13 new rectangular formats to address this problem. Up to 175 alphanumeric characters can be encoded to the new rectangular Data Matrix codes, whereas only 60 could be accommodated by the old version. Weber then described two new code types that can accommodate even more data: the Han Xin Code, developed by AIM China, and the Ultracode, created by Clive Hohberger with support from Zebra Technologies.

With the Ultracode—currently a draft specification developed

by the AIM Technical Symbology Committee (TSC)—data can be encoded by means of colors, with many application possibilities afforded through the interpretation of these colors. While the classical industry scanner lacks a color camera, smartphones already have one.

Riding the Bluetooth Beacon Hype Cycle

“Summed up, Beacons (Android) and iBeacons (Apple) are based on Bluetooth wireless technology, which can contact software in the smartphone without starting up a specific app,” explained Bernd Gruber, a cofounder of indoor positioning and navigation technology provider indoor.rs. Through this localization technology, for example, visitors to a trade-show booth can use their smartphones to ascertain which areas of that booth might be of interest. Another application involves automatic mapping: Through an intelligent network of several beacons, inside area maps can be automatically applied, without requiring a worker to measure the premises. Gruber cited San Francisco International Airport as an example of the advantages. “Such an airport is a construction site 365 days a year—there are frequent changes to the premises. With beacons, the mapping works automatically and in real time.”

With this technology, you can also implement smartphone-based guides for blind people, for example (see San Francisco Airport Tests Beacons for Blind Travelers). The problem is that beacons are in hype mode at this point, and everybody wants to jump on the bandwagon for this new technology. Therefore, there are a lot of companies that manufacture low-quality beacons, which harms the technology’s reputation.

“Let’s take a look how the beacons will develop,” said Frithjof Walk, AIM-D’s CEO and FEIG Electronic’s OBID sales manager, at the event’s conclusion. “We already experienced a similar hype with the introduction of RFID technology. In the end, there were only a few left from many providers who used the technology profitably.”

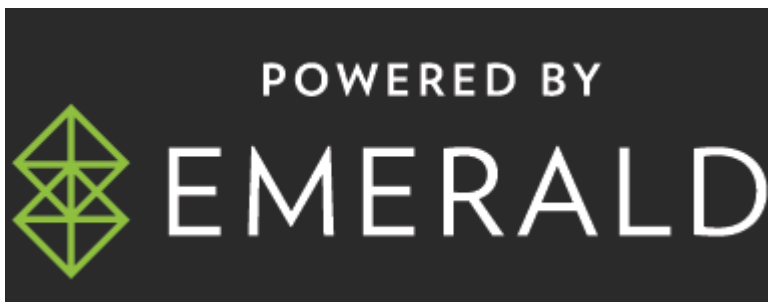
Stefan Leske is the head of PR and marketing at advanced PANMOBIL systems GmbH & Co. KG.



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