

## **Position paper for the EU Consultation on RFID**

14th July 2006

The German Association for Information Technology, Telecommunications and New Media (BITKOM) represents a total of more than 1,000 companies. Its 800 regular members employ some 700,000 people and generate revenues of 120 billion Euro. They include manufacturers of ICT equipment and providers of software, IT services, telecommunication services and content. BITKOM is working, in particular, to improve the regulatory framework in Germany, for modernization of the education system and for an economic policy which encourages innovation.

The term RFID systems refers to IT infrastructures in which data relating to objects and processes can be stored on a chip, read over an air interface and fed into an IT network. This makes it possible to optimize efficiency in carrying out processes and enables a further automation of stages in processes, for example in transporting goods and in production. An important aspect is the ability to combine the data collected through the introduction of RFID in different applications together in one network.

BITKOM welcomes the recognition of the huge significance of this key technology by the DG Information Society, and that it has set itself the goal of ensuring an adequate framework for its operation. In the opinion of BITKOM, the measures to be taken by the EU must take into consideration the following points:

### **Data protection**

The advantages of RFID have been recognised in many areas of application. They should not be obscured through uninformed and distorted discussion in their public reception. These advantages concern no one single group, but apply equally to business, consumers and public bodies (including governments).

Against the background of the variety of forms of construction and the broad range of possible applications of RFID technology, it is insufficiently far-reaching to discuss data protection requirements by lumping everything together. Only by considering individually the various technical possibilities in applying the tags and the particular application concerned allows the appropriate evaluation of their relevance to data protection regulation. Contributions that disregard or even ignore completely this fundamental requirement are unnecessarily obstructive and onerous to the discussion.

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An RFID chip as a rule contains only data related to products and processes. Personal data, to the extent they are available (as, for example, in applications in the medical field), are stored in the connected IT network and anyway are subject to the legal provisions relating to data protection (e.g. the German Bundesdatenschutzgesetz). The data protection guidelines of the EU (in particular the Directive 95/46/EG) with the rights they give to those affected (e.g. rights to information and to obtain deletion of data), and the duties they impose on those responsible (e.g. duties to inform and to delete what is held on individuals), already provide well-balanced and comprehensive protection. New legal instruments are unnecessary and inappropriate in this context. Care must be taken in the current discussion that excessive and impractical demands do not arise for the incorporation of RFID technology into data protection law.

In particular, the discussion should not lead to an expansion of the content or extensive interpretation of the concept “information relating to a natural person“ (Art. 2 a of the Directive 95/46EG). This would introduce a change of paradigm, against the facts and contrary to the intention of European data protection legislation, which would have consequences far beyond the questionable goal of increased protection in the application of RFID.

Also essential, besides the proper consideration of data protection, for the broad acceptance of the application of RFID is the education of the consumer through the EU, national governments, companies, organisations, and information initiatives to achieve informed and responsible behaviour by those using the technology.

### **Frequency allocation - regulation**

Questions of frequency allocation relate in particular to the UHF RFID Frequency Regulation, based on recommendations of ETSI and CEPT. The Regulation envisages a maximum transmission strength of 2 W at 868 MHz with 10 channels plus three channels with 100 mW and 2 channels each with 500 mW over a total bandwidth of 3 MHz. The adoption of the proposals into national law is progressing only slowly in the EU internal market. More rapid adoption of the new Regulation based on EN 302 208 (and on ERC-REC-70-03 issued by the ECC) is expected in the EU through publication of an EC Decision. This represents a very important step in the adoption of UHF RFID technology across Europe, so that its application must be supported and implemented with consistency.

A further important component of the EU Regulation is the so-called “listen before talk“ (LBT) rule at -96 dBm. LBT means that the reader must check whether another service is transmitting in the channel. If so, it must transfer to another channel. LBT effectively prevents the use of several RFID reading devices within a small area and so obliges potential users to set up diversion facilities which considerably reduce the performance and reliability of the RFID systems. Abolishing the “listen before talk“ rule must therefore be one of the main objectives in a revision of the EU Frequency Regulation.

For RFID to be successful, it is unavoidable in the medium and long term that RFID technology be permitted to access a broader frequency spectrum. Increasing the bandwidth and power of transmission in a future European Frequency Regulation is one of the main conditions for the development of new RFID applications in Europe.

Finally, we draw attention to the fact that there is still no universal approval of the UHF frequency band in Europe. This must be cleared up as a matter of urgency by publication of the planned EC Decision. An important first step would be for the EU Commission to instruct ETSI and CEPT to undertake a revision of frequency use.

### **Interoperability - Standardisation**

Interoperability between different RFID components must be secured by industrially comprehensive, international standards, to allow the unimpeded application of RFID solutions world-wide. At present, standardisation is shared between different standardisation organisations, including ISO, ITU, ETSI and EPCglobal. EPCglobal occupies a leading position in RFID standardisation through its closeness to the users. Increasing European influence on the standards organisation EPCGlobal and the standards commissions of ISO, ETSI and ITU through the presence of European technological companies with RFID interests is therefore an important step to becoming involved in determining future RFID standards. More pressure must be exerted than has so far been the case, to ensure that frequencies are allocated only for technical reasons, and not on unrelated, political grounds. The interests of the users of this technology should be the primary consideration.

A start should be also made as soon as possible with the standardisation of more far-reaching technologies (for example, active RFID chips), internationally, but under European influence.

To support the effective and user-friendly employment of RFID technology, standards relevant to back-up storage systems with reference to RFID, for example the middleware, should additionally be encouraged.

### **RFID R&D Projects**

Application of RFID technology in companies and institutions has great potential to increase efficiency in carrying out processes. In particular, the networking of different RFID applications can achieve an optimal co-ordination of activities in companies, and also in public administration and services. This is, however, a difficult threshold to cross as it would be necessary to change completely internal procedures and the related data processing systems.

Networked total solutions do not so far exist, but the anticipated potential improvements are clearly taking shape. In research and in industry the “Internet of things” is currently being discussed, a topic in R&D with the objective of achieving technically and organisationally an overall process control between companies. This idea goes far beyond the application of a unique identification of an article on an RFID chip, as its immediate aim is the self-direction of logical entities. Self-direction means direct storage of all information necessary for the handling of a logical entity on a chip attached to the article. All agencies involved in the processing chain can evaluate this information locally and apply and update it at each step in the process.

Against this background, in addition to support for the development of new RFID technology (e.g. sensors, cryptography) the use of public funds to promote comprehensive pilot projects for the application of RFID, for example in hospitals, administration, in logistics and the sphere of production such as finishing, locating, inventory and asset management, would offer a good opportunity to accelerate the development of RFID technology in the broadest range of differing applications. The integrated exchange of data between companies should here receive special support. This includes in particular the collection of standard formats for data exchange, access permissions and encryption.

The possibilities and scenarios for employing comprehensive, networked RFID applications should be secured by funded research programmes. The most significant aspects should be interdisciplinary investigation of sensible possibilities for application, securing acceptance by the people and organisations involved and demonstrating realistic optimisation potential and utility (ROI). In a project of this kind, all relevant partners from the various parts of the market sector concerned should be involved. It would hardly be possible for a single company to cope with an investigation of this kind as no company is active in all areas of a particular market sector. Programmes of this kind to support the investigation of comprehensive, networked RFID applications would give an impulse to the commercialisation of RFID technology in Europe and be an important step in creating an advantage in international competition.

### **Complementary technologies such as GPS, GPRS, Galileo**

In conclusion, BITKOM wishes to note that RFID frequently cannot be regarded in isolation in the discussion of possibilities for automatic identification. On the contrary, complementary technologies must also be taken into account. An example will illustrate this:

With palettes and cartons, RFID is the right technology for product tracing. If these objects are located in containers, however, the situation changes. The container also needs a RFID antenna to recognise its load. The container will, however, be tracked with GPS (in future, Galileo), GSM or GPRS will be used to transfer location data,

sensor data, changes on the electronic seal, etc. A corresponding infrastructure will be required on ships, which can direct the GSM calls intelligibly by satellite.

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Glossary:

RFID: Radio Frequency Identification

IT: Information Technology

UHF: Ultra High Frequency

ETSI: European Telecommunications Standards Institute

CEPT: Conference of European Postal and Telecommunications Administrations

EN: European Norm

FCC: Federal Communications Commission (USA)

ISO: International Organization for Standardization

ITU: International Telecommunication Union

EPC: Electronic Product Code

R&D: Research & Development

ROI: Return On Investment