



### **2D Data Matrix Coding ensure pharmaceuticals remain forgery proof**

2D data matrix coding is increasingly the method of choice when secure product coding is demanded. Michael Kogler, Technical Director at aps, specialists in industrial coding and marking, explains the value of using 2D data matrix code.

**Mr. Kogler, as an expert in the field of product marking, you are familiar with current trends. Why are the 2D Data Matrix codes increasingly gaining importance?**

The amount of information that must be applied to a product is growing rapidly. At the same time the space for coding is limited. Therefore, more and more information needs to be printed in the smallest space. The 2D data matrix code is specifically suited for that, because it has a very high data density. Important information is repeated within a 2D Data Matrix code. These redundancies combined with built-in correction mechanisms contribute to security. Thus, the code is still readable even if, for example, 25% of it is covered or destroyed.

### **The 2D Data Matrix code was developed 20 years ago. Why it is increasingly being used now?**

To read a 2D Data Matrix code, digital cameras are required, which today are so affordable they can be used everywhere. The 2D Data Matrix code is currently used in areas such as in-house logistics and postal franking and will certainly prevail in areas such as the pharmaceutical industry.

### **What concrete benefits have users, such as pharmacists, gained from the 2D Data Matrix code?**

In some countries, for example France or Turkey, the 2D Data Matrix barcode has already been used successfully in the pharmaceutical sector. On each package is coded a unique, random, identifiable serial and batch number, a Global Trade Identification Number and an expiration date. All numbers are stored in a central database. At the pharmacy, the encryption will be read automatically and checked online in the database, to see whether it truly exists and if the drug can be sold. For example, if a product is recalled, the pharmacist will automatically receive a warning. Identity and origin of the pharmaceutical packaging can therefore be checked at any time and pharmaceuticals become counterfeit-proof. In the end, manufacturers, retailers, insurers and consumers all benefit. The 2D data matrix code could be used for fast tracking in all production processes. In the U.S. the 2D Data Matrix code is printed with infrared readable ink on patient-customized medication and ensures invisibility for the consumer - complete traceability.

### **What laws currently exist requiring the use of 2D data matrix coding?**

In some European countries, the unambiguous coding of pharmaceutical products is already mandatory. In Turkey, for example, 2D Data Matrix coding has been a requirement since January 2009 to avoid pharmaceuticals being sold and settled twice with the insurance companies. In France, such a

#### About aps

The aps group with headquarters in Herrenberg, Germany, is a leader in industrial marking and coding, specialising in ink jet technology. Founded in 2000, the aps group is represented with their own offices and stores worldwide in more than 30 countries. With their absolute printer, the company offers the first and reusable, maintenance-free inkjet printer. Both products and packaging can be identified thanks to the large range of ink available.

law will be coming soon.

### **Which technology can be applied to print the 2D Data Matrix code?**

For 2D data matrix marking and coding, laser and thermal inkjet printers are suited, however laser technology is very complex and expensive. Other technologies such as conventional industrial ink jet printers can only print a dot matrix, which is not accurate enough for the 2D Data Matrix code. Only a casket matrix in high resolution provides truly accurate printing results. Thermal inkjet printers are mostly suited, since the code can be applied sharply and is very easy to read. Also, they are more cost efficient than laser printers.

### **A company wants to buy a printer that is suitable for 2D Data Matrix coding. What features should they pay attention to?**

It is important to have a high resolution printer which creates codes with graphics quality. High resolution thermal inkjet printers are advantageous to process fast-drying inks. This allows printing on multiple materials: the code may be applied directly to varnished surfaces and plastics, without the need for unvarnished windows on medicine packages. For pharmaceutical companies, it may also be important that the printer can be easily integrated into existing system solutions, like track & trace systems.

### **How will 2D Data Matrix coding develop in the future?**

With affordable camera technology and appropriate methods of marking, 2D data matrix coding will become widely accepted in the industry. The pharmaceutical industry is a pioneer with this technology with postal franking enjoying the benefits of 2D Data Matrix codes also. For other industries, particularly in high-price segment, the traceability of products with 2D Data Matrix codes is certainly interesting. It is generally assumed that data matrix coding will increase by around 35 percent.