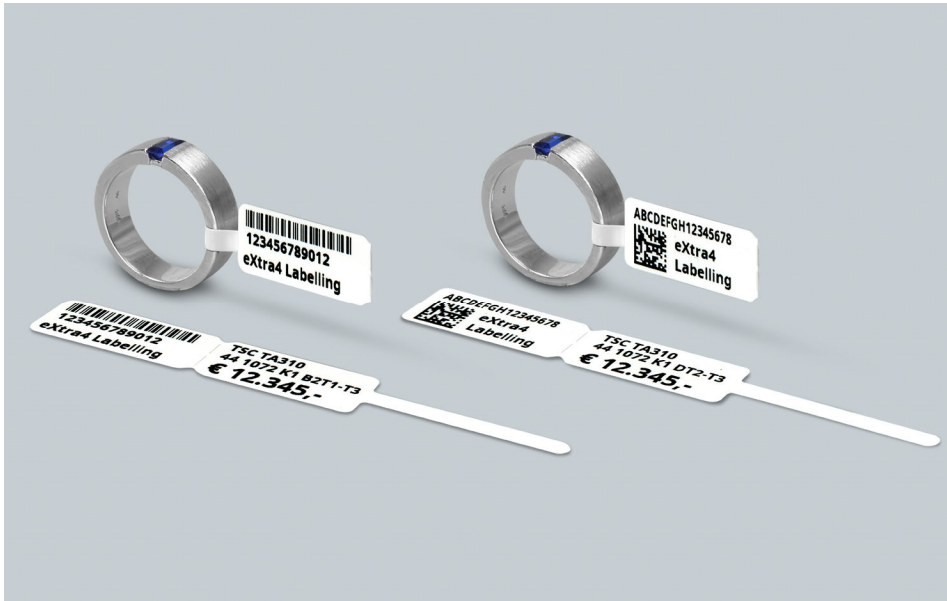**Pressemitteilung / Press Release**

50 years of barcode –
successor already at the start

eXtra4 Labelling Systems with trend analysis for the industry

Birkenfeld, 22.08.2024. Premiere at the supermarket checkout: a barcode is scanned for the first time in the USA on 26 June 1974 - for a packet of chewing gum. 50 years later, barcodes are the standard for product marking and are also widely used for jewellery, watches and gemstones. Specialising in identification technology in this sector, Ferdinand Eisele observes new developments and can identify trends with his brand 'eXtra4 Labelling Systems'. After all, coding is an important factor in digitisation.

35 years of barcode practice

Barcode technology has been part of the repertoire of Ferdinand Eisele GmbH from the Pforzheim area since 1987Back then, 10 years after the German launch of product identification by barcode,

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the impressive sum of DM 16,000 was invested in a thermal transfer printer to install an imprint service. Customers should be able to order the labels produced in-house ready printed with customised data and coding. In the meantime, barcode imprinting has been established as a much sought-after service. The company has extensive expertise in one-dimensional codes, the barcodes, in their various forms such as Code 128, 2/5-interleaved, Code 39 and others, but especially EAN-13.

More information with the second dimension

When GS1, the organisation for assigning the 'European Article Numbering' (EAN), now GTIN, authorised all manufacturers to label goods with new 2-dimensional codes, eXtra4 stays up to date. 2D codes, known as matrix codes, can encode more content than is possible with the 13 digits of EAN-13. In addition to the previously coded information on country of origin, manufacturer and item identification, this means additional content such as batch number, production and expiry date, the packaging unit and much more. Matrix codes, as a rectangular field usually squared, consisting of white and black pixels, prove to be space-saving and are known to everyone today in the form of QR codes for encrypting web addresses.

2D codes ideal for industry

With its compactness, 2-dimensional coding is particularly interesting

for the jewellery, watch and gemstone industries. Matrix code fits easily onto the particularly small-format labels that are common there. It can also be extremely reduced in size without any loss of function, which leaves room for other data. Even when damaged, it remains fully readable with only 3/4 of the pixel image.

At Ferdinand Eisele, this code has therefore long been integrated into the product range, both in the imprint service and on the software side, in the programmes offered by the subsidiary 'eXtra4 Software+Service'. They are able to generate corresponding matrix codes and output them on labels.

The path to more digitalisation

If you want to implement digitisation in your company, there is no way around coding, because the use of scanners can speed up the workflow considerably. Prerequisite: all items are stored in a database. Only then can the reading of the code, the machine-readable form of the item number, make the data stored there accessible.

Scanning each individual item is always necessary with printed codes, whether 1D or 2D. Only RFID technology will simplify even this process and record large quantities of items together. Ferdinand Eisele is also close to development in this area. Some companies are already using the technology. However, a detailed operational analysis and comprehensive consulting are essential for a successful investment in RFID. Even if the label alone has a unit price of around

€ 0.20 minimum. This means that the costs and organisational effort are still so high that RFID must be recommended very selectively.

Conclusion from the identification expert

Whether barcodes will ever be completely replaced by the new possibilities of coding on labels and products cannot be predicted at present. Its introduction for the identification of items by scanner is certainly a first, easily feasible step towards digitalisation and is therefore recommended by eXtra4 experts to future-oriented companies. The switch to 2D codes, if there is a need for additional retrievable information, can then be realised without any problems. RFID requires careful consideration and is only profitable under certain conditions.

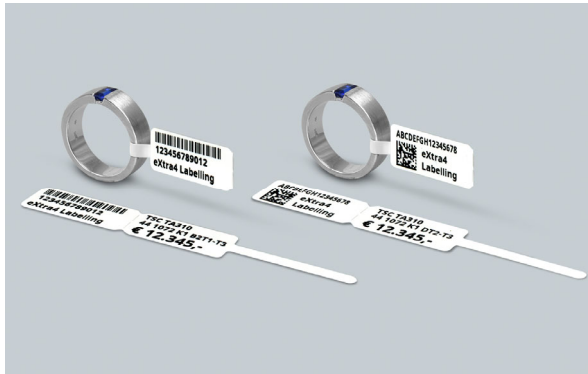(4.363 digits incl. blancs)

Images with captions

Fig.1: Simple item number consisting of digits as a barcode and more complex ones consisting of digits and letters as a space-saving matrix code

Fig.2: Complex mnemonic key 2d-coded for gemstone management