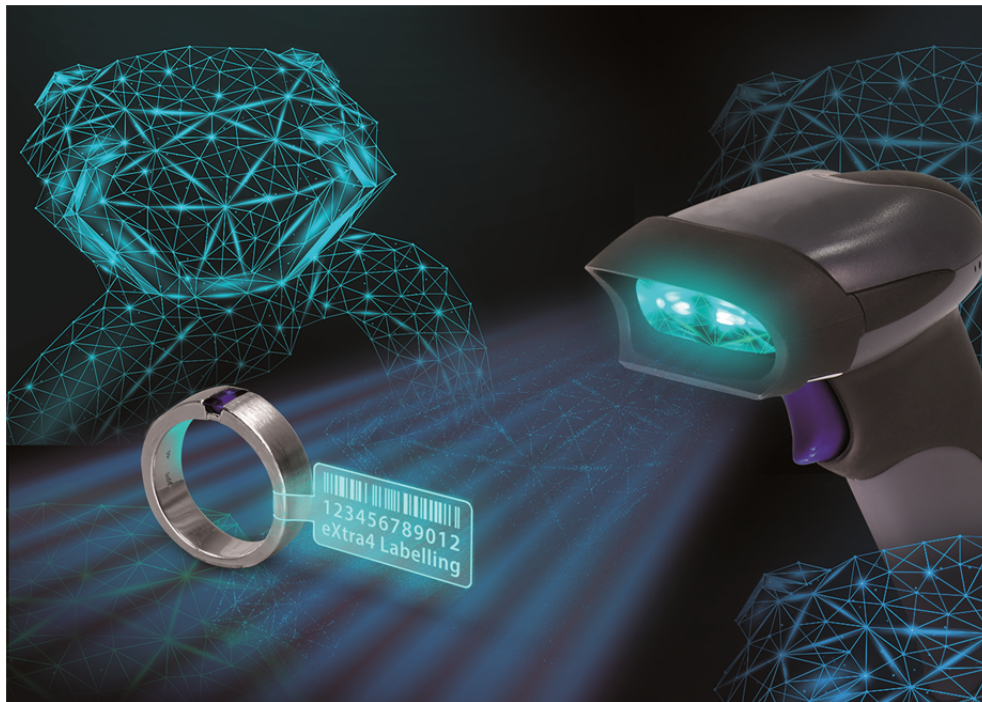**Pressemitteilung / Press Release**



# Towards digitalisation with barcode

## A path to transformation for jewellers and goldsmiths

Birkenfeld, 11.11.2024. The state declares digitalisation to be the new paradigm of the economy and demands commitment across all sectors. As a first step for jewellers and goldsmiths, eXtra4 Software+Service recommends coded labels to digitise everyday processes using a scanner. The software company from Birkenfeld near Pforzheim demonstrates how easy it is for even smaller companies to generate benefits in their own operations for the jewellery and watch industry.

**Digitalisation - a definition with practical relevance**

Digitalisation is as complex as it is difficult to grasp. The German Federal Ministry for Economic Affairs defines digitalisation as 'the

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use of data and algorithmic systems for new and improved processes, products and business models.'

For eXtra4, this generally means: the conversion of analogue processes, i.e. things that are done by hand, into processes that the computer can handle better digitally with the right software because it is faster, more accurate and more reliable than a human being. Translated in this way, it is easier to derive practical actions for everyday life.

### The warehouse as a sensible starting point for digitalisation

One of the time-consuming routines that require constant attention from jewellers and goldsmiths is stock control. It is closely related to the item labelling. Only goods that are correctly identified can be correctly booked in the stockroom. Digitalisation in this area promises a high degree of time savings while at the same time improving precision in the warehouse and in associated processes at the checkout and in purchasing.

### Key factor Item number

A unique item number makes goods unambiguously identifiable. It is the central component of precise item and stock management. All further information on an item, such as price, quality details and stock, is organised via the item number. As a kind of key, it grants access to this master data. The data itself can be saved in a list, in a table, even from a spreadsheet such as 'Excel', or in a database

where all the details for an item are grouped in a data record.

The machine-readable form of the item number is the code. This can be a barcode, which is a one-dimensional code consisting of black bars of different thicknesses and their spacing in different widths. Alternatively, a matrix code is also possible, a two-dimensional code that forms a rectangle from black and white pixel squares, widely used in its form as a QR code.

Suitable software, such as eXtra4-win for labelling, converts the numerical sequence of the item number into the desired code.

**Structure of an item number**

As a core component of stock management, the item number should be easy to handle. It must not be too long and complex for this. In eXtra4 practice, a number sequence with eight digits has proven its worth. Instead of assigning the item number completely randomly, it is advisable to develop a speaking key based on a categorisation of the stock of goods into item groups. With an 8-digit item number, the first four digits of the number sequence can be used for the item group and the following four for a consecutive or random number, i.e. for up to 10,000 items per item group.

The advantage: experienced sales staff can reliably locate and correctly categorise an item using the four leading digits, which represent the system of item groups. In addition, items of the same

type are displayed one below the other when listed by item number, which makes it easier to keep track of them.

## How to create item groups systematically

The classification of the stock of goods into item groups is the basis for the speaking key in the item number. When analysing and schematising the individual product range, it is important to proceed with caution and great care. Subsequent changes or a complete reorganisation at a later date are associated with considerable effort and cause confusion in sales.

The following procedure has proven itself in eXtra4 practice:

The 1st position stands for the main groups of items, e.g. 1. rings, 2. necklaces, 3. ear jewellery, 4. arm jewellery, 5. brooches, 6. watches etc.. The 2nd digit outlines the elementary subgroups, i.e. 1.1 Rings-Ladies, 1.2 Rings-Men, 1.3 Rings-Unisex, 1.4 Rings-Children, 1.5 Wedding rings etc. . The 3rd digit differentiates more deeply, e.g. according to material: 1.1.1 Rings - women's yellow gold, 1.1.2 Rings - women's red gold, 1.1.3 Rings - women's white gold, 1.1.4 Rings - women's platinum, 1.1.5 Rings - women's silver, etc.. The 4th digit allows a more detailed classification, e.g. according to alloy: 1.1.1.1 Rings-Ladies-Yellow-Gold-333, 1.1.1.2 Rings-Ladies-Yellow-Gold-585, 1.1.1.3 Rings-Ladies-Yellow-Gold-750, 1.1.1.4 Rings-Ladies-Yellow-Gold-916, etc. (see Fig. 2). However, this type of organisation

is only one of many. It can vary depending on the focus and orientation of a jeweller's shop or goldsmith's studio.

## More efficient thanks to code and scanner

If an item number is available, the prerequisite for the use of a scanner and thus a first step towards digitalisation is given. In order to be readable by a scanner, the item number must first be coded, usually as a barcode for the recommended 8-digit number.

More than eight digits lengthen a barcode generated from this, so that it no longer fits easily on small labels, as is usual for jewellery and watches. From twelve digits upwards, the coding should therefore be done as a matrix code, which takes up less space. This also applies to alphanumeric item numbers, a mix of numbers and letters.

eXtra4 labelling software converts the item number into a code and outputs it, along with the price and item details, on labels for labelling goods. Now the code can be scanned wherever the item number would have to be typed in by hand. This speeds up processes and reduces the error rate, as typing errors are eliminated.

## Digitalisation with little effort

To fully benefit from the advantages of barcode and scanner, you do not necessarily need an industry-specific stock management system. Even an electronically searchable list of all items, e.g. from a

spreadsheet or a simple database, is enough to speed up routines by scanning instead of writing.

For example, stock levels and orders can be organised more easily if the labels removed from sold items at the checkout are kept on a daily basis. After closing time, a scan of the codes calls up the relevant items. The associated data can now be changed or processed into an order or invoice.

**eXtra4 label printing - simple stock management included**

For years, eXtra4 has offered the option of storing item data in a small database in its labelling software. Item groups are also entered there. Based on this, the software automatically assigns a consecutive item number. This enables any user to create items correctly as a data record.

Instead of retyping the item data for labelling for each print job, it can be retrieved from the data master again and again. The data record for each item can also include information that is not required to be printed on a label, such as stock levels, supplier details, notes and even simple images. For documentation purposes, the eXtra4 software allows data to be filtered according to certain criteria and output as a list.

Jewellers and goldsmiths who shy away from the expense of introducing an industry-standard stock management system with

accounting functions because they cannot or do not want to make full use of its possibilities will find eXtra4 software 'win3' or its upcoming new release 'win4' a viable way to take the first step towards more digitalisation. They can immediately benefit from the advantages of coded labels and scanners in everyday life and gain experience in handling simple stock management in order to possibly transfer their data to fully developed industry software at a later date.

(8.385 Characters incl. spaces)

Source Definition Ministry of Economic Affairs:

https://www.de.digital/DIGITAL/Navigation/DE/Lagebild/Was-ist-Digitalisierung/was-ist-digitalisierung.html
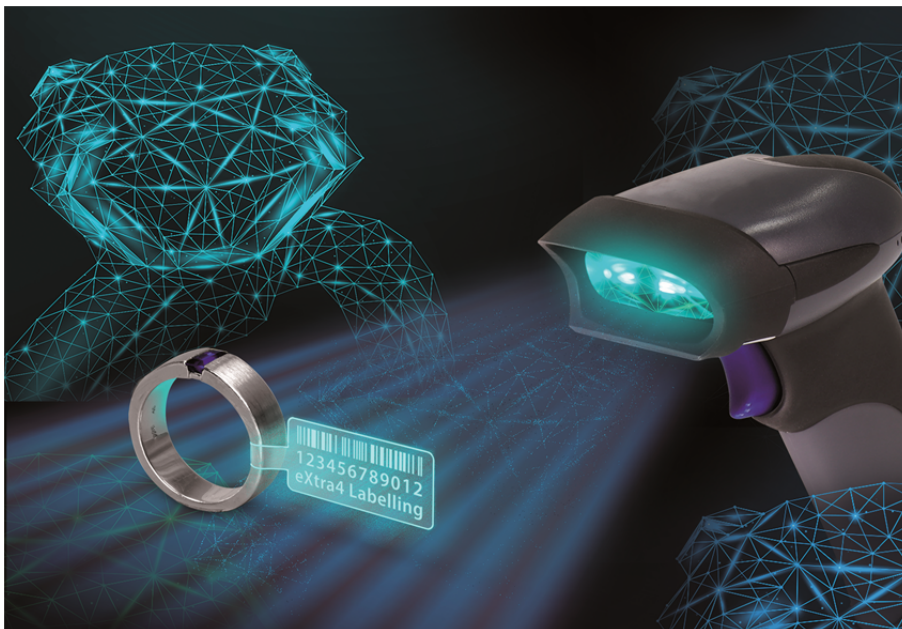
# Images and Captions



**Fig.1: Digitalisation for jewellers and goldsmiths: towards transformation with code and scanner**

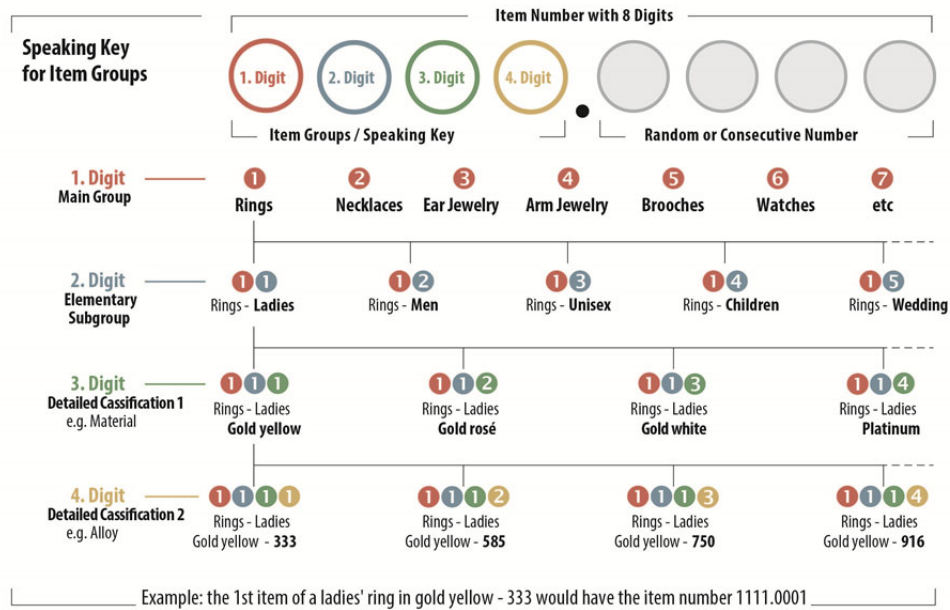**Fig.2: Create item groups and use them as a speaking key in the item number**



**Fig.3: Logo eXtra4 Software + Service GmbH**