CASE STUDY | Citizen printers help fire fighters maintain vital life saving equipment

The latest generation of label and barcode printers from Citizen Systems Europe, the leading manufacturer and supplier of a full range of high quality labelling, portable and POS printers and support services, is helping the fire fighting headquarters in Osterholz, Germany streamline its maintenance operations. Indeed, Citizen's CL-S700 range is helping the organisation to cut considerable time needed to accurately update records and produce documentation during the maintenance process.

Frank Wöhltjen, who heads the technical fire fighting headquarters in Osterholz, explained, "Every county in Lower Saxony, Germany has its own technical fire fighting headquarters, with each being responsible for washing used hoses and cleaning, testing, repairing and documenting technical equipment such as protective respiratory masks and bottles. This maintenance must be performed in compliance with the requirements of both insurers and equipment manufacturers, with everything needing to be carefully and comprehensively documented. As a result, the task was often time consuming, involving a substantial amount of paperwork, as our staff have to record the history of every hose and respiratory device."

With over **800** protective respiratory bottles and around **5,200** hoses in various sizes and lengths to maintain, as well as additional respirator masks for the surrounding communities, maintenance at the Osterholz fire fighting headquarters was a particularly time consuming process. As a result, it was necessary for staff to start exploring and evaluating a variety of potential solutions in an effort to find a simple method that could save a significant amount of time and a strategy using adhesive labels and barcodes was considered a viable option early on in the process.

In order to execute this plan, the team contacted **SASS Datentechnik AG**, a German systems company that specialises in tailored solutions for fire departments. Indeed, this business had already installed similar proven technologies for other customers within the fire service.

After considering all the options, the Osterholz fire department opted to use **2D barcodes** over the traditional 1D type. As the labels would sometimes have to be applied to small or unusually shaped objects, the conventional barcodes, whose black and white vertical lines take up a wider space, would be too large for the area available. In addition, employees would not be able to apply the label to a curved surface, on a tube, valve or hose, for example, as the 1D barcode scanners would be unable to read these.

2D codes, on the other hand, require considerably **less space**, yet contain all of the necessary information. Unlike the familiar lines running in a single direction that have been used to store data for many years, the data contained in a 2D barcode is encoded both horizontally and vertically, forming a square that consists of dots.
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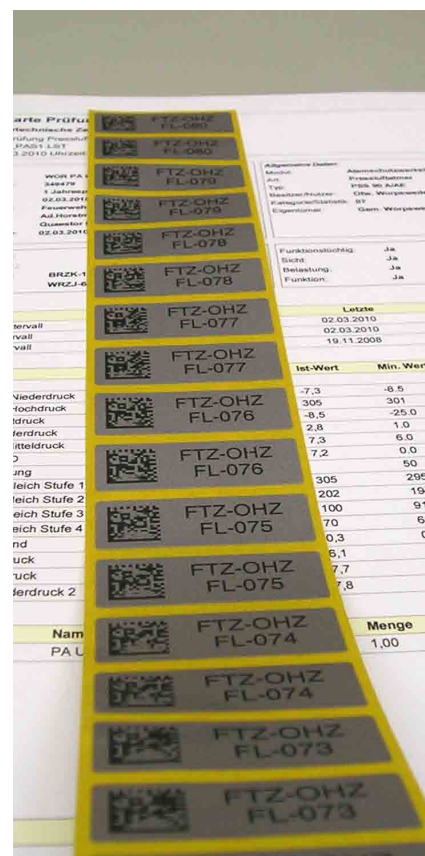
In addition to the 2D barcode, each inventory label also needed to include a printed number and a mark, which identified that the equipment was property of the Osterholz fire department. Following a series of tests, the team concluded that a label measuring 50mm x 20mm would offer the best solution in terms of size and functionality. The next step was to determine the printer for producing such labels. Having used label and barcode printers from Citizen's CL-S700 series on previous installations, SASS Datentechnik recommended that the Osterholz fire department use Citizen's **CL-S703** printer.

One of the main advantages of these printers is that they offer particularly high performance from compact units, with the capability to print extremely small barcode labels at a high **300dpi resolution**. Furthermore, the innovative printers are fully **compatible with** the **Windows** operating platform used by the fire department, as well as having **ZPL and Datamax** capabilities, and being simple to operate and maintain; for example, media can be changed in less than 30 seconds.

On purchasing the Citizen printers a technician visited the Osterholz fire headquarters to install them and set the printhead to the optimum temperature for the application, to ensure that the printed images remain durable and resistant to the cleaning chemicals used by the maintenance team, including alcohol, benzene and a variety of other harsh chemicals. Despite the thermotransfer foil consisting of a special material, standard lengths could be used with over **15,000 labels** being printed from one roll of media.

Thanks to the implementation of this latest technology, the **history of each individual device** can now be stored on a master database in the IT department of the Osterholz fire brigade. This includes vital information on when a device was purchased, its specified performance, the types of connections it features and when the next inspection is due, as well as a permanent inventory number for each device and component, helping users simply and quickly identify specific items within the brigade

A wireless hand held scanner that automatically deciphers the code and displays its corresponding information on the maintenance computer system reads the 2D barcodes and enters it into the correct electronic file. Furthermore, the new system **cuts the risk of errors** significantly, for example, if an employee records data while they are outside the radio circuit, the scanning device stores the data in the unit until it is possible to transmit it again. As well, as having access to the entire history of a piece of equipment, the team can also immediately see when maintenance was last performed, and exactly where, when and how it was last used. The entire process can also be documented in paper form by simply printing out the test report.

Frank Wöhltjen concluded, "We have now marked all of the devices that are currently in use in the county using the 2D barcode tags, and are already noticing how much quicker it is to perform maintenance tasks. Most importantly, we have been able to achieve our initial objective of finding a simple solution that would **save us time and effort** leaving us with more time to focus on more important tasks."
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Featuring printer:

CITIZEN CL-S703

Robust and reliable industrial label printer:
- ultra-fast loading of media,
- simplified maintenance.

About Citizen Systems Europe

Citizen Systems Europe operates from London, UK and Esslingen, Germany covering Europe, Middle East and Africa. Citizen offers a broad range of thermal label & barcode printers, portable and dot matrix printers, mini and POS printers. Via a network of specialized partners, these are sold into markets as diverse as industrial, retail, healthcare and mobile applications.

Citizen Systems Europe is a wholly owned subsidiary of Citizen Systems Japan and part of the Citizen Watch Company of Japan. The globally operating group produces its world-famous eco drive watches and mini printers, industrial print systems and machine tools, crystal oscillators, LEDs and other electronic components.

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