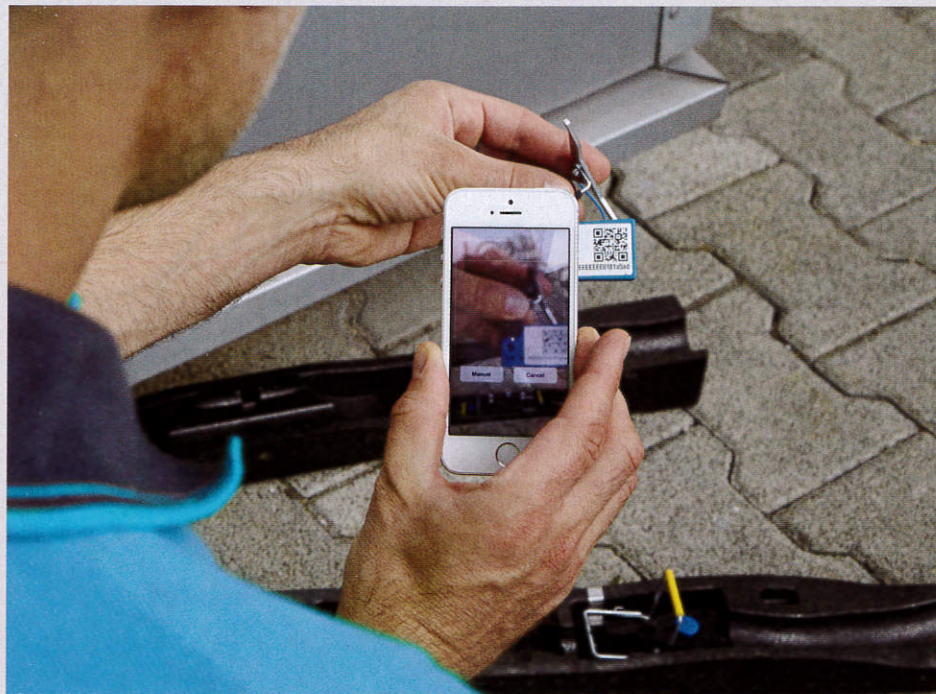




Digital solutions – Monitoring for the 21st Century

Sebastian Junge*



Technician installing an eMitter Indoor Rocker by scanning the QR-Code with the App. The device is then placed in a Runbox Robust tunnel station, equipped with two Gorilla Traps for mice and will alert the technician via the app as soon as a trap is triggered. The Runbox Robust is very durable and can be used in wet areas. The material is insulating and creates warm and comfortable conditions which are attractive to mice. Photo: Futura

Pests are not only uninvited guests in the private environment, they can also cause enormous monetary damage in an industrial setting. Nibbled cables lead to machine breakdowns, faecal traces contaminate products and transmitted pathogens lead to staff absences. Furthermore, a pest infestation has adverse effects on health and the image of an organisation.

Therefore, it is not surprising that legal regulations for food safety as well as explicit audit standards always cover the area of pest control. To guarantee safety, it is necessary to have a competent pest controller as well as transparent and complete documentation. Consequently, a monitoring system to control and supervise pest activities is mandatory.

Further regulations such as AIB and IFS are used to monitor food production and prohibit the permanent indoor use of poisonous baits in many areas. Likewise, precautions must be taken to ensure that the baits and other products are in accordance with country-specific restrictions and to rule out any influence on the production. Using monitoring products that are compliant with the AIB standard that have been specially developed for the food industry, for example allergen- and poison-free monitors, is recommended.

Nowadays, various technologies offer the possibility to support such a monitoring system and can increase efficiency of the service while simultaneously increasing safety. Digital traps can recognise the presence of a pest down to the minute and inform the pest controller so an impending infestation can be identified and appropriate measures can be taken. This ensures that monetary, health or image damage is kept to a minimum.

For service technicians, digital software solutions offer the added value of documenting the infestation status of an object quickly and with minimal effort and record the material used.

Radio standards like NB-IoT or Cat-M have been specially developed to transmit small amounts of data, even through thick facade structures and allow the direct communication of individual control points with the connected cloud solution. With gateway-based solutions, all signals from individual sensors (motion sensors, infrared sensors, buttons, etc.) are sent to the connected software solution via one or more central gateways.

The advantage of such solutions is that comprehensive network coverage is not necessary since the position of the gateway can be adapted to the conditions on site. For communication between the devices (M2M), a robust radio standard and frequency must be selected which cannot be influenced by other transmitting units such as scanners, WIFI modules or transmitters.

Disadvantages of such modular systems are the dependency of many sensors on one or more central transmitting units. If a gateway fails technically, even though the system would report it instantly, all connected sensors can no longer transmit status updates. This is where stand-alone solutions come into play. Stand-alone solutions are snap traps, AI-powered mini-cameras or other systems with integrated SIM cards to send messages to a connected cloud autonomously. This means that the individual traps are not dependent on a central control unit, the failure of one trap does not cause a failure of the whole system.

To conclude, using appropriate monitoring products in combination with digital traps or cameras results in a complete digital monitoring system that meets the highest safety standards. While there is no one system that covers all use cases, the systems must always be selected according to the use case. This applies to the selection of both analogue and digital materials. ■

* International Sales Manager & IoT Development, Futura