RFID
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RFID-based authentication solutions

Where people operate machines and equipment, companies and facilities often face the same challenges: security, smooth workflows and cost-efficiency are essential. Machine authentication based on RFID can provide important support here. Practical examples show the wide range of possible applications.
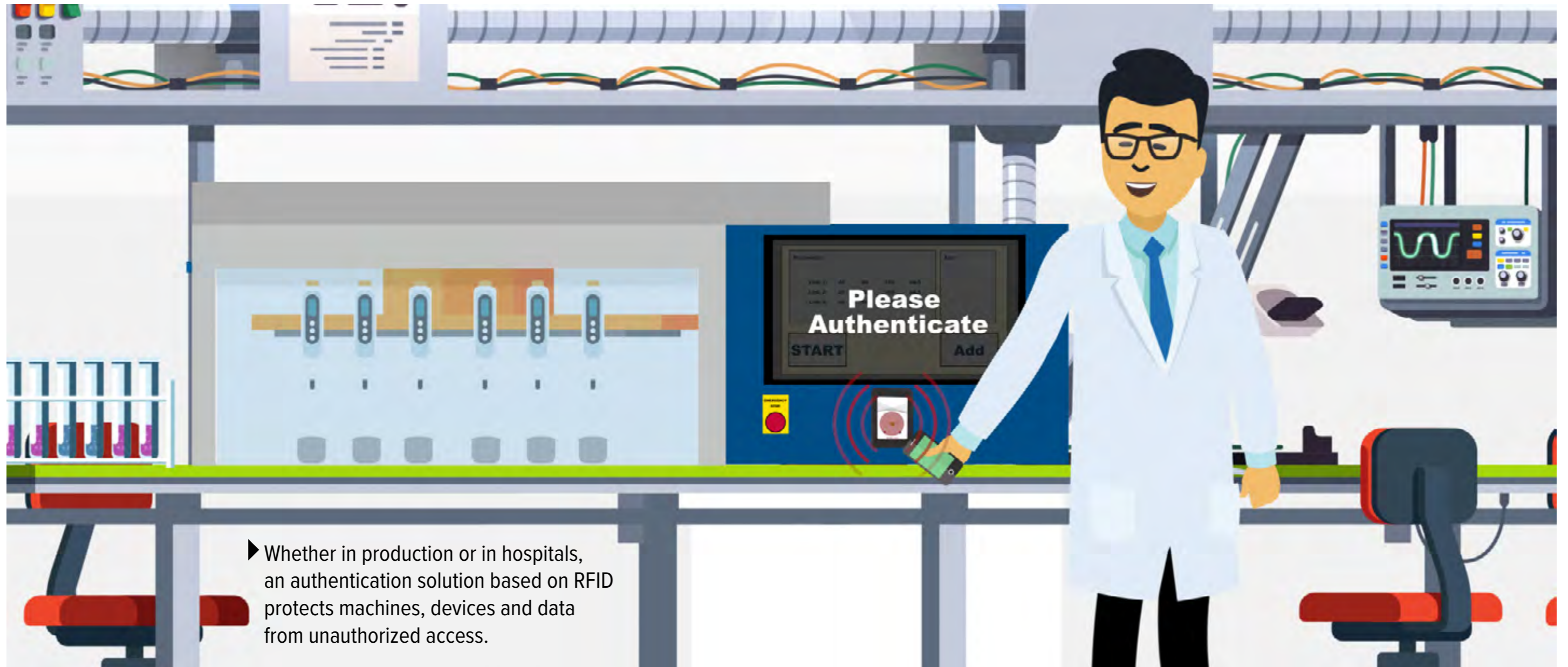
ELATEC

IMPROVED SECURITY
FOR
MAN AND
MACHINE

Please Authenticate
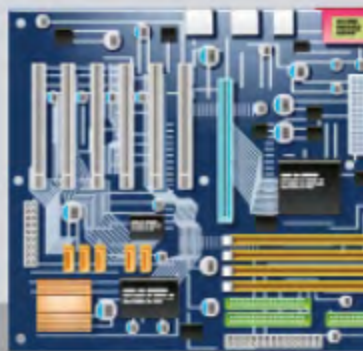
Machine authentication helps reduce
risks from incorrect operation or
manipulation in a variety of industries.

▶ Whether in production or in hospitals,
an authentication solution based on RFID
protects machines, devices and data
from unauthorized access.

Whether it's a production facility or a clinic, there are environments in which it is particularly important to prevent the use of machines and equipment by unauthorized persons in order to effectively protect people, data and inventory. After all, faulty operation or even sabotage can give rise to considerable risks, both in terms of health and security and with regard to liability issues, data protection or damage to valuable equipment and systems.

If employees first must authenticate themselves in order to operate a device or machine, this ensures that only authorized users have access. This not only increases the security of people, machines and sensitive data, but also makes it possible to track at any time who has operated which device and when. A solution based on RFID (Radio-Frequency Identification) offers a number of advantages here: it is reliable, easy for IT to manage and, above all, simple and time-saving for employees to handle. This ensures high productivity even when numerous authentication processes are required per shift. Machine authentication can be used in different areas – for robot control in a smart factory as well as at the multimedia terminal in a hospital. For a better idea of the concrete possibilities and advantages of RFID-based machine authentication solutions, below are some application scenarios from industry and healthcare in which an RFID solution facilitates work processes and significantly increases both security and convenience.

Complex environments such as modern manufacturing operations require reliable access control to optimize human and machine safety.

▶ RFID-based machine authentication saves valuable time thanks to ease of use on the production line, thus increasing productivity.
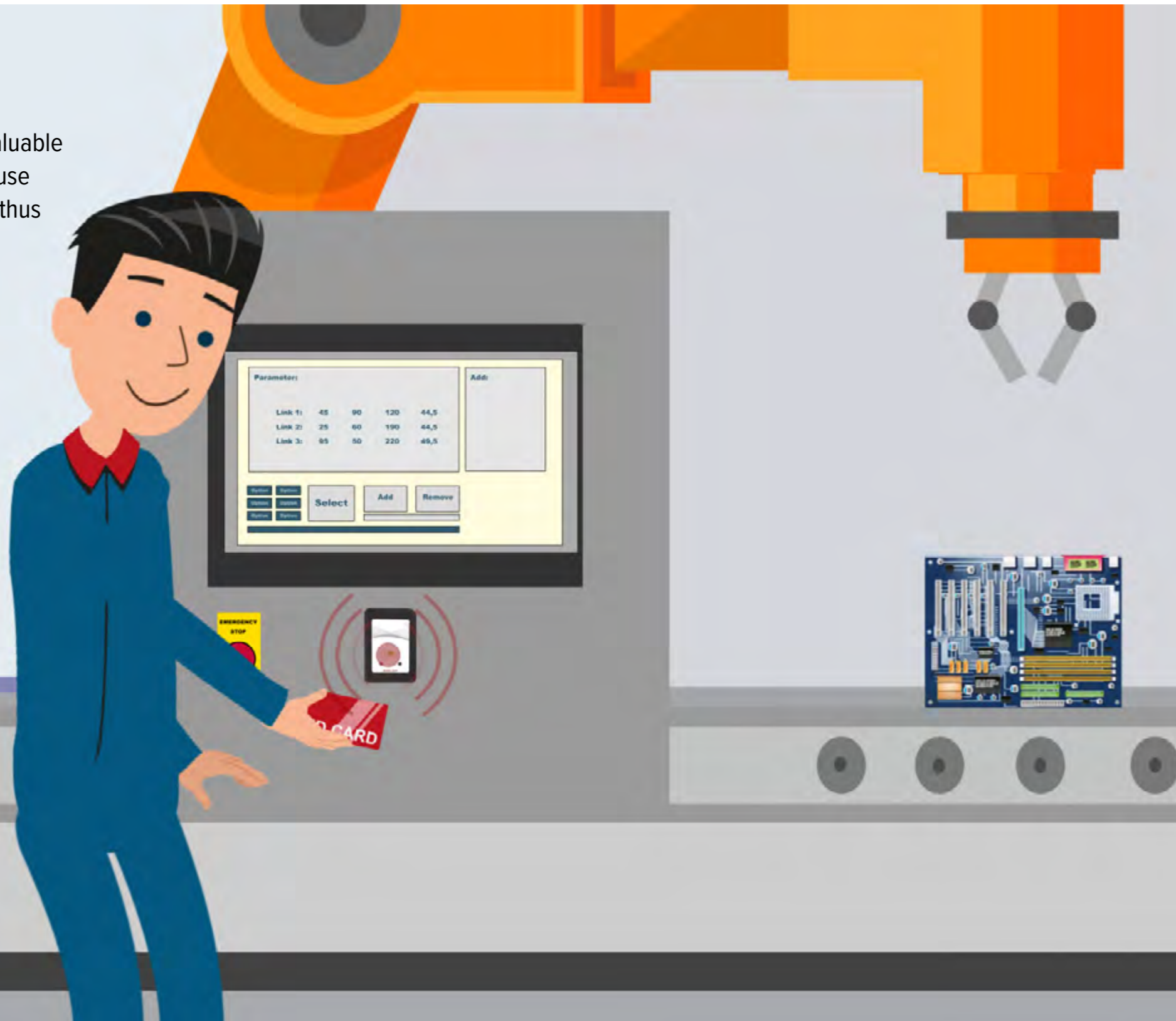
Practical example 1: Machine authentication in the smart factory

Modern production plants are characterized by a high degree of networking of machines, robots and manufacturing systems. Even seemingly minor operating errors can have serious consequences in this complex environment, such as accidents or expensive machine damage. Machine authentication can be used to restrict access to production systems to trained operators. This significantly reduces the risk of costly, unplanned downtime due to accidental or intentional damage, for example, and increases the safety of the entire production facility. A modern RFID-based authentication system allows individual access levels to be assigned to each operator, thus individually regulating who is given what authority. There is also transparency about who has used the machines and when. Robust, durable RFID readers can be used for authentication throughout a manufacturing plant's ecosystem. For example, other functions such as access and entry control to buildings, manufacturing processes and hazardous areas are possible.

With a solution for machine authentication based on RFID, only trained operators gain access to equipment in the production environment.

Practical example 2: Reliable solution for the automotive industry

As one of the world's leading providers of user authentication and identification solutions, Elatec GmbH has already implemented various projects for industrial applications. One example is authentication and access control in an automotive assembly plant. Here, plant operators must first authenticate themselves to ensure that only authorized and trained personnel can operate the robots in the factory, which perform welding and painting tasks, among other things. For this application, Elatec provided an authentication and access control solution based on the universal TWN4 MultiTech 2 reader/writer in conjunction with the TCP3 converter.

The readers used are compatible with more than 60 common transponder technologies. The network-capable RFID readers also enable the provision of software and firmware updates as well as upgrades via remote maintenance – so even widely scattered readers can be updated or reconfigured with minimal cost and effort.
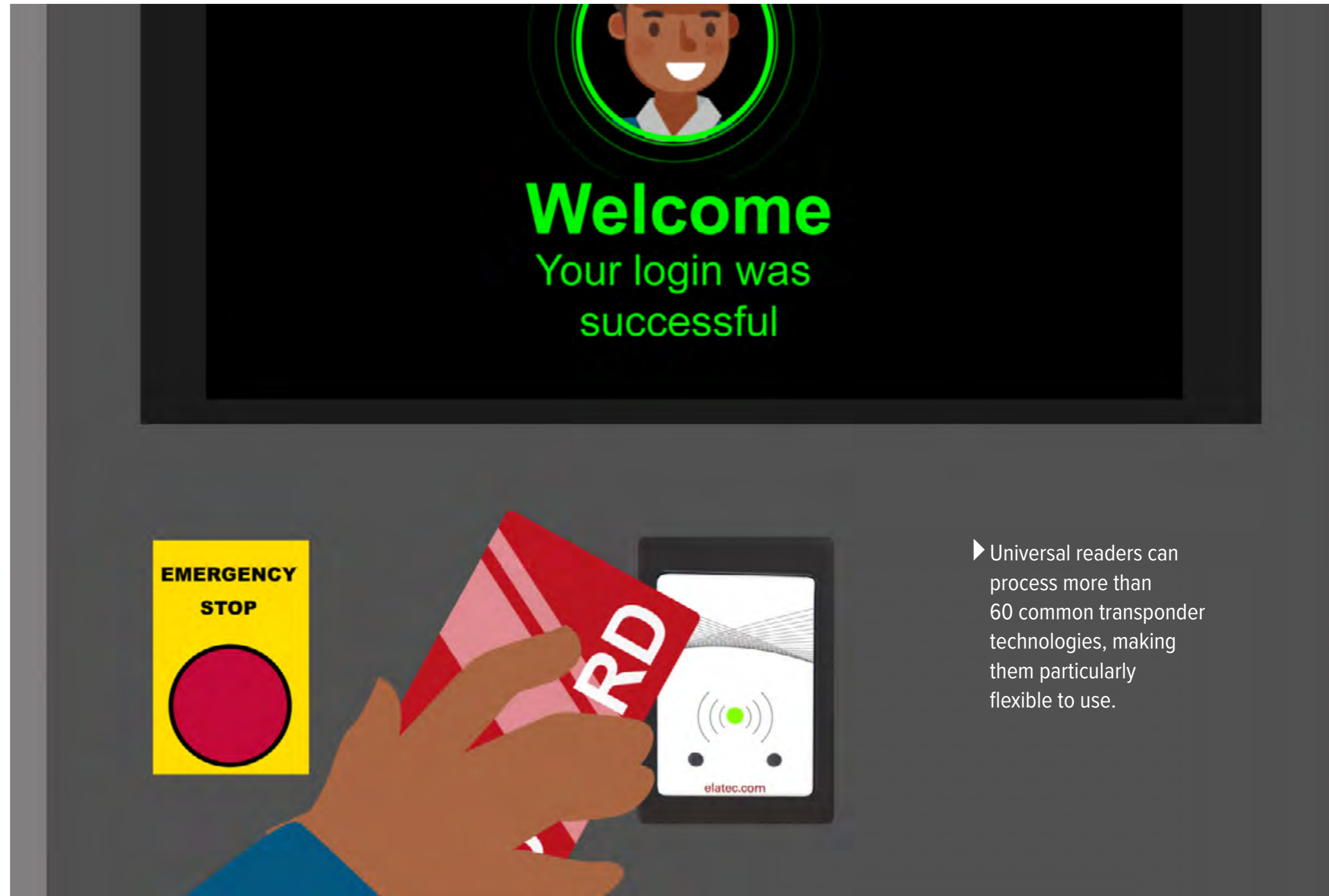
▶ Universal readers can process more than 60 common transponder technologies, making them particularly flexible to use.

Smooth, secure processes are essential in everyday clinical routine. Machine authentication can contribute significantly to this.
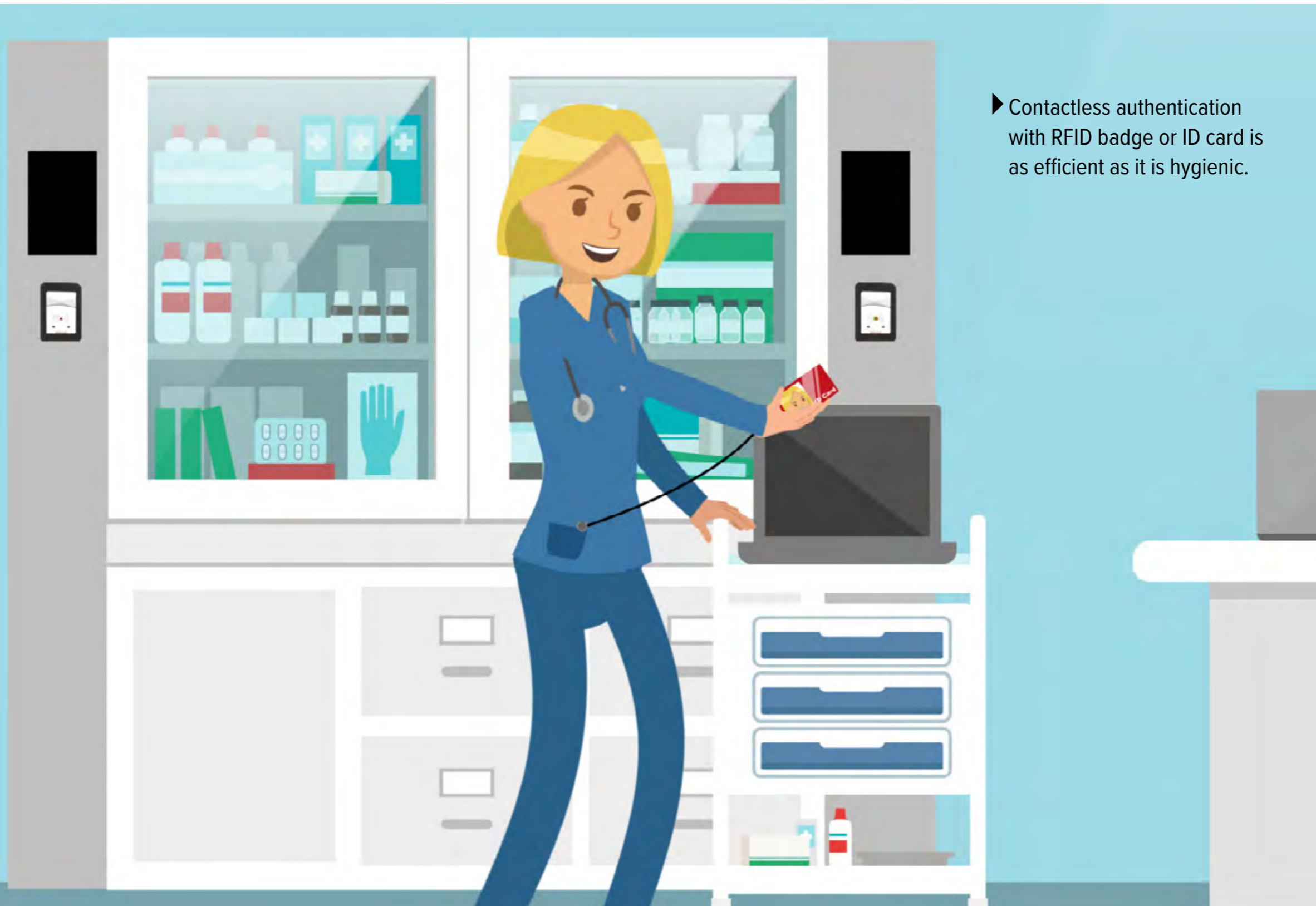
▶ Contactless authentication with RFID badge or ID card is as efficient as it is hygienic.

Practical example 3: Machine authentication in the healthcare sector
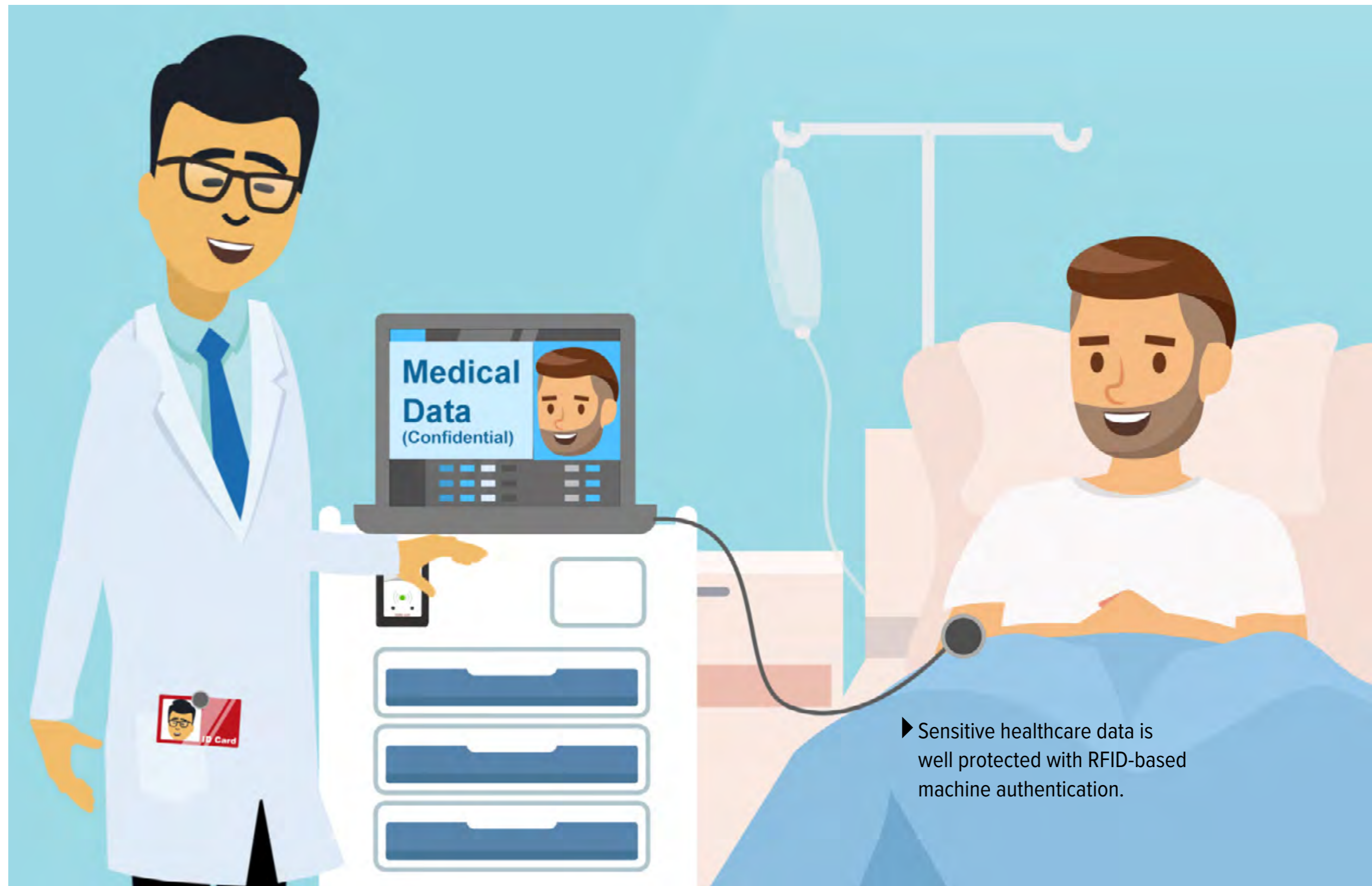
In the medical sector, it is particularly important that the use of equipment and machines is reserved for trained personnel in order to ensure the security of patients and staff. At the same time, no time should be wasted on cumbersome authentication processes in the busy daily hospital routine. For example, doctors and nurses need to be able to access electronic patient records quickly and easily for optimal treatment – but without the risk of sensitive data falling into the hands of unauthorized persons. Machine authentication based on RFID is therefore perfectly suited to the hospital environment, as it combines security with efficiency. The identification process with an RFID badge or ID card at a workstation with a computer or a medical device, for example, takes only seconds and is also contactless and hygienic.

A sophisticated authentication solution benefits clinicians and patients by combining convenience and security.

Practical example 4: Multimedia terminal for staff and patients

An application developed by Elatec shows how a machine authentication solution can even be combined for the benefit of staff and patients: multimedia terminals in patient rooms equipped with an RFID reader can be easily used by both parties. Both staff and patients simply identify themselves with a personal RFID badge or ID card. Clinic staff thus access digital patient data via the device at the patient's bedside, while patients can conveniently use the same terminal later to access entertainment and services. A classic win-win situation.

" You can find more interesting practical examples at *elatec.com*.

Burhan Gündüz
ELATEC GmbH

▶ Sensitive healthcare data is well protected with RFID-based machine authentication.