

Today's prisons and forensic facilities have to accommodate an increasing number of inmates, which means that more space is needed. The costs are growing with ever higher care and support costs for inmates and infrastructure, while the number of personnel is decreasing. The situation is further exacerbated by the backlog of renovation and modernisation projects of public facilities. Moreover, those facilities are different from any others. Safety is the top priority and all construction decisions must be subordinated to it. Safe but also fast solutions are always sought.



Use of palm vein scanners in prisons and forensic facilities

#biometrics

#palmveins

#accescontrol

The challenge

The security requirements for prisons and forensics are high and must be constantly reviewed and adapted to current needs. Different areas have to be protected against unauthorised entry and exit. The security area begins at the gate for vehicles. Cell keys as well as building keys must be protected, monitored and handed out only to authorised persons. Emergency call devices and weapons must also be protected against unauthorised access. Transparent, electronic documentation of all objects handed out and returned constitutes an important component of internal security. The heart of these institutions is a security centre with all its components such as video surveillance, cell communication and the fire alarm system, which must be optimally protected against unauthorised access.

There are also different security areas for inmates. The high-security wing for dangerous criminals must be better protected than normal prison areas, in which inmates who serve short sentences or are to be released are granted certain freedom of movement.

Apart from inmates and staff, also visitors and external service providers are present in prisons/forensic facilities. All these groups of people must have access to different areas and may have to pass through gates on their way. Keys and chip cards can be lost, stolen and copied.

Legal requirements / guidelines

§ 44 HessJStVollzG:

"(1) Safety and order of the institution contribute significantly to institution life aimed at achieving a reintegration goal. The inmates' sense of responsibility for an orderly coexistence in the institution must be awakened and strengthened."

Apart from the educational purpose, the **protection of the public against crime** is another principle of correctional facilities (§ 2 HessJStVollzG). It means that while serving a sentence, the inmates must not pose any criminal danger to the population, the prison staff and the other inmates.

According to the Hessian Implementing Provisions for the Service and Security Regulations for Prisons (HABDSVollz), the concept of security can be divided into four individual aspects



- Instrumental safety

Refers to the structural and technical features of the facility with walls, bars, barbwire, alarm systems and surveillance cameras as well as security-relevant personnel,

- Administrative safety

It involves the organisation of staff deployment and the institution's operations, including those required by the supervisory authority, decrees, laws, HABDSVollz, etc.

- Social safety

From the point of view of social safety and the atmosphere in the institution, good cooperation between various groups of employees and efficient exchange of information are important.

Individual discussions, observations in training workshops and school classes, at work or during leisure time and dealing with inmates allow to recognise and counteract violent tendencies among dangerous prisoners in time.

- Cooperative safety

This concerns cooperation and regular exchange with other authorities involved in the execution of sentences (police, public prosecutors, offices of a criminal investigation, etc.)

Proper interaction between all four aspects is essential since the task of providing safety can only be fulfilled if all aspects are taken into account. The safety of prisons and forensic facilities is of great importance. A considerable part of the total construction costs of such facilities is accounted for by safety-relevant installations and corresponding technology.

The existing safety systems guarantee a maximum level of protection against escape, as well as adequate monitoring of the inmates.

Source: <https://justizvollzug.hessen.de/themen-von-z/safety-und-ordnung>

Solutions by iCOGNIZE

The contactless access control by means of palm veins

A ManuScan palm vein scanner is installed in a standard flush-mounted box. The effort required for the installation is comparable to that of a standard light switch. Power is supplied via the Ethernet (PoE). The readers are connected to a rail-compatible Authentication Unit (AU), which is operated in a separately secured IT room in a 19" rack. The components are ready to be integrated into existing safety infrastructures through all common hardware interfaces and guarantee maximum system availability thanks to their software and hardware backup systems.

If identification by scanning the palm veins in connection with RFID and/ or optionally entering a PIN code is successful, a signal is sent to the existing access control and logging systems as feedback.

"In this way, we can secure sensitive doors with palm vein scanners without having to replace the entire access control infrastructure". - Dr Alexander W. Lenhardt, CEO of iCOGNIZE GmbH

Thanks to the unique biometric feature "palm veins", the system offers the user not only maximum security but also the highest level of comfort. The ManuScan indoor palm vein scanner works contactlessly and non-invasively and ensures intuitive use and high acceptance with its unique optical palm positioning system.

Advantages of the iCOGNIZE ManuScan Indoor Indoor palm vein scanner for prisons or forensic facilities

- RGB-LED user guidance
- More secure than iris scanning
- FAR < 0.00008% false acceptance rate)
- FRR < 0.01% (false rejection rate)
- Sabotage detection (contact, vibration)
- Easy integration into existing systems
- Integrated PIN code reader
- Certified according to CE, BSI (components)

Advantages of use:

- PIN codes can be covertly memorised or passed on. This cannot happen with the contactless biometric access systems by iCOGNIZE.
- Interaction with existing technologies (locker systems/ RFID access control, etc.) is possible due to a large number of interfaces and has been proven in many projects
- Maintenance is required only once a year

