

# FROM DATA TO DECISIONS

## Smart Sensors in Healthcare



# MOBOTIX

Beyond Human Vision

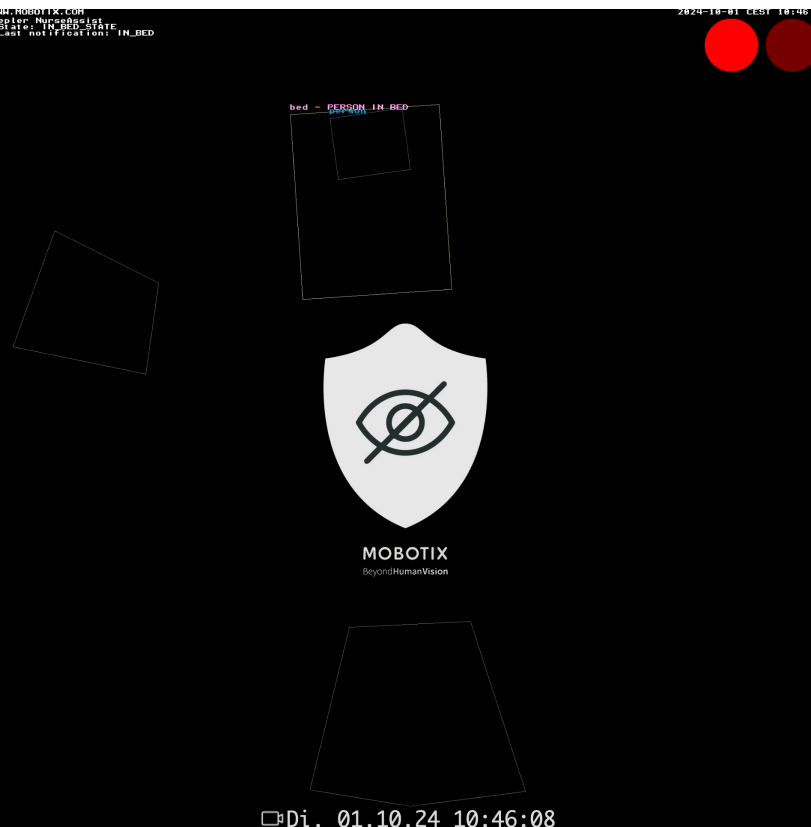
# Introduction to Smart Sensors in Healthcare

Artificial Intelligence (AI) and video sensors are at the forefront of a transformative wave in healthcare, promising to redefine care for elder care facilities, hospitals, and clinics.

Video sensors and smart applications have revolutionized the way we track and analyze human behavior by providing precise and actionable data. Sensors like those found in MOBOTIX sensors can gather detailed information by continuously monitoring movements, gestures, and incidents in real-time.

Specifically, MOBOTIX sensors offer a unique benefit for healthcare facilities including:

- **Enhanced Resident and Patient Safety:** With real-time monitoring and instant alerts, NurseAssist helps prevent falls, wandering, and other safety incidents.
- **Improved Staff Efficiency:** By automating routine observation tasks, NurseAssist allows healthcare workers to focus on providing quality care, streamlining workflows, and reducing burnout.
- **Positive ROI for Facilities:** NurseAssist offers a significant return on investment by enhancing operational efficiency, reducing incidents, and minimizing staff workload through effective monitoring and alert systems.





Whether they are monitoring patient or resident behavior or alerting nurses of a resident falling, video sensors accurately capture the nuances of human actions and generate relevant data that can lead to informed decisions and interventions.

By converting complex behavioral patterns into quantifiable data, these sensors empower healthcare professionals and elder care workers with the insights needed to tailor personalized care plans, thereby enhancing the quality of services and improving resident and patient outcomes.

### Personalized Care Based on Individual Data

One example of how these sensors like the MOBOTIX NurseAssist Solution are actively being deployed in healthcare is through fall detection and prevention. According to the World Health Organization, falls are the second leading cause of accidental or unintentional injury deaths worldwide.<sup>1</sup> In elderly populations, these falls can result in fractures and severe mobility issues that lead to a reduced quality of life.

The integration of smart sensor technology into patient or resident monitoring systems not only enhances care but also plays a crucial role in prevention. Every resident is unique, and the ability to analyze data allows for tailored interventions. By analyzing data gathered from the Smart Sensor and recognizing patterns, healthcare providers can make informed predictions about potential incidents, such as falls and inform proactive care strategies.

For instance, if data indicates that a resident with dementia frequently sits on the edge of the bed for extended periods, proactive measures can be implemented to ensure their safety. This personalized approach can significantly enhance resident outcomes, as timely interventions can prevent incidents before they occur.

By utilizing data to identify risk patterns and personalize care, healthcare providers can significantly enhance resident safety and comfort. The proactive use of technology not only helps in predicting and preventing incidents but also supports a more holistic approach to resident care. As we continue to innovate, the potential for data-driven prevention strategies will only grow, fostering safer healthcare environments for all residents.

### Third-Party Integrations

MOBOTIX NurseAssist Solution also offers third-party integrations that further enhance its capabilities. These integrations allow for a more comprehensive and streamlined approach to resident and patient care.

Integrating MOBOTIX NurseAssist Solution into existing systems not only improves resident and patient outcomes but also increases efficiency and cost-effectiveness. By utilizing technology to streamline processes, healthcare providers can focus more on providing quality care instead of managing paperwork and manual tasks.

Smart sensors, like the MOBOTIX c71, can integrate with other third-party systems and apps to create a safety ecosystem for staff members. For example, in the event of resident or patient outburst, a staff member can trigger an alert where the nearest sensors can pinpoint their location as long as they're within view of the sensors. This enables security to quickly respond and de-escalate the situation before it becomes violent.

1 [https://bit.ly/who\\_fact-sheets\\_falls](https://bit.ly/who_fact-sheets_falls)

# MOBOTIX in Healthcare

MOBOTIX, in partnership with Kepler Vision, is spearheading a remarkable transformation in healthcare through its AI-powered sensor technology. By integrating cutting-edge machine learning capabilities, MOBOTIX offers a robust healthcare solution that ensures enhanced monitoring of residents and patients alike, thereby increasing safety and care standards.

These sensors are designed to seamlessly blend into healthcare and nursing home settings, providing caregivers with efficient and precise tools to monitor patient and resident activities with industry-leading accuracy. Notably, the collaboration between MOBOTIX and Kepler Vision focuses on technologies that prioritize patient and resident comfort, detecting falls in real-time, and providing immediate care.

Here are some examples of how the MOBOTIX NurseAssist stands out.

- **Enhanced Resident & Patient Safety:** Real-time monitoring and alert systems significantly reduce fall-related injuries by allowing immediate interventions.
- **Proactive Care:** The ability to detect irregular movements before a fall happens empowers healthcare professionals to take preventive measures, improving resident outcomes.
- **Integration with Existing Systems:** MOBOTIX c71's noninvasive design ensures it work harmoniously within current healthcare environments without disrupting daily operations.
- **Increased Efficiency for Caregivers:** With accurate and efficient monitoring tools, caregivers can focus their attention and resources where they are most needed, enhancing overall care quality.



## *MOBOTIX c71 Sensor & NurseAssist Application*

The combination of MOBOTIX c71 and NurseAssist App is an innovative monitoring system designed to enhance resident and patient care and safety in healthcare facilities. Its primary function is to detect falls and recognize irregular movements that might indicate a potential risk, allowing for timely intervention by healthcare professionals.



This proactive system is equipped with real-time monitoring and alert capabilities, seamlessly integrating into existing care environments to improve efficiency and reduce the risk of injuries.



# NurseAssist Used For...

## Elder Care Facilities

Elder care facilities are a primary use case for MOBOTIX NurseAssist Solution. The sensors take up minimal space, making it easy to install in individual rooms without disrupting the daily routines of elderly residents. This solution is especially beneficial for single bedroom occupancies.

Experienced caretakers will find that this healthcare solution elevates their daily operations with no extra workload. The system reduces the burden of constant physical monitoring, allowing caretakers to dedicate their expertise where it matters most—directly interacting with residents and enhancing their quality of life.

The technology acts as a vigilant partner, ensuring that caretakers are immediately alerted to any potential issues, facilitating swift and informed responses. Moreover, by minimizing preventable incidents, the system allows caretakers to focus more on proactive care strategies, honing their skills and improving outcomes. This empowers caretakers to achieve greater job satisfaction and deliver exceptional service, ensuring a safer and more supportive environment for all residents.

Examples of how this sensor can be used in Elder Care:

- 1. Fall Detection:** The system can immediately alert caretakers when a resident experiences a fall, allowing for rapid response to ensure their safety and well-being. By mitigating the risk of injury through timely interventions, caregivers can create a more secure environment for all residents.
- 2. Behavioral Monitoring:** The system can detect and track changes in behavior which may indicate underlying health issues. For example, the sensors may detect that a resident is on the edge of their bed for too long which could indicate a health issue, based on training data. With this proactive care approach, caretakers can address issues before they escalate and ensure the overall well-being of residents.
- 3. Effective Communication:** The MOBOTIX Nurse Assist Sensor enhances resident care by enabling effective communication in response to alarms. When an incident is detected, caregivers can instantly reach out to residents to check if they are alright or if they need assistance. This direct communication reassures residents and keeps them informed about the arrival of help. By providing immediate interaction, the sensor not only addresses safety concerns but also fosters a supportive environment, ensuring residents feel cared for and connected.



## In-Home Care

Implementing smart sensors, like MOBOTIX NurseAssist, in home care offers a revolutionary way to enhance the safety and well-being of individuals living independently.

By integrating this advanced system, caregivers can monitor critical aspects of a resident's health and environment from afar, allowing loved ones to focus on providing comfort and support without the anxiety of constant physical surveillance.

The solution acts as a reliable safety net, ensuring rapid notification of potential issues and empowering caregivers with the information needed for swift, decisive actions. As a result, caregivers can adopt more effective strategies that emphasize preemptive care, leading to improved health outcomes and fostering peace of mind for both clients and their families.

Examples of how this sensor can be used in In-Home Care:

- 1. Emergency Alert System:** These sensors can detect emergencies, such as falls or sudden health events, and immediately alert caregivers or emergency services. This feature ensures timely assistance, minimizing the risk of serious injury or complications for individuals at home.
- 2. Routine Monitoring:** The system can gather data on daily activities to identify any deviations from normal patterns that may suggest health concerns. For instance, if sensors notice unusual habits or movement patterns, caregivers can be alerted to investigate further. This real-time insight allows for prompt interventions to maintain the client's health and comfort, ensuring they remain safe and supported in their own environment.



## Handicap Care Facilities

Handicap care facilities can greatly benefit from the integration of NurseAssist sensor technology to enhance the quality and effectiveness of care provided to residents.

These advanced systems offer a seamless way to monitor the environment and physical activities of individuals with disabilities, ensuring their safety while promoting independence. With features like emergency alert systems and routine monitoring, these sensors provide caregivers with critical data that enable prompt and informed decisions.

Examples of how this sensor can be used in Handicap Care Facilities:

- 1. Emergency Response:** Like the emergency alert system in in-home care, NurseAssist technology can quickly detect and report any incidents or emergencies within the facility, such as falls or acute health issues. This rapid response capability drastically reduces the time to administer essential assistance, ensuring each resident can receive timely care, which significantly minimizes risks and enhances recovery outcomes.
- 2. Detect Bed Exits:** The sensor's monitoring capabilities can detect when a resident leaves their bed, alerting caregivers to check on the resident and help if necessary. This feature is especially crucial for residents with mobility issues or who are at risk of falls, as it allows caregivers to prevent potential accidents before they occur.

## Hospitals and Surgical Recovery

In a fast-paced environment like hospitals and rehabilitation centers, NurseAssist can provide valuable support for healthcare professionals who are often juggling multiple cases at once. It reduces the burden of constantly checking on patients while still ensuring their safety.

Nurses can especially track patients in recovering from surgery who require constant monitoring. For example, an alert can be triggered for any patient who is required to stay in bed. If they exit bed, the nurse station will get an alert, which enables quick response times and the ability to prioritize patients as needed.

Some ways in which NurseAssist can be used in this setting include:

- 1. Post-Surgery Care:** After a surgery, patients may require close monitoring to ensure their recovery is going smoothly. NurseAssist can assist with this by detecting bed exits or falls. This allows healthcare professionals to focus on other tasks while still ensuring the patient's safety.
- 2. Mobility Monitoring:** For patients who have undergone surgery or are recovering from an injury, NurseAssist can help monitor their mobility and physical activity level. This information can be used to adjust treatment plans and ensure that patients are progressing in their recovery.
- 3. Virtual Night Visits:** In the evolving landscape of healthcare, virtual night visits represent a transformative approach to patient monitoring. Using a sensor, a nurse can check in on patients without disrupting or waking them.



## Data and Privacy Considerations

As the healthcare industry energetically embraces AI technology, it faces several technical and ethical challenges that require thoughtful reflection and strategic solutions. One of the paramount concerns is data security; with the increased use of AI systems like the MOBOTIX NurseAssist Solution, protecting resident and patient information from breaches is crucial. Implementing stringent cybersecurity measures ensures that sensitive data remains confidential and tamper-proof.

All MOBOTIX sensors are protected by MOBOTIX's Cactus Concept, which includes data encryption, secure remote access, and password protection. Additionally, MOBOTIX uses a privacy-by-design approach to safeguard resident information and adhere to HIPAA regulations as well as remaining GDPR compliant.

MOBOTIX and Kepler Vision are committed to developing AI technology that enhances resident care while respecting ethical principles. This includes transparency in the decision-making process, human oversight, and continuous monitoring for bias.

### *MOBOTIX Cactus Concept*

MOBOTIX's Cactus Concept is a robust cybersecurity strategy designed to protect the integrity and privacy of video and data surveillance systems. The core elements of the Cactus Concept include comprehensive data encryption, which prevents unauthorized access to stored and transmitted data.

It incorporates secure remote access so that only authorized personnel can view or manage the systems from any location while maintaining privacy standards. Additionally, the concept emphasizes strong password protection measures to prevent unauthorized entry into the system.

Together, these features form a comprehensive shield against potential cyber threats, aligning with regulatory standards like HIPAA and GDPR to safeguard resident and patient data effectively.

# Installation for Your Facility

## Seamless Installation and Implementation

Installing our state-of-the-art systems in your facility is designed to be a smooth and straightforward process. Our network of integrators and partners work closely with your team to ensure minimal disruption to daily operations during the installation process. With a focus on user-friendliness, our systems are designed for easy integration into existing infrastructure while providing top-of-the-line functionality.

## Ease of Implementation

Our systems are engineered for ease of implementation, seamlessly integrating with your existing infrastructure. This thoughtful design means that transition times are reduced, allowing your facility to begin benefiting from MOBOTIX NurseAssist almost immediately. Our robust technical support team is available to assist every step of the way, ensuring that you have a partner in carrying out a successful installation and ongoing operations.

## Maximizing Return on Investment

Investing in our solutions not only boosts security and efficiency but also delivers significant returns over time. By safeguarding valuable data and streamlining processes, our systems help reduce operational costs and mitigate risks. This results in long-term savings and smoother facility operations, strengthening your overall return on investment.



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Beyond Human Vision

# The MOBOTIX Difference

Incorporating smart sensors into the care environment not only supports healthcare professionals but also fosters a more resident and patient-centered approach. With capabilities to detect when individuals are in bed, out of bed, or have fallen, these technologies enable effectiveness that prioritize safety and comfort.

By embracing this innovative model, healthcare facilities can enhance care quality while ensuring that resources are utilized effectively. As we move forward, the integration of smart technology in resident and patient monitoring will undoubtedly redefine the standards of care.

## Why MOBOTIX is Essential for Your Facility



**German-made Quality**  
Simply longer in use



**Scalable Feature Set**  
Simply solution-oriented



**Free Software Updates**  
Simply supportive



**Lip-synchronized High End Audio**  
Simply more value



**Real Distributed Architecture**  
Simply the better concept



**Leading Fire Protection Solution**  
Simply a life and cost safer



**Interoperability**  
Simply data-oriented



**Leading Healthcare Solution**  
Simply relieving



**Cybersecurity**  
Simply better prepared



**MOBOTIX Community**  
Simply unbeatable

Don't wait to enhance your facility with cutting-edge technology. **Contact us today** to discuss how our solutions can transform your operations and deliver exceptional value.



Contact us  
[info@mobotix.com](mailto:info@mobotix.com)

A close-up photograph of two hands shaking, symbolizing agreement or partnership. The hands are positioned in the center of the frame, with the fingers interlaced. The background is a soft, out-of-focus light blue. A semi-transparent dark blue rectangular box is overlaid on the center of the image, containing the contact information.

## CONTACT US

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# Intelligent Video Security Solutions Made in Germany

MOBOTIX offers a comprehensive range of solutions for all aspects of video-based security systems. We develop high-quality, decentralized, energy-efficient systems that mean our customers save money on every MOBOTIX system installed.

Our motto **Beyond Human Vision** is also our mission: MOBOTIX is fully committed to making itself the most reliable company it can be, one that protects people and property by using intelligent, cyber-secure video technology to go beyond human vision.



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