Technology that cares:

Buhuși Hospital building patient-centric smart wards with Hikvision

CASE STUDY

CUSTOMER PROFILE

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Organization:
Buhuși Hospital
Location:
Romania
Industry:
Healthcare

Product:
Fall detection radars, auxiliary care radars, thermal cameras, emergency call buttons, bedhead terminals, Touch panels, PDAs, POE switches, HikCentral Professional

HIKVISION

Buhuși Hospital in Romania has taken a major step toward modern, patient-centered care. By deploying a Hikvision smart healthcare solution, they are transforming daily ward operations, strengthening staff responsiveness, and creating a safer environment for patients and healthcare workers.

The challenge

Meeting evolving healthcare needs

With nearly 200 beds and a diverse patient population, Buhuși Hospital has long focused on delivering consistent and timely care. In recent years, however, expectations around patient safety and communication have continued to rise, especially with new EU and Romanian regulations requiring emergency call systems at every bedside. As a result, the hospital decided to create a pilot project which uses Hikvision technologies to enhance how its teams interact, respond, and collaborate.

The ultimate of the pilot is to build a technology foundation that will elevate the standard of care and create a more structured, insight-driven medical environment. The hospital wanted nurses to have a clearer view of their patients, especially those with higher monitoring demands, as well as a simpler way to stay connected while moving around a ward. They also wanted to improve communications for patients, giving them quicker access to help and a sense that someone is always watching over them, even when staff are not physically present.

Working with its local technology partner, Network One Distribution, Buhuși Hospital selected a 35-bed ward to act as the pilot. The particular ward handles patients with complex needs, including those recovering from surgery, elderly patients and cardiac cases. It's a diverse patient mix that makes it an ideal testing ground for the transformation.

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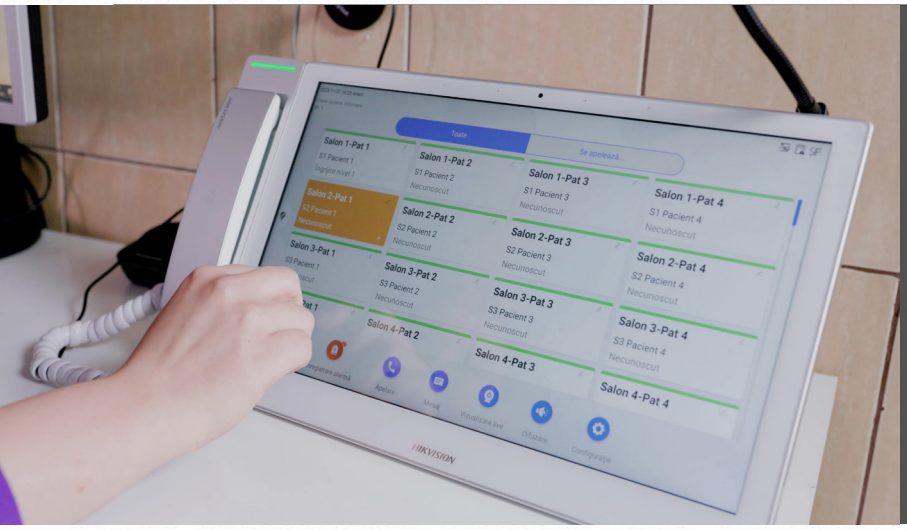
The solution

Vital signs, fall alerts, and emergency buttons—all connected through one smart network

Throughout the areas where falls are most likely to occur, thirteen **Fall Detection Radars** (IRS-BFDR6-H1AG) are mounted on walls, using millimeter-wave technology to identify when someone has fallen. These radars work without cameras, protecting patient privacy while providing reliable detection regardless of lighting conditions or temperature.

Above each bed, **Auxiliary Care Radars** (IRS-BVSMR3-H3AG) continuously monitor respiration, heartbeat, and whether the patient is in bed. Without touching the patient or disrupting their rest, they provide early awareness of abnormal patterns and help staff understand whether a patient is resting, agitated, or out of bed. In selected rooms, ten Thermal Presence Detectors (HM-TD1018-1/QR) add a further layer of awareness by detecting movement and activity.

Every bed features a **Bedhead Terminal** (DS-KHH6020X-H). These are within easy reach for patients who press a single button to call the nurse station and speak directly with staff through the built-in audio system. In the bathrooms, six **Emergency Buttons** (DS-KHS3100X) with pull cords ensure patients have immediate access to help in high-risk locations.

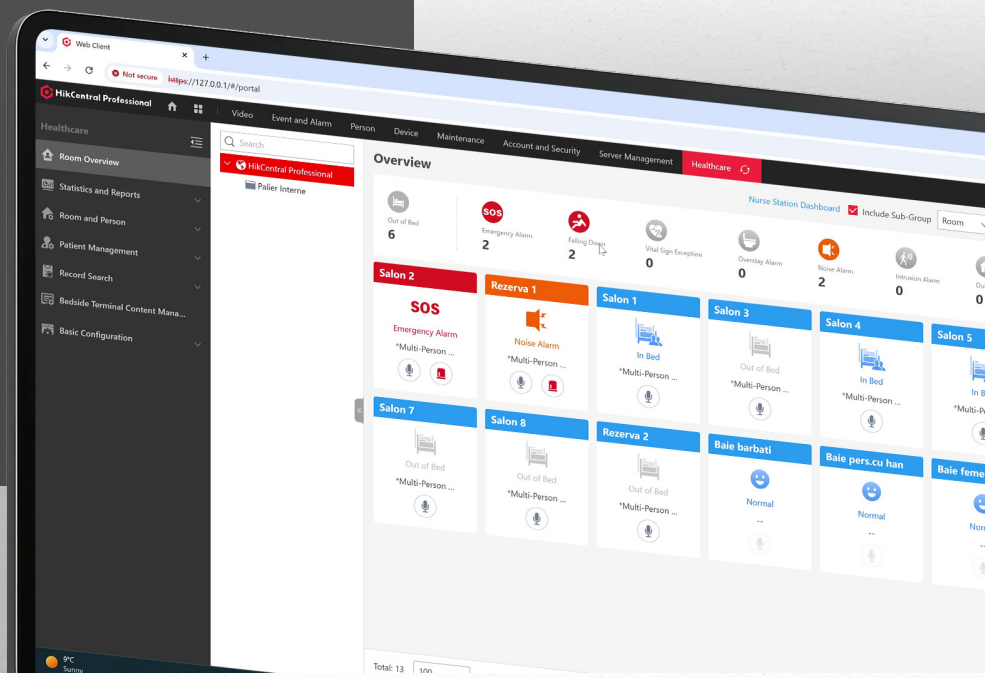


In the nurse station, a 15.6-inch **Touch Panel** (DS-KHM9803X) and a **43-inch UHD Monitor** (DS-D5043U3-1V0S) provide a live overview of everything happening across the floor, from alarms and radar alerts to real-time occupancy and call response times. Staff can instantly see what needs attention, what has already been acknowledged, and how the workload is being distributed.

Nurses also carry Handheld Terminals **(PDAs)** (DS-MDT202) that receive real-time notifications, allowing staff to respond immediately to alerts without being tied to the nurse station. The hospital has selected these PDAs with future expansion in mind. Once they have been fully integrated with their hospital information system, the same devices will support medication administration, barcode scanning, access to patient records, and other clinical tasks.

Behind the scenes, fourteen 16 Port Fast Ethernet Smart POE Switches (DS-3E1318P-EI/M) power all the bedside terminals and sensors through Power over Ethernet (PoE). This eliminates the need for separate power adapters and ensures stable, low-latency communication. Two Wi-Fi 6 3000M In-Wall Access Points (DS-3WAP621E-SI), meanwhile, provide high-speed connectivity for mobile devices throughout the ward.

The HikCentral Professional platform ties everything together, generating detailed reports that help the hospital managers understand and, therefore, optimize how the ward is performing. Call frequency reports, for example, identify which patients or rooms need the most assistance. Response time reports show how quickly nurses react to different types of alarms. Because every alarm and interaction is recorded, the new system can create a complete record for incident documentation and quality improvement



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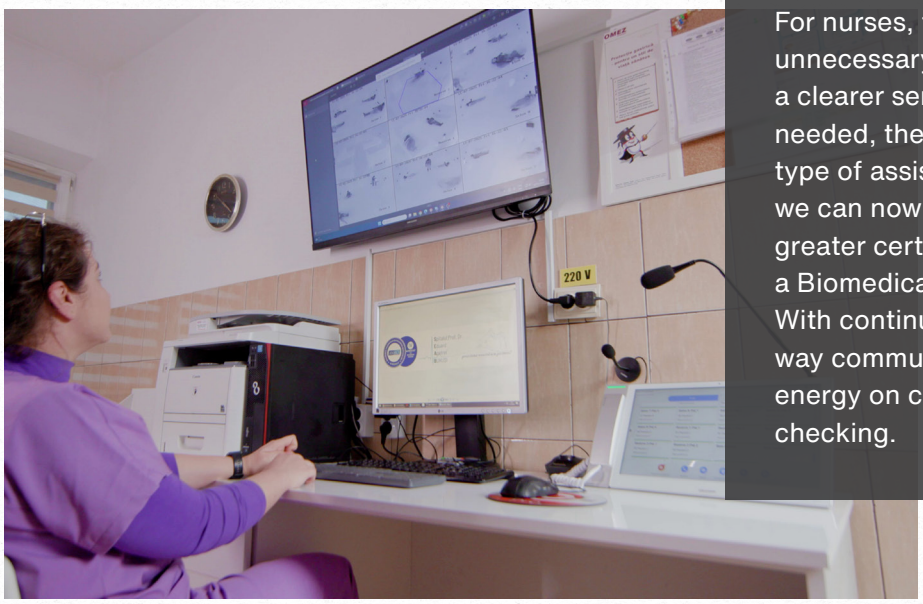
The benefits

When technology enhances care: less stress, faster response, better decisions



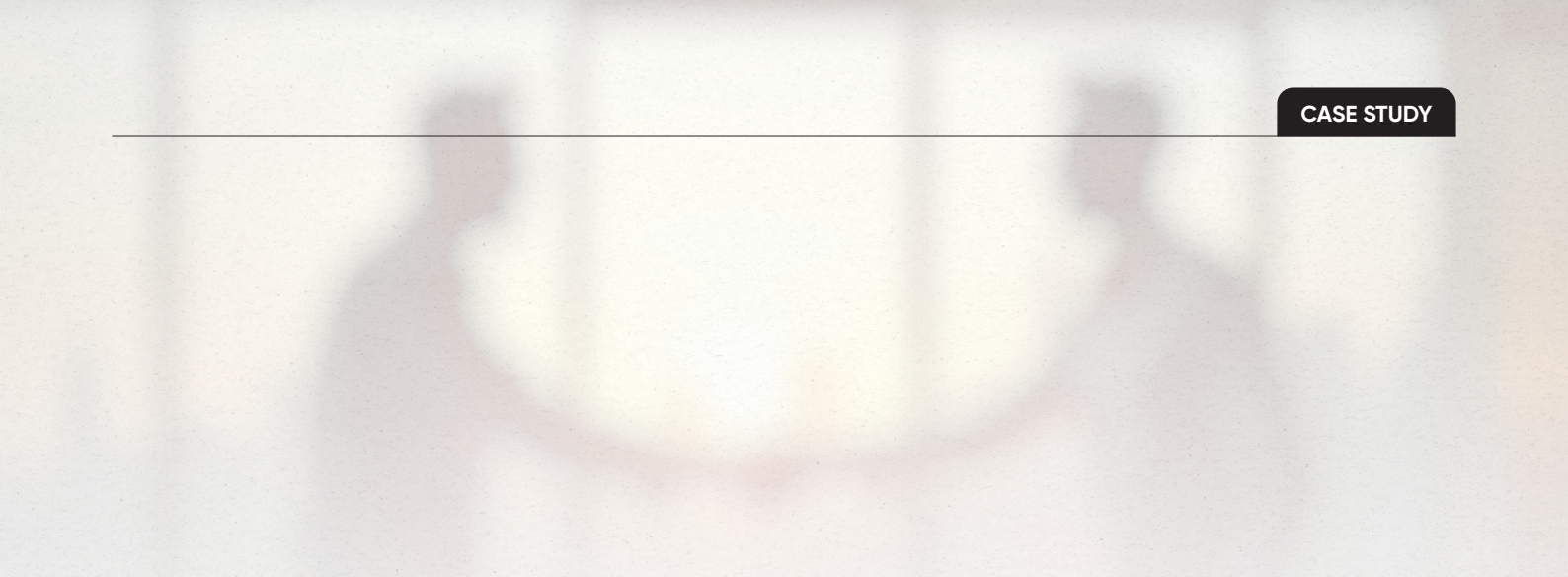
The transformation has made a measurable impact on daily operations. Patients say they feel more secure knowing help is always within reach and that someone can hear them and will come immediately. Family members have also expressed greater confidence in the care their loved ones are receiving, knowing that falls and vital sign changes are detected automatically.

For nurses, the system has reduced unnecessary walking to rooms and offered a clearer sense of priorities. “If we are needed, the alerts tell us exactly what type of assistance is required. It means we can now respond much faster and with greater certainty,” says Adela-Larisa Horvat, a Biomedical Engineer at the hospital. With continuous monitoring and two-way communication, staff can focus more energy on clinical tasks rather than manual checking.

Shift handovers have also improved thanks to the digital records and event timelines. These give supervisors a structured view of where attention is needed most, helping them allocate staff more effectively. “The new system gives us valuable insights that enable us to improve the workflows in the ward, and helps to reduce fatigue and stress among the team,” says Dr. Mihaela Colbeanu, Attending Physician in Internal Medicine.

With one fully digital ward proving the value of connected care, Buhuși Hospital now has a strong blueprint for a broader transformation. This will place the hospital in full alignment with Romania’s new emergency-call regulations and positions it strongly for future digital healthcare programs and European modernization initiatives.

This project demonstrates how smart sensors, structured communication, and mobile workflows can come together to enhance safety, efficiency, and patient confidence. It is a step toward a modern, digitalized hospital environment and shows how AIoT (AI-powered Internet of Things) technologies can help caregivers deliver safer, faster, and more human-centered care.



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