

Wound Monitoring



Country	Germany
Institution/Organisation	European Campus Rottal-Inn, Pfarrkirchen, Germany
Type of setting	Research institution focusing on innovative healthcare solutions
National Context	This case study focuses on how smart glasses and AI-powered software offer an advanced solution to chronic wound management in these areas.

The Vuzix Glasses Shield is a wearable AR device with a built-in camera and voice control that enables video consultations. Nurses can capture wound images, connect with specialists in real time, and improve the care of chronic wounds, particularly in remote areas.

Implementation Process

- **Steps Taken:** The Vuzix Glasses Shield was introduced with AI software to measure wound dimensions. Wound managers were trained to use the system. High-speed 5G internet supported real-time consultations and data transmission.
- **Stakeholders Involved:** Healthcare institutions, wound care specialists and managers, nurses, patients, technology providers, and software developers.

Impact and Results

- **Quantitative Results:** In 2012, 1.04% of insured patients in Germany were diagnosed with chronic wounds, with an estimated 786,407 prevalent and 196,602 incident cases. Around 41.5% of chronic cases and 87.5% of new cases received relevant treatment.
- **Qualitative Outcomes:** The use of smart glasses reduced waiting times and improved the efficiency of wound care. Patients reported greater comfort and lower travel costs, while healthcare professionals noted improved collaboration and more streamlined care.

Success Factors

- Real-time video consultations, reducing the risk of misdiagnosis and improving treatment outcomes.
- AI-powered software for measuring wound dimensions and tracking healing progress.
- The adaptation of 5G technology to support real-time data transmission and immediate feedback.

Challenges and Barriers

- The challenge of ensuring reliable internet connectivity in rural and remote areas where 5G infrastructure is not always available.
- Technical difficulties in optimizing the use of AI software for detecting and measuring wound dimensions.
- Comprehensive training for healthcare professionals.

Key Lessons Learned

- It is essential to provide robust training for healthcare workers to ensure proper use of the technology.
- Patients in rural areas greatly benefit from technologies that reduce the need for travel to clinics, improving their quality of care and reducing financial burden.