

Health

SHOCK ROOM ASSISTANT
SOVEREIGN AI FOR HEALTHCARE
FOR HOSPITALS AND EMERGENCY CENTERS



MORE TIME FOR PATIENTS. LESS DOCUMENTATION EFFORT IN THE SHOCK ROOM.

Treatment in the shock room requires the highest level of precision – both medically and in documentation. While the team performs life-saving measures under extreme time pressure, treatment must be documented fully and in a structured way.

Manual post-documentation consumes valuable time and increases the risk of incomplete or inconsistent records. At the same time, sensitive patient data must be processed locally, securely and without delay.

The Shockroom Assistant supports structured real-time documentation – directly during treatment.

YOUR CHALLENGES



Documentation under extreme conditions

In the shock room, information must be captured completely and accurately under high time pressure.



Lack of real-time structuring

Traditional dictation or speech recognition systems provide raw transcripts but no clinically structured documentation.



High regulatory requirements

Audio and patient data must be processed locally, securely and with full traceability.



Time-critical handovers

Documentation must be immediately available for handovers, diagnostics and further treatment.

THE SOLUTION: SHOCKROOM ASSISTANT

Our solution, “Shockroom Assistant”, currently in development, is an edge-based multi-agent system for structured real-time documentation in the shock room.



Real-time transcription with structured output

Spoken communication is captured during treatment and converted into structured, documentation-ready components – not just into raw transcripts.



Guideline-based information extraction

The multi-agent approach combines speech recognition with rule-based and context-aware extraction according to defined clinical criteria.



Validated documentation support

Generated content is fully reviewable and provided as structured suggestions. Final approval always remains with medical staff.



Edge-optimized processing

Audio and data are processed locally in a secure infrastructure, ensuring sensitive information does not leave the protected clinical environment.



Sovereign security architecture

Role-based access controls, audit logging and full data sovereignty ensure complete traceability. Patient data is not used for external model training.

→ Overall result: Structured, validated and immediately available shock room documentation – directly from live treatment.

YOUR BENEFITS



Reduced documentation workload

Less manual post-processing allows staff to focus more on patient stabilization.

Higher documentation quality

Structured information processing improves completeness and consistency of records.



Faster availability of clinical information

Documentation is quickly available for handovers, diagnostics and further treatment after review by medical staff.

Economic relief

More efficient documentation processes reduce time per case and minimize risks of incomplete billing or rework.



Your next step

T-Systems supports you from use case definition to productive rollout.

Start your AI transformation now – sovereign, secure, and measurably effective.

Experience Shockroom Assistant in a demo or book an AI workshop to get started.

Disclaimer:

The Shockroom Assistant is currently under development. The project is carried out by Deutsche Telekom, the Fraunhofer Institute for Intelligent Analysis and Information Systems IAIS, and Merheim Hospital of the Cologne City Hospitals (Kliniken der Stadt Köln gGmbH). It is conducted as an applied research project within the European IPCEI-CIS funding program. The solution is being developed using simulated shockroom scenarios to enable AI-supported real-time visualization. The classification as a medical device under the MDR, as well as the final risk classification under the EU AI Act, will be determined after completion of the research phase.

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