

From Simulation Data to Reflective Intelligence

Using real simulation data to support better debriefing, professional development, and safer care. Audio only or full multimodal capture. AI running on site: your data never leaves your institution.

**AI identifies patterns.
You guide the conversation.**

Every simulation produces far more than a recording: voices, attention, team interaction, actions and timing, and, where appropriate, physiological signals. Almost all of it is lost by the time the debrief begins. e-REAL turns those streams into reflective intelligence: an AI running on your own infrastructure aligns them with the scenario timeline, highlights the moments worth exploring, and prepares a neutral question for each. It reads the data, not the person: nothing is scored, and the facilitator decides what to examine and leads the conversation.

5

**DATA STREAMS: VOICE,
ATTENTION, TEAM, ACTIONS,
PHYSIOLOGY**

100%

**PROCESSING ON
SITE: NO DATA
LEAVES YOUR
NETWORK**

1

**FACILITATOR
LEADING EVERY
DEBRIEF**

THE PROBLEMS WE SOLVE FOR SIMULATION CENTERS, HOSPITALS, AND MEDICAL SCHOOLS

01 — A RICHER VIEW OF WHAT HAPPENS

Observers see a fraction of what a team does in eighteen minutes

The AI observes what no single person can: an attention shift away from the patient toward the monitor, overlapping voices that blur communication, utterances getting shorter and more fragmented, rising cognitive load, a nurse attempting escalation three times and being interrupted twice. Each pattern is time-stamped on the scenario timeline.

02 — KEY MOMENTS, BETTER QUESTIONS

Hours of data, minutes to prepare the debrief

Minutes after the scenario, the dashboard shows the moments that stand out on the timeline: attention outside the patient, overlapping voices, high vocal intensity, a long silence before the next action. Each comes with a neutral prompt for the facilitator: what was drawing your attention away from the patient at this time?

03 — DEEPER CONVERSATIONS, WITH EVIDENCE

Learners remember what they felt, not what happened

With the moment on screen, the conversation moves from impressions to reasoning: learners explain their frame, compare alternatives, and decide what to do differently. Aggregated across cohorts and stations, the same data give educators and governance evidence they can act on.

WHAT WE MEASURE

Voice: speaking rate, pauses, overlaps, interruptions, vocal intensity, utterance length. Attention: where gaze goes, between patient, monitor, documentation, and team. Team: who speaks, who interrupts, who stays silent, escalation attempts. Actions: protocol items done, delayed, or omitted, with timestamps. Body (optional): heart rate, HRV, arousal, cognitive-load indicators.

EQUIPMENT IN THE ROOM

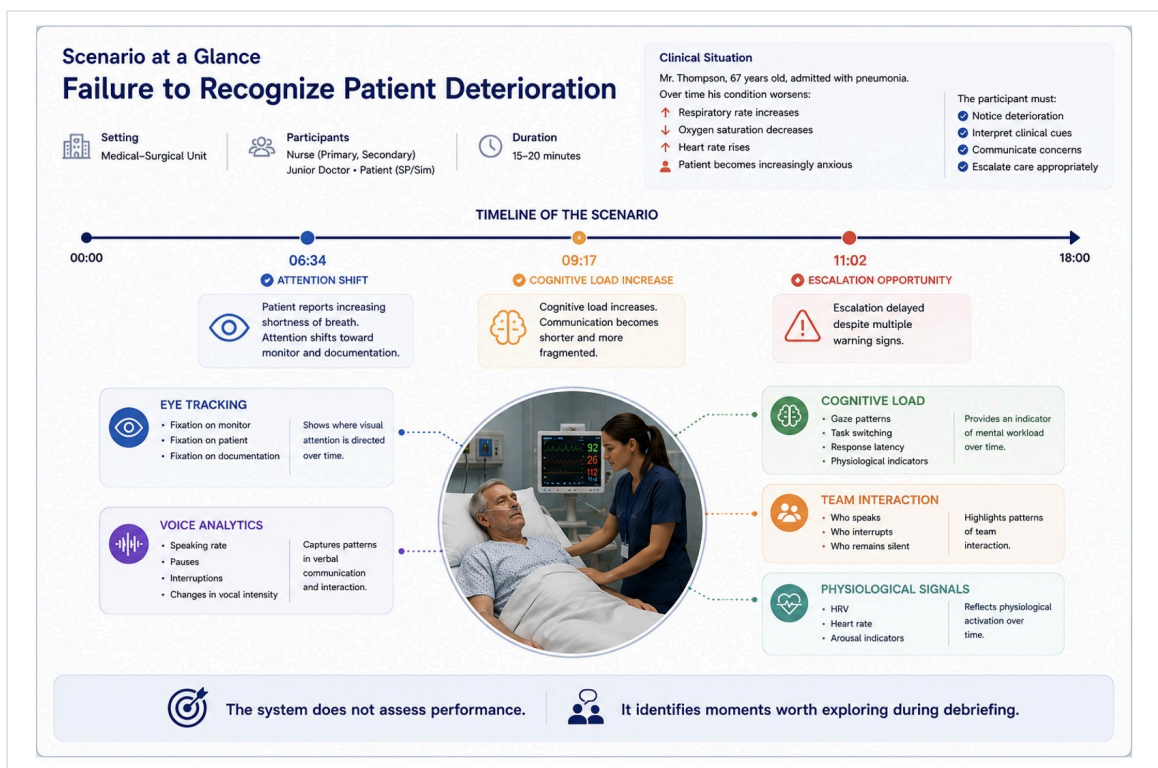
Level 1, audio: ceiling or table microphones, nothing worn, no cameras. Level 2, audio and video: the cameras you already have, plus an optional screen-mounted or wearable eye tracker. Level 3, augments: a chest strap or wrist wearable for heart rate and HRV, optional facial-expression analysis from video. Any browser, local AI appliance, no cloud.



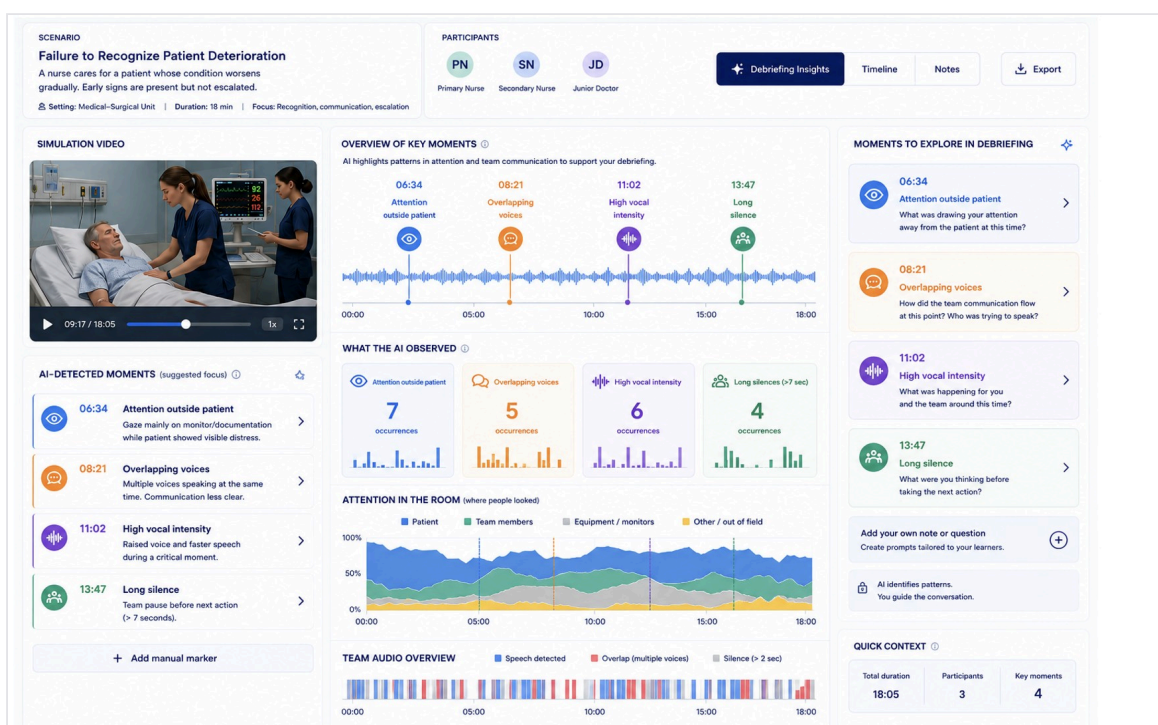
What the debriefer sees

One scenario your center already runs, such as failure to recognize patient deterioration. The scenario sheet sets the clinical situation, the participants, and what the team must notice, interpret, communicate, and escalate. During the run, the AI observes: attention, voice, team interaction, cognitive load, and physiological signals where enabled.

Minutes after the scenario, the debriefing dashboard is ready: the video aligned with the timeline, the key moments the AI detected, how often each pattern recurred, where attention went, who spoke, over whom, and when the team fell silent. On the right, one neutral question per moment, to use, adapt, or discard. The facilitator adds notes and markers; nothing is scored.



Scenario at a glance: clinical situation, timeline, and the signals captured at each level.



Debriefing dashboard: timeline, AI-detected moments, attention in the room, team audio, and questions to explore.

What sets it apart

Analytics in simulation debriefing usually mean a chart of who spoke and where people stood, read by a facilitator who has to decode it on the spot. Learners find such views objective and useful, but also hard to read, limited to the team level, and dependent on equipment that is easy to get wrong. e-REAL was designed around those limits.

Content, not just talk time

Voice detection tells you who spoke and for how long. We add what was said, vocal intensity, overlaps, interruptions, and escalation attempts, time-stamped on the scenario.

Nothing to wear at Level 1

Room microphones, no lapel mics, no positioning tags, no cameras. Video, eye tracking, and wearables come later, as opt-in augments, with consent per signal.

Team and individual

Team-level views support collective reflection; with consent, per-learner timelines support individual growth. De-identified by default when shared beyond the session.

Attention and actions, too

Where gaze went, between patient, monitor, documentation, and team; protocol items done, delayed, or omitted. The picture is multimodal, not audio and position alone.

Moments and questions, not heatmaps

Color gradients are hard to interpret in the moment. The facilitator receives time-stamped moments with one question each, ready to open the conversation.

Reliability you can check

A validation pilot measures agreement between the AI's moments and your instructors' notes before you scale. Processing on site, no cloud, your data rules.

Built for the room you already have, the faculty you already trust, and the data rules you already follow.

From Data to Reflection

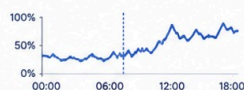
AI highlights meaningful patterns to support reflective conversations.

WHAT THE AI OBSERVED



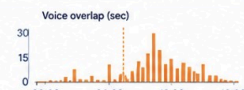
ATTENTION SHIFT

Gaze moved away from the patient toward the monitor/documentation around 06:34.



OVERLAPPING VOICES

Multiple overlapping voices detected, reducing communication clarity around 08:21.



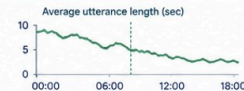
COGNITIVE LOAD INCREASE

Indicators of workload increased between 08:00 and 11:00.



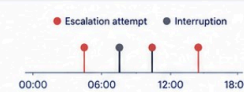
COMMUNICATION CLARITY

Communication became shorter and more fragmented after 09:00.



TEAM INTERACTION PATTERNS

Nurse attempted escalation 3 times but was interrupted twice by another team member.



AI-SUPPORTED REFLECTION



- ✓ Detects patterns across multiple data streams
- ✓ Aligns moments with the scenario timeline
- ✓ Surfaces moments that may be valuable for reflection
- ✓ Helps facilitators focus the debriefing conversation

QUESTIONS FOR DEBRIEFING



06:34 Attention shifted outside the patient.



What were you noticing at this point?



09:17 Cognitive load increased. Communication became fragmented.



What was influencing your priorities and decisions?



11:02 Escalation delayed despite multiple warning signs.



What factors contributed to the delayed escalation?



AI does not explain what happened.
AI helps facilitators ask **better questions** about what happened.



Better questions lead to deeper reflection.

From data to reflection: what the AI observed, how it supports reflection, and the questions it prepares.



INSIDE THE SOLUTION

Simulate. Capture. Reflect. Go deeper.

01 Simulation

Realistic scenarios with manikins, standardized patients, or conversational avatars; real teams, real behavior. The AI observes in the background, on site, without changing how you run the room.

02 Multimodal data

Voice, visual attention, team interaction, actions and timing, physiological signals where enabled. Each stream is aligned with the scenario timeline and with your protocol items, so every signal has a time and a context.

03 AI-supported reflection

The system marks the moments that stand out, counts how often they recur, maps where attention went and who spoke over whom, and prepares one question per moment: evidence for the facilitator, never a score for the learner.

04 Deeper conversations

The facilitator chooses the moments that matter for the learning goals and asks, within PEARLS, advocacy-inquiry, or your own framework. Learners reason aloud, the team compares alternatives, and the debrief ends with decisions.

WHAT YOU GET

Support educators

A timeline with key moments, counts, attention and audio maps, and suggested questions, ready in minutes.

Develop professionals

Reflection grounded in what actually happened, for individuals and for teams.

Generate evidence

Aggregated data by cohort, station, criterion, and period, kept in your institution.

Enable scalability

More debriefs, more consistent, with the same faculty, on the AV you already have.

Start with one scenario

Choose a scenario your center runs often, such as failure to recognize patient deterioration. We install the AI on site, set up capture and questions with your faculty, run it with three groups, and show you the dashboard your debriefers would see, with agreement between the AI's key moments and your instructors' notes.

FOR WHOM

Simulation centers and skills labs; medical, nursing, and allied health schools; EMS academies; hospital education, patient safety, and clinical governance; simulation faculty and debriefing instructors. Your simulation room or an e-REAL immersive room; consent per signal, learners can opt out of video or wearables and still take part.

GROUNDING IN GOOD-JUDGMENT DEBRIEFING

Built on debriefing with good judgment, advocacy-inquiry, and PEARLS, through field studies with leading international simulation centers. Signals are indicators, not verdicts: every flagged moment is a question for the facilitator, not a conclusion about the learner.

LET'S TALK

Book a demo on www.e-real.net or propose a scenario for a pilot.

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e-REAL[®]
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