

GuardX

Unified recording for mission-critical operations

Safety- and mission-critical operations generate vast amounts of data – from voice and radar to video, screen content, and system inputs. Capturing, protecting, and replaying this information is essential for situational awareness, incident analysis, and continuous improvement. GuardX provides a unified recording solution designed for such demanding environments, bringing together diverse data streams into one secure, scalable platform. With fast access, synchronised replay, and reliable storage, GuardX enables organisations to reconstruct events, compile accurate reports, and share insights with authorised stakeholders – strengthening decision-making and safeguarding operational integrity.

GuardX at a glance

- Unified recording across multiple data sources
- Secure storage with access control
- Synchronous replay of all recorded sources
- Scalable, modular system architecture
- AI based automatic transcription on premise
- Reliable reporting and incident reconstruction
- Seamless integration with existing infrastructures

Key features

GuardX unifies the recording of voice, data, video, radar, and screen activity in a single system, removing the need for separate tools. It is secure by design, with access controls, audit trails, and protection against manipulation to safeguard information from capture to storage.

AI based automatic transcription, bookmarking, and flexible search functions reduce manual effort and deliver faster insights, while synchronous replay of multiple sources enables accurate event reconstruction. With its modular and scalable architecture, GuardX integrates seamlessly into existing infrastructures and evolves alongside operational needs, ensuring reliable performance in mission-critical environments.

Flexible architecture for seamless integration and scale

GuardX is built on a modular architecture that adapts to different operational environments and grows with changing demands. The system supports deployment on standard hardware, runs on both Windows and Linux platforms, and allows storage either on-premises or in the cloud. Its modular design makes it easy to configure and scale – from focused recording tasks to comprehensive nationwide implementations. This ensures smooth integration with existing infrastructures while leaving room for future expansion.

Modular components tailored to operations

GuardX combines several functional modules that work seamlessly together to deliver a complete recording solution. Each module addresses a different aspect of the recording cycle – from capturing data

to replaying and securely storing it. This modular approach allows organisations to configure GuardX according to their operational needs, while maintaining a fully integrated system.

Comprehensive capture of data

GuardX records a wide range of inputs in a single system, eliminating the need for separate recording tools. GuardX unifies all these channels into one platform, making it easier to reconstruct events into a holistic view, investigate incidents, and generate precise reports.



Voice

Securely captures all audio channels, including analogue, digital, and VoIP communication



Data

Captures system data, logs, keystrokes and mouse movements for reconstruction



Surveillance

Stores radar and other sensor feeds in synchronisation with all other recordings



Video

Integrates video sources, from CCTV to panoramic tower views, for a complete picture



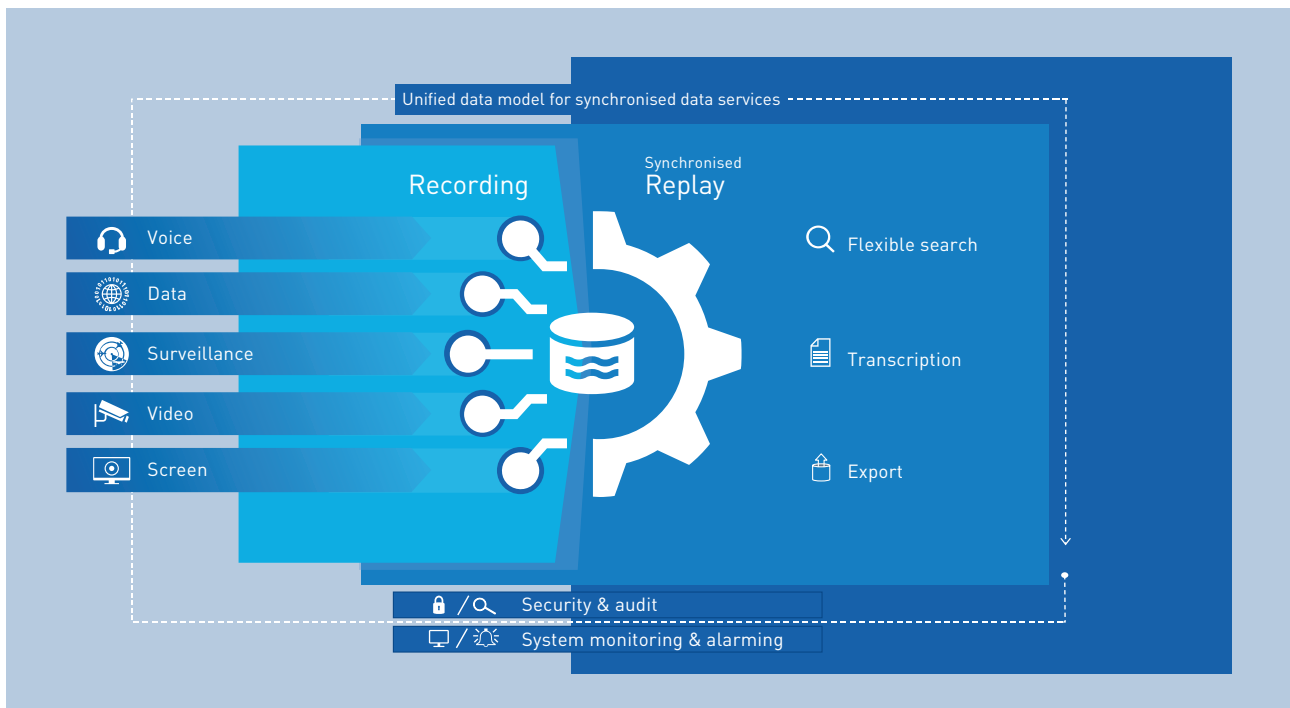
Screen

Records controller and operator displays, with the ability to capture multiple screens in high resolution



AI-based automatic transcription

GuardX uses AI to automatically transcribe ATC or ATM based communications, detects the meaning of the text and classifies whether the words are representing call signs, commands or values. This is called speech understanding. By analysing channels together, the system highlights relevant information and reduces manual effort. Instead of reviewing hours of recordings, users can quickly identify key events, speeding up investigations and turning mission data into actionable insight, within minutes.



Accurate reconstruction through synchronous replay

GuardX replays recorded voice, data, video, screen, and radar inputs in full synchronisation, enabling events to be reconstructed exactly as they unfolded. All channels align on one timeline, with intuitive navigation, bookmarks, and flexible playback controls to pinpoint key moments. For incident analysis, training, or debriefing, GuardX delivers precise replay capabilities, especially for the radar replay. GuardX provides interactive radar replay capabilities including measurements between tracks or certain points on the map. The scenario mode allows to load a certain timeframe in the replay module in order to show the trail of the tracks within the timeframe, show vertical and horizontal separations as well as quickly and seamlessly slide to another point in time.

Benefits

Comprehensive event reconstruction: By capturing voice, data, video, radar, and screen activity in one system, GuardX enables a complete picture of any mission or operation. This supports accurate investigations, incident analysis, and effective debriefing.

Efficiency and speed: AI based automatic transcription, intuitive search, and bookmarking reduce manual effort, making report compilation and information retrieval significantly faster. This allows teams to focus on insights rather than data handling.

Security and integrity: Built-in safeguards ensure that recordings remain confidential, protected from unauthorised access, and tamper-proof. Audit trails reinforce trust and compliance with operational and regulatory requirements.

Scalability and adaptability: The modular architecture of GuardX allows it to grow with operational needs, from targeted deployments to large-scale nationwide environments. It integrates seamlessly with existing infrastructures and adapts to evolving technologies, ensuring long-term value.

Specifications

Installed sites	Deployed at several hundred sites worldwide across defence, ATM and maritime environments, in configurations ranging from mobile shelter solutions to airports, ACCs and nationwide deployments.
Supported inputs	Voice analogue, E1/T1, SIP, SIPREC, RTP, ED-137, radar (ASTERIX), video (h.264, h.265), screen displays, system data, keystrokes, mouse movements, flight plan data, weather data, etc.
Video capture	Support of camera/CCTV and video recording with up to 4k@60fps.
Screen capture	Hardware screen grabbers for DP/HDMI/DVI/VGA, plus software capture up to 4k@30fps, running natively or in containers on the source host.
Platforms	Runs on Linux and Microsoft Windows either bare-metall, virtualised or in containers.
Storage options	Standard storage solutions mountable via the OS which can be on-premises or cloud based.
Scalability	Modular design and architecture allow to scale up horizontally as well as vertically enabling small systems or nationwide deployments with thousands of recording channels.
Replay capabilities	Synchronous playback of audio, video, screen and data with bookmarks, including interactive radar replay with sensor-based measurements for advanced incident analysis (e.g., horizontal/vertical separation over time).
Search functions	Advanced metadata search and filtering in interactive radar replay (e.g., callsign, flight level, speed), plus OCR across video/screen recordings to find specific text occurrences (e.g., callsign).
Security features	Role-based access control with LDAP/AD or local policies, plus SSO via OpenID provider and MFA (OTP).
Integration	Fully integrated and verified with Frequentis systems, and proven with other major vendors across civil and military ATM/ATC and maritime.
Automatic transcription	AI-based on-premises speech recognition and understanding for ATC, with a transcription editor and high-end audio replay for millisecond-precise incident analysis and reporting.
Train your own Model (TYOM)	Integrated AI training engine that turns investigation corrections into updated transcription models – achieving near-human quality.
Software assurance	ED-109A
Security compliance	NIS2, CRA, OWASP ASVS, CIS Level 2 for OS