genasys

Instant Automated Alerting: Integrating Monitoring Systems with Genasys Protect

Transforming monitoring only systems into initial response for 24/7 preparedness

Executive Summary

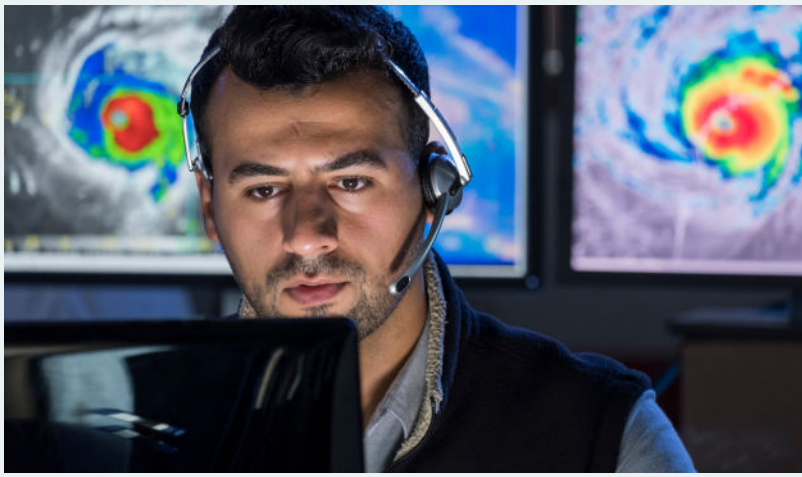
Organizations across public safety, infrastructure, and industrial operations already operate extensive monitoring networks. These technologies detect problems early, but do not guarantee a timely response. Delayed responses and alerts during critical events risk people's safety and escalation.

Genasys Protect bridges the gap between detection and response by connecting monitoring systems directly to mass communications.

Organizations that integrate their monitoring infrastructure with Genasys Protect gain:

- **24/7 operational readiness** through automated monitoring and alert workflows
- **Improved situational** awareness by consolidating monitoring signals into a unified operational view
- **Targeted and scalable communications** that reach the right people at the right time
- **Stronger protection** for personnel, infrastructure, and surrounding communities

These capabilities do not require organizations to replace the systems they already operate. Instead, Genasys Protect integrates with existing monitoring platforms, transforming them from passive surveillance tools into automated initial response systems.



The Current Gap: Detection Without Action

River gauges report water levels every few minutes. Seismic stations stream constant data. Industrial facilities deploy gas detection networks across processing units. These systems effectively detect problems early.

However, alerts remain inside the software that monitors the sensors. Operators must notice the signal, verify the reading, contact supervisors, and open separate systems to send notifications. This process wastes time during routine operations and creates risk during high-stakes incidents.

Fragmentation adds further delays. Environmental data, security alarms, and infrastructure monitoring often sit in separate platforms. Each system generates its own alerts, but none coordinate the response.

Operators must piece together the situation by reviewing multiple dashboards and relaying information to decision-makers across radios, email, or messaging systems. Those decision-makers then determine next steps, approve alerts, and decide who should receive them.

This assumes every person in the response chain is immediately available. If someone responsible for reviewing data or approving alerts is unavailable, even for a few minutes, delays can create serious consequences.

The Risks

An employee near an industrial boiler at a manufacturing plant could suffer severe burns if pressure sensors detect dangerous steam buildup but no warning is issued. A group of workers at an oil refinery could be exposed to hydrogen sulfide (H_2S) if a leak is detected but a site-wide alert is delayed. A community downstream could miss a life-saving evacuation order after a critical dam failure.

Lacking a system to broadcast timely alerts creates serious safety threats for personnel and the public. Furthermore, depending on your situation, failure to broadcast timely alerts exposes you to:

- Operational disruptions
- Infrastructure damage
- Environmental damage
- Regulatory investigations
- Litigation and liability
- Insurance impacts
- Degradation of trust and morale
- Political/public pressure
- Economic impacts

Integrating monitoring and detection systems with Genasys Protect closes this gap by turning detection networks into initial response systems.

Genasys Protect

Genasys Protect is a multi-channel, zone-based communication and coordination solution that helps organizations deliver the right message to the right people at the right time. Combining precise targeting zones, a common operating picture, easily accessible situational awareness information, and multi-channel alerting, the platform enables teams to act quickly, coordinate across departments, and maintain a clear understanding of evolving situations.

Integrations: Connecting Monitoring Systems to Genasys Protect

Genasys Protect integrates monitoring and detection systems so their signals can feed directly into the platform. This allows organizations to bring the infrastructure they already operate into a single operational environment.

Common Integration Sources

Flood Monitoring

- Water level sensors
- Rain gauges
- River stage gauges
- Flood depth sensors

Wildfire Detection

- Smoke detectors
- Air quality sensors
- Heat sensors
- Wind sensors

Severe Weather

- Weather stations (NOAA feeds)
- Lightning detectors
- Wind sensors
- Barometric sensors

Seismic Monitoring

- Seismic sensors (ShakeAlert)
- Structural vibration sensors
- Accelerometers
- Early warning feeds

Health & Environmental

- Air quality sensors
- Temperature and heat index sensors
- Water quality sensors
- Ozone or gas sensors

Critical Infrastructure

- Pressure sensors
- Tank level sensors
- Power monitors
- Vibration sensors

Building Safety

- Fire panel signals
- Carbon monoxide sensors
- Access control events
- Panic or duress buttons

Security & Perimeter Monitoring

- Intrusion sensors
- Firearm discharge detection
- Camera analytics triggers
- Motion detectors

Industrial Safety

- Gas detection systems
- Equipment fault sensors
- Leak detection sensors
- Thermal anomaly sensors

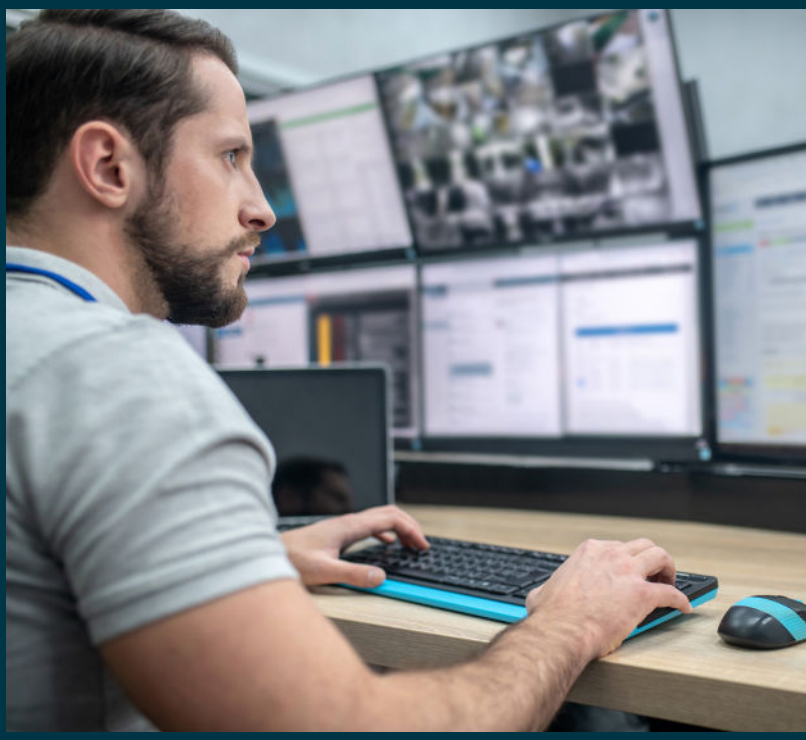
**Integrations some vendors are currently available. Other vendors optional. Talk to Genasys sales for details. Some integrations may require additional one time service charges.*

Unified Monitoring and Situational Awareness

Signals from integrated systems feed into a single operational environment within Genasys Protect. Sensor readings, monitoring alerts, and hazard feeds appear together on the same map and dashboard.

Operators no longer switch between platforms to understand what is happening. They view conditions across facilities, infrastructure systems, and environmental monitoring networks in one place.

Related signals appear together. Teams can recognize patterns earlier and understand developing risks faster.



Outcomes

A unified operational view strengthens situational awareness across teams and agencies. Everyone works from the same information and can coordinate decisions more effectively.

Daily monitoring also becomes simpler. Instead of checking multiple dashboards, **operators oversee conditions from one platform while remaining ready to respond when signals change.**

Instant Automated Alerting: Turning Monitoring Systems into Response Systems

Users set up customized response rules before incidents occur. Genasys Protect receives incoming signals from integrated systems and automatically triggers alerts when conditions meet predefined thresholds.

Rules can include:

- Single sensor triggers: An alert activates when a single sensor reaches a defined threshold. For example, a rising river gauge may trigger an internal notification when water levels exceed a monitoring threshold.
- Multi-sensor confirmation: Multiple sensors must report the same condition before an alert triggers. This approach reduces false alarms and ensures that alerts deploy only when multiple data points confirm a developing hazard.
- Escalation tiers based on severity: Organizations can define multiple thresholds for the same sensor or monitoring system. As conditions worsen, the same sensors can trigger different alerts based on severity.

Outcomes

Severity-based escalation allows organizations to prepare for countless scenarios. Automated triggers support continuous readiness, creating comprehensive 24/7 preparedness.

Alerts are created, reviewed, approved, and configured ahead of time rather than during an incident. This reduces reliance on manual monitoring and eliminates delays caused by approval chains.

The system initiates response the moment conditions meet defined thresholds, meaning alerts reach impacted individuals as fast as possible. **Faster action improves safety outcomes and helps teams respond and potentially resolve critical incidents before they escalate.**

Alert Distribution

Once automated alerts trigger, Genasys Protect distributes notifications according to predefined targeting and escalation rules.

Users decide who receives alerts and when. The platform also supports geographic targeting. Operators can select zones on the map to notify people located within areas that may be affected by an incident.

For example, a single sensor reading may trigger an alert to internal teams when conditions begin to approach a risk threshold. If the same sensor later reaches a dangerous level, or if multiple sensors confirm the same condition, Genasys Protect can automatically broadcast a higher-level alert that reaches the surrounding public.

Alerts can reach recipients through multiple communication channels, including:

- SMS
- Voice
- IPAWS alerts
- Email
- A mobile app
- Desktop alerts
- Genasys Acoustics outdoor voice broadcasts

Organizations choose which channels activate for each alert.

Outcomes

Highly dangerous readings can automatically trigger alerts across wide geographic areas and multiple channels to ensure everyone is notified. Less critical issues can alert specific individuals on their phones or computers. Predefined alerts allow organizations to scale responses for anything in between.

Flexible targeting also ensures that messages reach the right audience without creating unnecessary alerts for others. **This approach enables organizations to deliver the right message to the right people at the right time.**

Genasys Acoustics: Immediate, High-Confidence Public Warnings

Genasys Acoustics is a remotely managed, always-on voice message broadcast system designed to deliver clear, actionable instructions across large outdoor areas.

Long-range voice broadcasts cut through background noise and ensure critical messages are heard and understood. Battery back-up, solar charge, and satellite connectivity maintain broadcasts even when power or network infrastructure fails.

Key Advantages Over Traditional and Digital Alerts

- **Commands immediate attention**. High-power voice broadcasts cut through background noise and demand awareness in ways phone notifications cannot.
- **Delivers instant wide-area alerts**. A single device reaches everyone within hearing range (360 degree coverage reaching over 3.5 km or 2.1 miles) simultaneously without relying on cellular networks.
- **Provides clear instructions**. Voice messages deliver actionable guidance instead of ambiguous tones or sirens.
- **Maintains trusted communication**. Audible instructions reduce confusion and hesitation during emergencies.

Common channels like SMS and email send messages to individual devices, which can create delivery delays when telecom carrier towers are damaged by the hazard or networks are congested due to having to reach large populations simultaneously. IPAWS Wireless Emergency Alerts use cellular broadcast technology to reach phones in a geographic area, but delivery timing can still vary across carriers and devices.

When configured with automated alerts, Acoustics becomes the fastest communication channel for people within the large broadcast area. This capability is critical during fast-moving events, like earthquakes. Integrations with early detection systems like ShakeAlert allow acoustic alerts to broadcast warnings quickly enough for people to take protective action before shaking begins.

Organizations can deliver immediate, reliable warnings when every second matters and use Acoustics to keep areas informed of critical updates on a regular basis.

Core Benefits of Integrations

Instant protective action: The delay between detection and notification or decision-making is eliminated. Alerts deploy to the public, personnel, or decision-makers the moment conditions meet predefined thresholds:

- Giving workers and nearby communities time to take protective action.
- Enabling earlier intervention to reduce damage to infrastructure and critical assets.

24/7 preparedness: The system continuously monitors incoming signals and initiates alerts when required. Response protocols activate automatically even when personnel are unavailable.

Adaptable response planning: Organizations can define escalation procedures before incidents occur, ensuring the right alerts and instructions deploy to the right people and areas automatically as conditions change.

Clear operational awareness: Signals from multiple monitoring systems appear in one operational view. Operators can quickly understand developing conditions and coordinate response.

Demonstrable compliance: Many industries require documented monitoring and warning procedures. Automated alerts help enforce consistent response protocols and support regulatory compliance.

Industry Outcomes

Organizations across many sectors already rely on monitoring systems to detect risks. The ability to act on those signals quickly can determine whether an incident remains manageable or escalates into a crisis.

Public Safety & Emergency Management

- Accelerated response. When public alerts require strict approval protocols, automated alerts notify internal teams and decision-makers immediately, accelerating awareness and decision-making.
- Faster public warnings. Earlier warnings give residents more time to evacuate, shelter, or take protective action before conditions worsen, and lives are put at risk.
- Real-time situational awareness. Emergency managers gain access to all feeds across multiple hazard sources, improving evacuation, resource deployment, and emergency protocol activation decisions.
- Reduced reliance on manual monitoring. Emergency operations centers cannot watch every sensor or data feed continuously, especially during large incidents, so automation ensures critical warnings are not missed.
- Coordinated response across EOCs and field teams. Large incidents involve multiple agencies and jurisdictions. Genasys Protect enables unified responses and collaborative decision-making through its common operating picture that allows all public safety officials to access the same situational awareness information in real time.

Critical Infrastructure

- Earlier intervention before infrastructure failures escalate. Small issues in dams, pipelines, or power systems can quickly become catastrophic if operators do not detect and respond to warning signs early.
- Continuous monitoring across distributed assets. Infrastructure operators manage facilities across wide geographic areas, making centralized visibility essential for identifying risks without physically being on site.
- Automated warnings that protect workers and nearby communities. Infrastructure failures can endanger employees and surrounding populations, so early alerts allow operators to activate safety procedures before conditions become dangerous.
- Support for regulatory monitoring and notification requirements. Many infrastructure sectors must document monitoring and emergency communications, and automated alerts help ensure these processes happen consistently.

Energy & Industrial Operations

- Immediate safety alerts when hazardous conditions are detected. Industrial hazards such as gas leaks, pressure events, or equipment failures can escalate within seconds, making rapid warnings essential to prevent worker exposure.
- Clear evacuation or shelter instructions across large facilities. Industrial environments may span large areas with thousands of workers, so immediate communication helps ensure everyone receives clear guidance during emergencies.
- Faster containment of developing incidents. Delays in communication allow hazards to spread through a facility, while early alerts help safety teams respond before problems escalate.
- Improved worker safety and operational continuity. Industrial incidents can halt production for extended periods, so early warnings help protect employees while minimizing costly disruptions.

Maritime & Port Operations

- Rapid communication across large outdoor environments. Ports cover miles of docks, terminals, and waterways, making it difficult to reach workers quickly during emergencies without wide-area communication systems.
- Coordinated alerts across multiple operational stakeholders. Port authorities, shipping operators, security teams, and emergency responders must receive consistent information to prevent confusion during incidents.
- Faster response to operational or safety incidents. Delays can disrupt cargo movement and vessel operations, creating economic ripple effects across supply chains.
- Protection of critical trade infrastructure. Ports are vital hubs for national and global commerce, making their resilience essential to economic stability.

Enterprise & Manufacturing

- Consistent emergency communication across multiple sites. Large organizations often operate facilities in different locations, making centralized communication critical to maintaining consistent safety procedures.
- Faster alerts during facility incidents or disruptions. Rapid communication allows organizations to protect employees and stabilize operations before incidents escalate.
- Improved employee and visitor safety. Employers must ensure workers, contractors, and visitors receive clear instructions when emergencies occur.
- Streamlined communication for both emergencies and daily operations. Organizations benefit from systems that support routine updates as well as critical alerts.

Case Studies

Puerto Rico Dam Early Warning System

Critical Infrastructure | Dams | Public Safety

After hurricanes Irma and Maria caused severe flooding and the Guajataca Dam breach threatened nearby communities, Puerto Rico recognized the growing danger posed by its aging dam infrastructure, many structures more than 70 years old.

Puerto Rico addressed this risk by integrating sensors that monitor reservoir levels, spillway flows, weather conditions, and seismic activity with Genasys Protect across 37 dams threatening hundreds of thousands of downstream residents. Emergency managers now monitor conditions from seven EOCs and issue instant automated alerts through multiple channels, including Genasys Acoustics, when thresholds indicate danger, giving communities critical time to take protective action.

Port Houston

Maritime Safety | Trade Protection | Critical Infrastructure

Port Houston manages **52 miles of the Houston Ship Channel and more than 200 public and private terminals**, supporting one of the largest cargo ports in the United States. Recurring threats from hurricanes and severe weather threatened the thousands of workers, visitors, and ships moving across facilities miles apart.

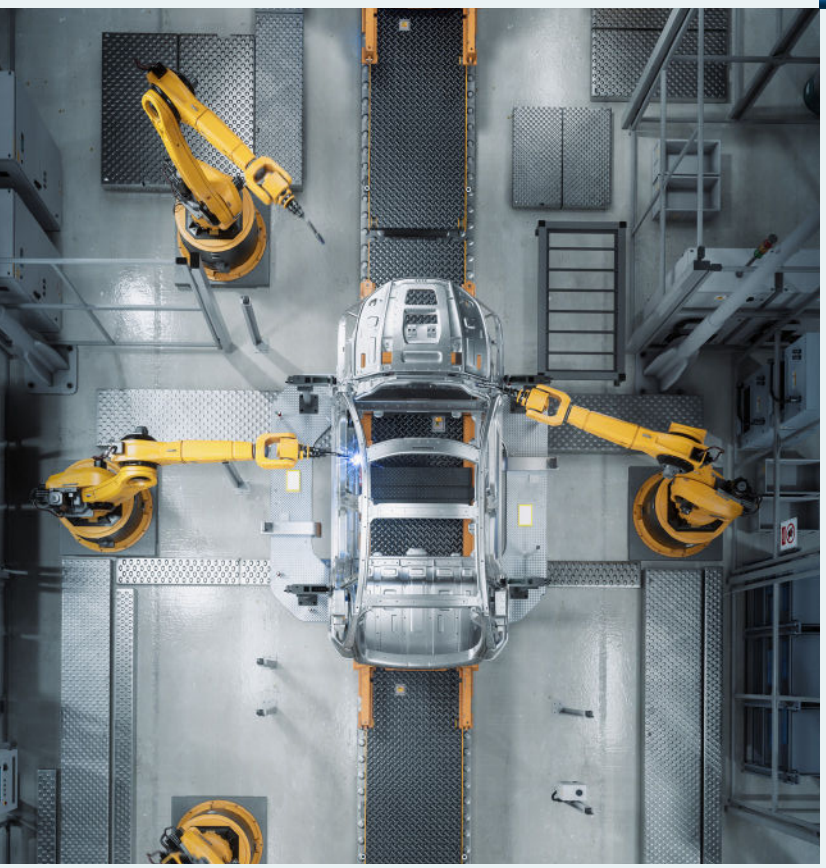
Port Houston unified alerting with Genasys Protect integrated with the port's ERP contact management system. The platform now delivers multi-channel alerts through SMS, email, and 13 Genasys Acoustics devices, enabling managers to quickly communicate instructions and deploy resources when incidents occur anywhere along this critical supply chain corridor.

Tengiz Oil Field

Oil & Gas | Large Facilities

Oil from Kazakhstan's Tengiz Field is produced under extremely high pressure and contains large concentrations of sulfur and other hazardous gases, creating serious safety risks for workers and site visitors.

To protect personnel across **one of the world's largest oil fields**, operators deployed more than **100 Genasys Acoustics devices** integrated with gas detection sensors. When hazardous gas levels are detected, the systems automatically trigger emergency sirens and broadcast clear voice safety instructions across the site, giving workers immediate warnings and time to move to safety.



Global Automakers

Manufacturing | Enterprise | Multi-site Operations

Two northern European automakers operate geographically distributed production facilities and corporate locations with thousands of employees, contractors, and visitors. Fragmented legacy communication systems lacked real-time situational awareness and struggled to integrate with modern enterprise tools, making it difficult to deliver timely notifications and maintain consistent safety communications across multiple sites.

To address this risk, both companies implemented Genasys Protect, **integrating the platform with Active Directory, HR systems, and visitor management tools** to unify enterprise communications. The centralized dashboard now provides real-time situational awareness and multi-channel notifications, allowing safety teams to monitor conditions and communicate quickly across facilities, improving response times and strengthening protection for employees, contractors, and visitors.