



SAFE WATER STARTS WITH SAFE TEAMS

Connected safety solutions for the water and wastewater industry

Meeting the demand for clean drinking water and wastewater treatment is vital. Operations run 24/7 and downtime isn't an option. It's challenging work, but one thing your employees shouldn't worry about is whether they'll make it home after every shift. This means not only knowing when an incident happens and being able to quickly respond, but also having the ability to proactively prevent them. That takes connectivity.

Blackline Safety's connected safety technology protects over **100,000** people in over a dozen different industries, including the water and wastewater industry.



COMMON HEALTH AND SAFETY RISKS

Essential workers in the water and wastewater industry face a variety of safety hazards every day, whether at facilities or traveling from site to site. On any given day, they may be supervising a wastewater treatment plant, monitoring flow meters, or checking water quality at remote pumping stations and reservoirs.

When you combine all the potential risks – harmful gases, confined spaces and working alone – there's a clear need for a versatile and scalable safety solution to protect your workers. Layer on the ability to analyze trends from captured data and you can move from reactive to proactive safety management. Blackline's connected technology addresses all these needs.



GAS EXPOSURE AND EXPLOSION

Typical hazardous gases in water and wastewater applications are methane (CH₄), hydrogen sulfide (H₂S), chlorine (Cl₂), and oxygen (O₂) enrichment or depletion. Wastewater plants may also emit sulfur dioxide (SO₂), ammonia (NH₃), ozone (O₃), and chlorine dioxide (ClO₂). Associated risks are exacerbated by high temperature and humid conditions.



CONFINED SPACE ENTRY

Working in confined spaces such as sewers and manholes, service reservoirs, storage tanks, treatment units or access tunnels is common. These environments create the risk of oxygen deficiency, exposure to flammable gases or elevated levels of hydrogen sulfide or exposure to elevated levels of hydrogen sulfide and other toxic gases. Due to consistently high levels of gas, individual beep-and-flash units are ineffective and often turned off.



LONE AND REMOTE WORKER

Workers out of sight and constant direct contact with coworkers, can face a slip, trip or fall, a health condition, or an extreme weather event that can turn deadly without a quick, easy way to call for help. Ready access to two-way, push-to-talk communications, the ability to pull an emergency SOS latch, and knowing exactly where the worker is located are key in these situations.

HARNES CONNECTED SAFETY SOLUTIONS FOR REAL-TIME WORKER AND FULL-SITE VISIBILITY

G7 EXO portable area gas monitors and G7 personal wearables automatically connect to the cloud in minutes, without the need for Wi-Fi or networks to be set up. Whether it's a lone worker incident or a facility emergency response or evacuation, connectivity will bring your safety program to the next level.



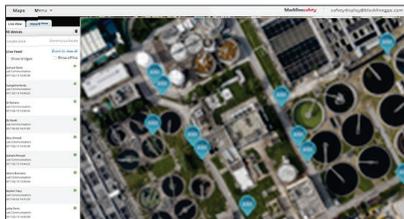
FULL-SITE AND WORKER VISIBILITY

Our web-based safety and productivity software portal, **Blackline Live**, is the hub of your connected safety ecosystem, containing all the tools you need in one easy-to-use platform. You can configure, view and monitor all your devices in the field including their compliance status, from any internet connected smartphone, tablet or computer.



UNMATCHED SITUATIONAL AWARENESS

With GPS-enabled location technology and direct-to-cloud data streaming, you get real-time information and worker visibility at your fingertips – from normal routines to when an incident occurs. This means you immediately know what happened, when it occurred, who is involved and where they are located.



INDUSTRY-LEADING CONNECTIVITY

Both our G7 EXO portable area gas monitors and G7 personal wearables have integrated cellular connectivity. For customers in North America, South America (excluding Brazil), Australia and New Zealand, G7 personal wearables have optional satellite connectivity through a portable bridge for remote locations lacking a cellular network.



USE DATA TO WORK SMARTER AND SAFER

It's never been easier to dive deep into data to uncover safety insights that help power your business. **Blackline Analytics** reports let you gain insights into how and where equipment is being used, where hazards are being encountered and to even identify which gas detection assets are compliant and performing well, and which can be used better.



LOCATION DETECTION

In areas where buildings or equipment reduce GPS signals, location beacons can be placed to transmit location signals for proximity detection. Each beacon broadcasts a unique identity number that is received by G7 personal and area devices, which report the identity to Blackline Live to improve the accuracy of the worker's location.



INDUSTRY-LEADING COMMUNICATION AND RESPONSIVENESS – WHENEVER AND WHEREVER

All G7 personal wearables and G7 EXO area gas monitors have built-in layers of communication (manual, automated and time-based) which, when paired with live monitoring, are the critical lifeline to your workers for the help they need during an emergency, health event, dangerous situation, adverse weather conditions and more.



MANUAL ALERTS – EMERGENCY LATCH

Our patented SOS latch can be pulled by a worker when in distress and generates instant visible and audible alarms and alerts monitoring personnel.



AUTOMATED ALERTS - FALL AND NO-MOTION DETECTION

An accelerometer can detect an unusual impact or any drastic changes in tilt to indicate a potential slip, trip or fall. It can also detect if a worker has stopped moving for some time and trigger an alert if, for example, the worker becomes pinned or loses consciousness which may not trigger a fall alert.



TIME-BASED ALERTS - MISSED CHECK-IN

Rather than relying on emails or phone calls, regular check-ins can be automated using a pre-configured countdown timer. With a push of a button, the worker can acknowledge that they are OK at pre-set intervals. If a check-in is missed and the worker fails to respond to a warning alert, the device can trigger a tailored emergency response workflow.



TWO-WAY COMMUNICATIONS

Devices with two-way voice communication via text or optional push-to-talk offer a way for your workers to quickly reach out for help. This gives them the confidence that someone can respond to their need for assistance and lets you inform workers of impending weather events, work updates (e.g., change in muster point locations) or other vital information.

An analysis of over **200** accidents at European wastewater treatment plants found that **13%** were due to extreme weather. Blackline's technology enables mass notifications to all your people – or specific teams – to protect them especially during cases of heavy rain or flooding. (2021, Journal of Loss Prevention in the Processing Industry)

COMPREHENSIVE AND FLEXIBLE AREA AND PERSONAL GAS DETECTION SOLUTIONS

Protect your workers and facilities

Personal wearable devices

- ✓ [G7 Single-Gas](#)
- ✓ [G7 Multi-Gas](#)
- ✓ [G7 Multi-Gas Pump](#)

Portable area and perimeter monitor

- ✓ [G7 EXO](#)

All G7 personal wearable devices and G7 EXO portable area monitors integrate seamlessly within the rest of Blackline's connected ecosystem, delivering an array of industry-leading tools and services to help keep your teams safe and amplify your productivity.

CUSTOMIZABLE GAS DETECTION

Choose the right gas sensors to address the unique demands of your operating environments. If workers frequently move sites or the environmental hazards of your facility change, simply swap the sensor cartridge for a new one – it's that easy. No more back-up secondary devices required.

SIMPLIFIED FLEET MANAGEMENT

Not only does the simple cartridge swap out reduce the need for extra inventory, warranty cartridges make getting devices back in the field quick and easy. Location tracking and GPS help to drastically reduce the number of lost devices. If it's turned on, the worker will find it.

LEADING GAS DETECTION TECHNOLOGY

We've partnered with NevadaNano to add Molecular Property Spectrometer (MPS™) sensor capability to the G7 line of connected safety devices. Accurate for a wide array of flammable gases, the MPS sensor decreases costly false alarms and unneeded evacuations.



Detect up to **5 gases** simultaneously. Choose from our broad portfolio of **20 gas sensors**.





WATER AND WASTEWATER TREATMENT FACILITIES TYPICALLY MONITOR:

	Chlorine (Cl ₂)	Carbon monoxide (CO)	Hydrogen sulfide (H ₂ S)	LEL (Lower Explosive Limit)	Ammonia (NH ₃)	Oxygen (O ₂)	Sulfur dioxide (SO ₂)
WATER COLLECTION (Dams, reservoirs, lakes, rivers, collection and storage tanks)	✓	✓	✓	✓			
STORM AND WASTEWATER COLLECTION (Dry/wet wells, manholes, sumps, treatment plants)		✓	✓	✓		✓	
WATER TREATMENT (Treatment areas, chemical storage tanks, injection stations)	✓					✓	
WASTEWATER TREATMENT (Gas treatment and storage areas, digester, sediment, holding, aeration and clarification tanks)			✓	✓	✓	✓	✓
WATER TRANSMISSION AND DISTRIBUTION (Meter pits, vaults, pipelines, trenches)	✓	✓	✓	✓		✓	
PLANT OPERATIONS	✓		✓				



UNMATCHED RELIABILITY AND DURABILITY

The nature of work in the water and wastewater industry – dirty, wet, and outdoors – means you need technology as durable and hard-working as your people are. All our devices are built for extremes and are thoroughly tested to ensure they withstand the toughest conditions.

It's about saving money, time and additional headaches you don't need. But most importantly, it's about saving your team from having to worry about their safety rather than the task at hand.

G7 EXO AREA GAS MONITOR – EXTENDED BATTERY LIFE

With 100-day battery life and rugged design, the G7 EXO can remain in the field for extended periods and stand up to any environment. If the situation calls for extra power, add it via the intrinsically safe charging port or optional solar panel to continuously monitor the safety of your worksite indefinitely.



G7 PERSONAL WEARABLE – REDUCED MAINTENANCE

Calibration performed by third parties requires worker downtime. With Blackline's fast and simple docking stations, there's no need to bring in a third party to keep devices compliant. Our compliance reports put the ownership on the worker to perform bump tests and calibrations and the status of all devices can be confirmed by supervisors via the online portal, dashboards and reports.



Our G7 EXO portable area gas monitor was recognized for its durability and drop-and-go deployment **winning gold** at INT Design's Grand Prix Du Design Awards.

HIGH-PERFORMANCE, FUTURE-PROOF CONNECTED SAFETY SOLUTION

Blackline's all-in one connected safety hardware offers the capabilities and customization you need to transform safety and efficiency at your water and wastewater operation. With add-on value through monitoring and data analytics software, your safety program can be more comprehensive, insightful, and easier to manage.

Whether you need just one lone worker or personal gas detection device, a portable area gas monitor, or a facility-wide connected worker solution, Blackline's devices have the versatility to meet your needs today, or scale as needed—driving a low cost of ownership along the way.

EASY TO USE

- Easy-to-use device ensures user adoption
- Intuitive user interface means minimal training requirements
- Automatic firmware updates over the air – no docking required



EASY TO DEPLOY

- Simply turn on the device to connect to the cloud
- Once powered up, the device instantly starts sending data
- No need for additional IT infrastructure or installation



ADVANCED DATA ANALYTICS

Our data analytics capabilities ensure you have real-time compliance, comprehensive safety monitoring and unquestionable control of evacuation management. With historical data to help you identify and anticipate dangerous situations, you can take preventative measures to reduce future incidents.



24/7 LIVE MONITORING SERVICES

No control room or monitoring personnel? No problem. Have our professional agents expertly manage emergency alerts in real-time and gather critical insights with our 24/7 in-house, five diamond certified Safety Operations Center or global Alarm Receiving Center partners.



Emergency alerts are received in Blackline Live under **2 seconds** and our in-house Safety Operations Centre has an industry-leading response time of less than 60 seconds.

blacklinesafety

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