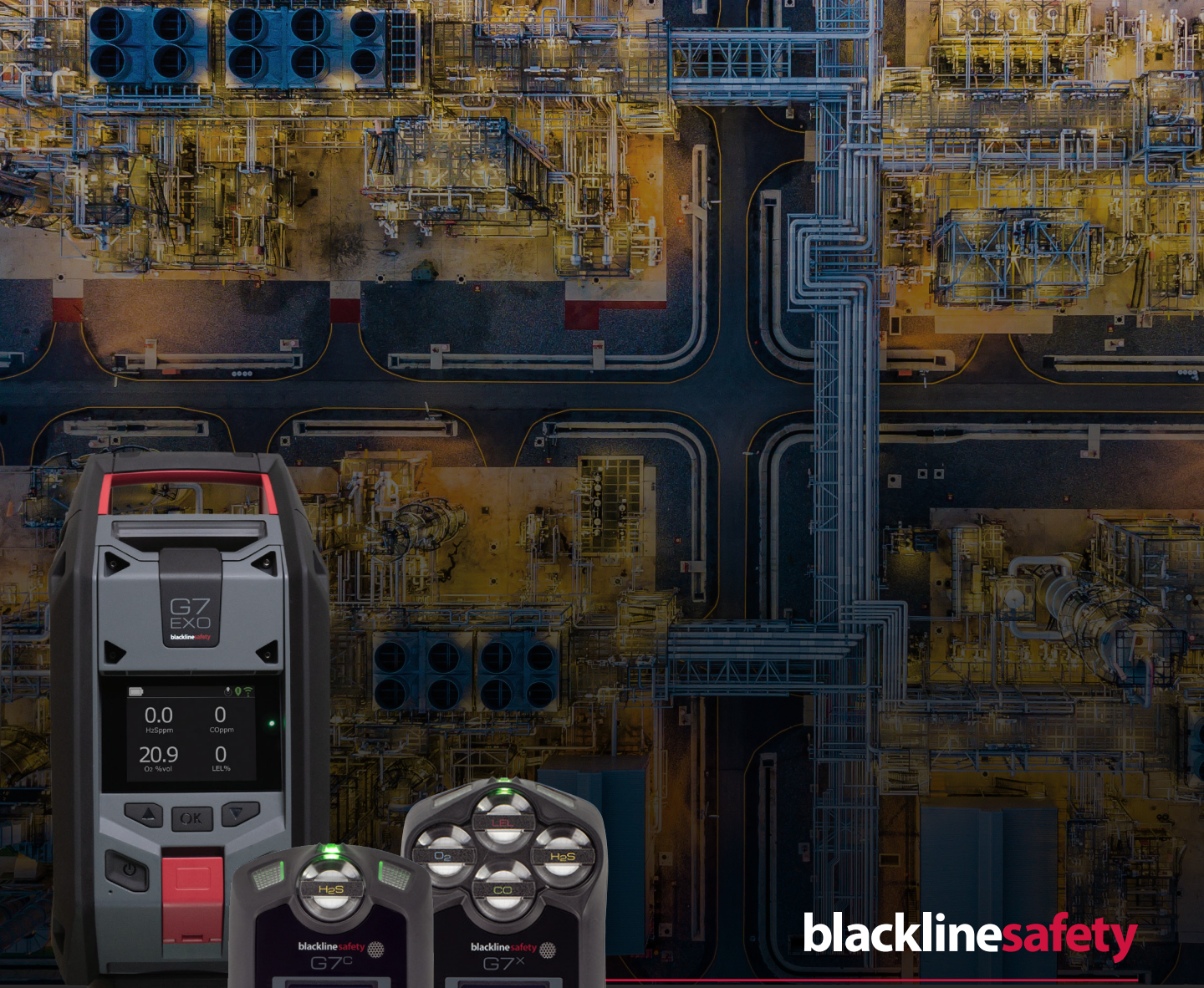


blacklinesafety

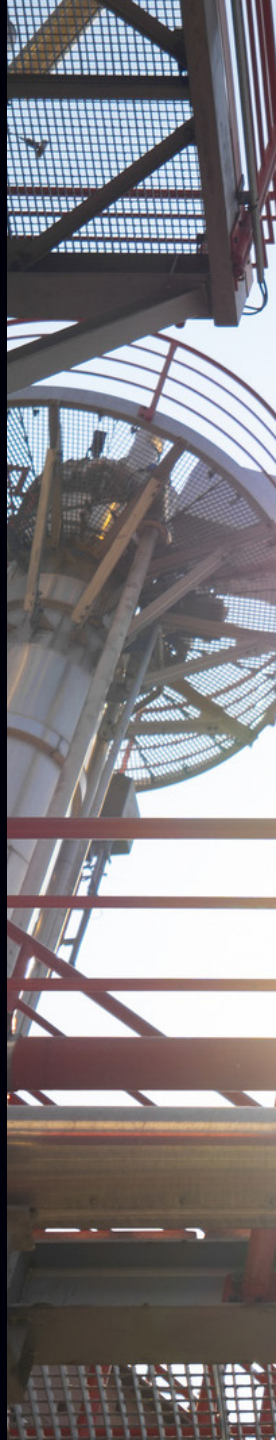
Oil and Gas

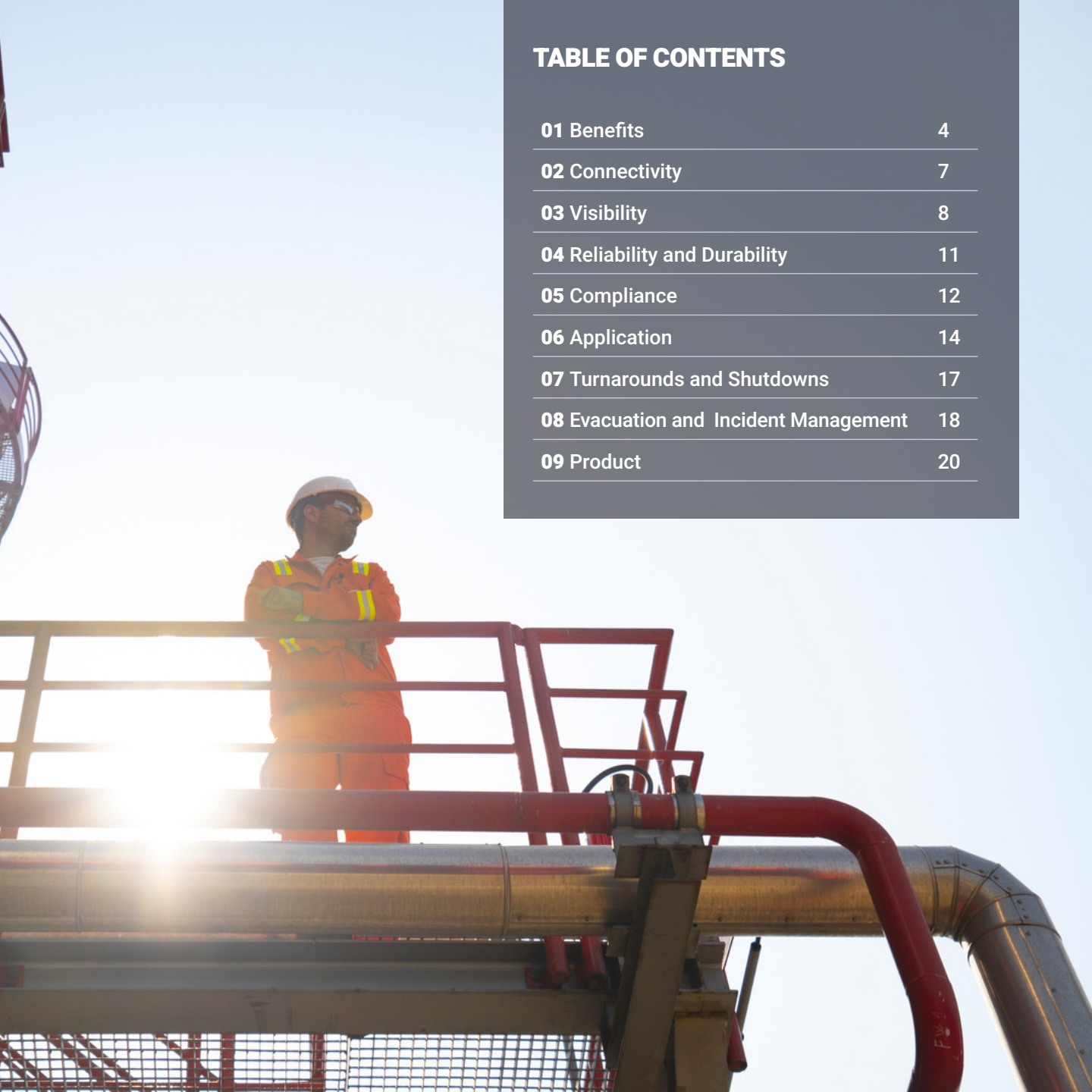
No matter what challenges the Oil and Gas Industry face, Blackline gets workers home safe and sound.

If there's one thing we understand, it's the importance of making sure every worker goes home safe, every day. That means protecting your team from things like explosions and fires, falls, confined spaces, high pressure lines and equipment, and other potentially dangerous hazards. Blackline Safety protects workers in refineries, oil fields, petroleum storage areas, processing facilities and other locations across the industry where safety is a priority.

Whether it's personal or area gas monitoring, efficient confined space entry, protecting employees working alone or the need to improve your safety overall, no one has you covered better than Blackline. With a suite of the most technologically advanced and capable products on the market with included data analytics and reporting, you now have access to a connected safety ecosystem that gives you visibility into your worksite like never before.

blacklinesafety





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01

Benefits

How we do it, and more importantly why we do it.

At Blackline Safety, our constant drive is to develop innovative solutions to protect workers, because when lives are on the line, there simply is no room for second best.

02

Connectivity

Protected Because They're Connected.

Whether it's a worker entering a confined space, an entire facility needing to be monitored for potential gas hazards or an emergency response or evacuation that needs to be initiated, nothing is more important than reliable connectivity. G7 wearables' instant connectivity allows you to locate any team member, in any location, at any time. With GPS, cellular or satellite connectivity and two-way communications, G7 is a true lifeline for workers. Those archaic "beep and flash" detectors simply no longer cut it.

You and your team are ready to go as soon as G7 is turned on and automatically connects to the cloud, without the need for WiFi or networks to be set up. And the G7 EXO area monitor delivers the same unmatched connectivity and ultimate visibility into your entire facility. Advanced analytical capabilities ensure you're constantly in the know with real-time compliance, comprehensive safety monitoring and unquestionable control of evacuation management.

For businesses without a control room or always-available supervisors, Blackline's in-house Safety Operations Center is staffed 24/7 with professionally trained monitoring agents focused exclusively on ensuring the well-being of employees' safety. Connect your team to real people, ensuring industry-leading live monitoring accompanies your workers wherever they operate.

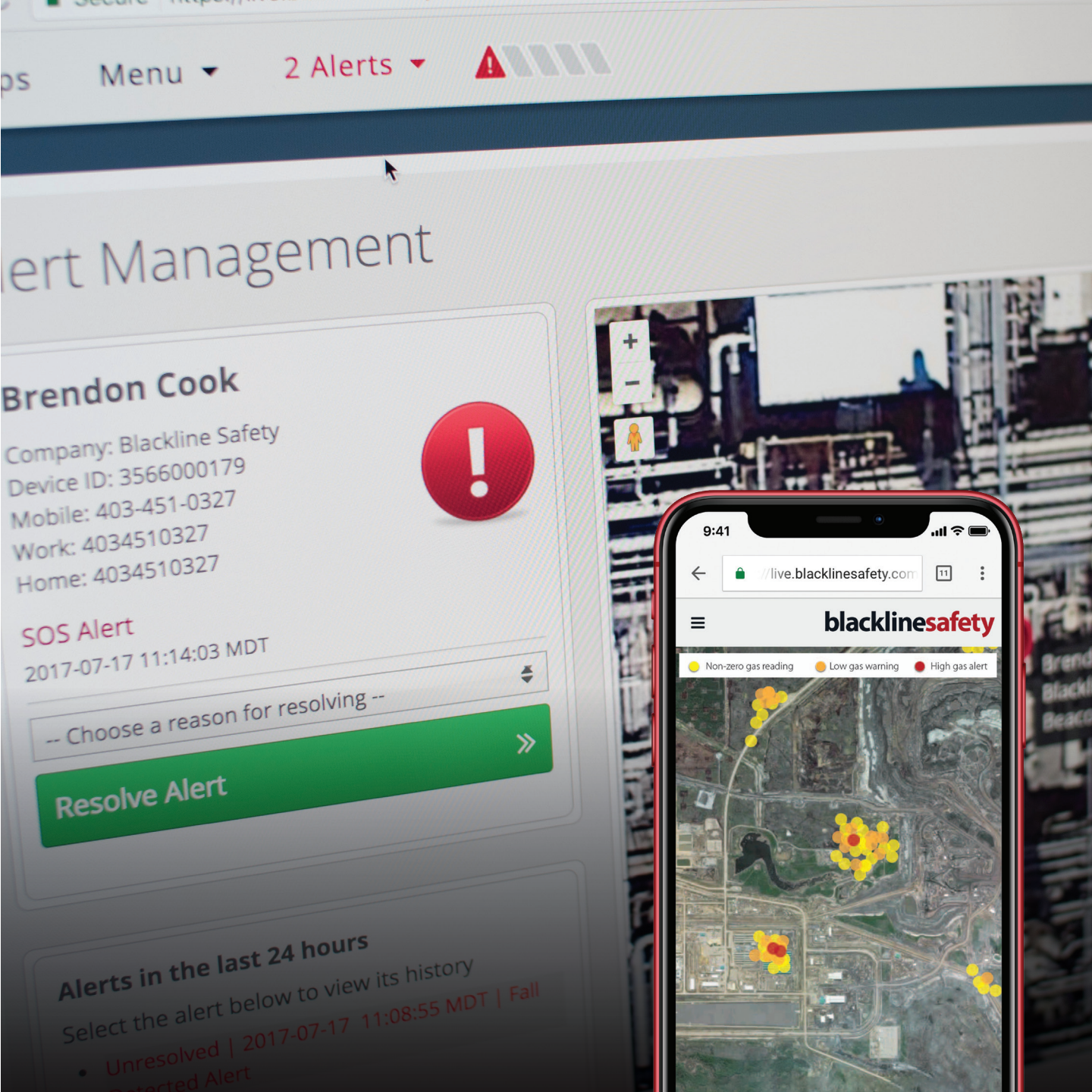
03

Visibility

Visualize the Data to Keep Your Team Safe.

Blackline Live, our safety and productivity software platform, allows you to protect your workforce and have in-depth visibility into their well-being and surroundings in real-time. Having uncompromised awareness into every situation, from normal routines to when an incident occurs, allows you make the best decisions and take appropriate action. And a large part of dealing with incidents, is preventing them from happening in the first place.

With data analytics, Blackline has you covered there, too. When a worker is checking a well site, transporting finished product or performing regular maintenance and repairs, you'll have historical data to help you anticipate and identify potentially dangerous situations so that changes in safety measures can be taken to further protect workers in the future.


Menu
2 Alerts
ert Management
Brendon Cook
Company: Blackline Safety
Device ID: 3566000179
Mobile: 403-451-0327
Work: 4034510327
Home: 4034510327
SOS Alert
2017-07-17 11:14:03 MDT
-- Choose a reason for resolving --
Resolve Alert
Alerts in the last 24 hours
Select the alert below to view its history
Unresolved | 2017-07-17 11:08:55 MDT | Fall
9:41
live.blacklinesafety.com
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Non-zero gas reading
Low gas warning
High gas alert

G7
EXO
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0.0
H2S ppm
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CO ppm
20.9
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G7c
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04

Reliability and Durability

Durable. Reliable. Versatile. Unmatchable.

Whether it's the harsh environment of a refinery, a confined space entry or an extended job in the extreme cold, the last thing you need to worry about is your equipment. With Blackline, you get the most rugged, reliable and durable safety products on the market that perform brilliantly in extreme 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.

With 100-day battery life and rugged design, the G7 EXO can outlast any project and stand up to any environment. Going to be on a drill site for three weeks or longer? Need to have extended access to a confined space and don't want to re-permit multiple times? G7 EXO won't need a battery replacement– it's an area monitor with built-in cost and time savings. 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.

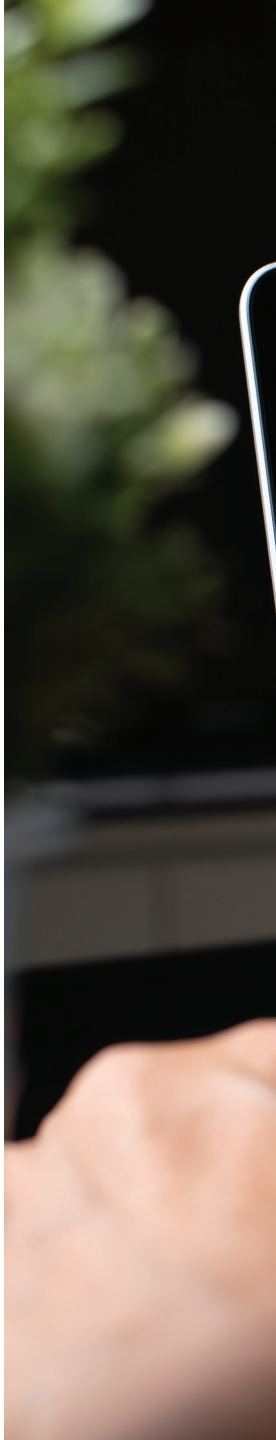
While G7 wearables lead the way for connected single-gas to five-gas detectors with or without pump, they are so much more than that - taking worker safety to the next level. With extensive man down safety features including fall detection, missed check-in alarms, an S.O.S. latch to call for immediate assistance and no-motion detection, G7 has your worker's back in potentially risky workplace situations beyond just gas detection. Add in two-way communications and push-to-talk functionality (similar to a walkie talkie but with unlimited range), your workers and their safety are always taken care of. Add in pre-calibrated sensor cartridges and other options to G7's versatility and you've got a customizable solution that enhances safety and productivity.

05

Safety Beyond Compliance.

With Blackline's connected safety solutions, you can stay ahead of the curve when ensuring the safety and efficiency of your entire worksite. Blackline's data allows you to review gas exposure reports, analyze heat maps of hazardous incident locations and see compliance trends over time. Unsure of the current bump and calibration status of every device in the field for your entire operation? Blackline Live gives you real-time visibility into the current status of every connected device so you can take steps to ensure the safety of every worker.

With connected wearables that deliver data analytics for real-time compliance, you'll have full confidence that you're not only compliant, you're proactively working to improve the safety of your team.



blacklinesafety | Power BI
Alerts Report - Demo
Pages
Export
Share
Subscribe
Comments
Favorite
Alerts Report
Median Delivery Time (Seconds)
33
Median Acknowledgement Time (Seconds)
7
Median Resolution Time (Seconds)
214
Reset page
Alerts location
Alert Type Fall Detected Alert High Gas Alert Message Alert Missed Check-in Alert No Motion Alert
Goldsmith
Kermit
Wink
Mentone
Monahans
Pyote
Pecos
Bing
Number of alerts
Alert Type Fall Detected ... High Gas Alert Message Alert Missed Chec... No Motion ...
40
20
0
8
14
13
7
9
7
11
14
R & D
Project
Production
Operations
Demo Corporation
Date
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4/13/2018
Organization
All
Group
All
Assigned User
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Device ID
All
Alert Type
Multiple selections
Resolution Reason
All
Number of alerts by type
No Motion Al... 7
High Gas ... 34
Misse... 19
96
Message Alert 34
Number of resolutions by reason
False alert (w... 25
System test 34
96
Incident (without ... 33
Individual alert processing time
Alert Deliv...
Alert Ackn...
Alert Resol...
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Alert
Average Alerts Processing Time by Date
Average of Alert D...
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2018 Qtr 2
April
Number of alerts by date
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April
Qtr 2
2018

06

Application

The Comprehensive Ecosystem That's There When You Need It.

07

Turnarounds and Shutdowns.

At one time or another, oil and gas facilities around the world need to take assets and processes offline and suspend production for scheduled maintenance, repairs, cleaning or unexpected equipment failures. Whether it's a planned turnaround, shutdown or an unforeseen outage, there are many challenges these short-term operations face. This includes having visibility into workplace productivity and safety for regular employees but also contract workers that are less familiar with the facility and standard safety procedures. Blackline Vision can help minimize lost revenue and avoid safety incidents.

blacklinevision

Blackline Vision takes the data already being collected from your G7 connected devices and utilizes data science processes and algorithms to dig deep into that data to uncover opportunities to increase operational efficiency and productivity during a turnaround or shutdown. This can save hours or days of work required during a turnaround which, in turn, gets assets back online faster — adding potentially millions in revenue that otherwise would have been lost.

The flexibility to buy, lease or rent G7s gives added options for Operations Managers, Safety Managers and contractors to acquire products, as needed, depending on both the short- or long-term requirements. For turnarounds in particular, the ability to rent for only the days the devices are used is a smart, cost saving measure that can positively impact your bottom line.

08

Evacuation and Incident Management.

During an evacuation, speed and visibility are vital to the safety of you team. With G7, you have complete awareness and mass notification ability to direct teams and individuals to the nearest muster point. Push-to-talk functionality provides constant communication between on-site workers, while Blackline Live provides real-time visibility, including gas readings, team wellbeing and other information to gauge the emergency response.

Take advantage of real-time relevant communications and post evacuation assessment tools to find faster routes to ensure everyone finds safety as fast as possible. Plus, since you'll be able to see the real-time location of each connected worker, you can eliminate timely and inaccurate headcounts while also seeing the exact location of a worker if they can't make it out and need assistance – making sure no one gets left behind. These factors combined can save hundreds of thousands of dollars each year during drills and real evacuations. You never want to experience evacuations, but when you do, you'll want Blackline by your side.

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09

G7 Product Features At-A-Glance

Gas	Sensor type	Range	Resolution
Ammonia (NH_3)	Electrochemical	0–100 ppm	0.1 ppm
High-range ammonia (NH_3)	Electrochemical	0–500 ppm	1 ppm
Carbon monoxide (CO)	Electrochemical	0–500 ppm	1 ppm
High-range carbon monoxide (CO)	Electrochemical	0–2000 ppm	5 ppm
Hydrogen resistant carbon monoxide (CO-H)	Electrochemical	0–500 ppm	1 ppm
Carbon dioxide (CO_2)	NDIR	0–50,000 ppm	50 ppm
Chlorine (Cl_2)	Electrochemical	0–20 ppm	0.1 ppm
Chlorine dioxide (ClO_2)	Electrochemical	0-2 ppm	0.01 ppm
COSH	Electrochemical	0–500 ppm CO, 0–100 ppm H_2S	1 ppm CO, 0.1 ppm H_2S
Hydrogen cyanide (HCN)	Electrochemical	0–30 ppm	0.1 ppm
Hydrogen sulfide (H_2S)	Electrochemical	0–100 ppm	0.1 ppm
High-range hydrogen sulfide (H_2S)	Electrochemical	0-500 ppm	0.5 ppm
LEL-infrared (LEL-IR)	NDIR	0–100% LEL	1% LEL
LEL-MPS™	Molecular property spectrometer™	0–100% LEL	0.1% LEL
Nitrogen dioxide (NO_2)	Electrochemical	0–50 ppm	0.1 ppm
Oxygen (O_2)	Pumped electrochemical	0–25% vol	0.1% vol
Ozone (O_3)	Electrochemical	0-1 ppm	0.01 ppm
Photoionization (PID)	PID	0–4,000 ppm	0.1 ppm (0–100 ppm), 2 ppm (100–4,000 ppm)
Sulfur dioxide (SO_2)	Electrochemical	0–100 ppm	0.1 ppm

Standard G7 Safety Alert Features

Fall detection and No-motion detection: Tri-axis accelerometer, tri-axis gyro, software processing, configurable sensitivity, configurable time for no-motion
SOS latch: Pull latch to trigger SOS alert
Silent SOS: Press and hold latch to trigger SOS alert
Low-battery: Configurable threshold
Worker check-in: Configurable timer (30 – 180 min, or off), automatic check-in when driving

Additional Gas Cartridge Features

Under limit
Over limit
Time-weighted average (TWA)
Short-term exposure limit (STEL)
High gas alert
Low gas alert
Bump test and calibration notification
Bump test and calibration failure

Size & Weight

G7 with Standard Cartridge
Size: 64 mm x 124 mm x 29 mm (2.52" x 4.88" x 1.06")
Weight: 162 g (5.7 oz)

G7 with Single-gas Cartridge
Size: 64 mm x 128 mm x 29 mm (2.52" x 5.04" x 1.06")
Weight: 167 g (5.9 oz)

G7 with Multi-gas diffusion Cartridge
Size: 66 mm x 150 mm x 29 mm (2.52" x 5.91" x 1.06")
Weight: 192 g (6.8 oz)

G7 with Multi-gas pump Cartridge
Size: 66 mm x 151 mm x 38.5 mm (2.6" x 5.95" x 1.52")
Weight: 238 g (8.4 oz)

Blackline Live Web Application

Cloud-hosted safety monitoring web application is highly customizable for every customer requirement. Includes live map, employee address book, user roles, alert management, device configurations, alert setups and reporting.

Wireless Updates

Device configuration changes: Yes
Device firmware upgrade over-the-air (FOTA): Yes

User Interface

168 by 144 pixel graphical, high contrast, liquid crystal display with front lighting, menu system driven by three-button keypad, power button (on/off), check-in button (check-in/silent SOS), SOS latch (send emergency alert)
Multi-language support: Yes, EN, FR, ES, DE, IT, NL, PT

User Notification

Green SureSafe® light: Blinking (powered), continuous (connected)
Yellow top and front lights: Yellow pending alarm and yellow warning alarm
Red top and front lights: Red alert communicated
Blue LiveResponse™ top and front lights: Confirmation that a monitoring team has acknowledged the alert
Alarm Indicators: Speaker, LED lights and vibration motor
Speaker sound pressure level: ~95 dB @ 30 cm (~95 dB @ 11.8")
Voice calling: Speakerphone and phone modes (G7c model only)

G7c Wireless Radio

Wireless coverage: 100 countries, 200 wireless carriers North America: 2G/3G radio, GSM 850 MHz, PCS 1900 MHz, 3G UMTS bands 2, 5 and 6
International: 2G/3G radio, E-GSM 900 MHz, DSC 1800 MHz, 3G UMTS bands 1 and 8
Antenna: Internal regionally optimized

G7x Wireless Radio

Works with G7 Bridge satellite base station
Radio: 902.0 – 928.0 MHz, 1 Watt
AS/NZ Radio: 915.0-928.0 MHz
Antenna: Internal
Radio link range: 2 km (1.25 mi)

Location Technology

GPS Radio: 48-channel high sensitivity
Assisted-GPS: Yes (G7c model only)
GPS Accuracy: ~5 m (16 ft) Outdoors
Indoor location technology: Blackline Safety location beacons
Location update frequency: G7c 5 min, G7x 15 min defaults

Power & Battery

Rechargeable Li-ion battery: 1100 mAh Li-ion
Battery Life: 18 hours at 20°C (68°F) under normal usage
Charge time: 4 hours

Environmental

Storage temperature: -30°C to 60°C (-22°F to 140°F)
Operating temperature: -20°C to 55°C (-4°F to 131°F)
Charging temperature: 0°C to 45°C (32°F to 113°F)
Ingress Protection: Designed to meet IP67

Approvals

G7c: SAR, RoHS, CE, RCM
Unit ID: 3567xxxxxx
FCC ID: XPY1CGM5NNN | IC ID: 8595A-1CGM5NNN
Contains FCC ID: XPY1CGM5NNN, IC: 8595A-1CGM5NNN
OR
Unit ID: 3566xxxxxx
Contains FCC ID: XPY1CGM5NNN, IC: 8595A-1CGM5NNN
Canada and USA: Class I Division 1 Gr A, B, C, D T4;
Class I Zone 0 AEx da ia IIC T4; Ex da ia IIC T4 Ga
IECEx: Ex da ia IIC T4 Ga
ATEX: Ex da ia IIC T4 Ga CE Ex II 1 G

G7x: SAR, RoHS, RCM
FCC ID: W77G7X | IC ID: 8255A-G7X
Canada and USA: Class I Division 1 Gr A, B, C, D T4;
Class I Zone 0 AEx da ia IIC T4; Ex da ia IIC T4 Ga
IECEx: Ex ib IIC T4 Gb

LEL: CSA C22.2 No. 152; ISA 12.13.01

Warranty

G7: two years limited warranty
Cartridges: lifetime with service plan
Blackline Complete: three year operating

09

G7 EXO
Product Features At-A-Glance

Gas	Sensor type	Range	Resolution
Ammonia (NH_3)	Electrochemical	0–100 ppm	0.1 ppm
High-range ammonia (NH_3)	Electrochemical	0–500 ppm	1 ppm
Carbon monoxide (CO)	Electrochemical	0–500 ppm	1 ppm
High-range carbon monoxide (CO)	Electrochemical	0–2000 ppm	5 ppm
Hydrogen resistant carbon monoxide (CO-H)	Electrochemical	0–500 ppm	1 ppm
Carbon dioxide (CO_2)	NDIR	0–50,000 ppm	50 ppm
Chlorine (Cl_2)	Electrochemical	0–20 ppm	0.1 ppm
Chlorine dioxide (ClO_2)	Electrochemical	0-2 ppm	0.01 ppm
COSH	Electrochemical	0–500 ppm CO, 0–100 ppm H_2S	1 ppm CO, 0.1 ppm H_2S
Hydrogen cyanide (HCN)	Electrochemical	0–30 ppm	0.1 ppm
Hydrogen sulfide (H_2S)	Electrochemical	0–100 ppm	0.1 ppm
High-range hydrogen sulfide (H_2S)	Electrochemical	0-500 ppm	0.5 ppm
LEL-MPS (LEL-M)	Molecular property spectrometer	0–100% LEL	0.1% LEL
Nitrogen Dioxide (NO_2)	Electrochemical	0-50 ppm	0.1 ppm
Oxygen (O_2)	Pumped electrochemical	0–25% vol	0.1% vol
Photoionization (PID)	PID	0–4,000 ppm	0.1 ppm (0–100 ppm), 2 ppm (100–4,000 ppm)
Sulfur dioxide (SO_2)	Electrochemical	0–100 ppm	0.1 ppm

Gas Detection Features

Under and over limit alerts
Time-weighted average (TWA)
Short-term exposure limit (STEL)
Low and high gas alerts
Bump test and calibration notification
Bump test and calibration failure

Size & Weight

Material: rugged housing built from aluminum, plastic and rubberized bumpers
Size: 385 mm x 188 mm x 220 mm (15.1" x 7.4" x 8.7")
Weight: 11.8 kg (26 lb)

User interface

Display: 480 by 640 pixel, eight-color active matrix liquid crystal display
Menu system: driven by three-button keypad,
Power button: on/off
SOS latch: send emergency alert
Multi-language support: (EN, FR, ES, DE, IT, NL, PT)

User notification

Green connectivity light: blinking (powered), continuous (connected)
360-degree visible yellow and red lights
Yellow light: pending and warning alarms
Red light: red alert communicated
Blue LiveResponse light: confirmation that a monitoring team has acknowledged the alert
Alarm sound pressure: ~110 dB @ 30 cm (11.8")
Two-way voice calling sound pressure: ~95 dB @ 30 cm (11.8")

Power & Battery

Rechargeable battery capacity: 144 Ah (LiFePO4)
Battery life in diffusion mode: 100 days at 20°C (68°F), LEL-IR, H2S, CO and O_2 config.
Battery life in pump mode: 30 days at 20°C (68°F), LEL-IR, H2S, CO and O_2 config.
Charge time: TBD
Intrinsically safe trickle-charging port: yes, supports G7 EXO continuous operation

Pump Module

Number of pump channels: four
Sampling period per channel: adjustable
Tubing length per channel: up to 30 m (100 ft)
Duty cycle: single-channel sample time, continuous; multi-channel sample time, configurable

Output Ports

Intrinsically safe, highly configurable external signal ports designed to integrate with external alarms and electrical systems.
Four pins per output port:
Pin 1: Voc=12v, Isc=100mA, Ca=1uF, La=4mH
Pin 2: Voc=8v, Isc=100mA, Ca=10uF, La=4mH
Pin 3: ground-side switch, IS requirements TBD
Pin 4: ground

Satellite Wireless Radio Module

User-upgradeable add-on: yes
Network: Iridium, global coverage
Antenna: pre-installed from factory

Cellular Wireless Radio

Coverage: 100+ countries and 200+ carriers
Europe: 2G/4G
North America: 3G/4G
Australia/New Zealand: 3G/4G
Antenna: regionally optimized

Wireless updates

Device configuration changes: yes
Device firmware upgrade OTA: yes

Location technology

GPS radio: 48-channel high sensitivity
Assisted-GPS: yes
GPS accuracy: ~5 m (16 ft) outdoors, open sky
Location beacon radio: yes, Blackline's proprietary location beacon technology and floor/site plans

Environmental

Storage temp.: -40°C to 60°C (-40°F to 140°F)
Operating temp.: -40°C to 55°C (-40°F to 131°F)
Charging temp.: 0°C to 45°C (32°F to 113°F)
Ingress protection: Designed to meet IP65

Approvals (targeted)

RoHS, CE, RCM
Canada & USA: Class I Division 1 Group A,B,C,D T4; Class I Zone 0 AEx da ia IIC T3; Ex da ia IIC T4 Ga
IECEx: Ex da ia IIC T4 Ga
ATEX: Ex da ia IIC T4 Ga
LEL: CSA C22.2 No.152; ISA 12.13.01

Accessories

Solar panel for continuous monitoring. Mounting options include wall, 1 ft tripod, 3 ft tripod, magnetic and rail/scaffold mounts

Gas Sensor Options

Ammonia, high-range ammonia, carbon dioxide, carbon monoxide, high-range carbon monoxide, chlorine, chlorine dioxide, COSH, hydrogen cyanide, hydrogen sulfide, high-range hydrogen sulfide, hydrogen-resistant carbon monoxide, LEL-infrared, LEL-pellistor, nitrogen dioxide, oxygen, ozone, photoionization detector, sulfur dioxide

Blackline Live Web Application

Cloud-hosted safety monitoring web application is highly customizable for every customer requirement. Includes live map, employee address book, user roles, alert management, device configurations, alert setups and reporting

Warranty

G7 EXO area monitor: three-year hardware warranty
Blackline Complete lease option: provides comprehensive warranty for full duration of the lease term

All specifications subject to change without notice.

FOR MORE INFORMATION, VISIT:
BlacklineSafety.com/oil-gas

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