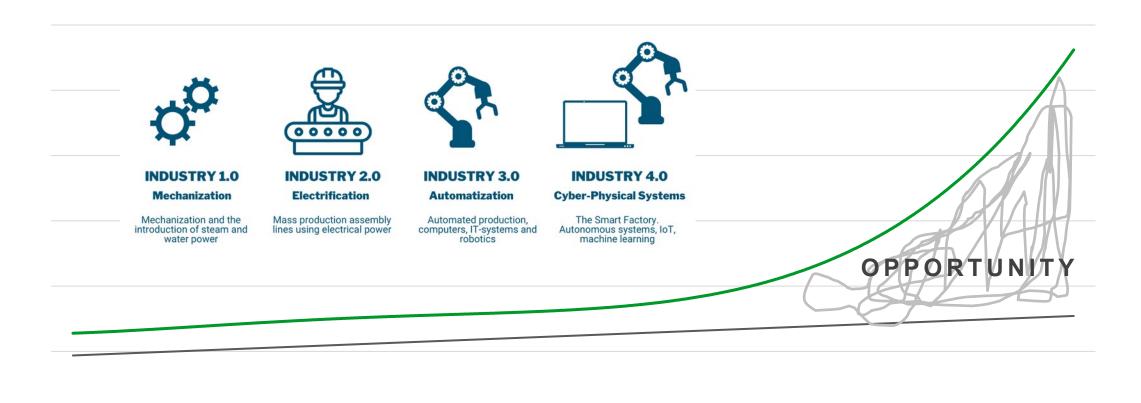




## TIMES ARE CHANGING QUICKLY



2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

POWERFUL, SEAMLESS TECHNOLOGY IS FINALLY HERE - CREATING MASSIVE OPPORTUNITY FOR SAFETY.



## 1910.1020/1926.33 - Access to employee exposure and medical records.

## 1910.1020(d)(1)(ii)

**Employee exposure records.** Each employee exposure record shall be preserved and maintained for at least thirty (30) years, except that:

## 1910.1020(d)(1)(ii)(A)

Background data to environmental (workplace) monitoring or measuring, such as laboratory reports and worksheets, need only be retained for one (1) year as long as the sampling results, the collection methodology (sampling plan), a description of the analytical and mathematical methods used, and a summary of other background data relevant to interpretation of the results obtained, are retained for at least thirty (30) years; and

## 1910.1020(d)(1)(ii)(B)

• Material safety data sheets and paragraph (c)(5)(iv) records concerning the identity of a substance or agent need not be retained for any specified period as long as some record of the identity (chemical name if known) of the substance or agent, where it was used, and when it was used is retained for at least thirty (30) years; 1 and

## 1910.1020(d)(1)(ii)(C)

 Biological monitoring results designated as exposure records by specific occupational safety and health standards shall be preserved and maintained as required by the specific standard.

## 1910.1020(d)(1)(iii)

Analyses using exposure or medical records. Each analysis using exposure or medial records shall be preserved and maintained for at least thirty (30) years.



## 1910.1020(e)(1)(i)

• Whenever an employee or designated representative requests access to a record, the employer shall assure that access is provided in a reasonable time, place, and manner. If the employer cannot reasonably provide access to the record within fifteen (15) working days, the employer shall within the fifteen (15) working days apprise the employee or designated representative requesting the record of the reason for the delay and the earliest date when the record can be made available.

1910.1020(e)(2)(i)

Employee exposure records.

1910.1020(e)(2)(i)(A)

• Except as limited by paragraph (f) of this section, each employer shall, upon request, assure the access to each employee and designated representative to employee exposure records relevant to the employee. For the purpose of this section, an exposure record relevant to the employee consists of:

1910.1020(e)(2)(i)(A)(1)

A record which measures or monitors the amount of a toxic substance or harmful physical agent to which the employee is or has been exposed;



## **Evolution of data retrieval**











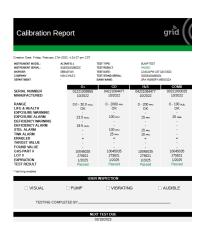




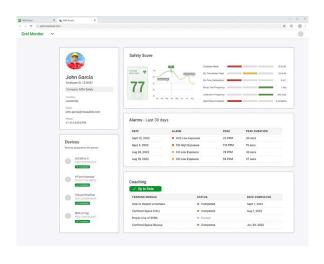




## SIMPLIFY & ENHANCING SAFETY







## Compliance

Compliance has been a necessity for a long time – but with antiquated technology, it can be a burdensome process that is more about keeping up, rather than getting ahead.

## **Monitoring**

Historically – monitoring has only been about local awareness. With today's technology, real-time visibility with ease is now a reality.

## Insights

With cloud-connected devices producing vast data sets transmitted instantly to the cloud – there is new opportunity to leverage this data and provide powerful insights that efficiently drive your safety program forward.

MAKE TODAY'S PROCESSES BETTER. ADD NEW LAYERS OF SAFETY. A SPIRIT OF CONTUNIOUS IMPROVEMENT.



## COMPLIANCE



#### **PERSONALIZATION**

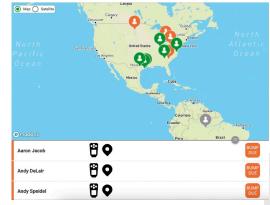
Simplify digital assignment to promote robust processes and tie your gas detection data to every worker – regardless of what device they use.



#### PEACE OF MIND COMPLIANCE

Make sure your workforce follows best practices without the need for additional labor or constant oversight.



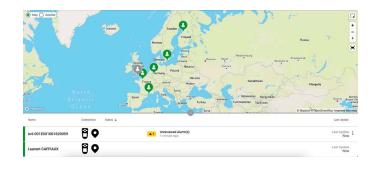


#### VISIBILITY. LOCAL OR REMOTE.

Understand worker compliance at your fingertips or at a glance.

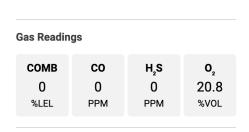


## MONITORING



## **FULL SAFETY VISIBILITY.**

Know where your workforce is. Know they're compliant. Know they're safe. It's all there in one single view.





### ASSESS A SITUATION.

Understand an incident and real-time to determine immediate action whether it's from central command or you're mobile.

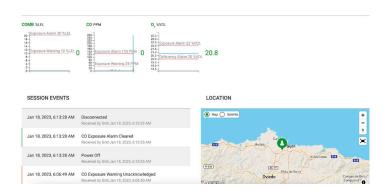


## ACT IMMEDIATELY.

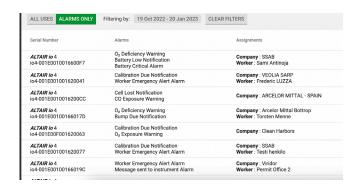
Respond quickly with situational awareness – whether it's advising an evacuation to workers in the area, sending a message or sending help.



## **INSIGHTS**

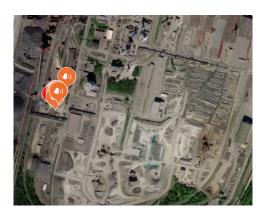


WHAT
Quickly understand what happened during an incident including location and exposure length & severity.



## WHO IT HAPPENED TO.

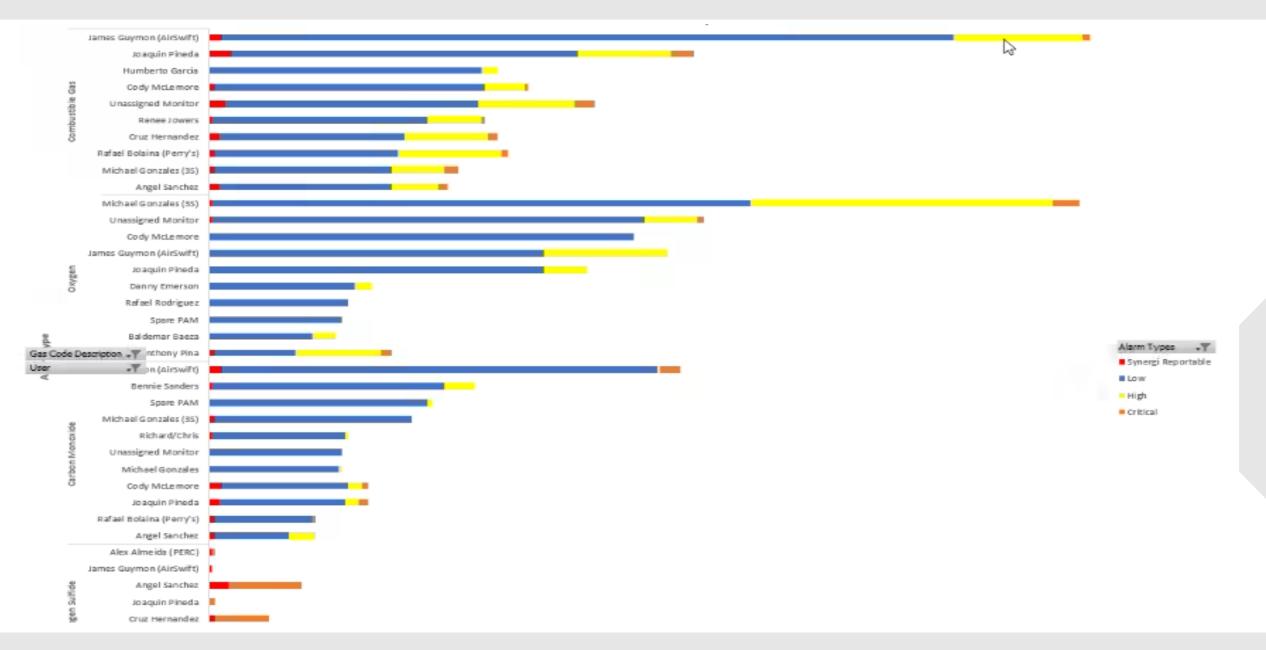
Know what happened to who and do it all seamlessly with digital personalization.



WHERE IT

Merkily problem are as or high-risk zones within a worksite or understand low-level or alarm-level exposures to take action proactively.

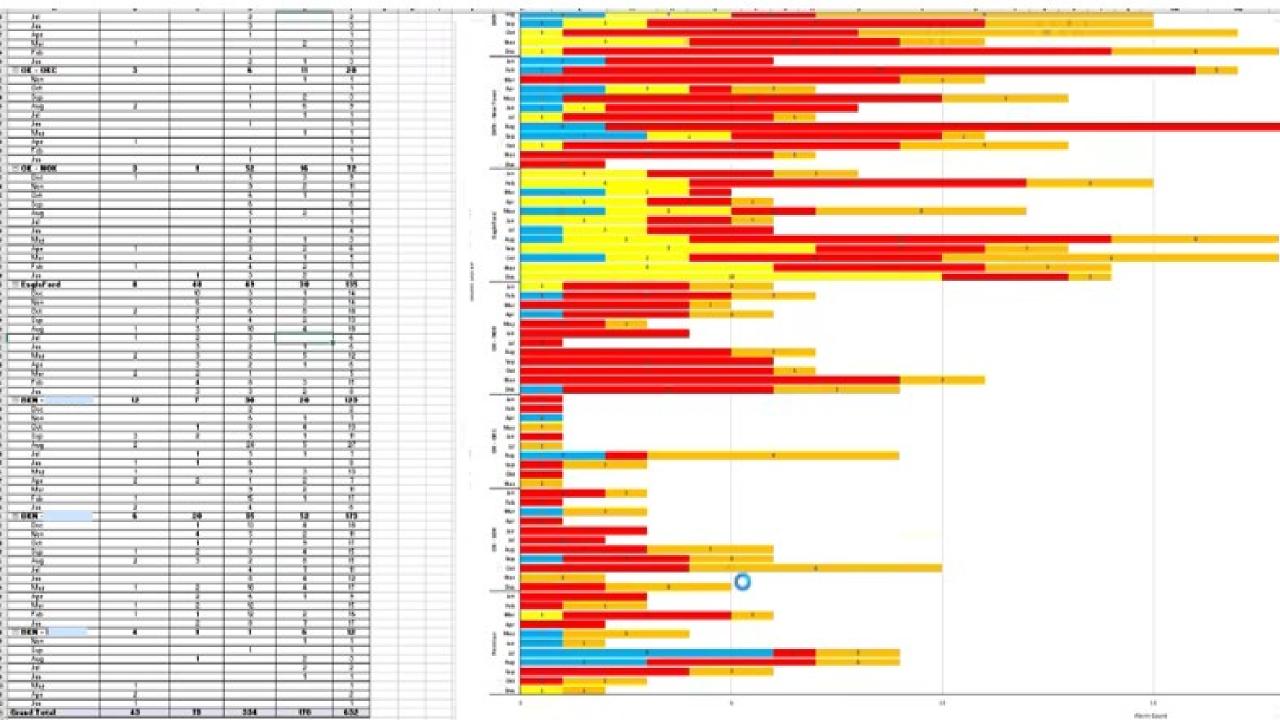


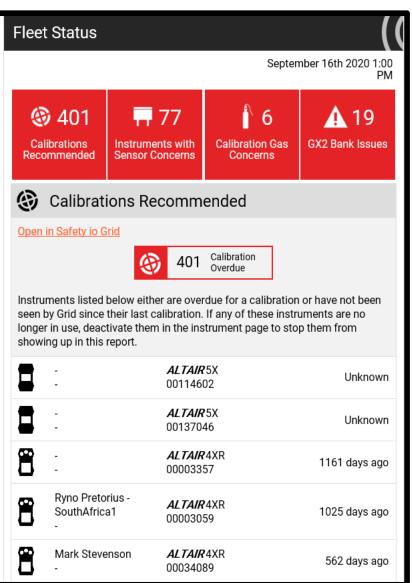


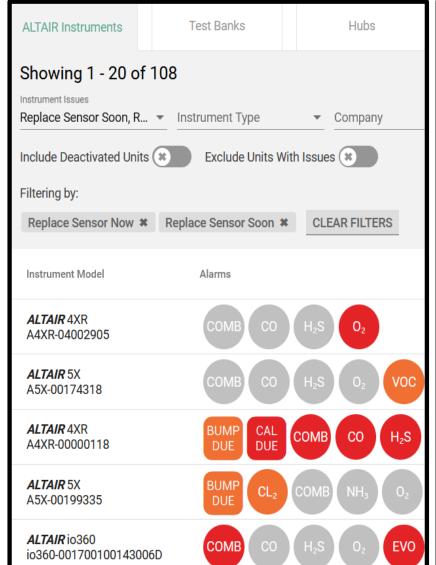


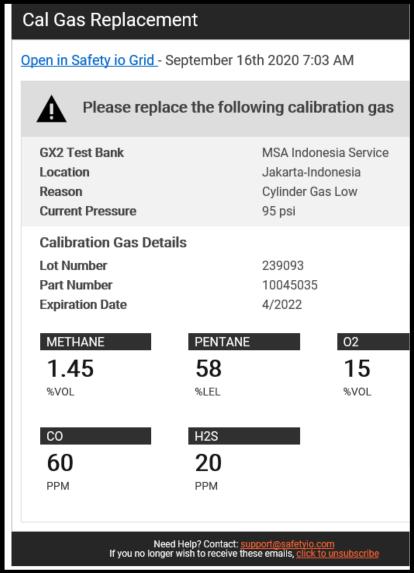
-	Similar Exposure Group (SEG) -	Equipment Group III	Datalog Recording Interval 10s	Datalog Peak Reading 77.00	Average Reading 72.00	Instrument Peak Reading 214.00	Units *	Duration (seconds) = 20	Instrument SN 1612388-002	Sensor SN 19081U9122#S0001	Account BKN - Dunn Cente	Upload Time 12/28/2022 9:31:54 A
	Mechanic.	MX4 PAM	105	100.00	92.00		%iel	20	1906127-024	22012/1282#50022	EagleFord.	12/27/2022 4.52.36 PI
	Operator	MX4 PAM	10s	431.00	214.30		ppm	30	200527A-031	20050AN011#S0001	OK - SOK	12/19/2022 8:02:02 Al
	Operator	MX4 PAM	10s	189.00	143.50	368.00	ppm	20	12114JA-040	21030ZT147#S0001	OK - NOK	12/29/2022 6:09:54 Al
	Operator	MX4 PAM	105	204.00	128.50		ppm	20	12114JA-040	21030ZT147#S0001	OK - NOK	12/29/2022 6:09:54 Al
	Mechanic	MX4 FAM			100.00		%iel	20		22040×1261+50022	SKN Dum Cente	
	Methanic	MX4 PAM			71.00		Siel	20		22022/1282#50022	EagleFord	
	Operator	MX4 FAM			91.30		Miel			22021/3442#50022	OK - NOK	12/29/2022 6:26:46 A
	Operator	MX4 PAM		0.00	0.00	26.50	ppm	21	15122T1-111	220323W258#S0002	Permian	12/19/2022 10:11:16 A
	Mechanic	MX4 PAM		0.00	0.00	34.40	ppm	25	190612T-024	21040UB119#S0002	EagleFord	12/27/2022 4:52:27 Pf
	Mechanic	MIK4 PAM		0.00	0.00	100.00	%(e)	44	13013VL-014	22032XB4U8#50022	BKN Dunn Cente	F 12/13/2022 11:16:08 A
	Operator	MX4 PAM	10s	169.00	169.00	461.00	ppm	10	17083WZ-277	20112JW217#S0001	Permian	1/4/2023 8:18:50 PM
	Workover	MX4 PAM		0.00	0.00	10.30	ppm	4	15112L1-282	22011X2414#S0002	BKN - Dunn Cente	r 12/12/2022 6:37:33 Al
6	Operator	MX4 FAM	10s	49.00	25,00	100.00	Siel	80	17070AW-009	21050NX165#50021	BKN Dunn Cente	12/23/2022 1:25.23 H
7	Facility/Engineering Specialist	MX4 PAM	10s	194.00	152.30	233.00	ppm	40	151224X-001	19082KD397#S0001	BKN - Dunn Cente	r 12/13/2022 7:15:56 Al
	Uperator	MX4 FAM	10s	100:00	93.70		Mici		1612375-007	22060NG051#50022	BKN Dunn Cente	12/23/2022 12:53:05 P
3	Operator	MX4 PAM	10s	18.90	19.10	15.30	%vol	20	15080EN-304	22033RF150#S0020	OK - NOK	12/8/2022 5:57:53 AN
	Operator	MX4 PAM			91.90		sici		1211200-045	22083UP198#50022	BKN - Dunn Cente	12/8/2022 5:52:44 AN
9	Operator	MX4 PAM					.blci		18102(L-01)	220211/3442#50022	OK - NOK	12/15/2022 3:37:23 Pt
2	Operator	MX4 FAM					7610 l		13015PA-090	21080L0340#50021	BKN Dunn Cente	12/6/2022 7:22:19 AN
	Operator	MA4 PAM	105				36101		1804127-001	21.011.42J#S0022	SKN Dunn Cente	r 12/5/2022 6:33:25 AN
5	Operator	MX4 PAM	105	100:00	89.30		Sidi	70	1612375-007	22060NG051#5002a	SKN Donn Cente	12/8/2022 5:40:40 At
1	Production	MX4 PAM		0.00	0.00	387.00	ppm	25	13013UZ-016	190840R264#S0001	OK - SOK	12/2/2022 5:47:48 AN
4	Operator	MX4 PAM		0.00	0.00	377.00	ppm	11	13100TT-040	190912Y475#S0001	OK - SOK	12/8/2022 6:40:27 AN
5	Operator	MA4 PAM	10s		67.80		Niel.		13021U5-022	20100AN240#50022	OK - NOK	12/8/2022 5:55:03 AN
9	Operator	MX4 PAM					biel	60	13021U5-022	20180AN240#50022	OK-NOK	12/8/2022 5:55:03 AN
7	Production	MX4 FAM			1.00.00				19080FH-125	22032EX239#50022	Permian	12/6/2022 8:20:25 PM
0	Operator	MX4 PAM	105	100.00	75.70		Siti	60	13021U5-022	20100AN240#50022	OK-NOK	11/30/2022 6:46:53 A
7.	Spare PAM	MX4 PAM		0.00	0.00	74.60	ppm	19	13030N0-021	19110SQ186#S0002	BKN - Dunn Cente	r 12/1/2022 4:30:30 PN
	Operator	MX4 PAM	10s	210.00	210.00		ppm	10	17083WZ-277	20112JW217#S0001	Permian	1/4/2023 8:07:22 PM
4	Operator	MK4 FAM	108	100.00	90.00		folel	20	140100X-208	22011X6478#50022	8KN - New Town	11/29/2022 7:16:07 A
3	Operator	MX4 PAM		0.00	0.00	527.00	ppm	65	130412F-001	2207143541#S0001	BKN - Dunn Cente	r 12/1/2022 10:47:02 Al
1	Operator	MX4 FAM	108	100.00	88.30		Siel	30	1705355-008	2012275254#30034	OK-SOK	11/28/2022 6:01:44 A
	Operator	MX4 PAM	106	100100	81.00		biel	70	17091LG-089	2208359100#50022	CK-NOK	11/21/2022 6:43:29 At
5	Operator	MIA PAM	108	100,00	74.30		Siel	60	17051LG-039	2208359100#50012	OK-NOK	11/21/2022 5:43:29 A
4	Operator	MX4 PAM	10s	117.00	117.00	211.00	ppm	10	15080EN-304	220333P362#S0001	OK - NOK	11/22/2022 6:11:09 AI
3	Measurement Technician	MX4 PAM		0.00	0.00	11.90	ppm	2	18041JZ-037	20012UT373#S0002	EagleFord	11/21/2022 12:37:19 P
	Sperator	MIXA PAM	105	100100	88,20		- Siel	150		21 U.H. 40F3002	But Dunn Lente	E 14/21/2012 10:04:52 A
	Operator	MX4 FAN	115	100100	SEAU.		Siel	120	1902105-022	2010UEN_40#5002	OK- NOK	11/24/2022 5:50:11 A
	Facility/Engineering Specialist	MX4 PAM	10s	133.00	100.30	242.00	ppm	30	18011R8-001	220333P412#S0001	OK - OKC	11/28/2022 7:13:19 Al
0	Operator	MX4 PAM		0.00	0.00	135.10	ppm	15	14120EA-011	22070ZH311#S0002	EagleFord	11/21/2022 8:24:32 Al
_	Unassigned Monitor	MX4 PAM		0.00	0.00	429.00	ppm	22	17034H1-001	17033AL371#S0001	BKN - Dickinson	11/19/2022 8:17:12 A
	Operator	MX4 PAM		0.00	0.00	605.00	ppm	16	13100TT-040	190912Y475#S0001	OK - SOK	11/14/2022 8:47:21 A
4	Workover	MX4 PAM		0.00	0.00	11.80	ppm	4	1511211-282	22011X2414#S0002		11/13/2022 11:21:44 A
	Operator	MXA PAM	108	100,00	7100		%lel	50	1511084-138	YTOPONG TO SHOOTST	8KN - New Yown	31/17/2021 6:53:55 A
	Facility/Engineering Specialist	MX4 PAM	10s	308.00	148.80		ppm	40	14122XC-004	2103228129#50001	OK - SOK	11/14/2022 9:56:59 AI
	HES	MX4 PAM	10s	167.00	128.30	319.00	ppm	30	12103SM-015	2102101336#50001	Permian	11/12/2022 1:20:20 Pf
	Operator	MXA PAM	108	100100	94.20		Siz!	130	180412F-001	21.0111420#50022	BuN - Dunn Cente	11/17/2022 6:57.11 A
	IRE	MX4 PAN	106	100.00	97.80		(Sile)	90	1510343-019	2103010370#50012	BKN - New Town	11/14/2022 9:44 11 A
	I&E	MX4 PAM	10s	100.00	90.50	254.00	ppm	20	180522T-004	21030ZT296#S0001	EagleFord	11/21/2022 8:40:50 AI
	Operator	MX4 PAM		0.00	0.00	248.00	ppm	8	12114JA-040	21030ZT147#S0001	OK - NOK	11/10/2022 6:09:04 AI
	Operator	MY4 PAM	10s	640 NO	337 30		nom	30	1709455-007	21040110262#\$0001	BKN - New Town	11/7/2022 7:25:22 AL

Business Units	(Multiple Items) -T	r									
Area / Personal Alarm	Personal (PAM) J										
Years	(All)										
				25							
	Count of H2S (ppm)	Count of CO (ppm)	Count of O2 (%)	Count of Combustible Gas (LEL) (%)	<b>Total Alarm Count</b>						
Inspecting / Walking by Tanks or Equipment				1	1				Top 12 Task	/Alarm Sou	urce - Bakken
VRU				1	1						
Proving Meters		1			1						
Drilling Ops	1				1		Insufficient Da	ta 15	100	4	43
Exhaust (VRU)		1			1			.1%			
LDAR		1			1			,			
Dump Valve				1	1		Open Thief Hatch / LDAR / Gauge / Thieve / Kolor K	ut 11 11	2	23	
Maintenance Ops	1	1	1	1	1						
False Alarm			1		1						
Oil / Water Hauler	1				1		Exhau	st 8 11	g		
Blow / Bleed / Clean / Drain / Sight Glass / Vent Line	1	1		3	5						
Leak				5	5						
Exhaust (compressor)		6			6		Exhaust (compress	c) C C			
Exhaust	1	8	1	1	9		Exhaust (compress)	6 6			
Open Thief Hatch / LDAR / Gauge / Thieve / Kolor Kut	2	1	1	19	23						
Insufficient Data	4	15		24	43						
Grand Total	11	35	4	56	101		Le	ak 18 5			
								_			
							Blow / Bleed / Clean / Drain / Sight Glass / Vent Li	ne 18115			
								_			
-											
							Oil / Water Haul	er 11			
								•			
						41					
						o n	False Alar	m II			
						So	1 was roun				
						Task Description					
						A	16-1	100			
						8 N	Maintenance O	ps IIII			
							Dump Val	ve L			
								•			
							LD	AR 11			
1											



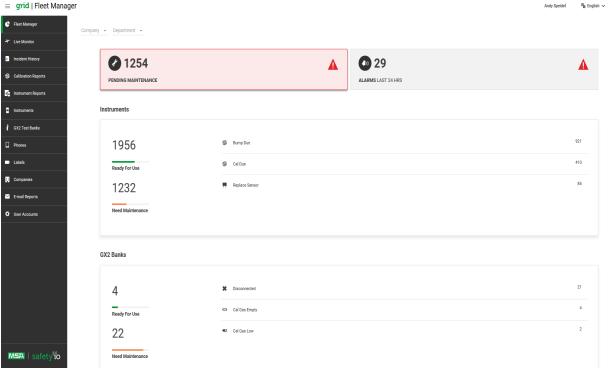


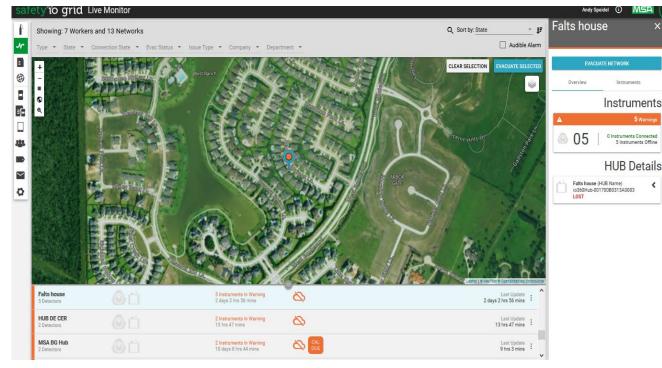






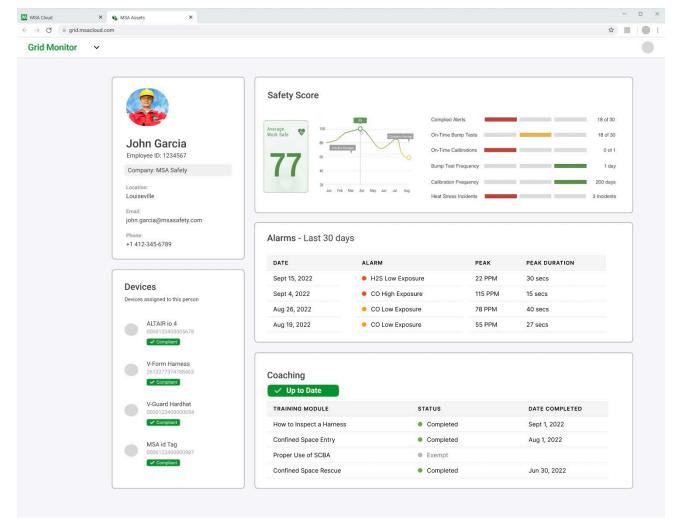
# MSA+







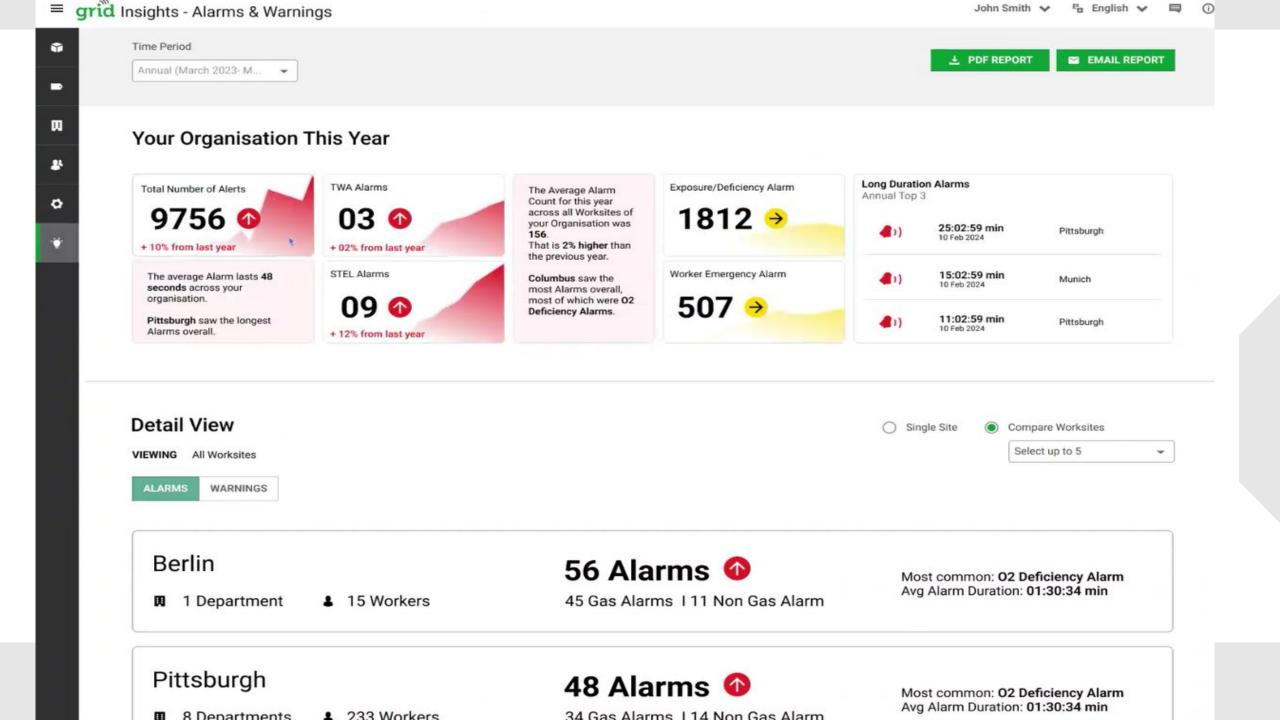
## WHERE THINGS GO FROM HERE

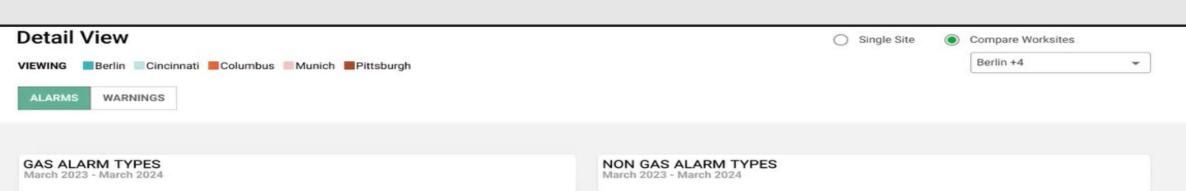


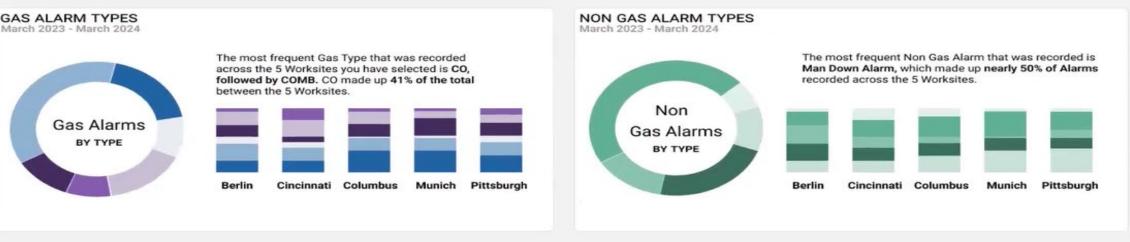
Compliance
Incidents
Safety Scores
Coaching

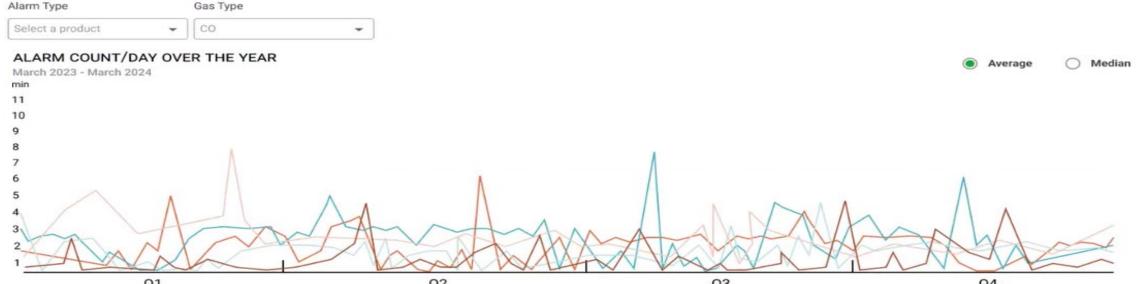
A full, and ever-evolving view of a worker's safety as more products are integrated into the ecosystem.

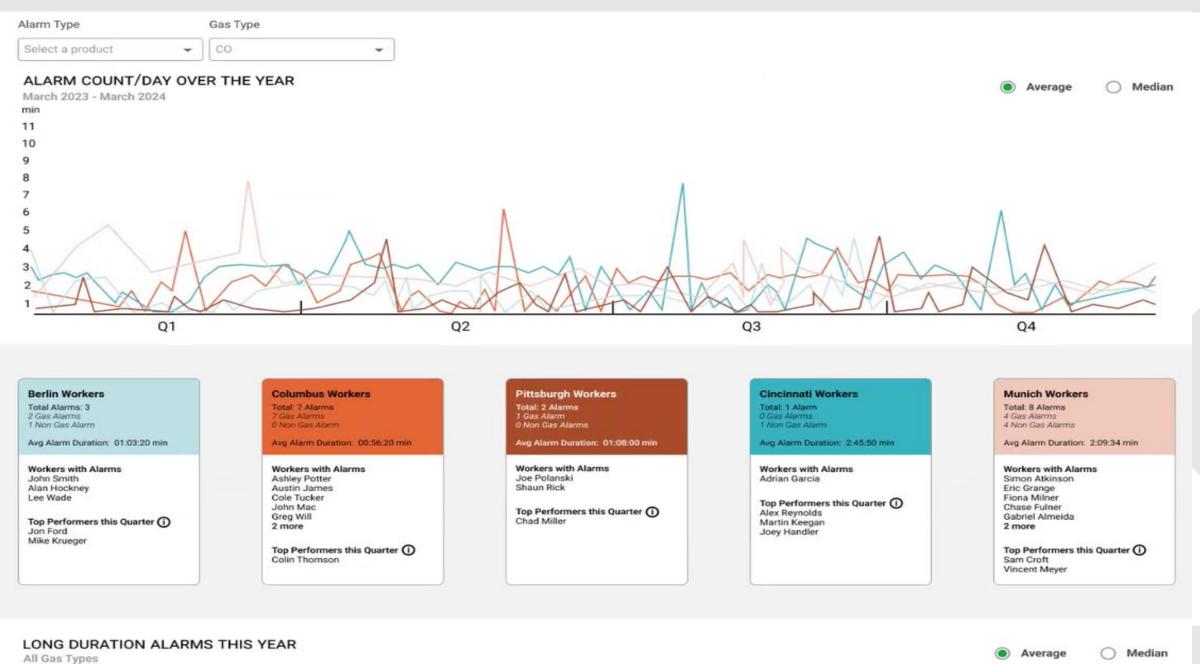












30 min

## 3 Lessons...

- Lesson 1: Data is only Data
- Lesson 2: Diversity in teams is key
- Lesson 3: Beware of the obvious answer





## Conclusion

"Data guides what we do, how we do it, and how we improve on it. Data also helps us engage in value-add opportunities with our stakeholders, finding ways to recognize and pass on savings to our organizations, seek methods to enhance product/service capabilities in the most efficient ways possible, and track down potential solutions that are innovative and out-of-the-box. When we take on projects, problems, or initiatives and base our confidence on our *data collection* abilities, however, we do ourselves, and our stakeholders a disservice. But when we see the "obvious answer" emerge from the data, then work as a team to present perspectives to challenge that assumption, that is when we have the best chance of success."

Quote by: Daniel Siegel





## Thank You

At MSA, we know what's at stake.

