

Future-Ready Pipeline Protection in One Integrated Platform

Maroš Mudrák,
Michal Miklášik

05.03.2026

HIMA Slovakia

HIMA

SMART
SAFETY.

#safetygoesdigital





A G E N D A

HIMA Group family-owned business in the 4th generation

Addressing Pipeline Management challenges

Pipeline Management & Control-more than leak detection...

Use cases under the Lens

Leak detection system in action

Key takeaways



Family-owned business in 4th generation



1908



Marine equipment

1929



JOHANNES HILDEBRANDT
HIMA name register
Mannheim

1936



Heavy industry

50s

1965



Chemical industry

60s



HIMA Malaysia

1993

since 1999



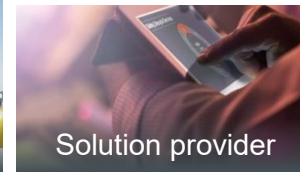
Pipelines

2007 Leak detection & location



Railway industry

2015



Solution provider

2016



Embedded

2018



Shareholder

2021



New Management



SELLA
CONTROLS

A HIMA Company

2023



origo
SOLUTIONS

A HIMA Company

2024

HIMA Group Today



Independent
**Family
Business**
in 4th Generation



> 1.100
Highly Qualified
Employees



Global Footprint
>20 Country Units with local
Sales, Engineering and
Services



Safety DNA
Technology Leader
Functional Safety



Protection of
**People, Assets
and our
Environment**



Product Quality
**Made in
Germany**



Customer Segments
**Process Industry
Rail Industry**



50,000 Systems
installed worldwide
(SIL 3 / SIL 4)

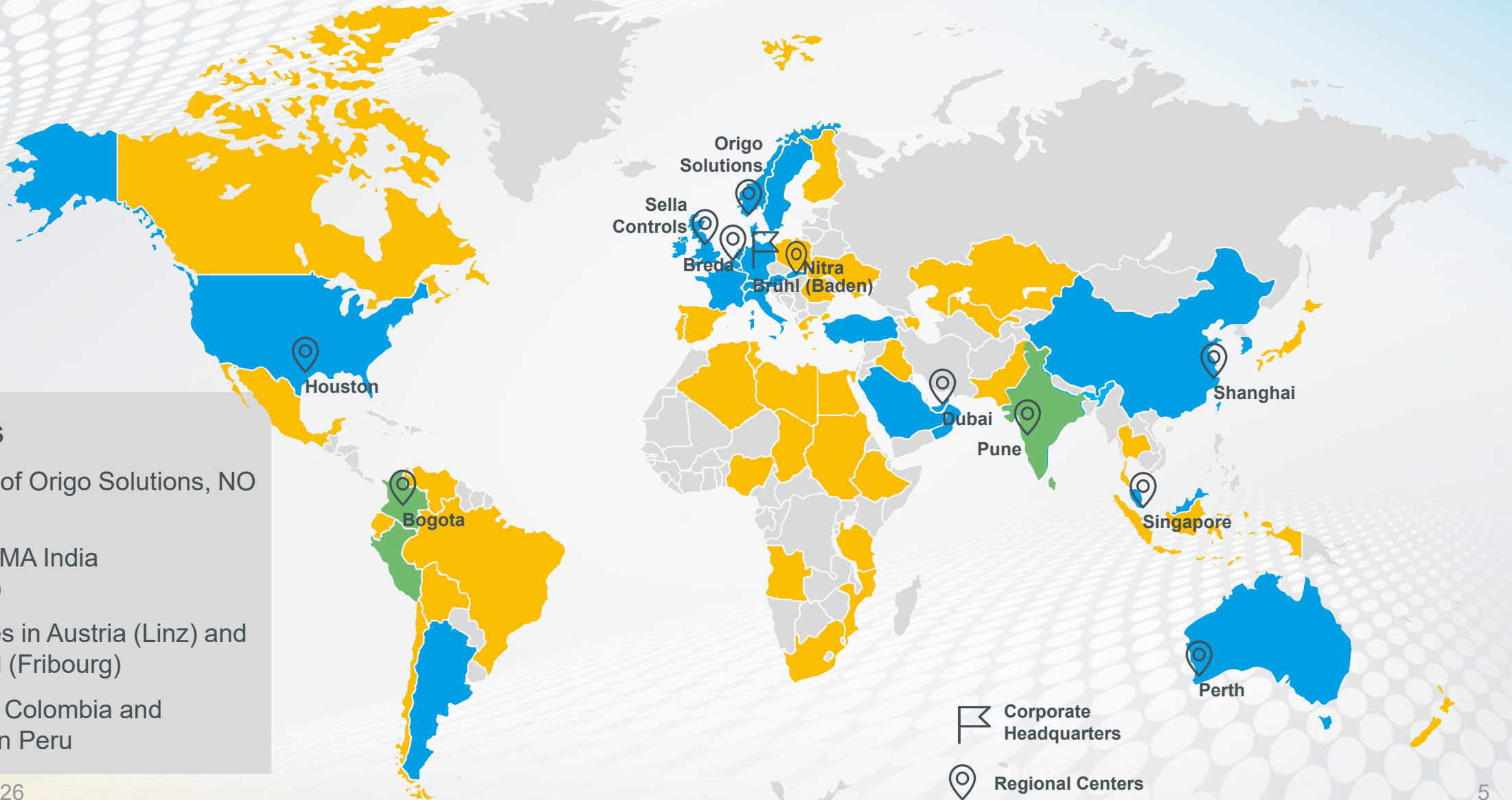


EUR 186.0 million
Turnover 2024
(incl. Origo Solutions)

Internationalization

HIMA Group Companies

Sales and Service Agents



Highlights

- Acquisition of Origo Solutions, NO (in 2024)
- Opening HIMA India (Nov. 2024)
- New: Offices in Austria (Linz) and Switzerland (Fribourg)
- New: HIMA Colombia and subsidiary in Peru

Addressing Pipeline Management challenges



What is the cost of undetected leak?



Source: Designed by [Freepik](#)



350m3 oil spilled



Clean up over 1 year



2,800 000 EUR



Business Reputation



Operational Safety & reliability



People, Property & Environment



Leaks



Business reputation



Insurance coverage

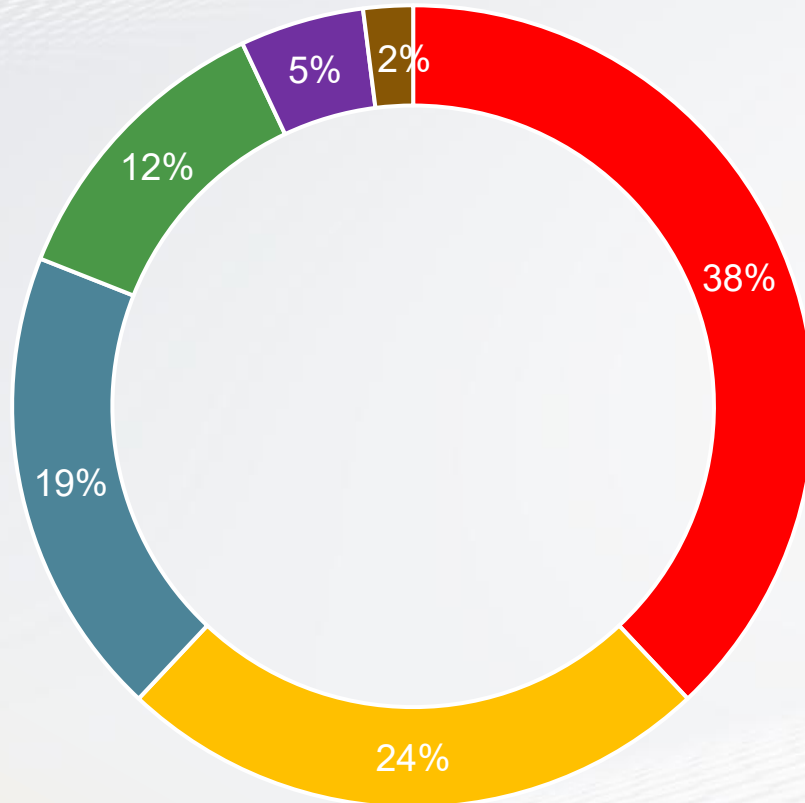


Product theft



Cybersecurity

Distribution of major spillage causes



- Theft 38%
- 3rd party ex. Thefts 24% (Construction, Agricultural, Underground construction)
- Mechanical 19% (Incorrect design& installation, faulty material, construction damage)
- Corrosion 12%
- Operational 5% (Instrument& Control Systems, Incorrect operation & maintenance)
- Natural 2% (landslides, flooding, earthquakes)

Source: Concawe Report 12/2020 „ Performance of European cross-country oil pipelines Statistical summary of reported spillages in 2018 and since 1971“

Pipeline Management & Control

More than leak detection...



Oil & Products



Gas



Chemical



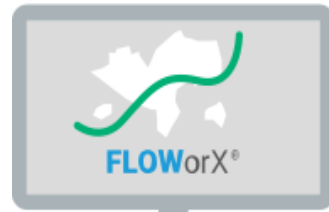
Water



Hydrogen

Pipeline Management & Control

SCADA



Accuracy down to 50m



Greenfield

Hybrid Solution



F P T

Secure Communication



Brownfield



saferethernet

ANY PLC



P T F



Sensitivity from 0,3% of flowrate



Leak detection & location



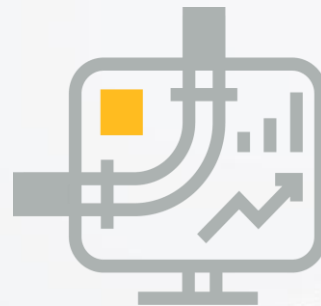
Leak reporting



Batch & Pig tracking



Batch scheduling



Hydraulic simulation



Service & Maintenance

Use cases under the lens



Why worry about thefts ?



Every year, it is estimated that \$133 billion worth of crude oil and refined products are **stolen or contaminated**

- Mexico** 2020: around 9,000 of fossil fuel theft were detected (the equivalent of one occurrence every hour)
- USA** Annual fuel theft in the country exceeds \$8 billion, including an estimated \$2.1 billion a year from vehicle
- Nigeria** country loses an average of 200,000 barrels of crude per day to oil thieves translating to \$7.3 billion in a year
- Europe** Sophisticated thefts geographically concentrated in South-Eastern Europe
- Philippines** Philippines loses US\$750 million annually in tax revenue due to adulterated fuel products entering its supply chain from smuggling



How to manage a complex 1,600 km pipeline network, from leak detection to identifying multiple product thefts?



Pain Points

- Product theft
- Business reputation & Economic costs
- Complete digital transformation of pipeline network incl. LDS
- Minimize false alarm rate

Overview

- >1600km multiproduct
- Greenfield project (SCADA, Instrumentation, Control system, LDS)
- Supply & Installation of SCADA & **FLOWorX**® LDS, Batch & pig tracking

Challenge

- Large data volume
- System fine tuning to minimize false alarms
- Hydraulic simulator System optimization

Customer Gains

- Cost savings: fast & accurate
LDS : 79 theft incidents in 1 year!
- People, Property & Environment protection
- Operational continuity
- Low false alarm rate



1 year 79 thefts 3260 m³



Consultancy in all stages



In House works

- Technical design
- FDS
- System counting
- Documentation
- Internal Testing

FAT, iFAT

- Factory acceptance test
- Integrated Factory acceptance test

On-site works

- Installation
- Pre commissioning & commissioning
- Data collection**
- Fine tuning**



SAT

- Site acceptance test

Service & Maintenance

- 24/7 remote online diagnostic
- Yearly upgrade

How to ensure operational safety and environmental protection in one of the world's most biodiverse regions?



Pain Points

- Environmental protection in one of the most biodiverse regions
- Sensitive and accurate LDS with minimal false alarms in remote & forested terrain
- Product theft

Overview

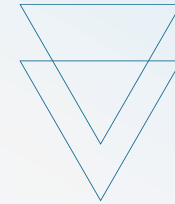
- 130km crude oil pipeline
- Greenfield project
- Supply, installation and commissioning of **FLOWorX**® leak detection & location system

Challenge

- High elevation profile up to 2600 meters above sea level impacting thermodynamic calculations
- High viscosity of heavy crude oils
- Multiple connection points

Customer Gains

- Accuracy down to 26 m in deep forest of Amazonia
- Business reputation
- Financial savings : avoiding costly clean ups and environmental penalties



Source: Designed by [Freepik](#)



Product theft localized with 26 m accuracy in deep forest of Amazonia



Safety System (ESD)

Safety system designed to provide uninterrupted operation throughout the entire life cycle of a plant or pipeline.



Leak Detection (LDS)

Software for leak detection and location.



Safety System (ESD)

Safety system designed to provide uninterrupted operation throughout the entire life cycle of a plant or pipeline.



Hybrid Solution



Leak Detection (LDS)

Software for leak detection and location.

How to achieve safe transport of hazardous chemicals using hybrid leak detection with Emergency shutdown?

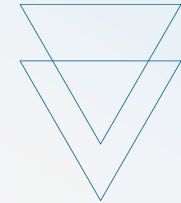


Pain Points

- Rapid leak detection and immediate response are critical
- Compliance with strict regulations for pipeline safety
- Highly hazardous chemical

Overview

- <1km hazardous chlorine gas pipeline
- Brownfield project
- Supply, installation and commissioning of hybrid LDS **FLOWorX**[®]



Challenge

- Adaptation of calculations due to unique chemical Properties
- Data Collection and Analysis Complexity
- Integration of LDS with SIL 3 Emergency Shutdown system(ESD)

Customer Gains

- Autonomous LDS+ESD system response (No human intervention required)
- People, Property & Environment Protection
- Secure communication



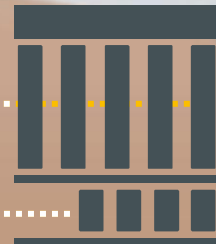
Automated emergency response



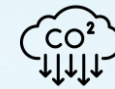
High Consequence Areas (HCAs)



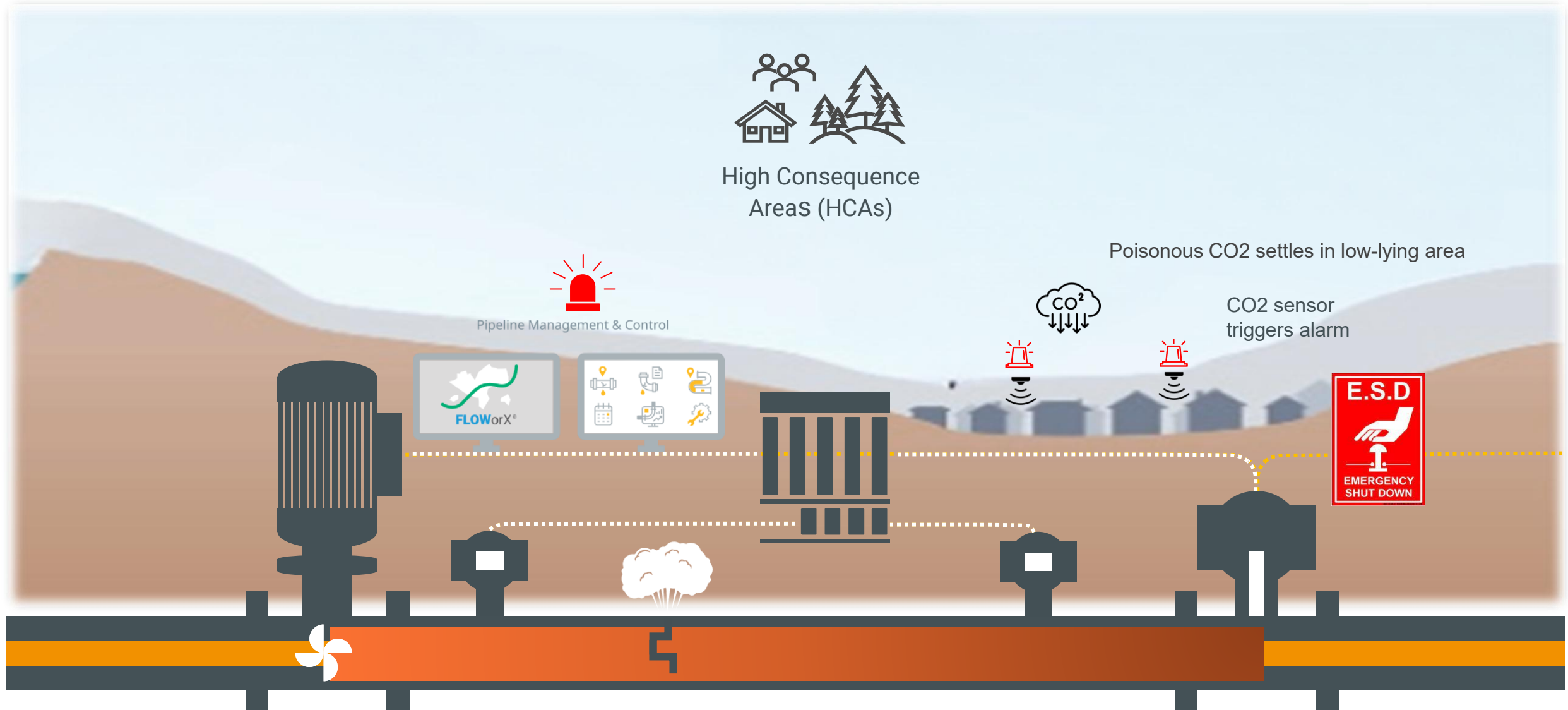
Pipeline Management & Control



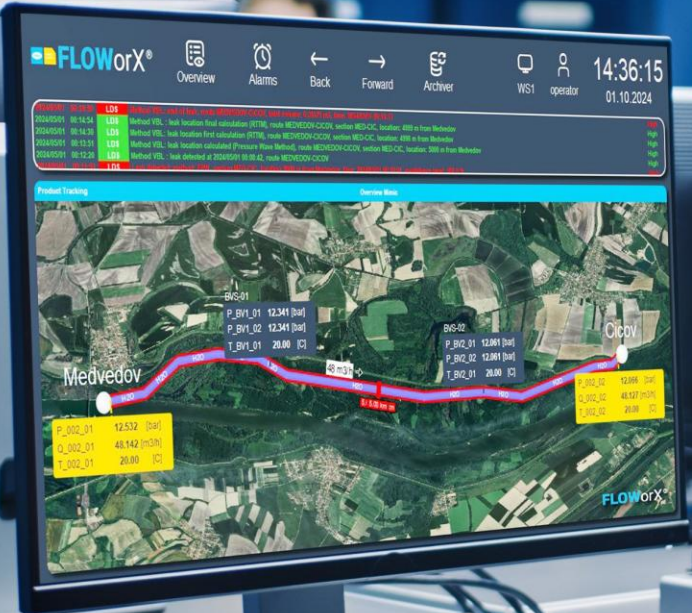
Poisonous CO2 settles in low-lying area



CO2 sensor triggers alarm



Leak detection in action



[Start Demo](#)

Your Takeaways



Effective leak detection requires a customized approach because every pipeline has unique characteristics that demand tailored solutions

Expectations



Compliance

- Strict regulations
- API 1130, 1149, 1160; 1175
- TRFL



Operational Excellence

- Sensitive, reliable, accurate & robust LDS
- Minimal false alarms

Our Solution



More than leak detection

- Lifecycle Management tool
- Simulator
- Batch & Pig Tracking
- Leak reporting



Service & Maintenance

- 24/7 remote online diagnostic
- Yearly upgrade

Leak detection is not operators' everyday business- trust the specialists!

Maroš Mudrák
Managing Director, HIMA Slovakia

Phone: +421 940 654 727
maros.mudrak@hima.com

Michal Miklášik
Project Manager, HIMA Slovakia

Phone: +421 908 428 176
michal.miklasik@hima.com

