

ABB MEASUREMENT & ANALYTICS

MobileGuard™

Natural gas leak detection system



Measurement made easy

**ABB Ability™ mobile gas leak
detection system**

**Detect, map and quantify leaks
quickly and easily**

Solve your leak detection challenges

Find the leak fast, no matter where it is

ABB's vehicle-based solution surveys 10 to 25 times more area per hour than traditional methods.

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01 Mobile leak detection system

Traditional leak detection processes do not meet today's demands for fast, accurate and transparent data. Storage and transport of flammable or dangerous gases pose risks to safety and the environment. The natural gas industry and utilities face increasing challenges with pipeline monitoring and compliance due to:

- Aging infrastructure
- Regulatory pressure to improve system integrity
- Desire to reduce greenhouse gas emissions
- Reliance on time consuming, error-prone, paper-based monitoring systems
- Pressure to reduce cost
- Need for data transparency

Current methods of finding leaks are slow, costly and often unreliable. ABB's solutions can quickly detect, find, and quantify leaks anywhere. ABB's natural gas leak detection system directly addresses all of these challenges:

- Local distribution system
- Survey mains and services
- Odor investigation
- Construction verification
- Post disaster evaluation
- Frost line evaluation

Advantages

- High reliability – measures both methane and ethane to eliminate false positives
- Save time – find leaks within 2 minutes after power on (competitive laser methods require 30 to 45 minutes to warm up and/or are far less sensitive)
- Less maintenance – unlike other laser methods, ABB's patented technology is robust and can be fully serviced anytime, anywhere, by anyone
- Lower operating cost
- Cybersecurity – ABB solutions are fully tested to meet stringent cybersecurity requirements
- Data integrity – customer owns and always controls the instrument and maintains full custody of all data
- Transparent – data available everywhere and immediately through cloud-based reporting



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01 Screen capture showing continuous detection, quantification, mapping and identification of leaks in real-time.

Fast, accurate, cost effective. The better vehicle-based survey solution.

The ABB Ability™ mobile gas leak detection system uses ABB's patented laser-based technique which is more than 1000 times more sensitive than older, less sensitive, legacy methods. This enables unambiguous identification of leaks several hundred feet from the source.

The ABB Ability™ mobile gas leak detection system consists of ABB's OA-ICOS™ methane/ethane analyzer, a GNSS system, a sonic anemometer and proprietary leak detection software that presents geospatial maps of all measured parameters in real-time.

The software's sophisticated leak detection algorithm combines the system's measurements of multiple gas concentrations (CH_4 , C_2H_6), local coordinates (GNSS) and local wind velocity (sonic anemometer) to estimate the leak's location and size.

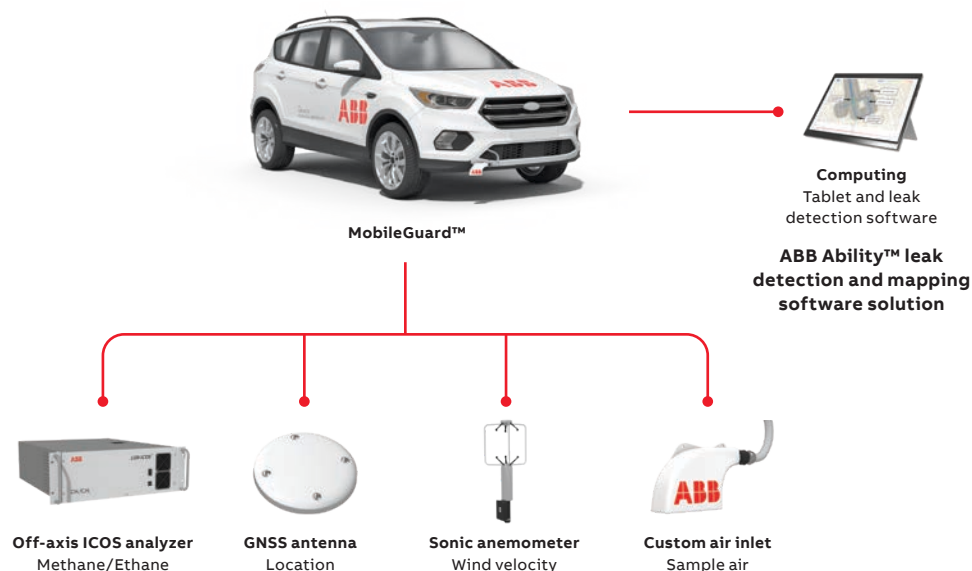
This reduces the time required to pinpoint and prioritize a leak, increasing safety and lowering emissions.

Readings are stored in the device and can be transmitted in real-time to the cloud for centralized monitoring.

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Did you know? ABB's advanced natural gas leak detection solutions provide customers with detailed, quantitative digital reports generated automatically without the need for human review, editing, or filtering. Our customers fully own and always control all data to ensure safety and integrity.



MobileGuard™ operates onboard vehicles to detect leaks while driving



MobileGuard™ technical specifications

Specification	Value	Notes
Precision, methane	2 ppb or 0.05% of reading	1 σ RMS in 1 sec
Air flow response rate (1/e)	2 Hz	Characteristic flow response
Data rate	2 Hz	1 data point every 0.5 seconds
Operational range, methane	0.01-10,000 ppm	High sensitivity and wide range
Power	180 W, 11-30 V DC	Runs on vehicle battery
Weight	26 kg	Analyzer
Dimensions	67 cm x 50 cm x 18 cm	With rackmount handles installed
Area classification	General purpose	
Operating temperature	-5 to 50 °C	
Securely shares data with cloud and MicroGuard™		
GPS/GNNS position accuracy	< 1 m	
Data display	Digital, map, satellite imagery	Rich user interface provides real-time data and geolocation
Digital report generation		Comprehensive report generated after each investigation automatically
Cyber secure		Independently tested and validated
Internet connectivity	3G/4G/LTE	

ABB Ability™ platform for natural gas leak detection

We provide a complete natural gas leak detection solution so you can focus on running your business.

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01 ABB's mobile gas leak
detection platform

ABB is at the forefront of providing innovative natural gas leak detection solutions. We use the powerful ABB Ability™ mobile leak detection technology and platform to provide a complete leak detection solution.

The ABB Ability™ platform is based on a common technology (patented OA-ICOS) and composed of:

- **MobileGuard™**: operation onboard vehicles to detect leaks while driving
- **HoverGuard™**: operation onboard UAV to detect leaks while flying
- **MicroGuard™**: operation while walking to pinpoint leak emission sources
- **EverGuard™**: operation at a stationary location for continuously monitoring high-risk areas

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Did you know? ABB's natural gas leak detection solutions must pass rigorous and thorough cybersecurity tests so that customers can use these products with confidence in their mission-critical applications.

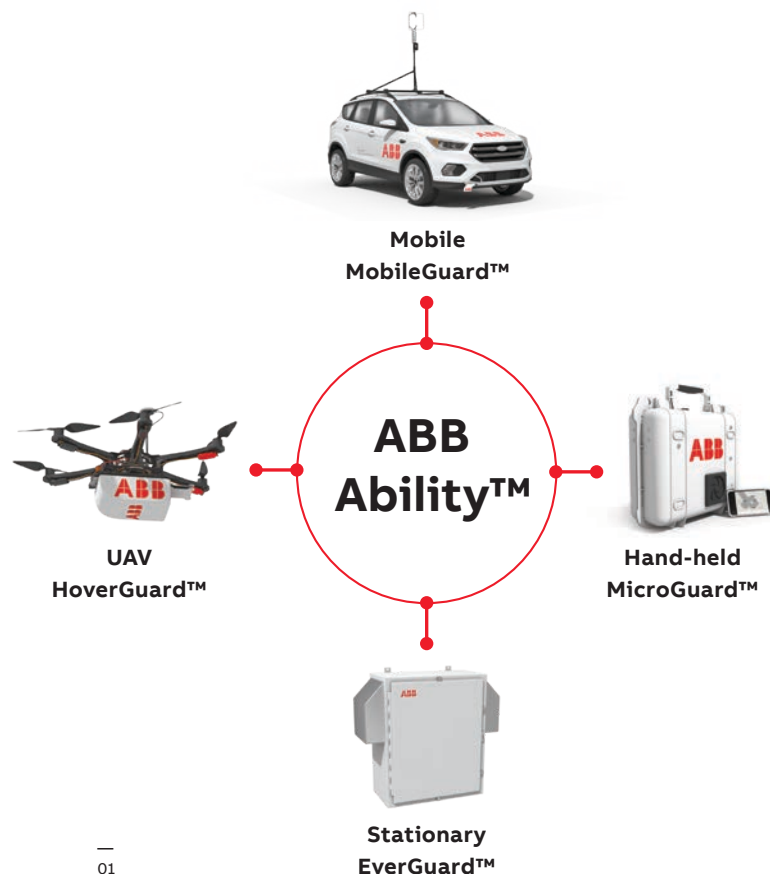


ABB Ability™ natural gas leak detection service

For the oil and gas industry

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01 Complete service solution

ABB is also implementing the ABB Ability™ gas leak detection service, a cost-effective solution with the ability to locate leaks more easily at lower costs, resulting in more efficient repair and lower overall emissions for the customer.

With the ABB leak detection service, you do not have to worry about training your staff on equipment, maintaining equipment, nor working with incomplete results. ABB's service solution reduces the amount of resources required and time to get accurate results.

Let ABB do the work

- To save you money, an ABB service engineer will conduct the site survey to search and find the source of leaks using a combination of our mobile technologies
- Annual and ad hoc agreements available
- Customer owns and has access to all data

We help our oil and gas customers achieve their goals with leak detection management, including improving site safety, meeting EPA and state-level regulations, and reducing production losses. Our ABB Service solution can be utilized at facilities of all sizes.

Typical survey assets include:

- Production-well pad
- Gathering pipelines
- Underground pipelines
- Compressor stations
- Above-ground tanks
- Processing plants
- Custom survey options available



*The ABB Ability™ natural gas leak detection service will be available in select countries. For more details, please contact your local ABB representative.

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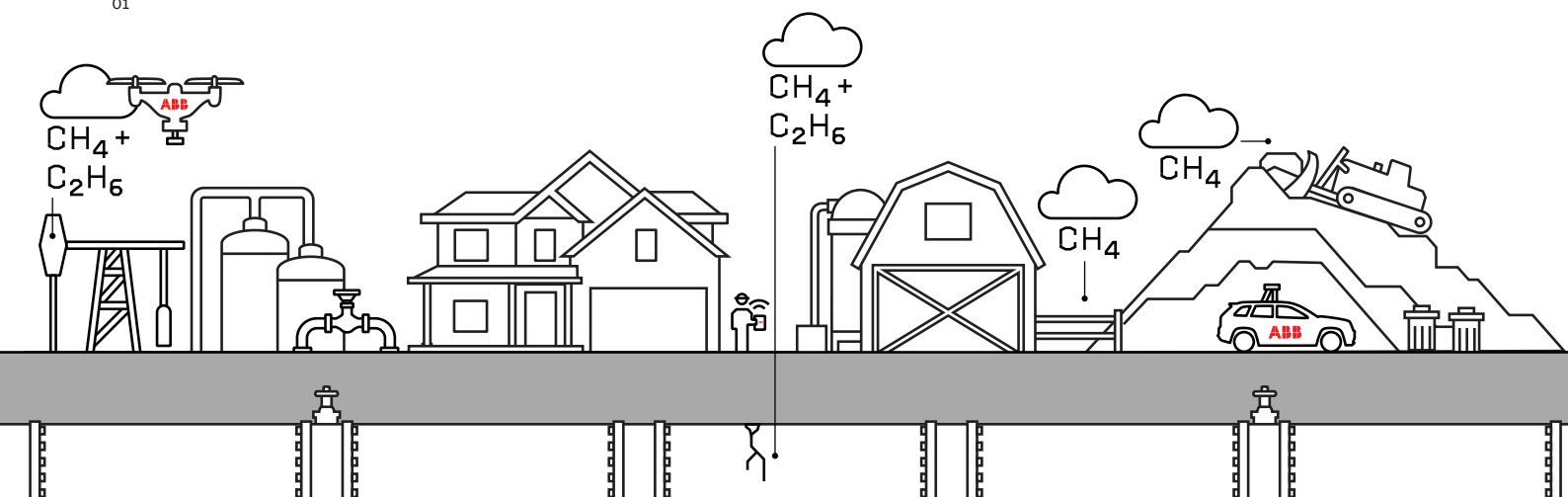




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