



| About Us

Comfort and Safety

Our most basic, fundamental human need is the need for comfort, as the state of satisfaction in terms of physical and mental needs and absence of worries. As humans, we constantly seek to increase it. However, as it turns out, the essence of the human nature is not so much ensuring comfort, but unceasingly striving to increase it. It is also unrelenting curiosity of the world, discovering and exploring it. By giving in to this temptation, as humans, we have created civilisation – science, industry, technology, culture...

Today, we live and work in the industrialised, intensively changing world. In the world, the development of which most often means construction of increasingly complex and sophisticated systems and technological installations, frequently the ones that process high amounts of energy, as well as dangerous, flammable or toxic substances.

As a result of various causes, for example failure of technological installations, someone's deliberate decision, unaware action, or just ignorance, those substances may be released to the environment, thus creating a hazard to people, property, or natural environment.

Aiming to ensure the sense of safety, apart from preventive measures, it is necessary to take actions that eliminate the threat immediately after it occurs.

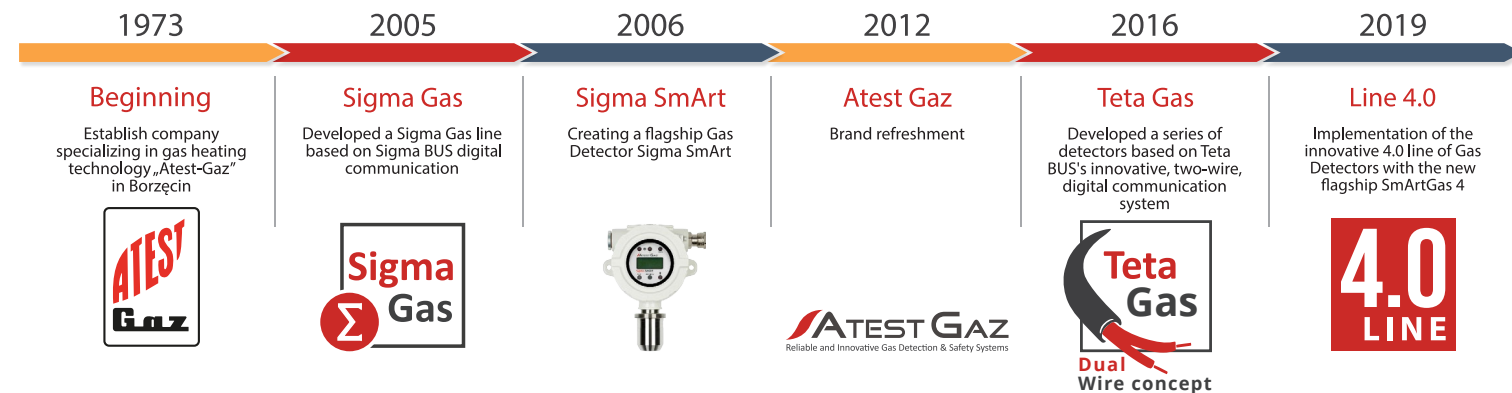
Therefore, it is necessary to monitor the presence of dangerous gas substances in the environment, and in case of their detection – taking appropriate actions in order to prevent losses or stop their increase.

History

Atest Gaz was established by Mr Zygmunt Pachole in Borzęcin, Poland in 1973, as a company specializing in gas heating technology.

In 1992, a branch of Atest Gaz called the Measurements and Automation Laboratory was created in Gliwice, Poland. The branch was managed by Aleksander (the son of Zygmunt Pachole) and his wife Małgorzata - current owners of the Company. The Laboratory dealt with electronic control and safety systems for heating equipment, but after the Company was transformed in 1996 to an independent entity called "Atest Gaz Automation and Electronics Lab", it began to specialise in the systems for detection of combustible and toxic gases. Since 2008, the Company has been operating as „general partnership” **Atest Gaz A. M. Pachole**.

From the beginning, the owners of Atest Gaz relied on knowledge, competence, high quality, innovation and investments in state-of-the-art technologies.



Who we are?

Atest Gaz is the **leading Polish producer** of innovative and reliable gas detection and safety systems and a renowned reference centre in the aforementioned scope, which, through provided services, wide knowledge, long-term experience and advanced technology, works to ensure **full safety for people, property and environment**.

In our daily activity we concentrate on measuring the composition of gases, monitoring and detection of hazardous concentrations.

Our specialty are innovative **Gas Detection & Safety Systems** providing reliable information on gas hazards or their absence. In other words, systems which ensure the sense of safety when everything is ok and effectively warn in case of hazard.

The mission of Atest Gaz is to ensure our Customers and Users all the comfort resulting from the sense of human life and health safety as well as protection of property and environment from hazards associated with dangerous gases.

The strength of our brand results from everyday work of a qualified and experienced team of specialists – enthusiasts, but also from a multidirectional experience, an access to international know-how and perfectly developed research and design facilities. As a result, Atest Gaz may offer unique, technologically advanced, innovative and reliable products, solutions and systems that comprehensively and completely satisfy the individual needs of Clients of both the industrial and civil engineering sector (HVAC).



1.0 | Gas detection in industry

Atest Gaz has been consistently applying **high-quality uncompromising solutions** in industrial gas safety. Strict requirements imposed on our products result from a high degree of complexity of process installations as well as from a large number and diversity of possible hazards caused by combustible as toxic gases.

We have been closely cooperating with representatives of the Polish industry and international experts, therefore we are well aware of the requirements placed on the devices which we produce. Our main focus is on solving problems faced by the users of industrial facilities and on delivering the solutions that respond to such problems. This model of cooperation provides us with experience, knowledge and additional opportunities for our products development. This is why our solutions are so innovative and have additional features, **unseen in the products of our competitors**.

The products of Atest Gaz have received favourable opinions from the largest industrial plants in Poland. Our products are used in food processing, chemical, power, gas, petrochemical and many other industries. We watch over the safety of people working in the manufacture of paints, varnishes, fuels, cars, chemicals, steel structures and even LCD monitors. While continuing cooperation with the industry, we look forward to continuous development of **Polish products and know-how**.



1.1 Gas detection in industry

Sigma Gas system

Transparency and reliability of gas hazard communication

Sigma Gas system is a unique combination of functionalities of devices such as gas detectors, control units, object indicators (optical and acoustic signallers), accessories. Together, they create a complex and integrated "Gas Safety System" for any industrial installations in which hazardous volatile substances may occur.

1.2 Gas detection in industry

GASOK signal

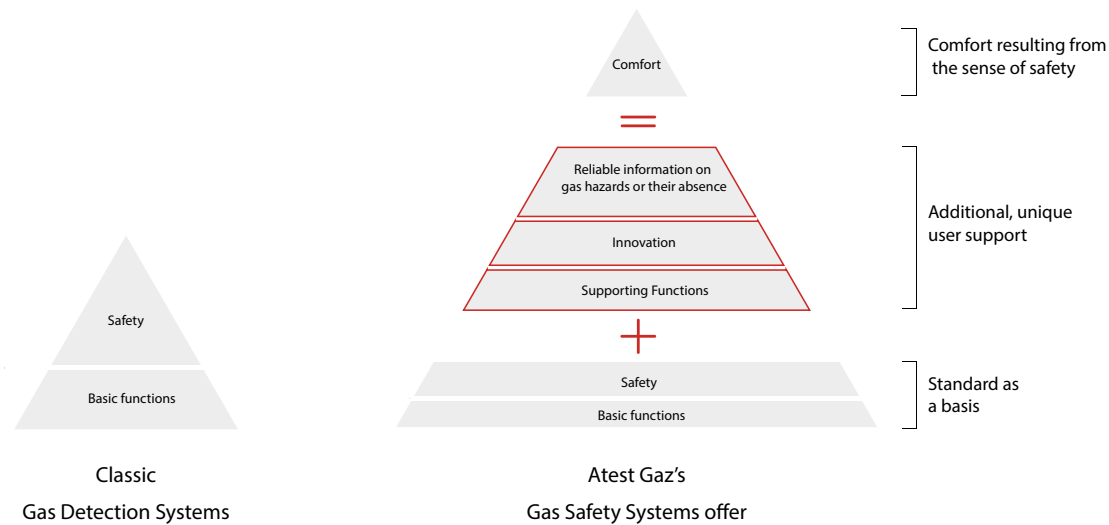
The crowning feature of Sigma Gas system is the "Green Light Philosophy" – GASOK signal – consistently supported by each of the system components. In practice, it is realised through implementation of the set of our FACTS ("Functional Aspects of Construction and Technology"), described in detail in Sigma Gas booklet.

FLED Four-colour, built-in optical signaller



The original and innovative GASOK message allows for an immediate assessment of the system's efficiency and the level of security, consistently on all devices. Any other light message, apart from green light, obliges the staff to react appropriately.

FLED - four-colour, built-in optical signalling device in the Gas Detectors enables immediate location of a potential threat. In addition, it provides comfort and a sense of security for the staff through the ability to assess the state of emergency at any time.



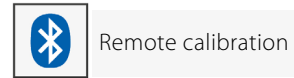
YOUR **Sigma Gas** **COMFORT** IS THE RESULT OF MANY OF OUR FUNCTIONALITIES

1.3 Gas detection in industry

Line 4.0 - Gas Detectors

Diffusion detectors

- Are used for spot (fixed-point), diffusion measurement and detection of a specific gas in the atmosphere
- Provide a "measuring platform" for a wide range of gas sensors (thermocatalytic, electrochemical, NDIR, PID etc.)
- Depending on the sensor used, they can work in a wide range of environmental conditions (humidity from 0% to 100% RH, ambient temperature: -40° to +85°C)



SmArtGas 4

- Used to measure and detect gases in atmosphere II 2G 2D
- Version with local LCD / FLED display available
- Ultra-fast measuring head (T90 for a pellistor sensor for hydrogen is approx. 9 s.)



ReAct 4

- Used to measure and detect of reactive gases in II 3G atmosphere
- Version with local LCD / FLED display available
- Optional enclosure versions: polyester / stainless steel



ProGas 4

- Used to measure and detect gases in none EX atmosphere
- Ultra-fast measuring head (T90 for a pellistor sensor for hydrogen is approx. 9 s.)
- SF6 / Rx detection

Aspiration detectors

- They are used to point, aspiration (i.e. with sampling using, for example, a pump) measurement and detection of a specific gas in the atmosphere
- The measuring device is away from the place of collection and is common to many points of collection
- They constitute a universal „platform“ for available sensor techniques - mainly NDIR, PAS, LAS
- They provide stable sensor working conditions (temperature stabilization, drying, filtering, backflow of paths)
- The design provides class II 2G 2D Ex d protection (RapidGas E)
- They offer up to ten measuring channels in the basic version

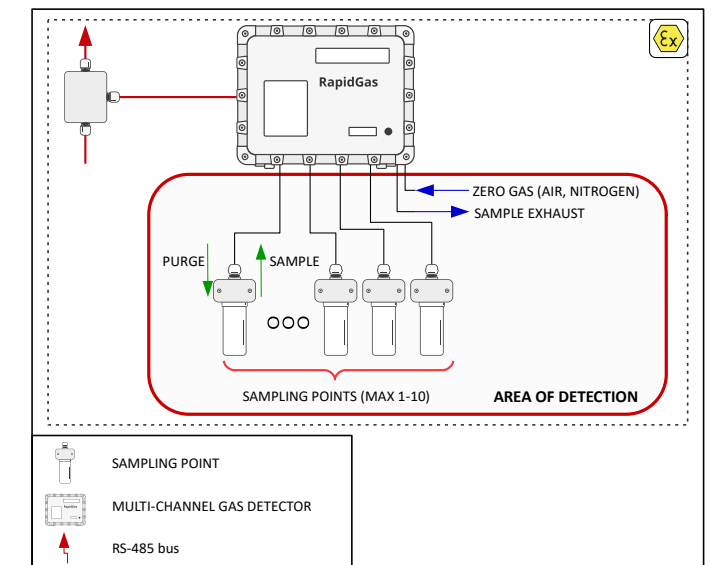
RapidGas E



RapidGas S



An exemplary diagram of the RapidGas E detector operation



2.0 | Object signalling

Thanks to the experience gained on the most demanding clients industrial installations and the knowledge obtained during numerous meetings with our clients, we have created a modern design and well-thought-out structure signalling devices: **LTT2, LTT4, SOLED3 and HTT (New!)**.

Careful workmanship and the use of high-quality materials as well as an innovative optical and acoustic signalling system allowed us to create signalling devices that are used in many industrial applications. The devices allow any configuration adapted to the needs of demanding customers and the specificity of a given market or facility. The object signalling devices manufactured by Atest Gaz in Gas Safety Systems of Sigma Gas are, among others, System Optical Indicator (for the following states: monitoring, alarm and failure).

Designed entirely by the development department of Atest Gaz, they are distinguished by:

- a wide range of configurations,
- FLASH module,
- proprietary R-G-OFF signalling,
- GASOK signal.



	Green light - No threats - The devices are working properly OK! NO HAZARDS
	No light - Potential threat - Device, cable damaged - Device service
	Alternating or red light - Danger - Alarm limits exceeded DANGER! LEAVE THE ROOM

2.1 | Object signalling LTT

Zone optical-acoustic signalling device

The LTT is a unique and reliable device that is designed for operation in areas with really versatile ambient conditions. It is offered in two manufacturing options, as LTT 4 and LTT 2 devices. LTT stack lights comprise light modules with very bright LEDs.

These light modules are independently configurable and controlled. Owing to these properties the LTT devices are really dependable and clearly visible source of detailed information about hazards that occur on the specific area. A unique feature of the signaller is the ability to inform about the correct operation of devices that are responsible for its activation, as well as monitoring the line to which it is connected.

Enclosure

The device body made of stainless steel (AISI-304) and IP65 protection index enable operation of the LTT under the most demanding and harsh environmental conditions, with presence of aggressive factors, dust or liquids. On the other hand, it is also suitable for such applications, where highly demanding hygienic requirements are imposed to the device, for instance in food processing industry.

The LTT2 signalling device can be used in the second explosion hazard zone.

Key Features

- **GASOK** Green colour signalling the correct operation of the system.
- Connection line monitoring.
- Information on the correct operation of master devices.
- Signalling two or four alarm thresholds.
- FLASH module increasing the level of security.

R-G-OFF is a proprietary designation of the signaller operation logic, ensuring a very high level of people safety in the protected area.

It presents 3 main states of the signaller:

R - red colour - Danger

G - green colour - No threats

OFF - no light - Requires verification by staff

0.1 | Object signalling LTT

LTT 2



LTT 4

40% LEL

20% LEL

TLV-STEL

Gas-OK / TLV-TWA / Failure



2.2 | Object signalling HTT

Thanks to the experience gained in the most demanding industrial installations and the knowledge gained during numerous meetings with our clients, we have created a new product distinguished by modern design and thoughtful construction.

The HTT signalling device is a unique and reliable device, designed to work in the most diverse conditions.

The device allows any configuration tailored to the needs of demanding customers and the specifics of a given market.

- Thanks to the two-threshold acoustic signalling, you can easily identify the state of emergency in the facility.
- The HTT signalling device, thanks to its design, can work in facilities with the most demanding environmental conditions.
- HTT guarantees reliability thanks to the use of a solution based on LED diodes and a Flash module.

The use of the presented solution allows to standardize the communication system in the facility, thanks to which all employees can quickly and clearly determine the current level of risk at the workplace.

HTT



3.0 | Gas detection - HVAC market

Atest Gaz has been operating on the general construction and civil engineering market since the beginning of its activity. Our offer includes gas detection systems for both heating and ventilation applications.

Our offer is intended for facilities such as:

- **Gas boiler rooms, kitchens, restaurants, bakeries, halls heated with radiators** – i.e. for facilities in which in the event of natural gas leakage detection, its supply must be cut off by appropriate solenoid valves.
- **Garages and underground car parks** – detection and monitoring of carbon monoxide (CO), liquid gas (LPG) with the possibility to control the facility ventilation and signalling in case of leakage.

When creating solutions dedicated to this market, we use experience gained at multiple, demanding industrial plants, thus providing our Customers with the highest level of safety and quality as well as offering additional functions.



3.1 | Gas detection - HVAC market System **Teta Gas**

Teta Gas system is a modern Gas Detection and Safety System that uses Digital Data Transfer – Teta BUS, which via a single pair of cables, allows for both supply and addressable communication with the gas detectors. It is intended to provide security of public utility, civil engineering and residential facilities (underground garages, boiler rooms or halls heated with radiators) and protect people staying at such facilities from dangerous gas hazards.



Teta Gas detectors series includes:

- **Teta EcoWent** - used to detect carbon monoxide,
- **Teta EcoDet and Teta miniDet** - used to detect propane-butane,
- **Teta EcoTerm** - used to detect methane,
- **Teta EcoH** - used to detect hydrogen.

The concept and design of two-wire Teta BUS have been developed entirely by the research and development department of Atest Gaz in collaboration with specialists from the Faculty of Electronics of Silesian University of Technology.

Atest Gaz provides a 5-year warranty for **Teta Gas** series Gas Detectors.

Teta EcoWent



Teta EcoTerm



Teta EcoDet



Teta MOD Control 1



3.2 | Gas detection - HVAC market System **Alpa Gas**

The **Alpa Gas** system includes a number of cutting-edge solutions tailored to the HVAC market, which combine high quality and low operating costs.

Alpa Gas detectors are designed to detect:

- carbon monoxide - **Alpa EcoWent XT**
- methane - **Alpa EcoTerm XT**
- propane - butane - **Alpa EcoDet XT**

When combined with respective Control Units, these detectors form a system that may be used to protect boiler rooms, underground car parks, halls heated with radiators, and other facilities.

The presence of control units in the system enables quick diagnostics of the operating status of devices at one common place, thus improving the safety of a given facility. Depending on a particular configuration, the **Alpa Gas** system can also cooperate with valves, optical and acoustic signallers or warning boards with embedded acoustic signallers.

MSV



Alpa EcoTerm



EcoAlpa 5



Control V



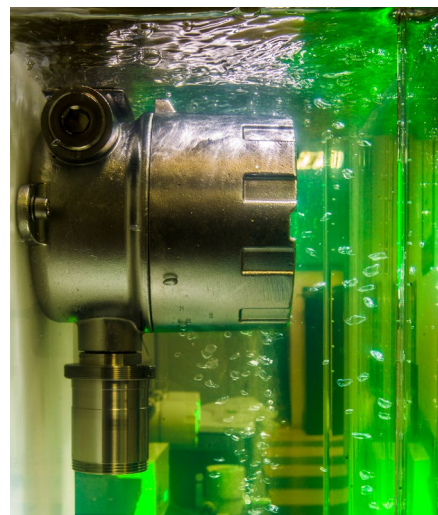
Experience

Our Company uses and continuously develops its **own technical facilities** so that we can offer our Customers the most technologically advanced **products at world class level**. Thanks to our in-depth knowledge of the gas detection market, we are able to customize our solutions to the needs and requirements of individual facilities and to the individual expectations of our Customers. **Our main focus is on development and innovation.**

In 2002, as the first company in Poland, Atest Gaz obtained the Certificate of Conformity No. **FTZU 02 ATEX 0358** for Alpa SmArtGaz-1 gas detectors. Another important event in the Company's history was the commencement of works on the Sigma Gas system in 2005 - the system is now the leading product line offered by the Company, designed for industrial facilities.

In 2012, the Company became involved in the works of the Technical Committee 64 on explosion protection systems of the Polish Committee for Standardization, taking part as the only expert representing Poland in numerous meetings of national and international standardisation bodies (**Cenelec, IEC**), which address technical standards for gas detection systems (**IEC 60079-29-1, EN 50402, EN 45544**).

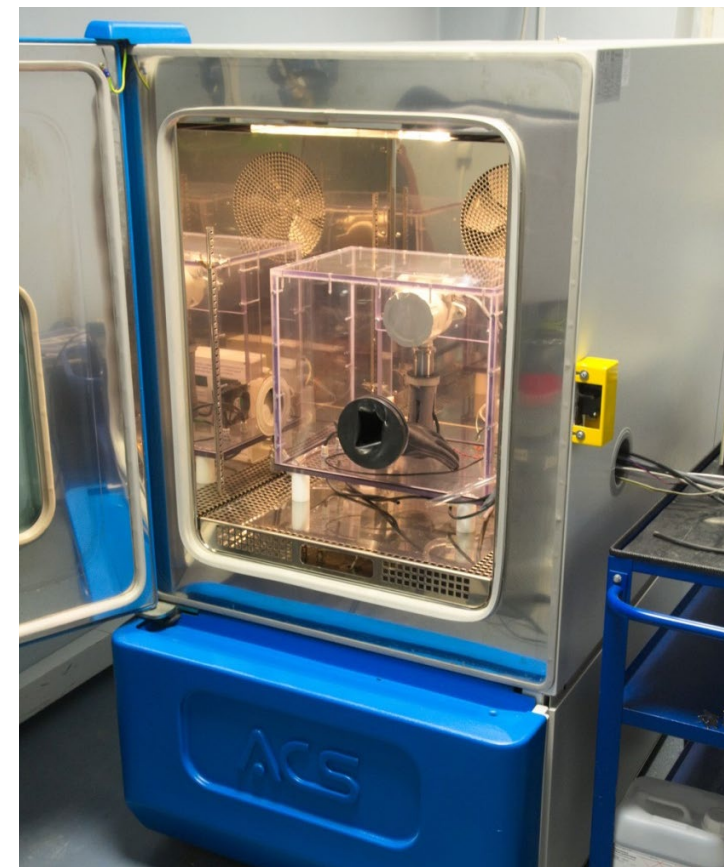
Being always in touch and exchanging views with the leading international experts in gas detection, supported by ongoing contacts with academic circles, allows us to provide our Customers with the most recent know-how in this field of knowledge - both in the form of products and consulting services.



Knowledge and technology

The goal of Atest Gaz is to provide top-quality cutting-edge products, therefore we continuously develop our research background. The Company cooperates with academic centres, foreign partners and - most importantly - the Company has its own research laboratory, where gas detectors are tested in various operating conditions.

There we can recreate the actual conditions of device operation in a specific environment and verify the functioning of devices before they are installed in a plant, which is crucial while implementing new designs and solutions. Our laboratory is also equipped with a stand for selected metrology tests of gas detectors. As a manufacturer, we are obliged to ensure product compliance with electromagnetic compatibility (EMC) and low-voltage (LVD) directives.



Projects and partners

A wide range of our completed projects includes both large and complex systems for the biggest companies in Poland, as well as large and small systems for civil engineering.

These projects include realization like a:

- **PKN Orlen** - Leak-tightness monitoring of Freon circuit in the Tatory and Isomar systems in PKN Orlen S.A.
- **Silesia City Center** - CO and LPG detection system in the underground car parks and NG detection system in the restaurant section.
- **Gaz-System Tarnów** - Gas detection systems for gas compressor stations and pressure reduction/measuring units.
- **Enea Elektrownia Kozienice** - Ammonia detection system in the flue gas desulphurization facility.
- **Brembo** - Detection of methane in the area of the facility and cast iron smelting furnaces.
- **Avantor** - Detection of solvents and other flammable and toxic gases.
- **PGE Turów** - CO detection system in the coal handling plant.
- **SE Skawina** - System for detection of sulphur hexafluoride (SF6).
- **Browar Żywiec** - CO2 and NH3 detection systems.
- **Rosomak** - CO detection system.



Grupa Azoty
AUTOMATYKA



Bodycote
OBRÓBKA CIEPLNA








For more details of our devices and other products and services offered by us, visit:

www.atestgaz.com

Atest Gaz A. M. Pachole sp. j.

 Spokojna 3, 44-109 Gliwice

 +48 32 238 87 94

 +48 32 234 92 71

 contact@atestgaz.pl

Legal Notice:

This document is not an offer in the meaning of the civil code and other relevant regulations, but merely constitutes an invitation to conclude an agreement pursuant to article 71 of the Polish Civil Code. Atest-Gaz A. M. Pachole sp. j. stipulates the right to unilaterally change and modify the present document at any time as well as to introduce changes related to the product characteristics. Products parameters can be changed without any prior notice.

MR-006ENG R05