



**DISTRAN**  
SWITZERLAND

# Gas Leak Imaging

## Distran acoustic solutions

Cutting-edge sensing for power plants



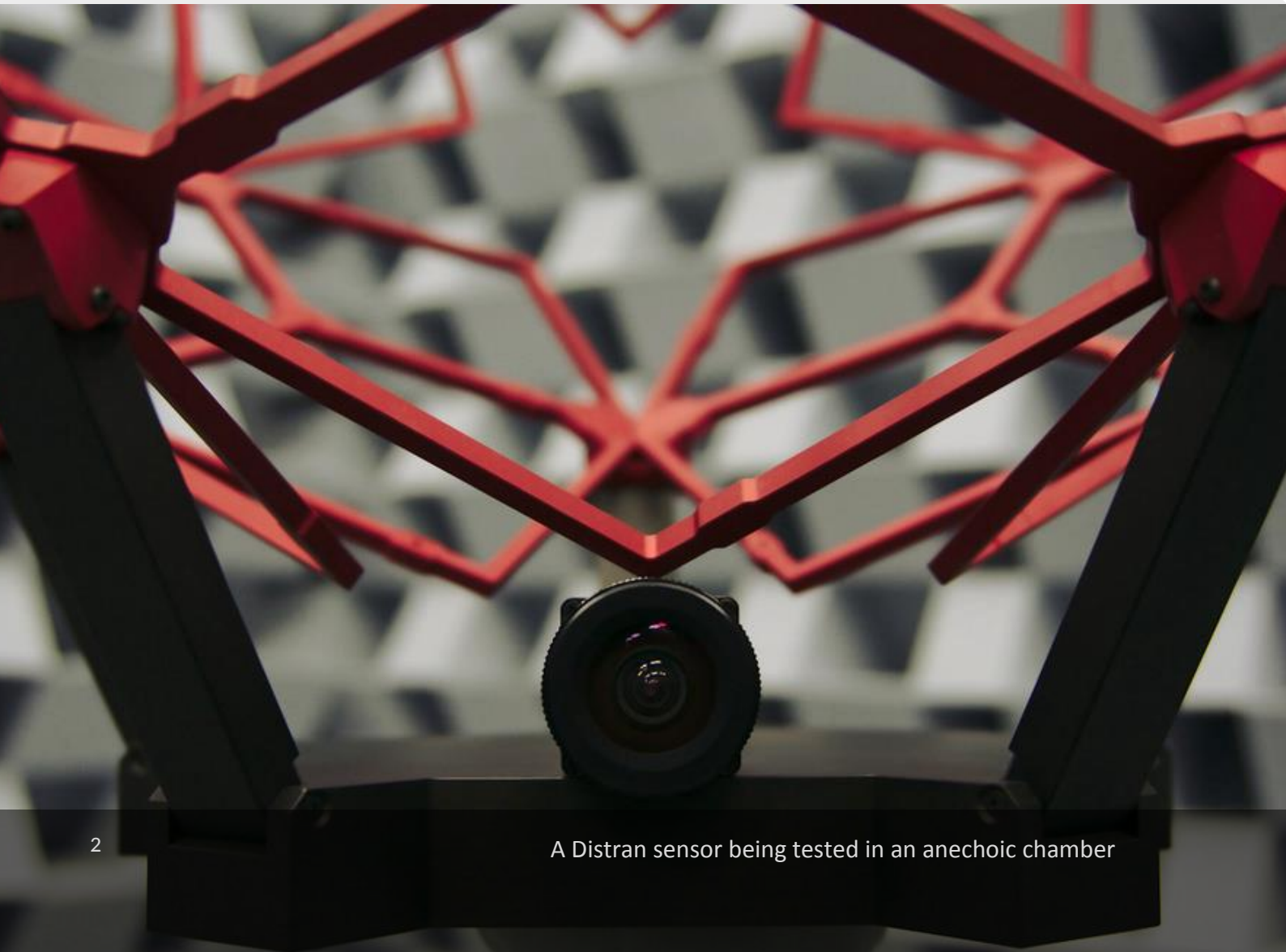
About



Sound is a highly regarded indicator by technicians to detect failures in industrial plants: during the inspection round, an experienced technician is able to compare the sound environment and determine whether something has changed and can indicate a growing gas leak for example. DISTRAN is taking the analysis to the next level.

By automatically analyzing every surrounding sound, DISTRAN devices are able to instantly map sound sources such as gas leaks from a safe distance. Listening to ultrasounds allows DISTRAN Ultra M to disregard most of the normal background noise and to focus on gas leaks. The first of its type, world-wide, DISTRAN Ultra M uses 128 ultrasound sensors combined with cutting-edge algorithms to analyze and locate gas leaks.

The Ultra M ultrasonic camera was developed in power plants in close cooperation with the companies Alstom and General Electric, it has been thoroughly tested and adapted to the high requirements.





# Locate gas leaks 10x faster

Finding leaks in power plants is not an easy task: soap-spraying pipes or valves is time-consuming, sometimes dangerous, yet necessary to guarantee the safe functioning of a power plant. With Ultra M, nearby gas leaks are instantly detected and you can see them in real-time on the Ultra M screen.







## Increase the reliability of your power plant

The reliability of a power plant is key to its profitability. Unplanned outages are costly because of the additional maintenance costs, the inability to sell energy, and due to grid penalties. Amongst main causes of outages, leakage is a very common one with a high impact on power plant results.

Distran Ultra M locates within seconds all leaks up to 20 meters distance, without being in contact with the gas. It works by detecting the ultrasonic signature of leakages due to the air turbulences created by the pressure drop.

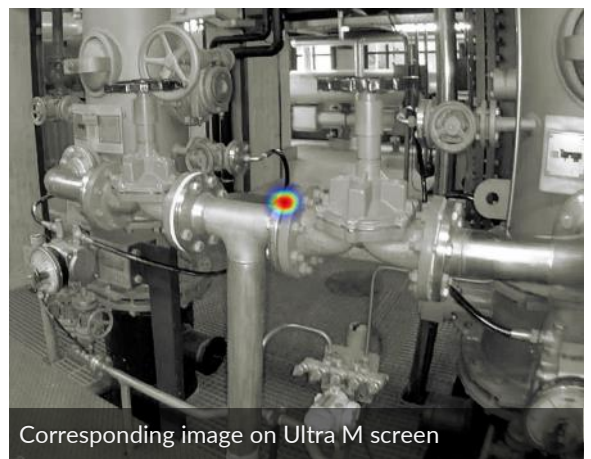
As the world-first sensor of its type, Ultra M locates leaks even in the noisiest places, such as in gas turbine noise enclosures. One day is sufficient to cover the most critical elements in a power plant.

### Multiple gases, one device

Methane, compressed air, hydrogen, vacuum, etc. Multiple gases are being used in power plants. Independent of the type of gas, Ultra M is the ideal solution to inspect your whole plant for leakages.

Leaks can be detected from a few meters, which reduces the need for climbing ladders or entering dangerous areas, thereby increasing the overall safety of the operator and reducing inspection time, not to mention the reduction of work permit necessity. Leak detection with Ultra M can be performed while machines are running, thus reducing the impact on operations.

Equipped with the sensor head in its backpack, a single operator can perform the inspection. Ultra M works like a digital camera: the user sees the output in real-time on the screen. The leaks are identified and located in real-time. In a single tap, the operator can take a picture or a video to keep track of the leak and later easily generate a report.



Corresponding image on Ultra M screen

Acoustic Leak Imaging technology provides new ways of improving the reliability of power plants with limited manpower, while increasing people safety

# Top applications in power plants

## Gas turbine



Gas turbines make use of methane, an explosive gas at a concentration of 15% which all circuitry must be checked. Air, flue gas and steam leaks are also common and can decrease efficiency of the power plant.

## Boiler/HRSG



Essential element for power plant efficiency, the HRSG (similarly boilers in coal power plants) tightness must be checked to ensure no exhaust gas nor steam is leaking outwards and to avoid thermal stress.

## H2 cooled generators



Hydrogen is an excellent coolant, yet a very explosive gas. Safety rules severely limit H2 consumption in plant cooling systems and leaks must be regularly checked to avoid outages.

## Compressed air



Compressed air is used everywhere in power plants, in actuators or as a coolant (e.g. in bearings). Maintaining good tightness in the pressured air circuit is essential to avoid energy losses, overheating and failures.

## LNG



Liquefied Natural Gas leakages are even more dangerous than their natural gas counterparts due to rapid phase transition risks. Leaks must be regularly checked to avoid ruptures and major leakages.



# Keep track of the results

Distran Ultra M goes far beyond locating gas leaks – it enables to keep track in real-time of what you or your team discovers during inspections and share the findings amongst your team. We have put our expertise at your fingertips so you can manage your data seamlessly and save time.

## Simplify your workflow with Audalytics

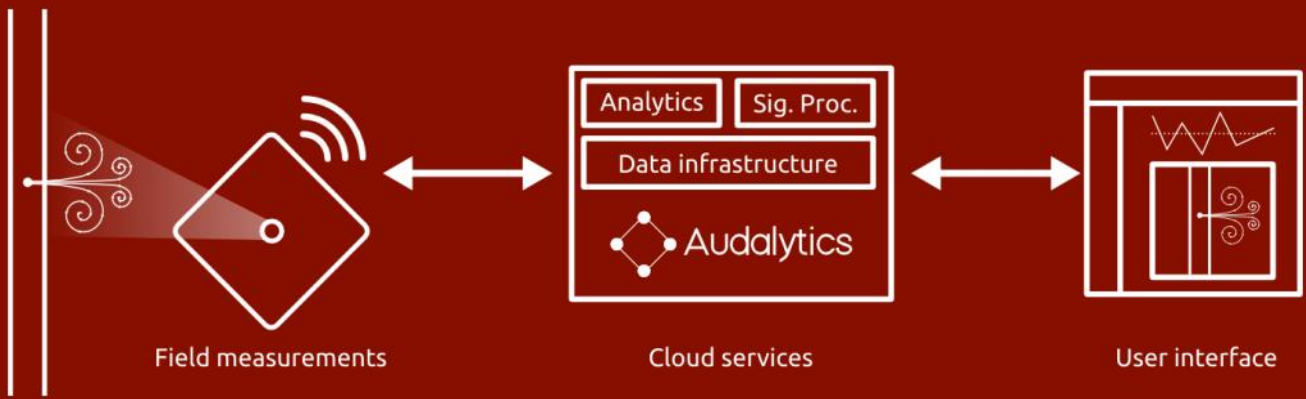
Inspecting an entire power plant is a complex task as thousand of elements are scanned and reviewed, while dozens of leaks can usually be found during a few hours inspection.

After an inspection round, it is usual to review the findings, sometimes discuss with internal or external specialists to assess how critical a leak is. Additionally, you want to keep track of the leaks that have been fixed, and those that are not. Some leaks can also be fixed only during an outage and should not be forgotten.

Audalytics helps you manage your data generated by Ultra M. After the inspection, the operator can collect all pictures and videos that were taken, sort them, and mark important findings. He can ask colleagues about the findings, write comments and descriptions, and generate a report and share it with the relevant people.

All images and videos are accessible at a single location and securely stored.





## Collect, organize and share your data

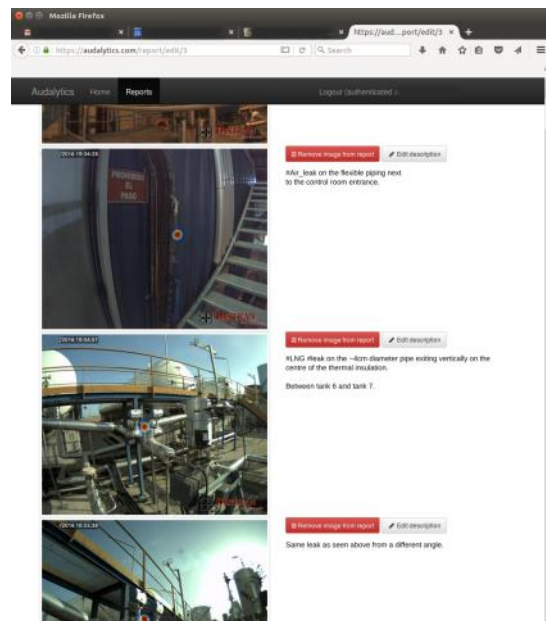
Working with Audalytics is simple: as soon as you take a picture or a video, Ultra M will try to send it to Audalytics. If you do not have an Internet connection, no problem, you can connect Ultra M later (using Wifi or mobile).

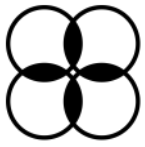
The data is then securely stored on Audalytics, converted and analyzed to optimize its display.

You can go to Audalytics.com from anywhere and see the pictures and videos you took. Put comments and generate docx documents in one click. Or share directly the picture and videos using a direct link. A system is available to classify your data and keep track of the leaks.

If you have doubts about an indication on a picture, you can directly ask Distran experts to have a look at your data and get advice.

Security of the data is integrated all along the workflow. Secure (SSL/TLS) connections are used everywhere. On request, we also provide hardware security dongles to authenticate on Audalytics.com. Secure backups are made automatically every day.





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