ACOUSTICS

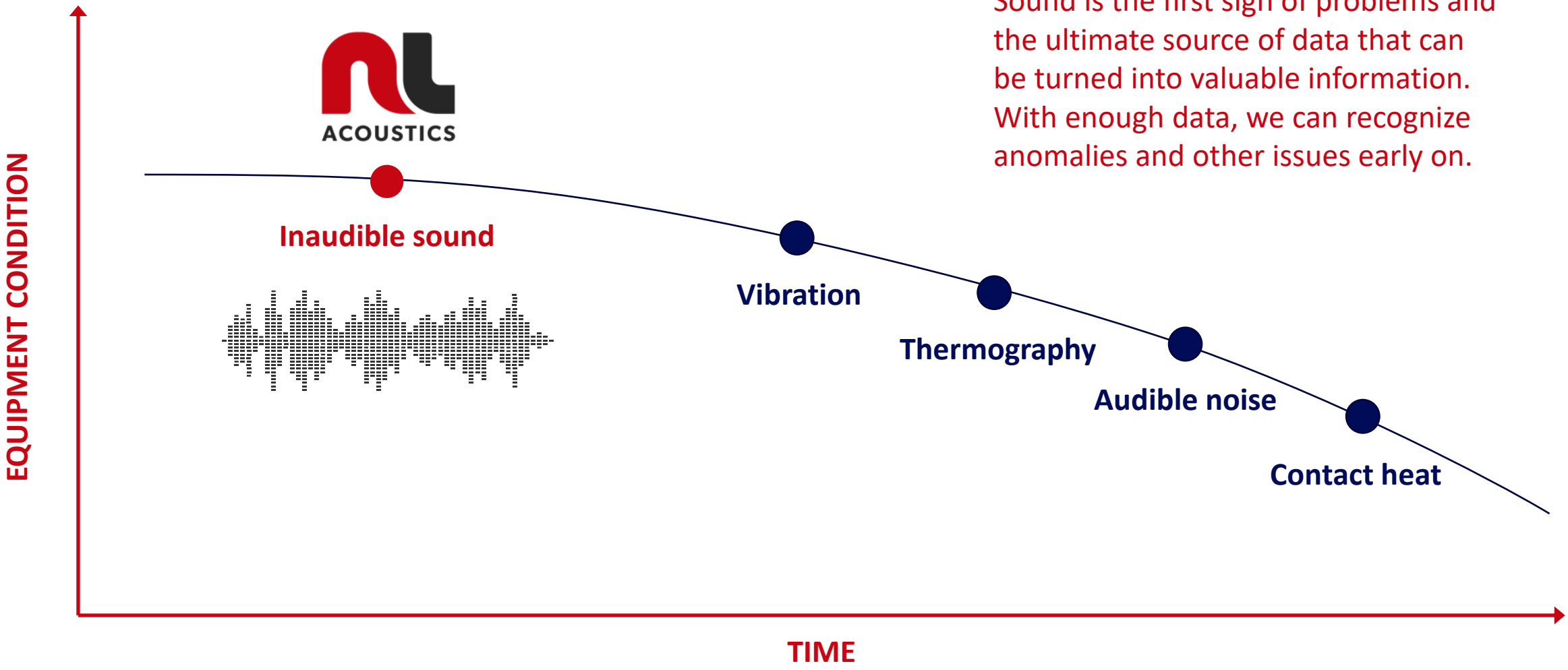
Air Leaks Are Costly and Difficult to Find, Here's How You Can Detect Them Accurately and Easily

HOW?
WE USE SOUND TO DETECT EARLY SIGNS OF PROBLEMS

NL Acoustics: We Turn Sound Into Value

- The leading provider of acoustics-based maintenance solutions
- Privately owned company founded in 2015
- HQ, R&D, and manufacturing in Helsinki, Finland
- Patented and proven solutions for:
  - Site maintenance and leak location
  - Ongoing asset maintenance
  - Electric partial discharge location
- Developing unprecedented machine learning-powered analytics and cloud reporting

Sounds Inaudible to the Human Ear



Sound is the first sign of problems and the ultimate source of data that can be turned into valuable information. With enough data, we can recognize anomalies and other issues early on.

Air Leak Detection

ACOUSTICS

Problem: Costly Air Leaks

Compressed air accounts for 10%* of all energy consumption in the industrial sector and is the single most expensive utility. *

40–50% of compressed air is wasted due to air leaks.**

In large factories, this translates into financial losses of amounting to hundreds of thousands of euros.

For smaller facilities, this typically means losses of tens of thousands of euros.

*https://www.energy.gov/sites/prod/files/2014/05/f16/newmarket5.pdf
**Dindorf, R: Estimating energy savings in compressed air systems

Traditional Air Leak Detection Methods

- Bubble soap paint
- Underwater bubble test
- Currently in use: chemical sensors, specific tracer gas detectors or directional sound detectors
- The efficiency of the measurements depends highly on the users' level of expertise, and the outcome is often limited and difficult to interpret

Our Solution: LF10 for Air Leak Detection

NL ACOUSTICS

LF10: The Next Generation of Leak Detection

Speeds up audits while requiring minimal training

- Scans large areas quickly, combining both sonic and ultrasonic frequencies
- AutoDistance: Automatic distance selection
- AutoFilter: Automatically filters out disturbances

Saves money and improves energy efficiency

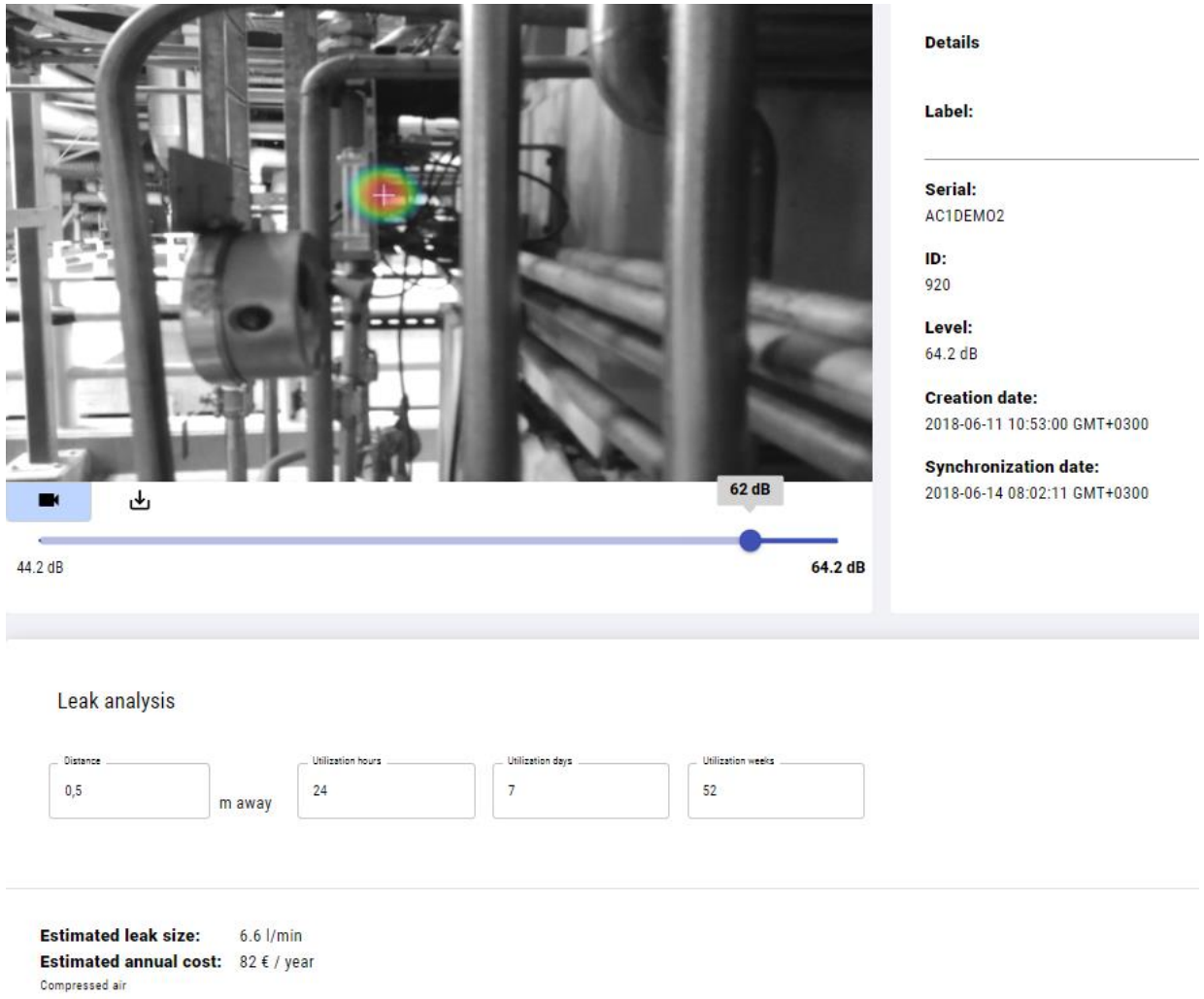
- Shows the exact location and size of leaks and cost estimates

Data for maintenance and repair plans and ISO 50001-compliant reporting

- In the included machine learning-powered NL Cloud service

Actionable Data from AI: NL Analytics

- Devices without analytics require the users to have extensive acoustic understanding to interpret inspection results
- We give the users of our products **clear-cut results with minimal training required** as we combine our acoustic expertise, problem-specific know-how, extensive data, advanced algorithms, and neural networks
- The users can focus on fixing the issues that our solutions identify

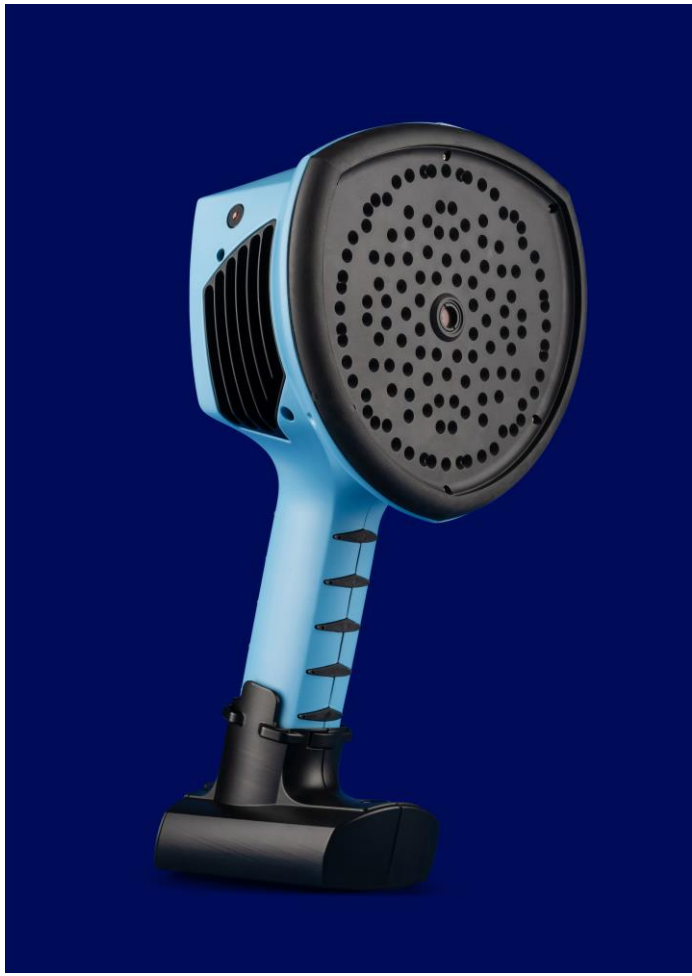


Case Hospital Gas Leak Detection

Description: ND Testaus performs valve inspections and diverse leak audits that detect compressed air, steam, gas, and vacuum leaks. Their clients include various factories, production plants, and hospitals.

Problem: ND Testaus needed a reliable, user-friendly ultrasonic leak detector for quickly finding leaks in hospital piping and valves. These demand a compulsory leak audit every four years to prevent serious accidents, such as destructive fires. The hospital gases that have to be checked for leaks are compressed air, oxygen, nitrous oxide (laughing gas), carbon dioxide, and nitrogen.

Results: ND Testaus is extremely happy with the ease of use and speed at which the NL Camera can find different gas leaks in hospitals, hence improving the safety of everyone inside. The camera has been able to find leaks in a size range of 0.67–12 liters per minute and detect rare leaks, such as one in a hospital oxygen tank's flange joint that other devices could not find.



Some of our customers

Atlas Copco: “The NL Camera saved its users 50% of their time.”

“Included in the Airbus service manual in 2020.”

Q&A

THANK YOU!

Find out more at

www.nlacoustics.com

sales@nlacoustics

support@nlacoustics.com