



Technical sheet 1: FIDO AI Acoustic and Infrasonic Analysis

FIDO AI is the only software-as-a-service (SaaS) leak detection solution which identifies leaks and the size of leaks to hit your water losses hard.



FIDO AI

Automatically analyse any acoustic and kinetic file at scale to identify leaks, ranked by size, to more than 92% accuracy



FIDO Sweep

Drop multiple low-cost FIDO-enabled devices in areas without sensors to generate an overnight heatmap



Leak Central

Use FIDO data intelligence on leak history to spot trends and predict leaks before they happen

Our AI in more detail

FIDO's patented hybrid deep-learning multi-tiered algorithm analyses the vibrational frequencies and wave functions of any audio and kinetic file in eight distinct ways. First, it decides if the file it's analysing is a leak, then it calculates its likely size relative to a baseline.

Fully hardware agnostic, FIDO can work with data from any 3rd party sensor and can incorporate other available utility company data points such as flow, pressure and leak resolution information. FIDO is compliant with industry data sharing protocols because it processes and learns remotely.

Trained using a growing library of over 1.8 million leak and non-leak samples, the FIDO algorithm is over 700 times faster than humans at identifying real leaks. It has already surpassed 92% accuracy and is improving.

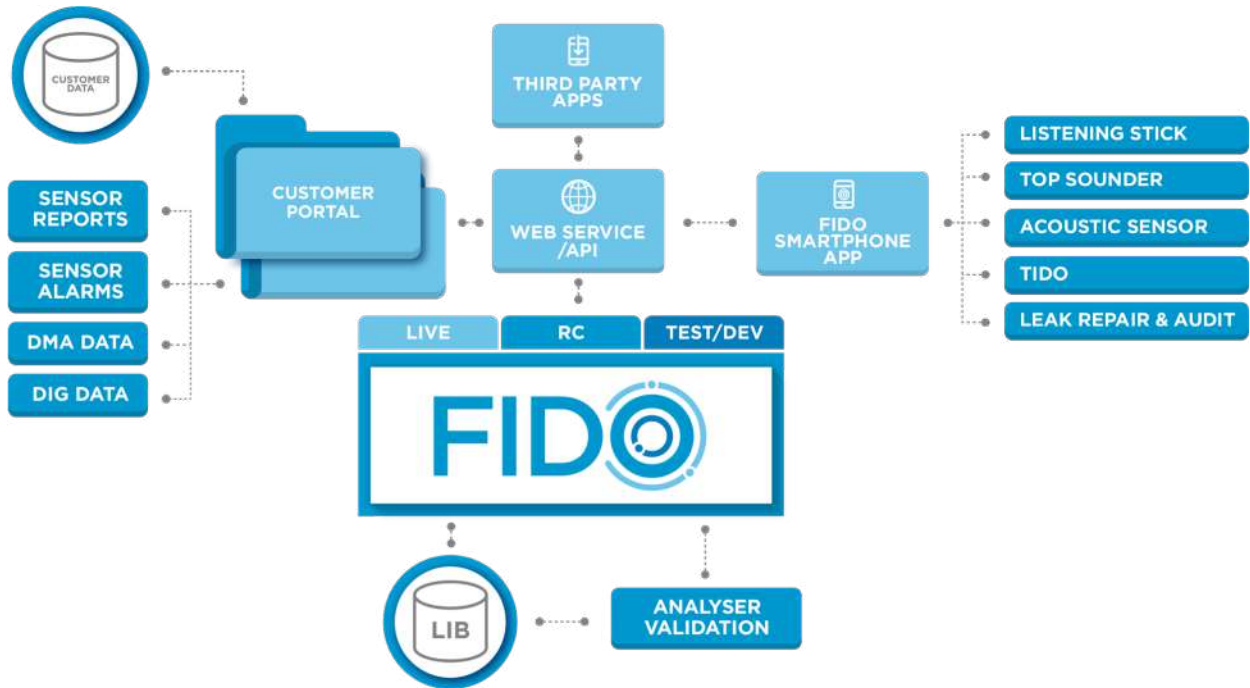
Over time, FIDO's algorithm evolves as new analytical functions are added in response to client demand. Leak-sizing is an example of this. As FIDO gathers and verifies relevant vibrational signatures with flow data, the accuracy and precision of the leak size results will improve to the point that absolute leak volume/hour prediction will be possible for each leak sound. We're also developing the application of specific waveform analysis to narrow leak location to a single defined point between sensor locations. This new functionality is expected to be available in 2021.

As well as generating reliable **points of interest**, used in conjunction with hardware in the field FIDO also generates **points of evidence** to 1m and **proof of leak resolution**, and can be used to generate leakage heat maps in areas without existing sensors.

The FIDO SaaS platform needs no training and is available immediately with minimal deployment and upkeep. The software is wholly hosted and maintained by us.

Features

- Leak location to nearest sensor to 92% accuracy
- Leak sizing
- Sensor agnostic
- Patented multi-path data analytics algorithm
- Easy to use cloud-based platform accessed via web or REST API
- Instantly analyses any audio or kinetic file
- Automated 3rd party data download
- 8 distinct machine-learning processes
- Unique library of 1.8m+ in-pipe and above ground leak signatures
- Live and operational 24/7
- Scripted post-processing available direct to WFM tools
- Fully scalable with instant deployment
- Monthly subscription only



The diagram above shows how all the software and hardware components in the FIDO solution interact with each other and customer platforms.

FIDO's cloud-based algorithm is at the heart of it all. Audio and kinetic files from any client asset such as sensors, third party apps or FIDO's own smartphone app are automatically uploaded to the FIDO platform for analysis. Client data is accessed via secure data exchange and not held by FIDO Tech.

FIDO instantly compares new files against more than 1.4 million verified leak and non-leak samples in its growing library to give its decision on leak likelihood and size, which, once verified, further adds to its deep learning knowledge and improves accuracy.

Quarterly software updates go through extensive offline concept testing and development before being made available to clients during beta testing as a release candidate (RC) on the platform. At RC stage, FIDO uses real data to rapidly learn and improve the accuracy of new functions before they go live.

Take the FIDO Global Challenge and put us to the test

Upload any audio or kinetic file for instant results. To receive your personal login to access our online demo or to speak to one of the team, please contact sales@fido.tech or call us on **+44 (0) 1869 929001**.

Join our global effort

Because FIDO recognises and internalises its learning, users around the world are helping contribute to a global improvement in leak detection and technical consistency. This level of collaboration is only achievable with an independent and hardware agnostic solution like FIDO.

www.fido.tech



Technical sheet 1: FIDO AI Acoustic and Infrasonic Analysis

Today

	Result RC	Record Count
1.	Non-leak	22
2.	Leak	15
3.	Possible leak	4

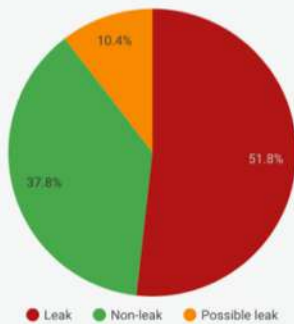
All time

	Result RC	Record Count
1.	Leak	769
2.	Non-leak	561
3.	Possible leak	155

Grand total

41

1 - 3 / 3 < >

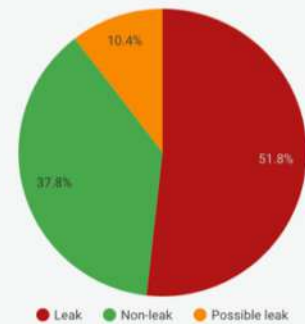
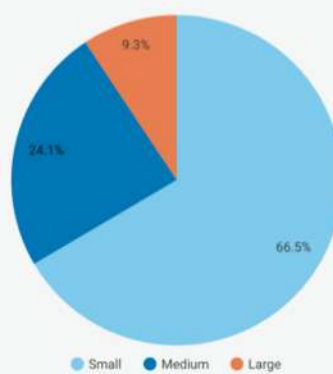


Grand total

1,485

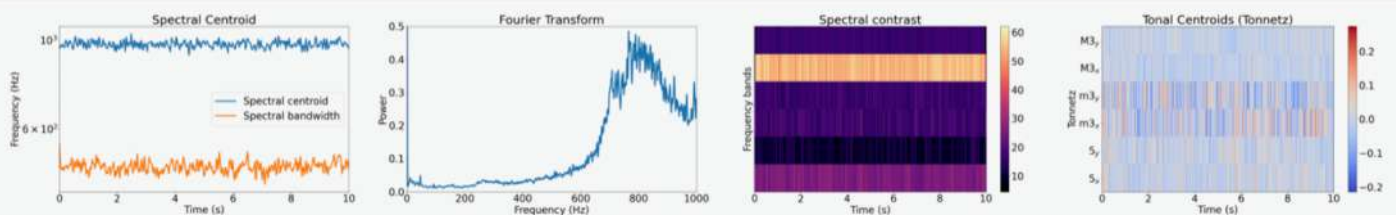
1 - 3 / 3 < >

Leak Size



Sample daily report output. Reports are bespoke according to client requirements.

Result: Leak | Probability of a leak: 99.99% | Audio Level: 13.2



Demonstration output of single file analysis.

Join our global effort

Because FIDO recognises and internalises its learning, users around the world are helping contribute to a global improvement in leak detection and technical consistency. This level of collaboration is only achievable with an independent and hardware agnostic solution like FIDO.

www.fido.tech