

give your
products a new
**sound
dimension**



sound quality

simulators

perception analysis

sound marketing

psychoacoustics

acoustic comfort

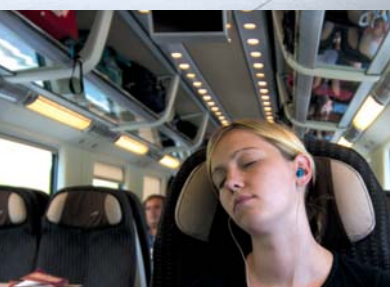
sound design

virtual reality

acoustic consultancy

3D sound

Getting the best of your sounds !



From noise annoyance to sound management

Do you design objects or living spaces ? The **audio aspects** of these products have a major influence on the perception of issues such as quality, identity and comfort.

Our expertise in the fields of psychoacoustics, acoustic comfort and sound design can help you fully master these issues and focus your technical developments accordingly.

Our aim is to help you reduce noise annoyance, enhance acoustic comfort or create an audio identity.

3D playback studio for your design projects

Sound quality and sound design studies require studio-based systems that can **accurately reproduce** a realistic audio environment.

Our expertise in recording, processing and 3D sound playback enables us to create unrivalled acoustic precision and an incredible sensation of immersion.

Our aim is to provide you with a high-fidelity 3D sound playback system.

A more realistic audio environment for your simulators

Simulators or virtual reality platforms, whether used for education or training, research, design or entertainment, require a **realistic and interactive soundscape**.

We offer expertise in real-time digital audio synthesis and 3D sound for turnkey systems.

Our aim is to provide you with the most realistic sound.

An innovative tool for analysing sound quality

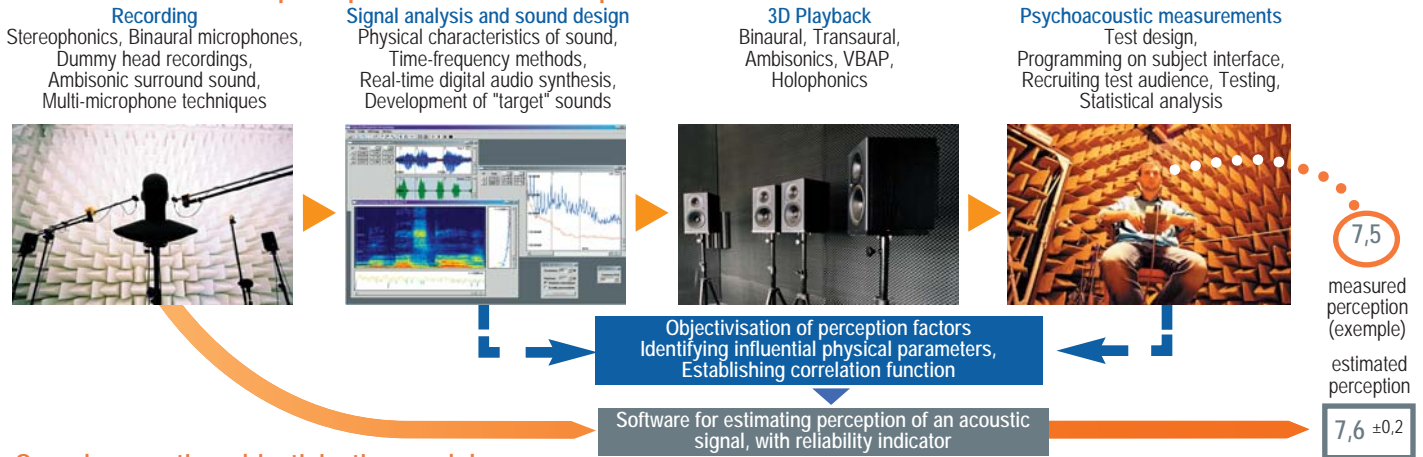
The work of your acoustics department is to improve the sound quality of your products. This involves recordings, acoustic and psychoacoustic studies and sound design & development work. However, this design work requires a comprehensive, powerful, easy-to-use tool.

Our aim is to offer you the benefits of the LEA software package, combining the full range of GENESIS audio tools, and **to open a whole new horizon for your sound quality studies**.

Our solutions...

Sound Quality, Psychoacoustics & Sound Design

Full control over the perception measurement process



Sound perception objectivisation module

Objectivisation is a GENESIS speciality. It consists of **establishing the correlation between subjective sound perception and objective acoustic parameters**. Our models calculate sound perception estimators, and are immediately operational.

3D sound playback systems

The GENESIS team has developed expertise and solutions that can be used in your playback studios for a **realistic reproduction of real-life soundscapes**.

High-precision reproduction

GENESIS uses state-of-the-art **3D recording and playback techniques** for high-precision reproduction of **immersion, 3-dimensional sound and original timbre**.

Turnkey services

GENESIS can provide **start-to-finish services** - analysing your requirements, designing the solution, supplying and integrating hardware and software, calibrating the installation, training your teams and maintaining the solution.

Interactive audio simulators

GENESIS creates **realistic, interactive soundscapes** using **real-time sound audio systems** that can be integrated with simulators and virtual reality platforms.

Interactivity and 3D sound - your keys to unrivalled realistic sound

Our expertise in two key technologies, real-time digital audio synthesis and 3D sound, enables us to achieve realistic soundscapes and **a sensation of immersion**, acknowledged and appreciated by all our customers.

Customised services

Our solutions have a **modular software architecture**. We can provide you with synthesis modules, playback models, 3D sound and effects modules or customised design, development and integration services.

LEA 'The sound lab for Industry'

A signal analysis, sound design and psychoacoustics software package.

Boost your sound design with a time-frequency sculpting tool

LEA's graphic representations provide you with **simple but powerful tools** for altering sound characteristics with **just a click of your mouse**.

A full suite of analysis tools...

LEA is built with ground-breaking algorithms developed in partnership with the CNRS (French National Centre for Scientific Research). It is the **leading tool for analysis** of physical sound characteristics.

... focusing on auditory perception

With LEA, **play back the sound** you are working on in 3D, at any stage in the process, and calculate its psychoacoustic parameters.

Powerful, intuitive and user-friendly

Reduce the time spent in sound studies with the power of LEA and its user-friendly interface. **Install it on a laptop** to provide a field-based recording, analysis and playback system for use with your customers.

...for new dimensions of sound

Measuring and improving sound quality

- Analysing & synthesising **engine noise**
- Objectivisation of the acoustic **performance of a shock absorber**
- Psychoacoustic analysis of **car door closing noise**
- Objectivisation of **car radio sound quality**
- Sound design for **dashboard sounds**
- Protocol for predicting and measuring **intelligibility of spoken words** on a metro train MF2000
- Sound **quality assessment** on top-of-the-range **Hi-Fi speakers**
- Characterisation of noise annoyance generated by **road and rail traffic**
- **Software for intelligibility** jury testing and prediction
- **Room acoustics** modelling with auralisation

our achievements :



3D studio systems for high-precision requirements

- 3D playback systems for on-board **comfort studies on cars, HGVs and aircraft**
- 3D playback systems for **multisensory analysis tests**
- Recreation of the audio **environment in ship cabins and lounges**
- Sound design tool for studying **passenger comfort** inside TGV **high-speed trains**



High-performance sound simulators

- **Driving simulators**
- Helicopter and aeroplane **flight simulators**
- **Training** facilities for French Navy sonar operators
- Immersive **virtual reality systems**



Some of LEA's many uses

Sound design

Define a **target sound** shaped to reflect customer needs or product identity.
e.g. **noise of a car door**

Separation of sound sources and de-noising

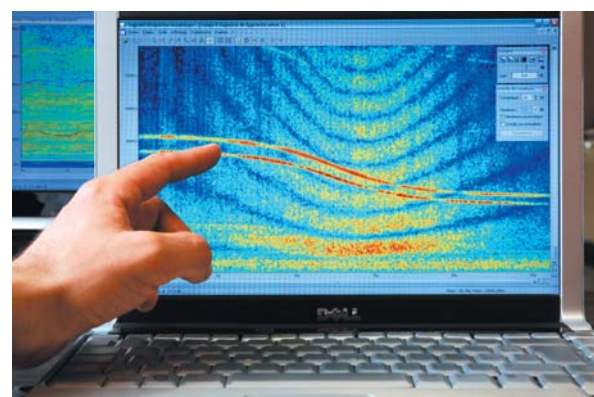
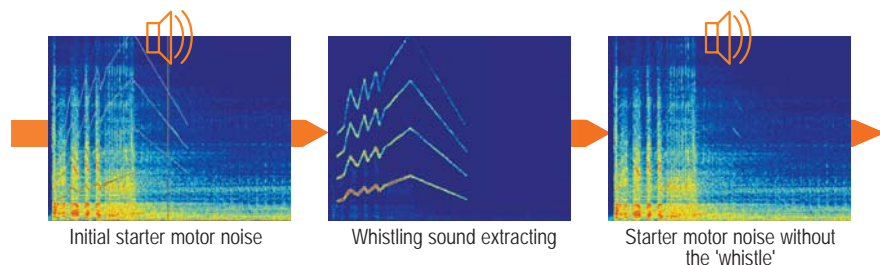
Extract and **remove a specific component** of a sound to assess its influence on overall perception.
e.g. isolating a whistling sound from the **noise of a starter motor**

Sound quality of a product or environment

Recording, analysis, modification and playback of a sound, before and after editing.
e.g. audio environment in a **ship's cabin**, engine noise

Troubleshooting

Precision diagnostics by detecting specific components within any given sound.
e.g. isolation of a specific sound component within a **rotor noise**



the Genesis advantage



An integrated service offer covering all dimensions of sound

- **Specialist in sound quality objectivisation**

GENESIS offers unique sound perception analysis solutions

- **Leader in audio simulators and 3D playback systems in France**

GENESIS has been designing and supplying high-performance audio simulators to the leading companies ever since it was founded.

- **LEA, an innovative, popular and user-friendly software package**

LEA is package bursting with GENESIS expertise in the fields of signal processing, real-time digital audio synthesis, 3D playback and psychoacoustics - focused on a unique receiver : the human ear.



Highest-quality technology... with service to match

- **Cutting-edge innovation**

With GENESIS, draw on the latest technological breakthroughs achieved through in-house research, involvement with many European projects and **partnerships with leading French research** bodies, such as the CNRS, LMA, IRCAM, LATP and ORANGE LABS.

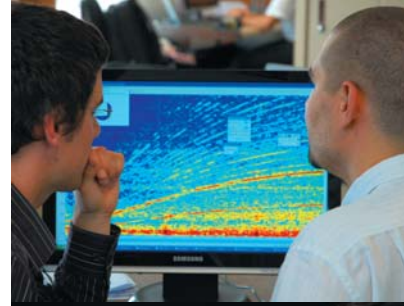
- **The sharpest skills and the highest-quality facilities**

Our engineering teams work in the complementary fields of acoustics, psychoacoustics, signal processing and software development. For your sound quality studies, GENESIS has its own in-house studio and psychoacoustic testing system.

- **High service levels and comprehensive solutions**

GENESIS can develop **highly customised solutions**, tailored specifically to your requirements. We offer a comprehensive service **from design studies to on-site integration**, including maintenance and training.

GENESIS has won plaudits for its scientific contributions and technological expertise. It was awarded the 2005 Industry Prize by the Société Française d'Acoustique



A long-term partnership worldwide

- **A shared passion**

The GENESIS team is **passionate about sound** ... to ensure the highest sound quality for your products.

- **The highest levels of quality management**

Over the last few years, GENESIS has worked on **large-scale projects for major groups**, meeting the highest requirements in terms of project and quality management.

- **Worldwide perspective**

In the wake of its current success, GENESIS is developing its international business, with a long-term commitment to support customers in implementing the highest-quality solutions to meet their needs.

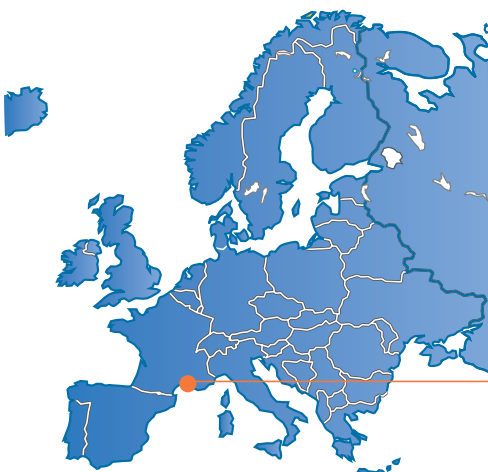


Customer references:

RENAULT
VOLKSWAGEN
PSA PEUGEOT CITROEN
VOLVO
AIRBUS
EUROCOPTER
DASSAULT AVIATION
SNCF
RATP
AKER YARDS
DCNS
VALEO
HUTCHINSON
MICHELIN
CNRS
FRANCE TELECOM
CENTRALE LYON
KLAXON
ADEME
FRENCH MINISTRY of ENVIRONMENT
UNIVERSITY of HIROSHIMA
CANON
CABASSE
PIONEER

our key Business sectors

Automotive industries
Shipping, Aeronautics and Railway industries
Architecture, Environment, Construction
Events management, Showrooms, Museums
Medical and Healthcare
Defence
Telecoms
Audio & Hi-fi
Luxury goods
Consumer goods & Food products
Education, Training & Research



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GENESIS is based at "Europole de l'Arbois " at Aix en Provence, 10 km away from Aix en Provence TGV railway station and 20 km away from Marseille international airport (MRS)

