



Caimi Open Lab. The future is here

When it comes to interpreting concepts like research, experimentation and innovation, Caimi can rightly claim to be among the best in the world. It strives ceaselessly for what is new and then doggedly turns this into tangible results that take the form of products and projects that actually enhance people's lives.

Caimi firmly believes research and a desire to innovate are cornerstones of business, design and products, and it is this paradigm that has driven the company down the path of an extraordinary new and environmentally friendly venture: **OPEN LAB**. This project encompasses seven futuristic workshops focusing precisely on theoretical and applied research in the fields of technology, acoustics, new materials and advanced prototyping.

OPEN LAB is physically located in the very heart of Caimi's headquarters, which now extend for over 10,000 square metres and have an impressive 40 km of electric and data wiring. The sound chambers in the laboratories weigh a remarkable 270 tons and float on multiple layers of special sand with differing densities. The tools and equipment used in OPEN LAB are cutting edge, with many having been designed and created in-house, and they will help the multitude of users to develop new technical design, planning and production solutions.

The OPEN LAB laboratories

SUPERNOVA LAB: this testing chamber is completely insulated from the rest of the world as it has a triple layer structure, with an outer coating of 90 tons of special concrete, an intermediate Faraday cage to provide electromagnetic shielding, and a semi-anechoic inner layer formed of 1301 sound-absorbing wedges in 18 different shapes. This innovative composition absorbs 99.9% of all sound. The chamber's shielding meets the TEMPEST standard for electromagnetic transmission blocking. This lab is designed to provide a space for investigating human perceptions in a controlled environment that is free of external sound and electromagnetic interference.

REV LAB: this reverberation chamber will be used for measuring and researching soundproofing materials. The specific shape of this lab plays a key role in ensuring perfect functionality, as it has asymmetrical walls and a special concrete envelope. The unusual inclined walls are able to produce the same reverberation effect as a grand cathedral. REV LAB can perform 24 acoustic measurements simultaneously.

The final notable feature of this lab is that it can be connected directly to the semi-anechoic chamber - SUPERNOVA LAB - for a unique analysis of the behaviour of materials.

MICROMAX LAB: this lab is for studying the microstructures of materials using high-precision microscopes, Kundt's tubes and other specific equipment to perform size, visual, acoustic and structural analyses and testing.

HABITAT LAB: this laboratory extends the scope of sound analysis to the real world, using real-time modifiable acoustics and a system to view sound waves directly.

HUB LAB: as the name implies, this is the nerve centre of OPEN LAB. It is the control room that provides real-time management, both on site and remotely, of the bidirectional telemetry. This is the hub that controls the flow of data, information, recordings and images from the other labs.



DESIGN LAB: this laboratory is where applied research can take on concrete form in models and prototypes, potentially even using 3D technologies. This allows for more in-depth study of projects and constitutes a vital step prior to production.

IPOGEO LAB: this protected underground lab is where materials undergo the most strenuous stress testing to ensure their durability.

Caimi has always placed great importance on adopting a socially responsible approach and this is once again evident in its decision to create a non-profit entity to make OPEN LAB freely available to universities, research centres, foundations and other bodies to conduct studies, especially but not solely, in fields related to acoustics and sounds, to find optimal ways to improve the physical and mental well-being of people.

Finally, since the company truly believes in making its cutting-edge technology available to all, the OPEN LAB project will include training courses, lessons and special training camps, in Italy and abroad, for architects, schools and universities. Such initiatives will be organised in conjunction with professional associations of architects, engineers and surveyors. Additional courses will be offered on an array of acoustic topics and workshops will provide practical training about aspects like sound, materials and spaces in relation to design.

The company's endless exploration of the human habitat will ensure Caimi Open Lab becomes a centre of research and development in which ergonomics, aesthetics, modular solutions and innovative technologies merge in pursuit of finding new forms of design that are then turned into tangible, usable materials and products.

A company that is constantly at the service of humanity.

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For over 70 years, Caimi has seen research, experimentation and innovation as the cornerstones of its design and production of furnishing systems and solutions. While its products are undoubtedly design items, they also tangibly enhance the lives of the people who use them and improve the houses, businesses and other venues in which they are used.

Its Made in Italy manufacturing, with a range topping 3,000 items, with over 35,000 components, takes a rigid environmentally friendly approach - an aspect that has always been of central importance for Caimi.

Today, Caimi is synonymous with: INTERIORS: furnishing solutions and accessories that provide versatile, cross-cutting options for offices, homes and the contract industry. SNOWSOUND: a special collection of soundproofing solutions and systems for dealing with the problems of sound pollution. OPEN LAB: the new research and experimentation laboratories that are helping to improve the mental and physical well-being of people.