

Press Release - Rome, 16 June 2023

## Levi-Montalcini Foundation

The headquarter of the Levi-Montalcini Foundation aims to be an innovative and eco-sustainable center dedicated to the exhibition and study of the work of Nobel Prize winner Rita Levi-Montalcini and her family. Creator and promoter of the project, Piera Levi-Montalcini, President of the Levi-Montalcini Foundation and niece of the Professor, who has always followed, supported and promoted the projects and initiatives related to her aunt and family.

The project of the headquarter bears the signature of the famous Italian architect Giancarlo Zema, known internationally for his eco-sustainable projects of great formal and emotional impact.



The idea behind the project is inspired by the strong parallelism that exists between the structure of the human nervous system and the root system of plants. The iconic architecture pays tribute to the research work of Prof. Rita Levi-Montalcini which led her to the discovery of nerve growth factor (NGF) and to the artistic works of her brothers, fundamental for the development of her incredible intuition and creative vision.





The circular building will grow in the center of a beautiful Paulownia forest, the tree that absorbs the most CO2 in the world, about ten times more than ordinary trees. At its entrance, the dense interconnected nervous-root system will be displayed, which will provide real-time data relating to the electrochemical exchanges between plants, the amount of CO2 absorbed and the amount of oxygen produced. This symbolic "control center" is intended to represent the mission set by the Levi-Montalcini Foundation: to be an "interconnection center" of scientific and artistic knowledge.



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Large structural trees over 6 m high, made by WASP in eco-cement 3D printing, will support with their branches an extensive photovoltaic roof capable of generating 200 kWp energy and collecting and accumulating rainwater, which can then be used for irrigation of the park. In addition, thanks to the collaboration with eVertiSKY the roof will become a small vertiport, equipped with a telescopic lift and landing platform for electric passenger drones, useful for observing the forest from above.

On the perimeter, the large glass surfaces will allow you to remain visually and emotionally immersed in the woods. A dense system of paths will branch off from the Center to dissolve inside the park, accompanied by the innovative photovoltaic street furniture elements of Luminexence to enjoy totally off-grid services and lighting.

Large and flexible spaces dedicated to exhibition events will be distributed within the Foundation. A long journey that starting from the origins of the Nobel Prize up to the contemporary evolutions of her thought, through photo galleries, documents, videos, will accompany the discovery of the family and professional life of Rita Levi-Montalcini, world icon of modern science.





At the entrance, on either side of the imposing spiral staircase with lift, the hall, reception, cloakroom, bookshop and some offices will open up. Upstairs a panoramic café with restaurant. The basement will house the 100-seat conference room, laboratories, warehouses and technical spaces.

The new headquarters of the Levi-Montalcini Foundation is an extraordinarily "Green" project in line with the Sustainable Development objectives of the 2030 Agenda. Thanks to the collaboration with Paulownia4Planet and 17tons, the Foundation will in fact be built in the middle of a forest of 500 Paulownia trees (50 tons of CO2 absorbed per year), connected to IoT sensors, analyzed by Machine Learning algorithms with digital avatars in blockchain and displayed on large LED touch screen displays inside the Centre.





IoT sensors placed in the ground and in trees will provide real-time information. Each tree will be traced so as to acquire the certainty of planting and monitored to know its state of health, that of the soil in which it will grow, and the quality of the surrounding air. This data will also make it possible to measure how much carbon will be removed from each tree and how much biodiversity will increase over time.

With this certified system, thanks to the collaboration with Paulownia4Planet, every donation made to the Levi-Montalcini Foundation will correspond to a specific quantity of plantings, in Italy or abroad, of Paulownia woods that bring oxygen to our planet.

Furthermore, inside the Foundation it will be possible to listen to the sounds produced by the Paulownia forest which vary according to the season, the climatic conditions, the state of well-being of the plants. This will be made possible thanks to the collaboration with the multi-instrumentalist musician Simone Vitale, who, with special equipment and sensors applied to trees, is able to produce musical pieces generated by the bioelectric activity of the plants themselves.





Lastly, to enjoy all that the forest can offer, thanks to the collaboration with Scent Company, the visitor will be immersed in the scents released in the various seasons of the year by Paulownia: a sort of aromatherapy, obtained from the flowers, leaves and Paulownia tree bark.

The Foundation will not only be an exhibition and research center, but also a demonstration center of how the interaction between various skills and the careful study and use of new technologies can improve the quality of human life and contribute to the survival of the planet: the Levi- Montalcini Foundation is the bearer of those teachings that it wants to pass on to young people.

The Levi-Montalcini Foundation will be built in Italy, in a green area of about one hectare, where Paulownia trees will be planted and there will be bodies of water. A real forest in support of nature, migratory birds and pollinating insects, where they can find refuge and sustenance.

## **Reference sites**

www.levimontalcinifoundation.org | www.giancarlozema.com | www.studiosarti.it
www.paulownia4planet.com | www.17tons.earth | www.luminexence.com
www.3dwasp.com | www.evertisky.com | www.scentcompany.com | www.soundofgoldenlight.com