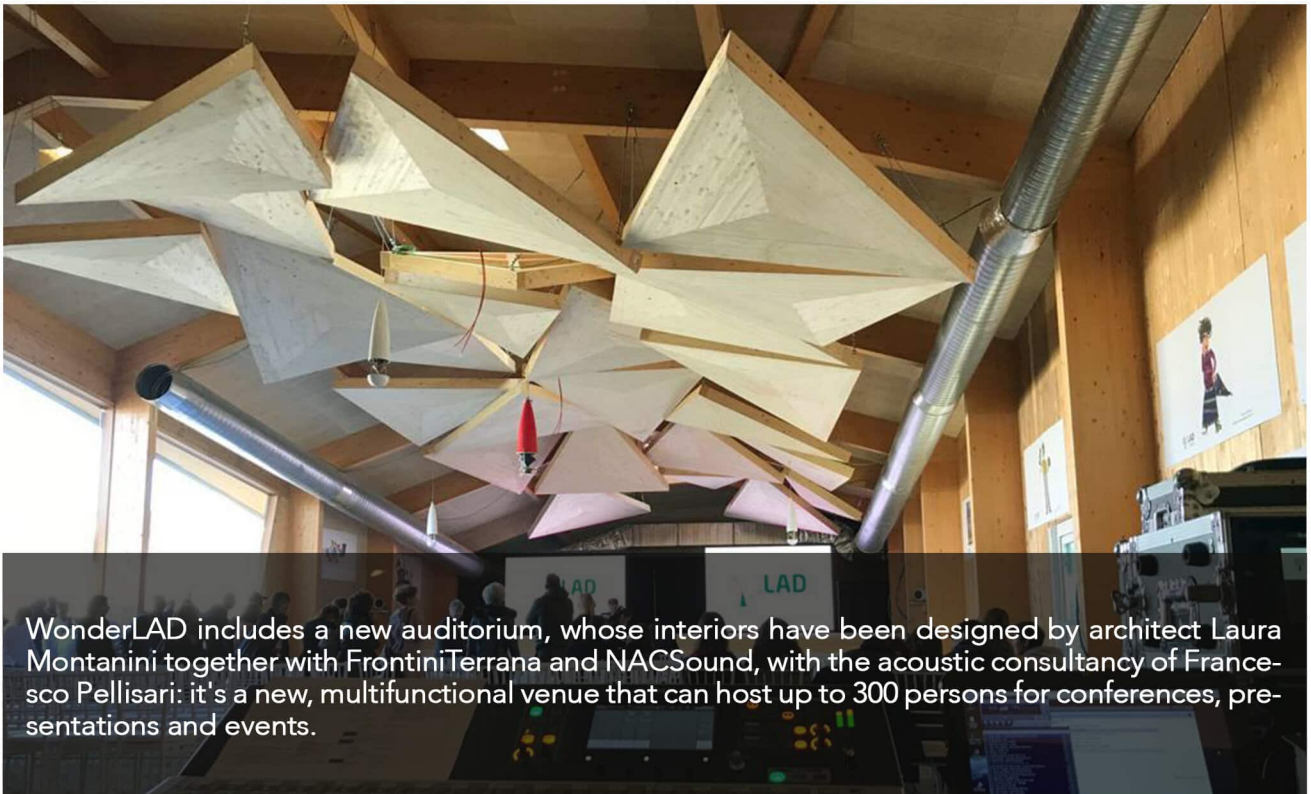


AUDITORIUM PROJECT BY A NEW ACOUSTIC SAILS SHAPE

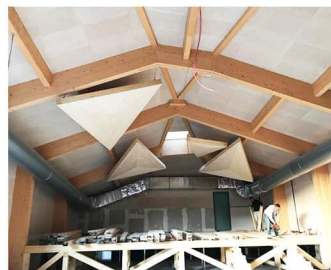
WonderLAD is a new hospitality center in Catania, Italy, for children with oncological disease and their families, where children can regain a sense of beauty through art and creativity. It's been designed by FrontiniTerrana Architects following the idea of Cinzia Favara Scacco and Emilio Randazzo of LAD Onlus, a non profit organisation that helps young patients during the difficult times of oncological therapies.



WonderLAD includes a new auditorium, whose interiors have been designed by architect Laura Montanini together with FrontiniTerrana and NACSound, with the acoustic consultancy of Francesco Pellisari: it's a new, multifunctional venue that can host up to 300 persons for conferences, presentations and events.

The size of the auditorium represented a special challenge for us. The main problem with any auditorium is the need of letting the voice of the speakers spread naturally and get to the entire audience with a clear, understandable quality: if that does not happen, it can be hard or impossible to understand what is being said or played.

Auditorium of WanderLand
Catania, Sicily, Italy



the space is a long room with not very high ceiling, and the ceiling was covered for safety reason by insulation materials that were dampening medium-high frequencies and not helping with the propagation of acoustic waves.



These issues were brilliantly solved by arch. Laura Montanini, who worked on two areas of intervention for the acoustic interiors: the ceiling and the side walls. For the ceiling Laura designed some custom-made, large triangular wooden panels to be hung with steel wires that we called "acoustic sails".

By tuning the position and inclination of these sails, we have been able to turn the ceiling into a diffusing element that help the movement of sound waves to the end of the room, at the same time reducing resonance and improving the proportion of sound.



The side walls of the auditorium were modified by adding three layers of wood laths: this solutions allowed us to control the reflective behaviour of the walls, reducing echoes, improving phono absorbcency and adding at the same time to the sound the harmonics of the wood. The lateral panels were prototyped with the help of Emilio Randazzo and Davide Canducci to find the best combination of the size and distance of the laths layers. The final fine tuning of the panels was done "by ear" after the installation of the actual panels on the walls.



Last but not least, the audio system is based on omni-directional speakers by Francesco Pellisari: a new, powerful, red Orus speaker (1000W) designed with Andrea Cestonaro, and two white Atun speakers made in collaboration with Stefano Giuliani.

The acoustic project included five omnidirectional speakers by NACSound



SPECIFICATIONS

| | |
|---------------------------|--|
| Designer | Francesco Pellisari & Andrea Cestonaro |
| Dimension | high 1054cm - diam. 30 cm |
| Position | hanging |
| Cabinet | Terracotta/fiberglass/ABS |
| Power max | 1000 W rms |
| Power recommendation | 600 W rms |
| Impedance | 8 ohm-Re 6.2 ohm |
| Effective frequency range | 80 Hz-22.000 Hz |
| Efficiency | 96 dB |
| Cabinet acoustics | conical transmission line |
| Cabinet volume | 42 L |
| Magnetic shielded | No |
| Woofer | 260 mm, aluminium basket |
| Wave emission | omnidirectional non coherence wave© |
| Connections | speakon |
| Weight | 21 kg - 46 lb |

Learn more about NACSound and Francesco Pellisari: www.nacsound.com // www.francescopellisari.com
 Learn more about FrontiniTerrana Architects here: www.frontiniterrana.com
 Learn more about WonderLAD and LAD Onlus here: <https://ladonlus.org/wonderlad/>