



NUOVO TEATRO DELL'OPERA, FLORENCE, ITALY

PROJECT. Situated somewhat outside the historical city of Florence, Italy's new music and cultural center will accommodate an audience of over 5,000 in three venues which can be used simultaneously: the opera hall, the concert hall and the "Cavea", an open-air auditorium on the roof.

ACOUSTICS. For the opera hall, the architects developed an innovative interpretation of the historical, horseshoe-shaped gallery theater, which in turn had a decisive influence on the acoustic design.

One characteristic of the auditorium with its modern architectural design is that its visually perceived form does not correspond to the acoustically effective space. An acoustically transparent wire mesh was installed in the hall, concealing its traditional rectangular enclosure. Moreover, behind the mesh acoustically effective elements and surface structures are hidden from the audience's view, e. g. diffusers for scattering sound of medium and high frequencies, or horizontal lamellae which in combination with the vertical walls direct favorable sound reflections to the audience.

The curvatures of the hall are optically preserved without creating any disturbing focusing of sound. The sound field, however, is perfectly defined by the acoustics of a traditional shoebox-shaped concert hall - thus creating ideal conditions for opera performances, symphonic concerts as well as for speech once the curtains invisible behind the metal mesh are unfolded.



CLIENT

Comune di Firenze, Italy

ARCHITECT

ABDR Architetti Associati, Rome

PROJECT DATA

Planning and construction period 2008 - 2011
Gross floor area 30,000 m²
Cost of construction 230 million euros

Seating capacity	opera hall	1,800
	concert hall	1,000 (under construction)
	Cavea	2,200

SERVICES RENDERED

Room acoustics, building acoustics, noise control, protection against external noise

Support during architectural design competition, consulting, simulations, test stand measurements, site supervision, accompaniment of initial operation period

1 Opera hall: view from the stalls area to the orchestra shell

2 Opera hall: view from the orchestra shell to the auditorium

3 Exterior view

4 Balcony seating

Pictures: Müller-BBM