

# CENTENNIAL HALL

## Integrating Sound, History and Culture

A Community Case Study - April 2012

### About Centennial Hall

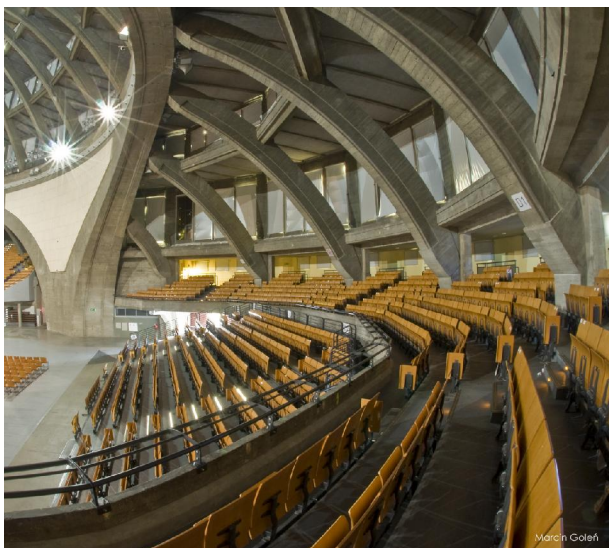
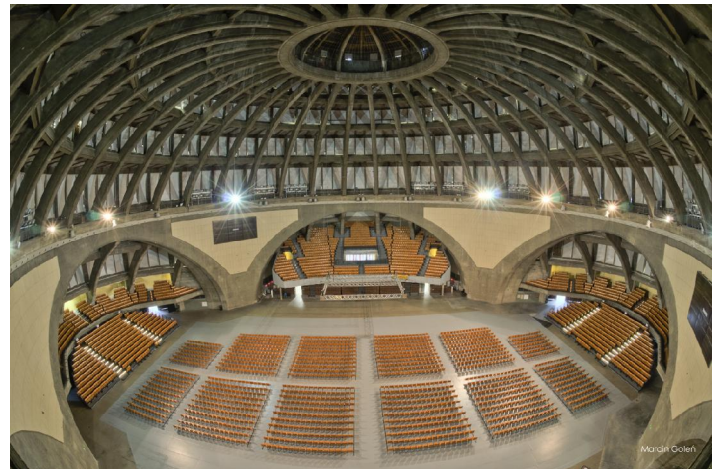
Centennial Hall is an historic venue in Wrocław, Poland. Upon completion in 1913, it was the largest reinforced concrete structure in the world. In 2006, it made the UNESCO World Heritage List, which designates properties with cultural and natural heritage that have “outstanding universal value.”

Unique architecture and versatile spaces make Centennial Hall’s complex a popular site for exhibitions and conferences. It features a massive reinforced concrete dome which measures 226 feet wide and 138 feet high. Renovations in preparation for the building’s centenary expanded the main hall to accommodate 10,000 people. It hosts everything from sporting events to opera to political meetings.



### The Sound System

One major challenge is difficult enough, but the design team for the Centennial Hall project contended with many. First, they needed a sound system versatile enough to excel at different functions. While voice evacuation was its most important role, the system was also expected to perform well for both entertainment purposes and voice paging. In addition to intelligibility and SPL requirements, the equipment needed to meet strict



Polish Fire Department standards as well. One test mandated that the loudspeakers withstand temperatures of 250 degrees for 30 minutes.

The team was also obligated to work within time constraints. Centennial Hall hosted the European Culture Congress in September 2011, and needed the sound system operating at its best for this major event. Adding to the overall complexity, the installation was required to meet specific criteria for this historic structure.

“Centennial Hall is an acoustically challenging building,” said Marcin Zimny, Manager of the Tommex Zebrowscy Sp. J. office in Wrocław, which handled the sound system design. “Its UNESCO status also meant we were restricted in the placement of loudspeakers. Unable to use, for example, a central cluster

## Sound System (CONTINUED)

under the main dome, we had to position the loudspeakers around the lowest ring of the dome. This required loudspeakers with precise coverage patterns, excellent voice reproduction and very high SPL.”

Zimny and his team built their solution with 52 high-output, dual 12-inch Community R-Series R2 loudspeakers and eight wide-angle, dual 8-inch WET W2-2W8 loudspeakers. To obtain complete and consistent coverage, they combined 50x20, 70x70 and 90x40 degree devices.

The design team turned to Switzerland-based g+m elektronik ag for amplification and voice evacuation. They selected Dynacord’s P 64 as the digital audio matrix manager. Fiber optic cable transports the audio from FOH to the amp room.

Despite all the challenges, the team surpassed expectations while meeting deadlines. “The client is very happy with the system’s audio and operational performance,” said Zimny, “and also that the loudspeakers and their installation have been very sympathetic to the aesthetic needs of this beautiful historic building.”



## Equipment Highlights

- 52 Community R-Series R2 loudspeakers
- 8 Community WET W2-2W8 loudspeakers
- Dynacord P 64 Digital Audio Matrix Manager
- Amplification and voice evacuation by g+m elektronik ag

## The Loudspeakers

There is a Community R-Series for every installation. Highly weather-resistant for outdoor applications, but very appropriate for indoor use as well, the R-Series offers exceptional voice clarity and sound projection capability.



**R2**

Community's WET Series loudspeakers provide high fidelity sound in a resilient and attractive all-fiberglass enclosure, delivering exceptional speech and music performance under extreme outdoor conditions or in architecturally sensitive environments.



**W2-2W8**

Download our R-Series Application Guide and All-Weather/All-Purpose Product Catalog from [www.communitypro.com](http://www.communitypro.com).

*Community has been a leading supplier of professional loudspeaker systems since 1968. Headquartered in Chester, Pennsylvania, Community distributes its products to over fifty countries on six continents.*

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