

# MARGHERA, VENICE, ITALY

## Integrating Sound and Emergency Notification

A Community Case Study - June 2013

### About The Facility

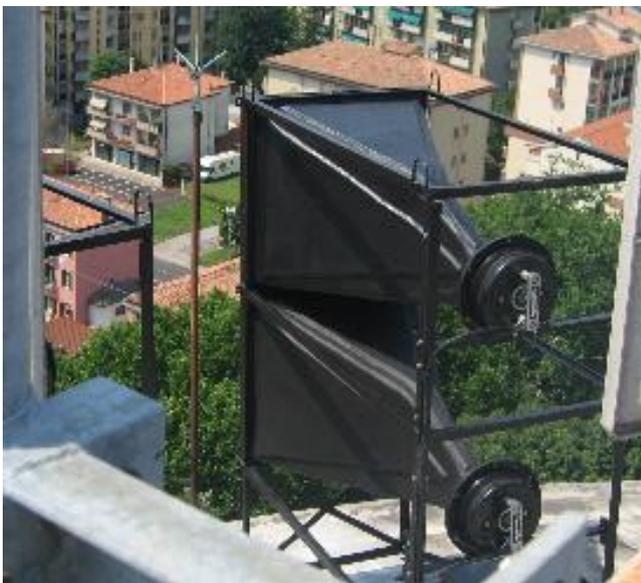
Marghera, Italy lies five miles northwest of Venice. One of Venice's six boroughs, Marghera's population is approximately 30,000. That includes a large industrial port called Porto Marghera.

The bustling port handles production activities such as petroleum refinery, metallurgy, electricity, and aluminum. While the industrial facilities that process and store chemical materials have their own alarm and warning systems, Marghera's citizens remained understandably concerned about the potential danger. For this reason, the Servizio di Protezione Civile of Venice approved an acoustic alarm system to instantly alert residents should harmful toxic pollutants get released into the air.



### The Sound System

Marghera needed an alert system that would cover a wide area with no chance of failure in an emergency. The C.V.R. (Consorzio Venezia Ricerche) had recently completed a flood warning system for Venice's Tidal Forecasting and Signaling Centre. While that experience proved beneficial for this project, they still faced challenges.



“The main problem derived from the fact that Marghera has few high buildings and we had to cover a very wide area,” said acoustical expert Umberto Nicolao, who managed the project's design. “The city's houses have maximum two floors, not useful for implementing the concentrated acoustic diffusion system I had in mind.”

The team decided to use Marghera's water tower as the system's central location. Standing 54 meters high, it was the best structure available. However, the city's lone skyscraper stood nearby, so they couldn't send a high level acoustical signal in that direction. According to Nicolao, they installed 30 Community PC1542M horn systems with M4 drivers on the water tower. “I chose the M4 driver/PC1542 horn combination because of the maximum

## Sound System (CONTINUED)

SPL data and the sufficiently narrow beamwidth,” said Nicolao. “I oriented the system in such a way that the skyscraper direction was outside the sound beam.”

To manage and control the signal and power amplification, the team selected the Vicia Amplifiers VA-8600 from Biamp Systems. Vicia meets Europe’s EN 54-16 and EN 60849 safety standards. Its architecture distributes processing and page routing through the network, which eliminates the possibility of faults in the system. Vicia AM-600c power modules drive the loudspeakers. The sound system also features five sub-locations with four Community RSH-462 Loudspeakers a piece in a multidirectional configuration.

Developing the acoustical warning signal itself had to account for many factors. Ambient noise in parts of the city, as well as atmospheric conditions, could make it difficult to hear. On the other hand, the team didn’t want a sound so loud that it might unnerve the residents.

Several professionals with specialized expertise contributed to the project. For products and technical support, Nicolao worked with Ennio Prase of Prase Engineering S.p.A. Network engineer Gabriele Ferrari built the architecture for the communication system. Sofitel, based in Treviso, Italy, managed the installation.

The warning system works extremely well, keeping the Marghera residents safe. It was specially designed to continuously monitor its status, so that any problems get signaled and addressed immediately. Based on its success, according to Nicolao, the nearby city of Vicenza decided to develop a similar system for river flooding emergencies.



## Equipment Highlights

- 30 Community PC1542M Pattern Control Horns with M4 Drivers
- 20 Community RSH-462 Loudspeakers
- Biamp Systems Vicia Amplifiers VA-8600 to control the audio network and automated monitoring
- Biamp Systems Vicia AM-600c power modules to drive the loudspeaker systems

## The Loudspeakers

Community manufactures compression drivers and a full family of component horns to fit a wide variety of applications where predictable, exacting dispersion control is required along with high quality construction.



**RSH-462**



**PC Series Horns**



**M4 Driver**

The RSH-462 is a complete horn/driver system with four M200 compression drivers designed for use in stand-alone voice-range sound reinforcement and announcement/signaling applications.

Download our R-Series Emergency Notification Brochure and a complete selection of horn and driver spec sheets 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 product to over fifty countries on six continents.*

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