

The sound of industrial safety.

An industry with acoustic challenges tested different evacuation systems and decided to install Axis audio equipment to comply with regulations on prevention.



Organization:

Montes del Plata

Location:

Fray Bentos, Río Negro,
Uruguay

Industry segment:

Industrial/Manufacturing

Application:

Audio announcements

Axis partner:

ipWorkers

Mission

All over the world, industries must comply with different requirements that certify the proper functioning of their premises and the safety of their employees. In Uruguay, SYSO (Occupational Health and Safety) standards include concepts from international labor conventions, laws, decrees, and other regulations concerned with accident prevention, reparations, and sanctions.

To comply with these preventive regulations, the cellulose pulp producer Montes del Plata decided to install an audio evacuation and monitoring system in its nursery. The big challenge was the question of acoustics, since the location doesn't have conventional walls but instead employs a structure of flexible synthetic material.

Solution

During the simulations, different audio systems were tested under these acoustic challenges. After the field tests, AXIS C3003-E Network Horn Speakers were installed in the more than 48,000 m² of nursery space, along with AXIS P8221 Audio Module to serve as an interface between the evacuation button and the loud-speaker system. In addition, a video surveillance system was installed that includes AXIS P1405-LE Mk II and AXIS P5514-E Network Cameras.

Result

Once the system was implemented, staff were able to identify the warning sound perfectly in the drills that were carried out. The camera monitoring enables control over what happens at the site to ensure proper use of supplies and other work elements. The result has led Montes del Plata to consider expanding this audio evacuation system to other facilities.

“We were surprised by the excellent performance of the audio devices in an environment as acoustically unfriendly as a nursery, with its huge size and acoustics that are not ideal for this type of equipment. We are really very satisfied.”

Germán Albín, Head of the Montes del Plata Infrastructure Department.

Responsible production

Montes del Plata is an important driving force within Latin America's forest industry sector. It is the main producer of cellulose in Uruguay and the main private generator of electricity. Its management policy is dominated by a commitment to produce wood, cellulose, and energy in a responsible manner. One of the aspects where this commitment is embodied is in working and employment conditions, which are aligned with the provisions of Decree 372/999 (1999) that regulates occupational safety, hygiene, and health in forestry sector workplaces.

The company manages an extensive productive chain that encompasses more than 6,500 people who work directly and indirectly for it. This chain begins in an R&D center with its own nursery in the department of Rio Negro and extends through the country's 13 departments, involving forestry, harvesting and transportation tasks that culminate in the company's industrial complex in Punta Pereira, Colonia. More than 100 people from the area work in the nursery's nearly 5 hectares of greenhouses. Their goal is to produce 20 million seedlings per year with zero incidents.

Clear message

The size of any environment has an impact on the acoustic experience. A small room can cause the reflection of sound waves before the waves develop properly, which creates resonance and amplifies some frequencies (higher volume) while attenuating others (lower volume). Thus, it is important to have a wide environment in order to hear bass without distortion.

“We understand that these Axis loudspeakers have been designed for more open environments, but we discovered that they respond perfectly to how the customer needed to use them in the indoor nursery,” says Edgar Dattoli, founding partner of ipWorkers, an Axis partner integrator.

“This evacuation audio system consists of AXIS C3003-E Network Horn Speakers and AXIS P8221 Audio Module, which is used as an interface.”

The purpose of the loudspeaker is to maximize volume at the frequencies the human ear is most sensitive to. The idea is for the speaker to transmit a message as clearly as possible (whether it's a voice or a siren). AXIS C3003-E directs all its sound output in one direction, which improves sound pressure and—in the case of Montes del Plata—allows for evacuation to take place as safely as possible.

Smart manufacturing

One big challenge that this project confronted was its power supply. Because the equipment uses Power over Ethernet (PoE), it was not necessary to provide supplemental power or run electrical wiring to each speaker's location. Although currently the system is managed from the same area in the nursery, the solution has the potential to be easily expanded, since if the client needs to do so it could be connected to the telephone exchange via IP, which would improve system availability even further.

This is possible because AXIS C3003-E uses Session Initiation Protocol (SIP), which establishes multimedia sessions between devices. By using this interface in its audio evacuation system, Montes del Plata increases its flexibility for more interconnected uses of the system, and therefore the practical value of products in the future—especially considering the concepts of Industry 3.0 and Smart Manufacturing.

For Germán Albín, Head for the Montes del Plata Information Technology Department, the tests that were carried out were critical in supporting the company's decision. “Our production makes use of the latest technology and equipment, and we know that having Axis technology in our facilities is synonymous with efficiency.”



Montes
del Plata

ipWorkers

**For more information on Axis solutions, visit www.axis.com/solutions-by-industry/industrial
To find a reseller of Axis products & solutions, visit www.axis.com/where-to-buy**

©2018 Axis Communications AB. AXIS COMMUNICATIONS, AXIS, ETRAX, ARTPEC and VAPIX are registered trademarks or trademark applications of Axis AB in various jurisdictions. All other company names and products are trademarks or registered trademarks of their respective companies. We reserve the right to introduce modifications without notice.

AXIS
COMMUNICATIONS