

Oregon State Is First U.S. University to Use Breakthrough Safety Technology

University installs ExitPoint™ and partners with local professionals to improve residential hall life safety.

Oregon State University (OSU) has made fire- and life-safety a real priority, and the partnerships and resources that university officials have dedicated to improving campus safety prove that this isn't just big talk and no action.

The University Housing and Dining Services (UHDS) department has developed a partnership with the municipal fire department, which is the core of the UHDS Fire Prevention and Protection Program (FP&P). It is a rarity for a housing organization to allocate so much in terms of resources to an FP&P program. When the GEM building, the former College Inn, a residential hall on OSU's Corvallis, Ore. campus, was scheduled for remodeling, OSU officials were given the opportunity to put the program to the test.

Gus Villaret, associate director for housing and dining at OSU, explains, "We put together a very good program in conjunction with the Corvallis Fire Department to train our full-time and student staff and, subsequently, the students who reside in on-campus residences. Every year, the staff and residents are trained to understand the fire-safety features of their particular building. Fire drills are conducted throughout the year, and all facilities are inspected periodically. Fire safety is



The GEM is a seven-story, 120,900-square-foot concrete building that was recently converted from a residential hall cell building to studio-style suites.




something we take very seriously." That's why Villaret thought it would be a good idea to install System Sensor's ExitPoint™ directional sound technology in the GEM building.

ExitPoint incorporates sounders, positioned at perimeter exits and stairwells, to guide building occupants to the nearest exit quickly and efficiently in the event of a fire. Triggered by the fire-alarm control panel, ExitPoint uses broadband sound that evacuees intuitively follow to safety. Unlike standard fire-alarm sounders, which simply alert people that there is a fire in the building, directional sound


technology directs occupants which way to go — the perfect solution for the GEM. OSU's installation makes it the first university in the country to use ExitPoint in a residence hall.

Most of OSU's residence halls are simply designed. For example, a student turns left or right out of their room, and then walks straight ahead to the stairwell at the end of the corridor. Therefore, it's easy for a person to find their way out of the building. The GEM building, however, is more complicated.


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The wings are winding.



Each floor now consists of three wings and a central lobby with elevators.



Going around one corner does not necessarily bring you to a stairwell or exit.

converted from a residential hall cell building to studio-style suites, plus one-, two- and three-bedroom apartments. The food service area was also converted into loft units. Altogether, 231 units were created. Each floor now consists of three wings and a central lobby with elevators. The wings are winding, so going around one corner does not necessarily bring you to a stairwell or exit.

There are many considerations made prior to laying out and designing a campus fire- and life-safety system, especially in a remodeling job. As Kurt Haapala, an associate with Mahlum Architects and designer of the GEM building,

explains, “From the architect’s perspective, normally we try to meet the letter of the code when thinking about fire- and life-safety, as well as safety egress. But when we walked through this building, we were all left with a certain level of uneasiness about the egress route. It was simply a very confusing building. It was even very confusing to find the mezzanine level and to know how to get in or out during an emergency.”

Sound Advancements

UHDS fire prevention and protection specialist Steve Owens, who witnessed a demonstration of

ExitPoint, urged his colleagues to test the technology in the GEM building. “Seeing the demonstration was really the turning point for me,” he says. “We were able to utilize an area in the GEM building, bring the light level down to where it was virtually dark, add smoke and run through an evacuation scenario. It was extremely convincing. It became apparent to me that somebody in a very short period of time, even someone unfamiliar with the building, could find their way out of that building, unassisted, utilizing the system. I don’t know

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of any other system built into a structure that could make that claim.”

“For a person who hasn’t been in this building, just trying to find your way around has been an issue,” says Dan Potter, vice president of Housing Northwest, a non-profit property management corporation in Portland that works with OSU. “Directional sound makes sense for the safety of residents in the building. It can help deal with some issues of exiting this building by making it

easier and clearer for people to find their way to an exit if there is an emergency.”

Working in conjunction with the smoke detectors and other audible/visible notification devices, the ExitPoint system consists of a series of sounders placed throughout the GEM building. The sounders are on the same circuit as the building’s notification appliances and are automatically activated as soon as a sensor detects the presence of fire or smoke.

Jim Patton, fire inspector for the Corvallis Fire Department, says, “I think this system will really make a difference for [occupants’] ability to evacuate and find exits in the event of a smoke-filled environment. This building is also being sprinkled, which is a great thing. It wasn’t sprinkled previously to any extent. It’s going to turn out to be one of the safest housing facilities on or near campus.”

Improving Fire-Safety Protection

ExitPoint offers a significant improvement over using only visual-based emergency way-finding aids, such as emergency lighting and photoluminescent guidance strips, which can be difficult to see in smoke-filled environments. Because directional sound devices lead people to exits using sounds, not words, they assist people who may have visual impairments or language barriers. The devices can also be heard above other noises, including fire alarms and shouting.

ExitPoint’s ability to provide directional information is based on its non-verbal, multi-frequency tones, enabling people to locate the sounders and follow the sounders to designated exits. “The sound tells you where to go — it’s intuitive. You can walk down a dark, smoke-filled hall, and the sound will lead you to the exit,” explains Neil Hall, fire marshal for the Corvallis Fire Department.

By tapping into a sense that is unaffected by smoke — hearing — directional sound technology provides clear, easy-to-understand assistance for finding the nearest



Directional Sound Notification Appliance Specifications

The PF24 Directional Sounder emits a broadband, multi-frequency sound that is easily and quickly located by building occupants for rapid building evacuation.

PF24

Mechanical Specifications

Input terminals:	12 – 24 AWG
Sounder size:	4" (101 mm)
Grille Size:	4 7/8" (127 mm)

Electrical

Voltage Input:	Regulated 24 volts
Operation Voltage Range:	16 to 33 volts
Operating Humidity Range:	10% to 93% RH non-condensing
Frequency range:	20 Hz to 20 kHz
Operating Temperature range:	32°F to 120°F (0°C to 49°C)
Power:	1/4", 1/2", 1, 2 and 4 watts, selectable
Listings:	UL, ULC, FM, CSFM and MEA



exit. Evacuations occur much faster.

Life on campus today is all about the amenities, and university and college administrators are beginning to focus as much attention on residential halls, recreation and retail as they do on educational offerings. This shift in focus emphasizes campus student housing security and fire- and life-safety because residential halls are occupied at all hours of the day, presenting a challenging environment for ensuring student, staff and faculty safety.

Collaboration of all OSU partners made the integration of ExitPoint into the overall life-safety system possible. In keeping with OSU's core values, "ExitPoint is just the latest example of UHDS going the extra mile to make sure they provide the safest accommodations possible," says Patton. LS



Child Care Center Cuts Fire Drill Evacuation Times in Half

Safety is of paramount importance to parents, no matter what age their children are. Kathie Maxwell says that when parents inquire about placing their children in her day care center, safety issues typically top their list of questions — and rightfully so.

"Parents look for a good fire-alarm system and a good security system, and those things are important to them. If you have any common sense at all, you want that protection for your children," says Maxwell, who owns the Children's Haven Child Care Center in Denver with her husband.

That's why when Maxwell and her directors give tours at the center, they point out the new ExitPoint™ directional sound system that helps safeguard their young charges.

"It was a very smart move to do sounders versus horns and strobes," says Efrain Cordova, an electrical contractor with Competitive Electric Inc. in Littleton, Colo. Efrain installed ExitPoint at the center, as well as a fire-alarm package that includes standard audible/visible devices.

Test Runs Prove System Effectiveness

Children's Haven sets off ExitPoint during its monthly fire drills so that the children become accustomed to the sound and practice reacting to it. During their first ExitPoint drill, the center's full building evacuation time dropped from about two minutes to one.

Although infants and toddlers are too young to evacuate the same way the older children do — and by law, their rooms must have their own outside exits — ExitPoint sounders are located above their exits to provide extra assistance for adult caregivers. "Even if the room filled with smoke and was in pitch-black darkness, they'd still get out," says Cordova.

Sounders, in Cordova's opinion, are "10-fold better than horns for a standard fire-alarm system" in helping people evacuate quickly.