Advanced fire detection enhances safety, simplifies maintenance

Smoke detection equipment must distinguish smoke from a fire vs. ride effects and dust. A centralized detector allows for annual testing in an accessible location. COURTESY XTRALIS

UNIVERSAL CITY, Calif. — When **Universal Studios Hollywood** revamped its original Jurassic Park ride into the Jurassic World ride with the latest animatronics and effects. It also had to update its smoke detection technology to make it safer and easier to maintain.

"One of the [smoke detection] challenges for the Jurassic World attraction is that it is essentially a boat ride with quite a bit of fog and mist, along with simulated pyrotechnics in some areas," said **Thomas Johnson**, a manager with **Callide Technical**, a Southern California-based design build fire safety integrator. According to Johnson, such conditions can trigger false alarms, which theme parks want to avoid because it has the potential to shut the ride down for hours of testing.

Changes in the fire code since the original Jurassic Park ride was first commissioned also mandated more complete smoke detection coverage and put an even greater premium on simplified testing and servicing.

Callide Technical and Universal Studios Hollywood turned to an advanced aspirating smoke detection technology system called the Vesda-E VEA, by **Xtralis**, a global provider of aspirating fire detection equipment.

The VEA draws in air through small, unobtrusive sample points in each room or area. The air is analyzed using laser-based technology at a central unit to identify the presence of smoke particles in a continuous process. The centralized detector combined with full integrity monitoring allows the annual functional smoke test to be conducted in an easily accessible location and conducted in a fraction of the time. Seven VEA devices are utilized inside the Jurassic World ride with 14 to 35 sampling points per unit.

This approach offers earlier detection by detecting very small amounts of smoke particles, potentially before a fire begins to flame and burn. In many cases, early warning smoke detection can initiate timely evacuation and allow intervention to prevent fire spreading to other areas. As a multi-channel, addressable system, the VEA central unit can also pinpoint the exact location of the alarm.

The aspirating system also reduces nuisance alarms by more clearly distinguishing between smoke, fire and dust and can even be adjusted to refine the settings for a specific application.

"One of the theme park's goals was good aesthetics, with small, unobtrusive sampling points that would not detract from the ride experience," said Johnson.

The small size of the VEA sampling points renders them virtually invisible, making them inconspicuous to theme park guests and a perfect solution for interior designers.

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