



Directional Sound Evacuation - Tunnels

In the context of tunnel evacuation guidance, Sound Alert's audible exit signs have the following advantages:

- Audible routing guidance
- Significant improvement in exit times
- Ideal in poor visibility (dense smoke)
- Integrates with existing systems
- Time saved = Lives saved
- Low cost – easy retrofit



Localizer[®] directional sound is a broadband, multi-frequency (“white noise”) sound. The sound source is easily and quickly located by our ears, making it ideal for rapid evacuation guidance. Technology details are on the web site www.soundalert.com

Developed at Leeds University, the technology is patented in the EU, Canada, UK, USA, Australia and Hong Kong, with applications being processed in Japan.

Conventional fire alarm sounders efficiently warn people in the event of a fire that evacuation is necessary, but give no indication of exit routes. Illuminated exit signs, which are often ignored as part of the everyday visual clutter, will help only if visible and not obscured by smoke. PA/VA systems can advise where to go, but cannot actually guide people along the route. Localizer-equipped audible exit signs that use directional sound properties can identify evacuation routes even in dense smoke and are complementary to all the above systems. Localizer was recently awarded the Fire Industry Council's product innovation award.

Tunnel Evacuation

Fatalities in fires are often caused by inhalation of poisonous smoke. Rapid evacuation of the smoke-filled areas is critical to save lives.

Directional sound technology, fitted in addition to the normal bells or sounders and PA systems, offers a way to draw people to exit doors routes even in perfect visibility – however they are without equal in smoke. Triggered by existing Fire Detection systems, Localizer directional sound beacons positioned adjacent to or integrated within illuminated exit signs immediately identify their location – making them easy to locate even in smoke.

In recent trials, only 25% of participants found exit doors within a smoke filled tunnel using only illuminated signs. When directional sound was used, even without briefing on the sounds, three times as many found the exits. If voice evacuation signals could provide “just in time education” that exits are marked by the special sound, there is every reason to believe that most, if not all people would quickly find the exits. Independent trials in buildings, ships and aircraft have consistently shown an improvement of up to 70% in evacuation times in smoke and up to 35% without smoke.

The UK Government's Maritime & Coastguard Agency (MCA) has recently completed an extensive series of independent tests with University of Strathclyde in which over 400 volunteers participated in trials in corridors, stairs and open spaces. Following these trials, the Governments of Germany & UK are proposing DSE to the United Nations for use on ships. Full details on the MCA's website: www.directionalsoundevacuation.com

Sound alert would be happy to participate in trials or pilot installations within road or rail tunnels to develop this technology in the tunnel environment.



What is Localizer[®] technology?



Fire Safety



Tunnel Evacuation



Confusion in smoke



Signs lost in smoke



Fire Industry Council
Product Innovation
Award



Design
Council
Award

* The Localizer is the registered trademark of Sound Alert Technology plc.
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