

Case Study title: Eave Hearing Protection System Trial

Scheme name: Lincoln Eastern Bypass

Project stage: 5Date Case Study submitted: January 2022

Health and Safety

Scheme context:

Eave is a UK-based smart tech company which designs digitally connected ear defenders and noise mapping software, aimed at preventing avoidable deafness through the monitoring of, and protection against, damaging noise levels. The system is based on smart ear defenders which capture real-time data on site noise and noise at the wearer’s ear, filtering out noise hazards whilst accentuating human voices, allowing each operative to communicate with each other. It also comprises of a noise and hearing management platform called PEAK which enables employers to pinpoint harmful sources of noise on site. The product research undertaken showed an increase awareness of noise risks, thus providing users with the insights they can act on to protect workers, and remove noise hazards at the source.

Case study details:

Traditional Hearing Protection Devices (HPDs) have failed to protect the health of workers on site, blocking sound indiscriminately, preventing workers from hearing verbal warnings and alarms, consequently increasing the risk of accidents and noise-induced hearing loss (NIHL). According to the European Agency for Safety and Health at Work, Noise-Induced Hearing Loss is the most common occupational disease in Europe and 2.4 million construction workers in the UK are at risk of NIHL.

Eave is a noise monitoring system designed to protect the wearer from harmful sources of noise. The Eave hearing protection system consists of FocusLite smart ear defenders and a cloud-based risk monitoring and prevention platform (PEAK). The FocusLite smart ear defenders collect real-time data on construction site noise and the wearer’s exposure rates that is then fed through to Peak, which visualises the data. The data is then analysed by health and safety managers and/or site managers, who use the date to eliminate noise-related risks.

The Grantham Southern Relief Road (GSRR) was chosen as the site for testing due to members of Galliford Try Highways (GTH) being dissatisfied with the effectiveness of traditional HPDs at eliminating noise-related risks while working on the GSRR. The equipment was worn on site during the standard project hours.

Overall, positive feedback was given regarding the Eave hearing protection system. Paul Mather and his team at Galliford Try Highways found that the data collected from the smart ear defenders successfully transformed noise management at Grantham. The real-time data gathered enabled project managers to base health and safety procedures on accurate and reliable evidence and not rough estimates, optimising ways of working and effectively tackling the problem of harmful noise for the first time. Project managers were able to share information on hazardous noise to operatives, thus influencing the behaviour of the team and thereby driving up protection wear rates.

What are the benefits?

- Increased awareness of noise levels, quantified and proactively improved protection wear rates amongst operatives
- Data gathered on the EaveFocus Lite ear defenders, allowed worksite managers/ health and safety leads to monitor workers exposure levels
- The Eave kit protected Galliford Try Highways workers for 154 hours while working on the Grantham site from May 2019- Nov 2019
- 31 overexposures were flagged up by Peak

How can others apply your learning?

The widespread use of traditional hearing protection devices - such as earmuffs and foam plugs - exposes operatives to immediate risks. However, through the development of digital technology such as Eave, the technological and social shortcomings found within traditional HDPs are addressed.

To conclude, from the trials carried out on the Grantham site and the experience of those who used the Eave kit, the Eave kit is recommended for wider use across the Galliford Try business. The eave kit could improve health and safety on site, protection wear rates and an overall change in attitude when it comes to hearing protection.

Further information:

More information about the trial and the benefits of the Eave system is available [here](#)

Contact for more details: Jonathan Clarke

