

Overview

The State Transit Authority (STA) is an agency of the Government of New South Wales operating bus services in Sydney. STA operates eight strategically located bus depots across the Sydney Metro area, of which, three are designated as Compressed Natural Gas (CNG) bus depots for refuelling.

The Challenge

STA takes personnel safety very seriously. Special compliance exists for IECEx Group II Certification at CNG sites due to the risk of a CNG explosion during refuelling operations. In 2019, STA approached Roobuck to assist them to improve Wearable Safety PPE designed to solve a potential safety problem that was identified at their CNG depots.

Depot refuellers, supervisors and drivers on night shifts are not always visible during bus movements. Add to this, poor weather and varying light conditions only increase the risk factors. This can present a serious danger to staff being struck by buses, causing serious injury or even death, as well as the added risk of a gas explosion.

The Solution

STA being aware of Roobuck's expertise in IECEx and the development of certified Hi Vis LED Vest products, approached Roobuck to develop an IECEx Group II certified LED shoulder brace, as a "one size fits all". The shoulder brace is to be worn by personnel during CNG refuelling operations to enhance their visibility when working in and around the CNG buses.

During the development phase, STA management and key safety personnel were instrumental in the product trials and provided end-user feedback to finalise the form factor design, fit and size. The shoulder brace is designed to be worn over the shoulder as a safety wearable or can also sit over an existing Hi Vis Safety Vest for temporary application. It will enhance the reflective visibility of the vest from both the front and back. The shoulder brace generates bright LED light, front and back, that can be seen up to 300 metres away in clear, night or darkened conditions. There are three adjustable LED light settings: steady, fast flash and slow flash.

All LED straps and the battery box are certified to IECEx Group II. The webbing and plastic materials are anti-static and fire-retardant. LEDs are powered by an easy-to-use battery box containing two AA alkaline batteries, which are held in a battery pouch in the front on the waist belt.

The Outcome

Currently, all three CNG depots are using the LED shoulder brace and it has gained refueller acceptance as an added layer of safety towards their zero harm strategy.

The shoulder brace is also compliant for other Group II Petrochemical and Oil/Gas applications to meet IECEx certification TSA 15.0017 and Ex Marking Ex ia IIB T3 Ga.

