

## Annex C – Factsheet on Slips, Trips and Falls Technology Solution

The Workplace Safety and Health Institute (WSHI), Ministry of Manpower launched an industry challenge in April 2020 on the Built Environment Accelerate to Market Programme: Digital (BEAMP:D)<sup>4</sup> on Open Innovation Platform (OIP) to seek innovative technology solutions to detect STF near misses and hazards. The project was in collaboration with Infocomm Media Development Authority (IMDA) and Building and Construction Authority (BCA). Vulcan AI Pte Ltd (Vulcan AI), a local deep-tech startup specializing in AI solutions to improve safety and productivity, was awarded the challenge to develop the STF technology solution.

2 The technology using video analytics, enables STF incidents, near misses and hazards to be detected real-time via CCTV feeds. For areas not covered by CCTVs, workers can be equipped with wearables. When an STF incident or near miss occurs, the supervisor receives a real-time alert (with video feed) via a mobile app for prompt intervention. The detection of near misses also allows STF hot spots to be identified for hazard removal or increased frequency of housekeeping. In addition, the solution provides an audit trail for incident reporting and resolution. Insights such as the top STF hazards as well as the frequency of near misses and hot spots, can be generated via the analytics dashboard.

3 The test-bedding of the solution with industry partners has shown good results. Both the video analytics and wearables components are able to achieve a high accuracy of detection of STF incidents and near misses. Version One of the technology is now ready to market. Drawing from industry feedback, the technology will be further enhanced by Vulcan AI with improved features such as scaling the dashboard to enable monitoring of multiple sites.

### Key Benefits

- Detects STF near misses which allows early interventions such as hazard removal or correction of worker's risky behaviour
- Improves response time to an STF incident
- Automates the generation and digital storage of STF incident reports
- Provides audit trail on resolution to an STF incident, near miss or hazard
- Dashboard for businesses to monitor and analyse WSH performance

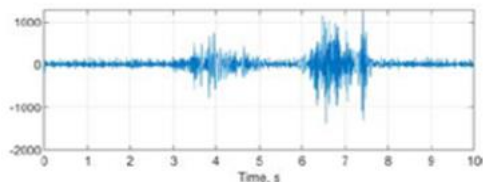
---

#### <sup>4</sup> About BEAMP:D

The Built Environment Accelerate to Market Programme (BEAMP) was set up to bring inventors and companies together to fast-track the innovation process to solve real world industry challenges. This programme was launched by BCA, JTC Corporation (JTC) and Enterprise Singapore (ESG) in February 2019. BEAMP : Digital (BEAMP : D) is a call for digital centric innovations in the BE sector that leverages IMDA's Open Innovation Platform (OIP). Innovators that have successfully completed their project under BEAMP : D have the chance to apply under the Market Development phase of BEAMP to further develop and validate the solution in the market.



Multi-Sensor: Wearable and video sensor ingestion



**Detect:** STF event and STF hazard objects using accelerometer data & video footage



**Monitor:** Logging, monitoring of STF count over time



**Alert:** Send notification to facility manager based on preset rules

Businesses interested to know more about the STF Prevention Solution can contact the solution provider, Mr. Manik Bhandari from Vulcan AI at [sales@vulcan-ai.com](mailto:sales@vulcan-ai.com).

WSHI is seeking industry feedback on WSH problems that has potential to be alleviated using technology. Businesses can submit their feedback through <https://go.gov.sg/wsh-tech-feedback>. Solution providers with good WSH technology proposals can email [contact@wshi.gov.sg](mailto:contact@wshi.gov.sg) with a write-up of how their solution can address WSH problem(s).