A YFS Social Enterprise Initiative
SUBSTATION33
Recycling | Skills | Innovation

Flooded Road Smart Warning System

The Flooded Roads Smart Warning System (FRSWS) project uses smart technology to provide a proactive and responsive mechanism to enhance road safety during flood episodes. The FRSWS minimises the risk of drivers inadvertently driving into flooded roads by using advance warning signs that only activate in flood conditions.
The real-time data from a FRSWS can be provided to local council, disaster management entities and the community through a range of communication methods and can be used to support town/road planning and design considerations. *Flood waters can move fast, with the use of our smart warning systems we can drive your community to safety.*

WHAT SETS US APART?

History:

The Flooded Roads Smart Warning System was originally developed in conjunction with Logan City Council and Griffith University in late 2016. The initial collaboration stretched Substation33's Head of Innovation and graduate students to turn a theoretical design into a working solution. Since then, the signs have undergone extensive hardware and software design updates to improve design and respond to the needs of of the council's using the signs. The first deployment consisted of five signs and we now have 190 signs deployed across 95 active sites.

Environmental Sustainability:

The FRSWS signs are manufactured at Substation33, a social enterprise of YFS. Environmentally sustainable practices and many recycled components are incorporated into each sign. All profits are reinvested in the community through job training, education, self-betterment and job placement. Every year we save about 200 tons of e-waste from ending up in landfill. Only 4% of what comes through our doors goes to landfill.

When you purchase a FRSWS you become part of the positive process of circular economy.

Online Monitoring Software:

Our system offers a powerful web-based dashboard for data visualisation and analytics. We employ ThingsBoard, which is an open-source Internet of Things (IoT) platform for your data collection, processing, visualisation, and device management. The dashboard flexibly presents real-time data allowing you to download reports and set environmental alerts based on changing conditions. The system integrates with artificial intelligence learning techniques and back-end environmental models to provide a comprehensive solution.

We pride ourselves on tailoring our solutions to meet your needs and requirements.
If you have any questions about our products, please contact **Tony Sharp**.

System Information & Specifications:

- 1 sign at each side of the crossing (2 per crossing).
- 1 "road flooded" switch per crossing.
- High-water flood switch radio transmission device (no additional costs for trenching between crossing and signs).
- Automated, low-power, high visibility, flashing LED sign (“Road Flooded”).
- Wireless signal from float switch to signs (to activate and deactivate signs).
- Live notifications every 15 mins updating crossing status (clear/flooded) and sign hardware status (fault detection).
- Potential for depth sensor add-on.
- Potential to inform vehicle navigation systems through Open Data (Google Maps).
- 12 month product warranty inc. data migration and servicing.

Our Safety Commitment:

In Australia between 2000 - 2015, 85 people died in vehicles attempting to cross a watercourse. A quarter of those entered floodwaters in the dark or twilight when visibility is poor*. Our flashing "Road Flooded" sign is an initiative developed in direct response to these statistics. We are committed to saving as many Australian lives during flood season as possible.

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*As reported in: flood_fatality_report_final.pdf (riskfrontiers.com)