

MEDIA RELEASE

Impact absorbing traffic light design aims to improve road safety

Latest IMCRC activate project set to save lives, reduce costs and support local industry

Melbourne, 25 November 2021: In an effort to improve road safety, a new research collaboration is developing traffic lights that absorb kinetic energy during a collision.

With \$100,000 in funding through the Innovative Manufacturing Cooperative Research Centre's (IMCRC) activate program, Australian road safety manufacturing company Impact Absorbing Systems (IAS) is collaborating with University of South Australia (UniSA) STEM to re-engineer and significantly reduce the risk of collision related injury to vehicle occupants and pedestrians using an energy absorbing traffic light (EATL) design. IAS is contributing \$100,000 to the project which is worth \$640,000 in total research effort.

The innovative energy transfer mechanism, which is currently used commercially in IAS's Australian made energy absorbing bollards (EAB), will also minimise damage to traffic lights themselves, lowering replacement costs for the Department of Infrastructure and Transportation and local councils.

Over the next 12 months, IAS and UniSA STEM will optimise the existing EAB design to better suit the shape, length, size and location of common traffic lights. Operating out of UniSA's Testlab and engineering design facilities, the team will use advanced manufacturing techniques, materials testing and computational modelling to build and test various EATL designs, delivering a world first product that complies with road safety standards.

The research will integrate smart sensors into the final design, which will monitor the state and performance of the EATLs and enable local authorities to perform preventative maintenance.

IAS Industry Lead Grad Zivkovic said the IMCRC activate funding had enabled IAS to access the resources and expertise needed to devise and deliver a reliable, market ready EATL technology.

"Our collaboration with IMCRC and UniSA will revolutionise current traffic light design. By leveraging the university's R&D capabilities, we will develop a practical and effective solution that has the potential to improve road safety worldwide," Zivkovic said.

"The project will also create pathways for Australian manufacturers to fabricate and supply components of the EATL throughout its development and commercialisation, supporting local industry and developing global export opportunities."

UniSA STEM Project Lead Researcher Dr Mohammad Uddin said, "Working with IMCRC and IAS to progress the EATL from engineering concept through to computational modelling ensures that we will collaboratively determine the optimum solutions for design, material selection, and state-of-the-art manufacturing.

"Not only are we contributing to the design of a commercially viable product, but to the ongoing development of industry capability that will facilitate future successes."

Prof Enzo Lombi, Dean of Research at UniSA STEM added, "The IMCRC activate project is another exciting endeavour for UniSA's engineering research team. In delivering a successful outcome, the team will contribute to the creation of a lifesaving road safety EATL solution that will support the growth of Australia's manufacturing industries."

Dr Matthew Young, IMCRC's Manufacturing Innovation Manager said the IMCRC was delighted to be co-funding the development of the world-first EATL technology, which presented significant opportunities for Australian manufacturing, government and local councils.

"EATL has significant potential in the market of traffic light safety solutions and as an Australian manufactured solution," said Dr Young.

"If successful in reducing replacement costs of traffic lights and costs associated with human injuries, the technology will provide benefits to the Department of Infrastructure and Transportation and local councils.

"This project is another example of what can be achieved through IMCRC's activate program, which is designed to catalyse commercial outcomes through shorter-term collaborations between Australia's SMEs and research organisations."

ENDS

About IMCRC

IMCRC is an independent and for-impact cooperative research centre with a successful, proven and scalable model for catalysing research and business partnerships that drives transformative commercial outcomes for participating Australian manufacturers. To date, IMCRC has successfully co-invested in more than 60 R&D projects, catalysing more than \$220 million in transformative manufacturing research.

IMCRC's activate program was introduced in 2020 to support shorter-term, industry-led research projects to help Australian manufacturers take action and gain a competitive edge in the post-COVID-19 world.

About IAS

Founded in South Australia, IAS engineer innovative road safety solutions that contribute to the reduction of road fatalities. Their energy absorbing bollard (EAB) is the only one of its kind currently approved by Australian Road Authorities.

About UniSA STEM

UniSA STEM is meeting future challenges through cutting-edge research and the education of tomorrow's professionals. Researchers deliver technical expertise and advice to industry, government and community groups to make commercially viable and sustainable impacts.

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