MEDIA RELEASE –

NOT FOR PUBLIC RELEASE UNTIL 23:00 WEDNESDAY 29TH MAY AEST

Australian Dwell Track passenger tracking technology wins top industry award

A world-leading technology to minimise passenger dwell time at rail stations received the top Excellence in Innovation award at the Cooperative Research Centre (CRC) Association's annual conference awards dinner in Adelaide last night.

Developed by the University of Technology Sydney (UTS), Downer and the Rail Manufacturing CRC, Dwell Track is a technology solution which can anonymously monitor passenger numbers and behaviour in real-time on rail station platforms.

"Chronic congestion on platforms can lead to extended dwell times when trains stop to put down and pick up passengers. This in turn affects passenger safety, train path capacity, service delivery and reliability. Dwell Track enables station staff to make effective decisions when guiding passengers in real-time and also provides longer term insights into enhanced platform operations around dwell management," said Tim Young, Executive General Manager of Downer's Rollingstock Services.

Detecting and tracking human movement is challenging, as people are dynamic and come in a variety of shapes, sizes and appearances. This is further complicated in crowded environments due to frequent visual blockages and the sheer number of people in proximity.

Dwell Track leverages advances in 3D camera technology to extract relevant spatial and temporal information from the rail platform in real-time.

"This technology solution was developed by Rapido, a commercial R&D unit at UTS, translating and integrating fundamental research from the UTS Centre for Autonomous Systems, a specialist unit robotics unit creating positive change for government, industry and the community," said Herve Harvard, Director of Rapido.

The 3D cameras work by firing an irregular pattern of dots from an infrared projector and sending it to a processor to determine depth from the displacement of the dots.

continues on page 2

For more information
Katie Rizzo – Rail Manufacturing CRC – 0414 942 253, katie@rmcrc.com.au
Noel Lean – Downer – 0447 228 967, noel.lean@downergroup.com
Grainne Murphy – UTS – 0427 564 973, grainne.murphy@uts.edu.au

“Using this depth data, we developed several algorithms to identify the head and shoulders, the body parts most visible in a crowd. Dwell Track uses this detail, combined with an understanding of social norms, to track individual movements by determining train door positions, door status, platform occupancy, passenger counts and the direction passengers are moving,” said Dr Alen Alempijevic, UTS Centre for Autonomous Systems.

The availability of dwell time data has the potential to improve service reliability due to insights used to stabilise dwell times at key stations and increase service numbers per hour. The data also assists in identifying which parts of the dwell time structure can be reduced or are extending beyond usual practice, while also identifying strategies, or changes to procedures, that will reduce the impacts of dwell time on other aspects of train operations.

Dwell Track isn’t just relevant to rail businesses; there is clear opportunity to use the technology in transportation including buses and trams, as well as places where the movement of people in crowded places can benefit from autonomous monitoring and optimisation of how spaces are run.

“The greatest driver of success for this collaborative project is the strong range of stakeholders covering the whole research and supply chain, resulting in the successful conception, prototyping and commercialisation of Dwell Track,” said Stuart Thomson, CEO of the Rail Manufacturing CRC.

ENDS

About the Rail Manufacturing CRC
The Rail Manufacturing CRC was established in 2014 and will operate for a period of six years, funded by the Business Cooperative Research Centres Programme of the Australian Government’s Department of Industry, Innovation and Science. The Rail Manufacturing CRC fosters, sponsors and directs collaborative innovative research and commercialisation partnerships between key stakeholders in the rail manufacturing sector, looking to support the development of new products, technologies and supply chain networks to increase Australia’s rail manufacturing capacity and competitiveness.

About Downer
Downer is the leading provider of integrated services in Australia and New Zealand and customers are at the heart of everything it does. It exists to create and sustain the modern environment and its promise is to work closely with its customers to help them succeed, using world-leading insights and solutions to design, build and sustain assets, infrastructure and facilities. Downer employs approximately 53,000 people across more than 300 sites, primarily in Australia and New Zealand, but also in the Asia-Pacific region, South America and Southern Africa. It also owns 88 per cent of Spotless Group Holdings Limited. For more information visit downergroup.com.

About the University of Technology Sydney
Australia’s #1 young university, UTS is committed to practical innovation and to the development of impact-driven research that benefits industry and the broader community: helping shape the world we live in. The UTS Centre for Autonomous Systems is an internationally acclaimed robotics research group specializing in improving workplace productivity and output quality across a range of industry sectors. UTS Rapido is an advanced technology development unit focused on supporting organisations to deliver hardware and software prototypes and solutions.

For more information
Katie Rizzo – Rail Manufacturing CRC – 0414 942 253, katie@rmcrc.com.au
Noel Lean – Downer – 0447 228 967, noel.lean@downergroup.com
Grainne Murphy – UTS – 0427 564 973, grainne.murphy@uts.edu.au