

Monday, 26 April 2021

News editors note: you can join the launch of the University's Industry 4.0 Testlab: The Integrity of Food today at 11am via this [Zoom webinar link](#) or by entering the Zoom Webinar ID - 884 4546 7201 – into your Zoom Application.

Testlab links industry with smart technology to help grow our agricultural future

Tasmanian farmers and primary producers will be able to test drive the latest in smart technologies and explore how big data can help future-proof their business, following the launch of the University of Tasmania's Industry 4.0 Testlab: The Integrity of Food.

Industry 4.0, or the fourth industrial revolution, refers to the automation, digitisation and connectivity of systems that are rapidly transforming how businesses operate.

The University of Tasmania is one of six universities around Australia participating in the National Testlab Pilot Program, each specialising in a different area of expertise and designed to help small-to-medium enterprises (SMEs) improve their digital capabilities and connectivity.

The University's Industry 4.0 Testlab focuses on agriculture and food innovation and is the only one within the network to have a virtual headquarters and portable equipment, enabling access and participation for businesses across the state.

The \$2 million project, co-funded by the Australian Department of Industry, Science, Energy and Resources and the University, and supported by official partner Siemens Australia, features an interactive website that demonstrates how technology can be used to inform decision making and increase productivity.

Vice-Chancellor Professor Rufus Black said the project was poised to deliver real impact across significant parts of the Tasmanian economy.

"Tasmania is the ideal place to launch a Testlab that focuses on the integrity of food. We have some of the richest soils on the planet supporting a huge diversity of agricultural enterprises and producing high-quality food that's celebrated here and around the world," Professor Black said.

"We are also home to some of the most successful advanced manufacturing in Australia, and at the forefront of developing truly sustainable practices enabled by our access to zero carbon energy. All of this is supported by outstanding researchers on an island which is at just the right scale for developing Industry 4.0 applications and demonstrating them in action.

"And that's what our Testlab is all about – our researchers working with Tasmanian farmers, food producers and related businesses to discover and share what can be achieved."

The Testlab focuses on three core areas, or testbeds, in which the University has world-class expertise:

- **Optimising Food Quality:** features five pieces of cutting-edge equipment to help SMEs find solutions to protect their food production supply chain and ensure product consistency and quality are at the highest level. Innovations include the E-nose aroma analysis, E-tongue taste analysis, BevScan in-bottle beverage scanner, Foodini 3D food printer, and RedJade sensory and consumer analysis software.
- **Improving productivity from paddock to plate:** explores how we can build sustainable business practices by integrating data to inform decision making, from the farm gate to the distribution centres and on to the consumer.

Sense-T has built six mobile trailers with an array of 70 sensors that can monitor a farm's specific growing conditions. This is integrated with data collected further down the supply chain; and complemented by three energy monitoring units developed by Cromarty, a local SME, to help farms and coolstores optimise their energy management.

- **Biosecurity and Food Safety:** includes the development of a portable sequencing kit that can be used to test samples on-site for pathogens, microbes and other organisms. This provides industry with real-time data on the genetic material present in their food, soil, air, animal or plant samples; and detects any risk of contamination to the final product.

Testlab Academic Lead and Sense-T Director, Associate Professor Stephen Cahoon said the project was underpinned by meaningful engagement with Tasmanian businesses to understand what they need to expand and prosper.

“We are very focused on working with industry to find solutions that add real value to their business,” Associate Professor Cahoon said.

“The equipment that we have developed is cutting-edge, in some cases unique within the southern hemisphere, and it's extremely valuable to be able to showcase that to industry in a risk-free environment.

“They might then choose to tailor that technology for trial within their own business, so the Testlab helps them decide what to invest in and where to focus their efforts.”

In addition to the three testbeds, the Testlab website also displays case studies of the equipment in action.

One such case study is the Sustainable, Manageable, Accessible Rural Technology (SMART) Farm at the Tasmanian Institute of Agriculture's (TIA) Forthside Vegetable Research Facility and Dairy Research Facility at Elliott.

TIA Director Professor Michael Rose said the project involved setting up a wireless network of sensors that gather a range of environmental data which are displayed on a dashboard, providing the farmer with a real-time, whole-of-farm snapshot of growing conditions.

“The aim of SMART Farm is to create demonstration sites or sand-pits for farmers to see and interact with new technologies that could be adopted on their own properties,” Professor Rose said.

“The on-farm devices will let farmers see firsthand how new technologies can save them time, assist with efficient decision-making and help make them more competitive in increasingly demanding international markets.”

The Testlab project involves researchers from across the University's College of Sciences Engineering and strongly aligns with the Tasmanian Government's Agrivision 2050 of increasing agricultural outputs at the farm gate to \$10 billion by 2050.

Visit the Industry 4.0 Agricultural and Food Innovation Testlab virtual headquarters:

<https://www.utas.edu.au/community-and-industry/industry-4-0>

<https://www.utas.edu.au/virtual-industry-4-0> (Please note this link will go live after 11am)

For more information on the Australian Government's National Testlab Pilot Program:

<https://www.industry.gov.au/data-and-publications/industry-40-testlabs-in-australia>

MEDIA RESOURCES:

Download high-resolution images of the Testlab technology in action (all images credit Osborne Images/University of Tasmania):

<https://cloudstor.aarnet.edu.au/plus/s/tc7TuodoJ68MWq8>

Short project summary (50 seconds):

<https://youtu.be/U8NHZ5--KIs>

Vice-Chancellor Rufus Black introduces the Industry 4.0 Testlab: The Integrity of Food:

<https://youtu.be/9RQLXhhutF0>

What is Industry 4.0?

<https://youtu.be/77m0vMz5oFg>

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