UTS:ENGAGE

UTS
UNIVERSITY OF TECHNOLOGY, SYDNEY

COMMERCIALISATION:

Tapping into the $1.2bn global abrasive blasting market

Partners

Sabre Autonomous Solutions

Problem

Around the world, abrasive blasting is in regular use across many industry sectors for the removal of rust, scale, paint and other surface preparation processes. While it is an important and necessary part of manufacturing and maintenance work, it presents a high danger and risk to human workers, often leading to lead-based paint exposure, injury and fatigue. The physical demands of manual grit-blasting can also result in low productivity, with subsequent impact on costs to industry and government in carrying out this essential work.

Opportunity

Since 2006, researchers from the Centre for Autonomous Systems at UTS and the Roads and Maritime Services NSW (RMS) have been collaborating on the research and development of a world-first autonomous grit-blasting robot for steel bridge maintenance and rehabilitation.

After seven years of intensive research and development, supported by industry and government, the very first robots began work on the iconic Sydney Harbour Bridge. With two prototypes already hard at work, it was time to take this technology to the rest of the world.

In March 2013, UTS spin-out company Sabre Autonomous Solutions was formed to commercialise this world-first technology, with major investment from Australian company, Burwell Technologies.

The deal was designed to allow Sabre to refine the robot's unique capabilities and take advantage of Burwell's 40 year reputation as a leader in the abrasive blasting industry.

Abrasive blasting is big business – belonging to a $1.2bn global market. In the US, Europe and Japan alone, there are 270,000 steel bridges, all of which have the potential to benefit from this UTS-developed technology.

With interest in their robots gaining momentum worldwide, Sabre have since contracted research back to UTS to help with the next stage of their technology development – multi-robot collaboration, and robot inspection of blasting quality in real-time. This ongoing research collaboration will help to ensure that Sabre remains as the forefront of autonomous technologies for hazardous work environments.

Greg Peters, Engineering Design Manager at Sabre Autonomous Solutions, says “working with UTS has been a great experience because we have intimate access to a large group of highly motivated world experts. The team at UTS come up with innovative and novel solutions to our complex problems”.

About the UTS Research Group

The aim of the UTS Centre for Autonomous Systems is to build intelligent and autonomous machines that can operate in difficult and unknown environments. At UTS, the academic strengths of this Centre led to the development of a robotic navigation algorithm known as SLAM – Simultaneous Localisation and Mapping – the world-leading technology behind the Sydney Harbour Bridge robots.