

maxon DC motors in a climbing robot on the Sydney Harbour Bridge.

The iconic Sydney Harbour Bridge has 7.2km of confined tunnels in its arches. A climbing robot, fitted with maxon DC motors, has been developed to access areas deemed too unsafe for workers, sending real time information to Engineers to evaluate disrepair and damage.

The climbing robot has magnetic feet and uses a sensor to create a map of the dim and narrow tunnels. This gives the robot the ability to move through the tunnels climbing up and down walls and scaling drop-offs up to 1.5 meters.

The robot uses six of the Maxon DCX custom motor configurations. They are used to peel the magnets from the surface, one for each magnet, three in each foot. maxon DCX series of DC motors are a robotically manufactured, online configurable motor, gearhead and encoder combination.

Developed by the University of Technology Sydney and Roads & Maritime Services over a five-year period, the robot was able to access a section of the bridge that was too dangerous for workers and where paintwork hadn't been updated since 1932. The climbing robot has negated the need to send workers down 30cm hatches that appear roughly every six meters along the Bridge. The risk of asphyxiation, poor air quality, getting stuck inside the Bridge and the need for emergency rescue are drastically reduced if not negated by using the climbing robot.

The climbing robot has the potential to access dangerous structures where workers would otherwise risk their lives to inspect or maintain.

For more information on DC motors and Drives robotic applications please contact maxon motor Australia on Tel. +61 2 9457 7477.

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The media release is available on the internet at: www.maxonmotor.com.au



*The maxon motors used in the climbing robot on the Sydney Harbour Bridge
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The robot has received two acknowledgements: an international technology award in Sri Lanka and an Australian work safety prize.

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