

TrimBot2020 press release

Prototyping the first outdoor robot for automated gardening is the aim of the TrimBot2020 research project, funded by the European Commission Horizon2020 research and innovation programme.

The TrimBot2020 projects brings together leading European research/academic institutions and industries. The TrimBot2020 consortium partners are University of Edinburgh (project coordinator), Robert Bosch GmbH, University of Amsterdam, University of Freiburg, University of Groningen, ETH Zurich, and Wageningen University and Research.

The scope of the project is to research the underlying robotics and vision technologies to prototype the next generation of intelligent gardening consumer robots. The project is focused on the development of an intelligent robot for outdoor hedge, rose and bush trimming, which is built on a modified Bosch Indego lawnmower and mounts a robotic arm on top.

The robot uses a camera system that provides a 360° field of view, similarly to some self-driving cars, in order to have visibility of the whole garden, localise itself within the map and avoid obstacles. The TrimBot2020 consortium demonstrated the capabilities of the robot platform by navigating a garden, using a rough user-defined garden map, and to approach hedges and bushes¹.

The first successful autonomous trimming action of a boxwood plant was also demonstrated using a robotic arm and 3D cameras. The surface of a boxwood bush was trimmed a few centimeters by means of a custom trimming tool designed by the team at Wageningen University and Research. The demonstration² is the result of the successful integration of the vision pipeline for 3D cameras on the arm and the motion planning pipeline for the manipulator

The results achieved by the TrimBot2020 consortium were recently presented at the International Symposium on Robotics, ISR 2018 in Munich, and at the International Conference on Intelligent Robots and Systems, IROS 2018 in Madrid.

More information on the TrimBot2020 project can be found on the [TrimBot2020 website](#).

Project Details

Project No: 688007

Start Date: 01/01/2016

Project Duration: 48 months

For additional information please contact the Project Coordinator at the University of Edinburgh or the Dissemination Coordinator at the University of Groningen.

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1 [Demonstrator 1 video](#)

2 [Manipulator and tools video](#)