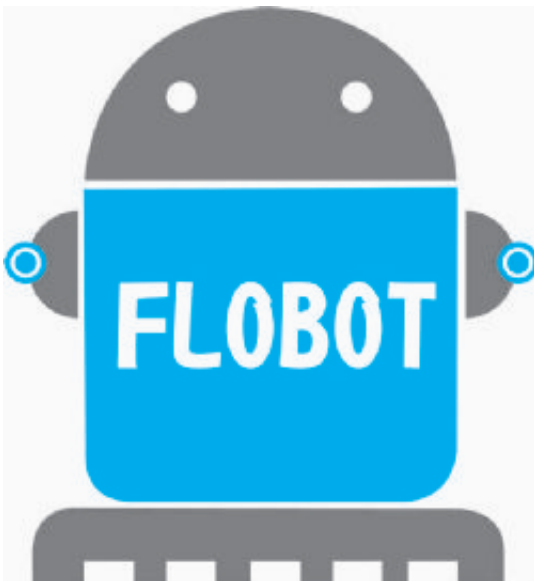


# Floor washing robots revolutionising cleaning for big businesses

March 24 2015, by Marie Daniels

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Floor washing robots could soon be used to clean large industrial and commercial premises, following a European research collaboration totalling 4.2 million Euros.

FLOor washing roBOT, or FLOBOT, will be a large-scale, autonomous floor [washing machine](#), for washing the floors of supermarkets, airports and other big areas that have to be cleaned regularly.

Although it can be manually started, programmed and monitored by

people, there will be no need to physically move it around making the process more efficient.

FLOBOT is being developed by a multi-disciplinary team, including the University of Lincoln, UK, which specialises in the software required to operate the robot.

Dr Nicola Bellotto, Principal Investigator from the University of Lincoln and member of the Lincoln Centre for Autonomous Systems Research, works in mobile robotics and computer vision and has detailed knowledge on people tracking with robots.

Dr Bellotto said: "Our key aim is to program FLOBOT to detect and track people moving around so as to avoid them, and also be able to estimate typical human trajectories in the premises where it operates. We can then predict where it is likely to be most dirty, by analysing those trajectories and the general use of the environment.

"We will be modifying existing scrubbing machines, making them autonomous by adding new electronics and sensors, including a [laser range finder](#) and a 3D camera for detecting people. We are advancing technologies already developed at Lincoln and a prototype will be tested and validated throughout this project."

Floor washing tasks have many demanding aspects, including autonomy of operation, navigation and path optimization, safety with regards to humans and goods, interaction with human personnel, easy set-up and reprogramming.

FLOBOT addresses these problems by integrating existing and new solutions to produce a professional floor washing robot for wide areas.

The work that will be carried out on production prototypes will ensure

the actual system is completed and ready for real-world use.

Professor Tom Duckett, also from the University of Lincoln, works in autonomous robotics and sensor systems, and is Director of the Lincoln Centre for Autonomous Systems Research.

Professor Duckett said: "The general idea is to create professional service robots that will work in our everyday environments, providing assistance and helping to carry out tasks that are currently very time - and labour - intensive for human workers. Participating in this Innovation Action project is really exciting, because it means that many of the underpinning research concepts and technologies we have been developing at the Lincoln Centre for Autonomous Systems now have the potential to leave the laboratory and become part of real products like cleaning robots, which could impact on the everyday lives of people everywhere."

**More information:** [www.flobot.eu/](http://www.flobot.eu/)

Provided by University of Lincoln

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