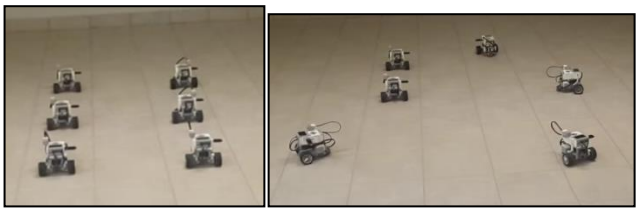
Restoring Connectivity in Partitioned Networks

This technology is in the area of robotics and wireless sensor & actor networks (WSAN)

The Invention

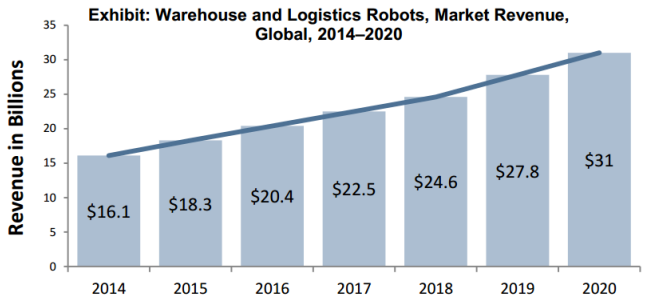
This invention relates to restoration of connectivity between mobile sensors. This method relates to using a known algorithm (Basic Virtual Force) to restore connectivity by using signal strength as the bases for restoration.



Market Need

Warehouse automation is gaining a lot of traction and significantly driven by e-commerce fulfilment centres[1,2]

- Global industrial logistics robot market (encompassing palletizing, logistics, packaging, and materials handling robots) has been anticipated to reach revenue of $31 billion in 2020
- And Grow at compound annual growth rate (CAGR) of approximately 10.1% during 2014 to 2020.
- The drive for industries adopting the smart factories has paved the way for the technology and market growth of warehouse and logistics robots.



Applications

- Industrial Warehouse
- E-commerce fulfilment centres
- Drone Swarms

Project Status

- A lab prototype was tested by testing various scenarios of repulsion and attraction of the sensors.

Looking for a Development Partner

- A proof-of-concept needs to be built and tested with other more recent technologies like LIDAR
- Later, a pilot test needs to be conducted in collaboration with and industrial end-user.

Patent Protection

Three Patent applications filed in U.S. (US 15/730000, US62/504842, US15/276301), owned by KFUPM, cover this technology.

About KFUPM

King Fahd University of Petroleum & Minerals (KFUPM) is a leading educational organization for science and technology.

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[1] Technology Growth Opportunity Series – Logistics and Warehouse Robots Help Achieve Smart Factories

[2] Technology Growth Opportunity Series – Collaborative Robots