



# Toyota And Preferred Networks To Begin Joint Development Of Service Robots

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Toyota Motor Corporation (Toyota) and Preferred Networks Inc (PFN) have agreed to engage in joint research and development using Toyota's Human Support Robot (HSR) platform. The two companies will accelerate development by sharing their technologies, aiming to develop robots that cater to market needs at the earliest opportunity.

In recent years, the scope of robot activity has expanded from industrial use to medical care and logistics. However, technological issues remain in the field of service robots, which have to integrate into people's lives, make decisions and respond appropriately to different situations.

By combining their respective technologies and know-how, Toyota and PFN intend to develop service robots capable of learning in typical living environments and carrying out a variety of tasks.

Specifically, Toyota will initially loan several dozen Human Support Robots to PFN; the two companies will then collaborate in research and development over the next three years. They will share their respective development information and technologies, including existing intellectual property. They will also be free to use the results of their joint research as they see fit. In this way, Toyota and PFN are seeking to accelerate development to bring about the practical realisation of service robots.

Nobuhiko Koga, Chief Officer of Toyota's Frontier Research Center, said: "Since around 2004, Toyota has engaged in the development of partner robots that support both people with disabilities and the elderly, based on the concept of 'coexisting with humans and assisting them in their daily lives.' In 2012, we developed the HSR, which has a basic robotics platform for supporting independent living. Up to now, it has been used in research and development by 49 organisations in 13 countries, and has been highly praised as a robotics platform. Progressing towards our goal to develop service, we are excited by the prospect of collaborating in research and development with PFN, which boasts world-class intelligence technologies."

Toru Nishikawa, President and CEO of PFN, said: "Since the establishment of our business in 2014, we have used deep-learning at PFN to develop intelligent hardware for automobiles and industrial robots. At CEATEC Japan 2018 we demonstrated a robot capable of cleaning a room in a fully automated manner; we applied deep-learning technologies to create an HSR that could pick up and put down undefined objects, draw up its own operation plans, and respond to human instructions. HSR is an outstanding robotic platform. By engaging in joint research and development with Toyota, which created the HSR, we hope to accelerate development of the functions necessary for robots to work in human living environments. Our goal is to realise the practical implementation of service robots for the first time in the world."

Going forward, Toyota and PFN will work on the joint development of service robots that have the intelligence to respond to various needs, contributing to the enhancement of the quality of life for more people.

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