

Executive summary

Capturing the trend of the service robot market and industry in Thailand.

With the increasing population of elderly people and rising labor costs in the manufacturing and service sectors in various countries, robots have played a more vital role in the production industry, service industry, and daily life of everyone. In 2021, the International Federation of Robotics (IFR) estimated that the global sales of professional service robots reached 121,000 units, growing by 37%, and new consumer service robots reached 19 million units, growing by 9%.

Regarding the type of professional service robots with the highest sales worldwide in 2021, the top three are transportation and logistics robots, accounting for 41% of the market, followed by hospitality robots at 17%, and medical/healthcare robots at 12%, according to the IFR. In 2022, IFR also reported that there were over 1,010 service robot manufacturers worldwide, excluding those involved in prototype production and system integration, with the majority based in the United States, followed by China and Germany.

The growth of service robots worldwide tends to be continuously increasing. The main supporting factors are the changing global population structure, the shortage of skilled and unskilled labor, and the technological improvement that enables robots more aesthetically pleasing, and user-friendly, and the most driving factor is an affordable price for users. Moreover, a new business model, "RaaS: Robot as a Service," allows for easier access to robot services.

In Thailand, a survey and analysis by Market Intelligence Team (MITeam) at NECTEC found that the trend of the service robot market, both for professional and consumer use, is continuously growing. The majority of the approximately 25 - 30 entrepreneurs operating businesses in the country by focusing on hospitality, professional cleaning, transportation, and logistics, most of them import technology from abroad and partially customize it. As of 2022,

there were approximately 1,660 service robots in the country with a market value of around 400 million baht, and around 0.27 million vacuum robots were imported in the same year.

There are still small groups of 3-5 entrepreneurs in Thailand that develop their own technology/parts, both in terms of the development of software and hardware. They produce robots according to the needs of customers that have been further developed to have a system, a set of commands, and a language to interact with Thai people.

This targets niche markets such as hospitals, the elderly, shopping malls, etc., which require specialized robots that can be customized to meet the needs of customers.

Overall, the trend of market growth in Thailand still has a lot of potential due to various factors such as (1) shortage of skilled and unskilled labor, (2) affordable price of robots, (3) easier-to-use and user-friendly robots with more usage examples, (4) ability to create a brand image for business, and (5) demographic factors such as an aging population, reduced workforce, etc. However, there are still challenges in market growth and usage in Thailand, including insufficient infrastructure, lack of supportive measures, and shortages of skilled personnel in various areas. Additionally, while imported products may be reasonably priced, they may not be easily customizable by Thai entrepreneurs and there are no standard specifications or requirements to protect and ensure the confidence of users.

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