

Advancements in Automation and Robotics to Improve Productivity



Introduction

Thailand made extensive progress in developing an intricate and prominent ecosystem of robotics. Although the presence of automation and robotics in the country's automotive and manufacturing industries is strong, the COVID-19 pandemic has seen the rapid growth of robotics in service sector environments. In addition, an increasingly older demographic has seen innovation expand to the care of senior citizens. Thailand's strong foundation in automation and robotics is evident in its government support and focus on producing a highly skilled workforce.

Key features of Thailand's automation and robotics industry

- ✓ USD 23 Billion robotic industry, which has a focus on smart manufacturing through AI, 5G connectivity, and cloud communications technologies.
- ✓ It has dedicated robotics and automation programs at six universities that offer international and local collaboration opportunities.
- ✓ Three thousand units of industrial robots, the highest number within ASEAN until 2020.
- ✓ Forty-five robotic systems in the industrial sector per ten thousand workers.

Expansion of productive capacity

Robots and robotic applications have the capability to operate 24 hours a day, entirely self-sufficiently. This expands production and service capabilities beyond what is feasible using human capital. However, it is essential to note the ethical dilemma that arises from substituting human employees with robots. It has been proposed that employment



requiring task repetition should be undertaken by robots, which ultimately could initiate a rise in unemployment. However, many businesses have turned to collaborative robotics designed to be used in conjunction with human labor. This solution has become prominent due to the safety and flexibility that a robot and human pair offer. Furthermore, the ability of robotics and automotive technology to complete mundane basic tasks gives rise to an opportunity to upskill the workforce in Thailand. Promoting STEM pathways in tertiary institutions will be vital in ensuring the workforce is sufficiently skilled to meet demand.

Support from the Thailand Board of Investment

In 2021, the BOI approved various incentives to encourage a nationwide Industry 4.0 transformation. The most recent addition involves adopting digital technology to increase productivity. This scheme is created for projects such as machine learning, implementing AI technologies, and employing digital software to manage resources. Businesses can receive a CIT exemption that accounts for 50% of the productivity-improving investment.

Applications to the BOI under the digital technology promotion must be made before or on the last working day of 2022 and meet the following criteria:

1. Be existing projects which are eligible for CIT exemption. This applies to projects that are both BOI and non-BOI promoted.
2. The investment value must be at least one million baht (this excludes the cost of working capital and land).
3. Applications for digital adoption must be made with a plan that does not require investment in machinery and equipment.

Thailand is in a unique position to maintain its status as a pioneer of advanced automation on a global scale. The combination of community entrepreneurship and government support will be essential in continuing the expansion of Thailand's production capacities and competitive advantage.

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delle imprese italiane

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