

# HG ROBOTICS

Innovative company bringing advanced technology to farmers

## BACKGROUND

HG Robotics is a new start-up company formed in 2016 by a passionate team of robotics experts whose goal is to build and develop robotics for use in Thailand. Their current focus is developing a fleet of specialized agricultural drones which can automate the task of spraying fields with fertilizer or other chemicals as needed, without exposing farm workers to toxic fumes or chemical residues. Another advantage of this approach is that it minimizes the chances of over-spray onto neighboring lands and allows precise metering of application rates, thereby reducing both costly waste, and subsequent runoff and potential groundwater pollution. In addition to operating their fleet of drones, they also build bespoke robots to service the unique needs of their various clients, provide maintenance services for robots built by other companies, and develop software for managing and controlling robots.



## WHY THAILAND

The company began operations in 2011 as HiveGround, established while the five founders were pursuing their individual graduate degrees. One of the founders (a student studying at the Faculty of Engineering of Chulalongkorn University in Bangkok) had previously entered and won the Football (Soccer) competition at theWorld RoboCup in 2008. Subsequently, the founders joined together and began pursuing efforts to commercialize their software and apply their expertise to developing solutions for coordinated management of large groups of drones for both government agencies and private companies, as well as continuing to collaborate with several Thai universities on robotics research. Their back office software system is used for ensuring drone fleets are properly maintained, for area calculation and mapping of appropriate flight paths and waypoints to ensure appropriate coverage, and to manage operating expenses all in real time. In addition to being useful for crop spraying, their drones have also proven themselves in applications such as agricultural field surveys, security services, and real-estate mapping and photography.

## VISION FOR THE FUTURE

The company has partnered with third parties such as a major fertilizer manufacturer for whom it expects to build a large number of drones, and continue to develop itssoftware tools to manage such a large fleet. They have also begun to explore the possibilities of expanding their technologies to include other forms of autonomous drones, robotic boats, etc., and look for marketing opportunities outside of Thailand.

***“A benefit of acquiring the corporate income tax exception from the BOI is that it leads to trust in the company by potential investors who are considering investing with us.”***

***Dr. Mahisorn Wongpati  
Managing Director and Co-founder  
of HG Robotics Co.,Ltd.***

## **SUPPORTING POLICIES FROM THE GOVERNMENT**

As one of the government's targeted future industries, the government and education centers are focused on supporting the automation and robotics industry. There are numerous research centers actively engaged in robotics research and development and workforce training, including The Institute of Field Robotics (FIBO), the Center for Biomedical and Robotics Technology (Bart Lab), the Intelligent Robotics and Mechatronics Laboratory (SKUBA), as well as the Regional Center of Robotics Technology at Chulalongkorn University. The government's "Thailand 4.0" ambitions to create an environment fostering a digital-based economy will likewise lead to enhanced opportunities for future investments in this sector.

## **ATTRACTIVE BOI INCENTIVES**

The Thailand Board of Investment (BOI) offers a wide range of tax and non-tax incentives for projects that meet national development objectives.

Tax-based incentives include an exemption or reduction of import duties on machinery and raw materials, as well as corporate income tax exemptions of up to eight years. Non-tax incentives include permission to bring in expatriates, own land and take or remit foreign currency abroad

Recognizing the importance of the robotics and automation sectors, tax incentives are granted to approved projects in numerous related activities, including software development and services provisioning such as big data and business process management, IT and cyber-security, software for controlling and/or connecting advanced technology equipment and devices, automation machinery and/or automation equipment, and design engineering, and assembling of robots or automation equipment or parts.

Additional information about specific manufacturing activities relating to the robotics and automation industries can be found by clicking [here](#) or contacting the BOI's Investment Promotion Division 2.