

## Security Robot

Investigator: Mr. Thodsaporn Bunthae

At present, robotic technology has advanced into our daily lives and is being applied in several applications. Robots are currently used in factories to assist human being in tasks characterized as meticulous, monotonous, time consuming and dangerous. Institute of Field roBOTics (FIBO) realizes the importance and use of robotic machines in dangerous activities e.g. hazard area investigation, bomb and poison gas investigation and removal. The unfortunate event at the Pantip Plaza Shopping Mall results in severely hurting a policeman while trying to deactivate a bomb. Such an event has motivated and promoted FIBO to takes leadership in designing and fabricating a prototype of security robot for Thai police department. In addition, this project will promote educational and research activities in robotics as well as will build critical mass of technologists who are able to generically use robotics and automation technology to enhance productivity in our Thai industry

This project benefits from our previous research work in MOBO 2.0: An Omni-directional Wheeled Mobile Robot. MOBO was built by FIBO to understand mobility of a mobile robot, using 45 degrees omni-directional wheels. MOBO can manipulate in any direction. However, the security robot shall be redesigned to a more compact size such that it can operate in limited, highly constrained areas. A wireless CCTV and a remote operation system shall be integrated into this security robot to feed back visual information to operators and allow operators to plan before physically invading such dangerous zones.

In this project, we focus in designing and integrating of standard, industrial graded equipments and components. Such practice will yield higher performance of the overall system. The three major parts are body, wireless CCTV and Remote operation control. This prototype of security robots is being sponsored by the Foundation of Research in Information Technology (FRIT.). It will work shoulder to shoulder with Thai policeman in investigating and removing bombs in public areas. It will boldly go where no man has gone before.



Figure show the Security Robot.