

ABSTRACT

This solution is for washing and cleaning the external walls of a building, and adopts a lightweight six axis robotic arm mounted on a mini-gondola hoisted by a pulley system with the controlling motor located within the mini-gondola, while another set of motor located on the pulley system at the roof-top end drives the mini-gondola to traverse laterally on a set of twin-rails on the roof-top of the building. Four vacuum suction cups mounted on the mini-gondola through linear actuator are used to secure the mini-gondola to the wall. Each linear actuator has three ultrasonic distance sensors that measure and manage the distance between the mini-gondola and the wall to be cleaned. Once the gondola is in position, the robotic arm will be activated to start the cleaning process.

Figure = 1