Project Title:	Lift Car Brackets Installation Robot Assembly
Principal Investigator (PI):	Mr. LEE Hoi Yiu
Project ID:	CICR/03/20
Research Institution:	Hip Hing Engineering Co. Ltd.
Subject Area:	Construction Safety
Duration:	24 months

Background

In the concrete rectification works and installation of brackets / guide rails inside lift shafts, workers have to work in a high risk working environment exposing to the following risks: falling objects, working at height, confined working space, etc. Also, there has been a shortage of skilled workers, and this has caused delay to lift installation works, resulting in the delay of statutory submission and project completion.

Objectives

i) Develop a robotic arm mounted on a gondola platform to be installed inside a lift shaft for the concrete rectification works on the lift shaft and installation of lift guide rail brackets.

ii) Develop two stages of robotic arms for various jobs listed below.

1. Chiselling and grinding of bulging concrete surfaces;
2. Grinding of step joints;
3. Backfilling of tie bolt holes;
4. Drilling of bracket holes; and
5. Fixing of guide rail brackets.

Key Deliverables

- A porotype of robotic arm for lift car bracket installation.