An electroplating company which mainly produces distinctive brands' kitchen and bathroom appliances. The company is a subsidiary of a privately held multinational group of companies with its headquarters in Hong Kong, focusing on the manufacture of plated and non-plated plastic solutions, consumer products and automotive components.

**Challenges**
- Traditional barcode was hard to read in high temperature and humidity environment
- Manual data record caused error
- Reporting of production issues delayed

**Solutions**
- RFID consultancy services
- RFID hardware provision (i.e., RFID tag and Reader/Antenna)
- RFID solution design and development (i.e., RFID-enabled Electroplating Process Management System)

**Value Created**
- Provide real-time knowledge on the production line
- Collect work-in-progress data automatically
- Reflect production output and quality issues
- Data can be utilized for business analytics
- Improve resources planning
- Keep record of defective products
- Enable quick rectification of production line

**COMPANY PROFILE**

Electroplating Company Speeds Up Electroplating Production with RFID
Challenges
The company applies metal coatings to components used to make the kitchen and bathroom appliances. The electroplating process for each item varies according to the size and material being coated, each requiring specific electric-current and temperature settings, as well as concentration of chemical solutions.

As the electroplating process operates at high temperature and humidity environment, traditional barcode is hard to read. Workers needed to closely monitor the process and manually record the time each item spent in a chemical tank. After that, quality-control staff manually reported any errors or defects found in a product prior to packaging for shipment. The manual data record caused error occasionally and delayed the reporting process.

New RFID System Enables Automation
To collect the work-in-progress data automatically, the company deployed PCCW Solutions’ RFID-based Electroplating Process Management System on its production lines.

An metal RFID tag was attached on a carrier bar above each carrier rack used to transport products and components down the line on a carrier bar. This tag was selected because of its chemical resistance and durability around extreme temperatures.

Enhancing Workflow and Reducing Errors
By eliminating the need to input data manually and making production faster and more visible, the new RFID system has increased the workflow efficiency, reduced the record discrepancy, and created record for product historical analysis.

Management can now get real-time information of the production lines, such as what product is undergoing electroplating, how long it spends in the electrolyte tank, and when the process completes. The company also uses the data for business analytics to better understand what kinds of conditions may lead to improperly plated products or when production errors are most often occurring.

This project has won the Hong Kong Internet of Things (IoT) Awards - bronze awards in “RFID Application Innovation” and “RFID Implementation”, and has been published in RFID Journal Magazine and Communication Association of Hong Kong’s “2015 Official Guide to ICT Industry in Hong Kong”. The company plans to install the RFID technology at more of its production lines.

About PCCW Solutions
PCCW Solutions is a leading IT services company in Hong Kong and mainland China. We adopt the latest technology to help clients create business value and success in the ever-changing economic environment. We offer a wide range of services including digital solutions, IT and business process outsourcing, cloud computing, system development and solutions integration, data center hosting and managed services, e-commerce and IoT solutions. PCCW Solutions is committed to meeting customer needs to help them achieve business goals and transform digitally.