

Hong Kong Police

Third generation command and control communication system CCIII



“A communication’s system is an officer’s life-line in the field. By providing the most advanced capabilities, an officer will be more secure in serving the public and fighting crime.”

- Peter Yam, Senior Assistant Commissioner of Police



Benefits

- Rapid response to incidents through sophisticated command and control technologies.
- Better management of major incidents and emergencies enabled by an information-based decision support system.
- Enhancement of operational efficiency through satellite based tracking capabilities.
- Empowerment of field officers with wireless data applications that gives officers remote access to mission critical information.
- Confident field teams backed by secure and reliable communication system.

BACKGROUND

The Hong Kong Police Force (HKPF) has a force of 28,000 uniformed officers and a supporting civilian staff of 7,500. The HKPF runs a fleet team of 1,800 vehicles of all types from armored personnel carriers to motorcycles.

The existing command and control communication system (CCII) was introduced in 1990. It comprises an integrated radio communications system (commonly known as the beat radio system), the 999 emergency services telephone sub-system and the Enhanced Computer Assisted Command and Control System (ECACCS). The equipment of CCII will reach the end of its useful life by 2004.

HKPF successfully acquired a budget of HK\$ 948 million in June 2001 to replace the aging system with the third generation command and control communication system (CCIII). The CCIII system includes an Integrated Communication System (ICS), which replaces the beat radio system, a 999 Emergency Telephone System (ETS), which replaces the 999 emergency telephone system, an Automatic Vehicle Location System and Geographic Information System (AVLS & GIS) which provides resources tracking and displays geographic information, a Mobile Computing sub-System (MCS) which provides computing facilities on police vehicles and inter-communication of messages among CC III systems.

The tender was released in Feb 2002 and several bids were received from international as well as local companies by May 2002. After a comprehensive demonstration and detailed evaluation, the tender was finally awarded to Motorola Inc. in March 2003.

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Customer Needs

- Expandable digital radio and computer infrastructure based on open standard.
- Extensive radio coverage that includes all areas essential for Police operations.
- Interference-free high-speed data channels to allow transmission of voice, data and images.
- Police vehicles equipped with mobile data terminals that have the capability for both voice and data communications.
- Secured digitised transmission platform for protection against eavesdropping and unauthorised access.
- Geographical Information System (GIS) with the capability for electronic mapping and analysis of location-related incidents information.
- Automatic Vehicle Location (AVL) System which, integrated to Global Positioning System (GPS) and GIS, tracks Police vehicles on electronic maps.
- Enhancement to existing ECACCS with user friendly Graphical User Interfaces and Chinese language capability.
- 999 emergency services telephone sub-system to manage flow of 999 calls between 3 Regional Command and Control Centers (RCCC).



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Senior Assistant Commissioner
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MOTOROLA SOLUTIONS

Motorola provided a fully TETRA compliant Dimetra IP system operating in the 410-430 MHz band. Three master switches (zones), one for each Police Regions - Hong Kong Island, Kowloon and New Territories, are connected together to control approximately 100 cell sites. More than 10,000 radio terminals will be provided to the BEAT Officers, Police vehicles and motorcycles. 90% of these radios are MTP700 handheld radios. The Integrated Communication System (ICS) also included approximately 65 Microwave radios and 100 radio dispatching consoles.

The Automatic vehicle location system (AVLS) and the Geographic Information System (GIS) allows dispatchers to increase their speed and accuracy in identifying the location of emergency incidents and police resources, enabling them to improve the resource allocation management. Motorola has also provided four sets of high availability AVLS/GIS servers complete with server application software. Around 500 On-Board Positioning Units (OBU) will be installed in police vehicles, and positioning technologies such as Differential GPS (DGPS), Dead Reckoning (DR) and Map Matching will be deployed to ensure accuracy of the AVL system.

The mobile computing sub-system (MCS) allows officers to access the necessary information from their radio handsets and mobile data terminals. 4 sets of high reliability Premier MDC (PMDC) message switches, complete with server software, will manage the routing of data information between the wireless users and the land-based networks. Approximately 270 sets of MW800 mobile data terminals and ML800 ruggedised notebooks will be installed in police emergency response vehicles. Running on these ruggedised computers will be the Premier MDC client applications.

The 999 emergency telephone system (ETS) manages the flow of emergency calls between the 3 RCCCs. With advance call taking features such as Automatic Caller Line and Address Identification, ETS enhance the efficiency of the call taking and incident handling process. Three sets of Digital PABXs with Computer Telephony Integration (CTI) servers and advanced Call Distribution Systems will be provided together with approximately 240 digital telephone sets.



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