

# Royal Thai Police Wireless CCTV Case Study

## Background

Late 2007 – To enhance public safety and security in the resort area of Pattaya, Thailand, the Royal Thai Police issued a public Tender for a CCTV solution to improve coverage of public spaces with high quality video surveillance.

Globally, police forces are upgrading infrastructure to counter terrorism threats, aid crime deterrence, prevention, detection and traffic violation reporting.

At Pattaya, the CCTV Network would need to be deployed on a large scale and be upgradeable. Another obstacle was how to install it. Fibre infrastructure in the area is almost non-existent, and the digging involved in installing it would cause major disruptions to local tourism and be costly as well.

Wireless would solve these problems, but questions were asked – was there wireless technology available that could run a CCTV system this complex? Would enough bandwidth be available? Reliability? Picture Quality? The list went on.

Following completion of a set of requirements, A public Tender for supply was issued, and bidders invited. CableFree was approached because of proven track record with high performance radio, and specifically for CCTV projects.

Read on for details of what requirements & specifications CableFree products needed to meet, What trials the products went through and how the network was rolled out and will be upgraded in the future.



Left to right (CPE & Remote Camera, Monitors displaying video feeds from cameras, Central monitoring station)



## Requirements / Needs

A number of requirements presented themselves for this particular project, summarised below. One of the most interesting of these were the frequency restrictions. In Thailand, the 5.xGHz bands are reserved for military use only. Elsewhere, 5.xGHz bands are widely used for such CCTV networks, where more spectrum is available. However, with only 2.4GHz available, the radio network would have to operate in this heavily congested band which is extensively used by Wi-Fi, Bluetooth, microwave ovens and cordless telephones all of which can cause widespread interference. A number of features unique to the CableFree radio products allowed them to overcome the interference and deliver on the required performance, even using 2.4GHz.

### Wireless Excellence Limited

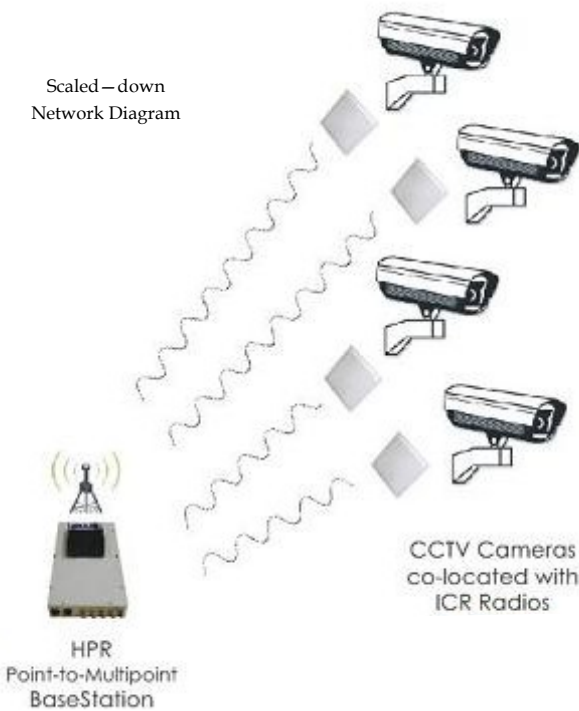
Sandford Gate,  
East Point Business Park,  
Sandy Lane West,  
Oxford OX4 6LB

Phone: +44 (0)870 4959169  
Fax: +44 (0)871 9187618  
E-mail: info@cablefree.co.uk

- ◆ Needs to be Reliable (99.999% Availability)
- ◆ Upgradeable
- ◆ Flexible (Cameras can be added or moved)
- ◆ Compatibility (ability to change camera vendor at a later date)
- ◆ Deliver High Resolution video to multiple screens simultaneously)
- ◆ Approx 5Mbps Per Camera
- ◆ Work in a Dense urban environment using a commonly used frequency (2.4GHz)
- ◆ Provide fully secure transfer of video data
- ◆ Feeds needed to be two way to 'remote control' cameras
- ◆ Proven product history
- ◆ Ease of installation

# CableFree

W i r e l e s s   E x c e l l e n c e



## Trial / Proof Of Concept Phase

The customer decided to test extensively the proposed products to ensure they could deliver the required performance.

Trials proved conclusively that CableFree was the only product that could run the system to required specifications.

Competing products either could not overcome interference, or offered too low bandwidth, leading to video pictures that were either too poor quality, or suffering picture "freeze" or interruptions which would render them unusable in a police CCTV application. For police, captured video has to be "evidential-grade", enabling law enforcement agencies to use it as evidence in any attempted conviction of criminals. Pictures need to be sharp and clear to detect vehicle number plates for automatic number plate recognition (ANPR) for traffic violation systems.

CableFree radios have a number of advanced features which when configured correctly, provide highly resilient links even in noisy RF environments.

Following success of the trials, CableFree product was selected, and the roll-out was scheduled for early 2008. CableFree provided design assistance and validation to ensure the wireless network rollout would run smoothly.

The network is now fully installed – and with excellent feedback. Plans for the next phases of expansion of the CCTV network to cover other regions are now taking place.



## Products Used / Features

CableFree ICR (Integrated Client Radio) and HPR (High Performance Radio) Products were combined with Cameras, Switches, Monitors & various other hardware from other vendors to complete the system.

HPR Radios were used for the base stations and backhaul links to the main control centre as well as links between Base Stations for fail-safe backup. CableFree HPR Radios can be deployed with up to 5 sectors, delivering up to 72Mbps per sector.

CF ICR Radios were attached to each camera as client units, sending video data back to the control centre and receiving data to control the cameras.

Contact Wireless Excellence for more information on CableFree wireless products.



## About Wireless Excellence

Wireless Excellence Limited is a leading designer and manufacturer of professional wireless products for a wide variety of applications. Our products are in use in over 60 countries with applications including Telecommunications, Campus Connectivity, Corporate, Finance, Education, Healthcare, Industrial, Broadcast, Military and CCTV security.

Our ongoing goal is to break current perceptions of wireless technology and show the industry that there is a reliable, fast and cost-effective alternative to traditional cabled networks. This goal is being achieved daily. It is statistically proven that our wireless links deliver up to 99.999% availability in actual usage.

On top of this, CableFree have saved thousands of businesses immeasurable amounts of money by providing wireless links - They can save downtime by implementation as a backup solution, or they can save leased line or construction costs when used as primary links.

Wireless Excellence Limited

Sandford Gate,  
East Point Business Park,  
Sandy Lane West,  
Oxford OX4 6LB

Phone: +44 (0)870 4959169  
Fax: +44 (0)871 9187618  
E-mail: [info@cablefree.co.uk](mailto:info@cablefree.co.uk)

**CableFree**  
W i r e l e s s   E x c e l l e n c e

©Wireless Excellence Limited