

# Proxim Solution Enables Seamless Surveillance along the Tenerife Tram Line, Spain

## Introduction

Located in the Islands of Canary, Spain, the Tenerife Tram (Spanish: Tranvía de Tenerife), is a light rail/tram system that runs across the Island and passes through various corners of the city and densely populated localities via underground tunnels, high-speed expressways.

Concerned with the growing threats spanning from antisocial elements to force majeure events, the Tenerife Tram management team decided to implement a video surveillance solution

## Challenge

The requirement was for a network of high definition CCTV cameras inside the tram cars, along the tracks and around stations and key infrastructure to closely monitor and help protect the passengers. The cameras would help provide real time video feeds to the central monitoring station.

Due to the vast geographic expanse of the network, the cost of connecting the cameras with wire lines to the monitoring station was not feasible. Furthermore the ability to stream video from inside the tram cars moving at speeds of upto 80 mph was critical.

Faced with these challenges, the Tenerife Tram management team investigated using wireless networks for connecting the CCTV cameras. In the beginning of the evaluation there were concerns over the ability of a wireless network to transmit high resolution, real-time video feeds with high uptimes.

## Solution

Proxim Wireless proposed a solution that was able to meet these challenges, allowing video surveillance cameras to be deployed quickly, easily and cost-effectively. The wireless infrastructure proposed by Proxim involved point to multipoint networks including base stations installed on towers and subscriber units placed with cameras to monitor stations and passengers. The subscriber units transmit live video feeds from cameras to the corresponding base station that gets further relayed, finally aggregating at the central monitoring station.

Additionally, Proxim also provided video surveillance from inside of tram cars and in-tram WiFi for passengers, all possible due to Proxim's WORP protocol and FastConnect™ mobility supporting seamless application handoff.

In competitive testing, Proxim turned out to be the only solution vendor to provide seamless video feeds despite the harsh RF conditions from metal surfaces, noise and vibration, and high power electricity feeds

## Result

With the new security system in place high resolution, real-time video from each security camera is transmitted directly to the regional security center or onsite security offices where officials view videos within and outside the tram system. The network also supports other applications such as ticketing, Wi-Fi hotspots at stations, etc.



## Highlights

- Tenerife Tram team required high-bandwidth connectivity to support the ubiquitous CCTV camera coverage and various applications. These were also deployed on trams, requiring mobility support for real time video.
- Proxim installed a network of point to multipoint devices inside the tram and underground tunnels and densely populated areas.
- The Tenerife Tram Surveillance team was able to effortlessly and quickly deploy surveillance cameras that was low on capital and recurring expenditure. In addition with the QoS support, the system is able to not only support the security videos, but offer WiFi on the trams as well.

## About Proxim Wireless

Proxim Wireless is a pioneer and global leader in advanced Wi-Fi, point to point, and point to multipoint outdoor wireless systems that deliver high performance and high availability communications.

With over 30 years of wireless experience, Proxim is recognized for its unparalleled reliability, superior performance and drive for innovation.

