

# Application Brief



## Customer

Yiba Highway Construction Headquarters

## System Integrators

Beijing RHY Technology Development Co., Ltd.  
Wuhan FiberHome Telecommunication Technologies Co., Ltd.

## Location

Hubei Province, China

## Industry

Transportation: Highway Tunnels

## Project Scope

The Yiba highway, which is located in the Hubei province, connects central and western China through a series of highway tunnels that face volatile temperature fluctuations, humidity, dust and vibration. Facing such extreme environmental conditions, it was imperative that the Yiba Highway Construction Headquarters deploy a rugged industrial monitoring and control system to reliably interlink its headquarters with remote traffic monitoring locations throughout the tunnels.

## Solution

[Beijing RHY Technology Development](#) and [Wuhan FiberHome Telecommunication Technologies](#) are system integrators that are using Red Lion's rugged N-Tron industrial Ethernet switches to enable real-time monitoring and control of the Yiba highway tunnels. The integrators connected over 200 switches to deploy an optical fiber redundant ring network that provides Rapid Spanning Tree Protocol (RSTP) support, redundant ring couplings and dual-homing connections. This built-in redundancy ensures automatic recovery within 2-3 seconds should interruption occur within the ring network.

*"We feel assured that we are using N-Tron 'Made in the USA' switches from Red Lion Controls to provide high reliability and performance that supports extreme anti-vibration, shock index and noise immunity."*

*- Mr. Jian Huang  
Yiba Highway  
Construction Headquarters*

The managed switches also offer SNMP, N-View remote monitoring, web-based management, port and tag based VLANs and support for IGMP multicast control. This enables the Yiba Highway Construction Headquarters to efficiently utilize network-based technology to monitor traffic patterns, inform motorists of road conditions and re-route traffic to avoid accidents. Furthermore, Ethernet technology reliably supports data transfer, uploading and communications between local controllers.

## Benefits

Offering a long mean time between failures, Red Lion’s N-Tron switches help to reduce maintenance costs while supporting extreme environmental conditions such as wide temperature ranges, shock, vibration and strong electromagnetic interference. The end result provides a rugged industrial networking solution that enables real-time monitoring and control of the Yiba highway tunnels. The Red Lion solution was honored as one of the “Top Ten Most Influential Projects of 2012” in China.

## Products

Model	Description
<a href="#"><u>711FX3-XX</u></a>	Red Lion N-Tron 711FX3 11 port managed Ethernet switches
<a href="#"><u>306FX2-XX</u></a>	Red Lion N-Tron 306FX2 6 port unmanaged Ethernet switches
<a href="#"><u>ESERV-12T</u></a>	Red Lion N-Tron Ethernet-to-serial port servers

## Network Diagram

