e clamor for “real time” in ansportation. How ITS Delivers.

Smith Cisco Systems
ligent Transportation Society of California

September 30th 2013

nsportation Industry Key Factors

Expansion

Safety and Security

Information Sharing

Emissions

Reg. Compli

New Business Pressures

Operational Costs

Rising Costs

Traffic Monitoring

Changing Traffic

Highway Advisory

Traffic Manager

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nsportation Industry Key Trends.

Provision of intelligent infrastructure, that:

- Delivers timely accurate information about traffic conditions to motorists, emergency services, media.
- Provides Speed Management and Toll Collection/Congestion Zone recognition.
- Real time monitoring to facilitate maximisation of road (intermodal). capacity.
- Reduce risk of traffic jams, help motorists to avoid them.
- In all weather conditions.

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nsportation Industry Key Requirements

Delivery of intelligent infrastructure, through:

- Project Management that reduces the need for road closures during implementation.
- Roads designed to deal with perturbations.
- Scalable to support new features/requirements/applications ‘as and when’ necessary.
- Provision of ‘Smart’ infrastructure.
  - SCADA/Telematics/Decision Support.
- Focused control for Tunnels/bridges/embankments/ventilation.

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nsportation Industry Key Outcomes

Intermodal connectivity seen as vital.

Motorways/roads planned in consideration of overall transport usage.
E.G.

- Railways.
- Commuter/non commuter traffic.
- Goods and bus prioritisation.

Raised awareness of the benefits of monitored intelligent infrastructure.

- Asset mgmt/deployment/utilisation.
- Data Acquisition
- Data Mining
- Condition monitoring/maintenance philosophies to match.

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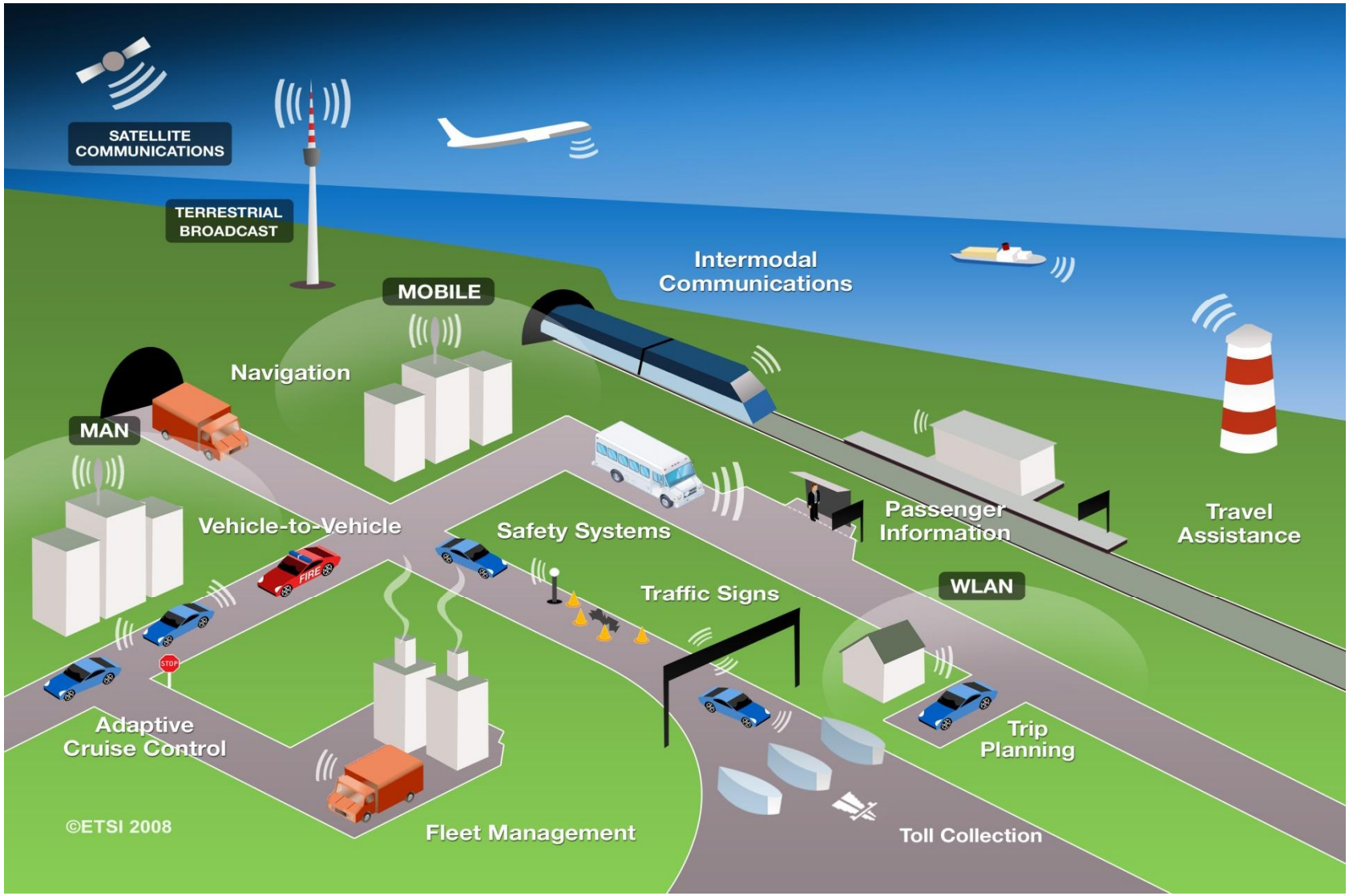
lding transport infrastructure within common networks



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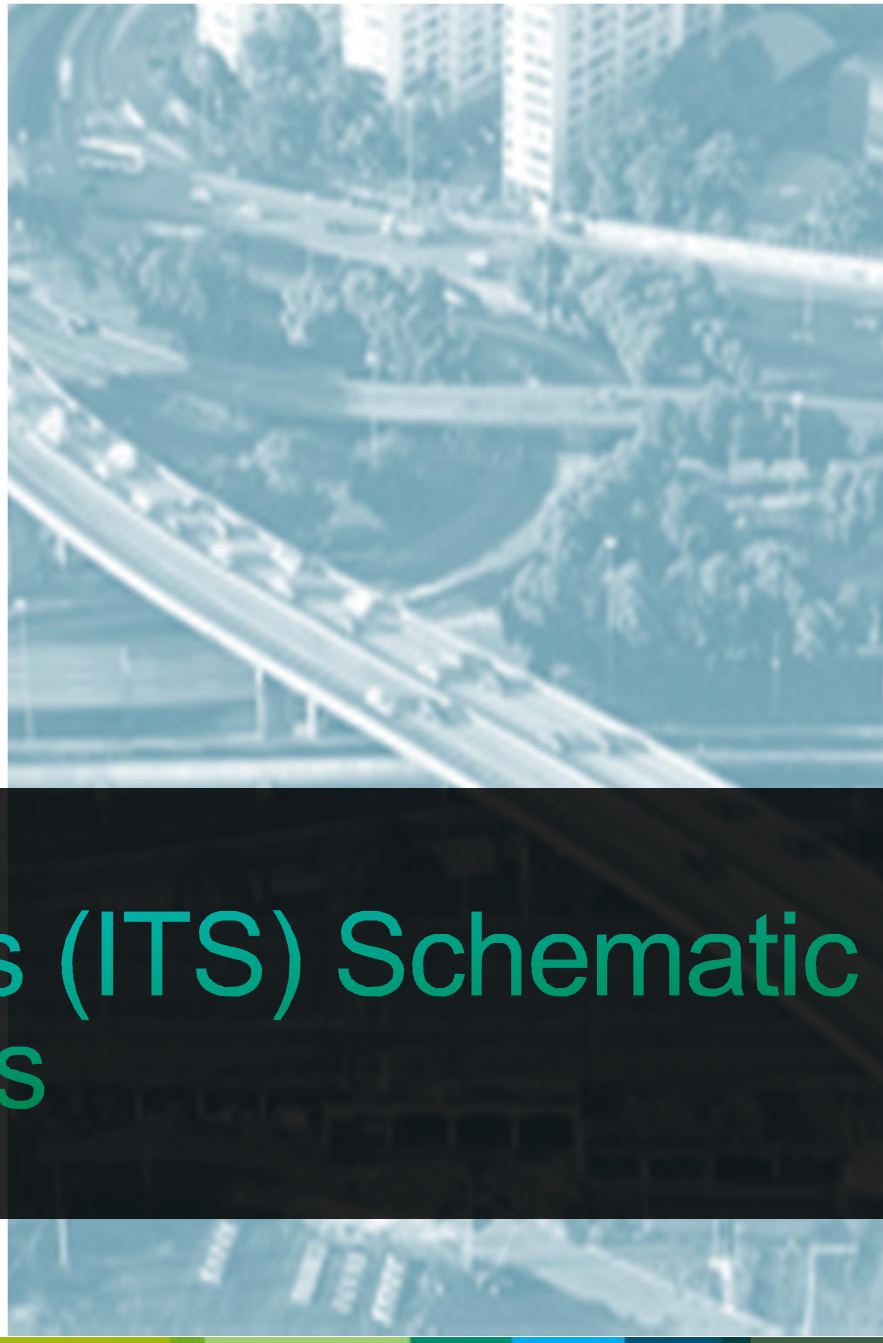

lligent Transport Systems (ITS) Schematic
nected transport solutions

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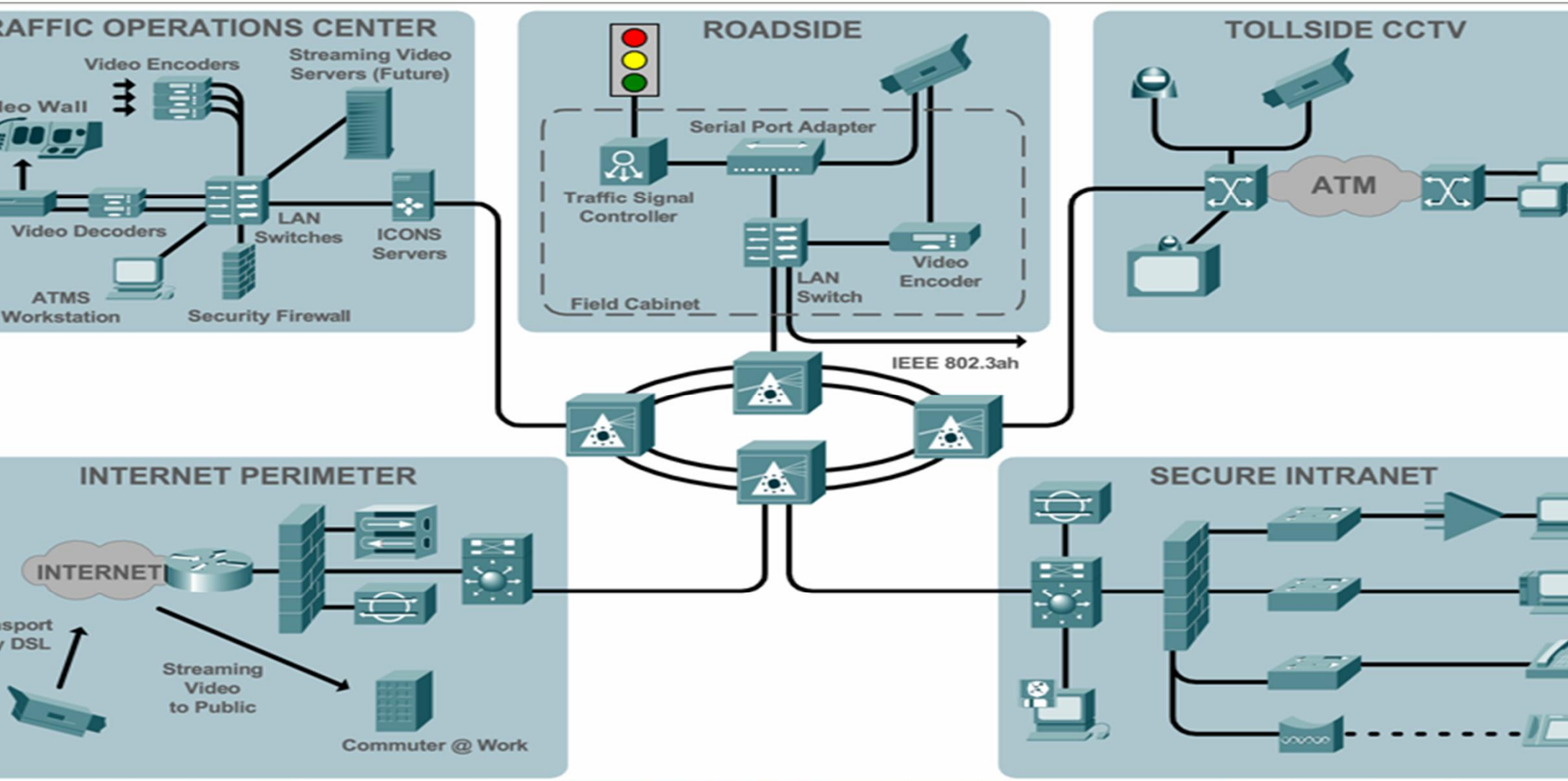
TS Architecture Overview



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nel Control Systems

enges

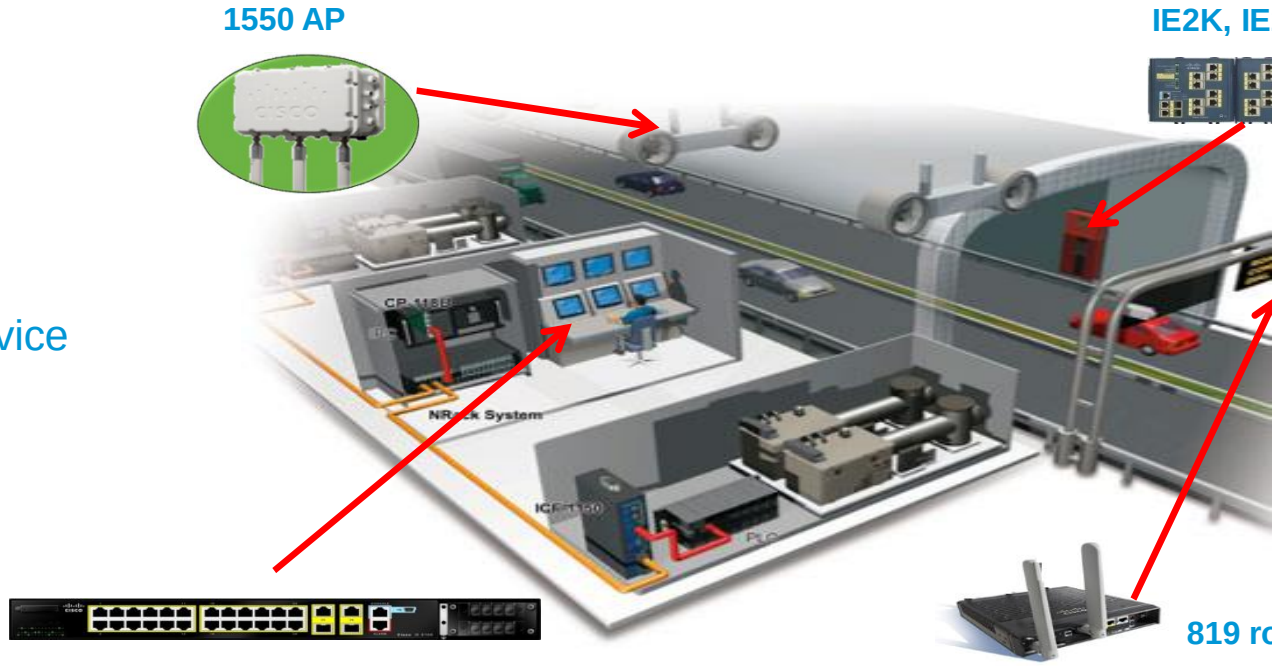
- Need for switches with extended temp range
- Remote installation in roadside cabinets
- Need for small form factor DIN rail mount device
- SCADA server

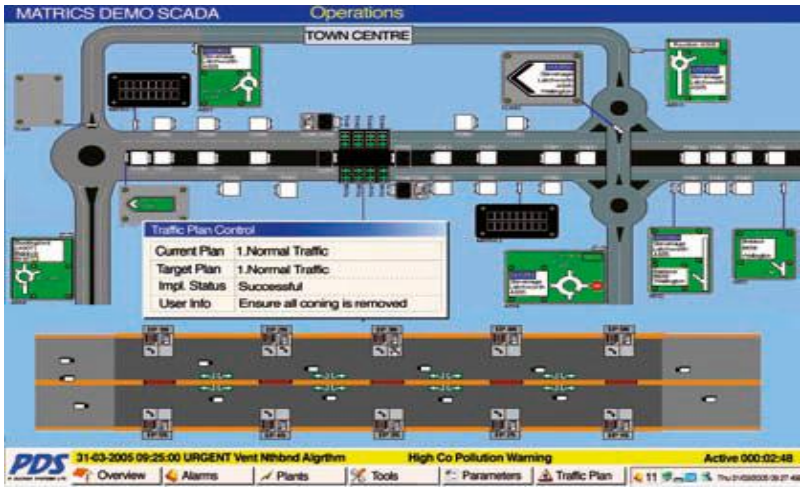
al requirements

- Fault tolerant industrial LAN
- CCTV
- Telephony
- Emergency response
- PA system
- WLAN

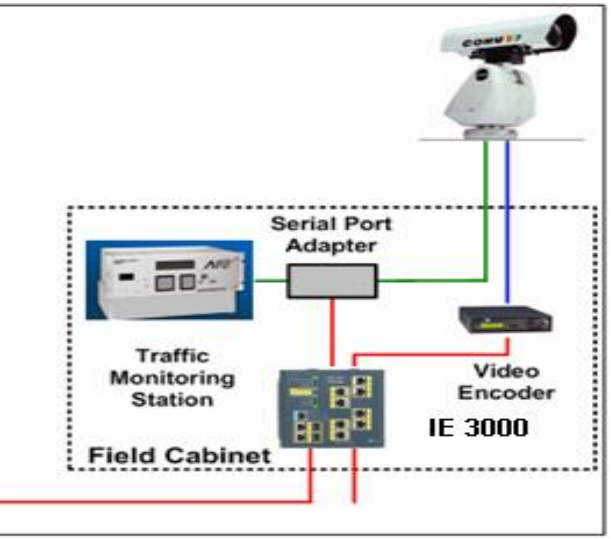
relevant products

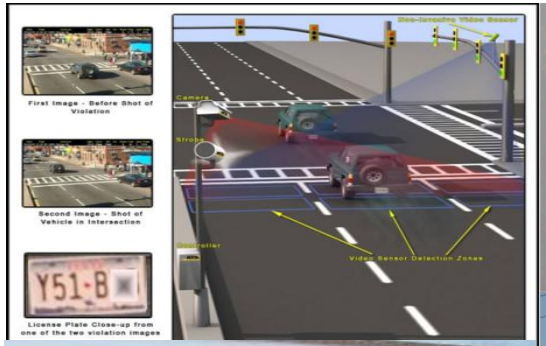
- Cisco IE switches (IE3K, IE2K, IE3010)
- Cisco 3750 in control room
- 819 router
- 1500 series AP
- IP CCTV, physec door entry
- IPICS
- UCS

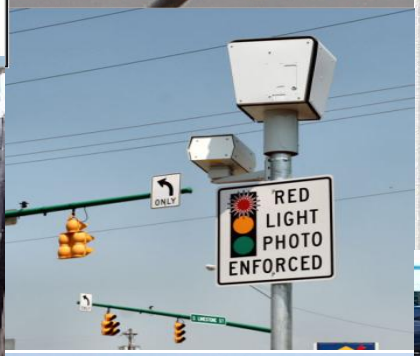


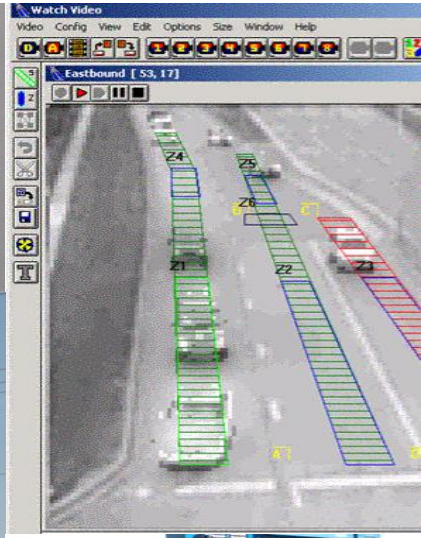


ersection Traffic Control Systems









vant products include:

- IE Switches including embedded
- 819 rugged router
- External WLAN
- IP CCTV + data storage
- Telepresence

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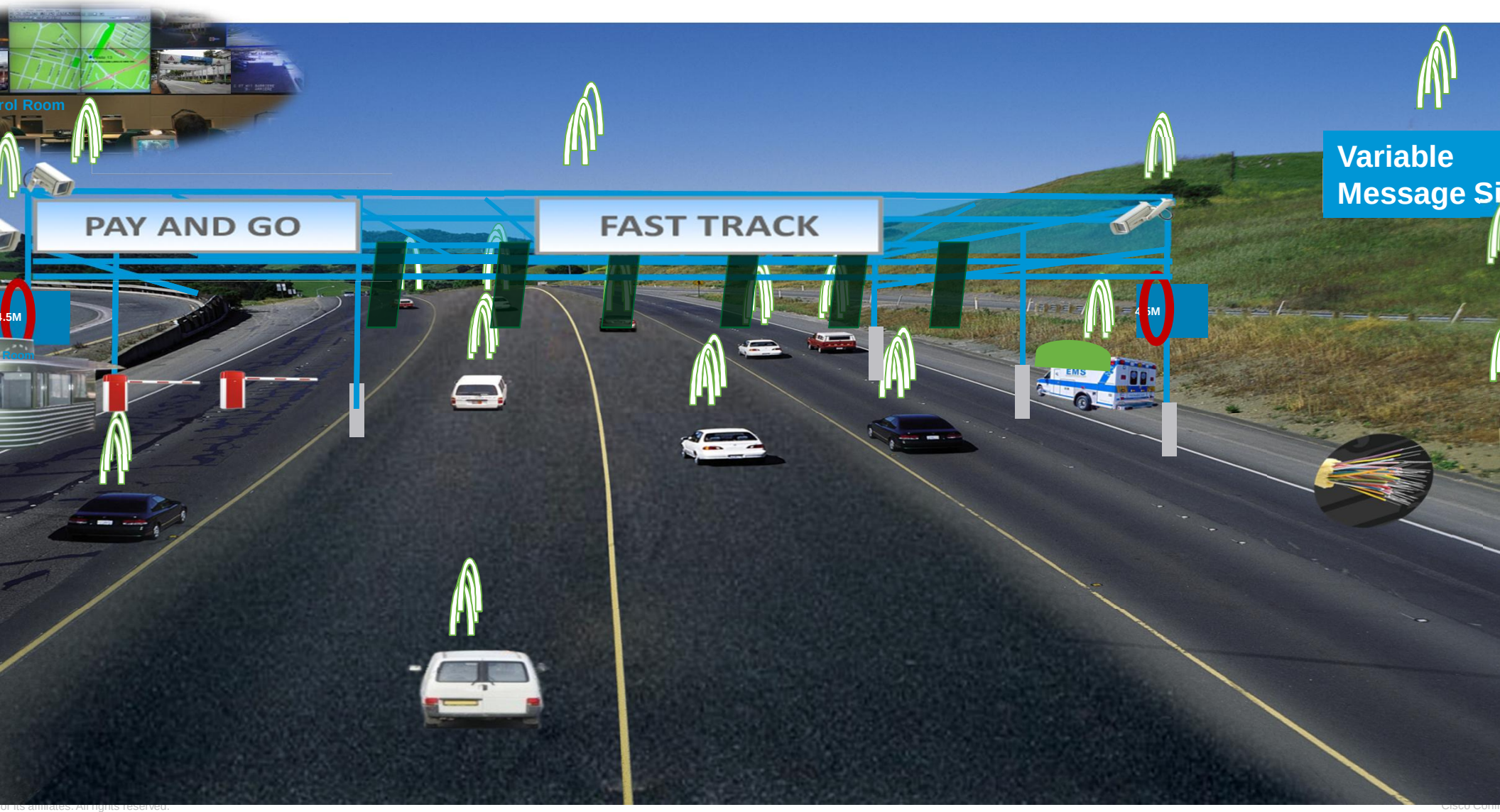
ing & Traffic Monitoring



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nnected Bus Station

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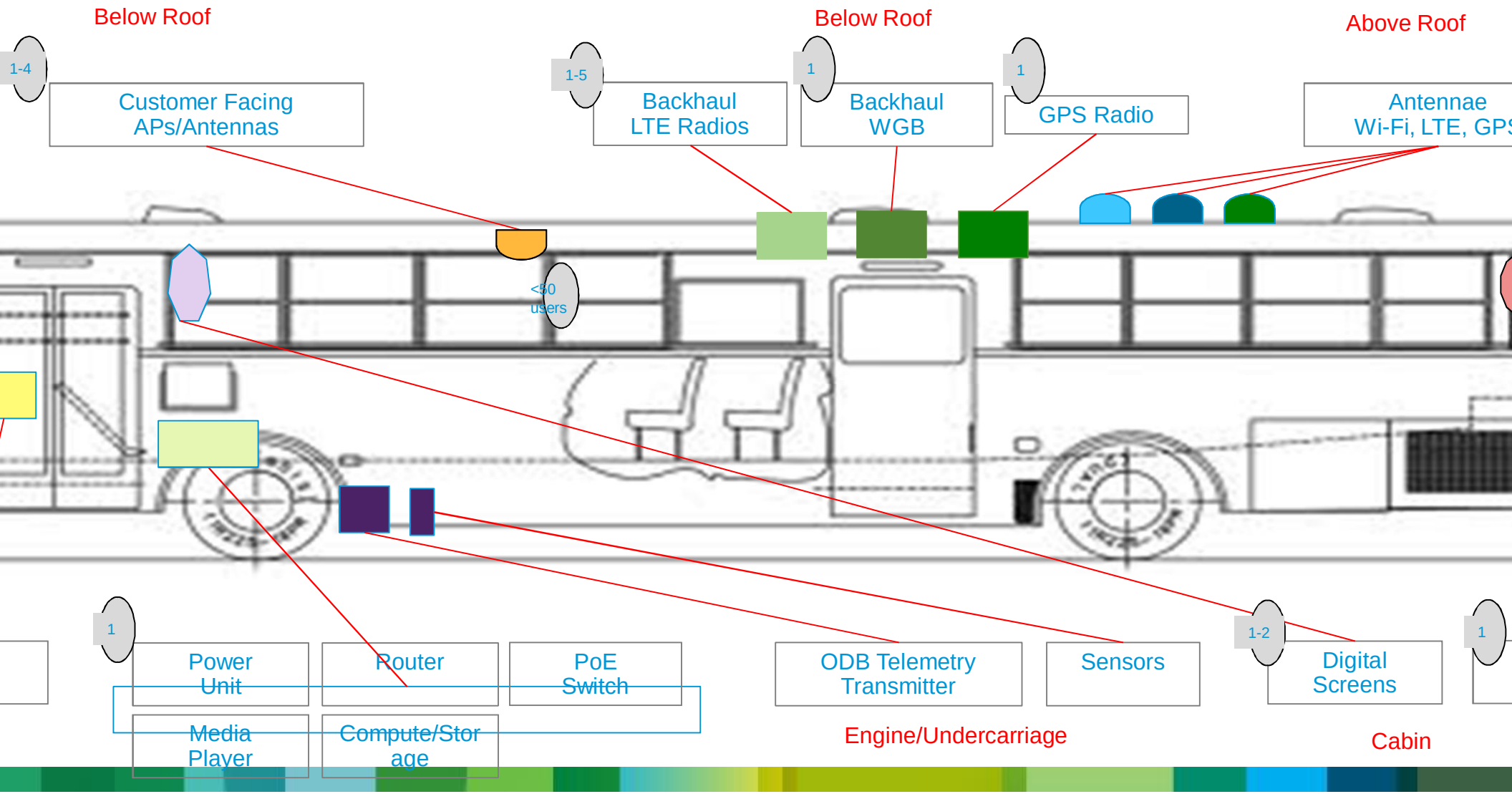
sical Deployment - Bus



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lligent Transport Systems (ITS) Live
jects/case studies.

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VSVV Norway (Road Transport Authority)

ation

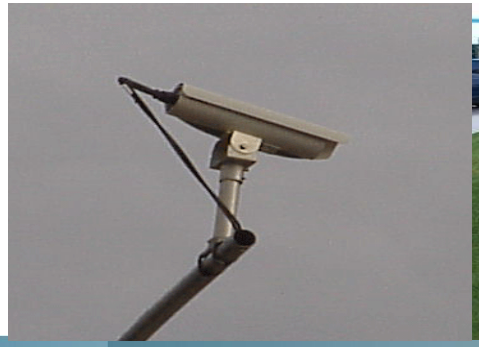
rway speed camera communication & condition montioring

nges

for a 3G/4G router with extended temp range
ote installation in roadside cabinets
for serial interfaces to legacy devices.
for small form factor DIN rail mount device

n

o 819 Rugged Router



Note: Not actual customer application

efits

y to relay event driven automatic updates **using existing nfrastructure**

eed for major system redesign

nsion of existing Cisco IT infrastructure

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Asfinag – Austrian (Road Authority)

ation

el control system fault tolerant LAN

nges

for switches with extended temp range

ote installation in roadside cabinets

for small form factor DIN rail mount device

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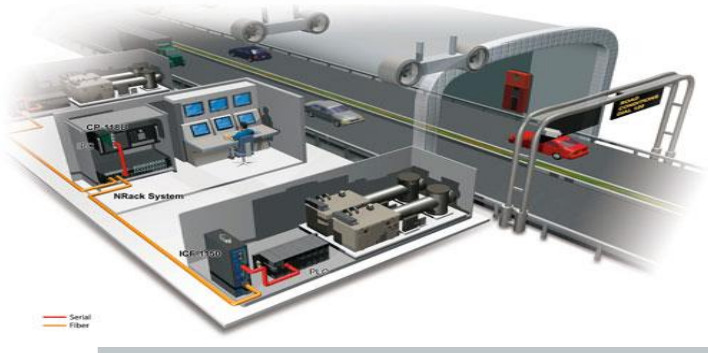
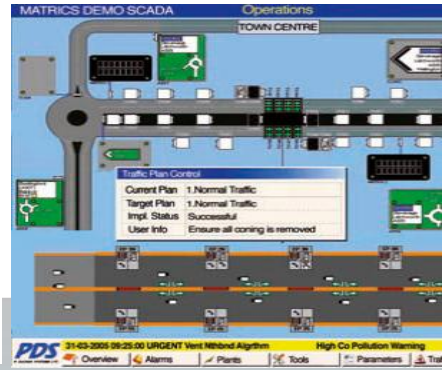
IE3000 switches (600 units)





Not actual customer application

efits

en 50mS or better LAN recovery on fault

nless integration with existing Cisco IT infrastructure

em wide common network diagnostics

er TCO of overall system using Cisco

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Decaux (Brazil, France) Digital

nisation of 1000 digital media signs, in prep for World ympics

r 3G / Cable routers to survive harsh street conditions
installation in roadside cabinets
r small form factor DIN rail mount device
re continuity of information flow, the solution must allow between 2 3G SP or between wired and not wired ion
must also permit IP connection to sensors air quality,….
t but not least, small form factor to fit within thin Clock is mandatory

19H 3G Routers (1400 units)

ecognized Value of the Cisco industrial M2M mobile olio
ne access to the Field operations

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d what of the future??.

Smart intelligent connected approach

- Multi modal regional control centers.
  - Predictive software.
  - Data acquisition and management.
  - Data mining, trends, asset behaviour, route journey utilisations patterns.
  - Communication and information through wider media.

Smarter……Others!

- Parking
- Fueling
- Diagnostics (in vehicle)
- Congestion management
- Land use

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nk you for listening.

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