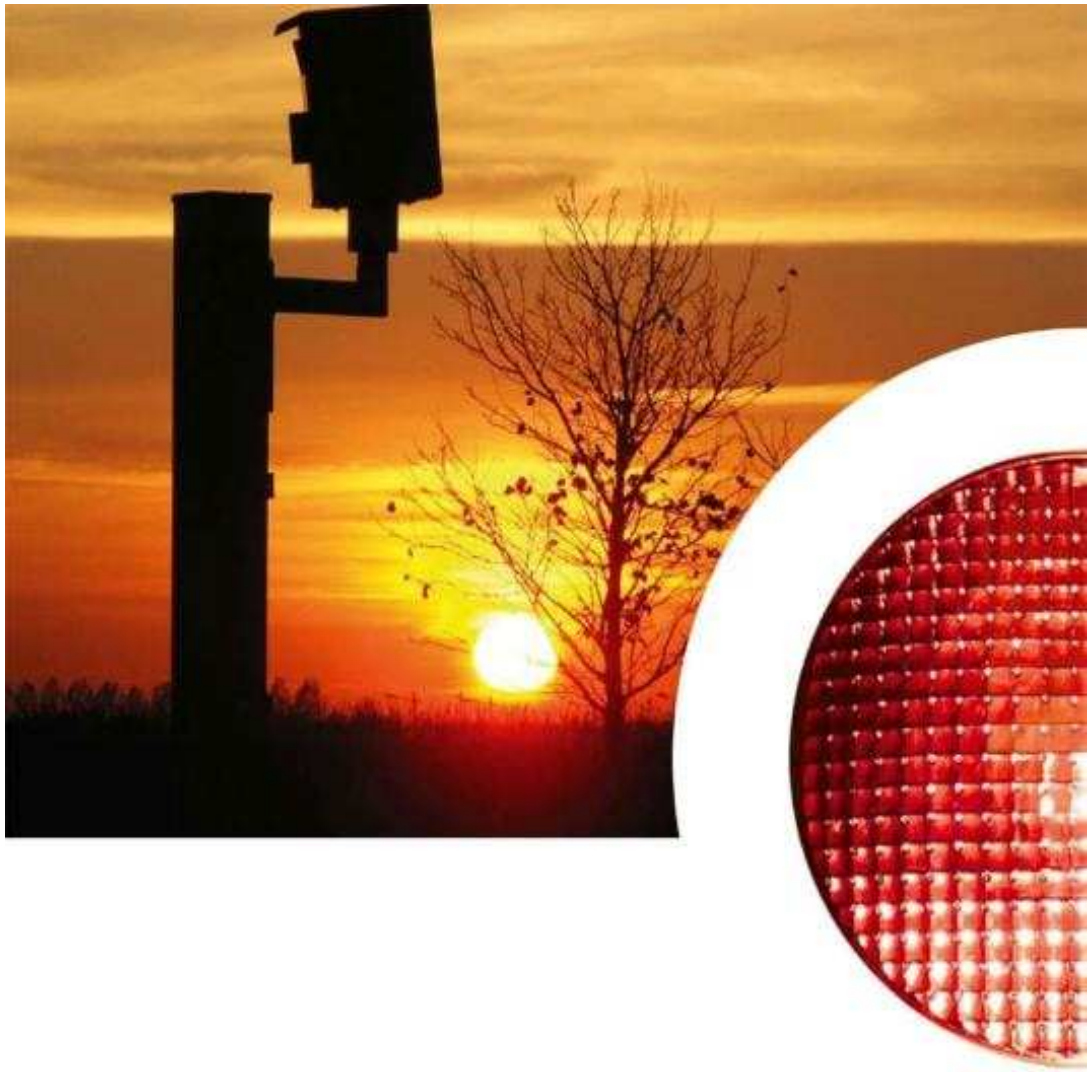
Red Light Camera System (RLC)



Introduction of
Red Light Camera System

IoT Conference 2014 Asia

November 2014

Gatso Serco JV

Presentation Agenda

Agenda

- Company Profile
- Red Light Camera System (RLC)
- Central Management Software (CMS)
- System Network
- ROI

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Gatso Serco JV Profile (Gatso)

Gatsometer BV

- Gatsometer B.V. leads the world in the provision of traffic enforcement equipment. The company core business consists of the development, production, and installation of traditional and digital speed and red light camera systems and radar systems. In addition to having developed a very strong domestic market, Gatsometer B.V. exports traffic enforcement systems to countries all over the world.

GATSO METER serco
Gatso Serco JV

Gatso Serco JV Profile (Serco)

Serco Group

- Operate traffic management systems covering more than 17,500 km of roads worldwide
- Manage 500,000 square kilometres of airspace in five countries
- Maintains over 150 ships, 250 aircraft and 8,500 vehicles for organisations worldwide
- Operate 54 air traffic control towers in US and Middle East
- Provide secure computer and software support service to all 66 UK law enforcement agencies
- Operate call centres which receive more than 29 million calls each year
- Manage education authorities on behalf of local governments

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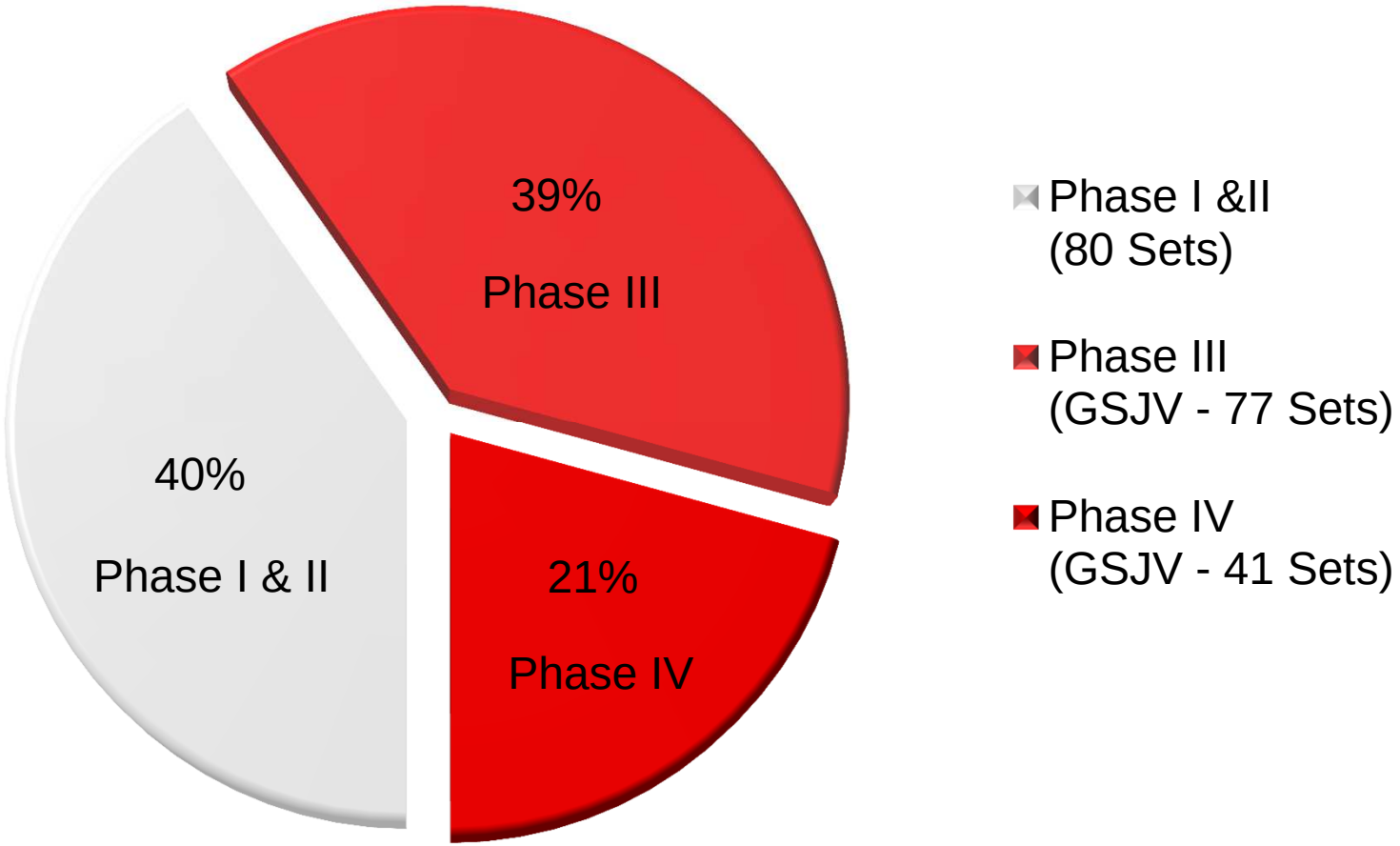
Gatso Serco JV Market Share

Hong Kong Red Light Camera System



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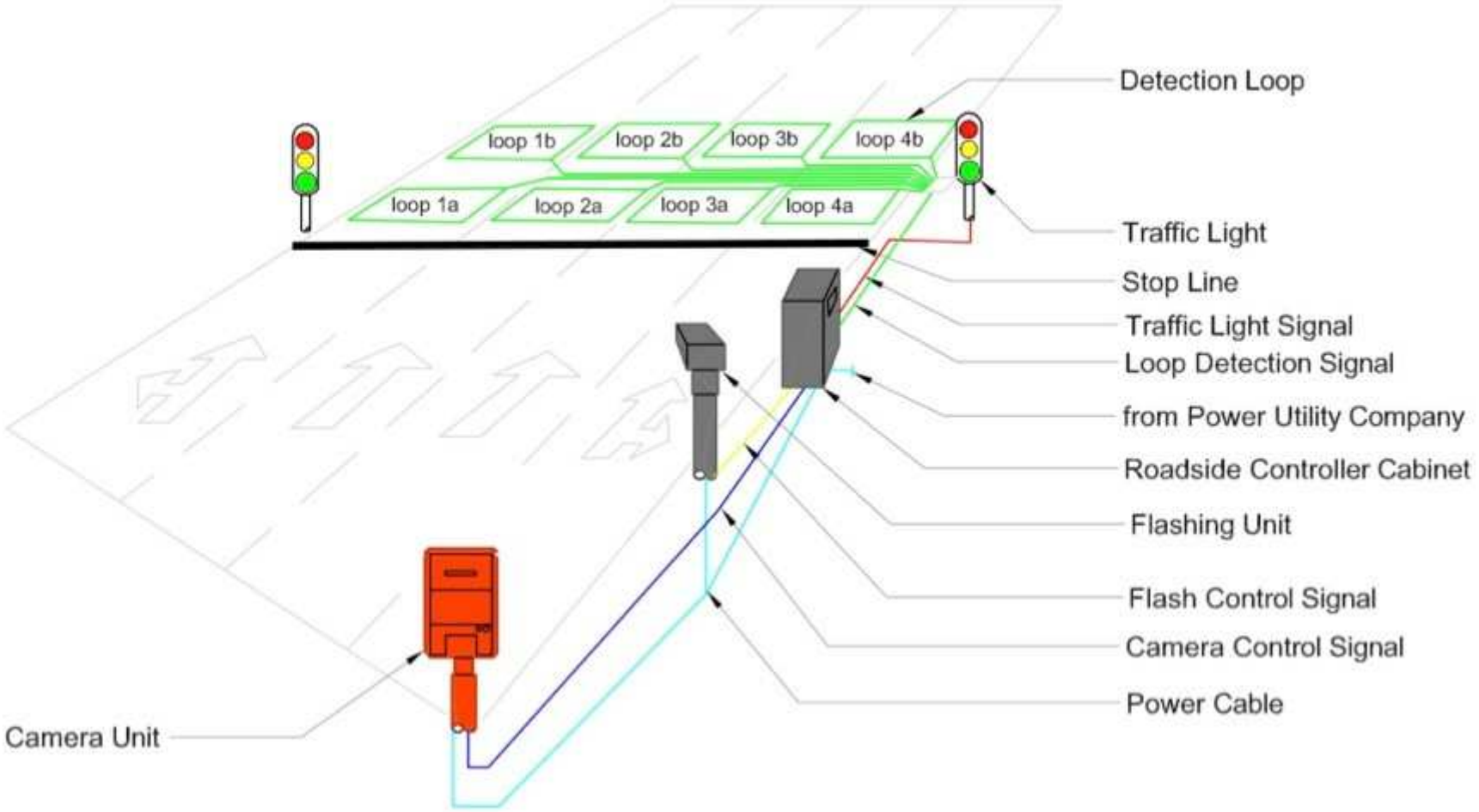
System Overview of RLC System (Phase III)



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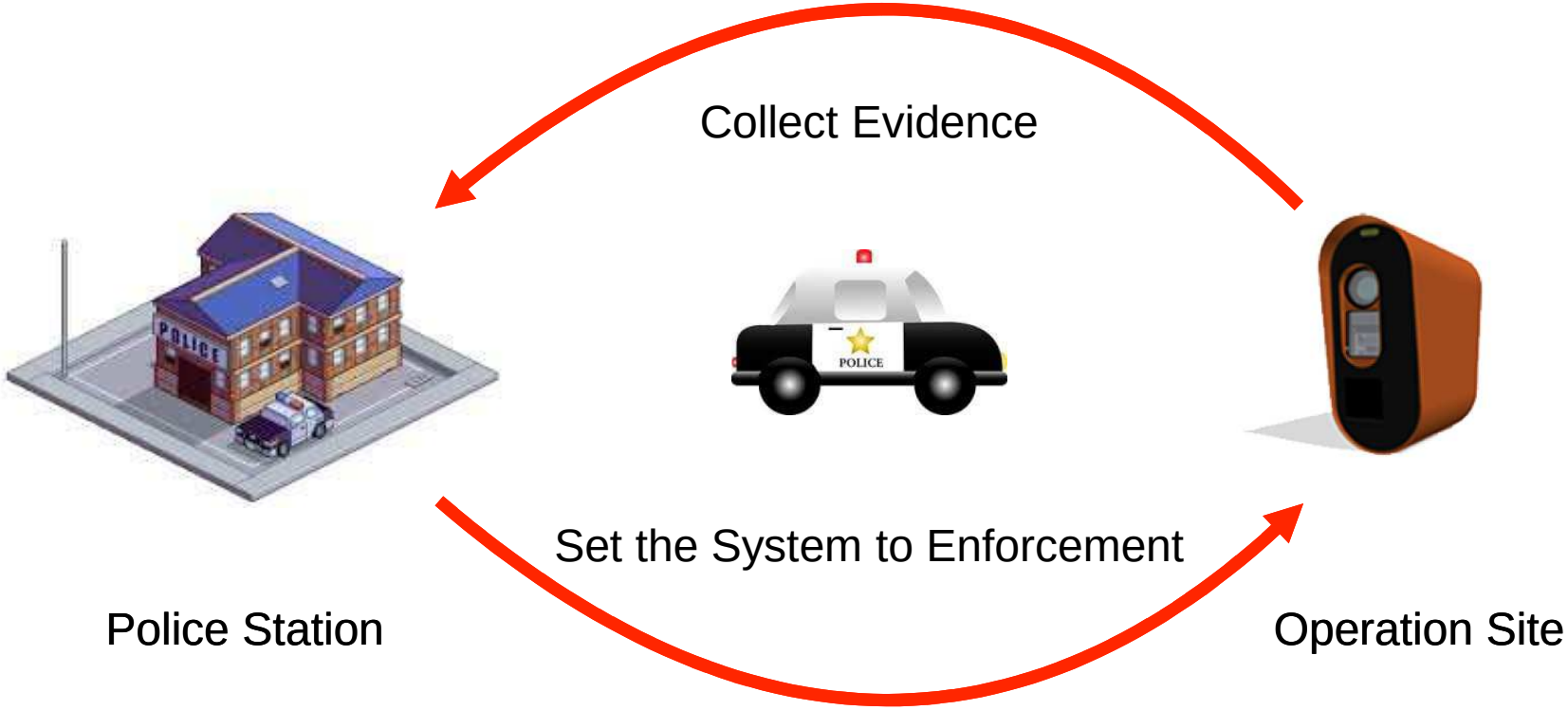
RLC System Phase III Operation Flow



2 Police Officers X 2hrs/Trip X 4 Trip/Month x 77 Sites

= **1232 Man Hour / Month**

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Encounter Problems

- Independent System
- No Central Management
- No Central Monitoring
- Local Operation Only

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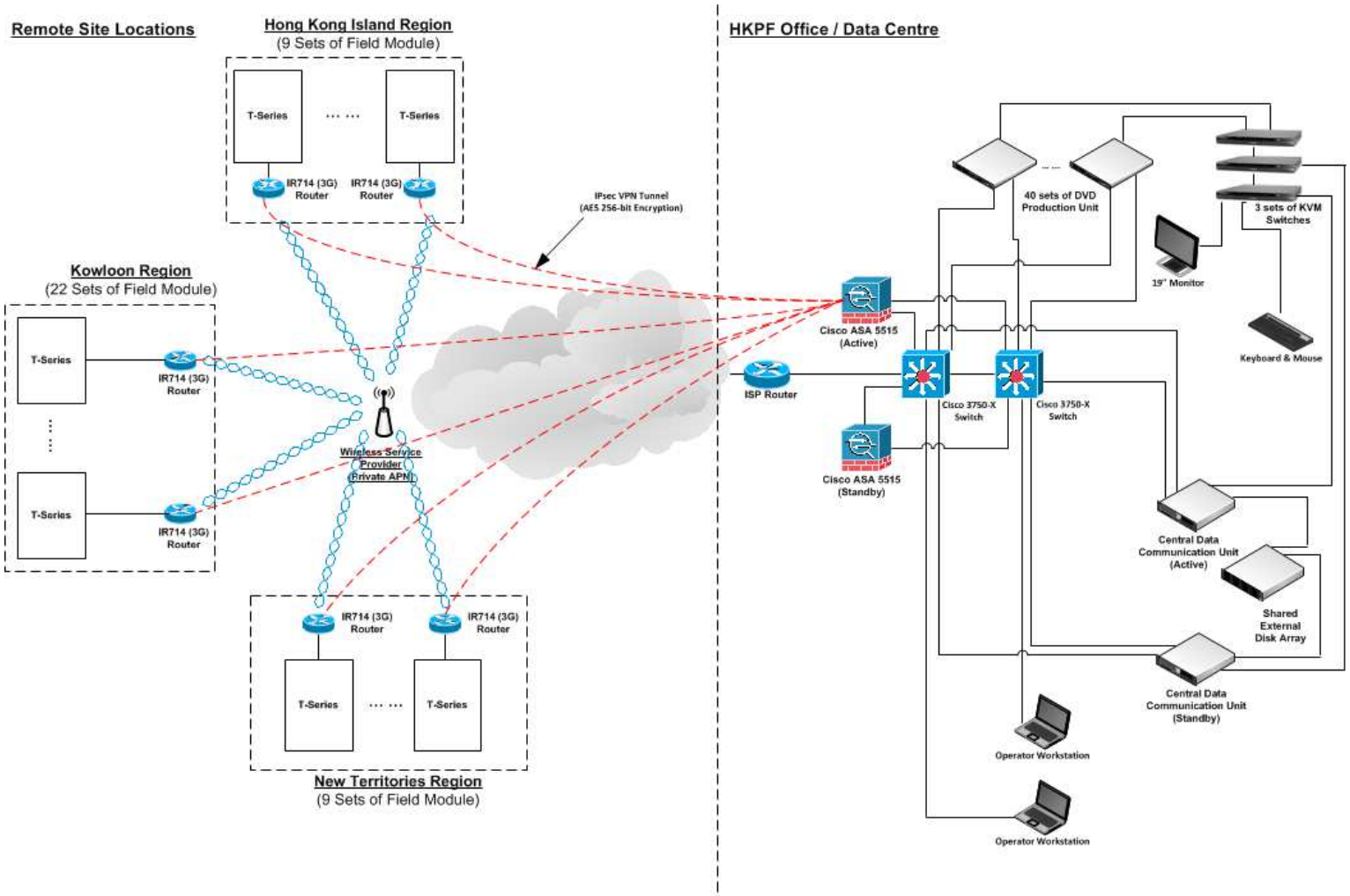
RLC System Overview (Phase IV)



Schematic Diagram – Red Light Camera System Expansion Phase 4

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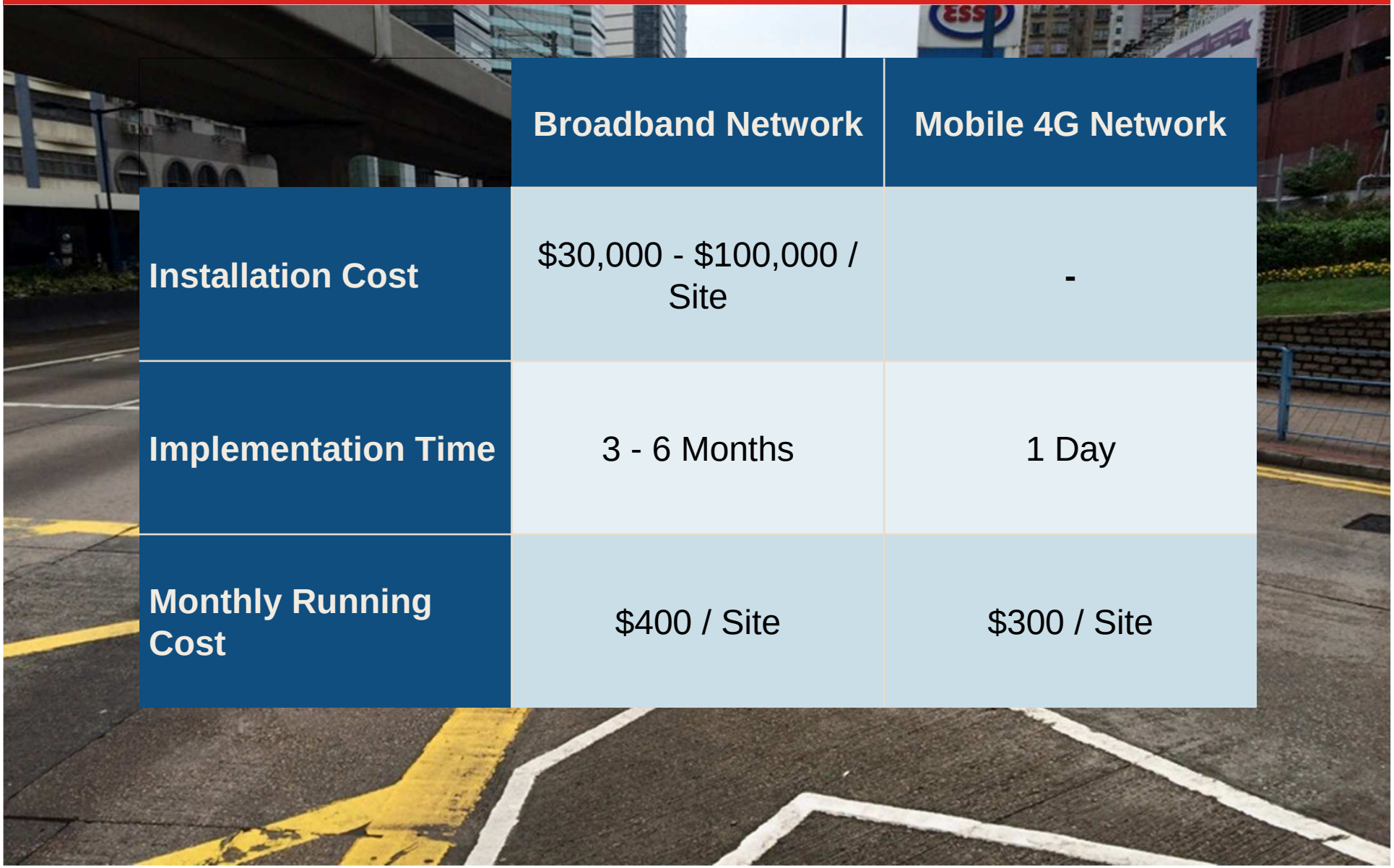
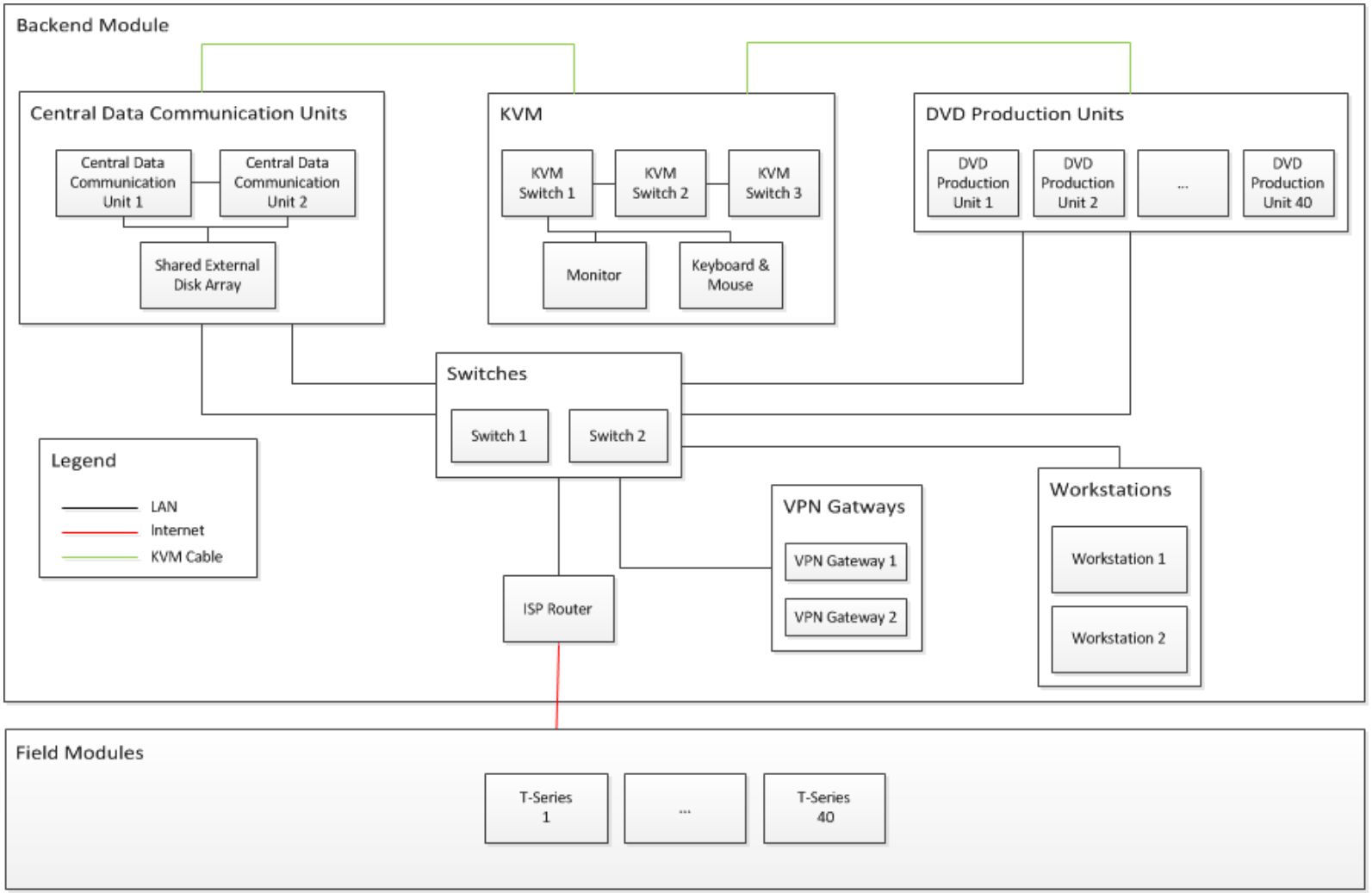
Advangtages of Using Mobile Network



	Broadband Network	Mobile 4G Network
Installation Cost	$30,000 - $100,000 / Site	-
Implementation Time	3 - 6 Months	1 Day
Monthly Running Cost	$400 / Site	$300 / Site

Phase IV Backend Module Block Diagram



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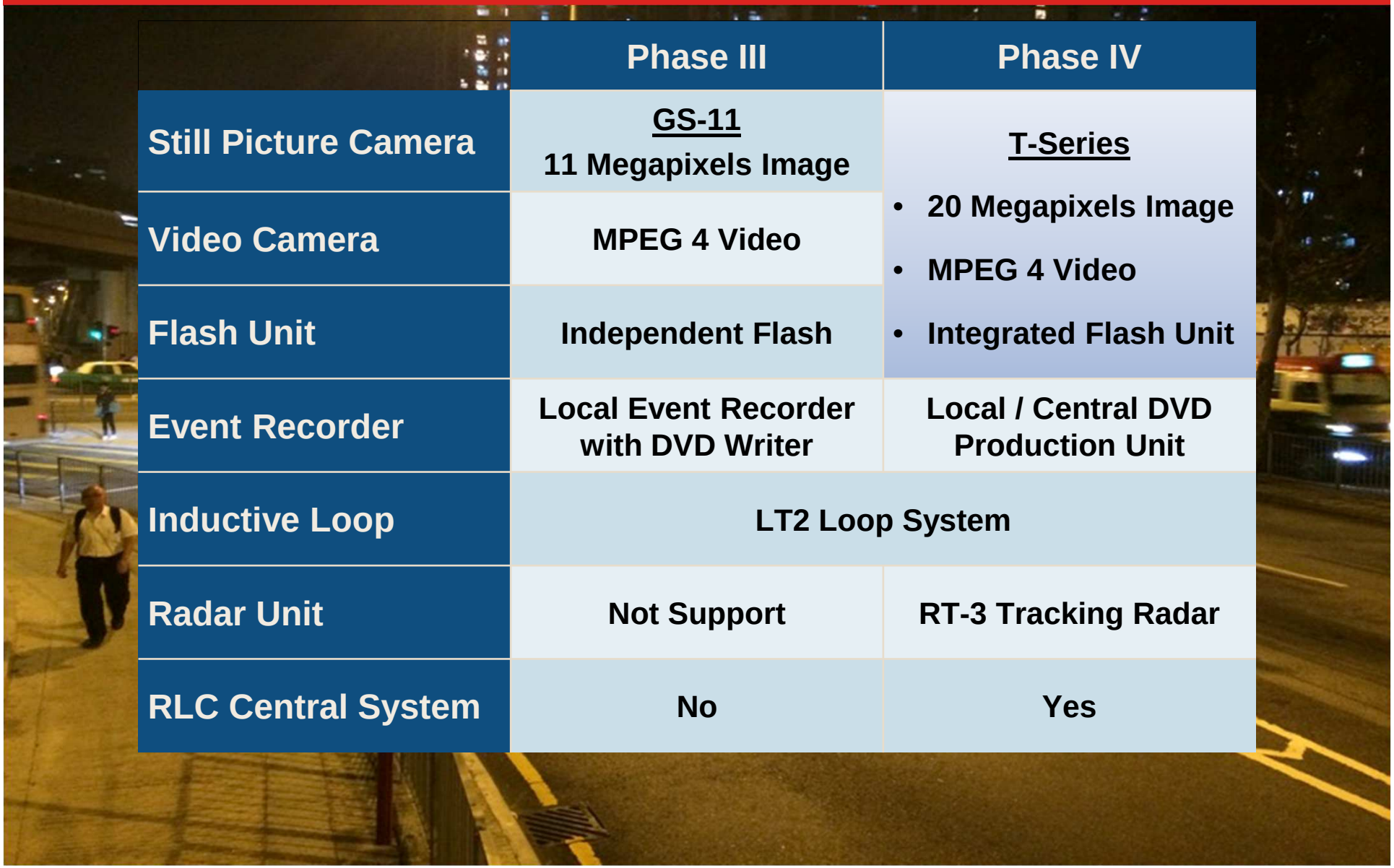
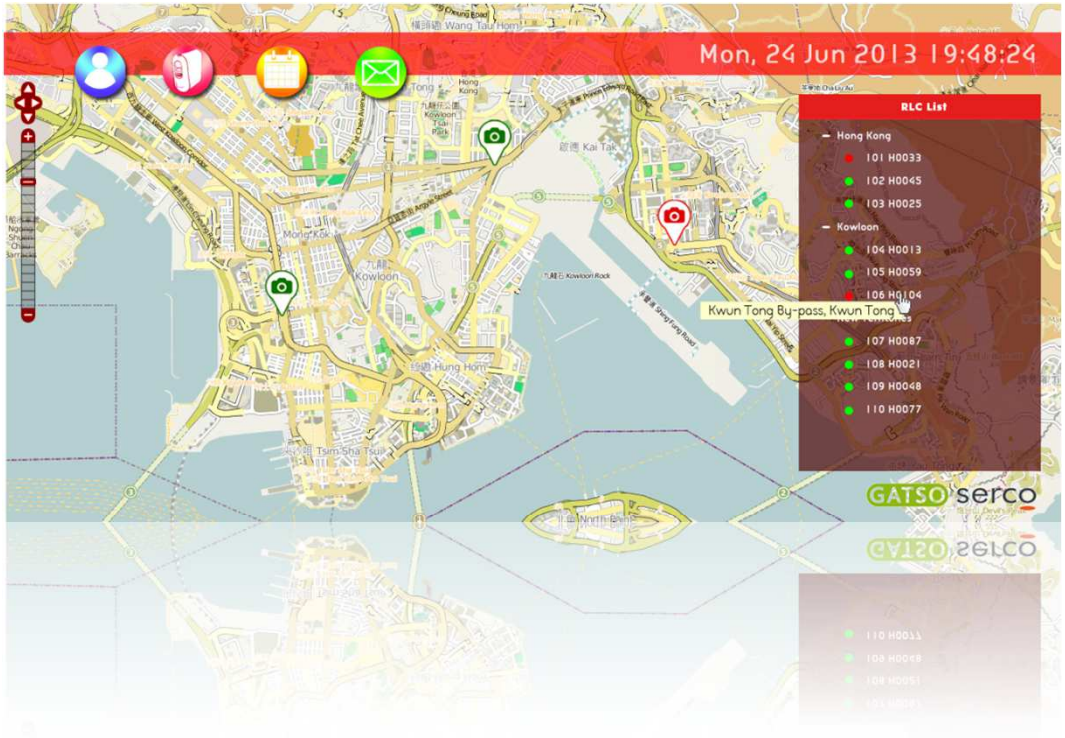
Enhancement



	Phase III	Phase IV
Still Picture Camera	**GS-11** 11 Megapixels Image	**T-Series** • 20 Megapixels Image • MPEG 4 Video • Integrated Flash Unit
Video Camera	MPEG 4 Video	
Flash Unit	Independent Flash	
Event Recorder	Local Event Recorder with DVD Writer	Local / Central DVD Production Unit
Inductive Loop	LT2 Loop System	
Radar Unit	Not Support	RT-3 Tracking Radar
RLC Central System	No	Yes

CMS Key Features



- Graphical User Interface
- Site Management
- System Monitoring
- User Management
- Scheduler
- System Logging

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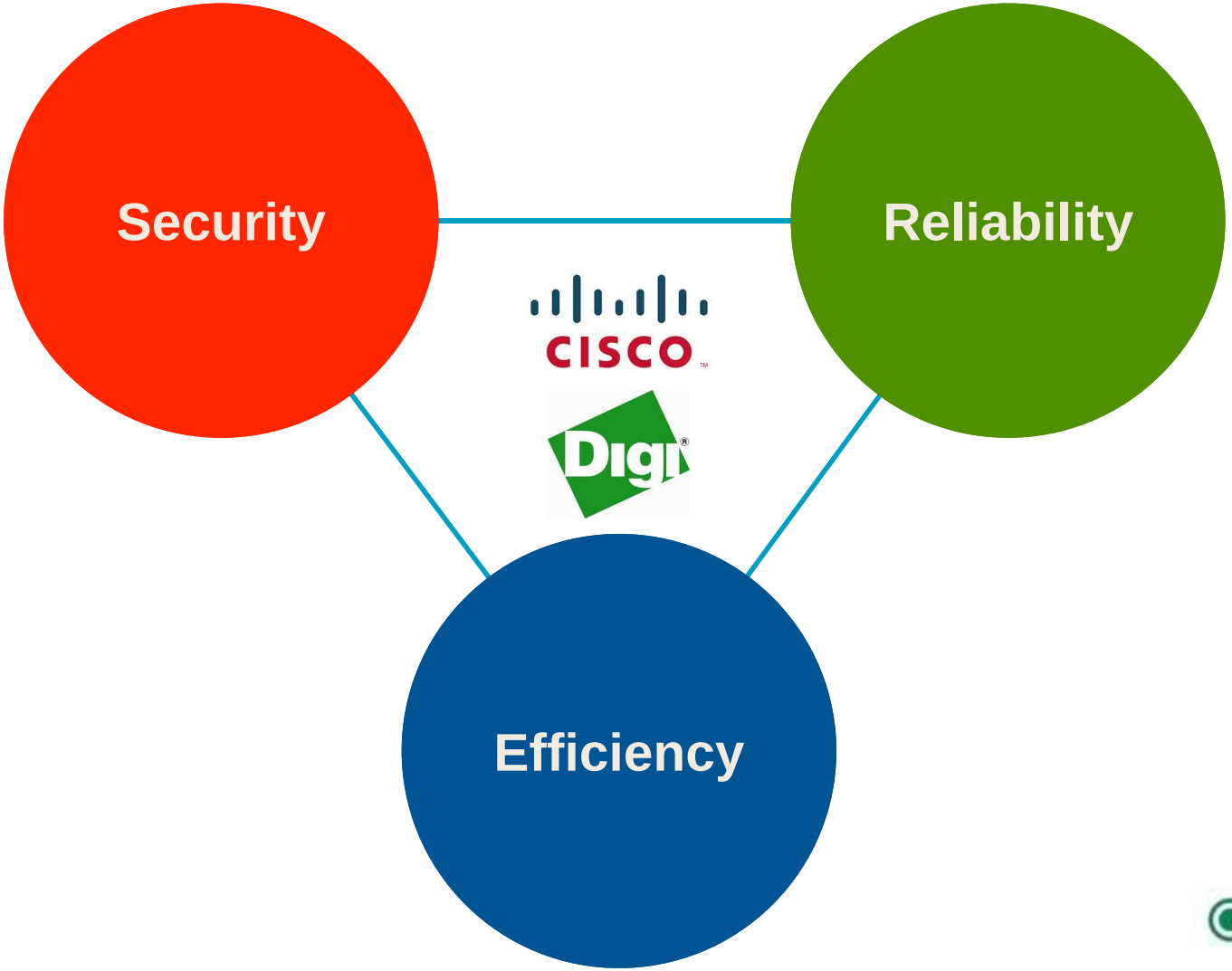
Concern Area



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Major Network Equipment

Central Equipment		Field Equipment	
Router / Switch	 Cisco Catalyst 3750	4G Wireless Router	 Digi TransPort WR44
VPN Gateway / Firewall	 Cisco ASA 5515		
Firewall	 Cisco ASA 5505		

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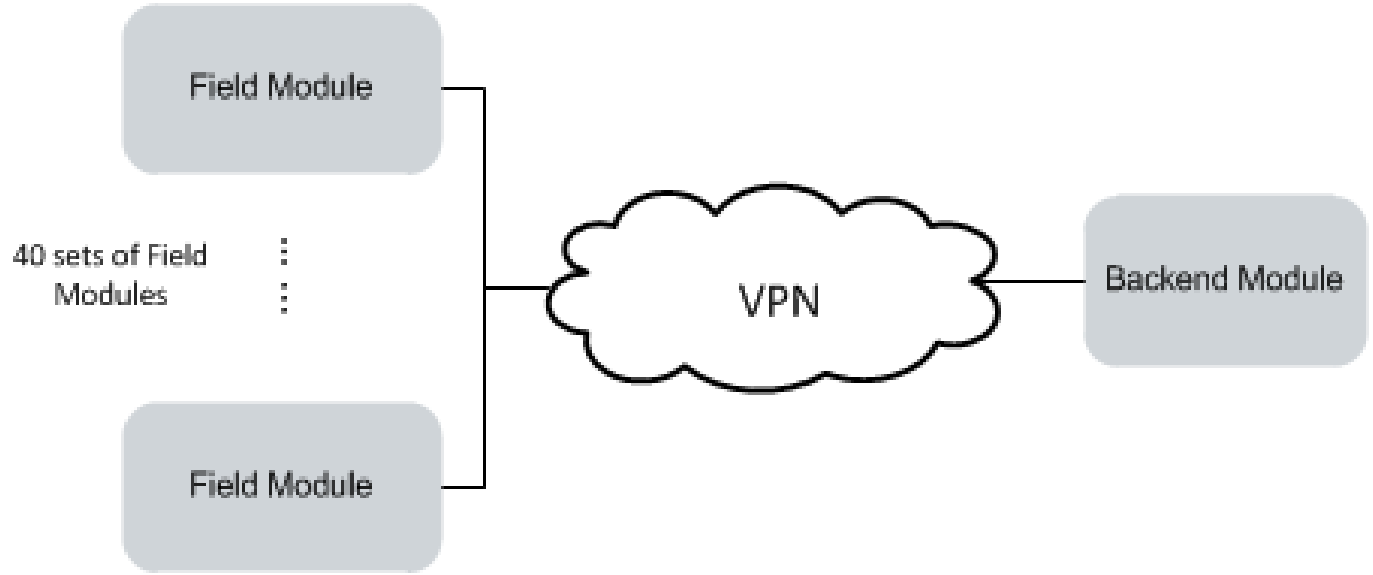
Network Security



Date Transmission	**4G LTE Wireless Network**
Transfer Rate	**50 Mbps Up / 100 Mbps Down**
Connection	**IPSec VPN Tunnel**
Encryption	**AES 256-bit Algorithm**

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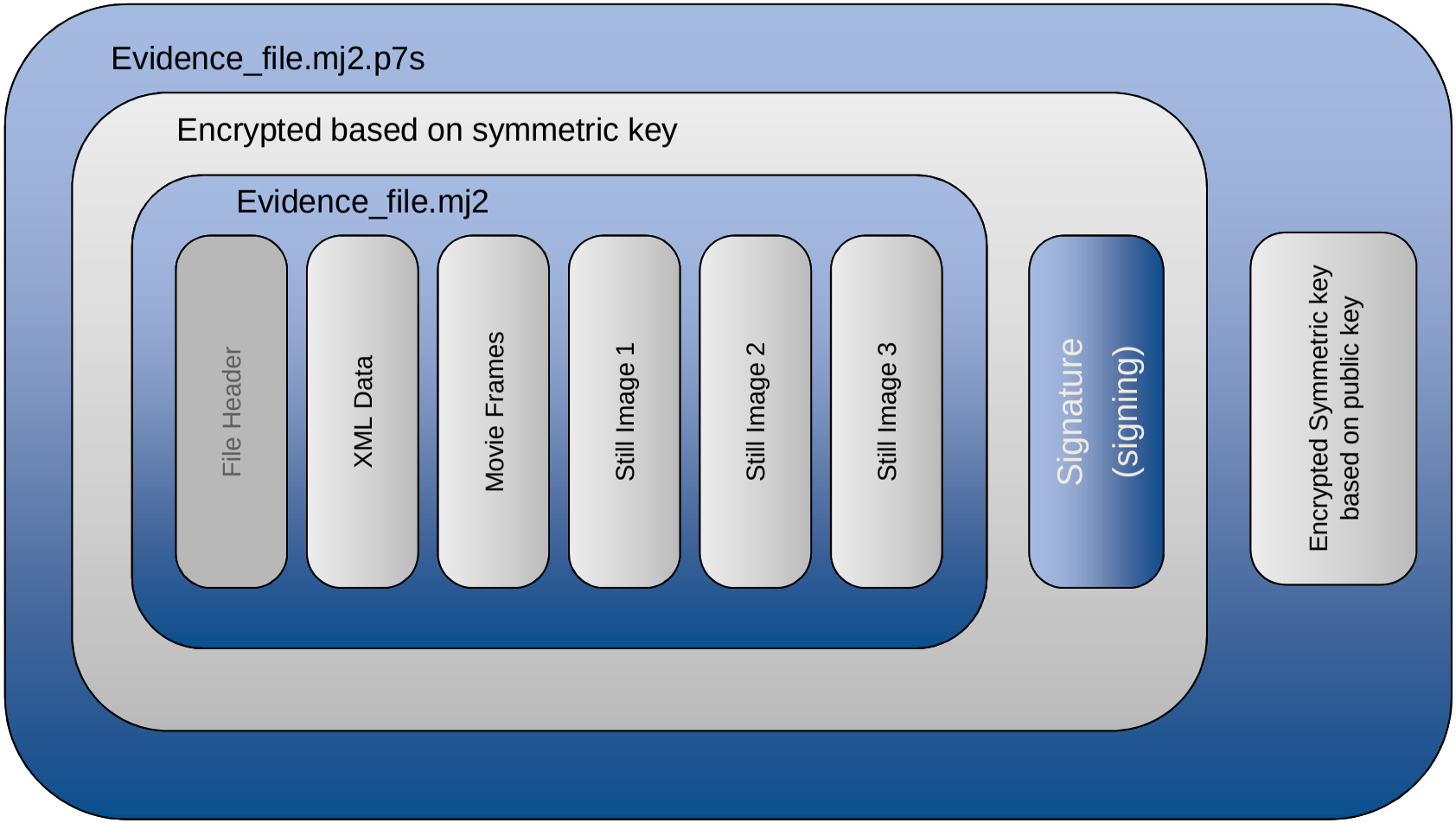
Evidence File



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Sample Violation Image (Phase IV)

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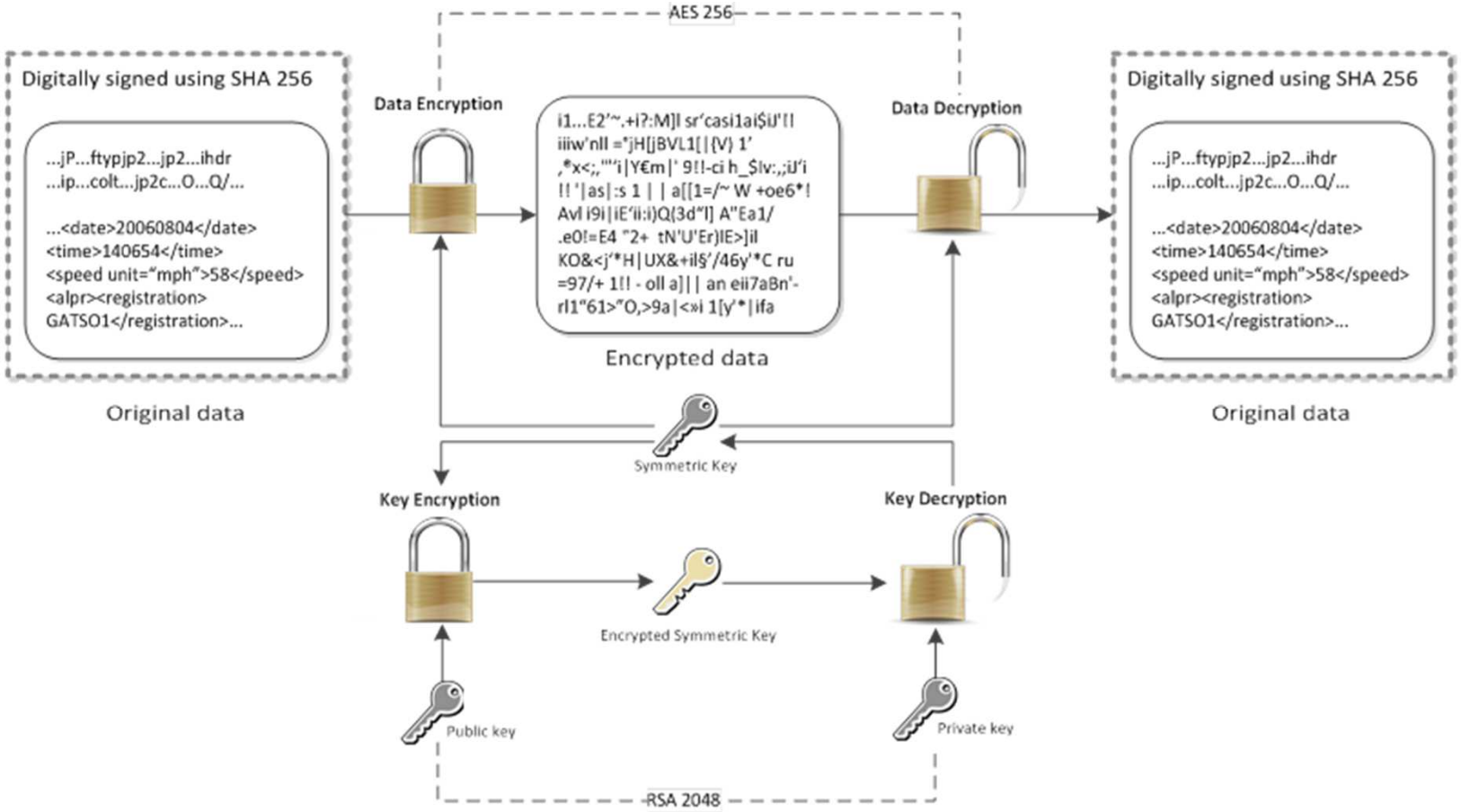
Data Encryption



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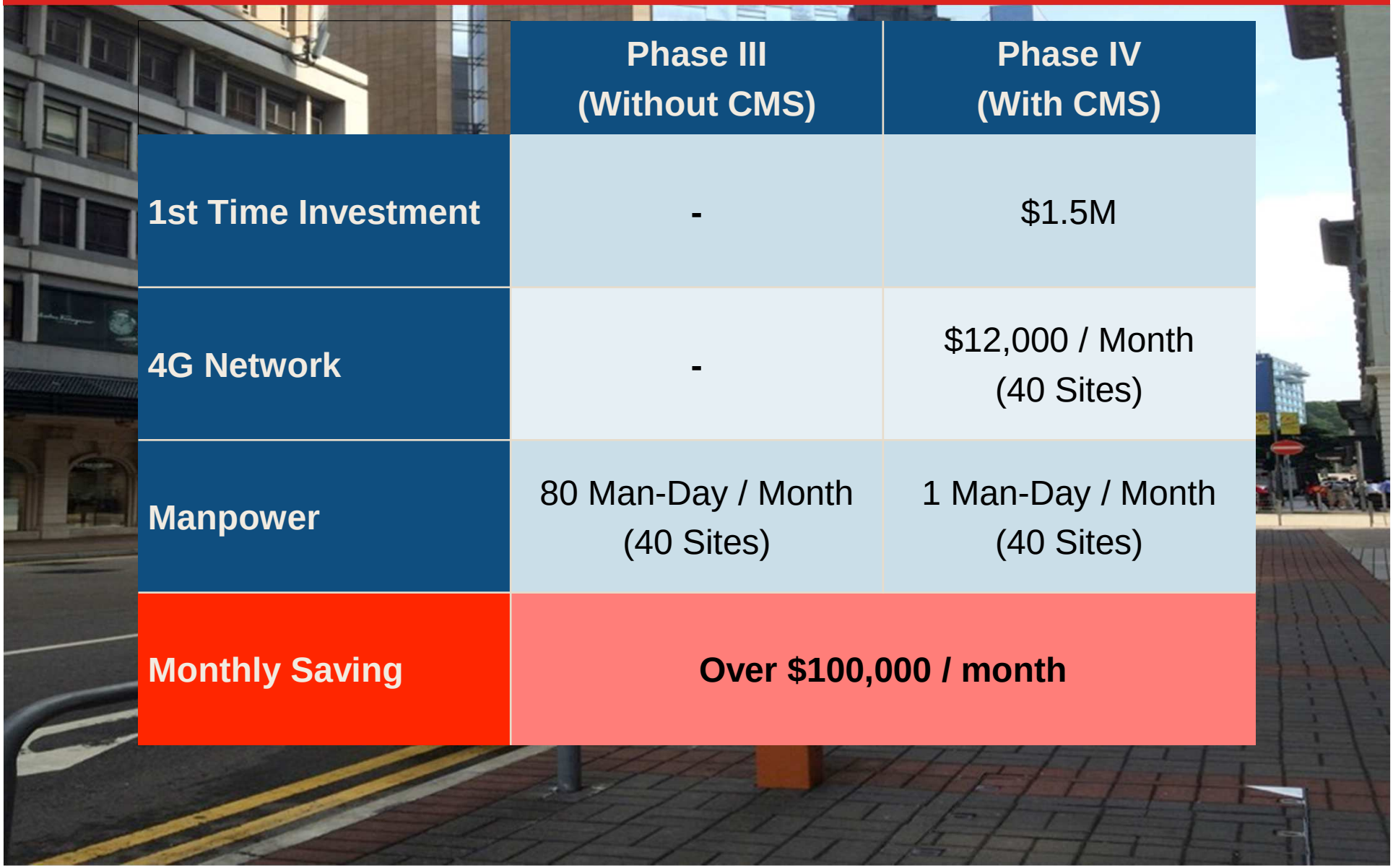
Return on Investment (Phase III & IV)



	Phase III (Without CMS)	Phase IV (With CMS)
1st Time Investment	-	$1.5M
4G Network	-	$12,000 / Month (40 Sites)
Manpower	80 Man-Day / Month (40 Sites)	1 Man-Day / Month (40 Sites)
Monthly Saving	**Over $100,000 / month**	

Advantages of the Solution

Advantages

- ☑ Minimise Concurrent Running Cost
- ☑ Central Monitoring & Management of System
- ☑ Make Use of Existing Telecommunication Network
- ☑ Increase System Efficiency
- ☑ Flexibility of Using Loop / Radar
- ☑ Support up to 1000 Sets of Field Equipment

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Thank You

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