

MOSCAD

SCADA Background

- **Mission and Key messages**
- **Integrated Solutions**
- **Product Offering**
- **Summary**

Key SCADA Issues

- **Implementation of Remote Control is Expanding**
 - Customers realized that SCADA create cost benefits
 - Communication plays a major role in customer's decision
- **Customers Demand Turnkey System Solutions**
 - Assume overall system operation responsibility
 - Requirement to include non-Motorola items
- **SCADA Systems Serve Solid Customers**
 - Utilities and Energy
 - Public Safety
 - Network Fault Monitoring
- **The MOSCAD Suit Market Needs**
 - Over 40,000 RTUs sold for multiple SCADA applications
 - Customers appreciate the unique features we offer



The SCADA Business and Motorola

- **Business experience**

- 27 years in the SCADA market
- Over 4,500 customers world-wide
- Over 50,000 RTUs installed

- **Growing Business**

MOSCAD Home Page:

- **Public:** <http://www.mot.com/SCADA>

- **MOSCAD VARs:** <http://accessSecure.mot.com> (pasw.)



Fixed Data Organization

- R&D and Manufacturing, MCIL
- Product Support, Training, MCIL

Your Support Contacts:

- EER, CE, Turkey & SA; Rubi Elbirt and Gidi Hadari
- WE and MEA; Sam Har-Zahav
- Marketing and Applications; Dan Ehrenreich
- Training and Technical Support: Eli Greenberger
- Marketing Communication: Asher Adler



A real Cultural Change

Until Now

- Motorola Provided Technology
- Customer Adjusted

From Now

- Customer Defines Needs
- Motorola Provides Solution



Fixed Data - Major Applications

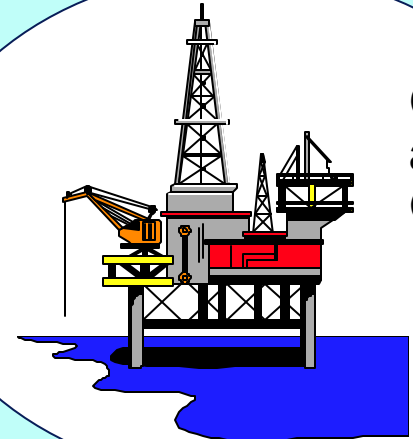
Water



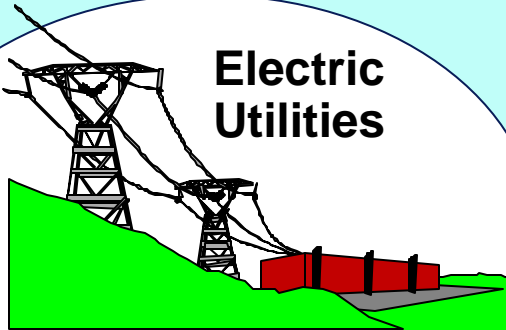
**Fresh and
Wastewater**

**Using Voice
communications
Systems
Conv. & Trunked**

**Oil
and
Gas**

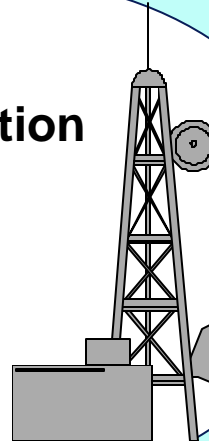


**Electric
Utilities**

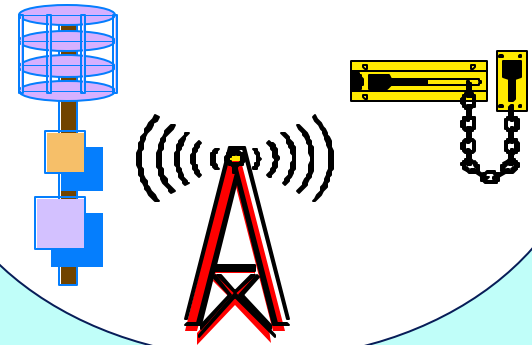


**Distribution
Automation**

**Communication
Monitoring
SNMP**

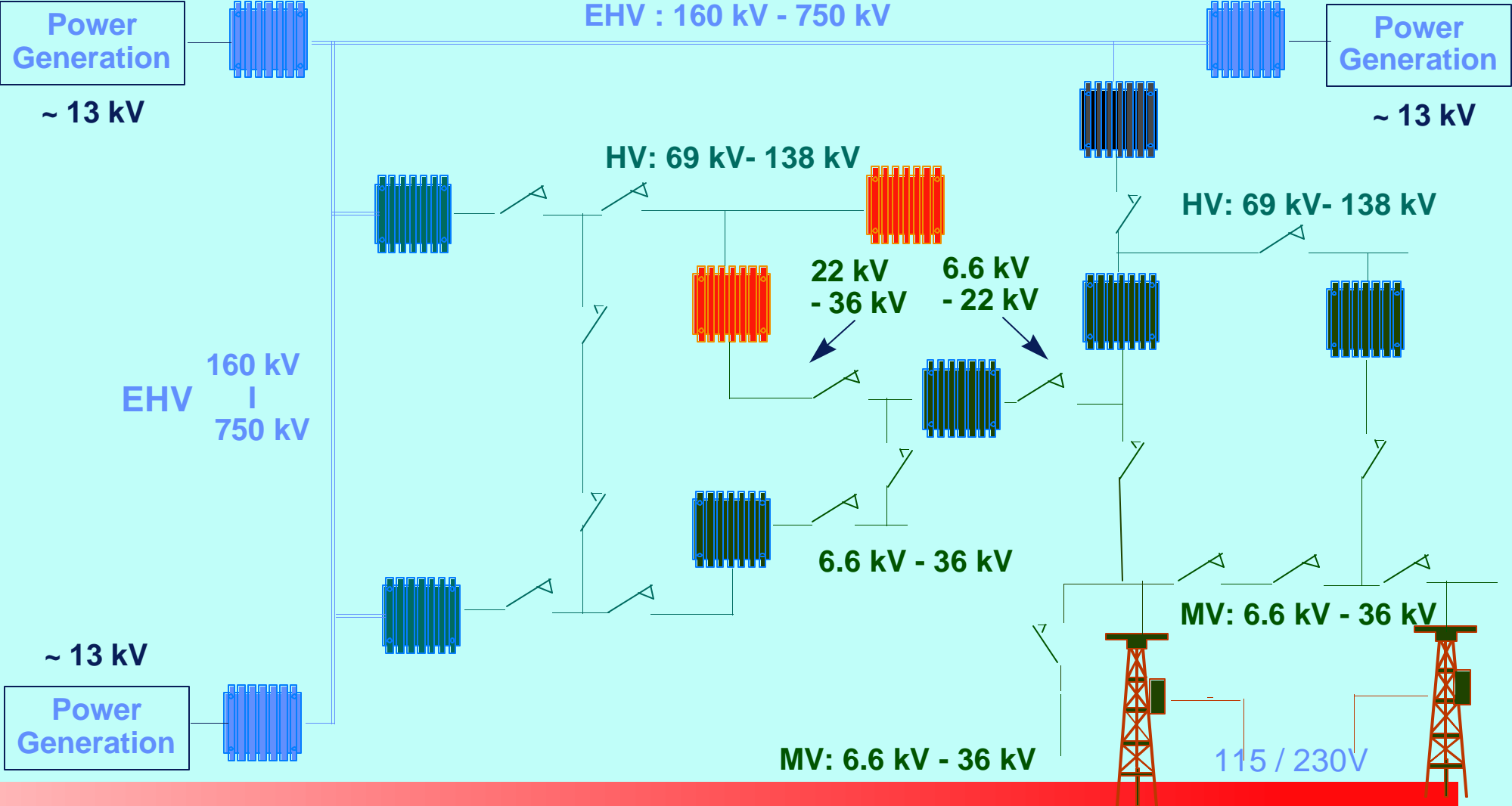


Public Safety



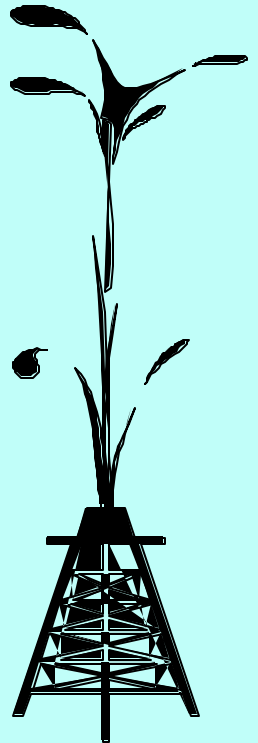
MOTOROLA

Electricity Network Structure



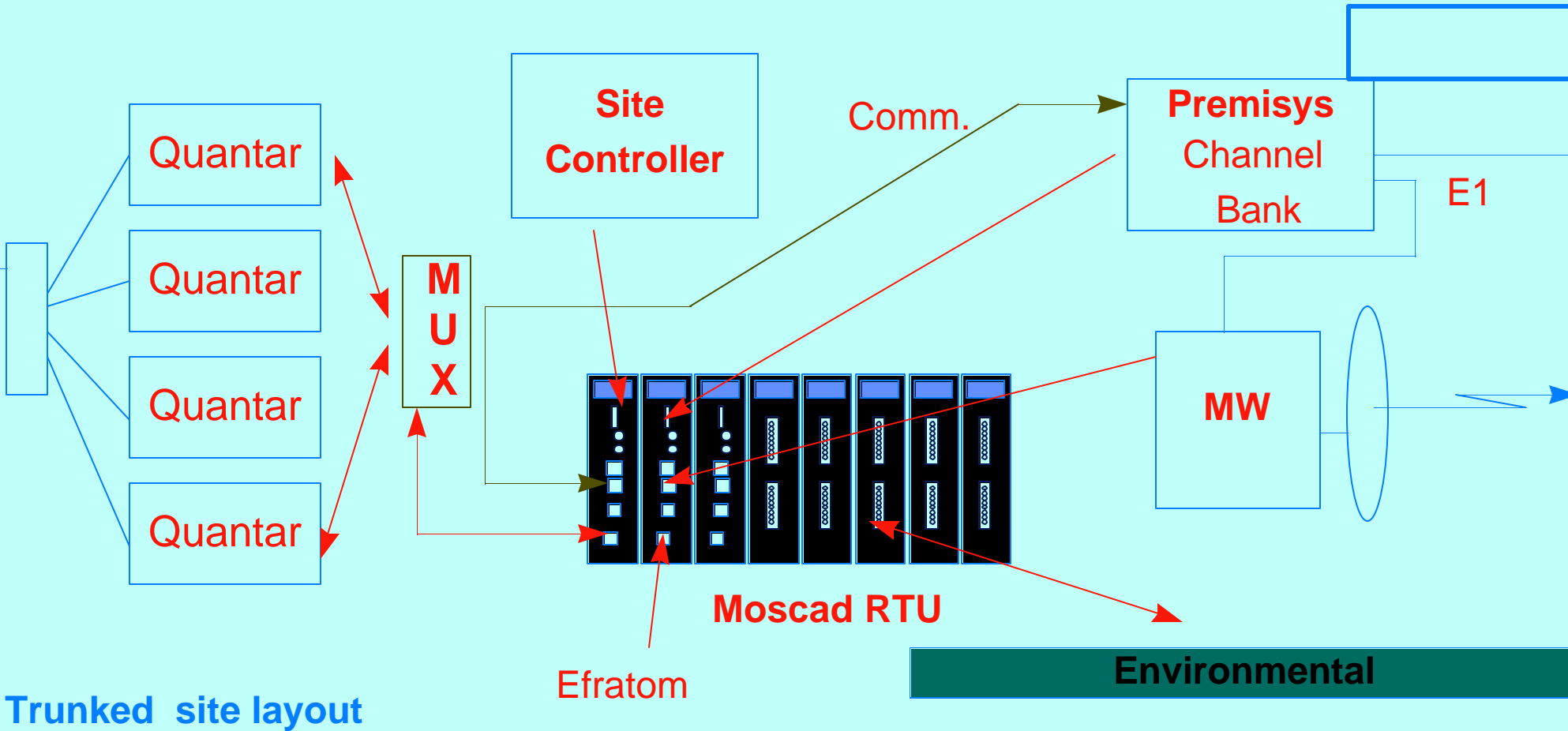
SCADA Objectives in Petroleum Market

- Pumping & Production Wellheads
 - » Pump Start/Stop; Pump Speed
 - » Oil/Gas Pressure
 - » Choke Setpoint/Position
 - » Fire Alarm; Emergency Shut Down (ESD)
 - » Separator Monitor and Control
 - » Delivery Flow/Pressure
- Pipeline Transportation Systems
 - » Pump Stations; Motor Operated Valve
 - » Cathodic Protector Stations
 - » AGA 3, 7, 8 and PID control
 - » Leak and Fire Detect



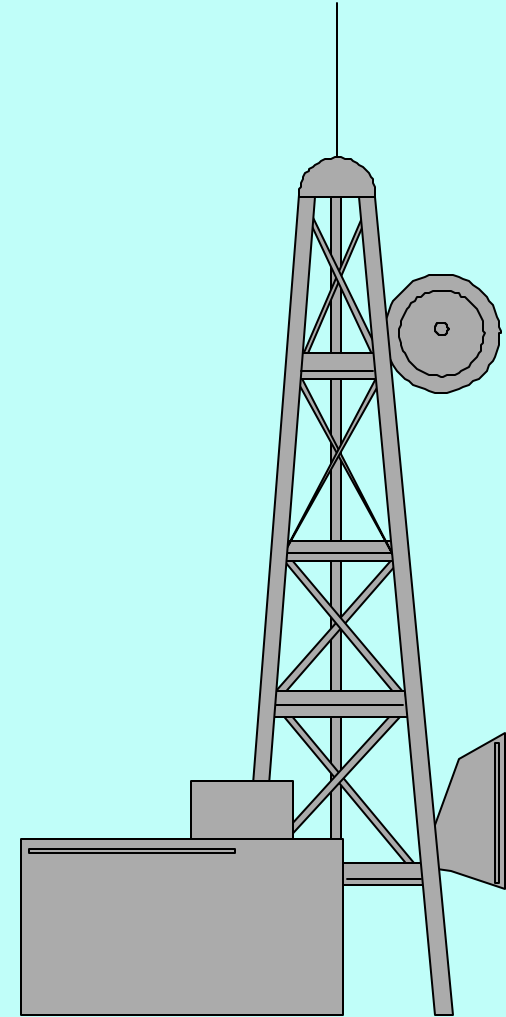
Communication Monitoring

General Concept



Communication Monitoring Market NETWORK MANAGEMENT

- Conventional Radio Infrastructure
- Trunked Radio Infrastructure
- Microwave Network System
- Broadcasting System
- Subway/Underground Radio System
- Cellular Radio Infrastructure
- Digital Radio Infrastructure



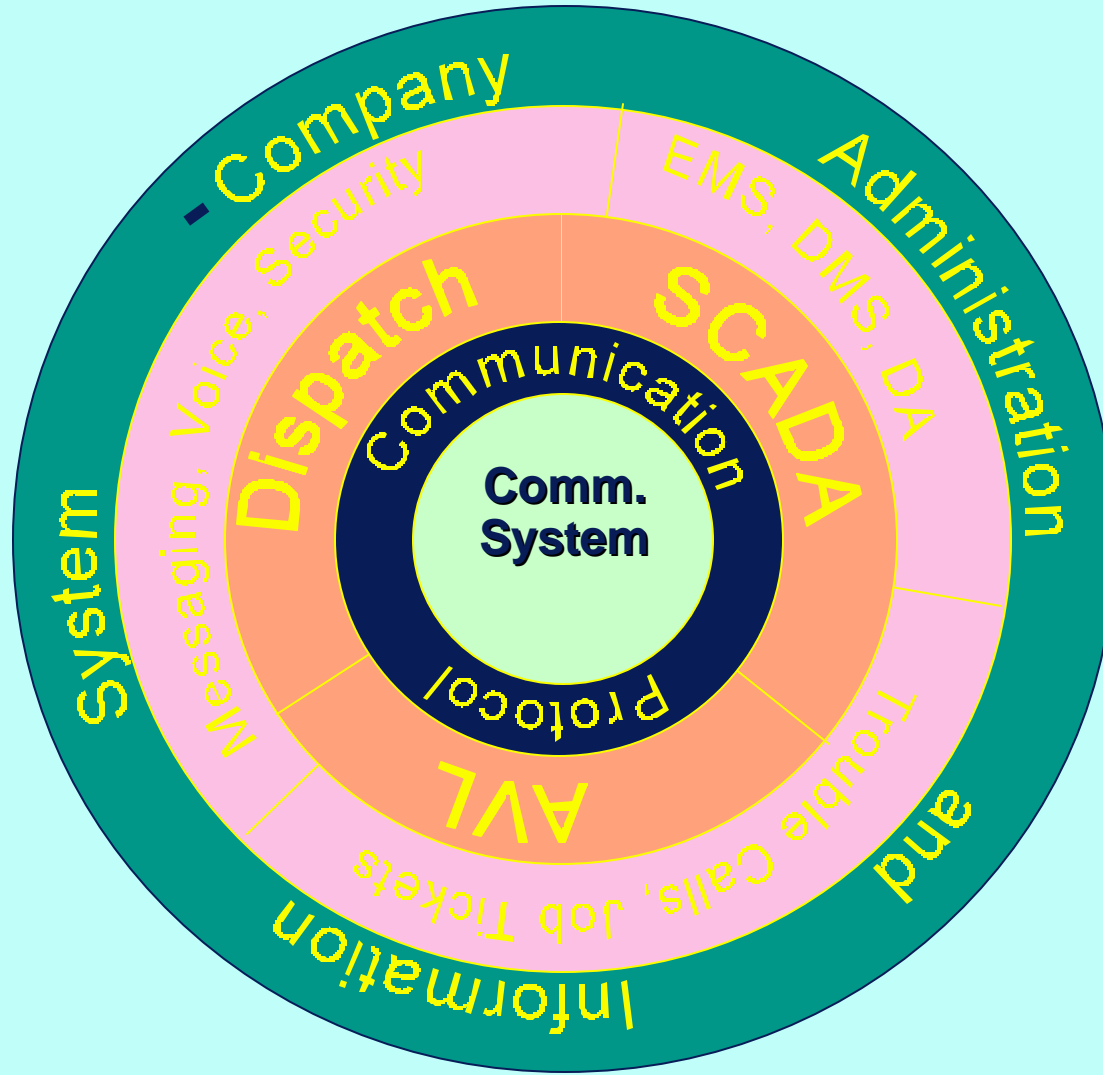
- **Mission and Key messages**

- **Integrated Solutions**

- **Product Offering**

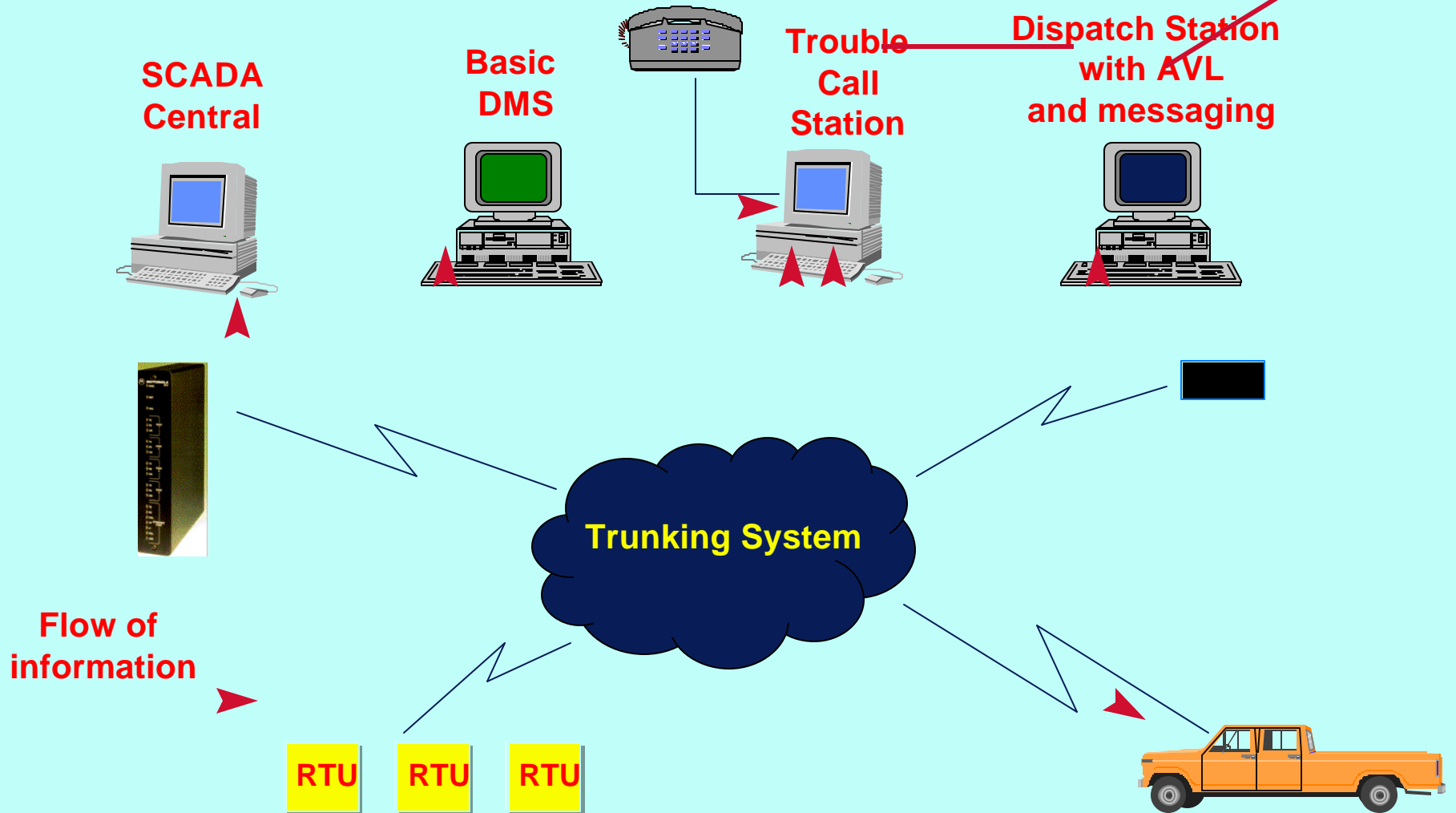
- **Summary**

Integrated Solution



MOTOROLA

Utilities - Integrated Solution



MOSCAD Markets

Moscad RTUs
and Gateways

Horizontal markets

Communication
Monitoring

RF Modems

OEM RTUs

Vertical Markets

Public
Safety

- Bank security
- Government facilities
- Communication Network Monitoring
- Public alert systems
- School security

Utilities

- Telemetry
- Remote control
- Meter reading

Transportation

- Train Signalisation
- Fleet management, AVL
- Airport comm. navigation monitoring

Petro, Oil &
Gas

- Pipelines, ESD
- Compressor stations
- Refinery safety

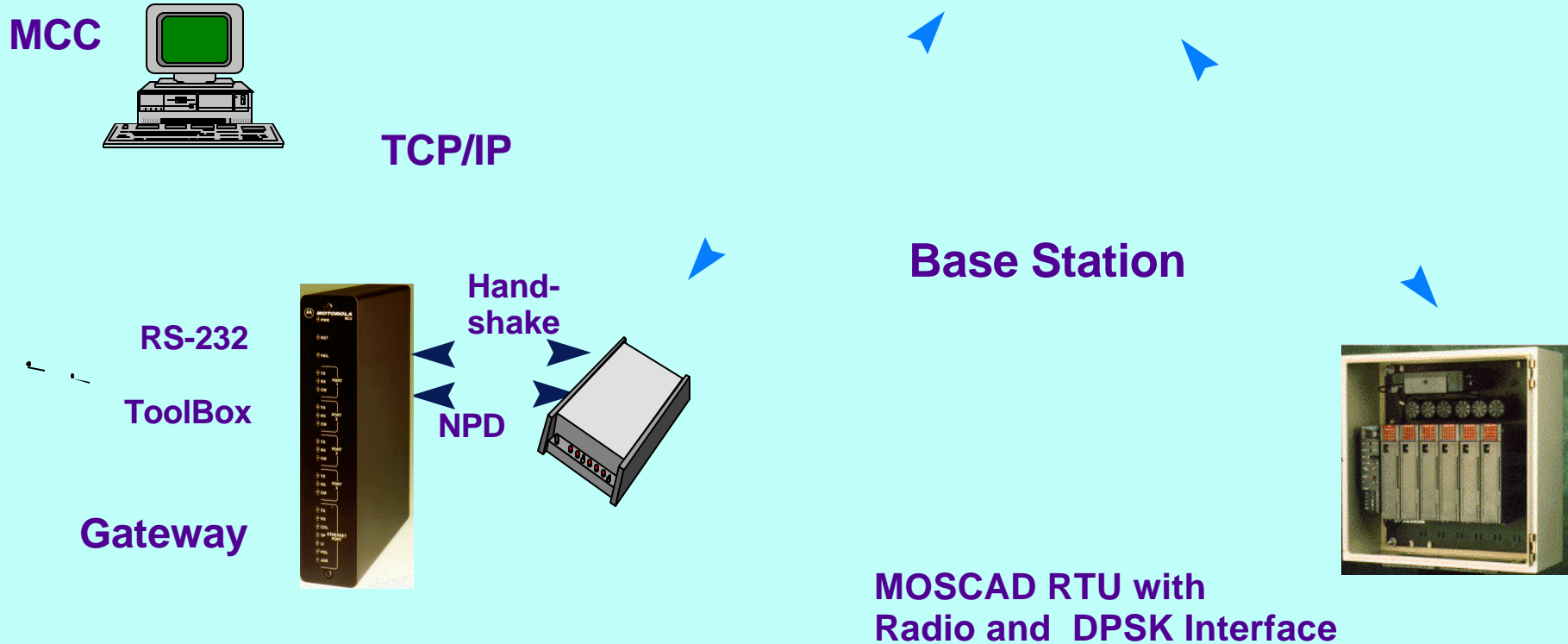
Telecom - Network
Monitoring

- Cellular operators
- Microwave alarms
- Telephone infrastructure

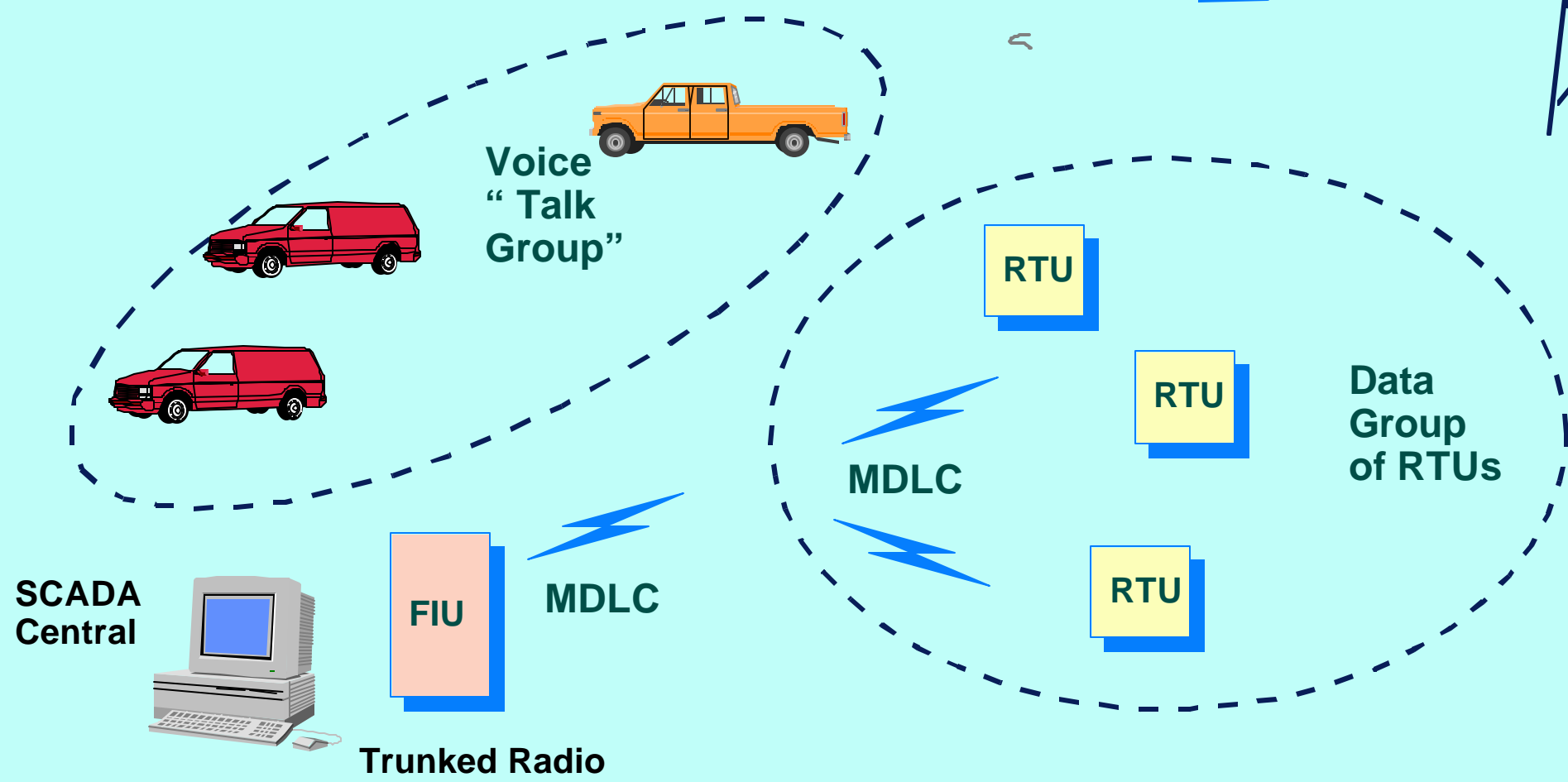


MOTOROLA

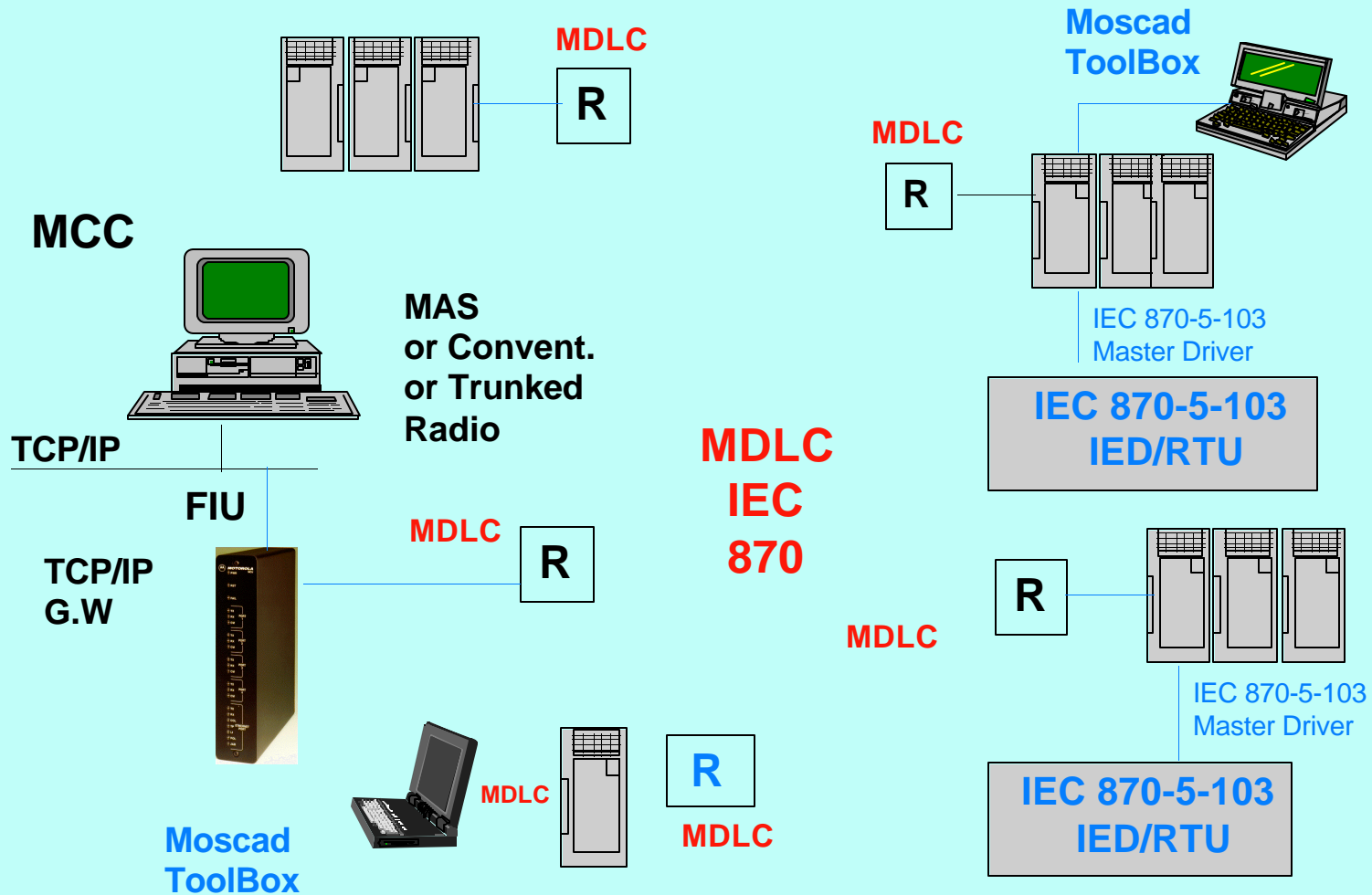
MOSCAD Over Trunked Systems



Integrated Voice and Data Over Trunked System

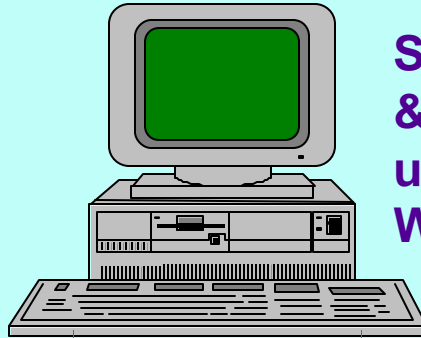


Integrate MDLC - IEC 870 System



RIX and SCADA Over MOSCAD Application

Control center



SCADA
& RIX SW
under
Windows NT

Video Data
(19.2Kbps)

SCADA
Data

RS-485
or RS-232

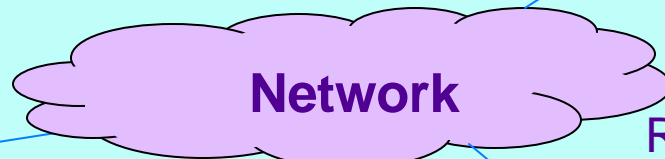
Tool-Box

FIU

VIDEO
Front End

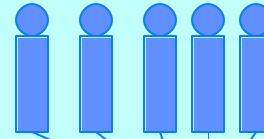
SCADA
Front End

Radio or Line



Radio
Communication
System

1 - 6 Cameras

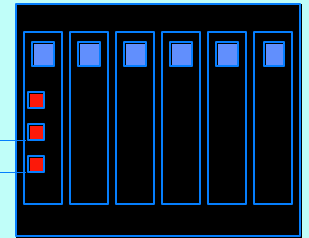


VRU
w/o radio

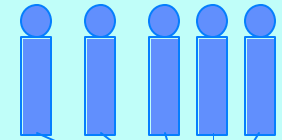
19.2Kbps

Outstation

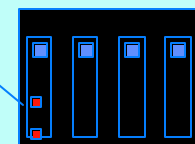
MOSCAD RTU



1 - 6
Cameras



MOSCAD RTU



VRU

Radio or Line



MOTOROLA

- **Mission and Key messages**
- **Integrated Solutions**
- **Product Offering**
- **Summary**

MOSCAD-Common Platform Strategy

Multiple Products for Various Applications

MEIC 1000

MEIC 2000

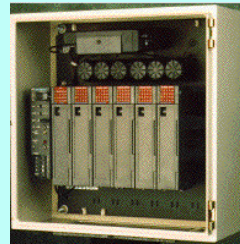
MRU

(INTRAC)

MRTU

MIR 5000

AGA RTU



Single Platform for Multiple Applications

Electricity DA

Irrigation

RF Modem

Water

Oil & Gas

Siren & Fire

Fault Mgmt



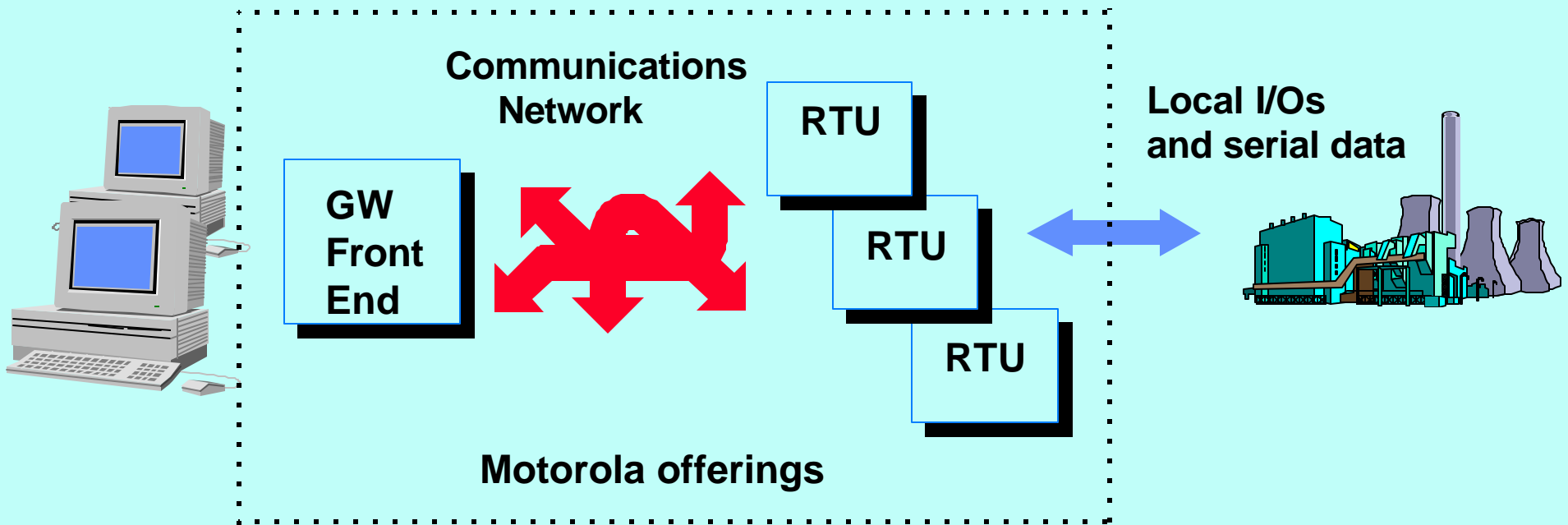
MOTOROLA

MOSCAD System Components

Control Centre(s)

Remote Terminal Units

User Equipment



Plus; Motorola expertise in the SCADA / Fixed Data, Telemetry business

MOSCAD RTU - Basic Components

Battery

Power Supply

CPU Module

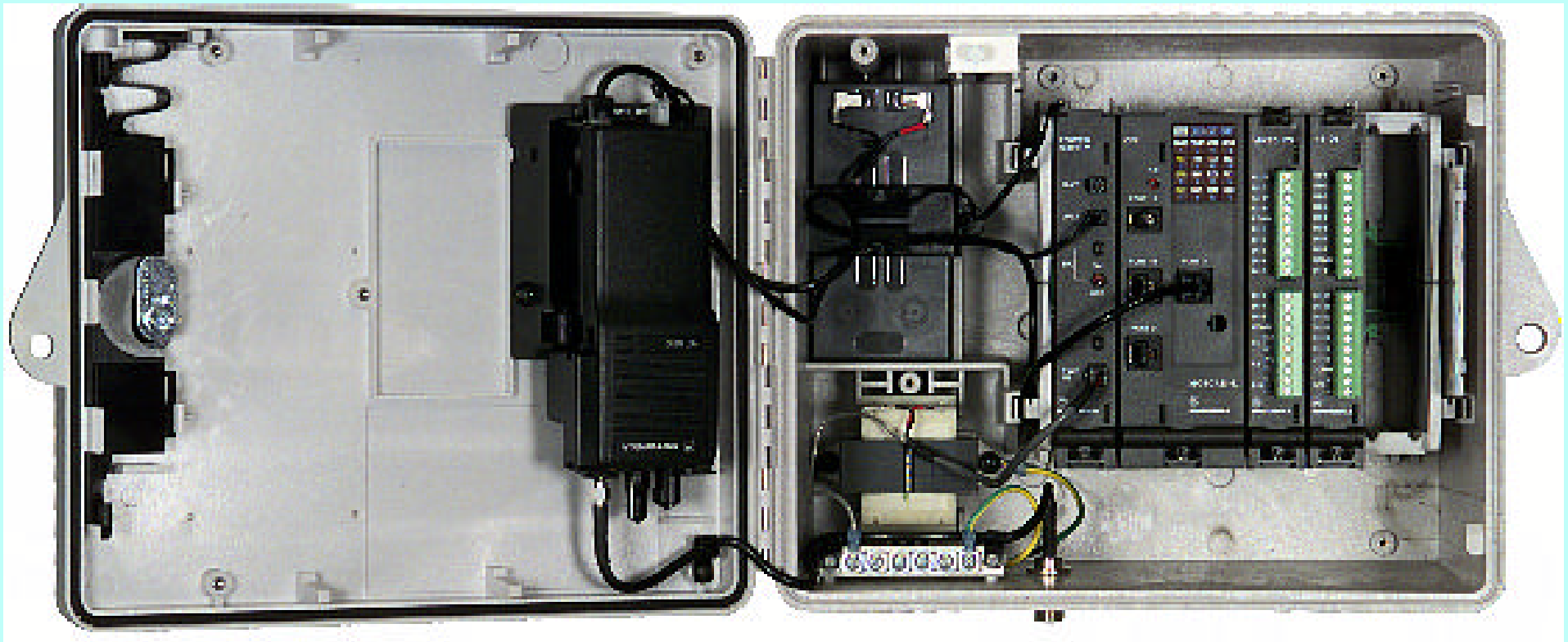


Radio

I/O Modules
(optional)

Outdoor
Housing

MOSCAD-L Remote Terminal Unit



MOSCAD & MOSCAD-L ; New radios

FSK is available..

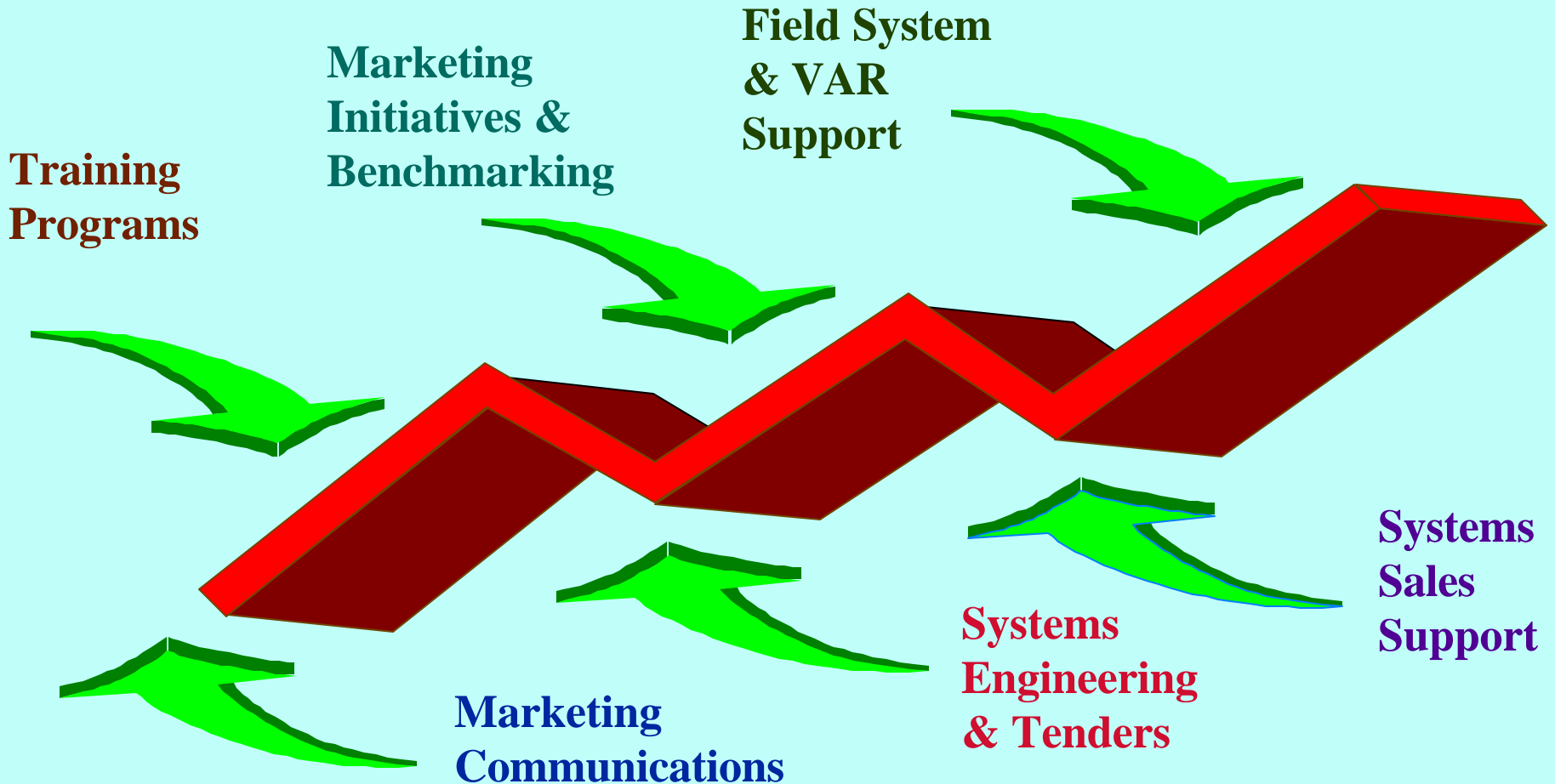
- **MOSCAD**

- LCS2000 for conventional VHF, UHF
- MCS2000 for Trunking
- Radio installation kit for GM350

- **MOSCAD-L**

- GP900 for conventional VHF, UHF
- MTS2000 for high tier users

Support “All The Way”



MOTOROLA

**Thanks for Your
Participation
and Pro-Active Support**

