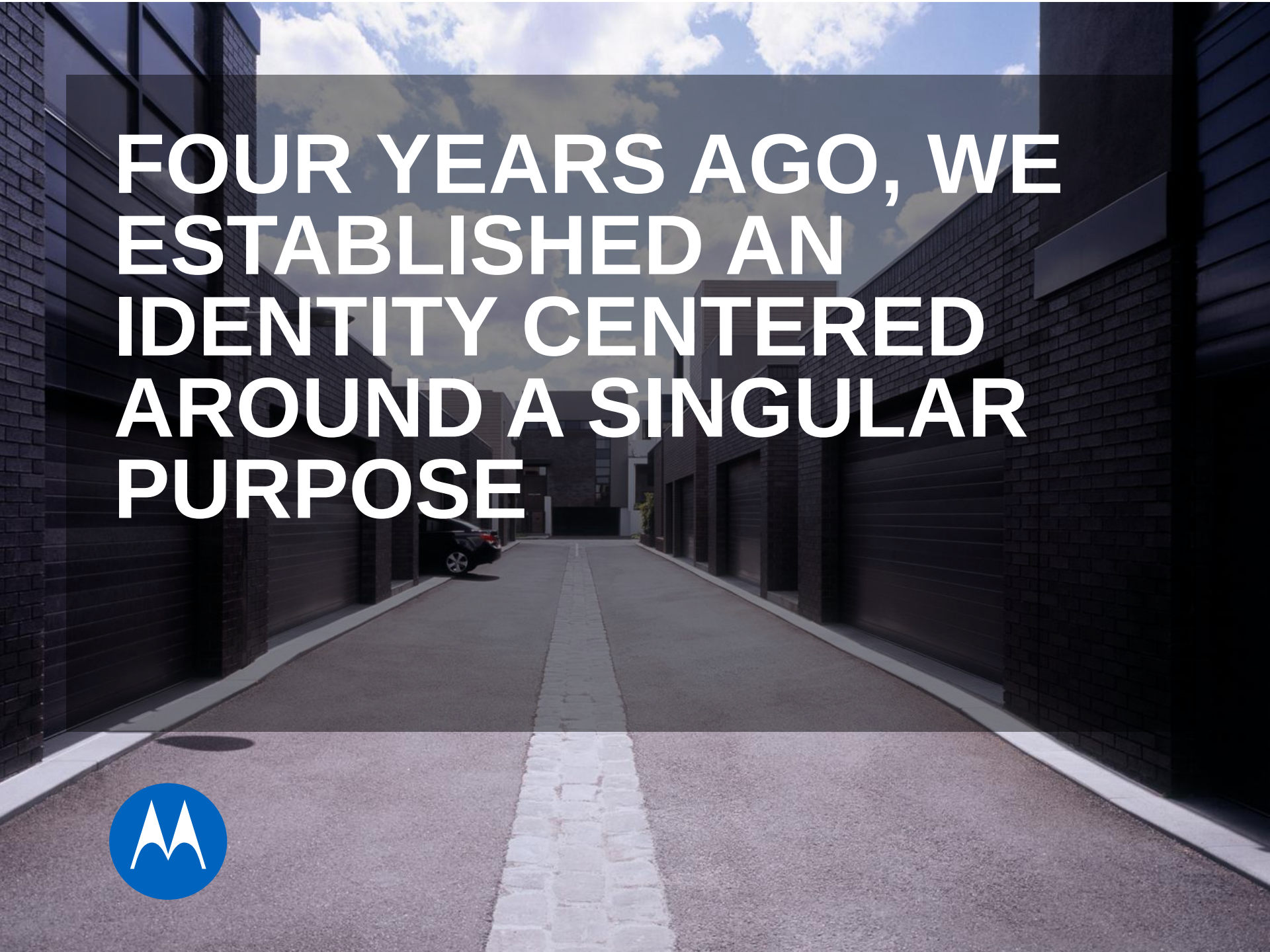
MOTOROLA SOLUTIONS

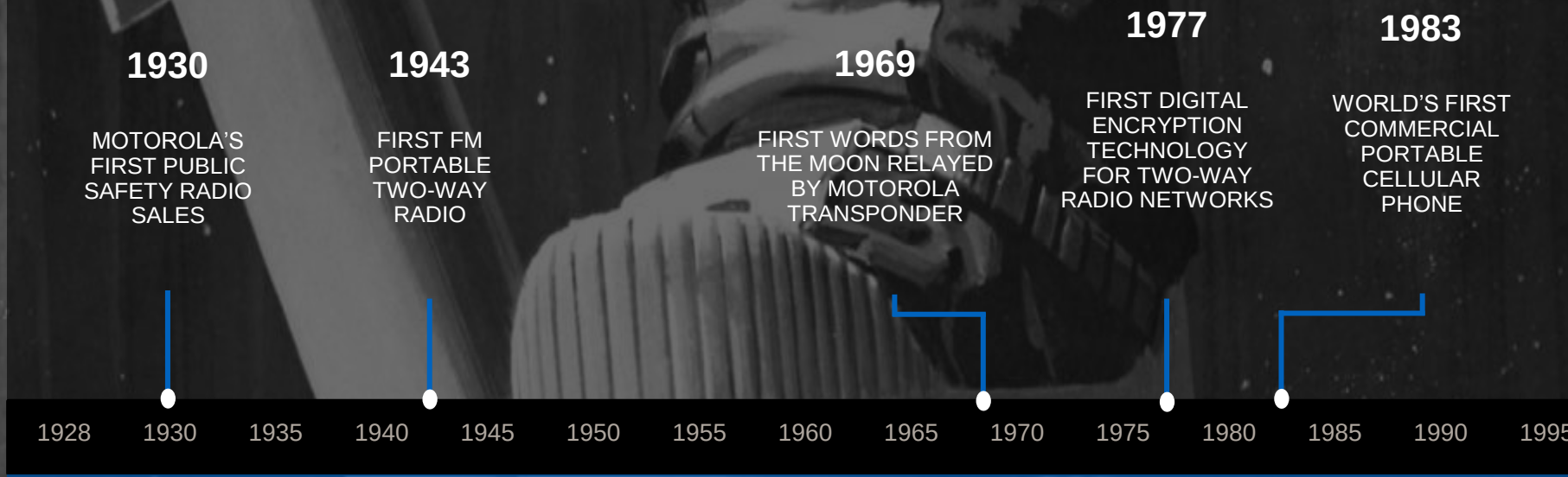
IN SAFER CITIES, EVERYTHING CAN HAPPEN

Dott. Luciano Valentini
Amministratore Delegato Motorola Solutions Italia


FOUR YEARS AGO, WE ESTABLISHED AN IDENTITY CENTERED AROUND A SINGULAR PURPOSE


HELPING PEOPLE
BE THEIR BEST
IN THE MOMENTS
THAT MATTER
SHERIFF

85 YEARS OF FIRSTS



The result is thousands of patents, a legacy of leadership in standards development and more

85 YEARS OF FIRSTS

2000

AWARDED CONTRACT FOR WORLD'S LARGEST TETRA COMMUNICATION SYSTEM FROM AIRWAVE (UK)

2004

MOTOROLA NATIONAL MEDAL OF TECHNOLOGY

2008

INDUSTRY'S FIRST P25 MULTI-VENDOR INTEROPERABILITY AMONG EXISTING COMMUNICATIONS SYSTEMS

2012

HARRIS COUNTY, TEXAS DEPLOYS THE FIRST PUBLIC SAFETY 4G LTE SYSTEM

DEPLOY AND MANAGE NORWEGIAN PUBLIC SAFETY NETWORK UNTIL 2026

2014

AWARDED LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATION SYSTEM FOR WORLD'S LARGEST PS-LTE NETWORK

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2013 2012 2014 2015

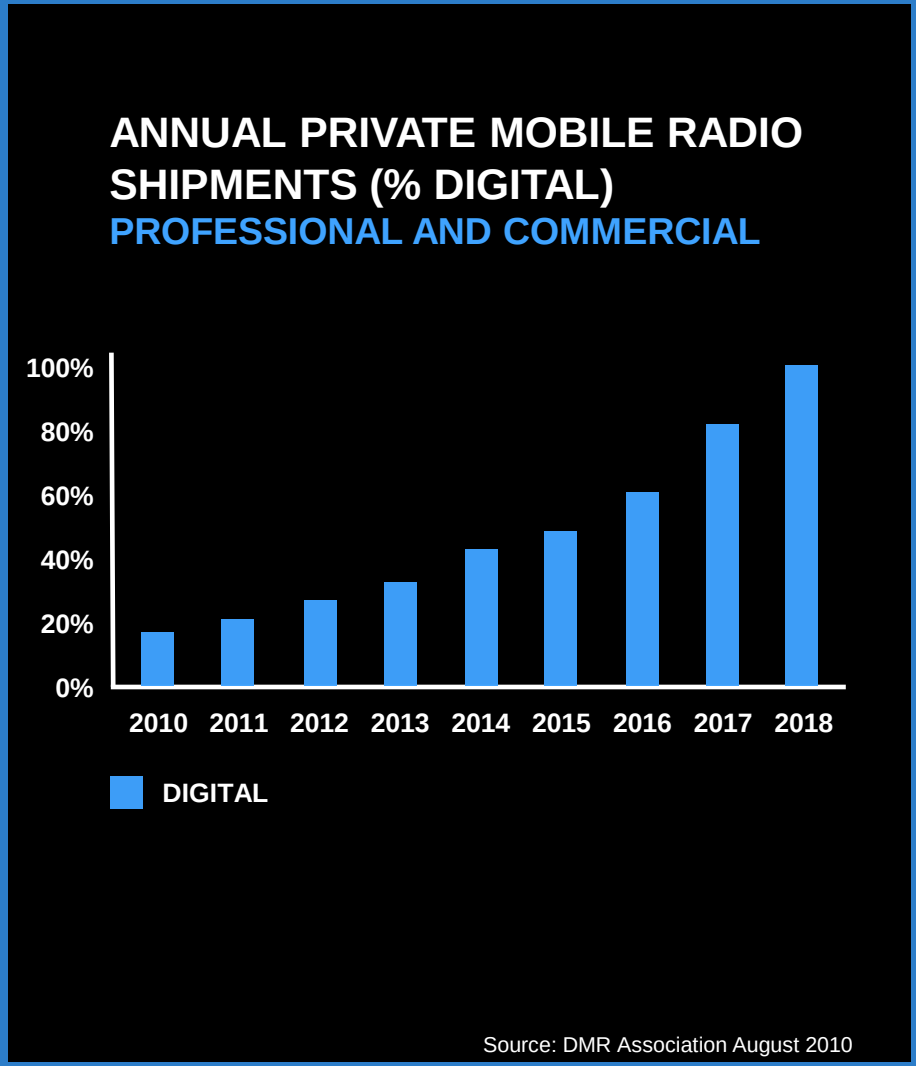
The result is thousands of patents, a legacy of leadership in standards development and more

GLOBAL ADOPTION OF DIGITAL RADIO

Almost all radio deployments will be digital by 2018

Digital migration drivers:

- Government mandates
- Spectrum efficiency
- Demand for applications
- Improved performance
- Security



ADVANTAGES OF OPEN STANDARDS

Interoperability between networks and agencies

Flexibility to deploy multi-vendor systems

Increased competition enables cost efficiency

Greater choice of products and applications

MOTOROLA
ASTRO® 25
P25 standard
(TIA Telecommunications Industry Association)

MOTOROLA
DIMETRA™ IP
ETSI TETRA standard
(European Telecommunications Institute)

MOTOROLA
MOTOTRBO®
ETSI DMR standard
(European Telecommunications Institute, Digital Mobile Radio)

MORE THAN 6 MILLION USERS COMBINED

A WORLD LEADER

Motorola is a leader in all 3 technologies and invests $1B every year in R&D and customer support

ASTRO® 25	**Installed in over 90 Countries**	**Over 550 trunked systems, 2000 conventional systems worldwide**	**34 nationwide& statewide systems**	**Over 3 million radios**
DIMETRA™ IP	**Installed in over 110 Countries**	**Over 640 systems worldwide**	**25 nationwide systems**	**Over 2 million radios**
MOTOTRBO®	**Installed in over 150 Countries**	**1000's of conventional & trunked systems worldwide**	**1000's of enterprise systems**	**Over 5 million radios**

Motorola manages 200 government and enterprise networks including hosting LMR systems nationwide for Denmark, Austria, Norway, citywide for Melbourne, Australia, City of Baltimore, statewide for Illinois and South Carolina

Worldwide network of 25,000 channel partners

AN EXTENSIVE RANGE OF SUPPORTED FREQUENCIES

Needs and Requirements

Frequency availability

ASTRO® 25

12.5 KHz channel
FDMA / TDMA
Multiband Mixed frequency migration

Multiband interoperability

- 136-174 VHF
- 380-470 MHz UHF 1
  450-520 MHz UHF 2
- 764-775 MHz
  794-805 MHz
- 806-824 MHz
  851-869 MHz
- 896-901 MHz
  935-940 MHz

DIMETRA™ IP

25 KHz channel
TDMA

- 350-430 MHz UHF
  450-470 MHz UHF
- 806-870 MHz

MOTOTRBO®

12.5 KHz channel
TDMA
Mixed frequency migration

- 136-174 VHF
- 350-400 MHz
- 403-470 UHF1
  450-512 UHF2
- 800 MHz
- 806-825 MHz
  851-870 MHz
- 896-901 MHz
  935-941 MHz

PROTECT YOUR COMMUNICATIONS

Needs and Requirements

Security

ASTRO® 25

End-to-end encryption

Subscriber authentication

Key management

Over-the-air rekey

Data encryption

Secure partitioning

DIMETRA™ IP

End-to-end encryption

Mutual subscriber authentication

Key management

Over-the-air rekey

Data encryption

Secure partitioning

Air interface encryption

MOTOTRBO®

End-to-end encryption

Subscriber authentication

Key management via programming software

FREQUENCY AND OUTPUT POWER CONSIDERATIONS

Needs and Requirements

Mobility and Coverage

TOPOGRAPHY AND CLUTTER

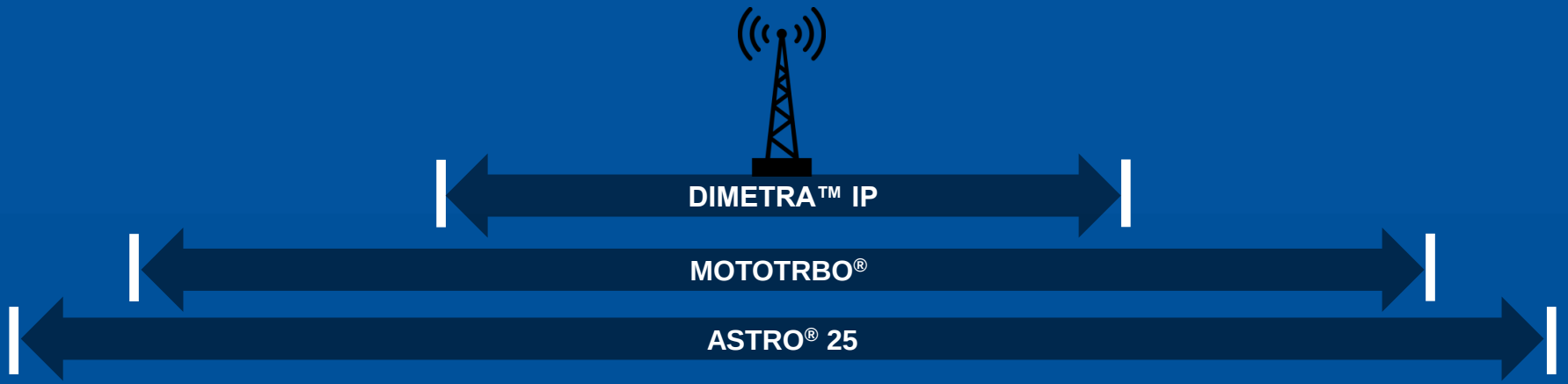
Every customer is different, and coverage is factored with topography, radio frequency and base station power. DIMETRA IP is well suited for high user density situations.

BETTER COVERAGE

Motorola Base Stations have best-in-class sensitivity and can provide coverage with fewer sites. ASTRO 25 Simulcast allows dense networks to be created where frequencies are limited.

FREQUENCY AND OUTPUT

ASTRO 25 and MOTOTRBO operate at higher 2-way radio and base station power and can use VHF. ASTRO 25 coverage can be up to 2.5 times of Dimetra IP, depending on the environment.



Illustrative ranges using similar antenna systems. Not real coverage studies

THE RIGHT DATA ENSURES BETTER DECISIONS

Needs and Requirements | Data | Applications

ASTRO® 25

Application ecosystem

Location based services

Messaging

HPD data

Advanced features
- Fragmentation
- Preemption

DIMETRA™ IP

Application ecosystem

Location based services

Messaging

Multi-slot packet data and TEDS

Advanced features
- Fragmentation
- Preemption

MOTOTRBO®

Industry's largest application ecosystem

Location based services

Messaging

IP packet data

Options board

SYSTEM SUMMARY

	ASTRO® 25	DIMETRA™ IP	MOTOTRBO®
System Coverage	Most cost effective over a wide area, scalable nationwide	Most cost effective in dense environments, scalable nationwide	Most cost effective in localised deployments
System Capacity	1 - 700 sites	1 - 5600 sites	1 - 70 sites
Coverage Area Per Site	Highest	Lowest	Medium
Redundancy, Resiliency and Security	High	High	Medium

KEY FEATURE SUMMARY

ASTRO® 25	DIMETRA™ IP	MOTOTRBO®
Open Standard	Open Standard	Open Standard
FDMA / 2-slot TDMA per 12.5 kHz	4-slot TDMA per 25 kHz	2-slot TDMA per 12.5 kHz
125W base station	25-40W base station	5-100W base station
1-6W portable, 50-110W mobile	1.8W portable, 10W mobile	1-5W portable, 50W mobile
Least sites for coverage	More sites for coverage	Fewer sites for coverage
More sites for capacity	Fewer sites for capacity	More sites for capacity
Digital & Analogue (Mutual Aid)	Digital only	Digital & Analogue (Mutual Aid)
Trunking & conventional	Trunking only	Trunking & conventional
Multicast/Simulcast	Multicast	Multicast
Voice + Packet data + HPD (700/800MHz only)	Voice + Multi-slot packet data + TEDS	Voice + Packet data
Radio authentication	Authentication - mutual	Radio authentication
FIPS-140 E2E HW encryption	Air interface & E2E HW encryption	E2E SW encryption
Over-the-Air Rekey	Over-the-Air Rekey	Manual Rekey
Semi-duplex telephone calls	Full-duplex telephone calls	Semi-duplex telephone calls