# PCS WIRELESS, INC.

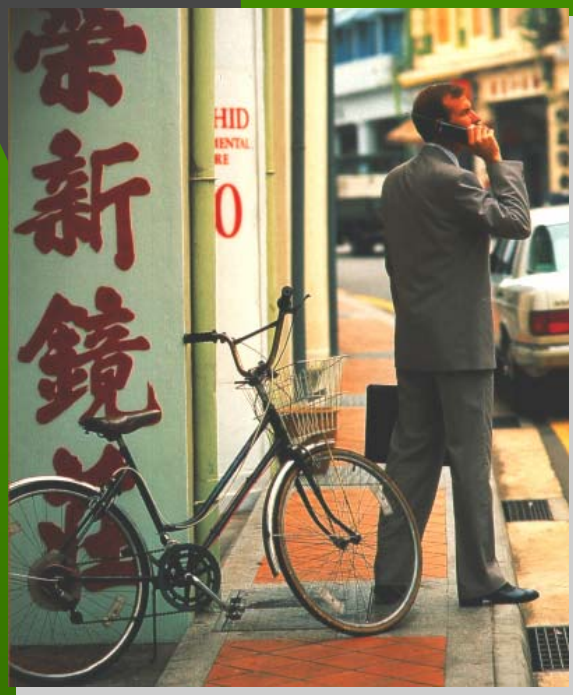
*Changing the way the world communicates*

Annual General Meeting

Vancouver, B.C. - August 23, 1995

# OVERVIEW

- Our Distributed Antenna Array Technology
- Fiscal 1995 in Review
- International Activities
- CDMA - What Happened?
- Outlook and Projections



# FY '95 in Review: Highlights

- Sold $1.4 million of MEX and BEX products to 11 customers in 7 different countries
- Completed successful field trials of RAD and RASP and sold $300,000 of these products
- Positioned company for sales of RAD and RASP products into rollout of North American PCS networks
- Raised $2.3 million through exercise of 5 million share purchase warrants

# Company Performance - Financing

- Cash on hand - February 28, 1995: $116,132
- $10.8 million Special Warrant Financing - July 1995
- $3.5 million exercise of warrants and share options - March through June 1995
- Cash on hand August 23, 1995 - in excess of $11.5 million

# The Wait for PCS is Over...

- New wireless systems offer secure voice / data in:
  - wide area mobility
  - business

  AND
  - residential service (i.e. LOCAL LOOP)
- PCS is here NOW

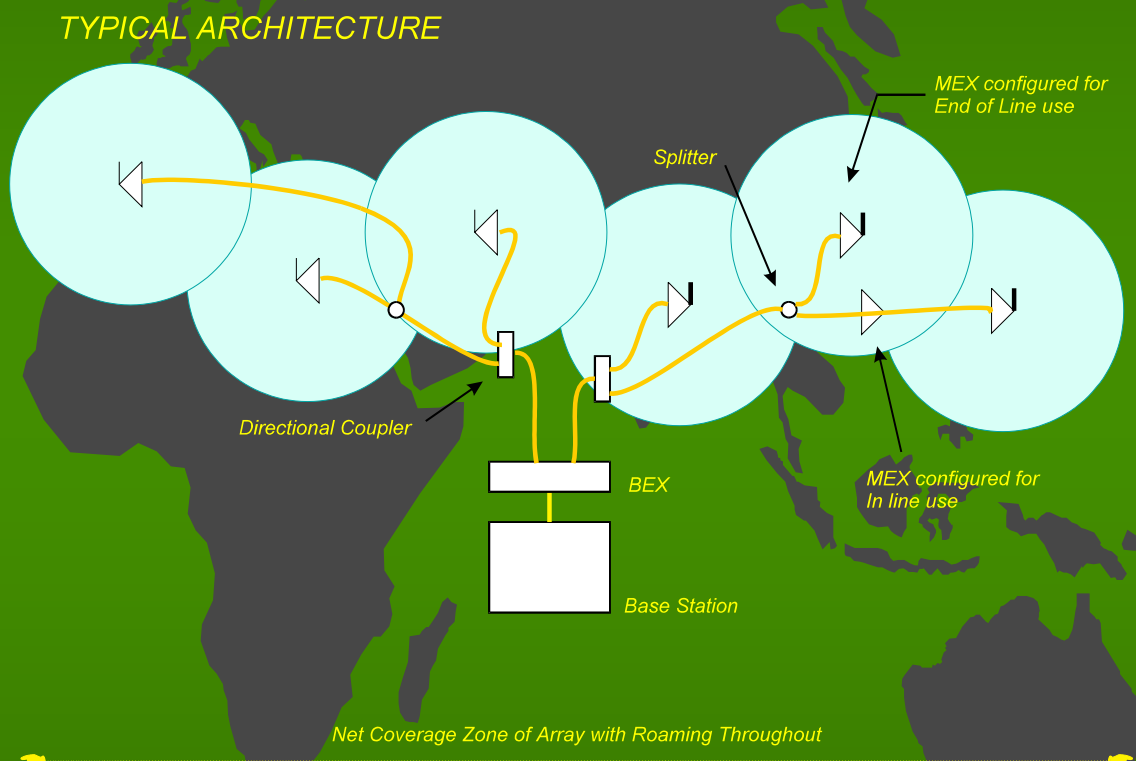
The REAL target of PCS

# Our Distributed Antenna Arrays

- Replace high power transmission towers
- Integrate Cable-TV and wireless networks
- Extend the reach of wireless service into buildings, tunnels, undergrounds and homes
- Help wireless network operators fulfill the promise of affordable, ubiquitous, advanced personal communications services

# DAA Overview

- Networks of smart, low-power repeaters
- Centralized resources
- Minimize costs



# Activities in Canada

- Sep'94: Major CT2+ contract announced with Microcell 1-2-1
- Dec'94: Industry Canada announces PCS licensing process; Microcell 1-2-1 cancels CT2+ contract
- May'95: Renewed MoU with Microcell 1-2-1 for 1.9GHz products
- *Dec'95: Industry Canada announces PCS license holders*
- *1996: Network rollout begins*

1994 1995 1996

# Activities in Asia

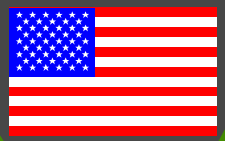
- June'94: China - Purchase of 5 CT-2 trial systems
  Operators: Guangzhou, Shenzhen, Shenvang, Wenzhou, Dalian
- Dec'94: Sale of additional CT-2 systems to China
- Jan'95: Extensive CT-2 trials underway in China
- Aug'95:Sale of US$560K of CT-2 MEX/BEX units
- *Sep'95: PCS Wireless holds seminar in China*
- *Feb'96: PCS1900 systems expansion into Korea*

1994 1995 1996

# Activities in Europe

- July'94 - May'95: Sale of CT-2 BEX/MEX Trial Systems to France Telecom, Matra Communication and Dassault AT
- *Fall'95: GSM Cellular MEX trial in UK*
- *Fall'95: Projected commercial sales of CT-2 system*

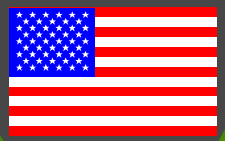
# Activities in the US



- Sep'94-Jun'95: Sale of prototype Platform RAD to Ericsson, Motorola, NorTel, AT&T, Nokia
- Mar'95: Major Supply Agreement with Motorola for Platform RAD units
- Apr'95: Major Supply Agreement with Ericsson for GSM Platform RAD units
- Jul'95: Sprint Telecommunication Venture (STV) selects CDMA technology

1994 1995 1996

# Activities in the US



- Aug'95: Ericsson GSM Supply Agreement cancelled
- *Aug'95: Expected pre-production CDMA system marketing trials*
- *Nov/Dec'95: Major CDMA network vendors selected*
- *Oct'95: Cellular MEX commercial trial*
- *Q1'96: CATV/CDMA network rollout begins*

**1994** **1995** **1996**

# CDMA - Industry Situation

## CDMA

- New technology
- Untried
- Made in America

## GSM (Global)

- Proven technology
- Extensively tested
- European

# CDMA - Market Positioning

## Ericsson

- No CDMA
- Must win time to market
- Spent signifcant $$$ attempting to secure STV contract

## Nortel

- Supplies both CDMA and GSM

## AT&T

- CDMA ONLY, NO GSM
- Very confident in CDMA
- Have financing capability

## Motorola

- Supplies both CDMA and GSM
- Switched trials to CDMA 4 months ago

# Outlook and Projections: The US PCS Market

- 102 major licenses (MTA) issued
- Almost 500 additional basic licenses (BTA) due to be auctioned
- When all is said and done:
  - 6 new service providers everywhere in US
  - PLUS 2 existing cellular providers
  - PLUS several additional data and 2-way paging operators

# Outlook and Projections: The US PCS Market

CDMA National Service
- PrimeCo + cellular backfill
- STV (over CATV, from scratch)
- NAW (from scratch)

IS136 National Service
- AT&T Wireless + cellular backfill

PCS GSM National Service
- GO (from scratch)
- DCR (from scratch)

Others
- BellSouth (GSM)
- PacTel (GSM)
- WesternPCS (GSM)
- APC (GSM)

# SUMMARY

- FY'96 was a building year
- We are well positioned to supply CATV based PCS systems (RADS) for BOTH GSM and CDMA
- We have over $10 m cash on hand
- We have a superb development team
- We are diversifying our product line and expanding into new international markets

# Overview

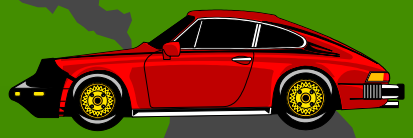
- PCS Wireless, Inc.
- Meeting Operator Challenges
- CablePATH RAD/RASP Overview
- New Project:
  - HomePATH 1.9GHz
  - MEX slaved to RAD
- CablePATH RAD/RASP Training
- Other issues

# PCS Wireless, Inc.

- Who are we ?
  - a Vancouver based, Canadian public company
  - a pioneer in Distributed Antenna Array technology since 1990
- What do we bring to the industry?
  - a fresh set of network deployment alternatives
  - efficient, low-cost indoor/outdoor wireless coverage deployment solutions

# Meeting Operator Challenges

- Offer a new generation of wireless services:



**Quickly**

- Planning
- Buildout
- Marketing

**Affordably**

- Infrastructure
- Operations
- Subscriber

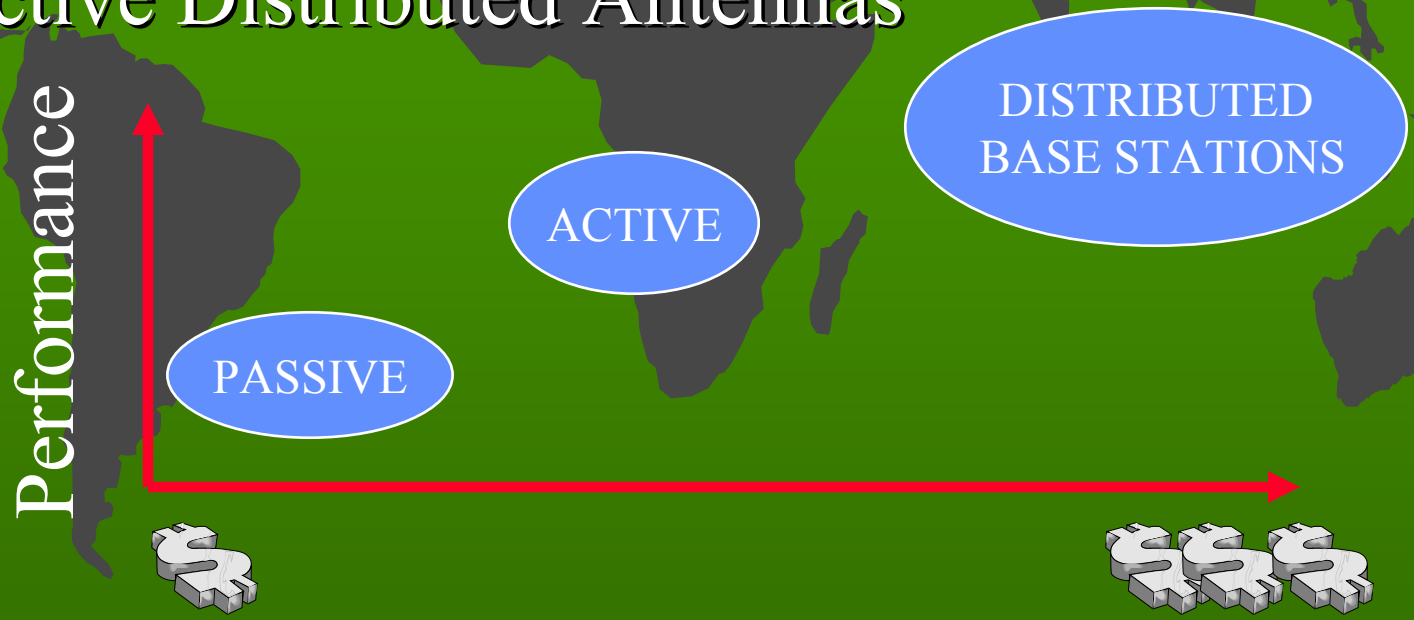
**Creatively**

- Distribution
- New markets
- Integration

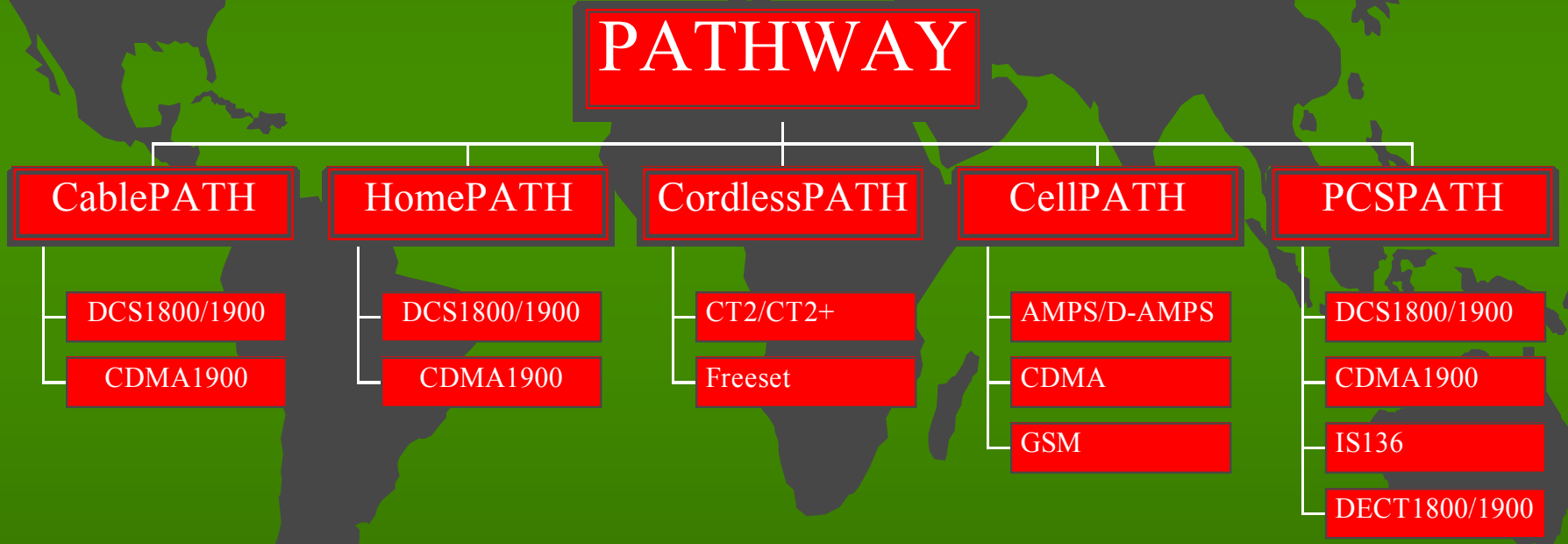
# The RF Delivery Factor

# RF Delivery Alternatives

- Conventional Distributed Base Stations
- Passive Distributed Antennas
- Active Distributed Antennas



# PCS Wireless Product Family



# Network Convergence: The Hybrid Fiber Coax Factor

*ired*

*Wireless*

Cellular

Long Distance

PCS

Local Loop

HFC

Messaging

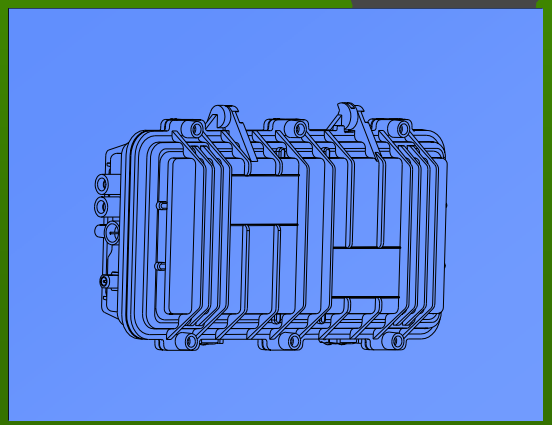
# CablePATH RAD/RASP

CablePATH cells

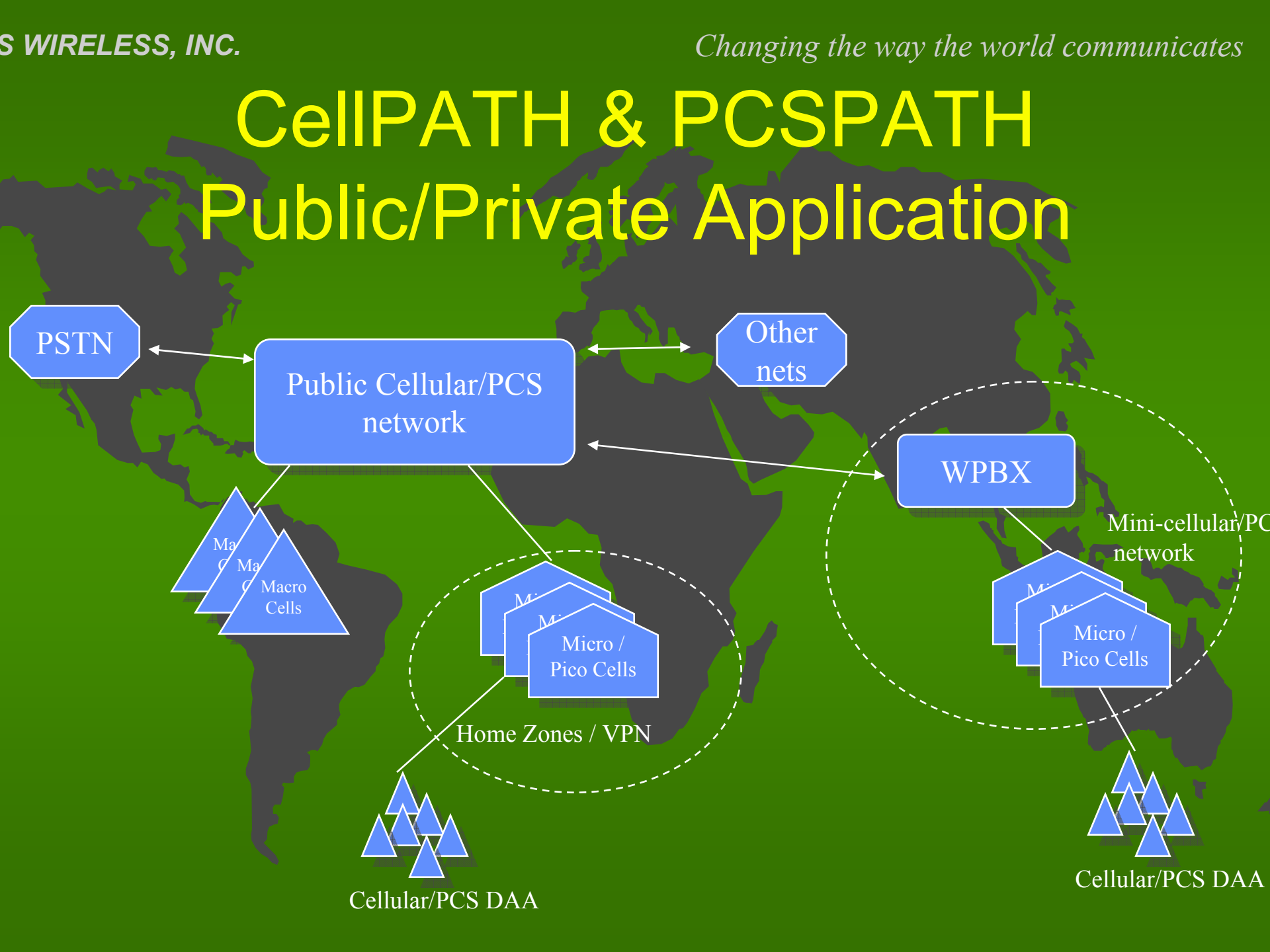
PCS Network

Macro Cells

HFC/CATV Network



# CellPATH & PCSPATH Public/Private Application



# PCSPATH 1.9GHz MEX

- Public and private market subnets slaved off a RAD acting as a "gateway"
- Uses dedicated coaxial cable. This allows multi-band, multi-vendor usages (e.g. mixed public 1.9GHz network with private 902 MHz networks).

# Field Trials

United States

- Time Warner - CATV CT-2 PCS Network
- Satcom - MMDS PCS Network
- Cable Montana - CATV PCS Network
- US West - CT-2 PCS Network
- Pactel - DCT900 Wireless PBX
- US CableLabs - CATV PCS Network
  - Multi-Standard RAD
- Cablevision Systems Corp - Vehicular CATV PCS Network
- COX - CDMA CATV PCS Network
- Adelphia - CATV PCS Network
- Motorola/RTI - Vehicular PCS Network
- Ericsson/COX - DCS1900 CATV PCS Network
- Motorola/COX - DCS/CDMA 1900 CATV PCS Network
- Northern Telecom/COX - DCS1900 CATV PCS Network
- AT&T Network Systems - CDMA1900 CATV PCS Network
- Nokia - DCS1900 CATV PCS Network

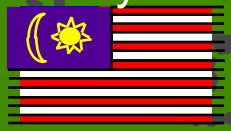
# Field Trials

Public Area CT-2
MEX Networks

- Hutchison
- Pacific Telelink
- Chevalier Telepoint
- Malaysia Telekom
- Singapore Telecom
- France Telecom

Hong Kong

Malaysia



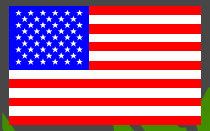
Singapore

France

# Current Sales

## *Regulatory Approvals Pending*

United States



DCT900 Ericsson Freeset
In-Building MEX Network

- Telesis - John Muir Hospital
- Motorola - DCS1900 Platform RAD
- Ericsson - DCS1900 Platform RAD

## *Regulatory Approved*

Public Area CT-2
MEX Networks

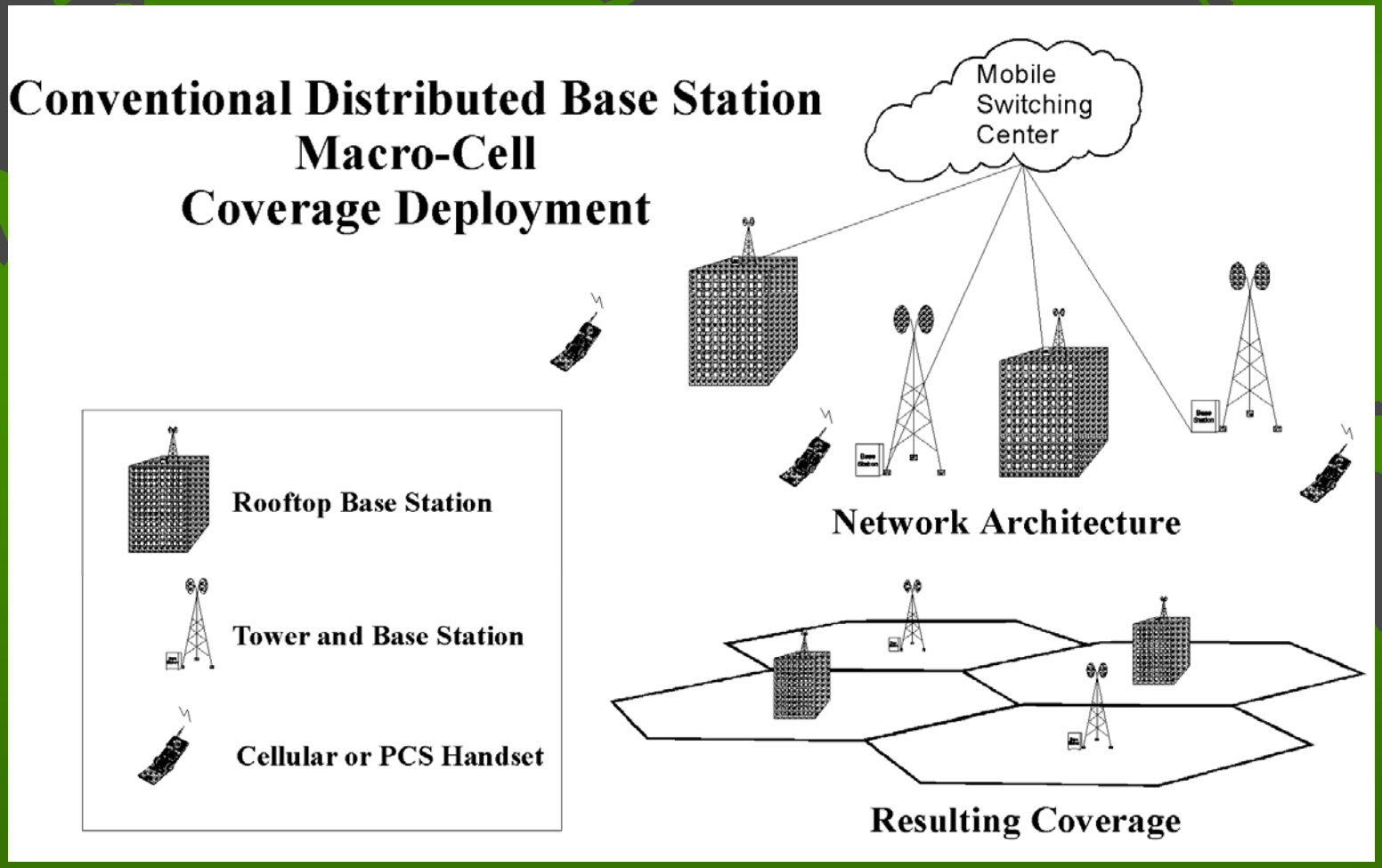
- Chinese CT-2
- Hutchison
- Vietnam/ Steamers Communications
- Telecom Australia (Telstra)

Hong Kong

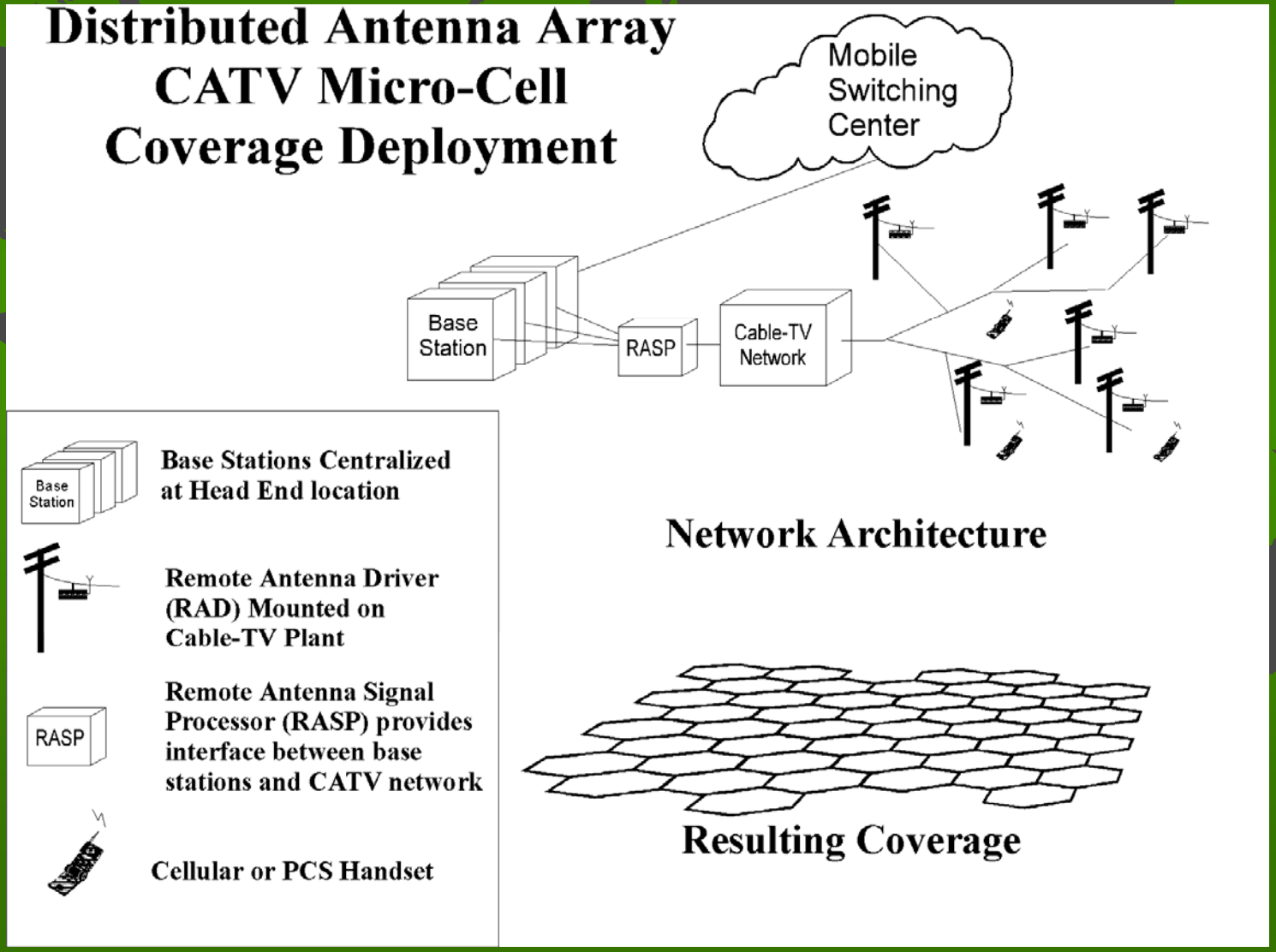
Vietnam

Australia

# Distributed Base Stations

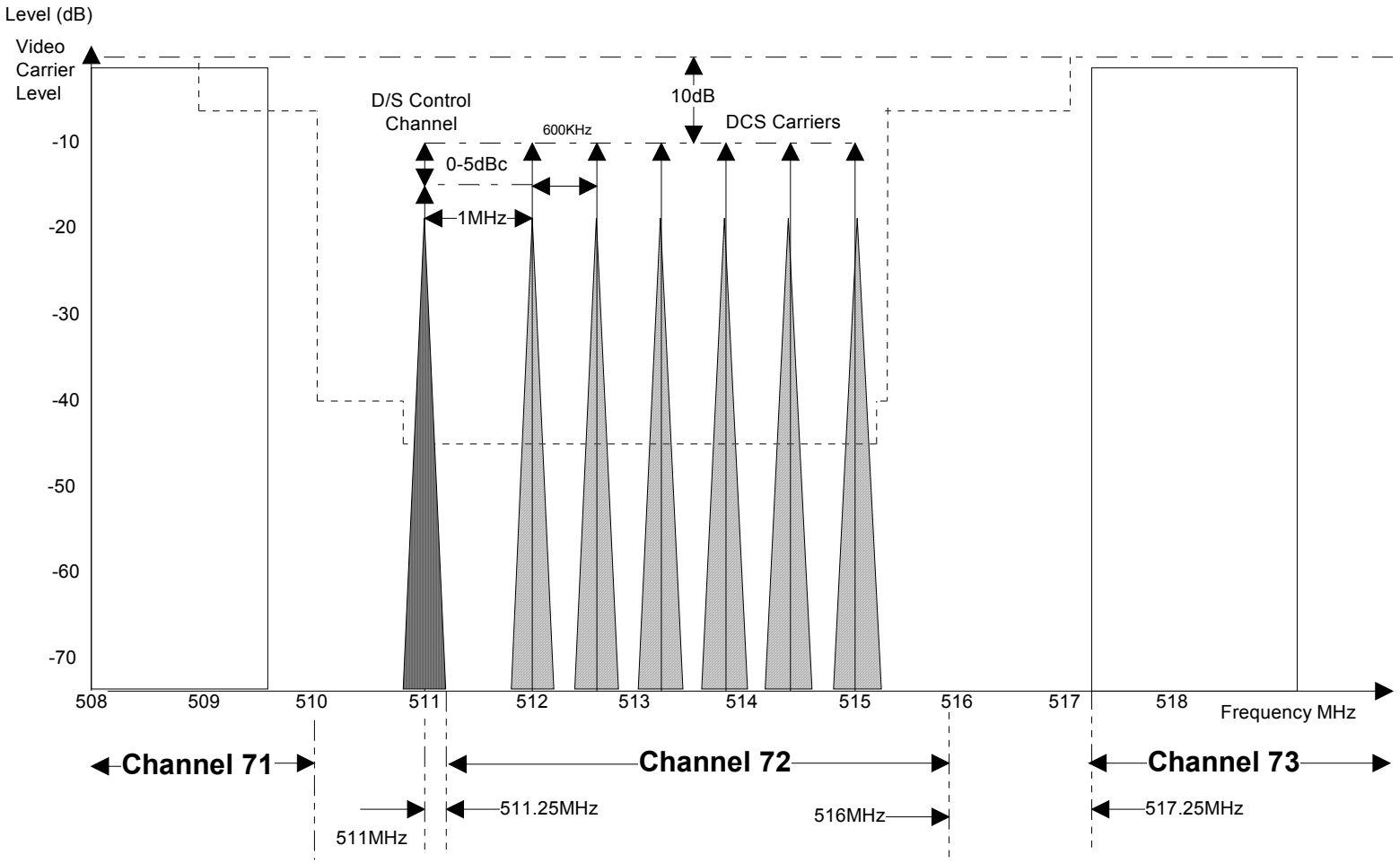


# Distributed Antennas

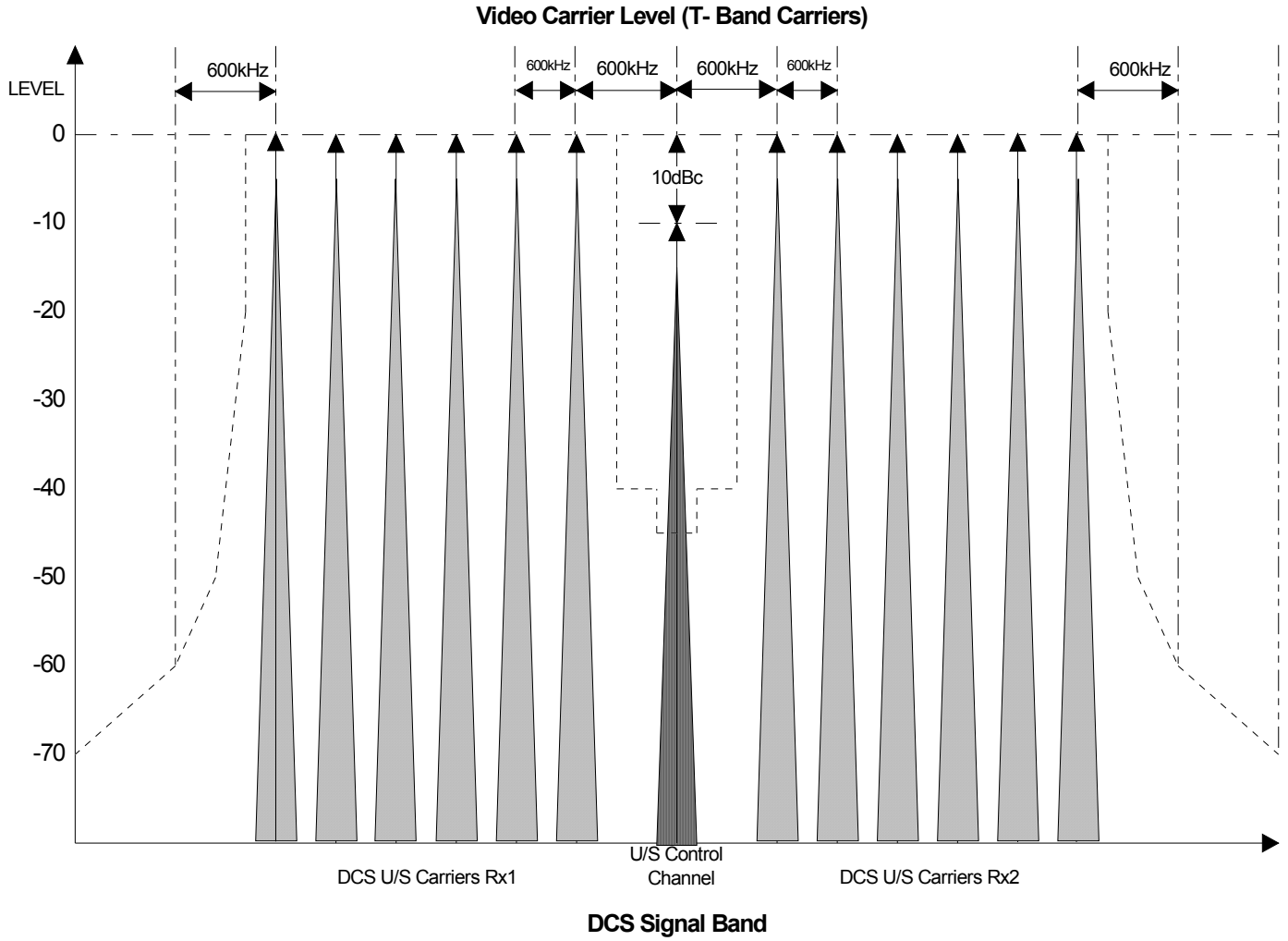


# Typical DCS1900 Tx over CATV

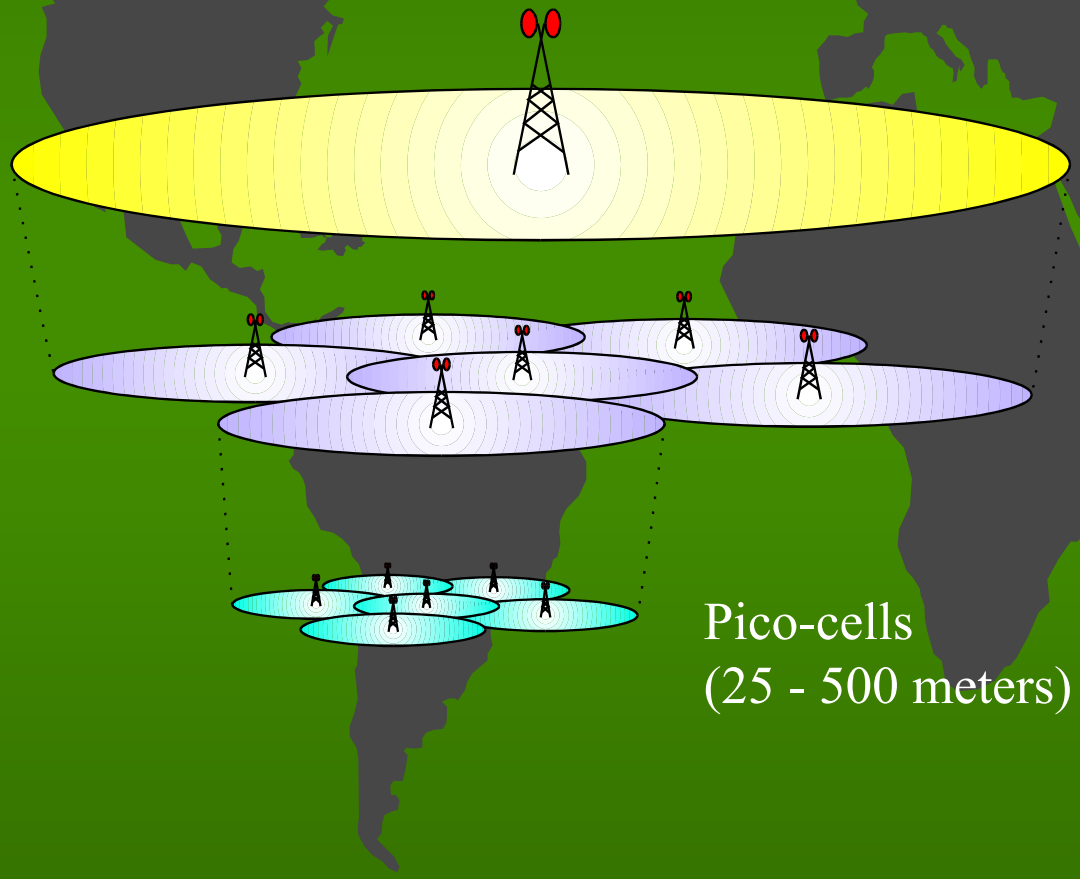
**Six D/S DCS Carriers and 1 Control Carrier in a 4.5MHz "Channel Slot" for an IRC CATV Plant**



# Typical DCS1900 Rx over CATV



# Conventional Coverage Deployment



Macro-cells
5 - 20 km)

Micro-cells
(0.5 - 5 km)

Pico-cells
(25 - 500 meters)

**Cellular**

$

$$

$$$

PC

# Wireless Services Evolution

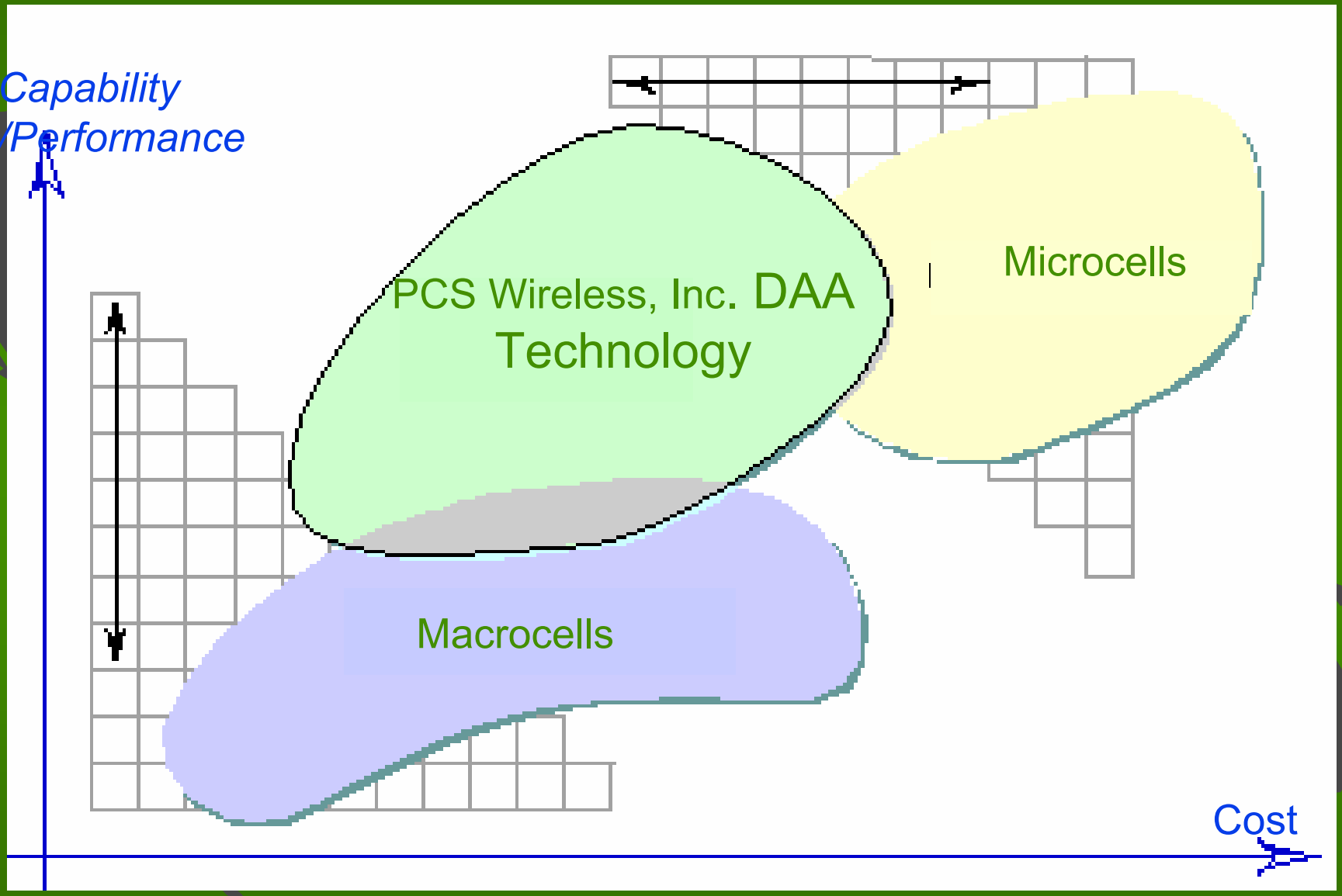
| | Cordless 70's | Cellular 80's | PCS 90's |
|---|---|---|---|
| echnology | Analog | Analog/Digital | Full digital |
| Mobility | Limited | Vehicular | Vehicular/Pedestrian |
| Market | Residential | Business | Multiple |
| Capacity | Voice only | Voice, some data | Voice and data |
| Privacy | Unprotected | Unprotected | Complete |
| Cost | Low | High | Low/medium |

"PCS is likely to be a $50 Billion industry by the close of the decade. The system will serve as many as 150 million people world-wide and 60 million people in the United States . . ."

- IEEE Communications

"The next decade will see the emergence of fortunes in ever-changing transmutations of PCN, digital video, multimedia and wireless computers that dwarf the yields of cable and cellular."

- Forbes Magazine


Capability
/Performance
PCS Wireless, Inc. DAA
Technology
Microcells
Macrocells
Cost

# Field Trials

Canada

- Rogers - World's First CATV Based PCS Ntwk
- Canadian CableLabs - CATV Network CT-2 RAD Trials
- Cantel - Public Area CT-2 MEX Trials
- BC Mobility - In-Building Wireless PBX MEX Trials
- Northern Telecom - CT-2+ Trials
- Ericsson - DCT900 Freeset Trials
- Telezone - CT-2+ Public Network
- Microcell 1-2-1 - CT-2+ Public Network

# Intellectual Property

- Protection Mechanisms
- Patents, Pending Patents
- Trade Secrets
- Copyrights
- Know-How

# Key Operating Personnel

| | |
|---|---|
| Ralph Scobie | President & CEO |
| Derek Spratt | Executive VP |
| Andrew Beasley | VP Technology |
| Paul Lancaster | VP Engineering |
| Suresh Singh | VP Operations |
| Guylain Roy | Director of Sales |

# Key Operating Personnel (Cont.)

| | |
|---|---|
| Richard Topham | Financial Controller |
| Evelyn Haines | Office Administrator |
| Anthony Chu | Director of Quality |
| Stephen Vandenbrink | Project Manager - 900 MEX |
| Dean Schebel | Project Manager - All RAD |
| Brad Kelly/Bob Ballam | Project Managers - 1.9 MEX |
| Lewis Yu | Asia Sales Mgr |
| Herman Van de Kerkoff | Manufacturing Mgr |
| Paul Marcanto | Service Supervisor |

# Board of Directors

| | |
|---|---|
| Ralph Scobie | Director |
| Derek Spratt | Director |
| Don Sheldon | Director |
| Todd Parker | Outside Director |

# Finances: Capitalization Structure

- 20,500,000 issued and outstanding shares
- 24,000,000 fully diluted
- Initial private placements for financing the business were handled by Canaccord and First Marathon
- Completed a $7 Million financing in the last year for business operations/aquisition

# Finances: 4 Year Proformas (000's)

| | 1995 | 1996 | 1997 | 1998 | Totals |
|---|---|---|---|---|---|
| **Revenue** | 4,120 | 16,594 | 27,925 | 48,911 | 96,675 |
| **COGS** | 1,430 | 7,723 | 13,471 | 22,358 | 49,781 |
| **R&D** | 1,008 | 2,544 | 4,743 | 8,384 | 17,277 |
| **SG&A** | 2,680 | 4,863 | 6,469 | 9,702 | 22,805 |
| **Net Income** | (998) | 1,464 | 3,242 | 6,604 | 9,813 |