

# Fixed Line Technical

Fixed

Further strengthen competitiveness in domestic wireline

- Establish strict cost control and optimize capex
- Emphasize orientation to customer

*Analyst & Investor Day  
Athens - June 28, 2002*

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Chief Technical Officer**

# Agenda

- **Switching**
- **Transmission**
- **2004 Olympics infrastructure**
- **Scope**

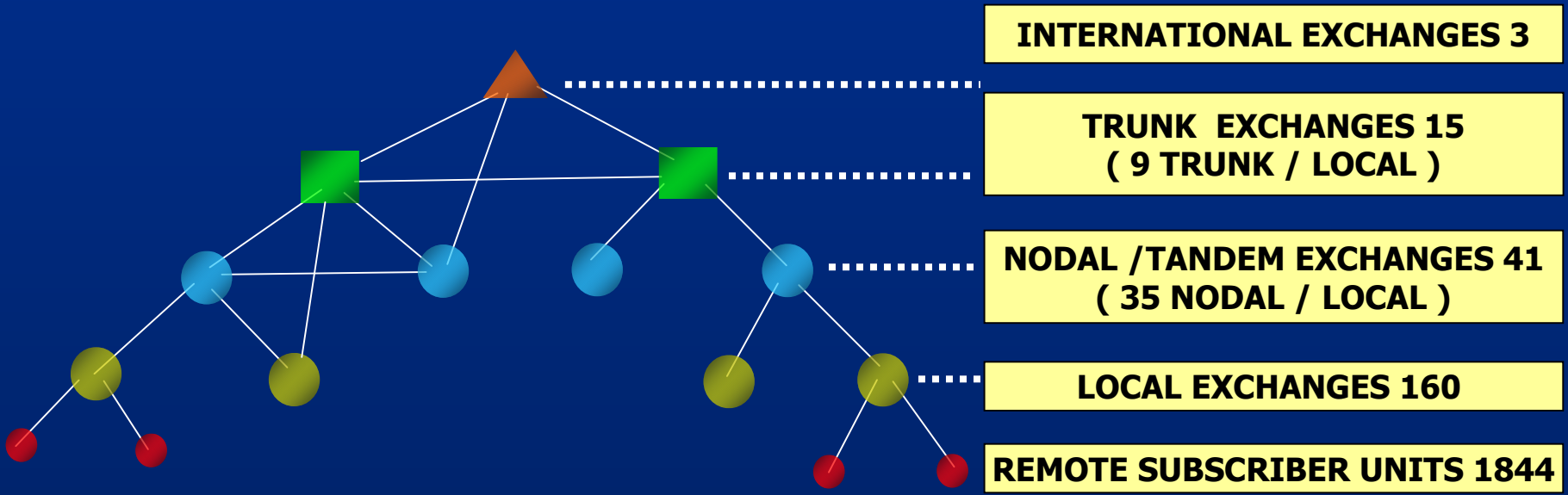
# Telecommunication Network structure

- **Switching Nodes able to cope with**
  - **Voice**
  - **Data**
  - **Video**
- **Transmission System and Media**
  - **Optical Fibre Cables**
  - **Copper Cables**
  - **Radio Digital Microwave Networks**
  - **SDH Transmission Systems**
  - **PDH Transmission Systems**

# Telephony Network Switching

- **3 International exchanges, 43,350 circuits**
- **216 Digital exchanges (trunk, nodal - tandem, local)**
- **2 Special Services Exchanges (KEY)**
- **2 Intelligent Network Nodes (SCP)**
- **6 Independent signaling exchanges (STP)**
- **Installed capacity**
  - **6,107,000 POTS connections**
  - **322,000 Basic-ISDN connections**
  - **8,400 Primary-ISDN connections**

# Switch Network Architecture



**Greece's only hierarchically structured switch network**



# Data Networks

- **IP Network**
  - **82 nodes, 1,150 ports installed for permanent connections and 82 RAS installed for 300,000 dial-up connections**
- **International Network MSP (ATM, Frame Relay, CES, IP)**
  - **Nodes in 22 countries**
- **Leased lines network HellasCom**
  - **10,000 circuits**
- **Packet switched network (ATM, Frame Relay, CES) HellasStream**
  - **40 points of presence, 2,770 ports installed**
- **Packet switched network (X.25) HellasPac**
  - **68 nodes, 12,000 ports installed**

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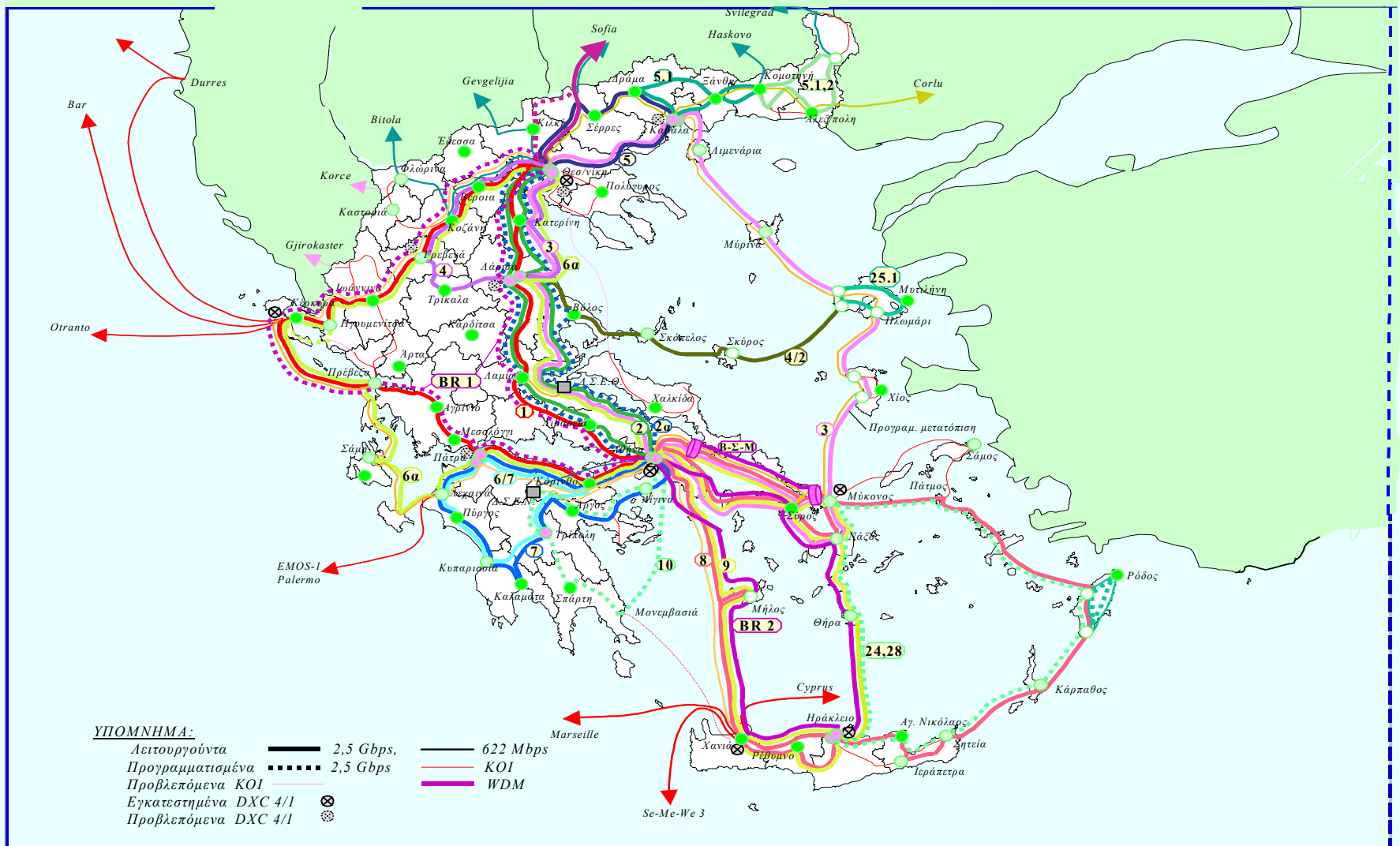
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# Transmission

- **Long-distance Core Network**
- **Satellite Stations**
- **Access Network**
- **Mobile Service Networks**
  - **Maritime Communications**
  - **TETRA technology (OTELink)**
- **DBS/IOS systems**

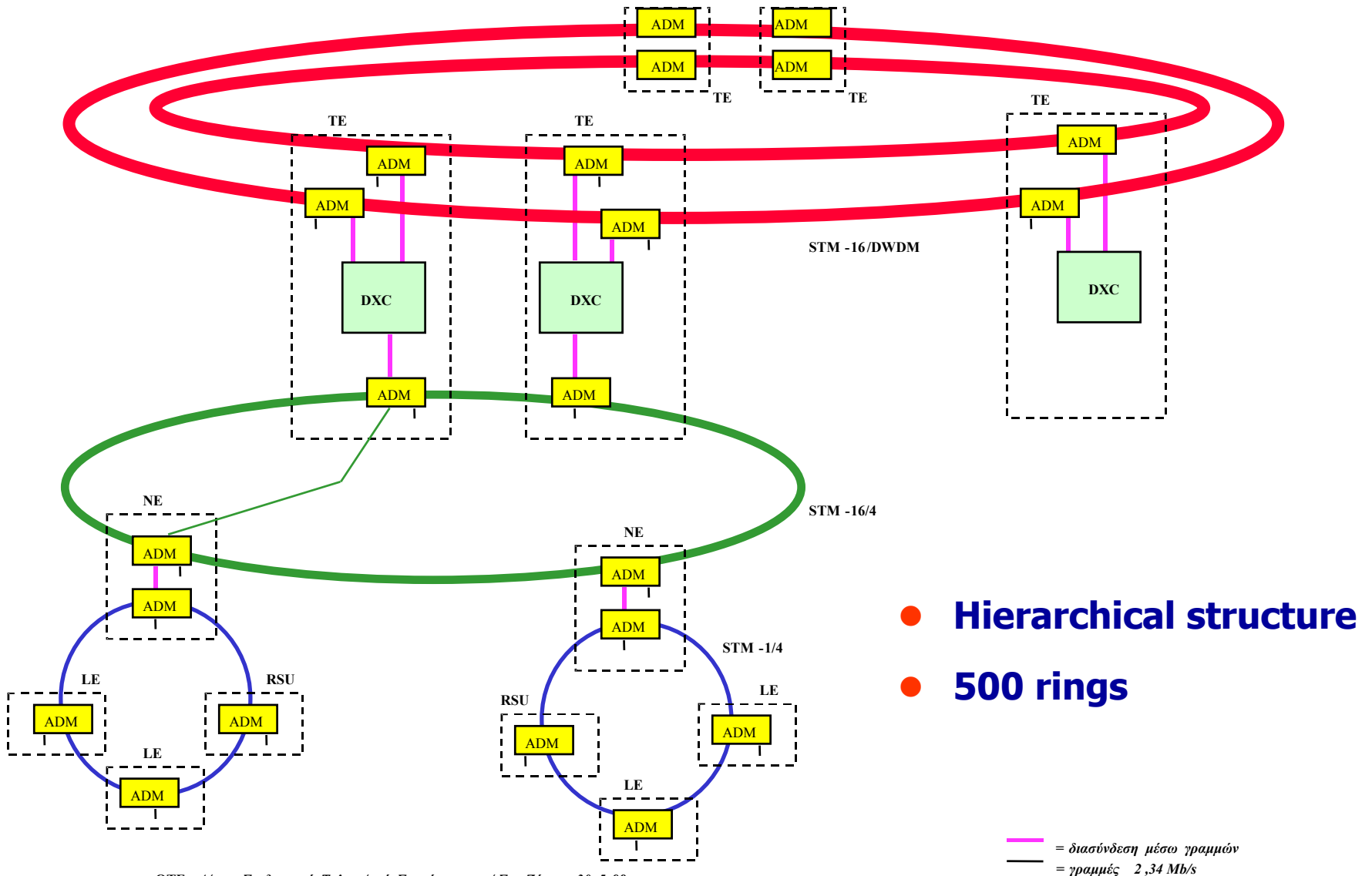
# National wireless and cable network



# Transmission Media

- **16,700 Km Optical fibre cables of various capacity from which 14,100 Km terrestrial and 2,600 Km submarine**
- **Fixed Digital Radio Networks, 858 links**
  - **High capacity of various configurations**
    - ⑨ **SDH technology 155Mbps: 71 links,**
    - ⑨ **PDH technology 140Mbps: 87 links**
  - **Medium capacity**
    - ⑨ **SDH technology capacity 51Mbps: 40 links,**
    - ⑨ **PDH technology capacity 34Mbps: 120 links,**
  - **Small capacity – MiniLinks (4,8,16x2Mbps): 540 links.**
- **Copper cables of various capacities used mainly in local networks, connecting RSUs with Digital Exchanges.**

# Long Distance Core Network Architecture



# SDH Transmission Systems

## Ring Architecture

- **500 Rings Installed Network Capacity of 1450×STM-1.**
- **3,000 Terminal Equipment of Various Capacities**
- **Allocation of Installed Network Capacity:**
  - **40.5% Metropolitan Networks**
  - **16% local exchanges networks**
  - **43.5 % trunk networks**

**The only nationwide broadband network**



# Satellite Stations

- **2 Earth Stations**
  - **THERMOPILES Station with 6 Earth Antennas for connection with satellites INTELSAT and INMARSAT**
  - **NEMEA Station with 6 Earth Antennas for connection with satellites EUTELSAT, INTELSAT, INTERSPUTNIK (EXPRESS).**
- **1 Base Station (NYMA)**
- **2 Mobile Satellite Stations**
- **7 VSAT Terminal Stations serving the Greek military missions in the Balkans.**

# Access Network

- **10,000,000 copper cables**
- **Optical Access Network**
  - **1,050 Optical Network Units (ONU) in 2002**
- **Network ADSL**
  - **61 DSLAMs installed**
  - **Additional 139 DSLAMs in Q1 2003**
- **550 wireless access systems**
- **7,300 HDSL Systems**

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# 2004 Olympics Fixed Line Infrastructure

- **Total capex to cover the Olympic committee requirements is over €100 million**
- **Only €10 million is dedicated to the Olympics with the remaining being future capacity expansion brought forward**
- **More than €10 million for cardphones as well as fixed and mobile terminals**
- **This infrastructure will increase capacity, availability and connectivity at the Olympic Games sites**

# Agenda

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# Design and Operational Scope

- **High reliability/availability**
- **Total quality**
- **Immediate demand coverage**
- **Reduction of operational cost**
- **Superior planning for capex optimization**

**Technological Upgrade of the Existing Network completed resulting in high quality standards and the provision of full range of services**



# Presentation Structure

- **OTE's Strategic Focus**
- **Fixed Line**
  - **Commercial**
  - **Technical**
  - **Information Technology**
  - **IP Services**
  - **Wholesale / Key Accounts**
- **International Investments**
  - **Overview**
  - **RomTelecom**
  - **GloBul**
- **COSMOTE**
- **Group Financial Insight**
- **Closing Remarks**

