

# 2007 C&C Prize

for pioneering contributions to research and development resulting in low-loss optical fiber

**Dr. Robert D. Maurer**

Research Fellow, Corning Incorporated (Retired)

**Dr. John B. Machesney**

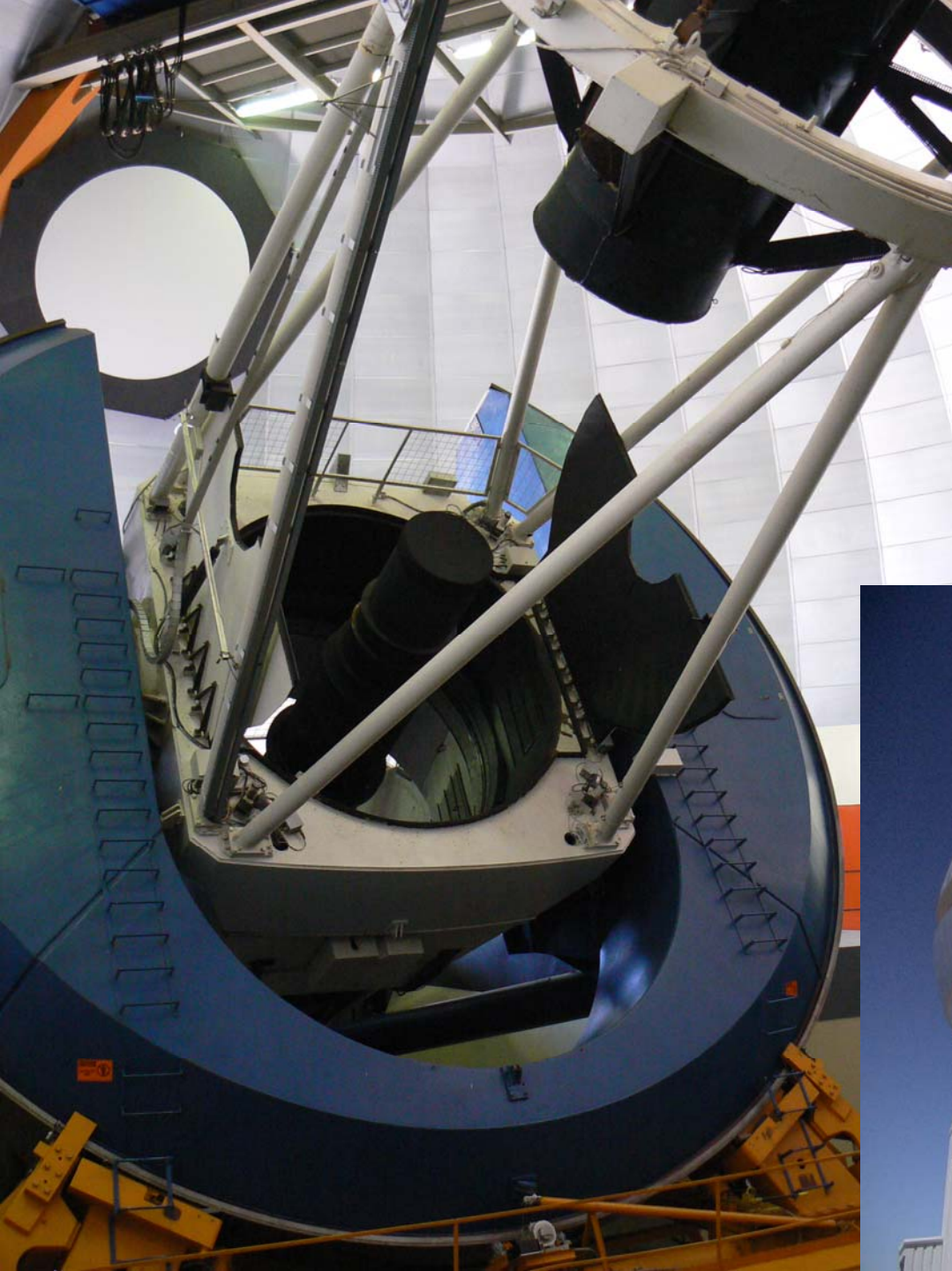
Fellow, Bell Laboratories (Retired)

**Dr. Tatsuo Izawa**

Executive Vice President, Tokyo Institute of Technology  
Former President and CEO, NTT Electronics Corporation

# History of Fiber Technology

- **1965: Theoretical analysis and experiments of low loss fiber materials by Charles Kao (1987 C&C Prize Recipient)**
  - Major Issue of low loss fibers
  - Glass material and dopants
  - Fabrication process
- **1970: 20dB/km fibers by Robert Maurer**
  - Fused silica clad; TiO<sub>2</sub> doped Silica Core
  - Inside vapor deposition
- **1972: 4 dB/km Fibers by Keck, Maurer and Schultz**
  - Fused silica clad; GeO<sub>2</sub> doped silica Core
  - Inside vapor deposition
- **1974: MCVD method was developed by MacChesney**
- **1977: VAD method was developed by Izawa**



# Fiber Material in Early Days

Gemini Observatory, Chile

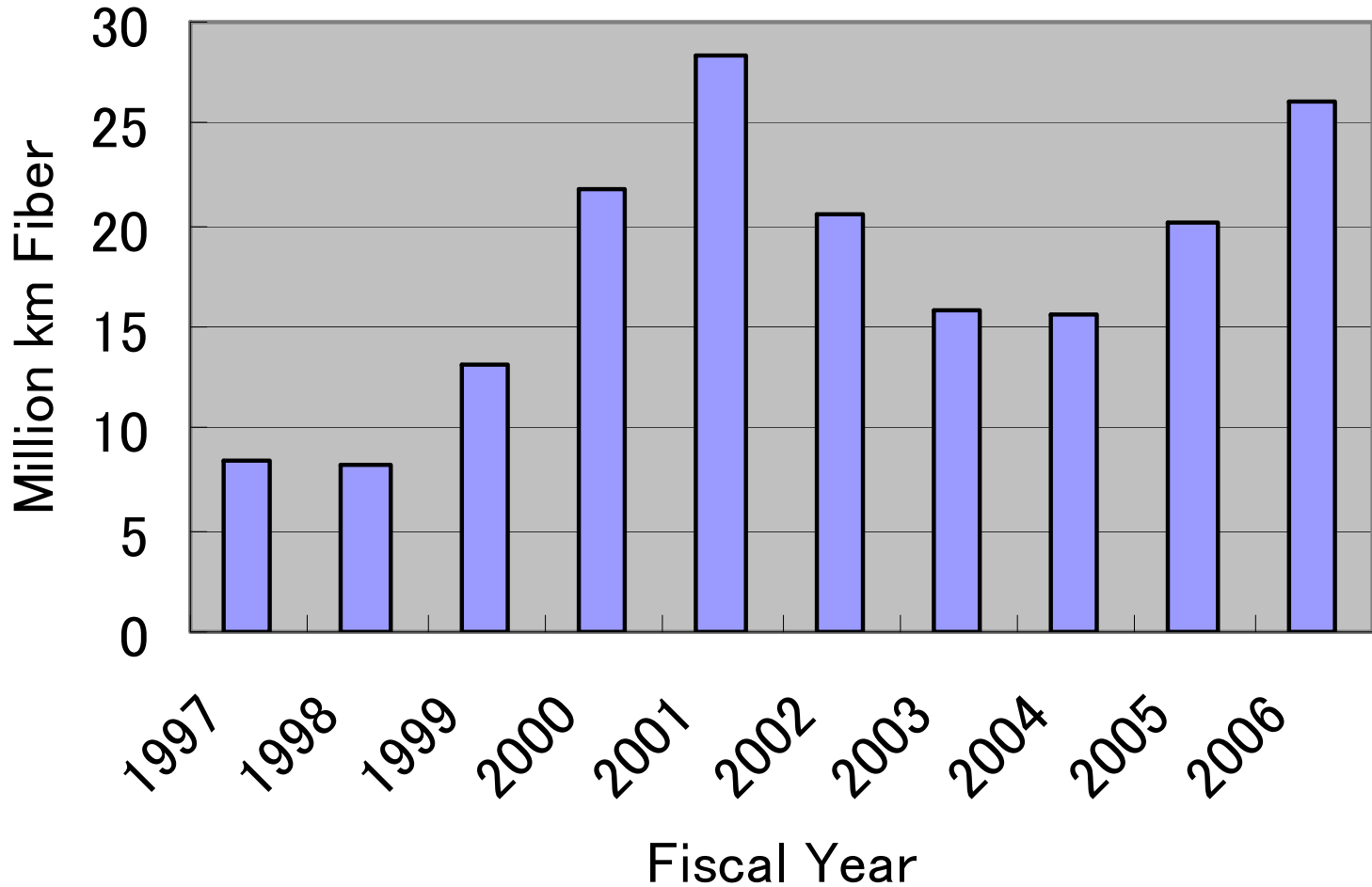


# History of Fiber Technology

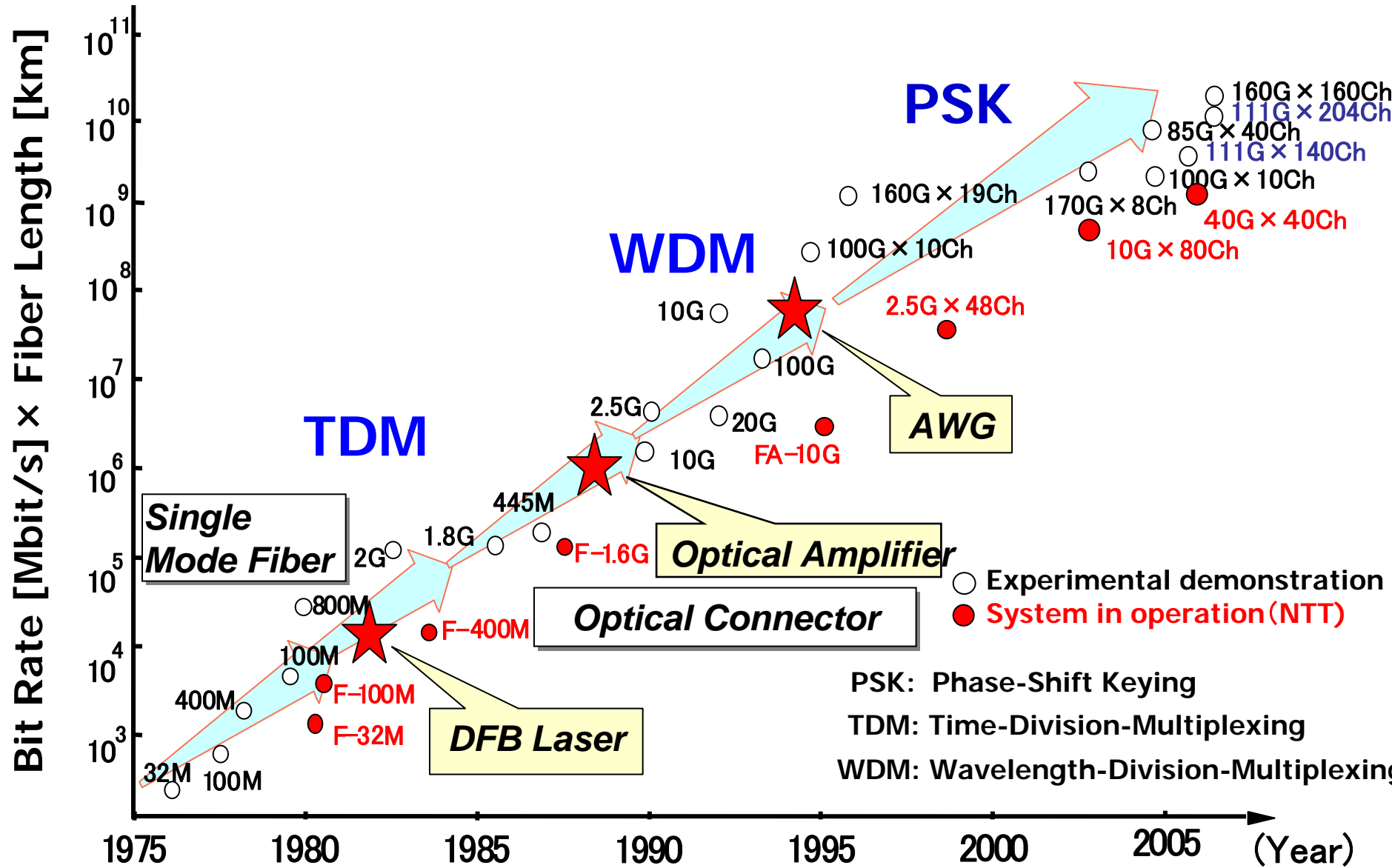
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# Optical Fiber Production in Japan

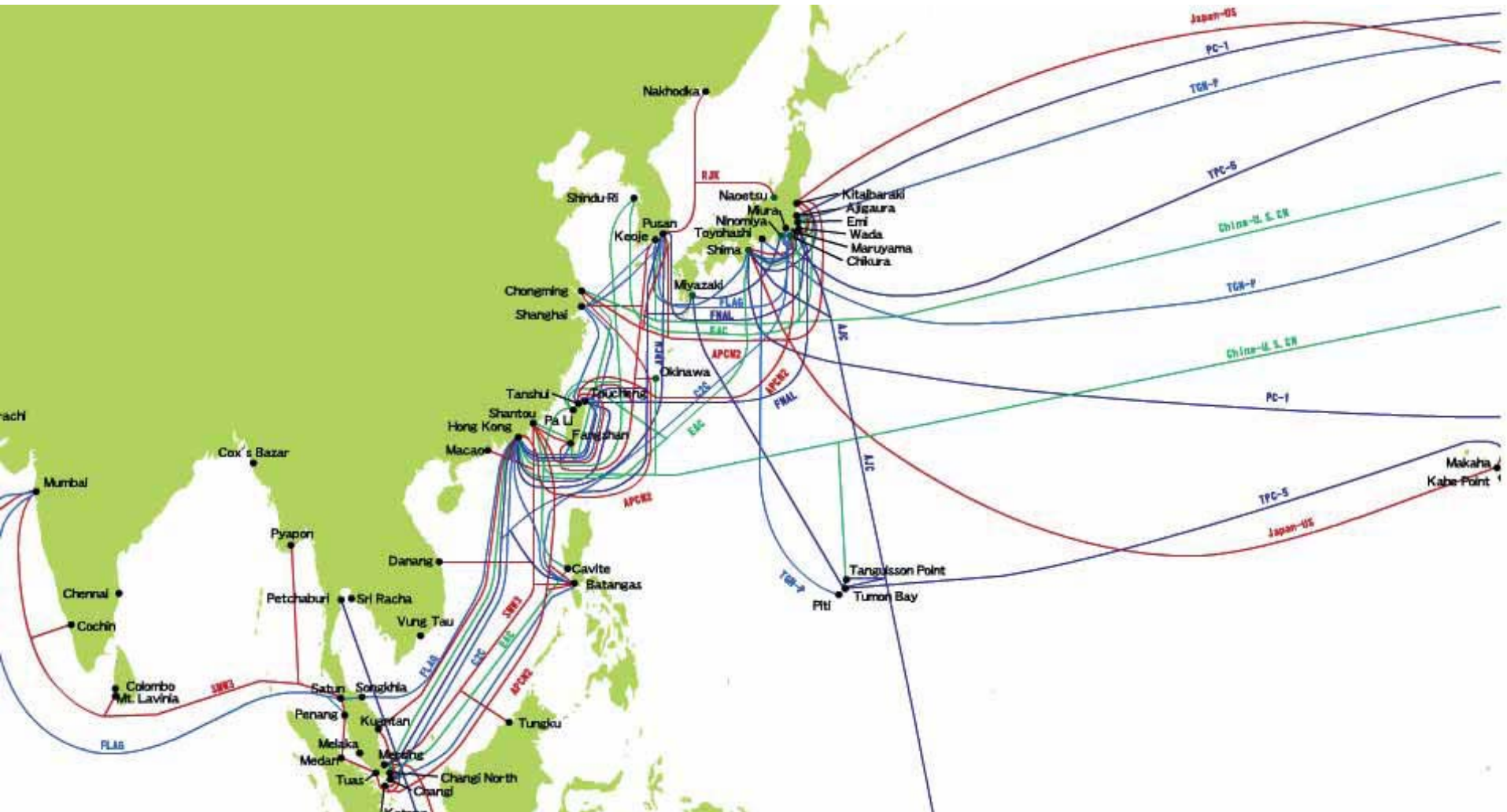
Source: Japan Electric Wire & Cable Makers' Association



# History of Optical Fiber Transmission



# Submarine Cable in Asia



Source: 2007 ICT White Paper

# FTTH and xDSL Users in Japan

