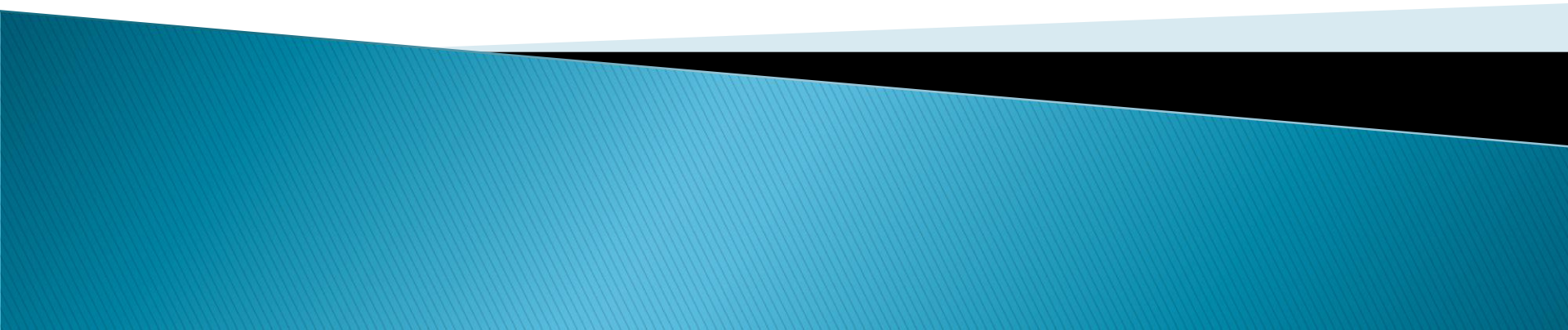
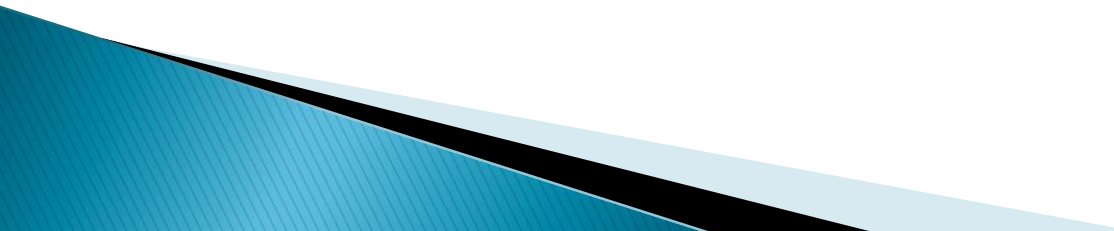


# COMMERCIALIZATION OF RESEARCH

Examples from Industry and University



# OUTLINE OF PRESENTATION

- ▶ Xerox PARC, 1979–83; 1983–88
  - ▶ SynOptics
  - ▶ Stanford University
  - ▶ Silicon Graphics
  - ▶ Lessons
  - ▶ A suggestion
- 

# WHY REVIEW COMMERCIALIZATION OF RESEARCH AND TECHNOLOGY?

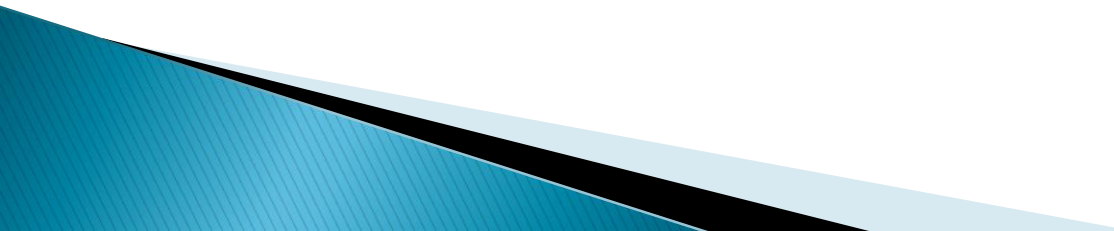
- ▶ Job creation
  - ▶ Economic growth
- 

# XEROX PARC 1979-83

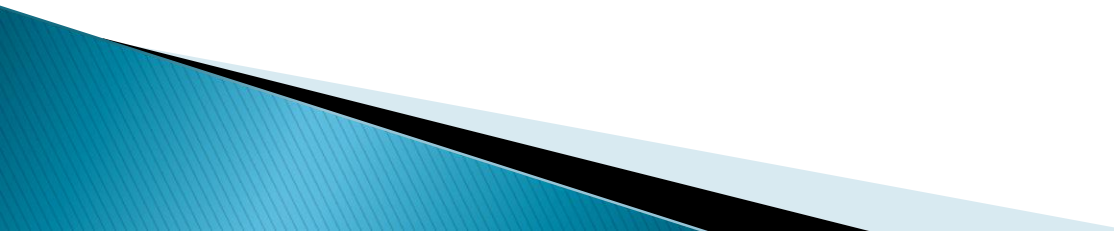
- ▶ 3Com
  - ▶ VLSI
  - ▶ Grid
  - ▶ Metaphor
  - ▶ Komag
  - ▶ Adobe
- 

# XEROX PARC

1983-88

- ▶ Spectra Diode Labs
  - ▶ SynOptics
  - ▶ ParcPlace Systems
  - ▶ Microlytics
- 

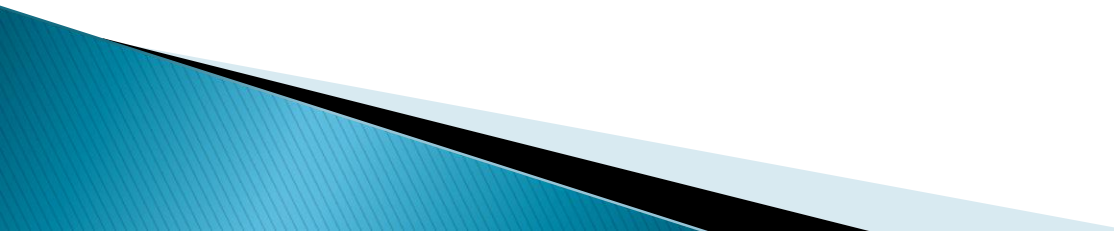
# SYNOPTICS

- ▶ Founded in 1984
  - ▶ Andy Ludwick and Ron Schmidt
  - ▶ Local Area Networks
  - ▶ Xerox ownership, 15%
  - ▶ Merged into Bay Networks \$2.7 Billion
  - ▶ Purchased by Nortel 1998 \$9.1 Billion
  - ▶ Acquired by Avaya 2009
- 

# STANFORD UNIVERSITY

- ▶ Google
  - ▶ Yahoo!
  - ▶ Cisco
  - ▶ MIPS
  - ▶ SUN
  - ▶ Silicon Graphics
  - ▶ Many others
- 

# SILICON GRAPHICS

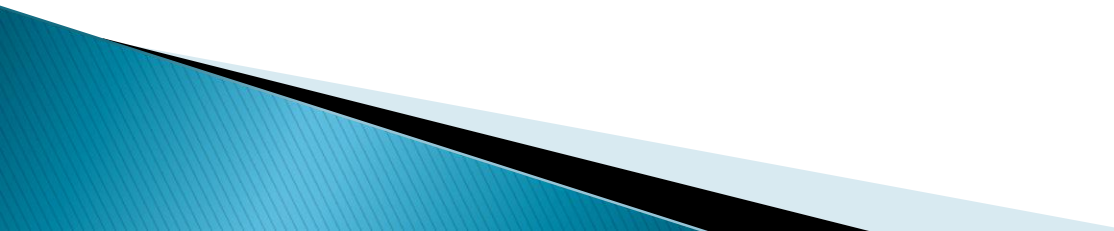
- ▶ Founded by Jim Clark
  - ▶ VLSI design course
  - ▶ Geometry Engine fabbed at Xerox PARC
  - ▶ Early development of 3D graphics
  - ▶ Technology used in several hit movies
  - ▶ Market value exceeds \$1 billion
- 



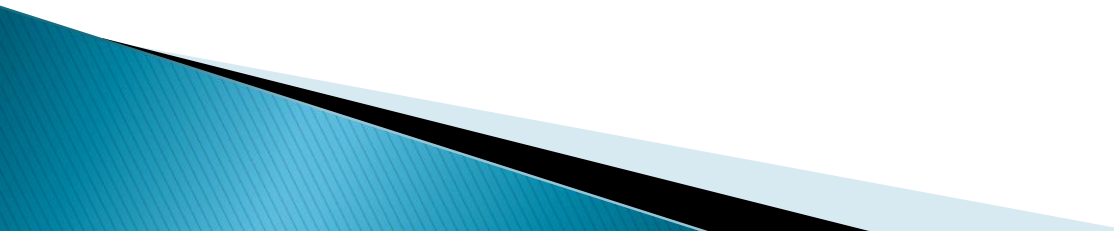
# LESSONS

- ▶ There is no formula, recipe or equation that will guarantee successful commercialization of research or technology

# LESSONS

- ▶ There is no formula, recipe or equation that will guarantee successful commercialization of research or technology, however;
  - ▶ There are guidelines based on experience that can increase the probability of successful commercialization.
- 

# LESSONS

- ▶ No formula guarantees success
  - ▶ Identify and commit right people
  - ▶ Provide a supportive and entrepreneurial environment
  - ▶ Treat failure as a lesson
  - ▶ Don't micromanage the project
  - ▶ Several others
- 

# A SUGGESTION

- ▶ Set up a mechanism for further nurturing cooperation and information exchange between Universities and Industry in Taiwan

# SUGGESTION STRUCTURE

- ▶ 5–10 companies supporting university research
  - ▶ Taiwan government matching funds
  - ▶ Notable person for CEO
  - ▶ Best universities for grants
  - ▶ New start-ups major objective
  - ▶ Visiting scientists and engineers
  - ▶ Summer and sabbatical programs
  - ▶ Evaluate after four years
- 

# ONE MORE POINT

- ▶ Set up a mechanism for further nurturing cooperation and information exchange between universities and industry in Taiwan
  - ▶ SEMATECH and SRC may offer some lessons in how university/industry cooperation can occur with government support
- 