The School of Optics/FPCE

Florida Photonics Center of Excellence

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OPTICS AND PHOTONICS ARE ENABLING, PERVASIVE TECHNOLOGIES . . .

In the Home

- TV remote
- CD player
- CD ROM
- Motion sensor
- Smoke detector
- Light bulbs
- Etc.

In Bio-Medicine

- Tattoo removal
- Various types of surgery
- Vision correction
- Various diagnostics
- Cosmetic surgery
- Blood monitors
- Etc.

In the Economy

- Telecommunications
- Bar code scanners
- Surveying
- All sorts of manufacturing
- Crop dusting
- Entertainment
- Data storage (nano)
- Etc.

In National Defense

- Night vision
- Reconnaissance systems
- Communications
- Range finders
- Designators
- Smart weapons
- Etc.

The Florida Photonics Center of Excellence
within the School of Optics

Imaging and Display, Nano-Photonics, Bio-Photonics
Chosen as unique niche areas

- Focused excellence in research and graduate education chosen to serve industry cluster in the state - FPC
- Leverage limited state resources via partnerships with industry and government.
- Work with local, regional, and state EDO's to attract, retain, and grow tech-based, wealth-producing industry in Florida.
- Vision: Establish Florida as the national leader in photonics-based industries and industries enabled by photonics.

Florida Optics Industry
The Florida Photonics Cluster
FPC

- 148 in Florida
- 16,000 Employees in Florida
- $4 Billion in annual revenues

Source: FHTCC report 1999

FPCE establishes a larger home for local photonics industries

Build nano-photonics fabrication facility ($1.4M + $5M equipment)

Serves as a resource center for university as well as a potential user facility for industry.

Hire chaired eminent scholars in nano, bio and 3D.

Hiring Eminent Scholars

Nano-Photonics, Bio-Photonics, & Imaging / Display (3D)

- Endowment + startup attract best
- They will attract others

  e.g. in collaboration with UCF's Biomolecular Sciences Center
- They will leverage $ for funding research

  and funding students
- They will partner with Florida industry, transfer technology, . . .

Highly leverages $ and ensures continuation of FPCE

Proposed use of $10,000,000 (yellow – FPCE: white – match)

Infrastructure	$4.6 M
Competitive proposals to Universities	$4.5M
Commercialization and outreach	$0.9M
Infrastructure match	$8.8 M
Sponsored Research	$10.2M
Commercialization	$3.9M

Total $10M + $22.9 M

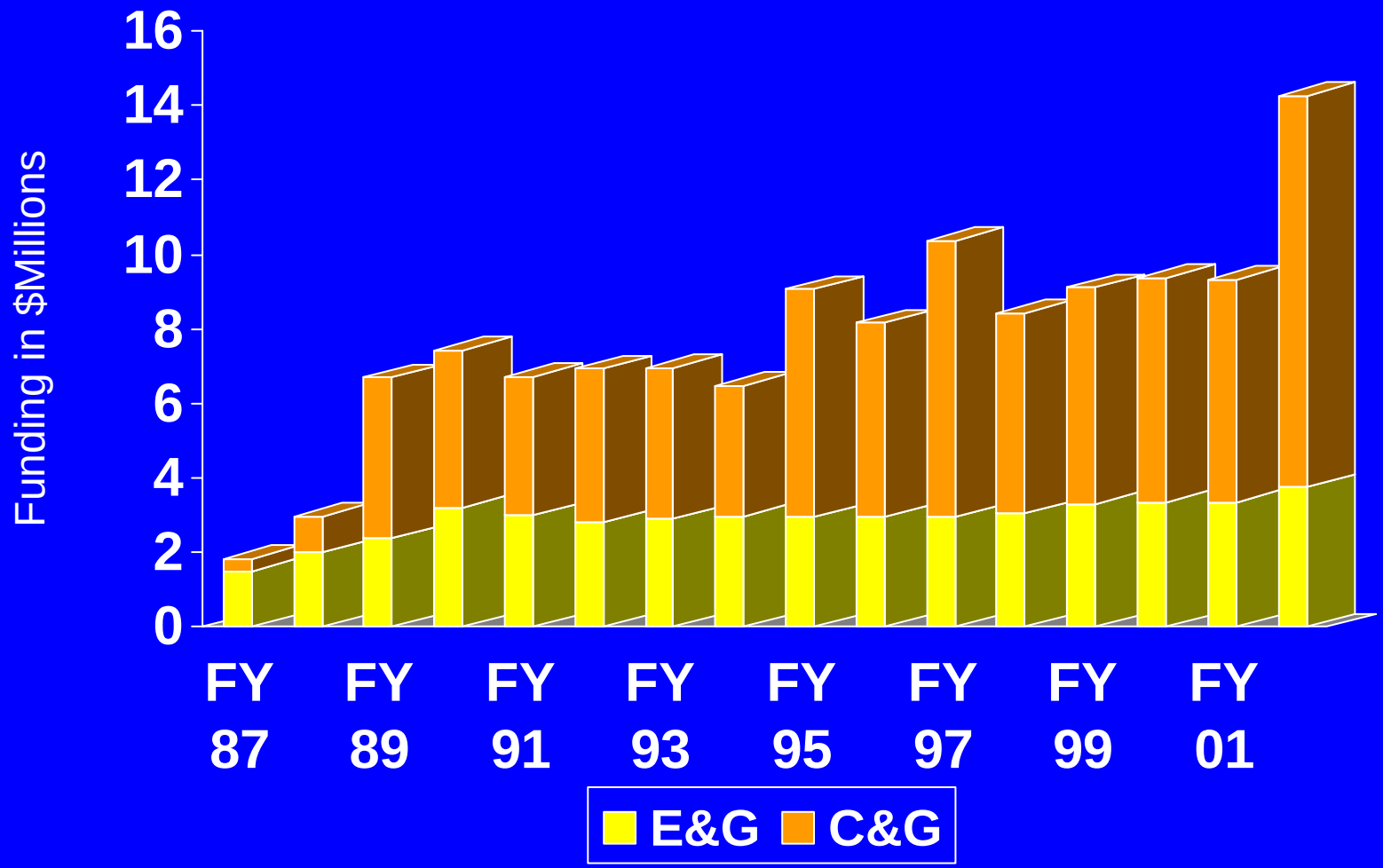
Accountability: IMPACT

- Patent and licensing
- New companies spun off
- External funding record (federal and industrial)
- Students and post docs recruited and supported
- Company partnerships
- Publication record
- Awards
- Faculty and Student Recognition
- Recruitment of outstanding faculty, post docs, and students.

Look at CREOL's history

Center for Research and Education in Optics and Lasers

School of Optics/CREOL
Total Funding Received by Year



Florida High Tech Corridor
Economic Development
Florida Photonics Cluster
UCF Incubator Project CREOL/Bus/Eng
SPINOFF COMPANIES

- **CRYSTAL PHOTONICS INC.**
- **Beam, Inc.**
- **Laser Classics**
- **OPTICAL DIAGNOSTICS**
- **LIGHT PROCESSING & TECH**
- **Laser Energetics**
- **POLARA**
- **Applied Photonics**
- **NUONICS**
- **OPTIUM**

Other companies drawn here

GelTech

Infinite Photonics

Products commercialized:

LiSAF/LiSGaF etc. -VLOC

Laser Art- Laser Crystal Design

Crystals-Crystal Photonics

Thermal Mgmt-Rini Tech.

The Future

- **The transistor and microelectronics was the technology of the 20th century**
- **Optics and Photonics is the technology of the 21st century**