



# PUERTO RICO CONFERENCE

Entrepreneurship for Growth

# 2010

P u e r t o   R i c o   C h a m b e r   o f   C o m m e r c e  
B o r d   o f   E c o n o m i c   D e v e l o p m e n t

# Puerto Rico as an Economy Exporting Knowledge

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# Knowledge Economy

- **Wikipedia:**
  - **Economy of knowledge:** an economy focused on the production and management of knowledge in the frame of economic constraints.
  - **Knowledge-based economy:** the use of knowledge technologies (such as knowledge engineering and knowledge management) to produce economic benefits as well as job creation.
  - **Knowledge is a product**

**What knowledge assets does Puerto Rico have  
to bring economic benefits and stimulate job  
creation?**

# Assets of Puerto Rico

- Existing manufacturing base particularly in pharmaceuticals & medical devices
- Highly educated population, particularly scientific and engineering fields
- Attractive tax incentives
  - Law 73- Economic Incentive law
  - Law 101- Tax exemptions to academic scientists
- Existing Research and Development Centers
  - Collaborators and Partners
  - Suppliers and Contractors

# The Potential Collaborators/Business Partners

- **Molecular Science Building**

- 120,000 sq ft research facility
- \$67M investment



- **UPR Comprehensive Cancer Center**

- Joint Venture MD Anderson Cancer Center

- **Institute for Functional Nanotechnology**

- Joint Venture with NASA

- **Materials Characterization Center**



# The Potential Collaborators/Business Partners

## Caribbean Primate Center

- **Cayo Santiago (CS)** is a field research site, maintains free-ranging rhesus monkeys under semi-natural conditions for behavioral research and noninvasive biomedical research.
- **Sabana Seca (SSFS)** It houses Cayo Santiago-derived rhesus monkeys divided into conventional and SPF breeding programs.
- **Laboratory for Primate Morphology and Genetics (LPMG)**, houses the CPRC skeletal collections, including a unique collection of complete specimens of *Macaca mulatta*.
- **Virology Laboratory (VL)**, this laboratory performs serological testing of herpes, STLV-1, SRV, and SIV in rhesus macaques.



# The Contractors: Open for Business

## Bioprocessing Training & Development Center



- Located at the Guanajibo Research and Innovation Park, Mayaguez
- 16,000 sqft of laboratory space, 6,200sqft available, \$12M investment
- Offers low cost incubator space for New Co's. since 2008
- Modern Bioprocess R&D Labs: Microbial and Mammalian Cell Culture, Purification Development, Bio-Analytical capacity available.



# The Contractors: Open for Business

- ViTec2 - Incubator



- Business Accelerator located in a 22,000 sqft industrial building in La Quinta Industrial Park in Mayaguez.
  - Houses 10 Companies, and has graduated 10 companies (7 from local entrepreneurs and 3 landing sites for Aerospace companies).
  - 40% Companies in Life Sciences
  - Established on January 1999
- Two new business incubators being established

# The Contractors: Open for Business

- **Clinical Research Center** – Located at the UPR Medical Center, well-positioned for patient recruitment
- **CAIMED Ambulatory Center for Clinical Research** – Affiliated with the Ponce School of Medicine. Staff dedicated to clinical research, extensive experience.
- **Contract Manufacturing** – Patheon, Inc. offers small scale contract manufacturing services for clinical trials



# The Public Policy:

## Science, Technology & Research Trust

- Established by law 214 of August 18, 2004 to define & implement technology public policy
- \$80M of assets, including 70 acres in the Knowledge Corridor
- \$6M per year operating budget
- Uses of Funds
  - Research
    - Financial support to recruit researchers
    - Direct grants to fund research
  - Commercialization
    - Technology transfer office
    - Seed & early stage funding
  - Science City – building a research park



# The Public Policy: Science, Technology & Research Trust

- Thomas Farb, CEO Science, Technology & Research Trust
  - Venture Capital & Private Equity Experience
    - Co-founder and Managing Director of Boston and Shanghai-based venture capital firm, New America Partners, LLC
    - General Partner of Summit Partners, Boston & London
  - Entrepreneurial Experience – founder of
    - HNC Software (NASDAQ: HNCS) – software & analytics company focusing on credit card and insurance fraud (acquired by Fair Isaac, NASDAQ: FICO)
    - Redwood Trust (NYSE: RWT) – real estate investment trust
    - SafTMed --producer of medical safety syringes (sold to Becton Dickinson)
    - Exact Laboratories (NASDAQ: EXAS) – applied genomics for diagnosis of colon cancer
    - Zencheng Power Corporation, Guangzhou, China, an electric power plant
    - MedicaMetri -- prostate cancer diagnostic & device
  - Company Experience
    - President Indevus Pharmaceuticals (NASDAQ:IDEV) currently \$125M per year, acquired Endo Pharmaceuticals (NASDAQ:ENDP).
    - Senior Vice President of Interneuron Pharmaceuticals (NASDAQ:IPIC)
    - Vice President of Business Development of CytC Corporation (NASDAQ:CYTC), acquired by Hologic (NASDAQ:HOLX)

# The Public Policy: Science, Technology & Research Trust

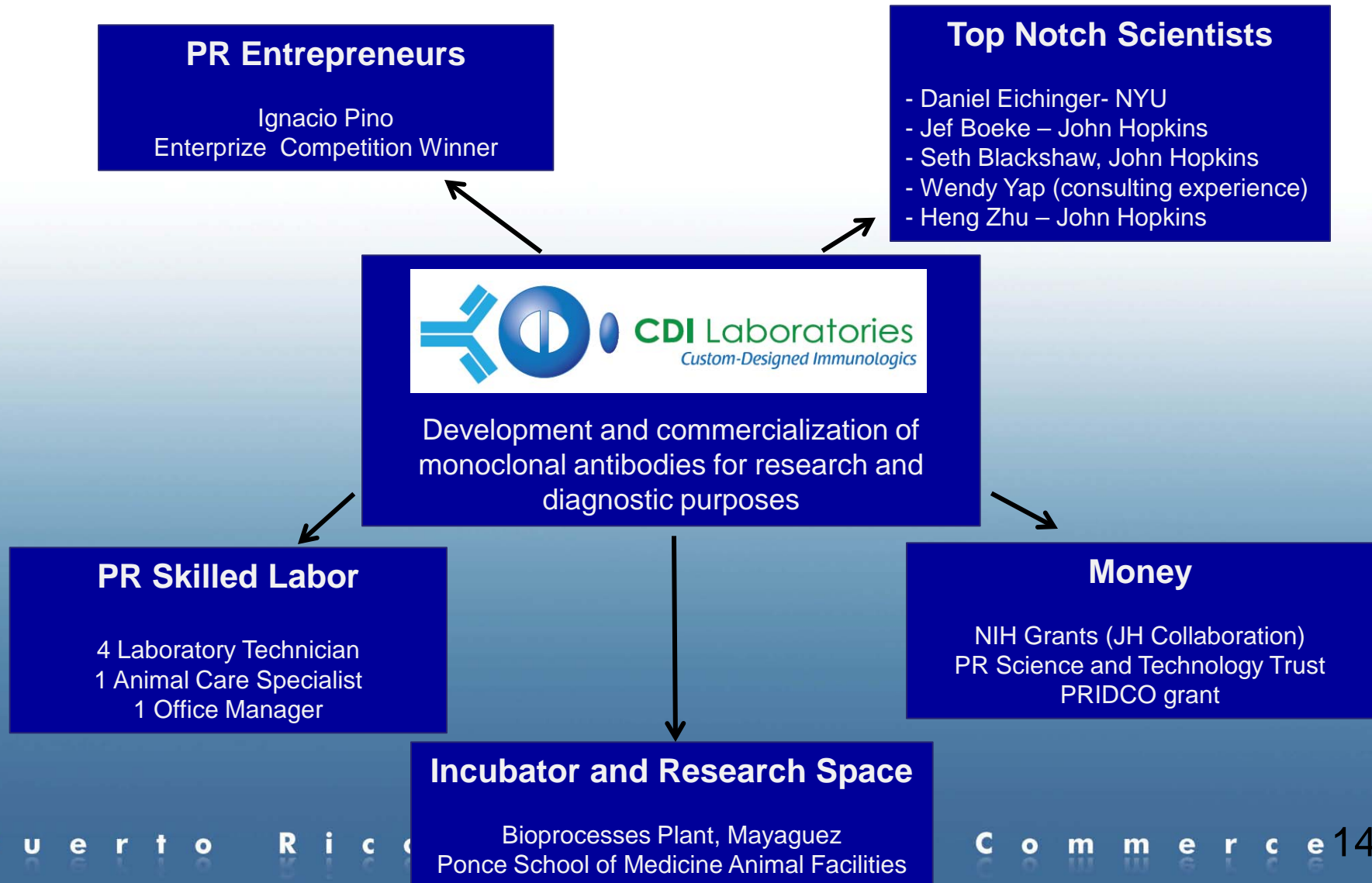
- **Board of Trustees**

- Secretary of the Department of Economic Development and Commerce
- President of the University of Puerto Rico
- President of the Government Development Bank
- Executive Director of the Puerto Rico Industrial Development Company (PRIDCO)
- Executive Director of the Office of Budget and Management
- Dr. Lester Martinez, former Commanding General of US Army Medical Research and Materials Command
- Dr. Fabrizio Bonanni, Senior VP of Global Manufacturing for Amgen
- Dr. Emma Fernandez- Repollet, Director RCMI Program
- Dr. Mariano Garcia –Blanco, Professor of Molecular Genetics and Microbiology, Professor of Medicine and Director of the Duke Center for RNA Biology at Duke University Medical Center



# Leveraging Knowledge-based Assets

## A Replicable Model





# Caribbean Biotechnologies Inc.

## Instantaneous Bio Threat Identification System (I.B.T.I.S.)

### MARKET OPP: MEDICAL DEVICES

- Detection of infectious Diseases (TB).
- Bioterrorism .

### SCIENTIST/STAFF

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### FINANCING

- Federal – NSF. SBIR
- State- EDB

### TECHNOLOGY (PATENTED)

2-Photon Fluorescence  
+  
Particle Detection  
Pat. No. 7,595,864



# Summary of Assets for PR Knowledge Economy

- Research and incubator space available, partly subsidized by PR Industrial Development Company (PRIDCO).
- Collaborators at the University of Puerto Rico, the Caribbean Primate Center, UPR Comprehensive Cancer Center, Molecular Science Center.
- Contractors available: UPR and Ponce School of Medicine Clinical Research Centers, Patheon.
- Government mandate to support growth of Science and Technology through the Science, Technology & Research Trust.
- Strong knowledge of the pharmaceutical industry, available management.

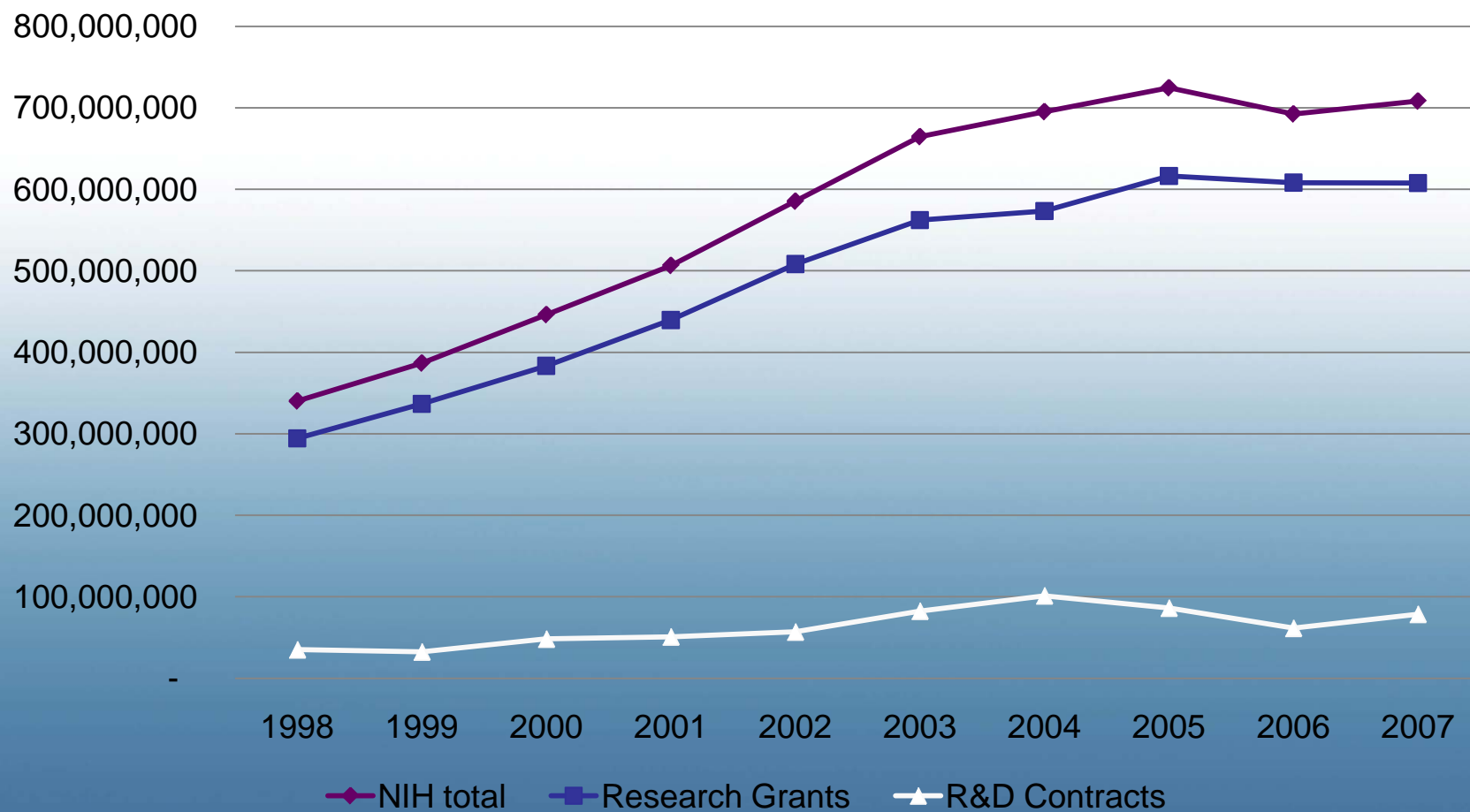
Can we move fast enough to leverage existing assets into a strong knowledge economy?

# Thank you!

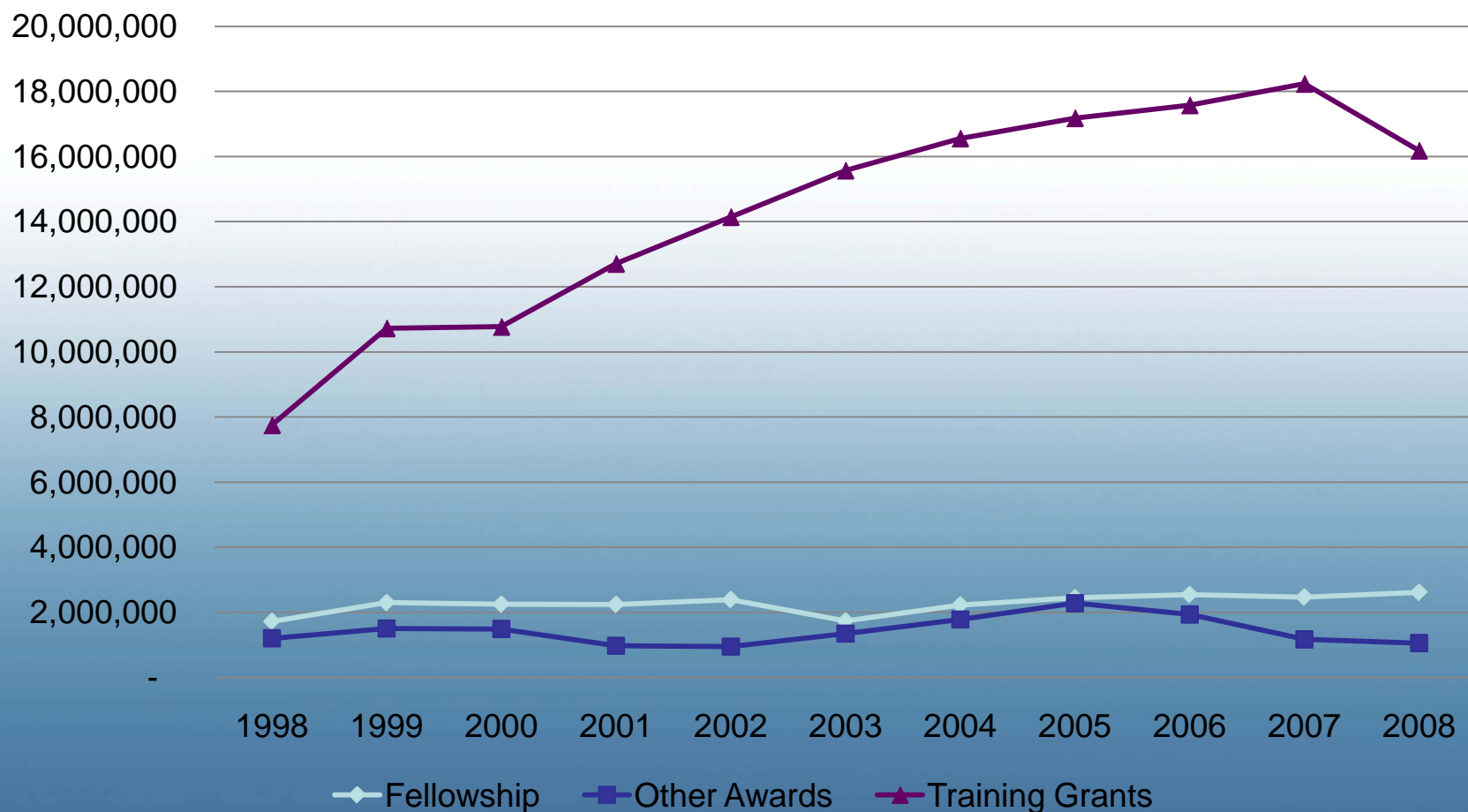
# Ohio's ROI

- 2008 launched the Third Frontier, a \$1.6B 10yr initiative to support technology-based economic development.
  - State expenditures as of 2009 - \$681M
  - Returns - \$6.6B economic activity
  - 41,300 total jobs (direct and indirect)

# Ohio NIH Funding



# Ohio NIH Funding- Other





# Ohio Performance

- According to a recent study, Ohio Third Frontier has made an impact by:
  - Dramatically increasing the availability of early-stage capital
  - Improving the entrepreneurial environment for technology
  - Improving research and development collaboration
  - Driving employment growth in Ohio's technology sector
  - Contributing to the diversity and competitiveness of Ohio's manufacturers
  - Recruiting non-Ohio companies
  - Charting a course consistent with tech-based growth in other regions