



# Building **University-Industry** Partnerships

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# OUTLINE



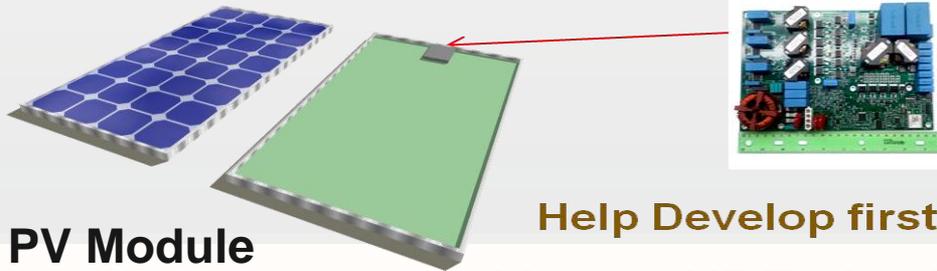
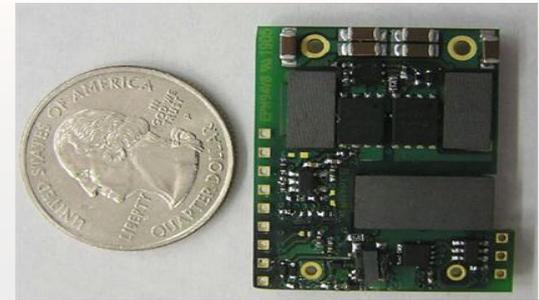
- ✓ My Research Area
- ✓ About University-Industry alliances
- ✓ Role of Business & Education in Economic Development
- ✓ Economic Development and Impact
- ✓ For Successful Industry-University Partnership
- ✓ Examples of Successful Partners

# My Research Area

Florida Power Electronics Center



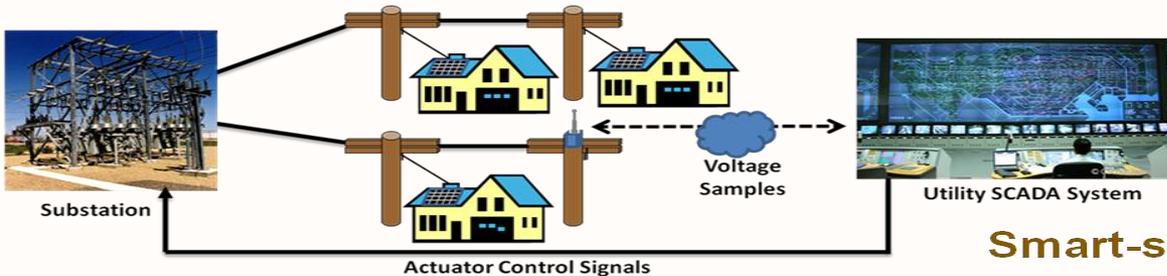
Developed one of the highest power density isolated energy conversion for the telecommunication industry.



AC PV Module

Help Develop first micro-inverter

Licensed IP Technology with Industry



Smart-solar infrastructure

# Why are University-Industry alliances critical to Prosperity?



- **Science, technology, business, research, and economic enterprise are becoming increasingly interconnected and interdependent**
- **The rise of the ‘global *innovative* knowledge economy’ (as the phrase suggests) has made such alliances imperative**
- **Research-oriented universities are pools of knowledge and drivers of the novel ideas, inventions, and discoveries that spur economic growth**
- **The output and excellence of these universities are dependent on the funding that only business and industry can provide**

# BENEFITS OF UNIVERSITY – BUSINESS PARTNERSHIPS



## BENEFITS TO UNIVERSITIES

External funding inflows that provide opportunities for ...

- Faculty and students to work on innovative research
- Modernizing teaching methods, infrastructure, and equipment
- Development of new skills and competencies
- Exchange of ideas
- Inventiveness and creativity

## BENEFITS TO INDUSTRY

Knowledge and expertise of the best scientists, academicians, and students that ...

- Allow businesses to concentrate on running their enterprises efficiently
- Create long-lasting partnerships to help solve their most challenging science, technology, or business-related problems
- Present the opportunity to recruit top talent
- Help break-down barriers between disciplines and create new courses and multi-disciplinary programs that cater to their needs

# Role of Business in Economic Development



- Business and Industry are fundamental to economic development because they create...
  - ✓ Employment opportunities
  - ✓ Wealth
  - ✓ Opportunities for innovation and entrepreneurship
  - ✓ Healthy competition that improves quality
  - ✓ Cooperative inter-relationships between all sectors of society including education, environment, health, and energy

# Role of Education in Economic Development



- University campuses are foremost contributors to economic development because they are centers of..
  - ✓ Knowledge and research
  - ✓ Talent, enterprise and inventiveness
  - ✓ Innovation and entrepreneurship
  - ✓ Youthful energy, enthusiasm, and ability
  - ✓ Fresh ideas and approaches

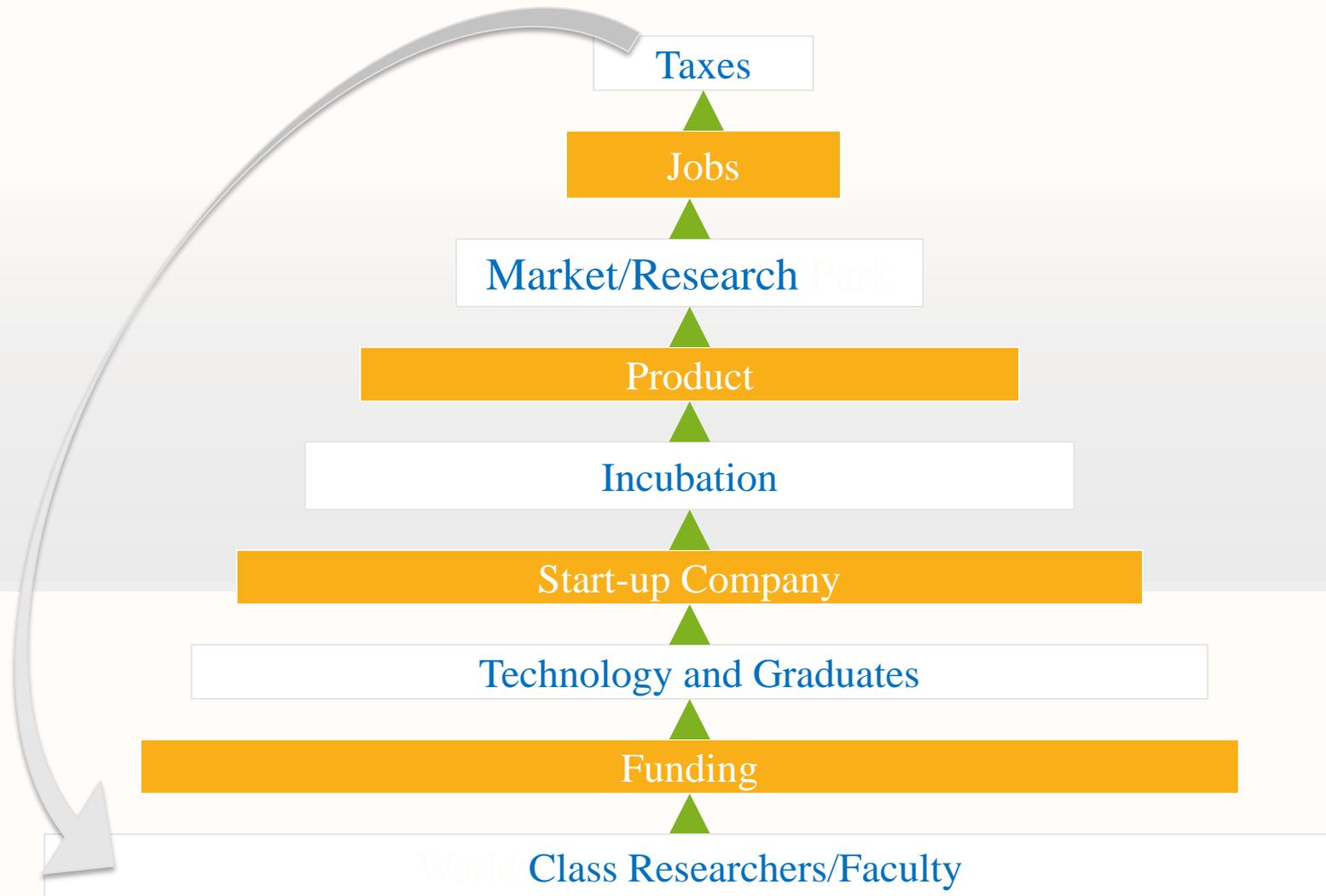
# Economic Development



- **Expand high tech industry**
- **Engage the community**
- **Facilitate tech transfer**
- **Build Collaboration**
- **Economic & Social development in the society**

*Courtesy of UCF's Office of Research and Commercialization*

# Lab to Market Economic Pyramid



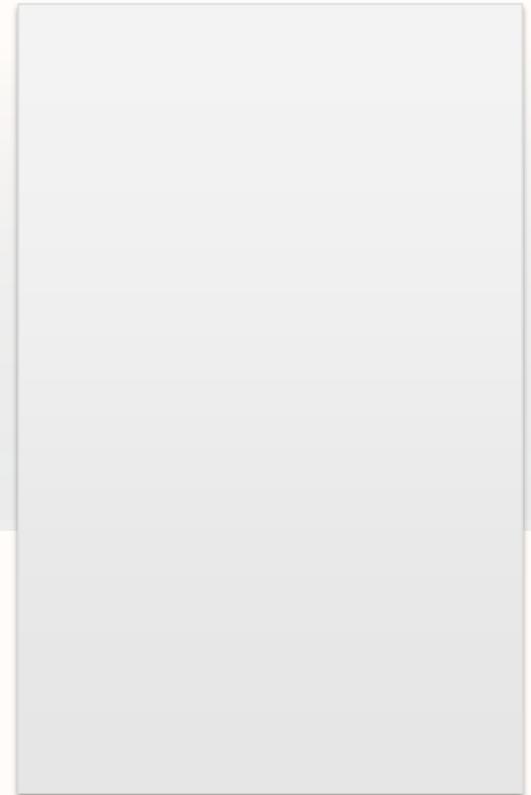
Courtesy of UCF's Office of Research and Commercialization

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# Public Perceptions of Engineers\*

Engineers Scientists

- **Creates economic growth**
- **Would make a strong leader**
- **Cares about the community**
- **Save lives**
- **Sensitive to societal concerns**
- **Protects the environment**
- **Improves the quality of life**



\* *Based on an NSF-funded, NAE Research Project.*  
• *Two surveys of nearly 3500 of adults and teens ages 14-17.*

# Public Perceptions of Engineers\*

	Engineers	Scientists
• <b>Creates economic growth</b>	<b>69%</b>	<b>25%</b>
• <b>Would make a strong leader</b>	<b>56%</b>	<b>32%</b>
• <b>Cares about the community</b>	<b>37%</b>	<b>51%</b>
• <b>Save lives</b>	<b>14%</b>	<b>82%</b>
• <b>Sensitive to societal concerns</b>	<b>28%</b>	<b>61%</b>
• <b>Protects the environment</b>	<b>17%</b>	<b>71%</b>
• <b>Improves the quality of life</b>	<b>22%</b>	<b>71%</b>

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# WHAT WE NEED FOR STRONG UNIVERSITY-INDUSTRY PARTNERSHIPS



*“Collaborations only work well when they are managed by people who cross boundaries easily and who have a deep understanding of the two cultures they need to bridge” ~*

*From “Making Industry-University Partnerships Work” – A Study commissioned by the Science/Business Innovation Board AISBL*

# WHAT WE NEED FOR STRONG UNIVERSITY-INDUSTRY PARTNERSHIPS



- A common language, because universities speak the language of intellectual enterprise while business speak the language of commercial enterprise
- Strong university leadership that prioritizes partnerships with business and offers faculty and students good reasons and incentives to contribute to such partnerships
- Long-term partnerships that foster mutual confidence, trust, development, and innovation rather than short-term, poorly thought out projects which do not allow time for productive interaction on both sides
- Common goals and strategies that foster cooperation rather than confrontation
- Broad-based, adaptable agreements.

# Role of University Leadership



The top administrators must provide leadership to . . .

➤ ...

➤ ...

➤ ...

➤ *Create healthy, collaborative, competitive environment to truly achieve excellence in educational innovation and scholarly contributions.*

&

➤ *Encourage, promote and reward faculty for their industry partnership and collaboration, innovation, and their economic impact.*

# Examples of Successful Partners

- **The Energy Biosciences Institute (EBI)**
- **UC's Industry-University Cooperation Research Program (IUCRP)**
- **California Institute For Telecommunications & Information Technology (Calit2):**
- **HP Laboratories' Innovation Research Program**
- **Bayer AG's "Grants4Targets" program**
- **IBM, Intel,... Faculty Awards**
- **APECOR/Petra Solar and UCF**



*We must inspire and educate a new generation of diverse young men and women to pursue careers in engineering for the purpose of improving the quality of human life and strengthening American and worldwide economies. We must develop engineering leaders to drive transformative technological advances, and to turn globalization from a threat to an opportunity.*

*Charles M. Vest, President, National Academy of Engineering*

**THANK YOU!**