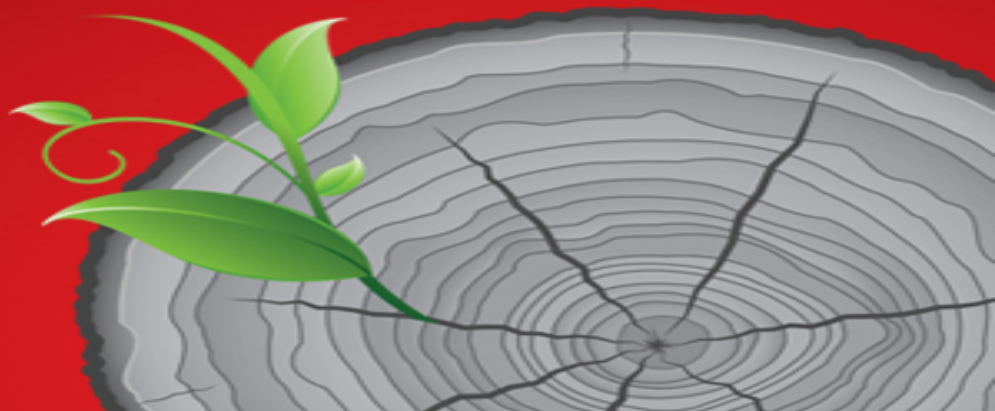




INTERNET HUNGARY 2015

A változás gyönyöre



Innovation keeps economy on the move.

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*Hotel Azúr, Siófok
2015. szeptember 29-30*

An Introduction

Long time researcher in lasers

Laser invented in 1960.

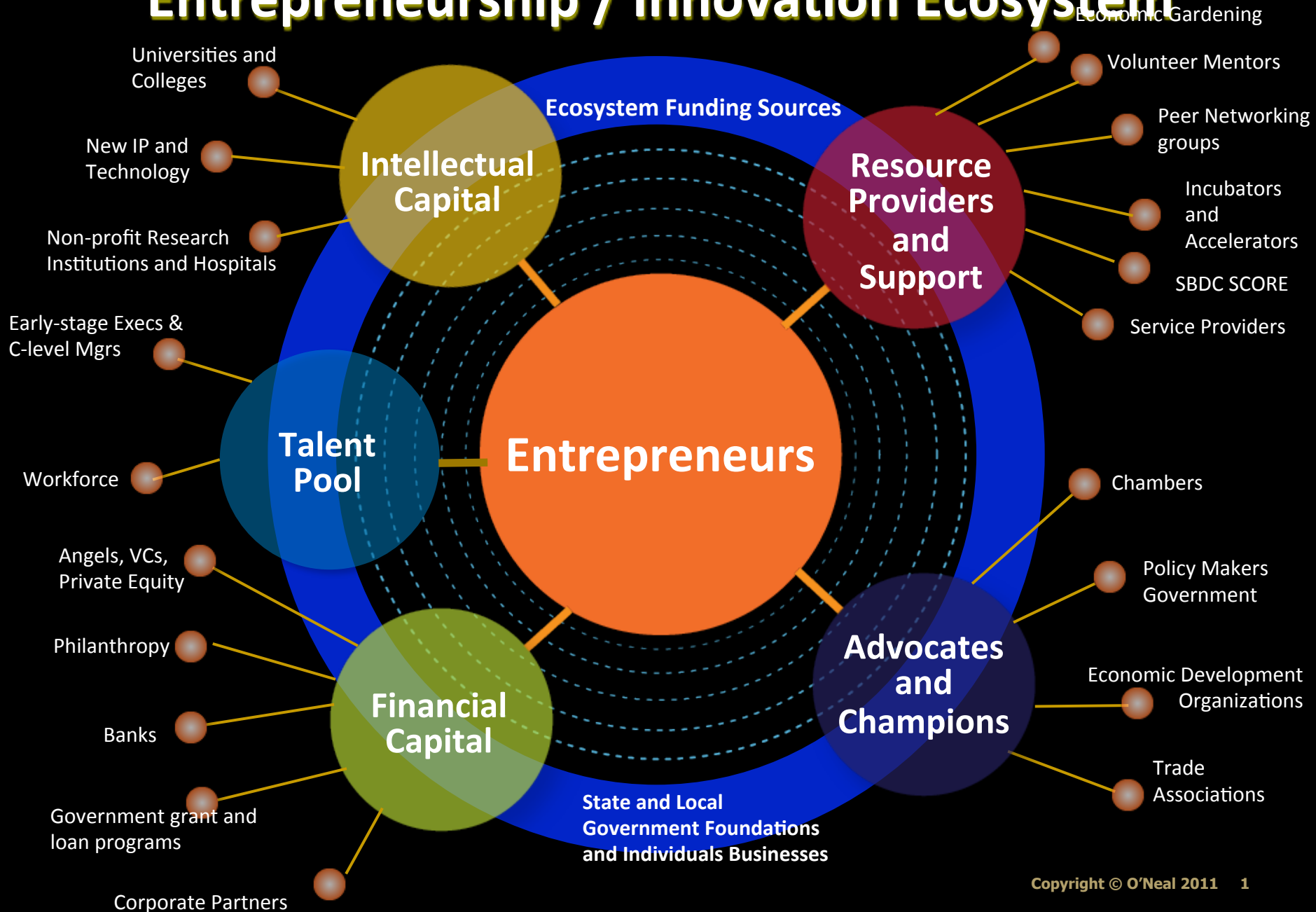
Academic, with experience in government and industry.

Broad overview of photonics electronic and computer technologies and advanced materials science



- Research activities in many countries, US, Germany, France, UK, Japan..
- Recently senior science advisor to the U.S. State Department in the areas of innovation, early stage SMEs, incubators and startups in emerging markets in Europe and the U.S.
- Exploring transatlantic partnerships in incubation, accelerators and technology clusters to enable networking, growth potential and investment.

Entrepreneurship / Innovation Ecosystem



The message of this presentation

Broad overview of hightech SME incubation infrastructure in Europe and the United States

SMEs are the backbone of all knowledge-based advanced economies.

A comprehensive infrastructure for the growth and guidance of startups and SMEs greatly improves their chances of success in the market and their pathway to sustainability.

ICT + Internet is an ideal base for sector growth in IoT including Med-Tech, Clean-Tech and other Techs.

Case Study: ICT in Estonia

Population 1.3 M GDP/cap \$28k



- Concentration in Informatics during Soviet era.
- Investment in Soviet clones of Intel i8080A computer chips.
- Early personal computer development Juku ES101.
- Rapid deployment of JUKU in Estonian schools.
- 'All' Estonian schools had computer classroom by 1991.
- Lack of end users and practical applications in offices and businesses.
- BUT, the educated youth became familiar with computers and an early age.

The rise of Skype



Infrastructure vested during Soviet era provided cultural base for rapid growth in ICT in Estonia in post-Soviet era.

Created by Janus Friis and Niklas Zennström (SE) and Ahti Heinla, Priit Kasesalu and Jaan Tallinn (EE) in Tallinn.

Complex acquisition history (Ebay, Silver Lake/CPPIB, Microsoft. HQ in Luxembourg

R&D and tech operations still located in Estonia (470 employees.

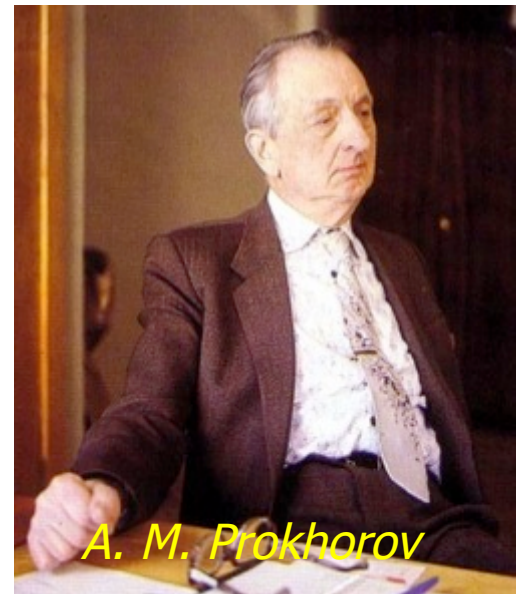
Estonia growth paradigm. Estonia too small to sustain growth of hightech SME

Hungary 1974

Six month visiting scientist at the
Lebedev Physical Institute.

Visit to Kurchatov Atomic Energy
Institute.

Clones of PDP 8E computers built in
Hungary



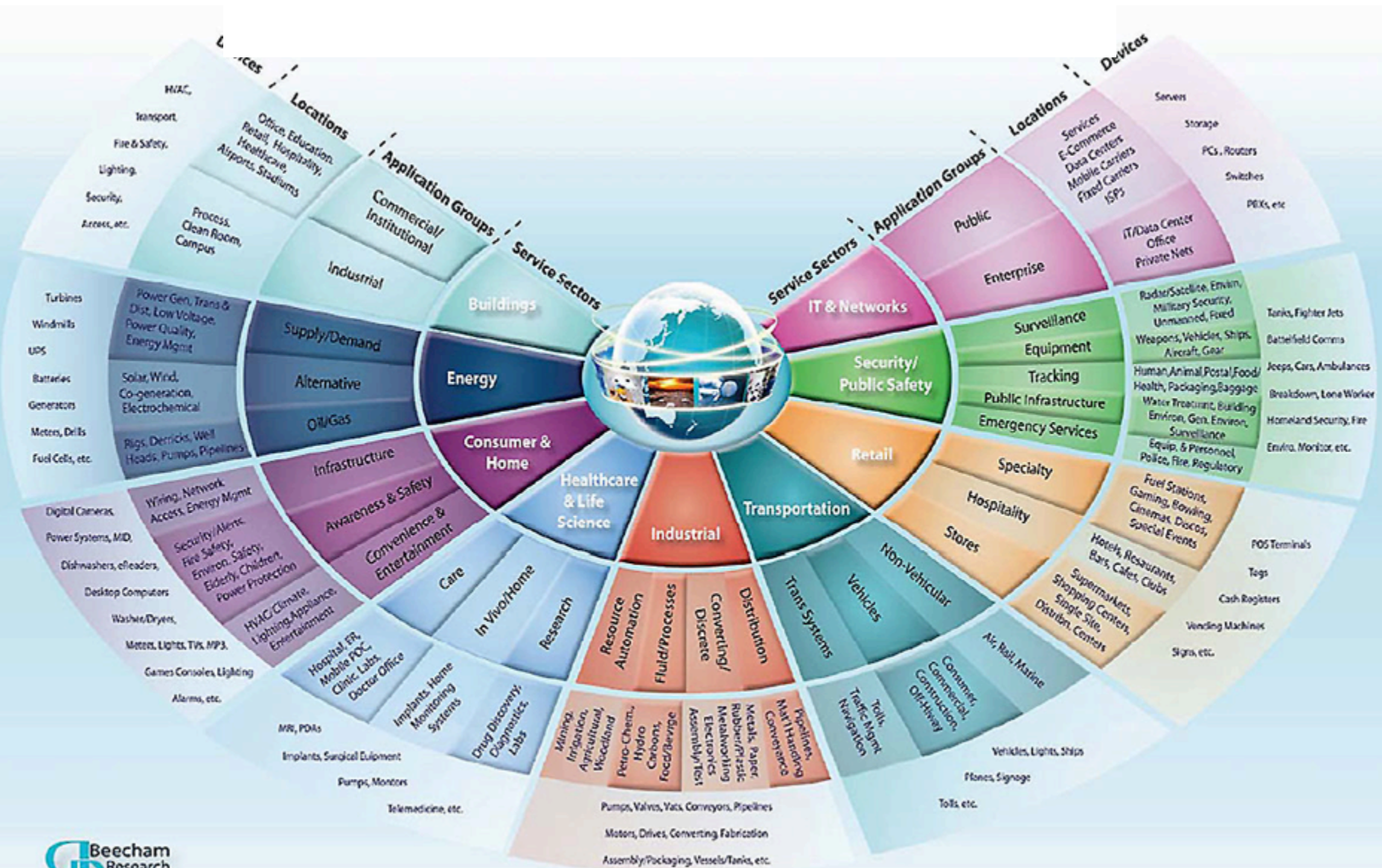
A growing startup scene in Hungary

- Surge of new startups over the last 18 months
- Poster-boy progress of Prezi just one example
- MNB spin-off FGS+ of HUF500B in 2015 for SME loans should boost SME growth.
- Greater lending environment from Hungarian banks.
- Hungary's corporate regime one of the most attractive in Europe.



Budapest 12-15 October

The Internet of Things



The Internet of Things

Growth areas from ICT technologies.

Device control and apps.

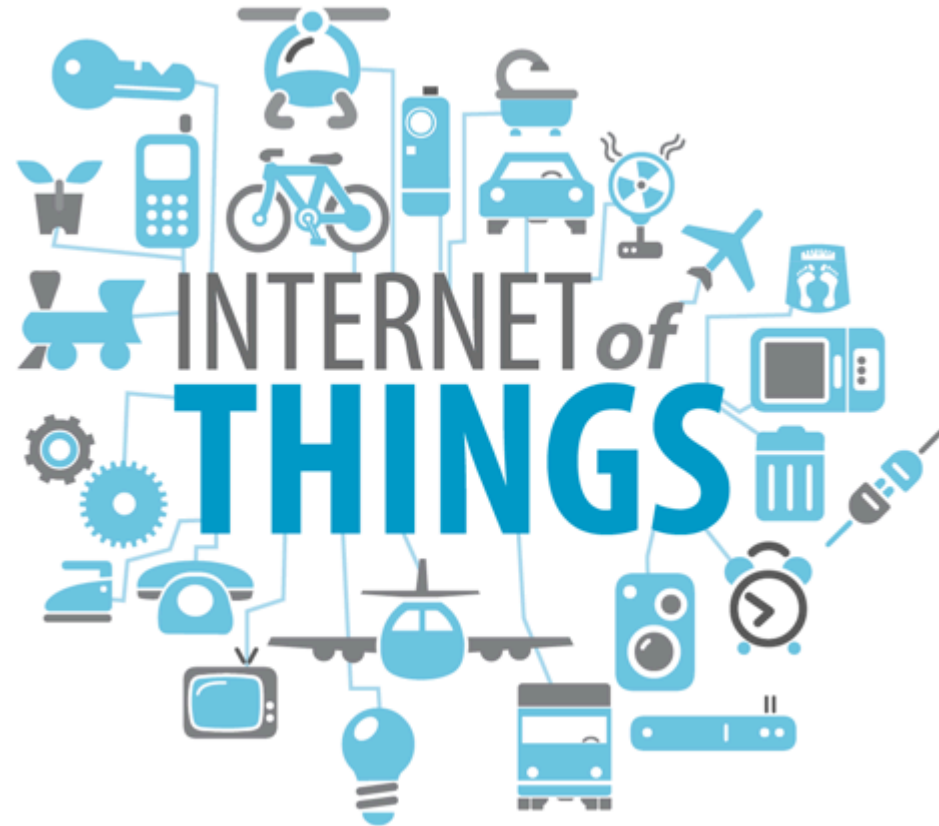
Med-Tech

Bio-Tech

Clean-Tech

Green-Tech

Photonics



2015 International Year of Light



...and Light-based Technologies

Inaugural Event - Jan 19-20th, 2015 - UNESCO



Courtesy: K. Plenkovich (SPIE)



Photonics is Light



Festival of Light at Ghent Cathedral

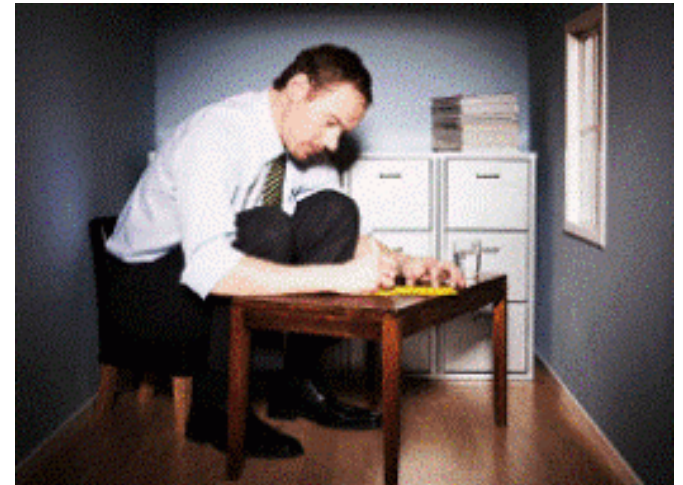
A new dimension to architecture



“If Electronics was the technology of the 20th century, then Photonics is the technology of the 21st century”

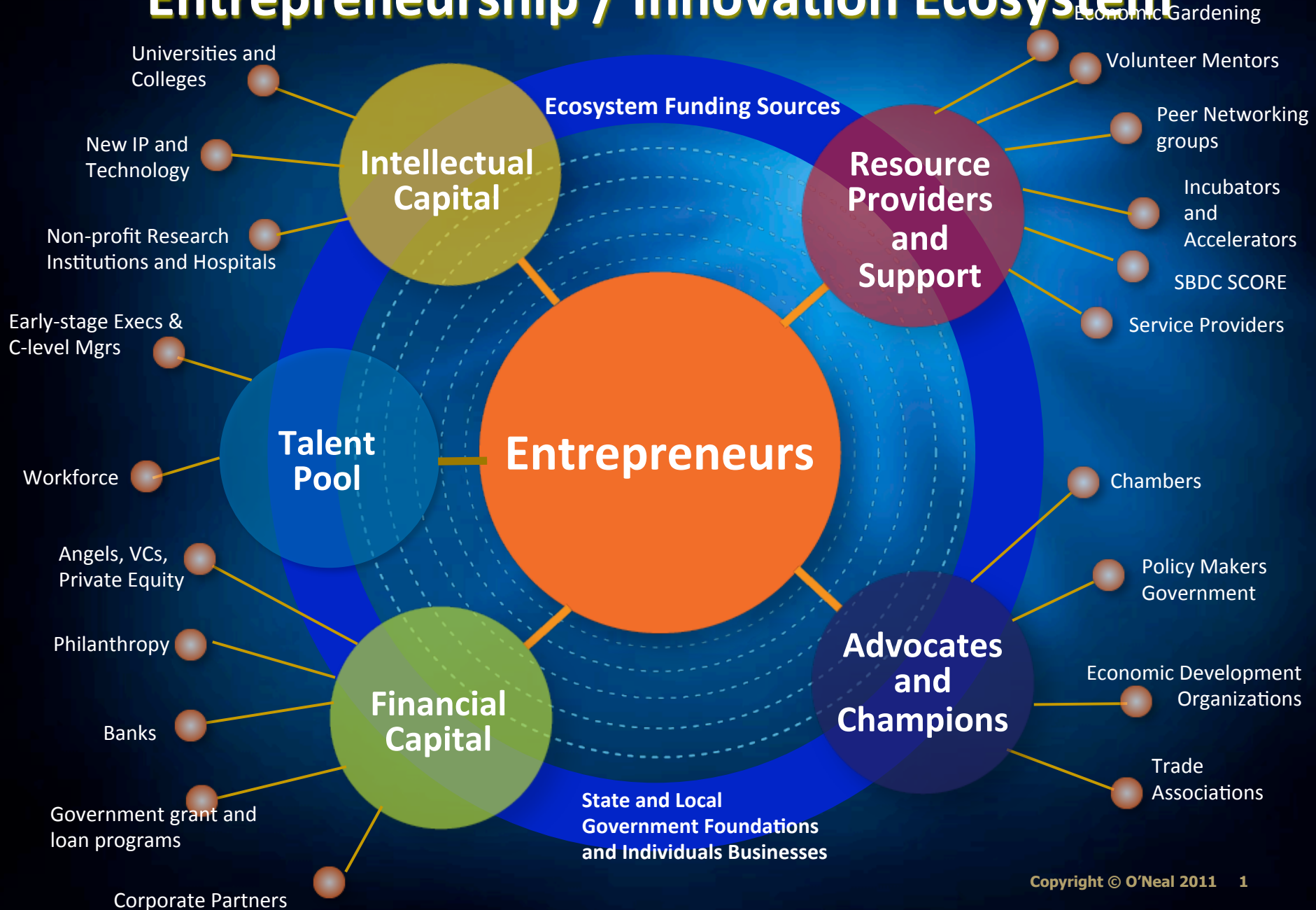
Accelerating Growth in High-Tech

Small Business Act created for Europe by European Commission in 2008



- Creating entrepreneurial environment .
- Second chance for honest entrepreneurs who have faced bankruptcy
- Mainstreaming the 'Think Small First' principle into all fields of legislation.
- Making public administrations more responsive to the needs of SMEs.
- Adapting public policy tools to SMEs' needs..
- Facilitating SMEs' access to finance.
- Single market opportunities for SMEs
- Promoting skills upgrades and innovation.
- Enabling SMEs to meet environmental challenges.
- Allowing SMEs to benefit from the growth of markets.

Entrepreneurship / Innovation Ecosystem





UCF and the Community Partners in Economic Development

1. Create a Rich Environment

**Simulation &
Computer Science
(software)**

Optics & Photonics

Life Sciences/Bio Tech

Energy Science

Film & Digital Media

Engineering

2. Creating New Business Opportunities

**Technology
Entrepreneurship Center**

Proactive Tech Transfer

**UCF Orange
County Venture
Lab**

**Solid Market
Research**



**Entrepreneurship
Programs**

**NCIIA
E-Teams**

**Savvy
Entrepreneurs**

**Business Plan
Competitions**

3. Help New and Small Companies Grow Strong

UCF Technology Incubator

Florida High Tech Corridor

Disney/SBA National Entrepreneur Center

Student Interns

Networking Events



Seed / Gap Funding

Service Provider Support

SBIR Collaborations

4. Transplant into the Community

**UCF Advisory
Board Council**

**Research
Parks**

**Good Business
Environment**

**Capital – VC,
Angel, other**

**Professional
Associations**

Peer Spectives



**Facilities,
Real Estate**

**Sophisticated
Professional
Service
Providers**

**Economic Development
Organizations**

5. Support Developed Companies

**Proactive
Government**

**Institute for
Economic
Competitiveness**

**Strong
Research
University**

**Retention
Efforts**

**Management
Talent**

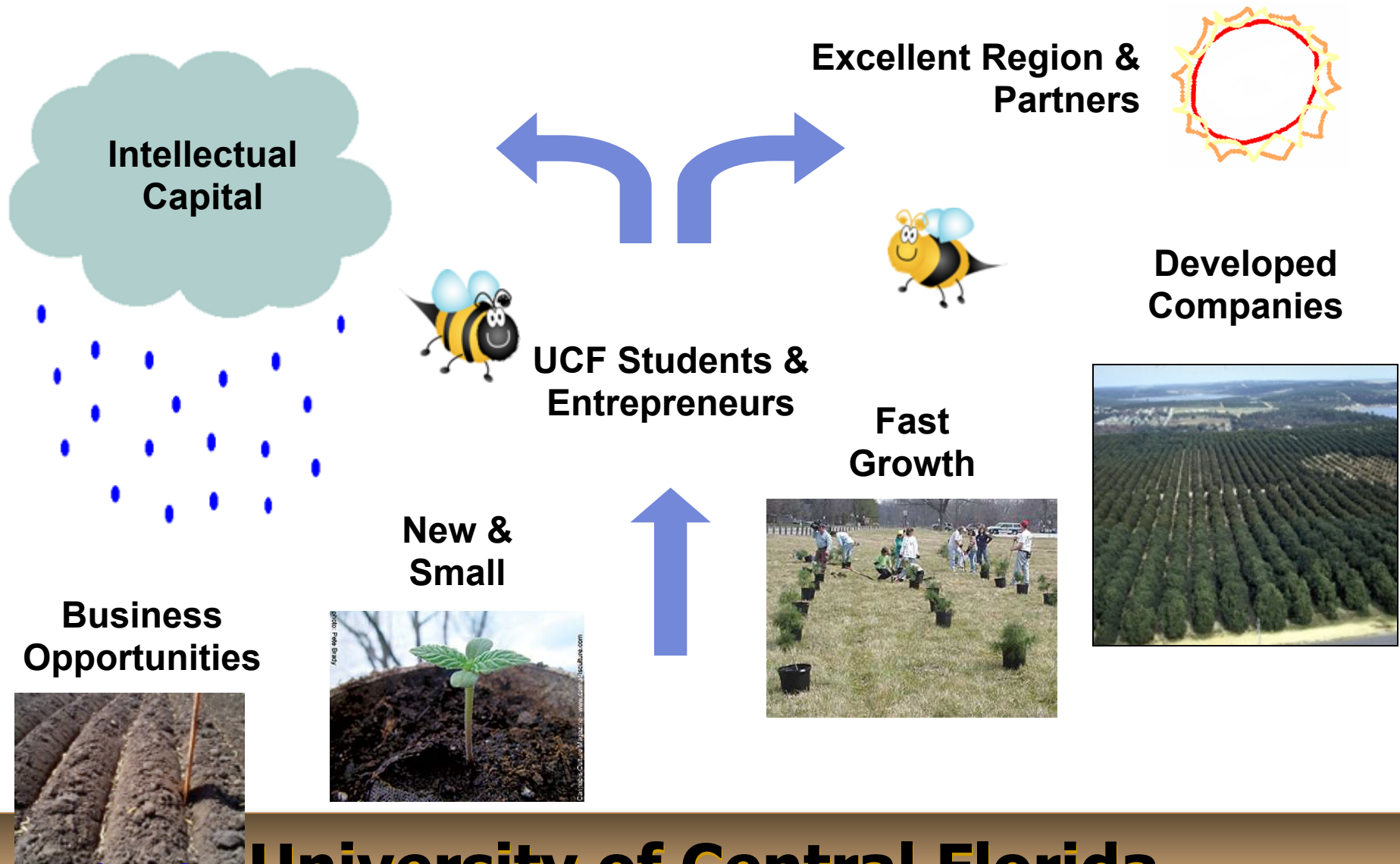


Workforce

**Quality of
Life Issues**

Infrastructure

Sustainable EcoSystem



International partnership and SME's

Greater government recognition that international partnerships in SME growth benefit economies.

Access to larger markets for niche technology companies.

Standardization of requirements and regulations.

Availability of foreign investment funds.

Creation of internationally accepted norms and business practices.



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Thank you !

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