



UNIVERSITY OF CENTRAL FLORIDA
RESEARCH & COMMERCIALIZATION

Innovation and Entrepreneurship

Thomas O'Neal

Associate Vice President

Office of Research and Commercialization

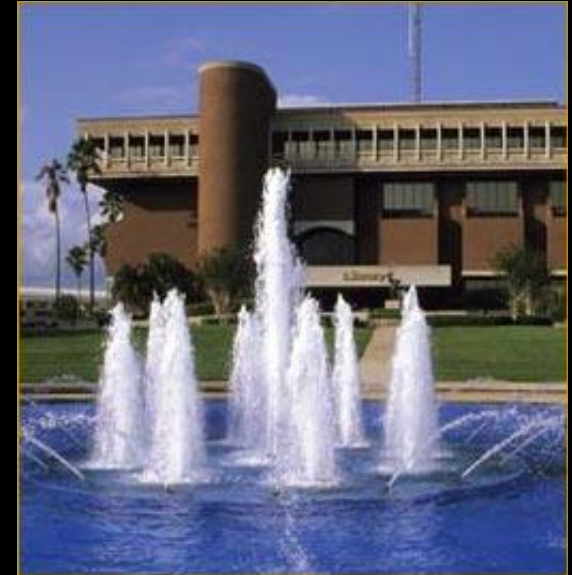
University of Central Florida



UNIVERSITY OF CENTRAL FLORIDA

RESEARCH & COMMERCIALIZATION

- About UCF
 - Second largest university in the nation
 - 60,000 students
 - UCF and the Central Florida Research Park influence 45,000+ jobs
 - Combined economic impact \$3.5B+
 - \$145M+ in Research Funding



Economic Development in 60 Seconds

①

Good Money

- Increase the volume of income into the region with competitive traded businesses that employ primary jobs.

②

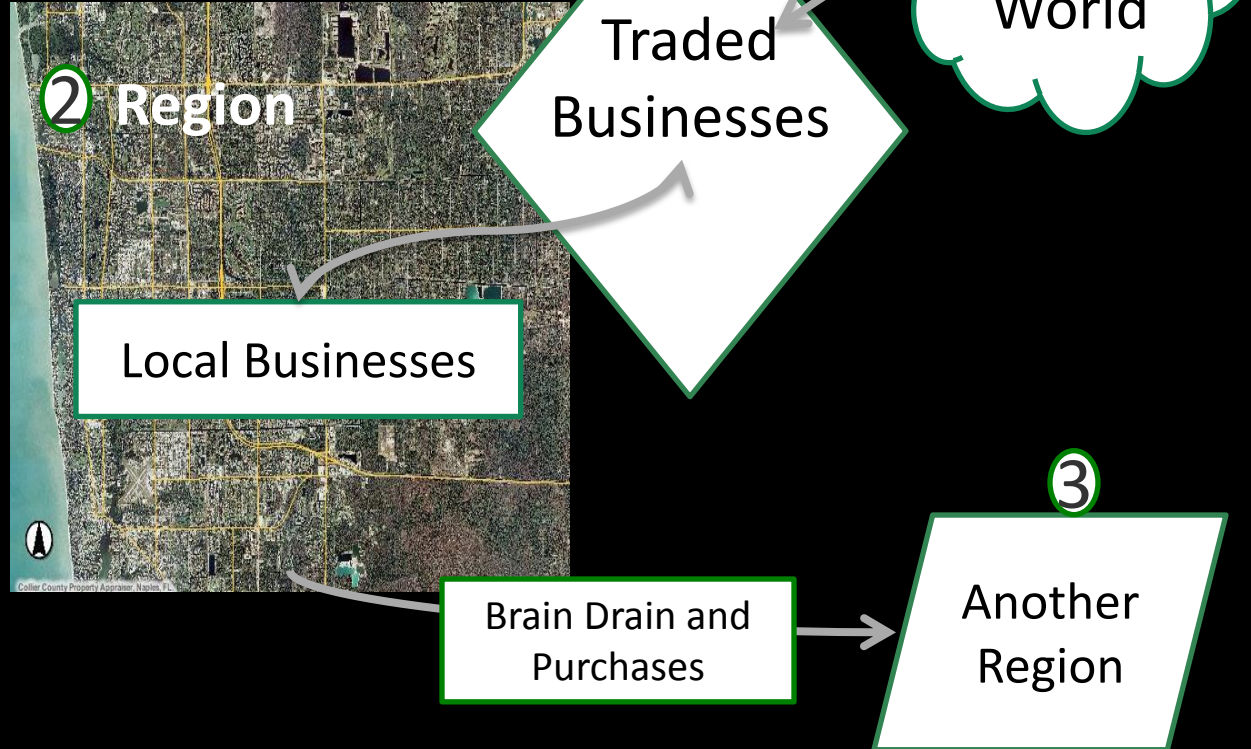
Neutral Money

- Increase the velocity of money circulating in the region with local businesses to create more jobs.

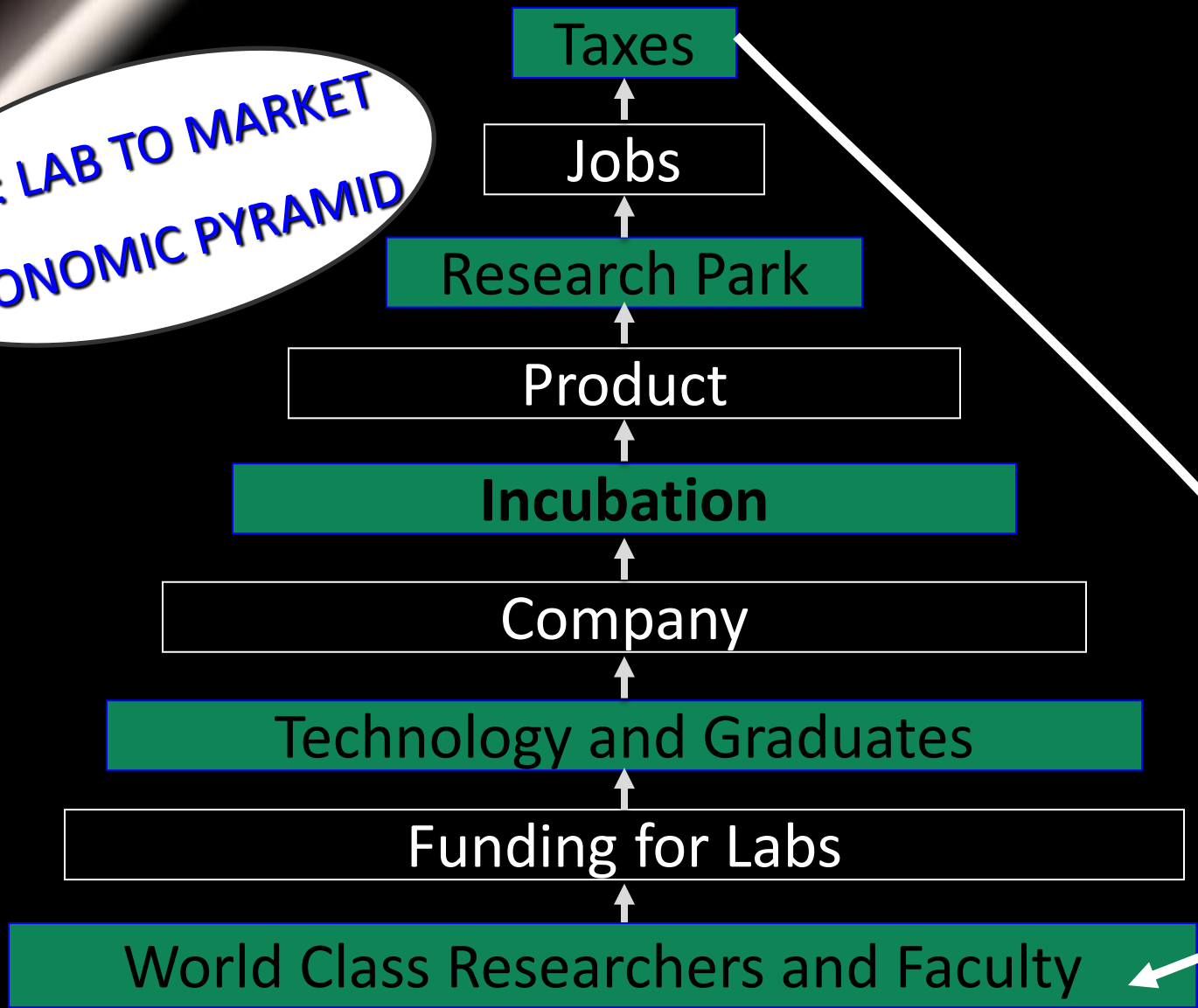
③

Bad Money

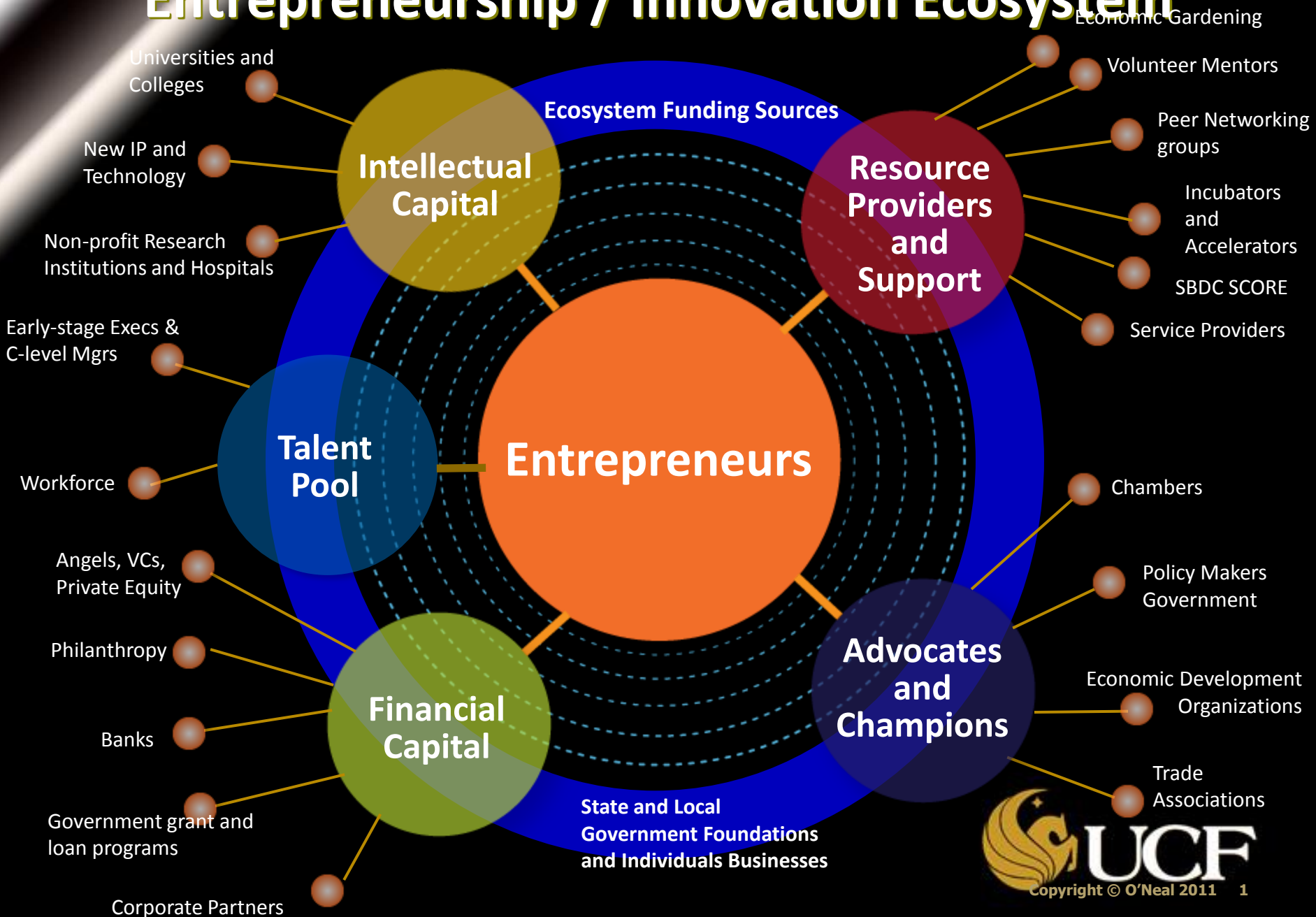
- Reduce income leaks by reducing outside purchases and workers who leave the area.



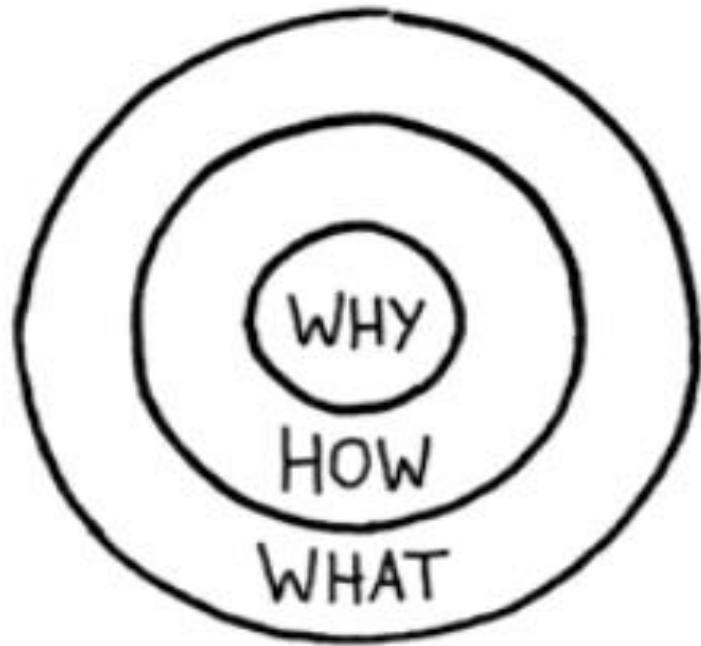
USA: LAB TO MARKET
ECONOMIC PYRAMID



Entrepreneurship / Innovation Ecosystem

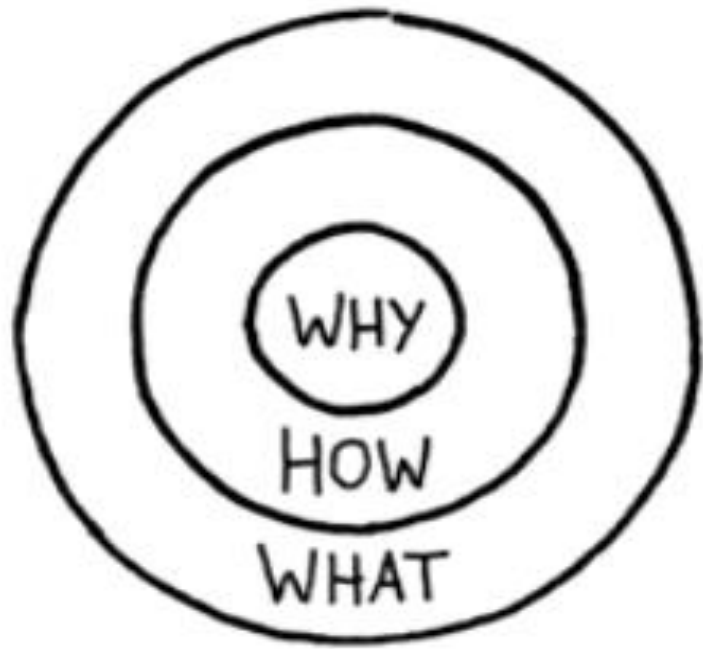


The Golden Circle



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The Golden Circle

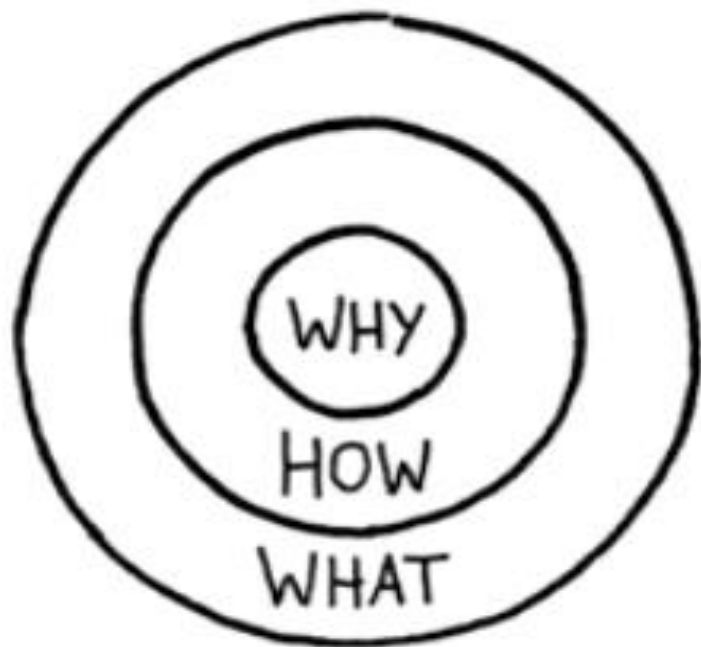


What

Every organization on the planet knows WHAT they do. These are products they sell or the services they offer.

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The Golden Circle



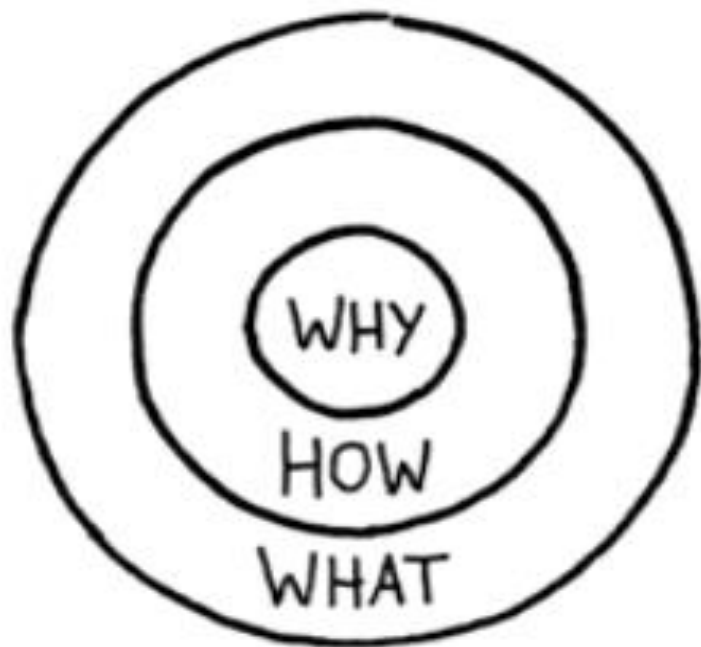
What

Every organization on the planet knows WHAT they do. These are products they sell or the services they offer.

How

Some organizations know HOW they do it. These are the things that make them special or set them apart from their competition.

The Golden Circle



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What

Every organization on the planet knows WHAT they do. These are products they sell or the services they offer.

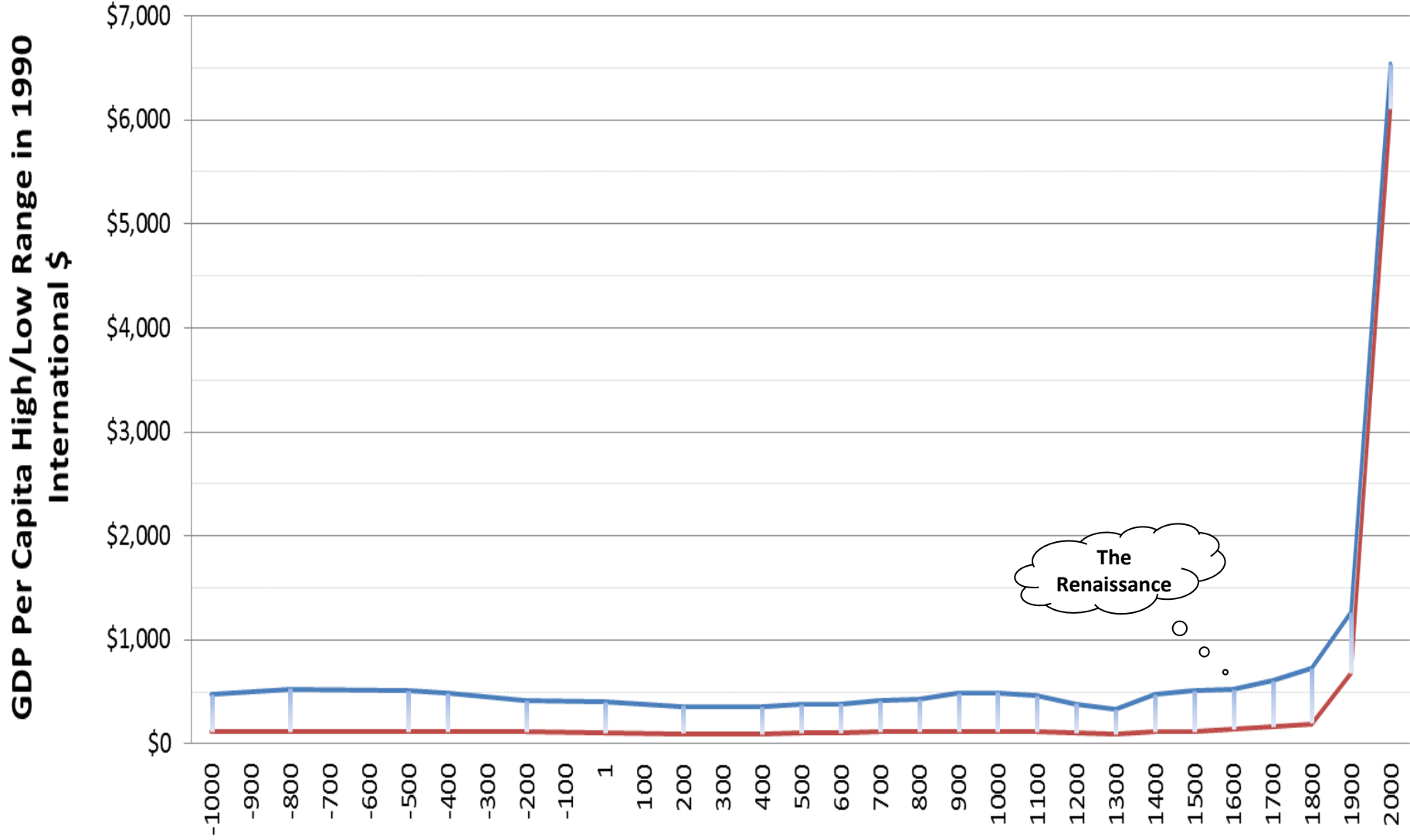
How

Some organizations know HOW they do it. These are the things that make them special or set them apart from their competition.

Why

Very few organizations know WHY they do what they do. WHY is not about making money. That's a result. It's a purpose, cause or belief. It's the very reason your organization exists.

World GDP Per Capita for 3000 Years



<http://www.historicalstatistics.org/>

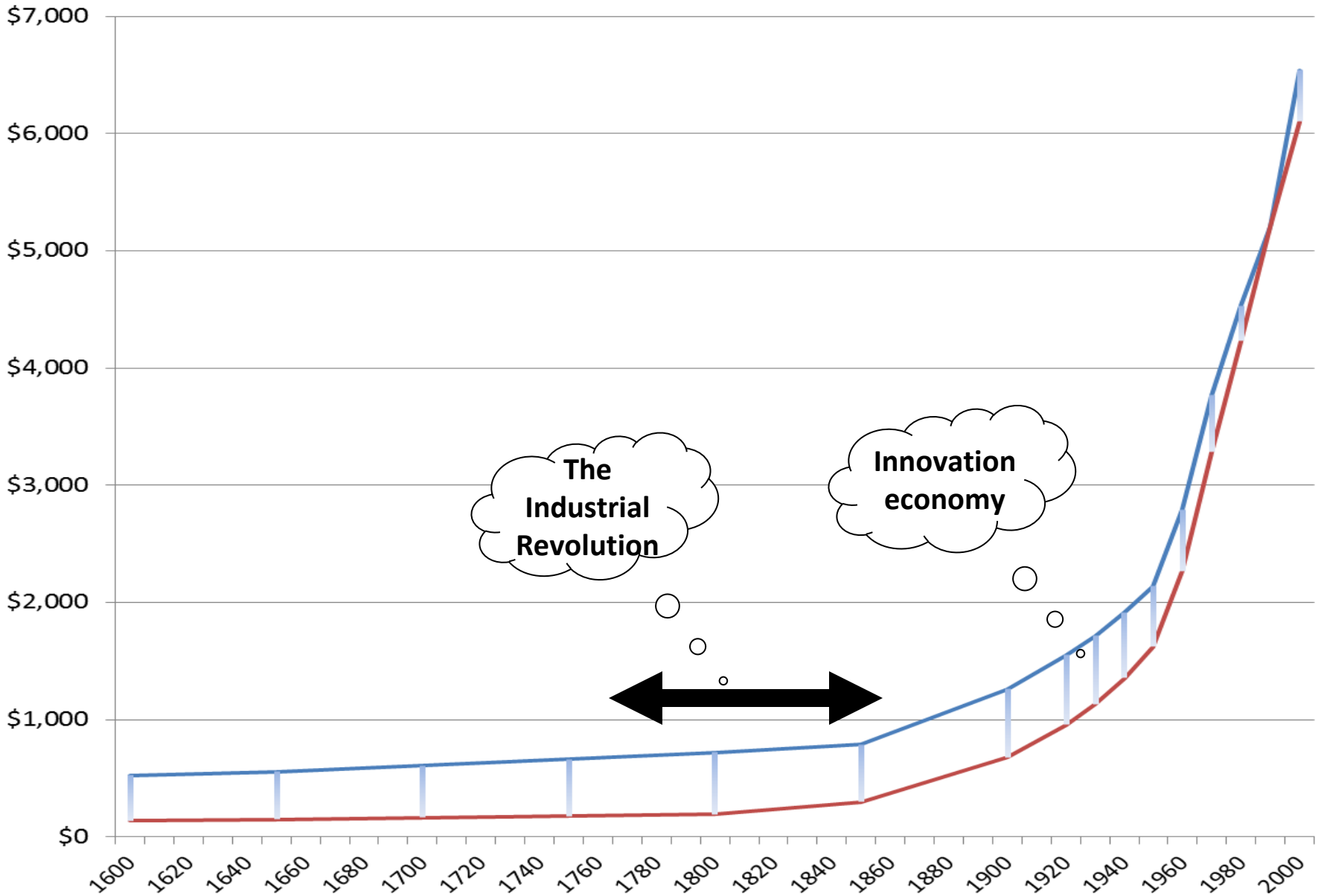
Year

— High Estimate

— Low Estimate

Estimated World GDP Per Capita

1600-2000



— High — Low

Research that matters –2010 US Patent Power

UNIVERSITIES/EDUCATION/TRAINING

RANK	COMPANY/ORGANIZATION, COUNTRY	2009 U.S. PATENTS	PIPELINE GROWTH INDEX	PIPELINE IMPACT	SELF-CITATIONS	ADJUSTED PIPELINE IMPACT	PIPELINE GENERALITY	PIPELINE ORIGINALITY	PIPELINE POWER	ADJUSTED PIPELINE POWER
1	University of Texas, U.S.	112	1.24	1.54	22.0%	1.54	1.80	1.73	667	667
2	University of California, U.S.	271	1.08	1.05	15.1%	1.05	1.48	1.03	469	469
3	University of Central Florida, U.S.	56	1.37	1.49	22.9%	1.49	2.32	1.74	458	458
4	Iowa State University of Science and Technology, U.S.	32	2.67	1.30	13.7%	1.30	2.07	1.93	444	444
5	University of Washington, U.S.	54	1.15	1.65	30.2%	1.64	2.75	1.34	376	375
6	State University of New York (SUNY), U.S.	56	1.27	1.51	8.1%	1.51	1.87	1.74	352	352
7	Tufts University, U.S.	14	2.00	2.88	21.2%	2.88	4.13	0.91	304	304
8	University of Wisconsin, U.S.	118	1.33	1.04	19.2%	1.04	1.15	1.52	285	285
9	Northwestern University, U.S.	39	1.30	1.47	26.4%	1.47	2.65	1.39	276	276
10	Virginia Polytechnic Institute and State University, U.S.	28	1.75	1.18	9.7%	1.18	1.42	2.55	208	208
11	California Institute of Technology, U.S.	93	0.88	1.82	12.3%	1.82	2.53	0.53	201	201
12	Massachusetts Institute of Technology, U.S.	141	1.03	1.68	19.8%	1.68	2.49	0.30	179	179
13	Stanford University, U.S.	120	0.92	1.22	11.2%	1.22	1.63	0.75	165	165
14	University of Colorado, U.S.	21	0.88	3.38	25.2%	3.38	5.00	0.52	160	160
15	Harvard University, U.S.	38	0.75	2.19	26.1%	2.19	3.86	0.66	158	158
16	University of Massachusetts, U.S.	44	1.57	1.23	16.1%	1.23	1.95	0.90	149	149
17	Purdue University, U.S.	47	2.14	1.40	10.3%	1.40	1.75	0.58	143	143
18	University of Oxford, United Kingdom	19	2.71	1.17	13.5%	1.17	1.23	1.82	135	135
19	Pohang University of Science and Technology, South Korea	30	1.67	0.95	2.2%	0.95	0.99	2.85	134	134
20	University of Maryland, U.S.	20	0.01	1.52	6.5%	1.52	1.62	1.48	120	120

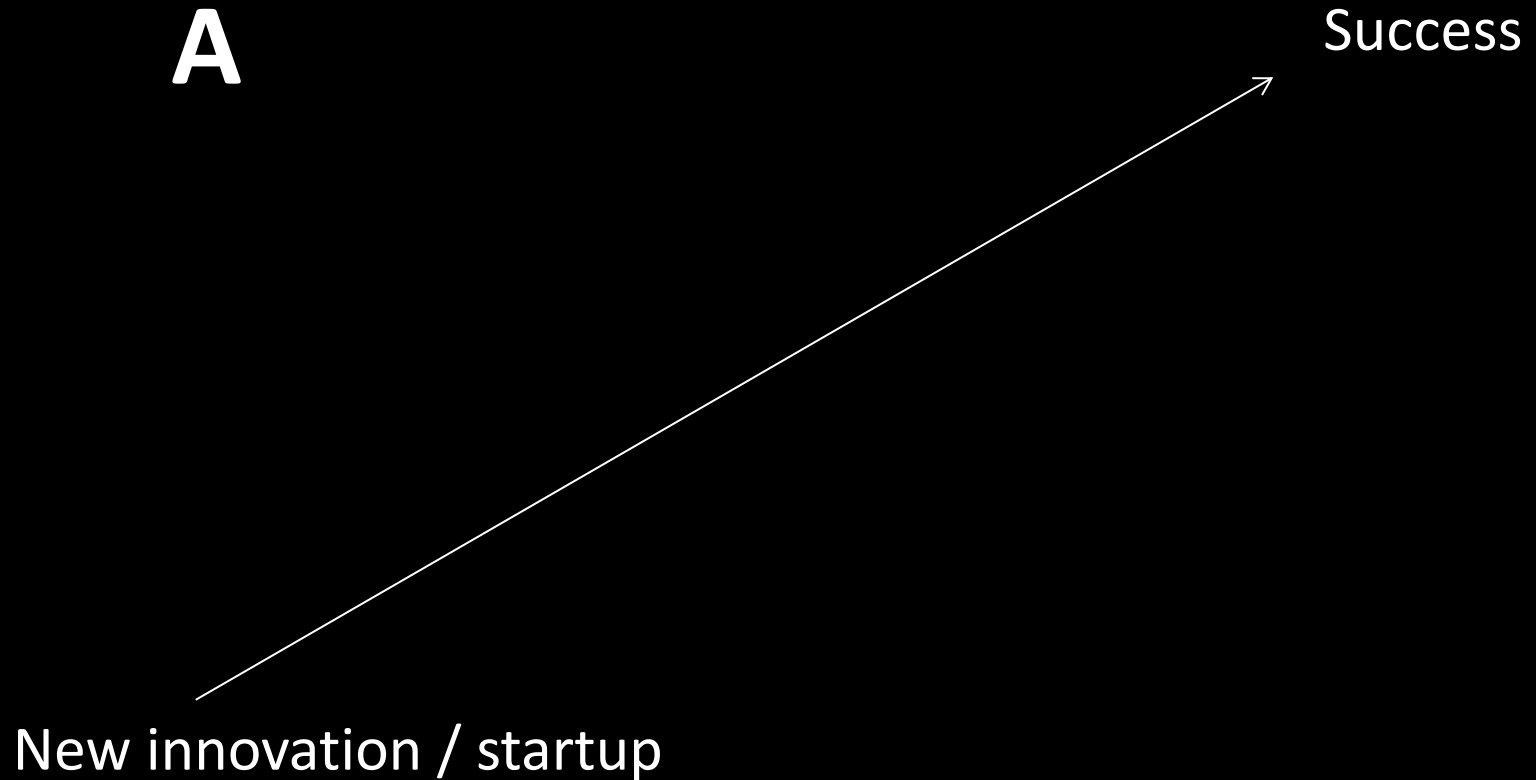
Path to Success

Success

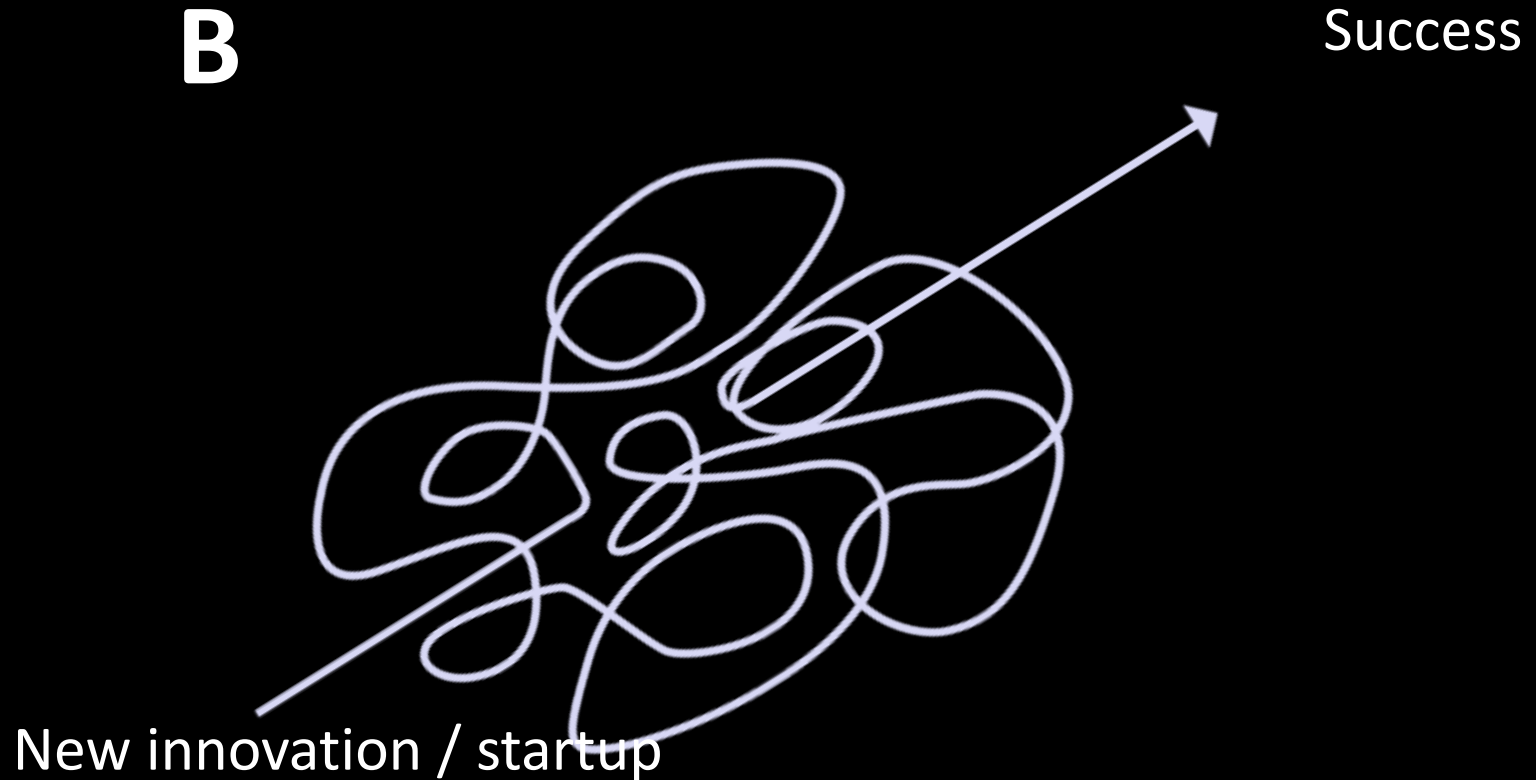
New innovation / startup



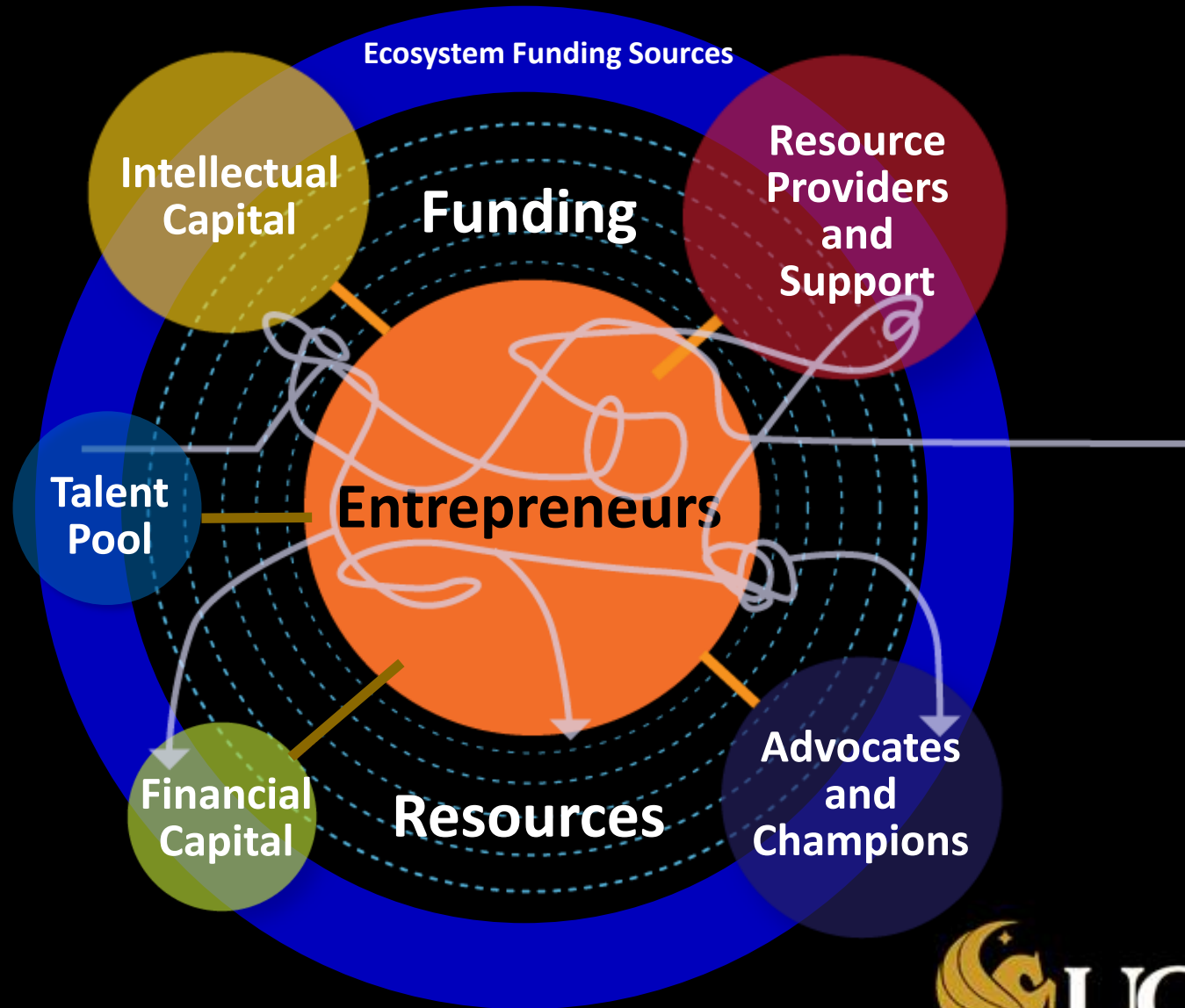
How does one get there?



How do they get there?



Entrepreneur's perspective



So what?



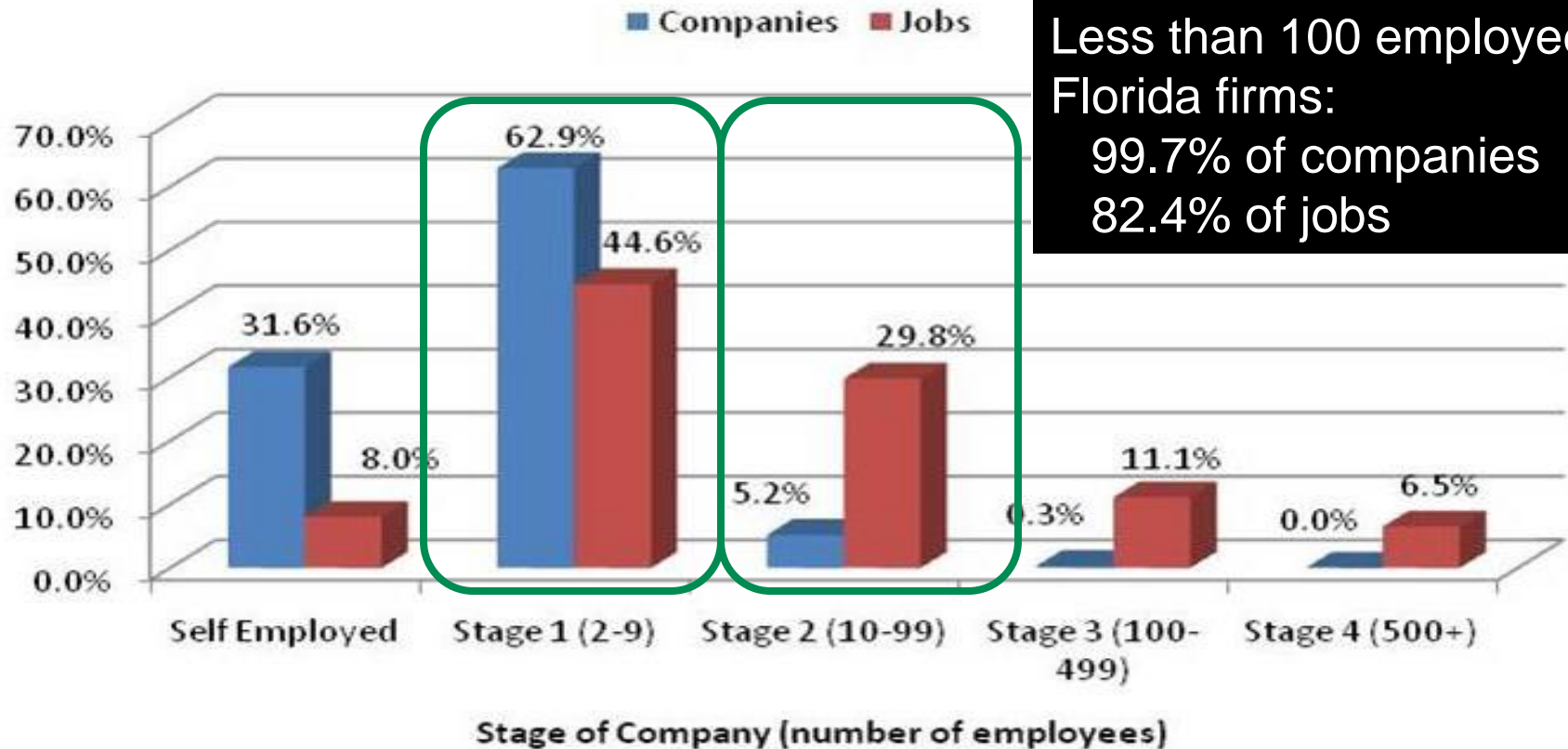
“Come to Florida, we need YOU to pay our taxes”

**Quote by Sean Snaith, Director of the
UCF Institute for Economic Competitiveness at the College
of Business Administration**



Why Grow Your Own?

Distribution of Companies and Jobs in Florida

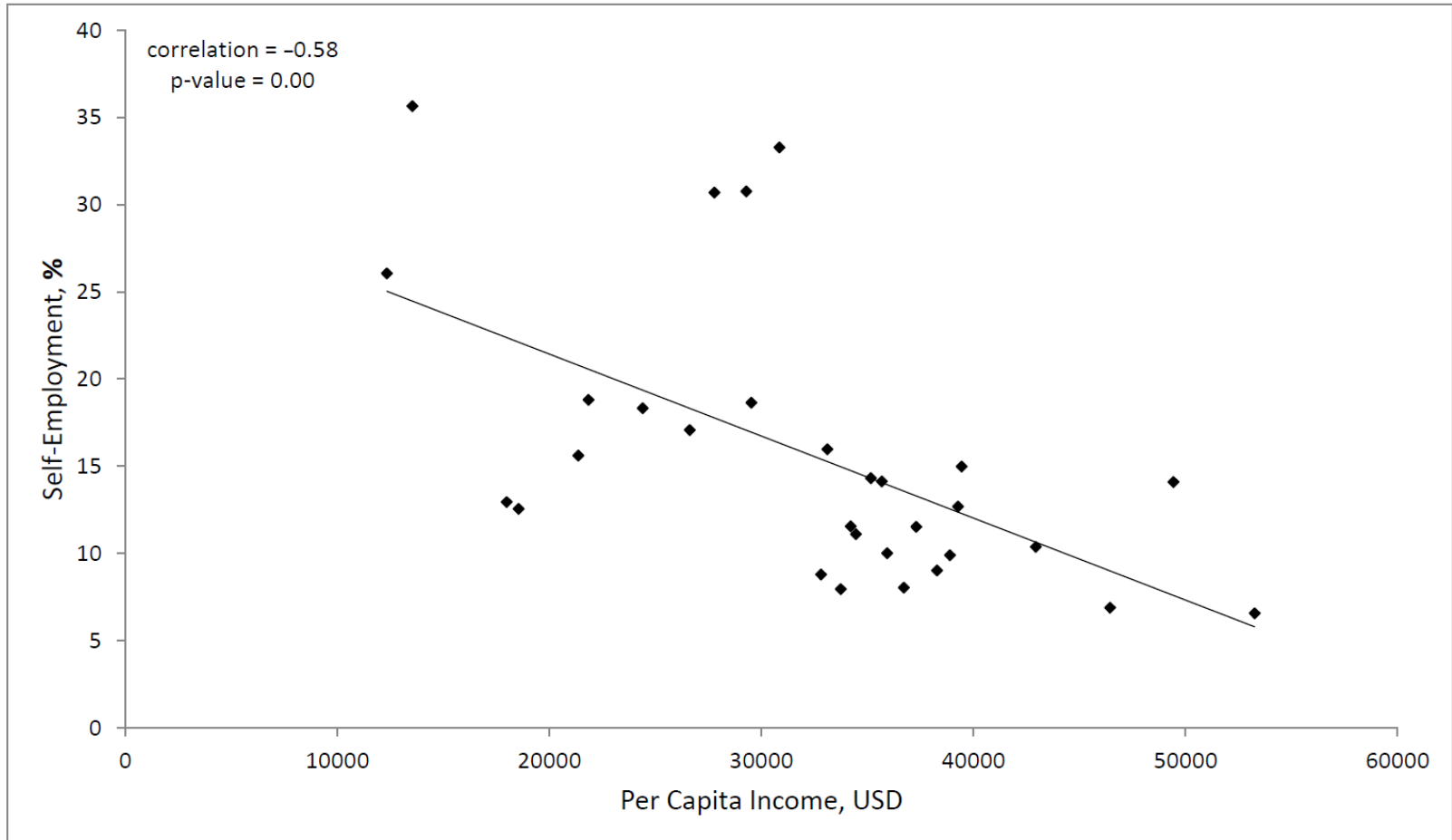


www.youreconomy.org



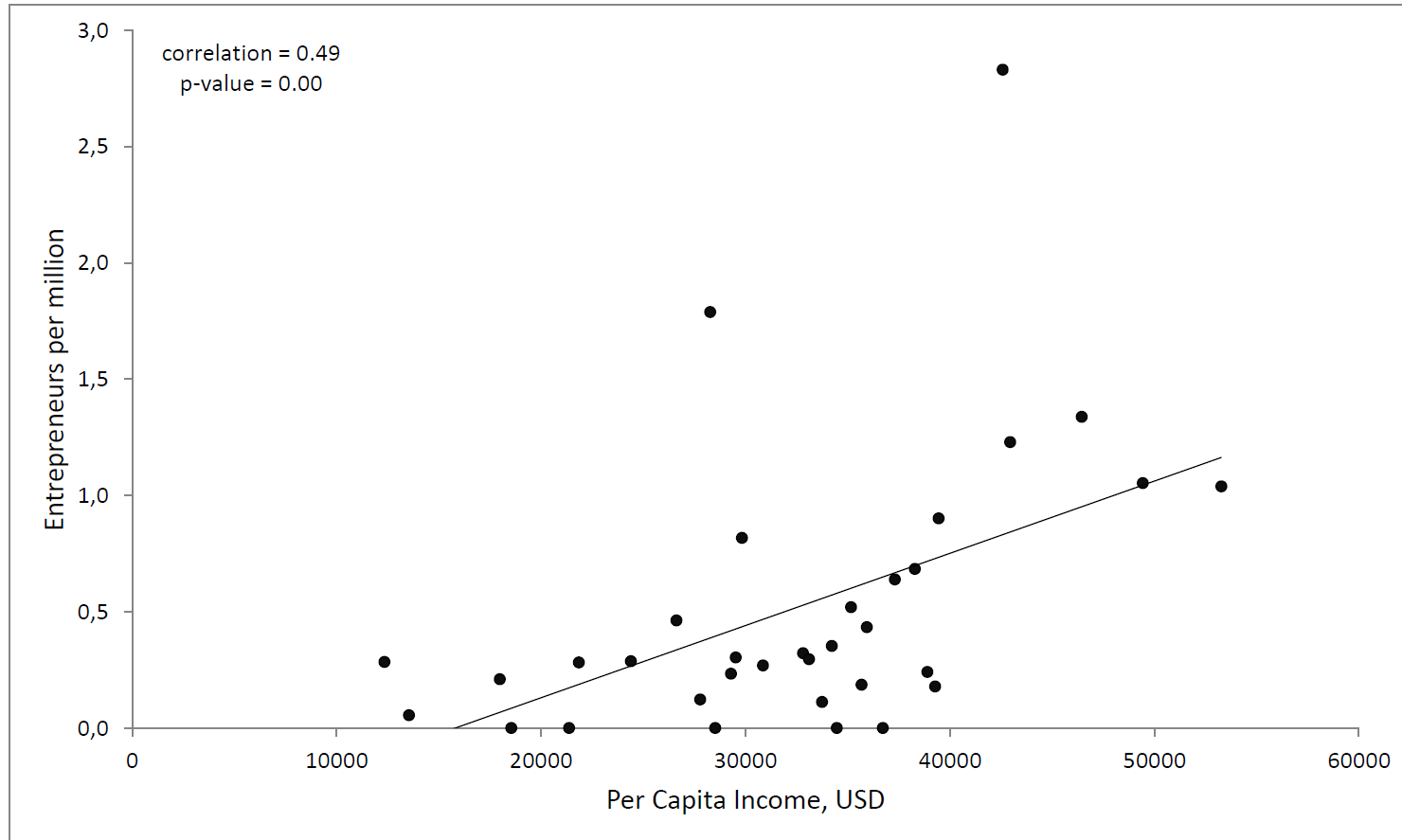
Self Employed

Figure 1d Self-Employment and Per Capita Income, OECD countries.



Entrepreneurial

Figure 1e Entrepreneurship and Per Capita Income, Developed Countries.



Innovation Support

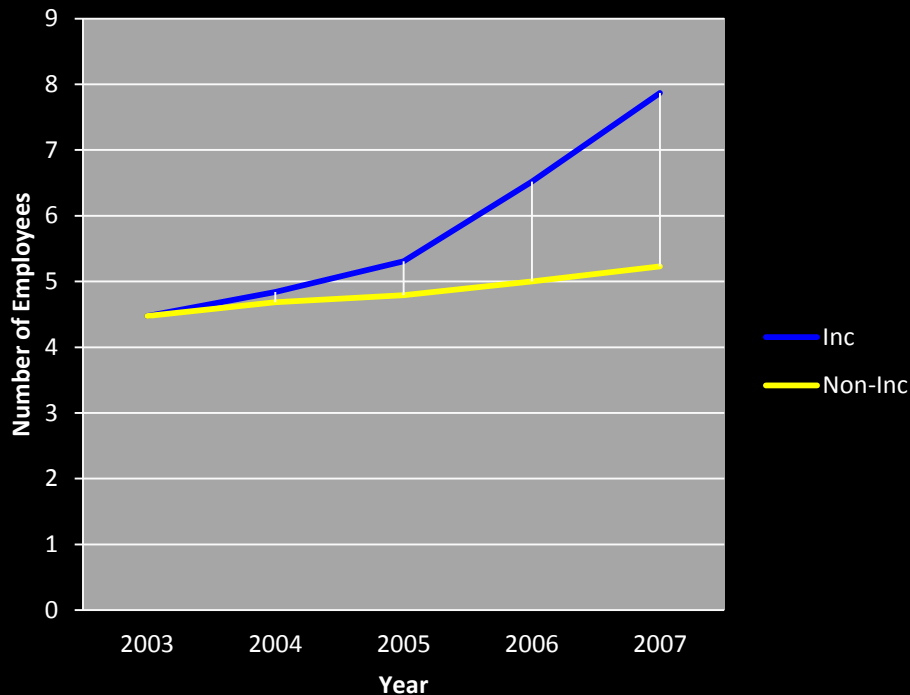
- Florida High Tech Corridor Council (FHTCC)
- Venture Lab – Research Park
- National Entrepreneur Center – Downtown
- Incubator Program – nine sites in five counties
- Entrepreneurship Center – College of Business
- Technology Transfer Office – Research Park
- Research and Commercialization Office – Research Park
- GrowFL – Research Park



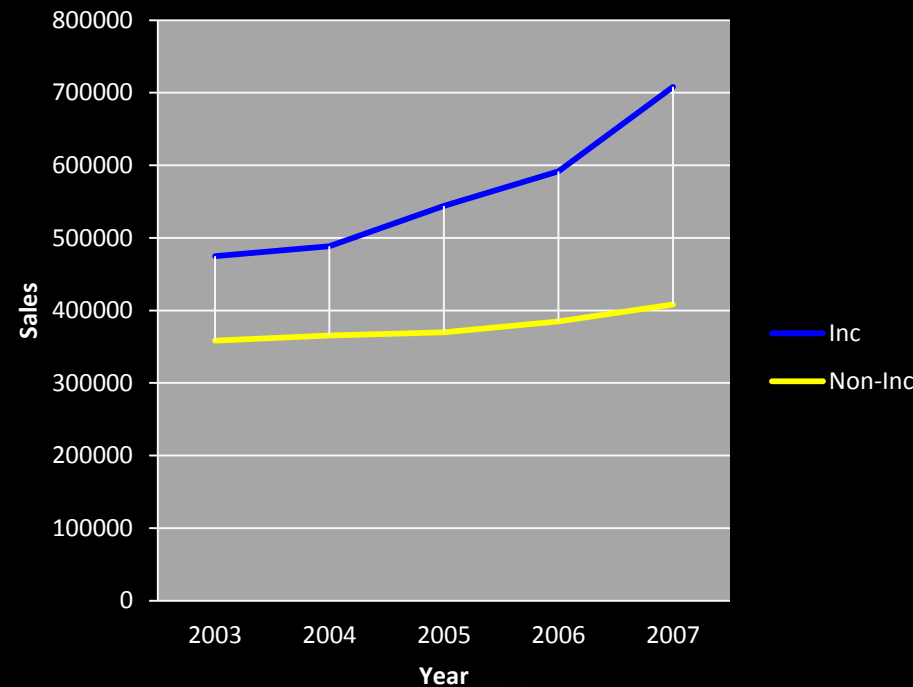
Can we help the process?

University incubator verses non-incubator companies

Knowledge Based Startup Firms



Knowledge Based Startup Firms



Source: O'Neal, Ford, Sivo, Lasrado



Business Incubation

Smart place to start

- Increase chances of success
 - 87 % of incubator graduates still in business 5 years later
- Home grown companies
 - 84 % of graduates stay in the community they were incubated in
- Good investment
 - Low cost per job
 - generates more tax revenue than it costs

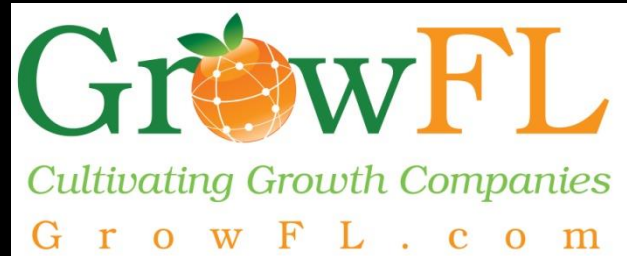


Current Results from the UCFIP Clients

Companies currently serving	150 +
Companies graduated	108
Companies assisted in total	300
Jobs created in community / total	> 1,700 / >3,700
Average salary	\$60,000
Generated revenue	➤ \$1.5 B
Economic Impact	> \$2.4 B



Florida Economic Gardening Institute Program Elements



Technical
Assistance

CEO
Roundtables

CEO Forums
CEO peers

Referral
Networks



The Impact of GrowFL

July 2011 – June 2013

Creation of 3,747 Direct, Indirect, and Induced Jobs

Resulting In

\$587.5M Economic Impact

\$7.58 ROI (Net new taxes / public \$ investment)

(Source: “The Economic Impact of GrowFL”, Innovation Insight, July 2014)



Tech Transfer Examples



- **Petra Solar**
(startup co, raised \$14M in first round VC investment)
– licensed series of power supply patents, can store and release energy per panel versus end panel only



Tech Transfer Side Benefits

- **Petra Solar example:**
 - Hired six alums as full time employees (“high paying” jobs)
 - Hired additional students as interns
 - Contracted for \$900,000 in sponsored research
 - Matched with \$450,000 from FHTCC Program
 - Located company’s R&D headquarters in UCF Research Park
 - Multiplier Effect = economic development



Tech Transfer Examples



- Good example?

From Zero to one..."



Geoffrey Nicholson said,
**“Research is the process of turning money
into knowledge;
and
Innovation is the process of turning
knowledge into money.”**



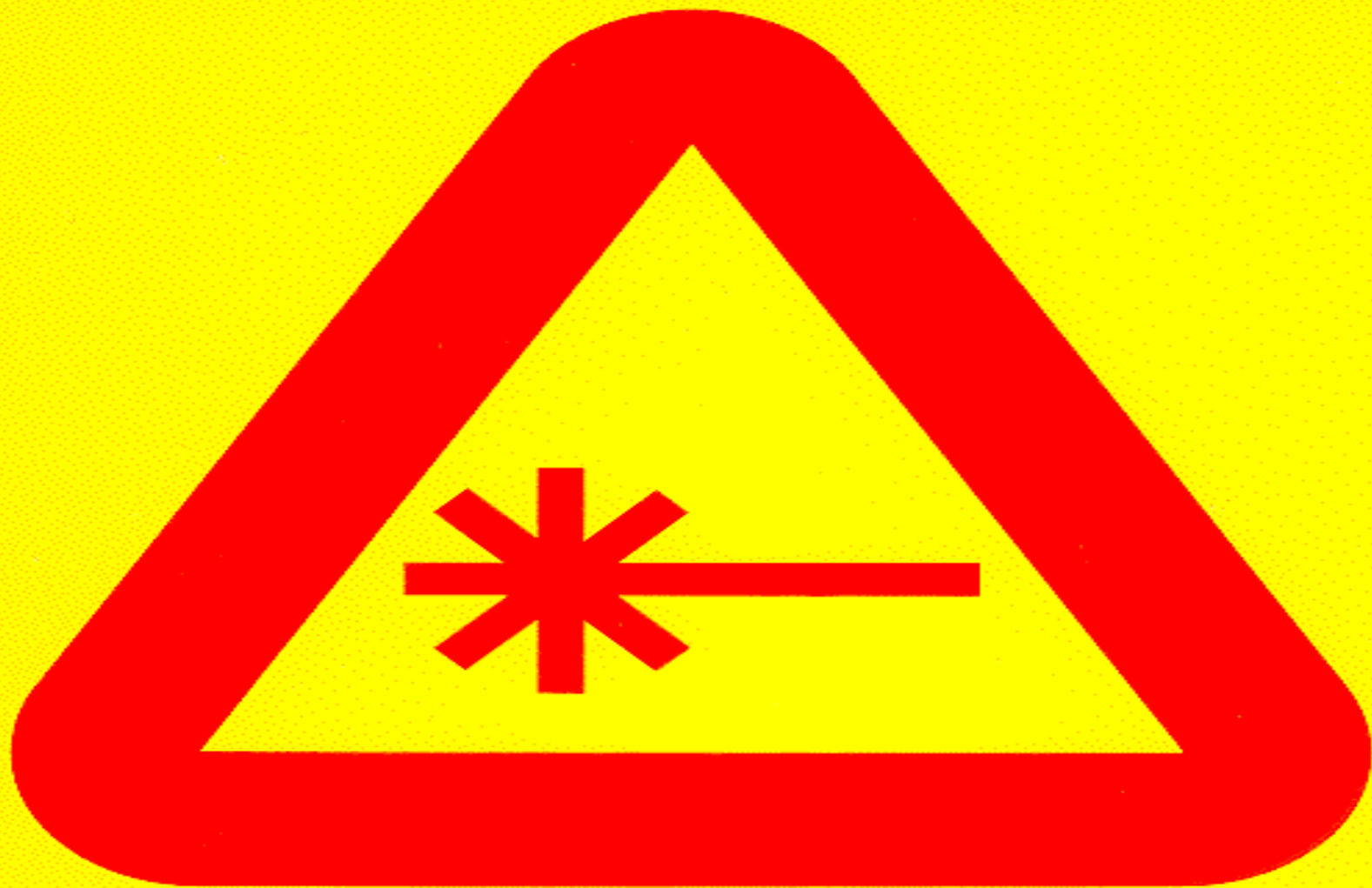
Solar Ivy





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