GROWING HAWAI'I'S INNOVATION ECONOMY

PRESENTED BY HVCA

DECEMBER 4, 2014 | 5PM | PROTOHUB HONOLULU

HAWAII BUSINESS ROUNDTABLE INCORPORATED

HI GROWTH

Economic Climate Focus

Research and Innovation for Hawaii's Future

September 4, 2014

Innovation Economy Message

(DRAFT)

One of the best ways to create sustainable job growth and opportunity in Hawaii is to grow the research & innovation sectors.

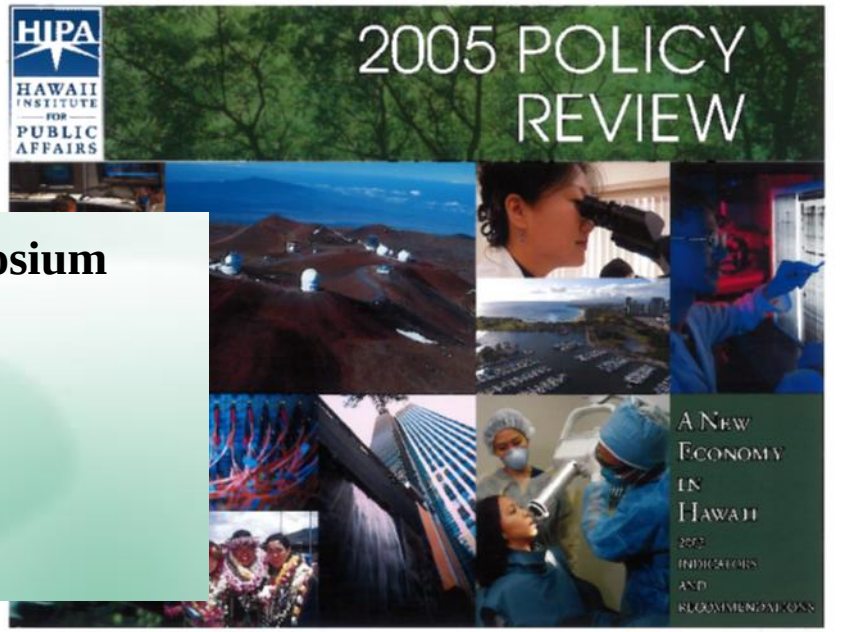
We need to work together to support it…
Our quality of life and that of future generations depends on it.

It’s not a new idea…

January 2011 – UH Innovation Symposium

E Kamakani Noi‘i

Innovation for Hawai‘i’s Growth



… should it be a top priority?

Hawaii Research & Innovation Team

Barry Taniguchi, KTA Superstores, President & CEO
James Tollefson, Chamber of Commerce of Hawaii, President & CEO
Allen Uyeda, First Insurance, President & CEO
Jennifer Sabas, Director, Daniel K. Inouye Institute
Mitch D'Olier, Kaneohe Ranch & HL Castle Foundation, President & CEO
Richard Wacker, American Savings Bank, President & CEO
Stan Kuriyama, Alexander and Baldwin, Chairman & CEO
James Lally, Formerly with Kleiner Perkins Caulfield & Buyers
Gary Kai, Hawaii Business Roundtable, Executive Director
David Lassner, University of Hawaii, President
Vassilis Syrmos, University of Hawaii, Vice President for Research
Carl Bonham, University of Hawaii, Executive Director, UHERO
David Lonborg, University of Hawaii, Executive Assistant to the President
Kelli Trifonovitch, University of Hawaii, Director of Communications
Sherry Menor-McNamara, Chamber of Commerce of Hawaii, President
Jeanne Skog, Maui Economic Development Board, President,

What Can We Learn from Others?

- **UC San Diego Meetings**

San Diego CONNECT

- Duane Roth, CEO, CONNECT
- Kevin Carroll – SME CONNECT
- Karen Winston - CONNECT Programs
- Ruprecht von Buttlar – Springboard
- Steve Hoey, Business Creation and Dev't

Business Supporting Innovation

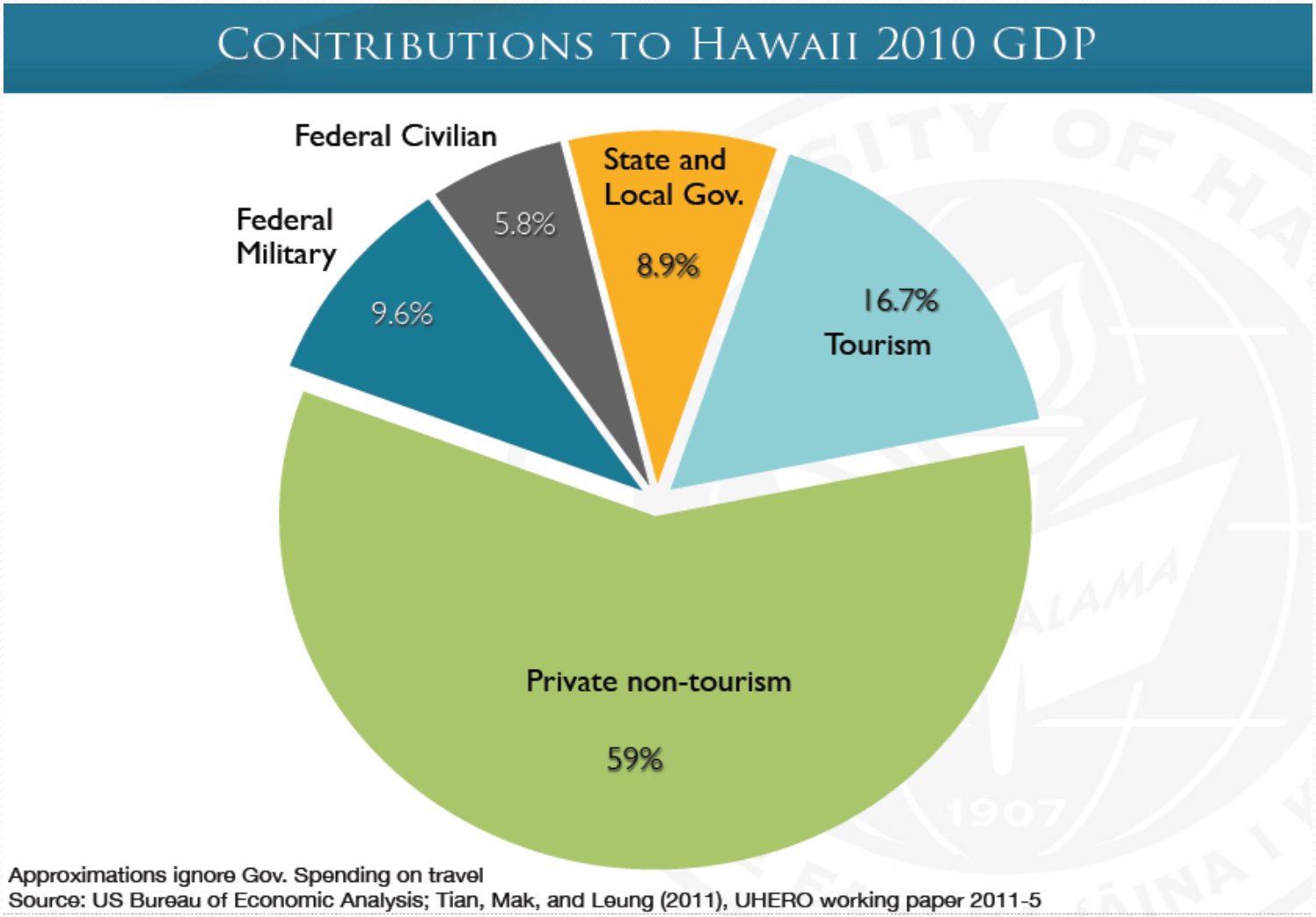
- Kris Michell – President/CEO – Downtown San Diego Partnership
- Joe Terzi – President & CEO – San Diego Tourism Authority
- Vince Mudd – President & CEO – San Diego Office Interiors
- Rear Admiral Dixon R Smith – Commander – Navy Region Southwest
- Mark Cafferty, President & CEO - SD Regional Economic Dev't Corp.
- Steve Williams, Partner, SENTRE Partners

- **Innovators/Founders Meetings**
- **Clean Technology Cluster Meeting**
- **Life Science Cluster Meeting**

Lessons Learned

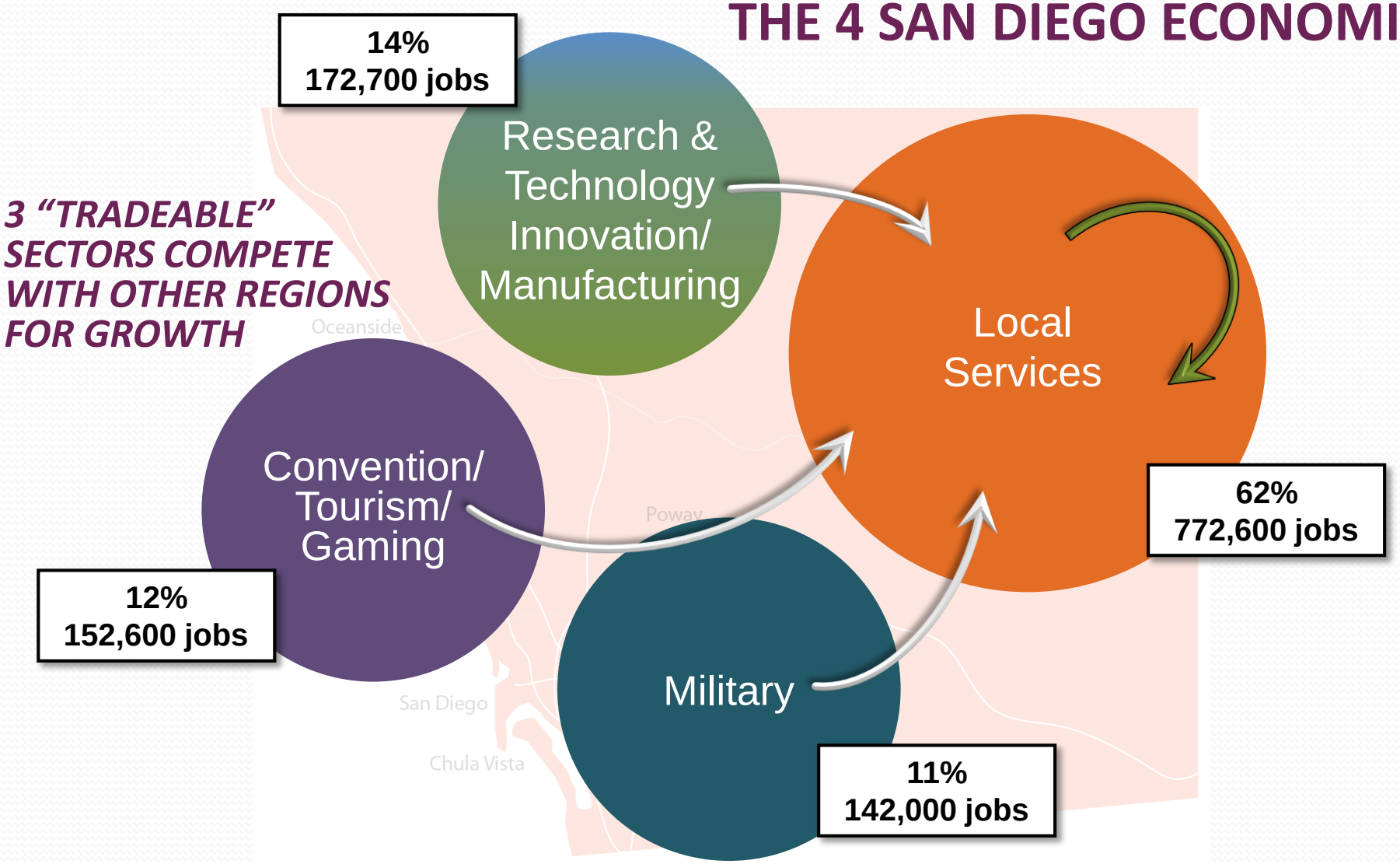
- Get a common understanding / language
- Excellent University-centered Research is a magnet and an engine for growth
- The growth is for all parts of the community
- Create a healthy “innovation eco-system”
- Encourage & support Cluster development
- It doesn’t happen over night…

Traditional View of the Economy

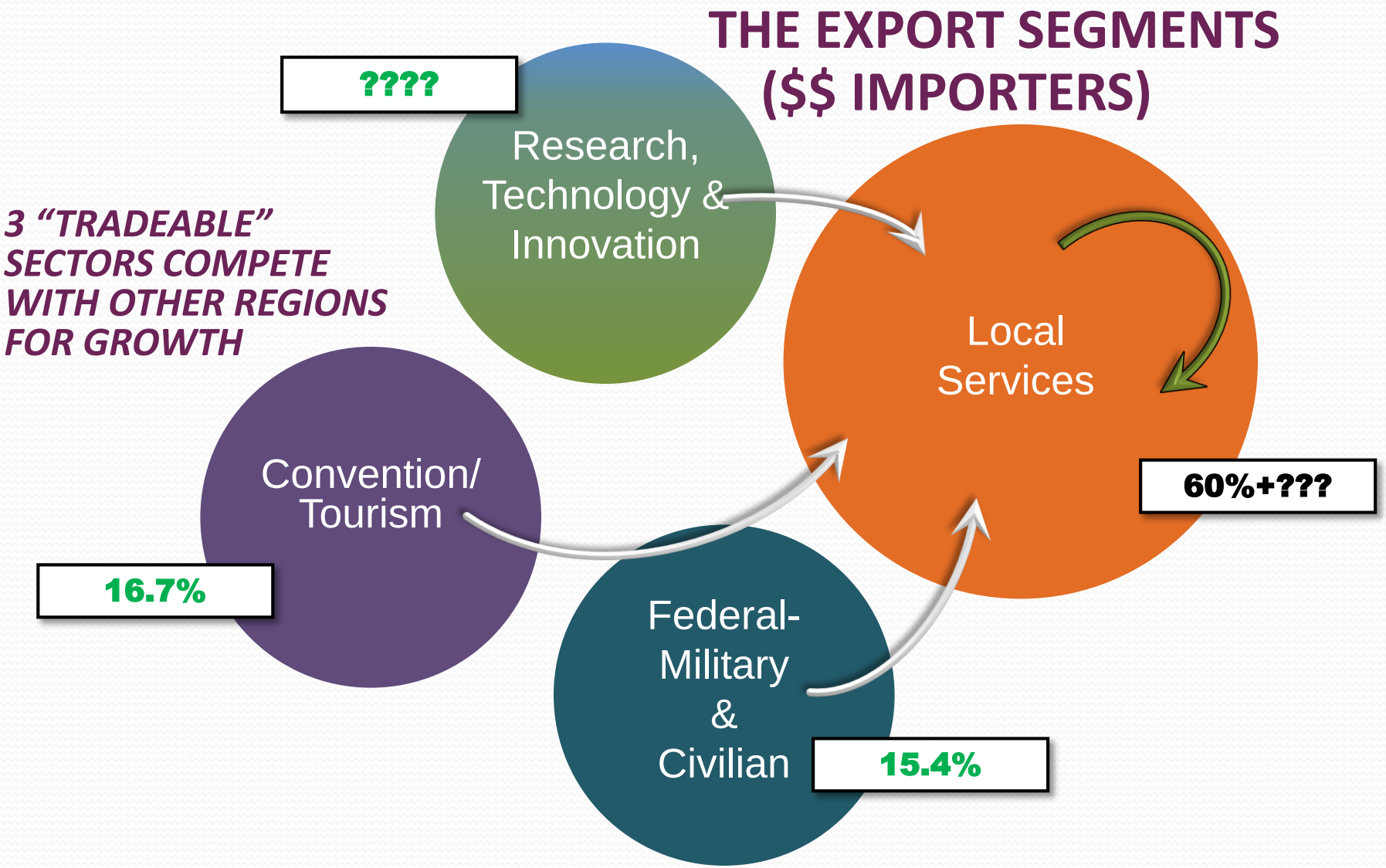


San Diego's "Collaborative View"

THE 4 SAN DIEGO ECONOMIES



A Collaborative View of Hawaii



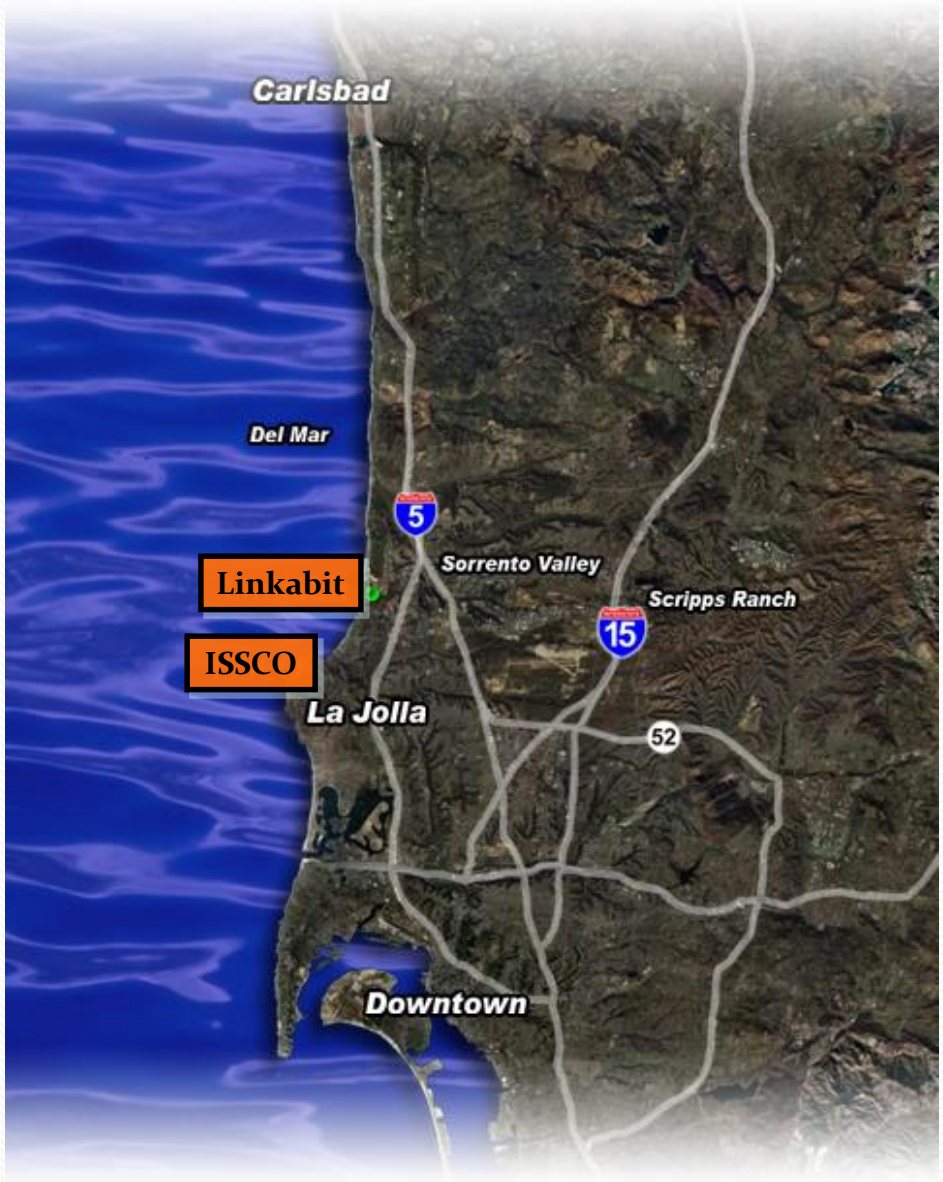
Lessons Learned

- Get a common understanding / language
- Excellent University-centered Research is a magnet and an engine for growth
- The growth is for all parts of the community
- Create a healthy “innovation eco-system”
- Encourage & support Cluster development
- It doesn’t happen over night…

IT/Wireless/Software

Linkabit *was founded by UC San Diego professor Irwin M. Jacobs in 1968 as the first high-tech communications company in San Diego.*

Peter Preuss *developed his first software package in 1969 and founded* ***ISSCO*** *in 1970.*

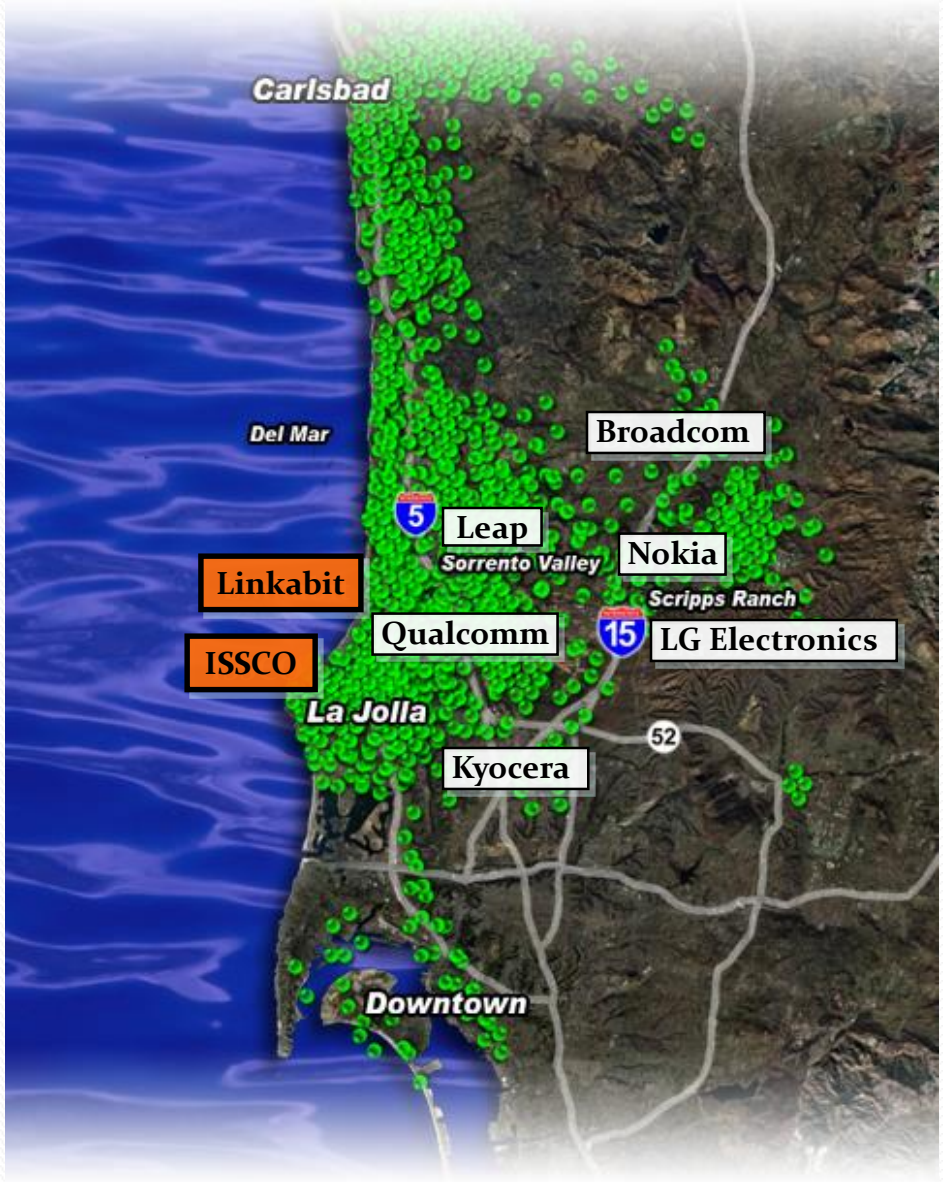


IT/Wireless/Software

Linkabit *was founded by UC San Diego professor Irwin M. Jacobs in 1968 as the first high-tech communications company in San Diego.*

Peter Preuss developed his first software package in 1969 and founded ***ISSCO*** *in 1970.*

Today there are more than 1000 IT, wireless and software companies operating in San Diego.



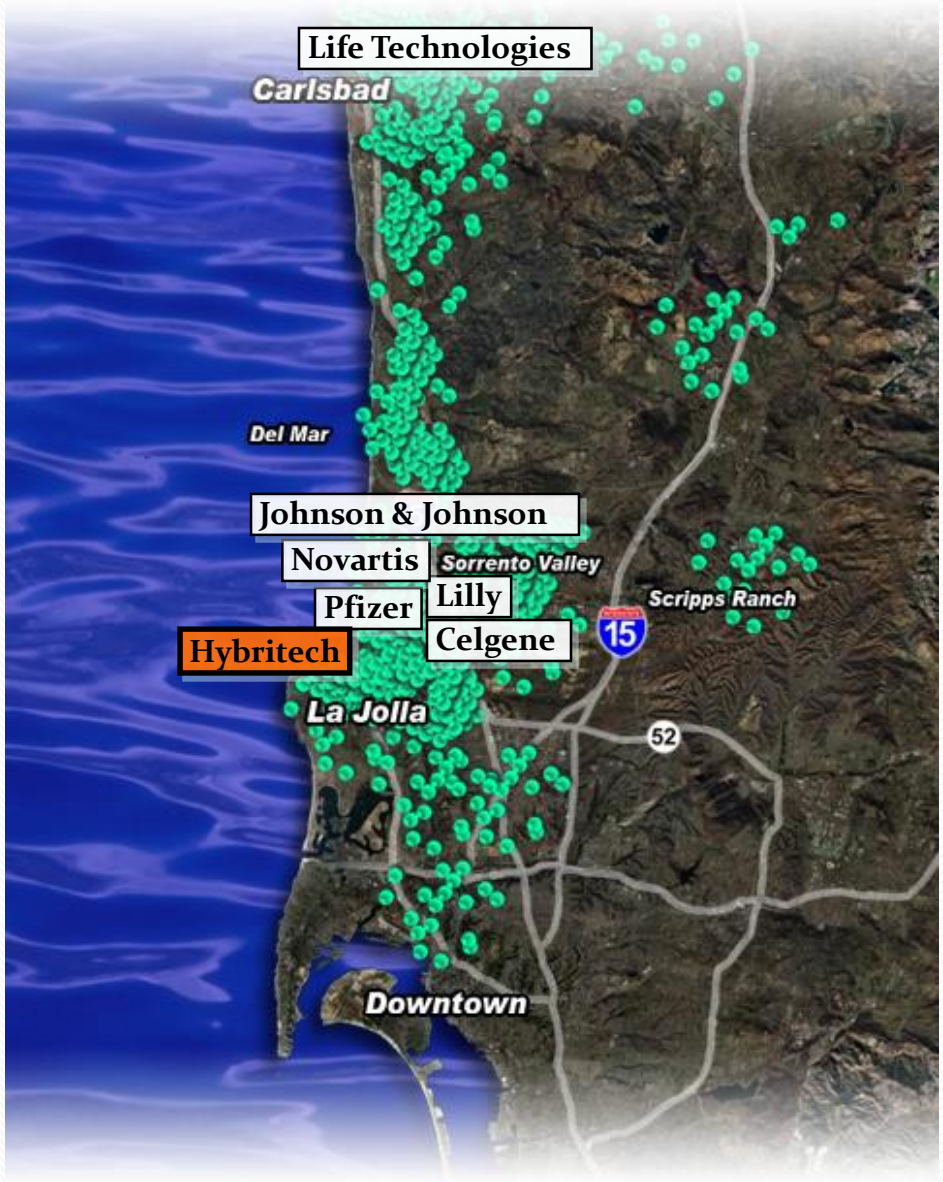
Life Sciences

***Hybritech** was founded in 1978 by UC San Diego professors Ivor Royston and Howard Birndorf as the first "biotech" company in San Diego.*

Life Sciences

***Hybritech** was founded in 1978 by UC San Diego professors Ivor Royston and Howard Birndorf as the first "biotech" company in San Diego.*

Today there are more than 600 life science companies operating in San Diego.



We have Research Excellence State-wide

(selected examples)

Cancer Research Center

Thirty Meter Telescope

Pacific Missile Range

Air Force Maui Space Surveillance Complex

Strong University-centered Research Core

University of Hawaii

Areas of Excellence

Established

- Astronomy/Aerospace
- Ocean Sciences

Emerging

- Health Sciences and Wellness
- Informatics and Data Analytics
- Sustainability
  - Energy
  - Water
  - Food
  - Climate

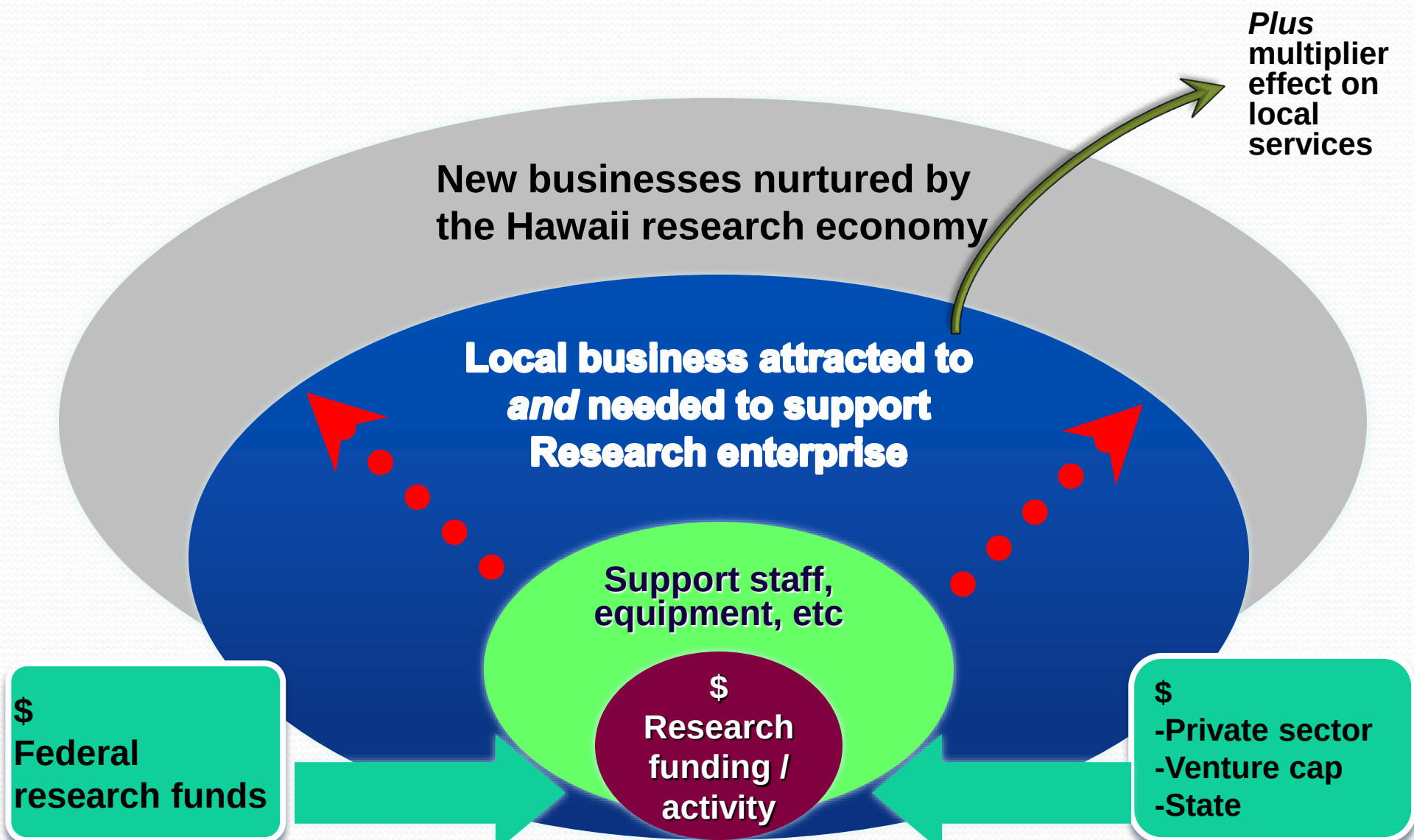
Directly "Imports" $400-500 million each year

…and has attracted companies that bring in additional funding

Lessons Learned

- Get a common understanding / language
- Excellent University-centered Research is a magnet and an engine for growth
- The growth is for all parts of the community
- Create a healthy “innovation eco-system”
- Encourage & support Cluster development
- It doesn’t happen over night…

Growth is for All Parts of the Community



Lessons Learned

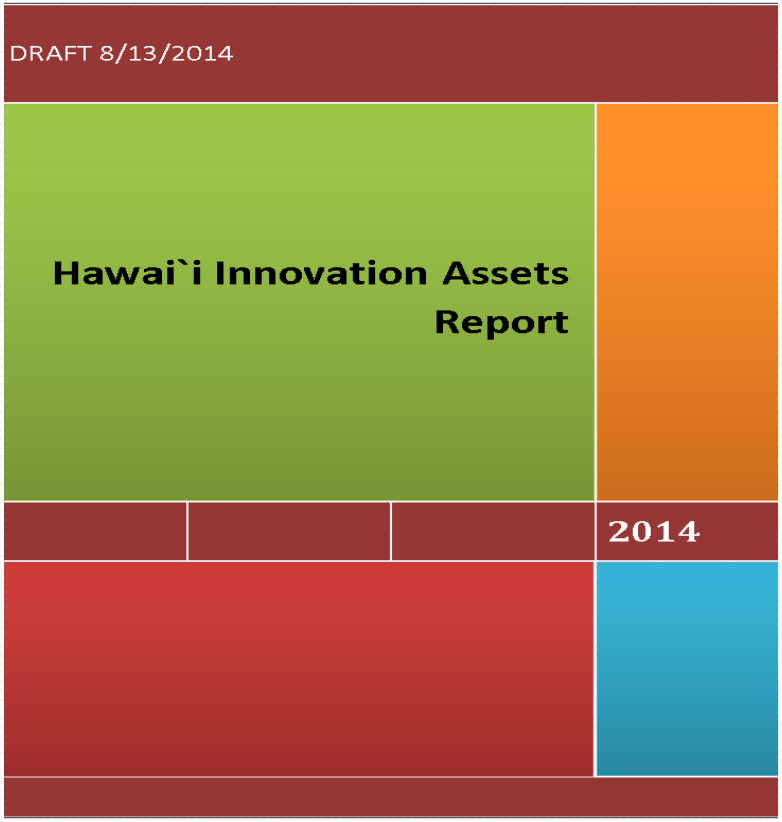
- Get a common understanding / language
- Excellent University-centered Research is a magnet and an engine for growth
- The growth is for all parts of the community
- Create a healthy “innovation eco-system”
- Encourage & support Cluster development
- It doesn’t happen over night…

Hawaii Connect

Hawaii Innovation Assets Report

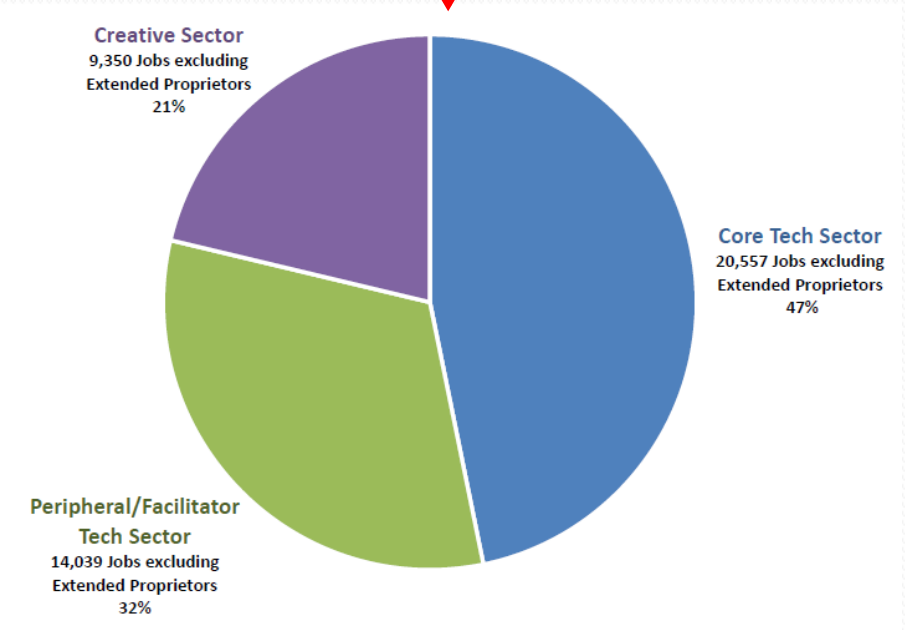
Partners:

- Hawaii Business Roundtable
- UHERO
- Chamber of Commerce of Hawaii
- State of Hawaii-DBEDT
- City and County of Honolulu
- Hawaii County
- Maui County
- Kauai County
- Pacific Resource Partnership



Hawaii Innovation Economy

Hawai'i Innovative Economy	Number of Jobs excluding Extended Proprietors	Number of Extended Proprietors	Number of Jobs including Extended Proprietors	Number of Establishments
Core Tech Sector	20,557	6,703	27,260	1,552
Peripheral/Facilitator Tech Sector	14,039	1,987	16,026	1,156
Creative Sector	9,350	11,852	21,202	1,284
Total Innovative Economy	43,946	20,542	64,488	3,992



Already a meaningful size … with room to grow

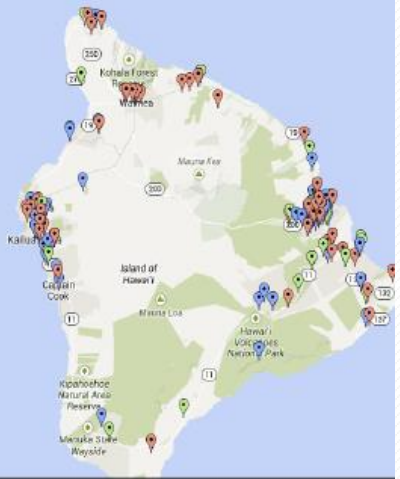
Hawaii Innovation Economy

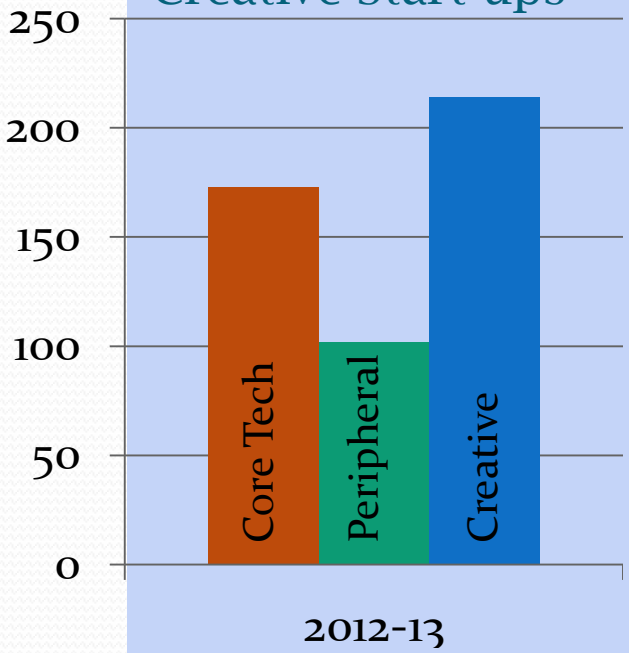
Broad and Diverse …aka "Fragmented"

Industry Sector Grouping	TOTAL INNOVATIVE ECONOMY			
	Number of Jobs excluding Extended Proprietors	Number of Extended Proprietors	Number of Jobs including Extended Proprietors	Number of Establishments
Audio & Visual Media Production & Distrbution	1,522	18	1,540	168
Biomedical Products	1,993	29	2,022	78
Biotechnology, Pharmaceuticals and Chemicals	1,994	14	2,008	53
Business and Professional Associations	359	47	406	91
Commercial physical research/Scientific & Technical & Non-Technical Services	2,786	4,435	7,221	227
Communications Technology & Information Services	6,140	1,107	7,247	300
Computer & Electronics	495	195	690	89
Defense and Aerospace	164	29	193	9
Design Services	508	1,077	1,585	122
Energy	2,311	105	2,416	35
Engineering Services	5,933	665	6,598	718
Environmental Technology	503	279	782	71
Marketing & Related Services	2,163	1,906	4,069	322
Other Business, Market and Technical Consulting Services	2,461	2,937	5,398	558
Performing Arts & Related Creative	3,342	6,003	9,345	247
Software	4,194	912	5,106	809
Sports and Active Lifestyle	1,237	784	2,021	95
U.S. Federal (STEM jobs only)	5,841	-	5,841	-
Total Innovative Economy	**43,946**	**20,542**	**64,488**	**3,992**

Hawaii Innovation Economy

New business energy all across the state





Hawaii Innovation Example

Hawaiian Electric

- Existing Infrastructure and Regulatory Framework
- Renewable Penetration Pushing Technical Envelope

Hawaii Natural Energy Inst.

- World-class Research capability
- Strong track record of attracting Research funding

Huge Innovation Opportunity

- National & global energy company interest
- Maui Smart Grid Pilot
- Fertile new Start-up area

Te ions

Existing Local Resources

Energy Excelerator

- Established by Pacific Int'l Center for High Tech Research (PICHTR)
- Significant existing funding / grants and expertise

Existing Local Companies

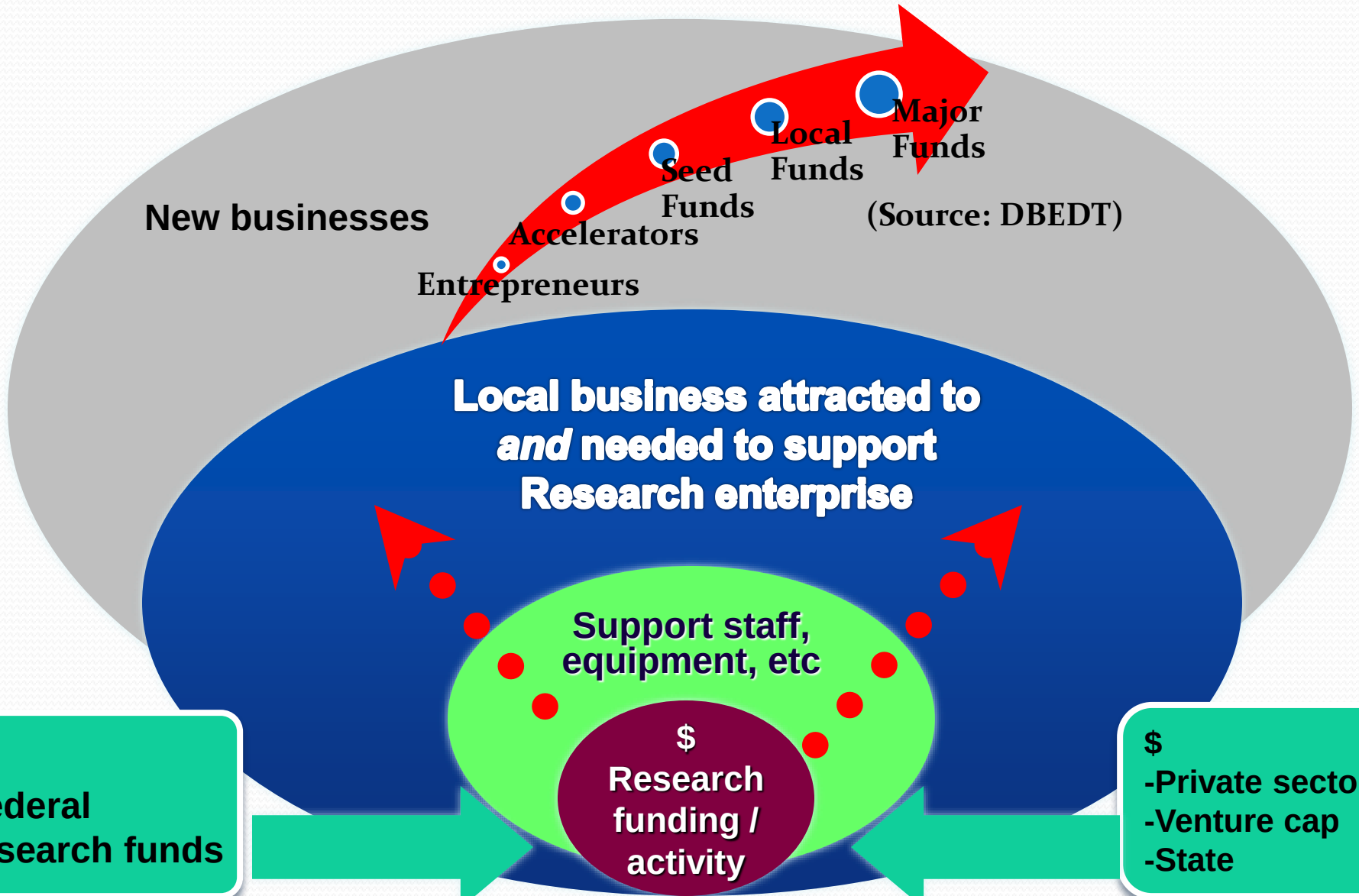
Example: HNu Photonics

- Science & Tech company founded in 2006, originally serving military
- Expanded into HNu Energy, Hnu Power, and Others

New Start-ups

New Players

Supporting a Research & Innovation Ecosystem



We Have a Lot Going On…

Needs recognition and encouragement
… and more private-sector funding to "wrap" public funding and reinforce market discipline

HI GROWTH

ENTREPRENEUR DEVELOPMENT	Support mentoring, collaboration, and funding opportunities for Hawaii entrepreneurs to establish their business ventures
RESEARCH COMMERCIALIZATION	Actively partner research commercialization activities with university and private-industry programs to create high-growth businesses
STARTUP INVESTMENT CAPITAL	Network Hawaii's high-growth businesses into the broader universe of mainland and international investors active in the sectors important to Hawaii

Recommendations

UH-Related

→ ***Become a source of energy & vitality to the "eco-system"***

- Steadily and more aggressively grow the Research Core, with emphasis on areas with commercialization potential.
- Overhaul the technology transfer office into an active technology promotion and sharing facilitator for Hawaii businesses
- Make research facilities and expertise accessible to the private sector… promote interaction between faculty and business community
  … *make it easier and make it the expectation*

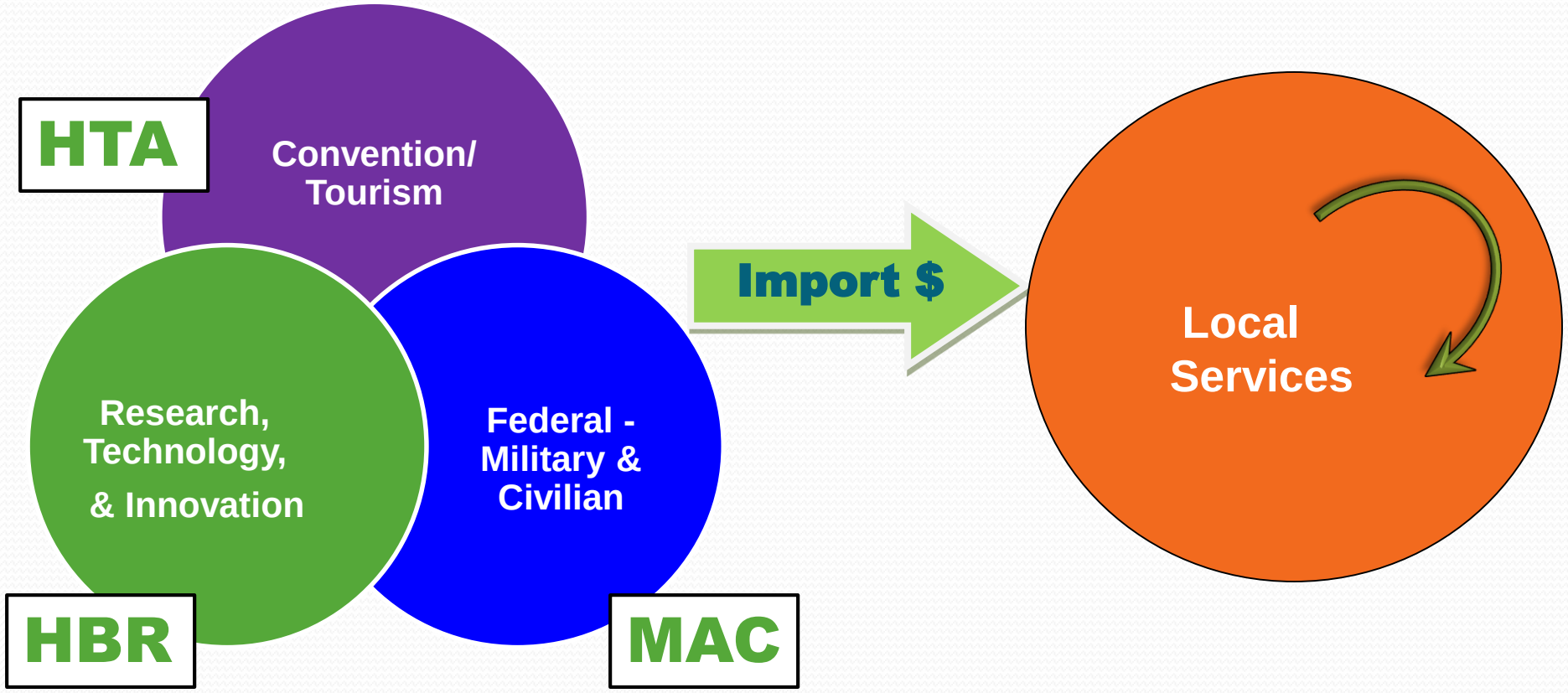
Recommendations

The Broader Community

→ ***Actively support a healthy "innovation eco-system"***

- Advocate for commitment to grow the research/innovation sector
- Encourage and support existing incubator, proof of concept, accelerator and entrepreneurship programs.
  … provide visibility / access for new Hawaii start-ups
- Mobilize private sector start-up capital funding focused on commercializing Hawaii technology
- Identify ongoing "catalyst" organization to drive continued improvement in the economic climate for research and innovation

Create a Community-shared Growth Plan



Next Steps

1. Complete the Inventory of Research & Innovation Assets and confirm the size of Research & Innovation Economy
2. Convene a broad community based group to support the Research & Innovation growth agenda
3. Identify existing Technology & Innovation Clusters and support collaboration and growth
4. Build Community support for continued expansion of UH's and other institution's Research and Education Agenda
5. Partner with the "tradable economy" sectors to educate our community and build for the future

Innovation Economy Message

(DRAFT)

One of the best ways to create sustainable job growth and opportunity in Hawaii is to grow the research & innovation sectors.

We need to work together to support it…
Our quality of life and that of future generations depends on it.