

The background of the slide features a close-up, artistic photograph of several hands holding and fitting together large, interlocking puzzle pieces. The puzzle pieces are in shades of red, orange, and yellow, set against a bright, warm, yellowish-gold background. The hands are positioned around the pieces, suggesting a collaborative effort in solving a problem or building something new.

Trends in University-based Innovation & Entrepreneurship

A View From Beyond Silicon Valley



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Institute for Innovation & Entrepreneurship

The Question:

How can we best help our institution address its innovation and entrepreneurship mission?

One Part of The Answer...

Focus on growing the local economy by:

1. Improving the local innovation ecosystem,
2. Forming international partnerships related to the areas of “excellence” within the local ecosystem, and
3. Helping students, faculty, and alumni form and grow innovative new ventures

Three Themes for Today's Discussion

1. Universities **play a vital role** in growing their local innovation ecosystem and in helping local innovators and entrepreneurs connect internationally
2. Innovation & entrepreneurship is the only real **path to economic growth** and resilience.
3. Innovations can, and do (!), find a home **wherever the "ecosystem" is ready.**



I live here!

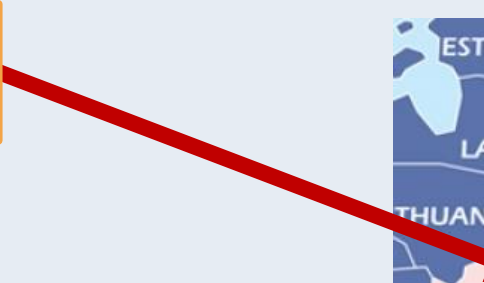


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Institute for Innovation & Entrepreneurship Antarctica

Territory most of Old Dominion's constituent countries have made no claims to Antarctica territory. Although Russia and the United States have reserved the right to do so and they do not recognize the claims of the other countries.

Minsk



Kyiv



L'viv



Dnipro



Odessa



Donetsk



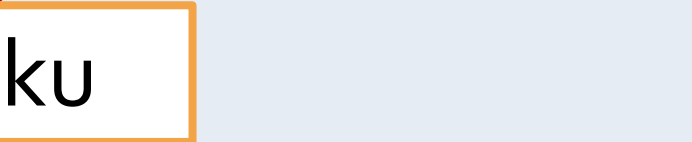
Tbilisi



Yerevan



Baku



What is Common About Each of These Places?

- Each suffered significant economic “shocks” in recent decades.
- Each has important but underutilized and disconnected assets.
- Each has a populace ready for change and growth.
- Each has an “openness” to outside ideas and perspectives.
- **None of them are known (yet!) as a startup “hotbed.”**
- **Each has identified innovation and entrepreneurship as an important part of a more competitive economy.**
- **Each is seeking ways to better connect with innovators and entrepreneurs around the world.**

The same can be said about most places in the US ...

...including Detroit, Chicago, New York City, Washington, Houston, Miami, and ... Norfolk, Virginia

Each has identified innovation and entrepreneurship as an important part of a more competitive economy

and ...

Each has university, industry, and policy makers interested in “internationalizing” its innovation and entrepreneurship activities!

The Focus of US Universities

Five areas of focus are at the heart of the innovation and entrepreneurship within America's universities.

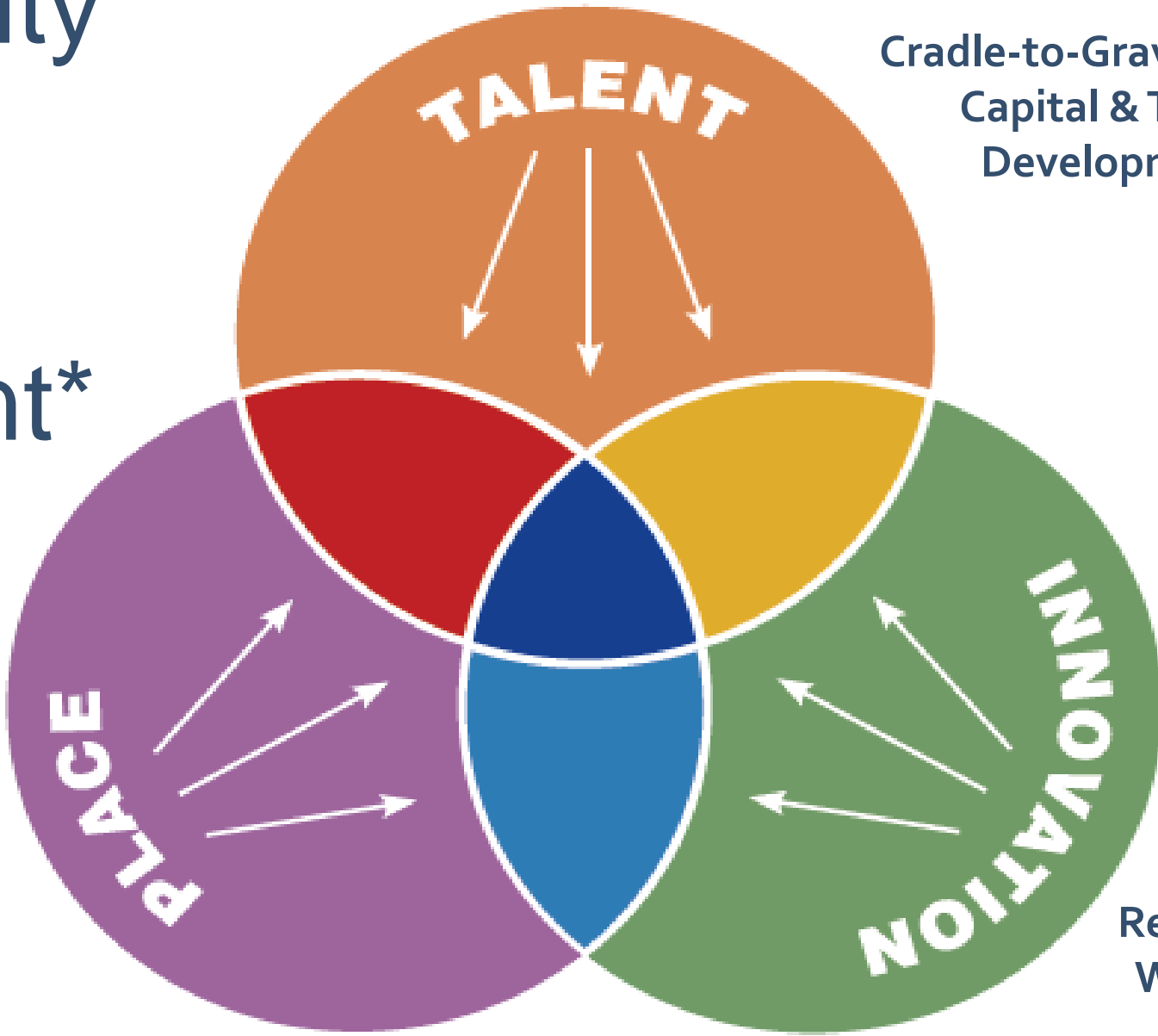
1. Engagement in regional economic development;
2. Industry collaboration;
3. Student entrepreneurship;
4. Faculty entrepreneurship; and
5. Technology transfer

1. Engaging with regional and local economic development efforts

- Local economic development has become an important mission of 21st century universities.
 - Strong responsibility for the betterment of their surrounding communities,
 - Increasingly focused on innovation and entrepreneurship as key contributors to the growth and success of local communities.
 - Universities are asking their students, faculty, and staff to contribute to local community development through service and projects.
- Regional economic development planning now often starts with an assessment of a local university's research strengths and weaknesses AND how they relate to the region's key industries.

The University Role In Economic Development*

Community-Connected Institutions and Stewardship for Vibrant Communities



Cradle-to-Grave Human Capital & Talent Development

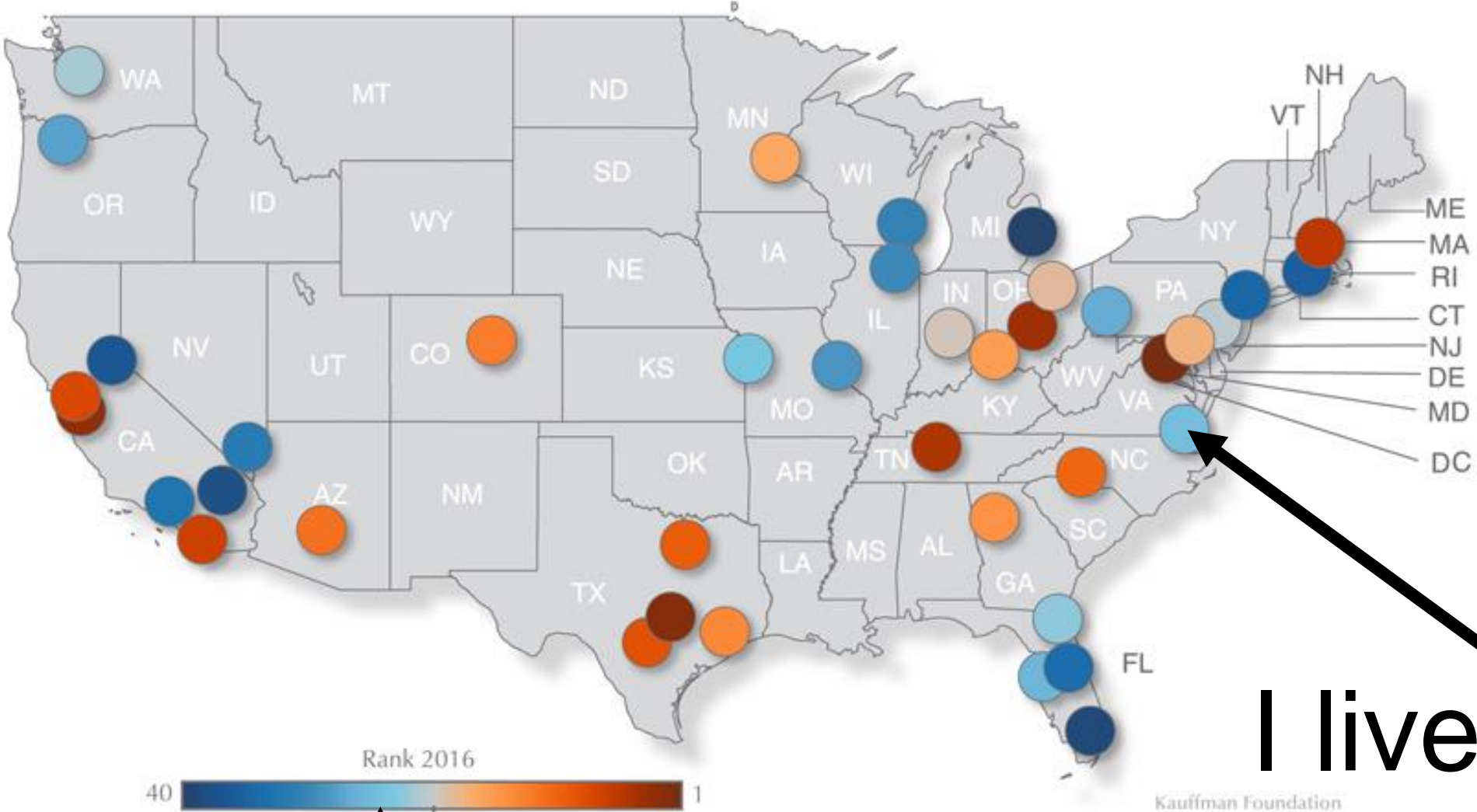
Research, Creative Works, Problem-Solving, and Entrepreneurship

*Association of Public Land Grant Universities (APLU), 2017

Key Concepts In University-Based Economic Development

1. Institutions should **know** what they do well and what they need to improve to deepen their engagement in local and regional economic development activities;
2. Institutions should be able to **measure** the extent to which they affect local economic growth;
3. Institutions should be able to **tell the story** of their contributions to local and regional economic development, and
4. Institutions must **consistently engage** with external stakeholders if their contributions are to continue to have meaningful impact.

2016 Metropolitan Area Rankings for the Kauffman Index of Growth Entrepreneurship



I live here

*“No small ecosystem can perform well and compete with places like Silicon Valley ... across the board. But what they can do is be a hub of excellence in specific startup sub-sectors and use that advantage to build spillover effects that **improve the ecosystem and the economy as a whole.**”* (World Economic Forum, 2019)



Commercial and Government space launch site

NASA Centers

World's largest Navy Base

2nd largest port on the east coast

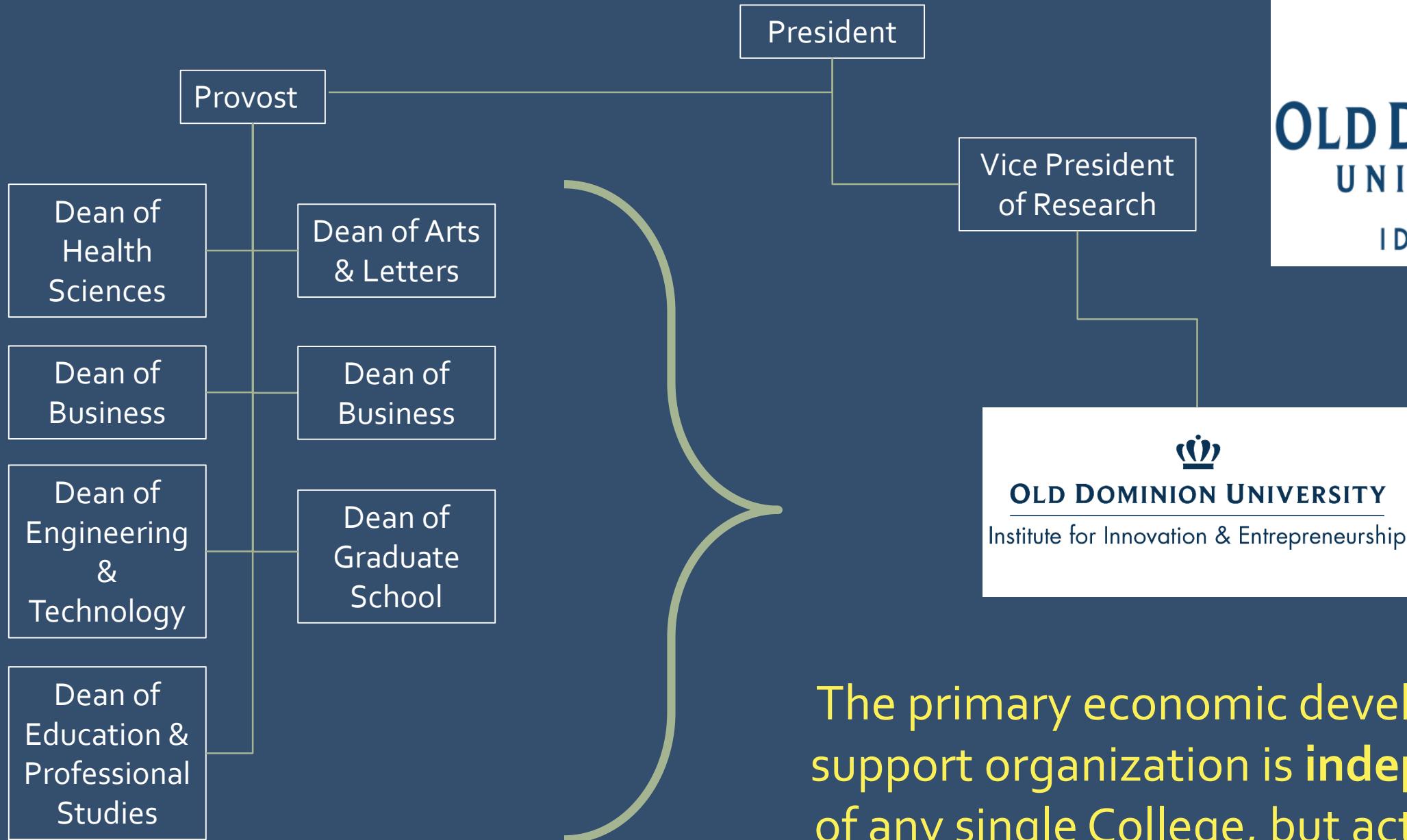
Largest US shipbuilder

One of the most "at risk" locations for sea-level rise!

Focus of Our Local Innovation Ecosystem

- Maritime and shipbuilding technologies
- Commercial and military ship operations
- Global supply chains, logistics, and distribution
- Aerospace and defense technology
- Sea-level rise mitigation

Our Conclusion: Old Dominion University should **explicitly seek to become a premier university in maritime, aerospace, and resilience**, and use that vision to target partnerships around the world!



The primary economic development support organization is **independent** of any single College, but active with **ALL Colleges!**

Regional Economic Development: Examples from Old Dominion University

- OpenSeas Technology Innovation Hub
- Veterans Business Outreach Center
- Women's Business Center
- Procurement Technical Assistance Center
- TempO Program
- Maritime Industrial Base Ecosystem Initiative
- Virginia Institute for Spaceflight & Autonomy
- Virginia SmallSat Data Consortium
- Cyber Security Center of Excellence
- Coastal Resilience Center
- Off-Shore Wind Energy Task Force
- Virginia Modeling Analysis and Simulation Center
- Reidy BioElectrics Center



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Regional Economic Development: Examples from Old Dominion University

- Board of Directors, Virginia's Center for Innovative Technology
- Chairman, Board of Directors, 757Angels
- Board of Advisors, 757Accelerate
- Chairman, Board of Directors, The LaunchPlace
- Board of Advisors, Norfolk Technology Trail
- Co-Chairman, Economic Development Task Force
- Academic Partner, Choice Neighborhoods Initiative



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*“No small ecosystem can perform well and compete with places like Silicon Valley ... across the board. But what they can do is **be a hub of excellence in specific startup sub-sectors** and use that advantage to build spillover effects that improve the ecosystem and the economy as a whole.”* (World Economic Forum, 2019)

2. Facilitating University-Industry Collaboration

- Businesses benefit greatly from university research and innovation.
- Universities seek better ways to connect their research and students' education to emerging industry interests.
 - Continuing to engage established companies that have traditionally been their licensing partners;
 - Greater emphasis on **supporting startup companies**;
 - **Opening up their facilities**, faculty, and students to businesses (small and large);
 - Offering internships and externships;
 - Sharing facilities with startups, such as accelerators; and
 - **Creating venture funds** and incentive programs funded by industry

Industry Engagement: Examples from Old Dominion University

- Every College has an industry advisory council
- 757 Pitch Competition
- Innovation Center – Norfolk
- NATO Innovation Challenge
- 757 Accelerate
- Ferguson Enterprises Innovation Challenge
- Procurement Assistance Center
- Women's Business Center
- Veterans Business Outreach Center





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- Supports economic development and entrepreneurship as a primary mission through an integrated organization partnering across the University and with the community
- Offers one-stop shop for students, faculty/staff, and the community seeking resources for entrepreneurship, commercialization, and innovation
- Recognizes ODU's role and reputation as a leader in economic development and entrepreneurship



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UNIVERSITY
INNOVATION CENTER
NORFOLK





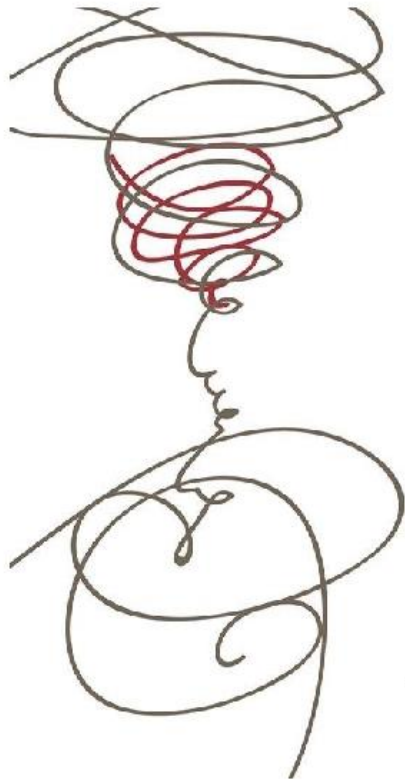
EXIT

OPEDMINI
UNIVERSITY
INNOVATION CENTER
HONOLULU
1515 Beach Street
Honolulu, Hawaii 96813

Whiteboard with faint text: "The Project/Program"







Bringing innovators, thought-leaders, and entrepreneurs together

unWINEd

Wednesday, August 24th, 2016

5:00 PM to 7:00 PM

special location!

ODU Innovation Center

501B Boush Street

Norfolk, VA 23510

RSVP

<http://oduunwined.eventbrite.com>

Please park in the York Street garage


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Center for Enterprise Innovation
IDEA FUSION



3. Promoting student innovation and entrepreneurship

Colleges and universities are investing heavily in the development of their students' entrepreneurial skills.

- Focused on entrepreneurship as a set of skills that can be applied across professions and supplement the students' classroom experience.
- Universities are investing both in formal programs & extra-curricular activities
 - Formal programs include degrees and certificates in entrepreneurship,
 - Extra-curricular activities include business plan contests, entrepreneurship clubs, and startup internships.
- Other ideas include on-campus accelerators, entrepreneurial dorms, and student venture funds.

Student Entrepreneurship: Examples from Old Dominion University

- Strome Entrepreneurial Center
- Annual student business exposition
- “Be Your Own Boss” series
- Entrepreneurship Club
- Entrepreneurship Live/Learn Community
- On-campus student co-working and maker spaces
- Entrepreneurship curricula in EVERY college!
- Entrepreneurship Certificate
- Entrepreneur-In-Residence (Office Hours)
- The Monarch Way Retail Store
- “Entrepreneur-ships”



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University Environmental Center
GROW. CONNECT. INNOVATE.

STORE ENTR



WIFI LOGIN
username: wireless-2396
password: StromeEC2018!





THE *M*onarch Way

"Shop The Monarch Way"



4306 MONARCH WAY
NORFOLK, VA 23508

NOW OPEN

4. Encouraging faculty innovation and entrepreneurship

- Faculty and graduate students conduct the research powering many of the innovations that spawn high-growth startups.
- Faculty and graduate students **increasingly consider the market and societal relevance** of their research
- Seeking to:
 - create **greater recognition of faculty entrepreneurs**
 - integrate entrepreneurship into the **faculty tenure and selection process**, and
 - Increase faculty connections to outside partners

Faculty Entrepreneurship: Examples from Old Dominion University

- Strome Entrepreneurial Center
- Entsminger Fellows
- Commercialization is a factor in promotion and tenure
- Off campus Innovation Center available for faculty startups
- Entrepreneur-In-Residence (Office Hours)
- Ideation, customer discovery, value-proposition training and consulting
- Direct consulting support from Institute for Innovation & Entrepreneurship staff
- Entrepreneurship Collaborative



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Questions We Always Ask ...

- Is this product/invention patentable or otherwise “protectable?”
- Is there a market for this invention?
- Are there available funds to help further develop the idea or technology?
- Can we find an existing business interested in licensing, developing, and commercializing this idea or technology?
- If not, can we start a new company?

Answering Those Questions Requires ...

- Professionals who analyze market potential, develop business plans, and understand patent/licensing issues
- Attorneys to help with patent, copyright, trademarks, and trade secret protection
- Experts in seeking angel and venture capital
- Campus-based or local “accelerators,” incubators, and proof-of-concept programs to help advance technology and boost fledgling start-up companies
- Resources for connecting people and/or companies looking for new technology inventions; and
- Helping faculty further develop the technology pipeline.

The Pitch Canvas

An entrepreneurial brainstorming tool that helps you structure and visualise your pitch on one page

| Simple Statement of what change you and your product are making in the world. | |
|---|---|
| A memorable one-sentence explanation of what you do for customers. | |
| Pain (+ Gain) What problem are you solving for your customers? What does the pain result in? Can you make the pain a human problem, that everyone can relate to? How many people need this problem solved - market size? Have you validated that people will pay to have it solved? | Product As simply as possible: How does it work? What does your product do for customers? What can your customers do as a result of your product? What opportunities do you provide for people to be faster, more cost-effective, more efficient, happier, safer? How have you tested it with customers? (Be sure not to let the product dominate the pitch.) |
| Product Demo Live demo? (Always risky, but powerful if it works...) A screenflow movie of a working App convinces this is for real. Physical product convinces you can execute. Screenshots are also OK, but can look like a mock-up - moving product on screen is better. Can you show a real customer using it? | What's Unique Technology/Relationships/Partnerships. How do you help your customers get results differently to your competition, or alternatives? What's new and innovative about your solution? Show you have researched the market and know what competition is out there. |
| Customer Traction Success so far? Pilot customers? Major brands? Progression in users or downloads? Customer reference quotes or movies? PR coverage? Competition wins? Use data and facts to strengthen your case. | Business Model How do you get paid? What's the opportunity for growth? How can you scale beyond your current scope: new industries, territories, applications of partnerships and technology? |
| Investment Have you invested money yourself? Have you raised money so far? How much are you looking for? What big next steps will you take? What milestones will you reach? How many, and what type of investors? What expectations do you have on network, expertise? | Team What relevant experience and skills does your team have that supports your story? |

Finish the pitch

Why do you care? Why should you?

DESIGN

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The Business Model Canvas

Designed for:

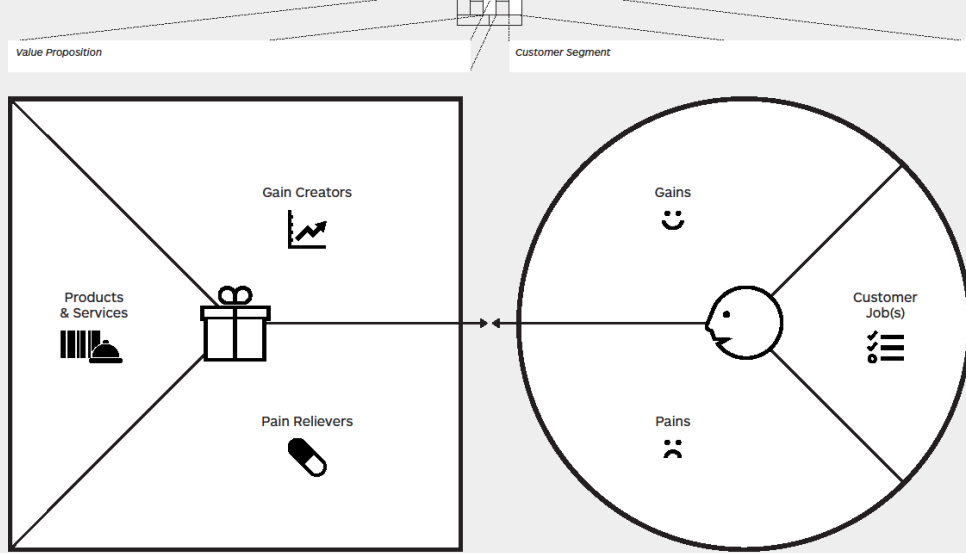
Designed by:

On: Day: Month: Year:

Iteration:

| | | | | |
|---|--|---|--|--|
| Key Partners Who are our Key Partners? Who are our key suppliers? Which Key Resources do we acquire from partners? Which Key Activities do partners perform? <small>Dependencies and interdependencies Allocation of vital and secondary activities Allocation of primary resources and activities</small> | Key Activities What Key Activities do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue streams? <small>Operations Production Product testing Platform/network</small> | Value Propositions What value do we deliver to the customer? Which one of our customer's problems are we helping to solve? What bundles of products and services are we offering to each Customer Segment? Which customer needs are we satisfying? <small>Channels Customer Relationships Distribution Packaging/Personal Assistance Self Service Assessment of Services Complementors Cost Structure</small> | Customer Relationships What type of relationship does each of our Customer Segments expect us to establish and maintain with them? Which ones have we established? How are they integrated with the rest of our business model? How costly are they? <small>Channels Customer Relationships Distribution Packaging/Personal Assistance Self Service Assessment of Services Complementors Cost Structure</small> | Customer Segments For whom are we creating value? Who are our most important customers? <small>Mass Market Niche Market Segmented Customized Multi-Sided Platform</small> |
| Key Resources What Key Resources do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue Streams? <small>Operations Production Product testing Platform/network</small> | | Channels Through which Channels do our Customer Segments want to be reached? How are we reaching them now? How are our Channels integrated? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer routines? <small>Channels Customer Relationships Distribution Packaging/Personal Assistance Self Service Assessment of Services Complementors Cost Structure</small> | | |

The Value Proposition Canvas



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The Mission Model Canvas

Mission/Problem Description: Designed by: Date: Version:

| | | | | |
|---------------------|----------------|--------------------|------------------------------------|---------------|
| Key Partners | Key Activities | Value Propositions | Buy-in & Support | Beneficiaries |
| | Key Resources | | Deployment | |
| Mission Budget/Cost | | | Mission Achievement/Impact Factors | |

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A Helpful Approach: N.A.B.C.



The NABC method was developed in the USA by the Stanford Research Institute (www.sri.com).

It was originally conceived for the business world but was later adapted to several other types of organizations, including universities.

N.A.B.C. helps researchers(!) present ideas in an easily accessible and captivating way:

- Helps them describe their idea in ways that business and finance can understand
- Forces them to consider markets and “Value Proposition.”

N.A.B.C. is ...



- **Need.** N is the most important factor in the method. An idea without a practical need for it remains just what it is: a good idea and nothing more.
- **Approach.** A is usually a point of departure for most activities, but with the NABC method, A always comes after N.
- **Benefit.** B stands for the innovative elements of an idea, in other words that which constitutes its uniqueness.
- **Competition.** C stands for a study of the competition existing in the area concerned. C focuses on the reality within which a concept has to function.

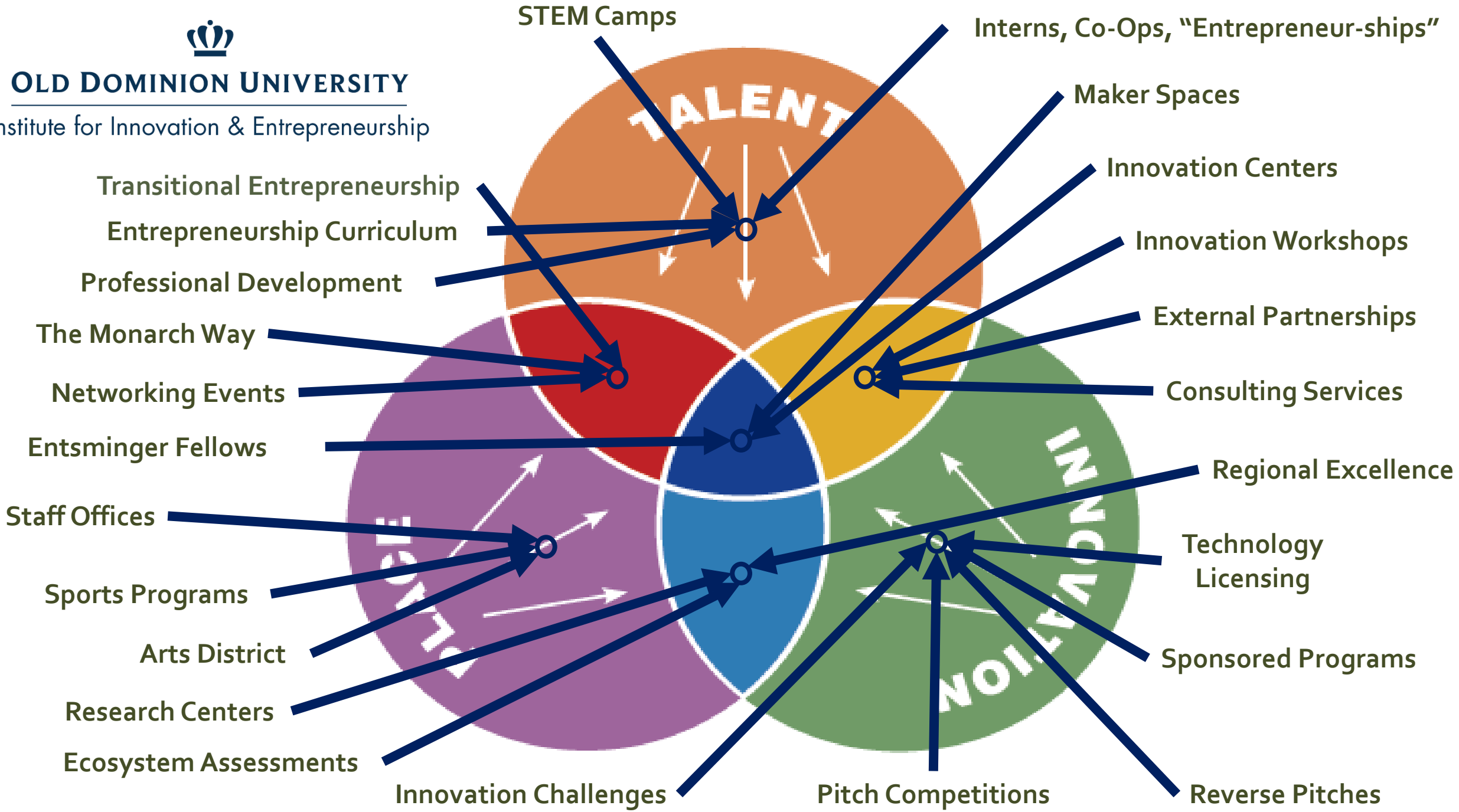
Reminder...

In BOTH student and faculty entrepreneurship,
the focus is on experiential learning, often by
forming and operating real businesses!



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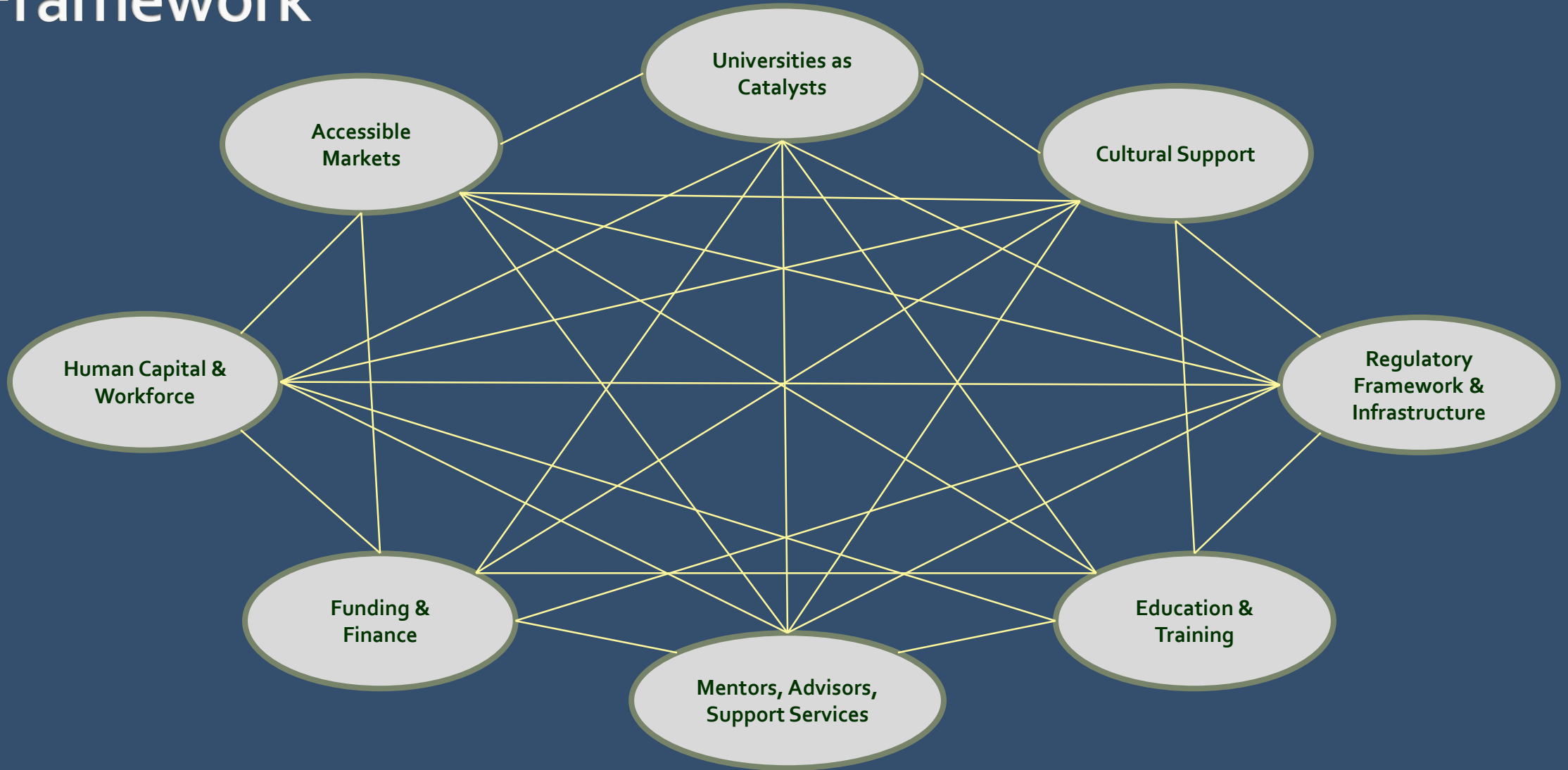
Suggestions...

- Maintain strong and sustained basic research base to provide pipeline of great ideas – must be **relevant to the local region's industry and expertise!**
- **Emphasize venture creation** to commercialize technologies and form international relationships
- **Link entrepreneurship** programs with Research & Development!
- “Entrepreneurship is for everyone” -- keep programs **available to ALL students & faculty**

Suggestions...

- Encourage staff and faculty to **engage** with local industry, investors, & policy makers
- **Target the kinds of new ventures that can scale**, and particularly those that have potential in international markets
- Create programs that develop and **maintain awareness of global markets** into which local ventures can offer value

World Economic Forum, Entrepreneurial Ecosystem Framework



World Economic Forum, Entrepreneurial Ecosystem Framework

Universities as Catalysts

- Universities promote a culture of respect for innovation & entrepreneurship
- Universities play a key role in idea-formation for new ventures
- Universities provide technology, business model innovations, testing facilities, consulting support
- Universities play a key role in providing staff and advisors for new ventures

Improving your local innovation ecosystem...

... creates new opportunities for local companies in both existing and emerging local markets!

...and ...

... makes it MUCH easier to respond to opportunities for research partnerships and commercial exploitation in international markets!!

Suggestions

- **Make an effort to assess your region's strengths and weaknesses**
- **Focus your local innovation and entrepreneurship efforts on those "excellent" capabilities and organize the local ecosystem activities accordingly!**

Suggestions (continued)

- Target international **ecosystems that have similar capabilities** and support similar industries
- **Specifically seek to connect with universities within those international ecosystems** that already have effective partnerships with local economic development organizations

Reminder: Three Themes for Today's Discussion

1. Universities **play a vital role** in growing their local innovation ecosystem and in helping local innovators and entrepreneurs connect internationally
2. Innovation & entrepreneurship is the only real **path to economic growth** and resilience.
3. Innovations can, and do (!), find a home **wherever the "ecosystem" is ready.**

Questions?

