

Commercialization

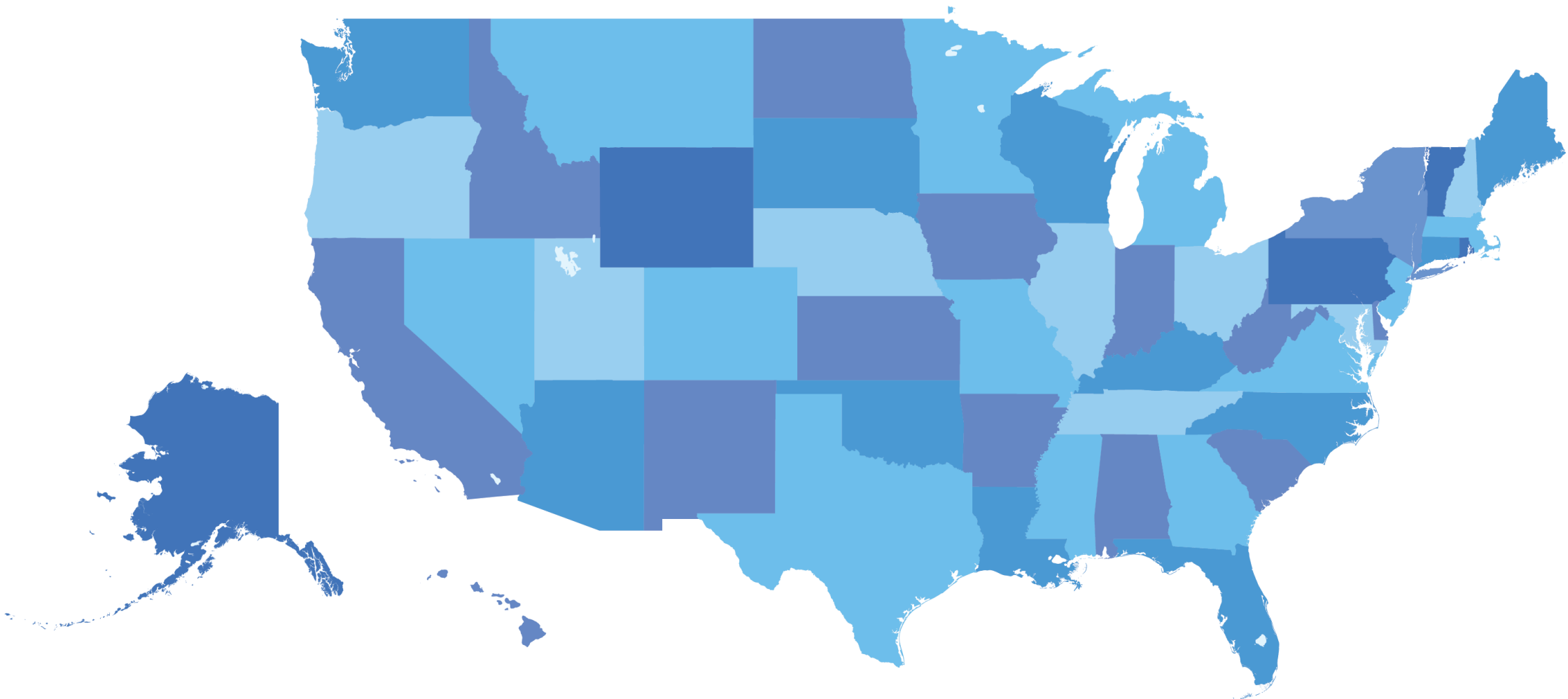


Academic Affairs Faculty Forum

Commercialization and Knowledge Transfer

Wednesday, December 6, 2017

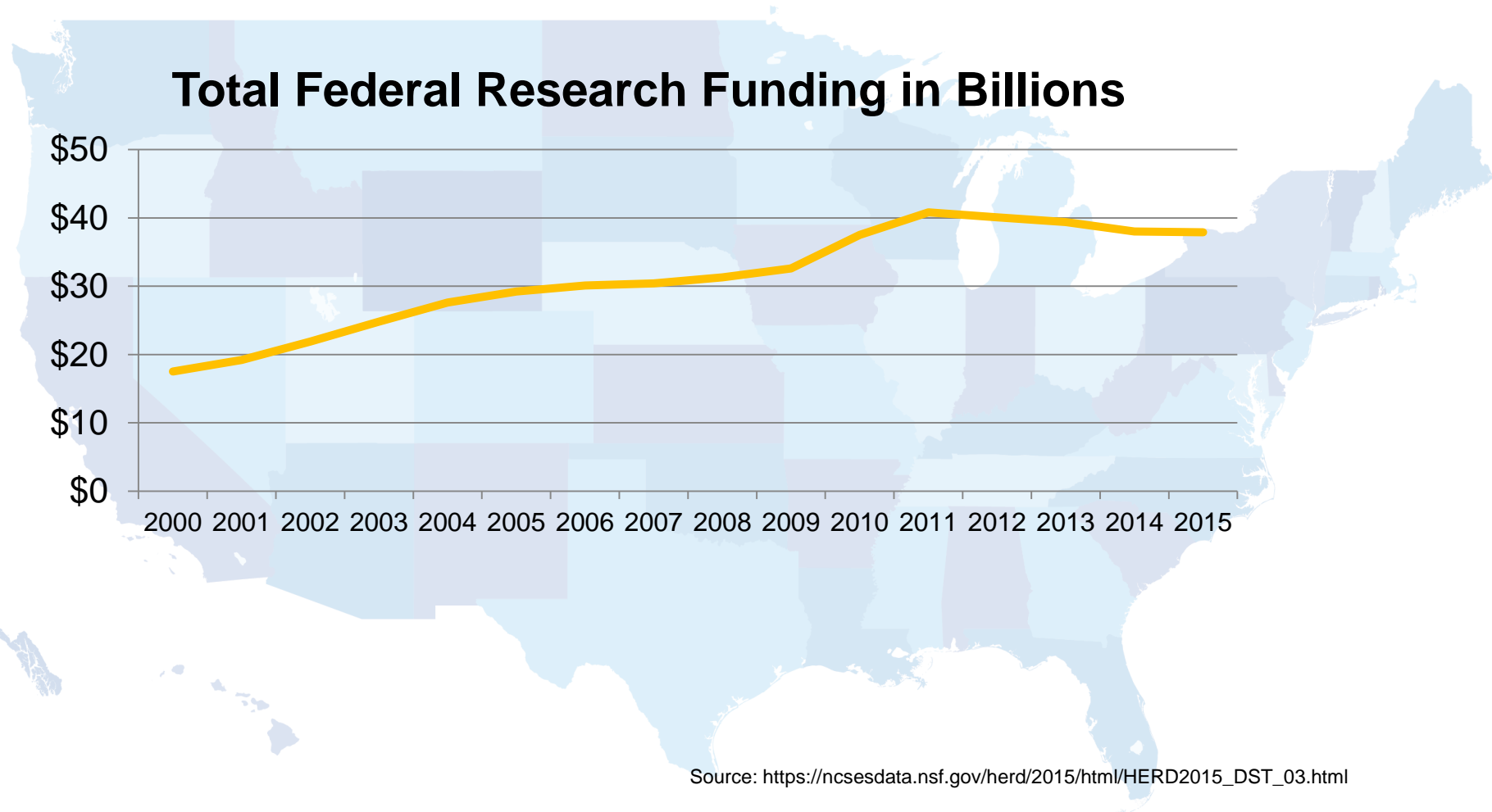
Jeffrey E. Hecker, *Executive VP for Academic Affairs & Provost*





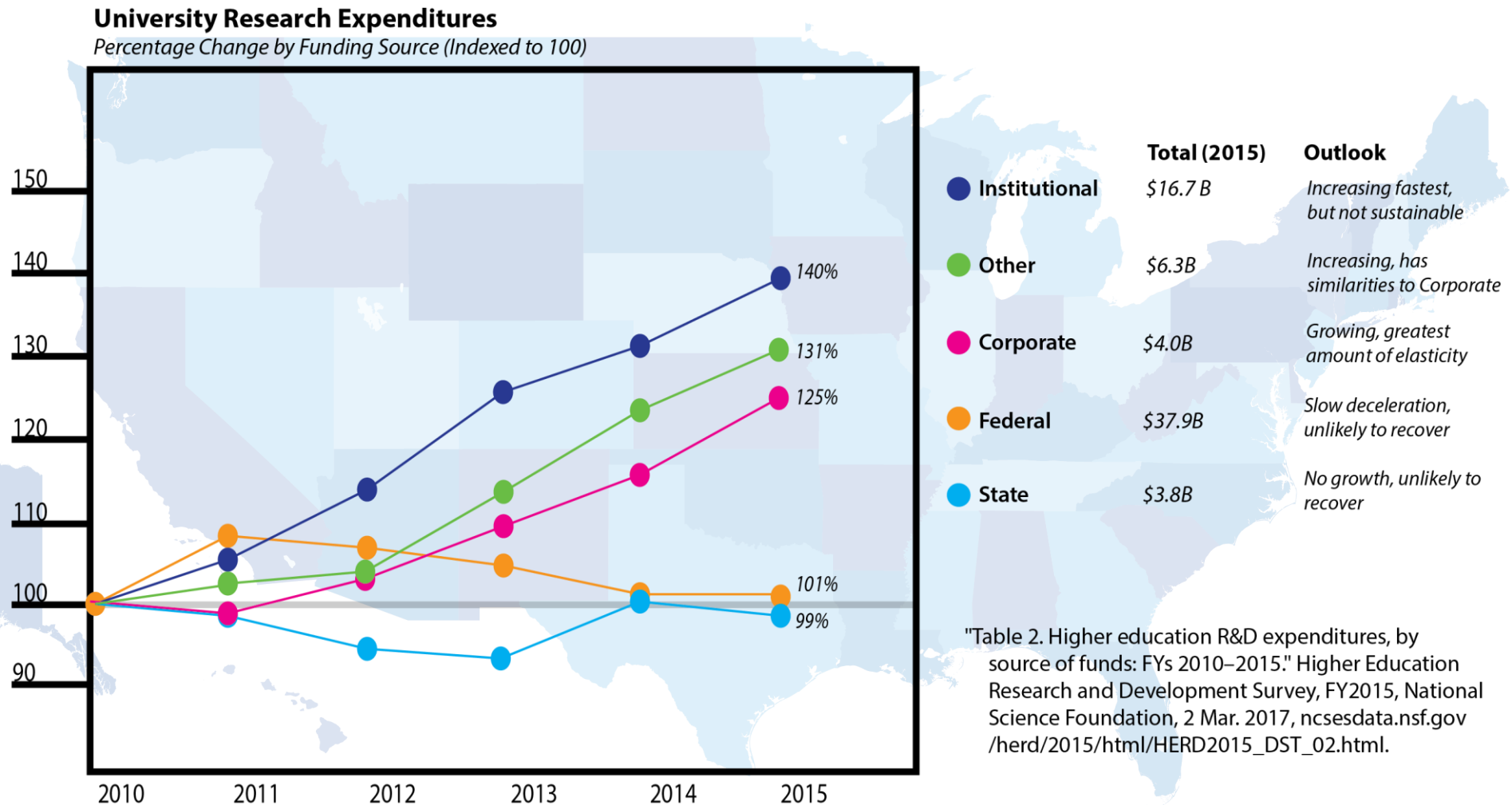
THE NATIONAL PICTURE

Declining Federal Research Funding



THE NATIONAL PICTURE

Where is the growth in sources of funding?

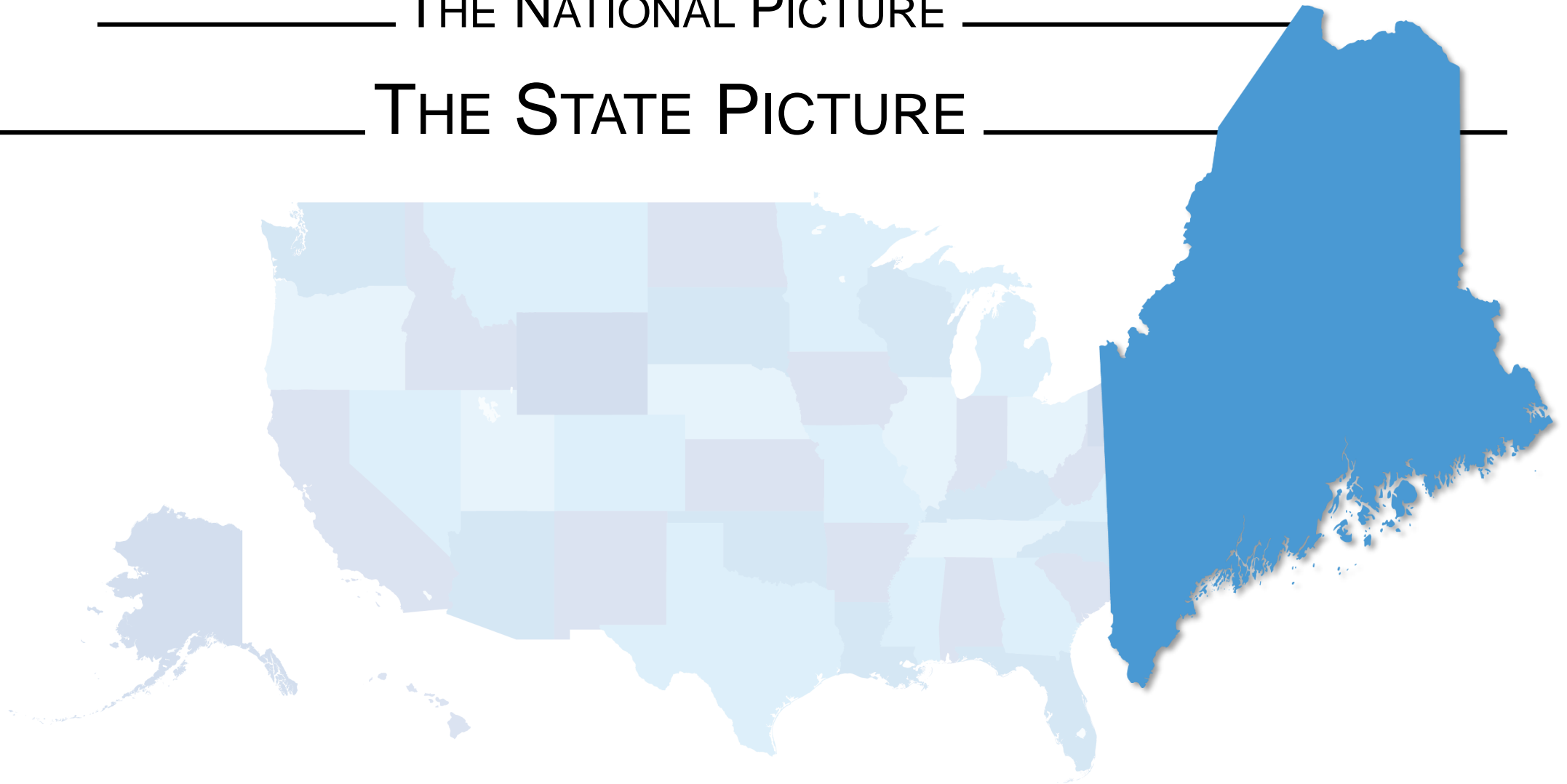




Why Increase Focus on Commercialization and Knowledge Transfer?

THE NATIONAL PICTURE

THE STATE PICTURE

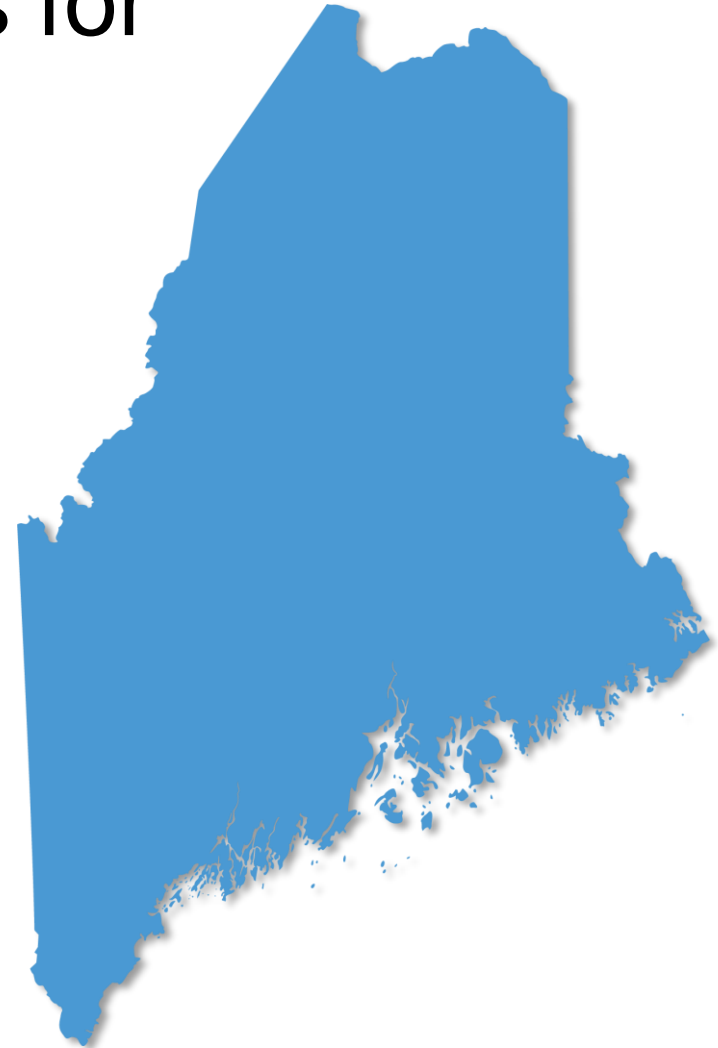




THE STATE PICTURE

UMS Board of Trustees' Key Priorities for next 5 Years

- Increase Enrollment
- Improve Student Success & Completion
- Enhance the Fiscal Positioning of UMS
- Support Maine Through Research & Economic Development



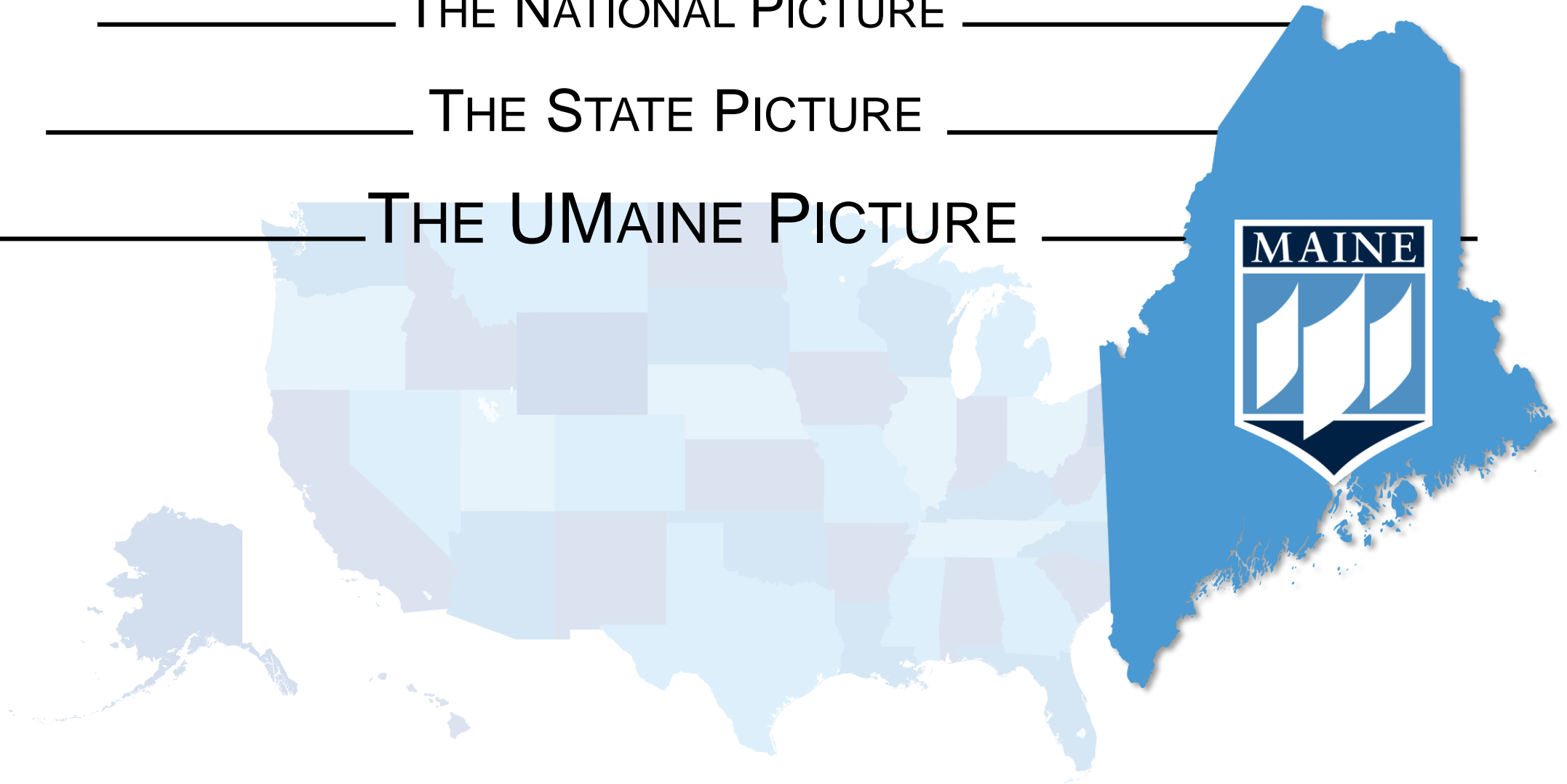


Why Increase Focus on Commercialization and Knowledge Transfer?

_____ THE NATIONAL PICTURE _____

_____ THE STATE PICTURE _____

_____ THE UMAINE PICTURE _____





THE UMAINE PICTURE

Commercialization successes

- FY2018 \$500K in licensing revenue
- Industry Collaborations FY17 = 389, up from 180 in FY12
- FBRI – Biofine collaboration
- LASST – *Environetix Technology Corporation*
- Process Development Center – licensing production of Cellulose Nanofibrils
- Advanced Structures & Composites Center – *Advanced Infrastructure Technologies*

Interest of Private Foundation

- Alford W² Ocean Engineering Lab
- Assessment of UMaine IP assets





THE UMAINE PICTURE

President Hunter's Charge to Provost (June, 2016)

- *Considering a governance structure which can be inclusive but highly efficient in guiding our growth and progress*
- *Modernizing policies and processes as needed*
- *Evaluating different structures, such as affiliated corporations or enterprises, which could enhance our agility and opportunities and reduce organizational risk*





Commercialization Working Group

Jeffrey Hecker, Executive Vice President for Academic Affairs & Provost
(Chair)

Carol Kim, Vice President for Research & Dean of the Graduate School

Jake Ward, Vice President for Innovation & Economic Development

Kris Burton, Director of Technology Commercialization

Larry Lewellen, Vice President for Human Resources

James Thelen, UMS General Counsel & Chancellor's Chief of Staff

Robin Delcourt, Special Assistant to the Executive Vice President for
Academic Affairs & Provost

Kody Varahramyan, Vice President for Research & Dean of the
Graduate School (joined CWG in July, 2017)



CWG Work Plan

1. Review of UMaine's Intellectual Property Portfolio
2. Consider Research Foundation or Other Structure
3. Evaluate Experience of Partners
4. Identify Best Practices





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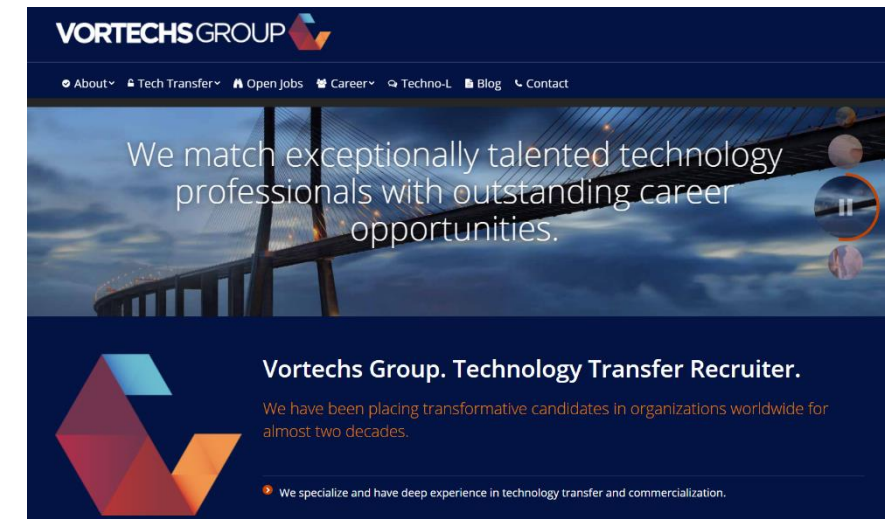
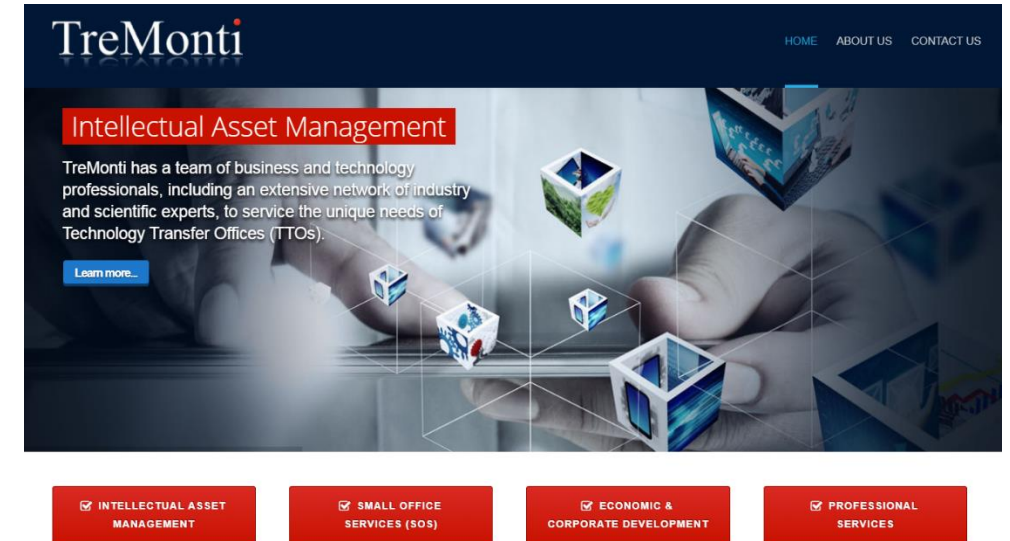




CWG: IP Portfolio Review

Consultation

- 1) TreMonti Consulting, LLC selected
 - Reviewed/evaluated 30 IP assets
 - Developed marketing document for each
- 2) Invention Evaluator (Vortechs Group)
- 3) Verrill Dana LLP





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CWG: Research Foundation

Questions

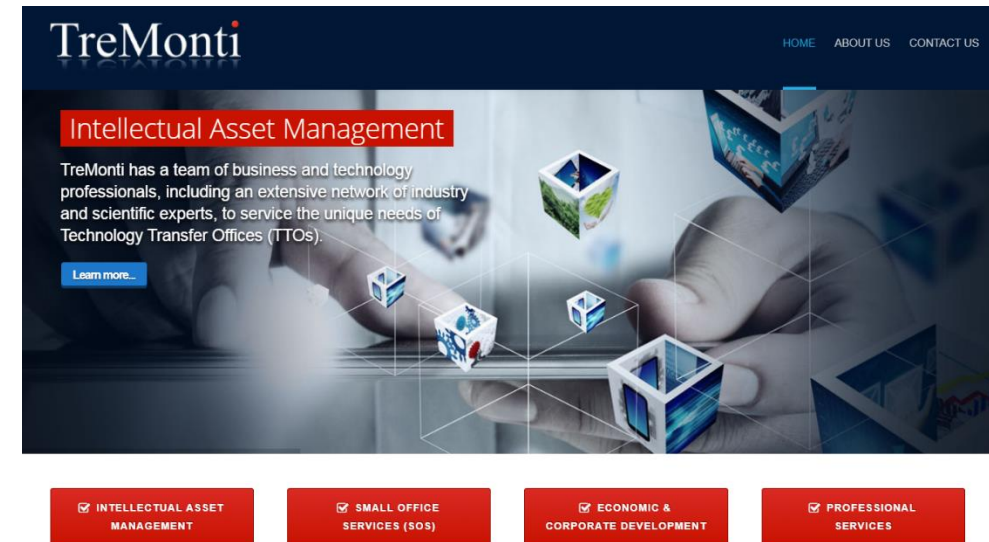
- What are the reasons to create such an entity?
- What are the risks and challenges (e.g., operational, legal, public perception)?
- What is the possible range of foundation activities?
- Compared to current UMaine operations:
 - Which activities would merit transfer to a foundation?
 - What is the ranked urgency and time frame for transfer?
 - What are the assessment criteria and how should the decision be reassessed in the future?



CWG: Research Foundation

Consultation – TreMonti Consulting LLC

- 1) Review UMaine current processes and activities related to commercialization
- 2) Compare against benchmarked peer institutions
- 3) Make recommendation regarding Research Foundation or similar entity
- 4) Recommend structural elements





CWG: Research Foundation

Methods

- **UMaine campus fact-finding**

- └─ Met with more than 30 campus stakeholders and several from broader community

- Provided presentation and led discussion on purposes/benefits of research foundations

- └─ Produced report regarding independent research foundation

- **Peer interviews**

- └─ Senior leadership of various peer institutions interviewed



CWG Work Plan

1. Review of UMaine's Intellectual Property Portfolio
2. Consider Research Foundation or Other Structure
- 3. Evaluate Experience of Partners**
4. Identify Best Practices





CWG: Experience of Partners

- Shanna Cox, Project Tipping Point LLC
 - Assisted with collecting/aggregating information from UMaine faculty/staff and industry partners in parallel processes
 - Survey
 - 188 Faculty/Staff responded (88% of these identified as tenure-track faculty)
 - 93 Industry Partners responded
 - Focus groups/interviews
 - 34 Faculty/Staff participated
 - 23 Industry Partners participated



GoTippingPoint.com



CWG Work Plan

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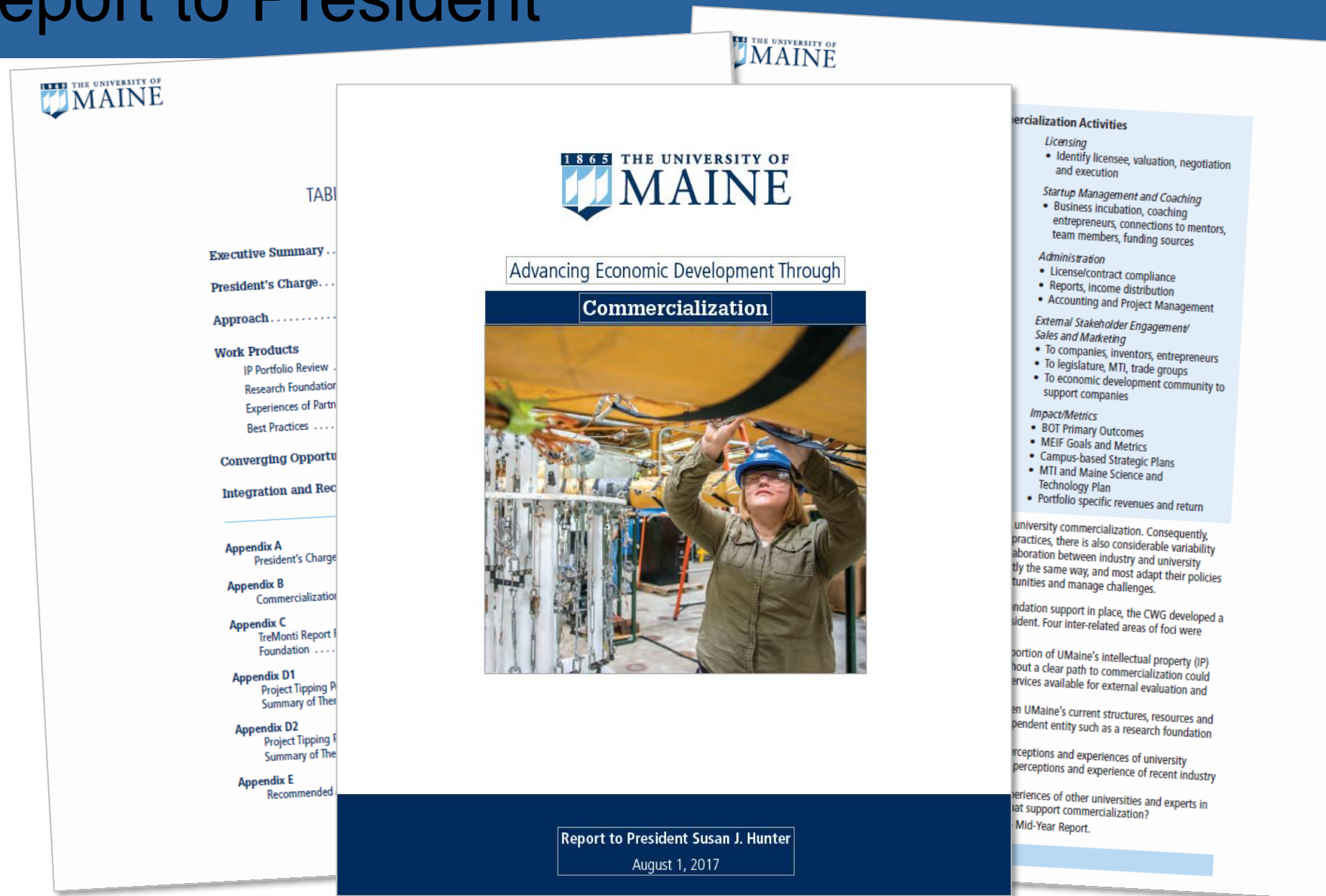


CWG: Best Practices

- Education Advisory Board (EAB) custom research brief
- Review of peer institutions' commercialization-related organizational structure, policies, etc.
- Review of Human Resources issues/policies
 - Compliance
 - Impact on Tenure and Promotion
 - Incentive options
 - Market-rate compensation
- Attended national meetings and workshops



Report to President



Advancing Economic Development Through

Commercialization



Report to President Susan J. Hunter

August 1, 2017

Commercialization Activities

- Licensing**
 - Identify licensee, valuation, negotiation and execution
- Startup Management and Coaching**
 - Business incubation, coaching entrepreneurs, connections to mentors, team members, funding sources
- Administration**
 - License/contract compliance
 - Reports, income distribution
 - Accounting and Project Management
- External Stakeholder Engagement/Sales and Marketing**
 - To companies, inventors, entrepreneurs
 - To legislature, MTI, trade groups
 - To economic development community to support companies
- Impact/Metrics**
 - BOT Primary Outcomes
 - MEIF Goals and Metrics
 - Campus-based Strategic Plans
 - MTI and Maine Science and Technology Plan
 - Portfolio specific revenues and return

university commercialization. Consequently, practices, there is also considerable variability in the way that industry and university collaborate, and most adapt their policies to the same way, and manage challenges.

Foundation support in place, the CWG developed a report. Four inter-related areas of focus were

portion of UMaine's intellectual property (IP) without a clear path to commercialization could be made available for external evaluation and

on UMaine's current structures, resources and independent entity such as a research foundation

perceptions and experiences of university perceptions and experience of recent industry

periences of other universities and experts in that support commercialization?

Mid-Year Report.



Key Findings

- About 25% of the evaluated segment of UMaine's IP portfolio has strong potential for commercialization
- There is value in utilizing an independent third party to:
 - Review intellectual property
 - Provide feedback to the researcher
 - Evaluate the readiness for advancing to market
 - Recommend next steps



Key Findings

- Independent research foundation allows variety of functions to enhance commercialization
 - Vehicle for more flexible recruitment, retention and compensation practices for employees
 - Improved marketing of UMaine resources to potential industry partners
 - Greater service to faculty and staff researchers
 - Increased ability to adapt to changing business and industry landscapes



Key Findings

- Experiences of industry partners have generally been positive
- Nonetheless, UMaine still has a long way to go to create an explicit culture of commercialization and knowledge transfer
- Business and industry partners highlighted the need for
 - Improved communication/marketing of services
 - Improved service delivery
 - Wider array of services



Key Findings

- UMaine faculty and staff express the need for
 - Clear policies
 - Additional resources
 - Aligned incentives supportive of commercialization and innovation
- Viable approaches exist to motivate faculty and staff to engage in commercialization activities and to reward success
- Best practices with respect to intellectual property management will require changes to UMS policy and procedures



Recommendations

- Create the *Innovation and Economic Development Council*
 - *Advisory to the President*
 - *Cabinet-level and other campus leaders*
 - *Assure economic development as strategic priority of UMaine*
 - *Monitor policies and practices*
 - *Recommend appropriate changes to support commercialization*



IEDC Council Members

Jake Ward	Vice President for Innovation and Economic Development
Kody Varahramyan	Vice President for Research and Dean of the Graduate School
Jeff Hecker	Executive Vice President for Academic Affairs and Provost
Chris Lindstrom	Vice President for Human Resources
Renee Kelly	Assistant Vice President for Innovation and Economic Development
Kris Burton	Director of Technology Commercialization
Ivan Manev	Dean, Maine Business School
Dana Humphrey	Dean, College of Engineering
Habib Dagher	Executive Director, Advanced Structures and Composites Center
Debbie Bouchard	Director, Aquaculture Research Institute
Cathy Billings	Associate Director for Communications and Development, Lobster Institute
Philip Trostel	Professor of Economics and Public Policy
Karissa Tilbury	Assistant Professor of Bioengineering
James Thelen	UMS General Counsel and Chief of Staff
David Neivandt	Associate Vice President for Research and Graduate Studies
TBD	Research Foundation representative
TBD	UMM representative
Jason Charland (ex officio)	Director of Grant Development



Recommendations

- Create the *Innovation and Economic Development Council*
- Create a Research Foundation



Research Foundation

- University of Maine Research & Development Foundation exists
- Not currently active
- Board meeting to start process



Recommendations

- Create the *Innovation and Economic Development Council*
- Create a Research Foundation
- Identify/secure resources to support Research Foundation and other commercialization initiatives



Secure Resources

- UMS Research Reinvestment Funds (RRF)
 - Commercialization Summit
- Harold Alfond Foundation
 - Report to HAF Board
 - Coordinate with other initiatives



Recommendations

- Create the *Innovation and Economic Development Council*
- Create a Research Foundation
- Identify/secure resources to support Research Foundation and other commercialization initiatives
- Revamp the processes for industry engagement and improve policies related to students and IP



Revamping Policies & Procedures

- Student-generated IP Guidelines
 - Clarification on management of IP for students and industry sponsors
- UMS IP Policy
 - Updated policy language to comply with current law
- Human Resources Policy
 - Best practices for faculty incentives
- Industry Engagement
 - Enhanced options and processes for sponsored research
- Faculty/Staff Resources
 - Professional Development, RRF grants and commercialization accelerator



Commercialization



Questions & Discussion