OHIO University

Innovation Strategy

An Interim Report

August 2014
Memorandum of Transmittal

TO: Joseph Shields, Vice President for Research and Creative Activity
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DATE: August 15, 2014

RE: Interim Report, Ohio University Innovation Strategy

Purpose of this Deliverable

Following one year of intensive, leadership-led strategic dialogue and analyses, this Interim Report summarizes progress to date toward creation of a comprehensive Innovation Strategy for Ohio University (OHIO or the University). This Interim Report is intended to provide the foundation for wider university dialogue, and especially to engage faculty ideas for university-level strategies and special investments.

OHIO’s Initiative in a National Context

EKA has been active in strategic planning in higher education for four decades. In particular, we have assisted in formation of innovation strategies for three decades, beginning with planning research parks and incubators in the mid-1980s. We also are active in leadership positions in higher education associations that are leading the national dialogue among our institutions about mission, directions in innovation, engagement, and economic development.

In this quite broad context, we were proud to have the opportunity to support OHIO in this initiative which is, to our knowledge, unique. University strategic planning exercises often result in aspirational language but do not define priorities or identify strategies to implement significant change. However, OHIO leadership has engaged in a focused and comprehensive planning process that is designed to define programmatic and delivery priorities, and then to make those priorities the subject of special investments. It is also impressive that this Innovation Strategy initiative is connected to several other smart growth initiatives—in a complex tapestry of planning for a stronger future OHIO.

OHIO is in the process of defining a new model and setting a new standard that others may emulate.

It is thus with the greatest enthusiasm that we look forward to continuing to support the University in this significant work and, even more, to seeing the fruits it will bear over time.

Very truly yours,

Eva Klein
As a public research university, OHIO has, as part of its mission and identity, the creation of knowledge for the benefit of humanity on local, state, national, and global scales. The fast pace of change in the 21st century prompts forward-thinking leaders to reflect on problems facing our world and determine where intellectual and creative resources can be focused with positive consequence.

To that end, the University initiated a planning process for future investment, with innovation as a central focus. This process was initiated during the 2013-2014 academic year through conversations between a Leadership Team with strong representation from the University’s academic deans and with the assistance of a consulting firm, Eva Klein & Associates, Ltd. (EKA). EKA was selected as a partner in this endeavor based on the firm’s deep experience in working with universities to facilitate strategic planning activities.

The goal of this engagement was to develop a framework for discussing innovation and opportunities for investment. The Leadership Team and Steering Committee adopted a broad definition of innovation which extends beyond typical technical and commercial applications, to a wide span of activity that seeks to advance the human condition.

In the Interim Report, the University’s existing strengths and mission are considered in relation to opportunities to advance innovation. The resulting framework is organized into portfolios of focus, articulated with sub-portfolios and niches for possible investment and prioritization. The Interim Report also contains a description of knowledge platforms—defined as fundamental or cross-cutting capacities needed to support multiple niches; the status of the University’s ecosystem of programs and infrastructure for innovation; and specific considerations for advancing innovation at OHIO’s several geographical sites.

For the investment framework, key principles informed the topic structure and led to identified candidate areas. A selected focus and a niche thereunder must address a problem of significance to society; it must present opportunities for OHIO to leverage its strategic advantages; and it must have potential for investment that will result in high-level impact.

A final, essential requirement is that the areas of focus must both allow and benefit from interdisciplinary approaches and methodologies—and must engage multi-college partnerships. This requirement reflects an institutional counterpoint to the empowerment of individual colleges resulting from OHIO’s adoption of Responsibility Center Management (RCM) for budgeting and, by design, it provides a means to incentivize and foster cross-college and interdisciplinary collaboration.

It is important to recognize that the interdisciplinary emphasis of this Innovation Strategy does not represent devaluation or abandonment of traditional disciplinary activities. High quality research, scholarship, and creative activity in our existing disciplines remain a priority, and may be the focus of new investments, as a result of college-level strategic planning.

The framework outlined in this document is the starting point to organize a broader conversation among our faculty and staff that ultimately will drive the ideas and decisions to advance the University’s innovation agenda and its value to society. The formal process for competitively selecting areas of investment will be initiated during AY 2014-2015. We intend to harness the best ideas from our creative faculty and staff—in order for the OHIO Innovation Strategy to realize its potential.

Pam Benoit Joseph Shields
Executive Vice President and Provost Vice President for Research and Creative Activity
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1—INTRODUCTION TO THE INNOVATION STRATEGY

NATIONAL CONTEXTS

In a 21st century university, innovation increasingly is recognized as essential, if higher education is to remain vibrant and relevant. The rapid pace of change, globalization, technology, and the interdisciplinary required to address complex problems all serve to increase the urgency for universities to develop an innovation strategy to most effectively leverage the assets (including talent and place).

In higher education, the term innovation has become bound up with other terms of art—economic development, economic engagement, prosperity, competitiveness, and the scholarship of engagement. Models currently being developed jointly by the Commission on Innovation, Competitiveness, and Economic Prosperity (CICEP) of the Association of Public and Land-Grant Universities (APLU) and the University Economic Development Association (UEDA) will, when published provide:

- A definition of Economic Development or Engagement in higher education
- Principles of Practice
- A Taxonomy of Programs.

The model is being organized, for now, as a tri-partite mix of Talent, Innovation, and Place (APLU’s draft version), with UEDA’s draft version including some additional explanatory language. In these drafts, because they involve the concepts of economic development and economic engagement, Innovation appears as one of the three elements, linked with Talent and Place.

Fostering a culture for innovation may make it possible to imagine the unimaginable.

Pam Benoit
Executive Vice President and Provost

There are no dreams too large, no innovation unimaginable and no frontiers beyond our reach.

John S. Herrington
former US Secretary of Energy

…[T]he academy must become a more vigorous partner in the search for answers to our most pressing social, civic, economic, and moral problems, and must reaffirm its historic commitment to what I call the scholarship of engagement.

Ernest L. Boyer
formerly President
The Carnegie Foundation for the Advancement of Teaching,
“The Scholarship of Engagement,”
The Journal of Public Service and Outreach, Volume 1, Number 1, Spring, 1996, page 11.

For OHIO, we chose to use Innovation as the over-arching construct, with Talent and Place expressly included under the nomenclature—OHIO Innovation Strategy. While terms of art can be used differently, what is important is (1) to devise strategies in all three areas, and (2) to understand that there are strong connections among them.
RATIONALE FOR AN OHIO INNOVATION STRATEGY

The University sought to develop an Innovation Strategy for the following reasons:

- Innovation at OHIO is a key driver for economic growth in the region. In 2012, the University generated approximately $1.5 billion in economic impact on the State of Ohio and up to $104 million in state and local tax revenue by activity associated with the University. Through its roles as an employer, educator, and workforce training provider, research institution, and regional steward for community and economic development, OHIO is a major engine of economic growth in its communities, the region, and the State. (Source: http://www.ohio.edu/impact/index.cfm)

- Innovation at OHIO contributes significantly to new knowledge and offers new ways to address societal issues that benefit the region, State, Nation, and world.

- Innovation at OHIO strengthens the value and competitiveness of the institution.

In its Conditions Reports, the OHIO Board of Regents (OBOR) has made clear its expectations that Ohio’s universities provide an ecosystem for economic development for the benefit of the State. The following graphic, from the Fifth Conditions Report, contains many of the elements that this planning addressed.

OBJECTIVES AND SCOPE OF WORK

In recognition of the changing internal and external forces that impact public higher education, expectations of the OBOR, and in conjunction with other smart growth initiatives, the University engaged Eva Klein & Associates, Ltd. (EKA) in July 2013, to facilitate OHIO’s process for planning an *Innovation Strategy*.

**Objectives for EKA’s Engagement**

Formally-stated objectives were as follows, and also as shown in the graphic.

- **University-Level Innovation Strategies.** Articulate OHIO’s strengths and opportunities for solving society’s greatest problems through new models of research and application, including an institution-level strategic framework that involves more than one college.

- **Responsiveness to State / OBOR Mandates.** Strengthen OHIO’s responsiveness to the State of Ohio and OBOR mandates for increasing impact of university-centric innovation and economic development.

- **Innovation Infrastructure (now referred to as the OHIO Innovation Ecosystem).** Evaluate ways to strengthen internal innovation infrastructure and consider resource allocation/investment strategies, funding sources, and organizational implications of the programmatic strategies

- **Satellite Location Strategies.** Determine strategies for expanding and leveraging the opportunities for relationships and partnerships that are presented by OHIO’s statewide footprint, including Athens, all regional campuses and new or planned extension campuses in Dayton, Dublin, and Cleveland.

- **Growth in Athens (Athens Campus and the Ridge); at Regional Campuses; and at Expansion Campuses.** Determine how to continue growth in all OHIO campuses, including how to leverage land assets in creating industry and government partnerships.

**Defining the Scope of the OHIO Innovation Strategy**

Accordingly, the scope of planning centered on three main elements:

1. **Innovation Content / Priority Programs for Investment**
   This work evolved as the *Portfolios to Niches* framework—the main focus of the *Innovation Strategy*.

2. **Innovation Ecosystem**
   This work centered on considerations of how to expand or further strengthen an already well-developed set of programs and services for delivery of innovation.

3. **Location Strategies**
   This work focused on which programs—connected to the *Innovation Strategy*—to carry out at extension campuses in Cleveland, Dublin, Dayton; the Regional Campuses; and on the Athens campus, including The Ridges.
OHIO Leadership for This Planning

OHIO’s participation and leadership in this planning was organized into the:

- Leadership Team. This group includes all academic deans and representatives of the Office of the Executive Vice President and Provost and the Office of the Vice President for Finance and Administration.

- Steering Committee. This group includes the Provost, Vice President for Research and Creative Activity, and Vice President for Finance and Administration, and staff.

Exhibit 1 is a list of planning participants, including members of the Leadership Team and Steering Committee.

Work Program / Process

Initial Data and Interviews

EKA began with a comprehensive scan of data about the University and about its higher education governance and economic development contexts in Ohio. We conducted one-on-one interviews with OHIO senior administrators and deans, and with many external constituents, including the City of Athens and representatives of Athens County government, and partners and economic development personnel at Cleveland, Dublin, and Dayton. Exhibit 1 includes a list of interviewees.

Dialogue

From July 2013 through July 2014, academic deans and associate / vice provosts convened as the Innovation Strategy Leadership Team. The team developed ideas for four broad portfolios of innovation and identified specific niche areas within those portfolios as candidates for special university-level investment.

Simultaneously, ways to expand the OHIO Innovation Ecosystem and Location Strategies were developed in other dialogue / meetings. Because OHIO’s health system partners are especially important to both the Innovation Ecosystem and Location Strategies, discussions included an in-depth look at OHIO’s relationships and potential relationships with Cleveland Clinic and Ohio Health.
Summary of Process / Major Tasks

The following graph outlines EKA’s plan for formation and implementation of the OHIO Innovation Strategy from the initial data scan through to integration. This Interim Report presents information related to the first four parts, with the need for more refinement and focused development on PART 5—Operational and Resource Planning and PART 6—Plan Decisions and Integration.
2—Defining Innovation for OHIO: The Five Realms of Innovation

Analysis and Dialogue—Candidate Definitions for OHIO

After completing initial data-gathering and interviews, the next work in this process involved assembling information from various sources about definitions of innovation—as used in business, economic development, and higher education. From these assembled data, we articulated options for how OHIO might define innovation.

Option #1: Innovation in Technology and Business Development

This is largely how OHIO, historically, has defined innovation since it first undertook innovation activities in the 1980s. At OHIO, innovation has been primarily about efforts and investments to:

- Capture and license intellectual property from OHIO research
- Support start-up and early-stage endeavors including OHIO entities and partnership entities
- Provide entrepreneurship education

This conception of innovation is fully consistent with how other, peer universities have defined innovation—in the post-Bayh-Dole realm of technology transfer, incubation, and research parks.

One valid decision option is to continue to define and focus in this way—with the focus on expanding and strengthening the current programs.

Option #2: Innovation in Technology and Business Development PLUS Social and Public Policy Innovation

In this definition, the focus on technology and business is augmented by utilization of university faculty/student knowledge to address social or public policy challenges of communities, regions, the State, and the global community.

OHIO already has significant assets in this realm, via academic programs across colleges, the Voinovich School and other partners. Interviews with OHIO deans reflect varying degrees of interest and commitment to this definition of innovation, and recognition that while it could be expanded, this is a mainstream option.

Option #3: Innovation in Technology/Business Development PLUS Social and Public Policy Innovation PLUS Innovation for Quality of Place or Quality of Community

All the possible projects and interventions that Social and Public Policy encompass are aimed at strengthening communities and regions in one way or another. This would be an even broader formulation—based on Quality of Place or Competitive Communities—in which it would be clear that all academic fields and disciplines have (or potentially have) innovation purposes and projects. The arts, language/literature, education, and all social sciences could participate in the OHIO innovation agenda.
We note, that in our experience, many universities carry out #1 innovation activities, and a somewhat smaller number carry out #2 innovation activities. In both cases, these represent a specific set of activities that have their own objectives, rewards, and success metrics.

The Level #3 definition has different and significant implications. To be successful, a university must be willing to develop and implement multiple strategies aimed at making places and communities successful and competitive.

Two More Realms of Innovation

In the dialogue, it became evident that one could go farther, to a model in which innovation would be positioned as an embedded value, a cultural feature, or a screen through which to consider virtually all aspects of University programs and investments.

■ Teaching / Learning Innovation. One could embrace the notion that innovating in educational and instructional processes is part of the OHIO innovation agenda. In this definition, innovation, like quality or relevance, would be another prism through which to consider OHIO academic program development.

■ Institutional Innovation. Finally, this led to the idea that innovation also could be applied to the manner in which a university formulates and carries out purposeful strategies, and to the ways in which it innovates in acquiring and deploying resources.

From the definition options considered, OHIO’s leadership selected the broadest possible, most inclusive definition. This definition was adopted as OHIO’s Five Realms of Innovation—the largest framework for designing elements of the OHIO Innovation Strategy.
DEFINITIONS: OHIO’S FIVE REALMS OF INNOVATION

For OHIO’s Innovation Strategy, Realms of Innovation are defined as the areas or modes of endeavor—internal and external—in which the University applies innovative thinking to achieve improved outcomes or effective, pragmatic solutions.

- **Business and Economic Innovation**
  Via effective entrepreneurship and its Innovation Ecosystem, OHIO pursues advancement of new technologies and supports regional economic development through new, viable businesses and job creation.

- **Public Policy and Social Innovation**
  Through application of entrepreneurial approaches, OHIO seeks to strengthen the work and outcomes of public, community, and social agencies, with the goal of creating innovation to benefit regional, state, national, and global systems.

- **Quality of Place Innovation**
  OHIO seeks viable means by which to strengthen rural communities, especially in Southeast Ohio—but with solutions that may be applicable to urban settings—so that these communities are places that are attractive to creative individuals and businesses that then further enhance opportunities and the quality of life.

- **Teaching and Learning Innovation**
  OHIO constantly pursues improvements in pedagogy to enhance success in the real world of OHIO’s individual learners—both college-age and life-long learners—as leaders, civic participants, and consumers of the arts and cultural life. On a societal level, OHIO seeks to produce the human capital and talent that is essential to drive economic and social innovation in the 21st century.

- **Institutional Innovation**
  OHIO seeks to continuously evolve planning and operations of the University to make balanced decisions; to use resources more effectively; and to enhance strategic advantages to compete for talent and resources.

ADVANTAGES OF THE BROAD DEFINITION

There are distinct advantages of this broad definition of innovation, in that it:

- Includes potentially all academic disciplines of the University (albeit in different or new ways), rather than a narrower focus on STEM or technology only
- Directs attention of OHIO’s leadership and faculty to additional connections between research and service activities and the core mission of preparing learners
- Responds comprehensively to the OBOR’s mandates for economic engagement
- Clarifies that to be an innovating university also requires innovation in how the institution approaches strategy formation and resource allocation
- Signals that defining innovation and innovating are continuous processes
- Articulates a new, comprehensive model that may be in the vanguard of higher education trends nationally.
By defining innovation to include these five broad realms of endeavor, OHIO expresses new interpretations of university mission; directions for an evolving institutional culture; and new ways of thinking about relationships with external constituents.

Taken together, attention to innovation in these five realms becomes the definition for an *Innovation University* in its 21st century societal and economic contexts and ensures that it remains vital and relevant.
DEFINITIONS: PORTFOLIO, SUB-PORTFOLIO, AND NICHE

To define areas of multidisciplinary knowledge content for eventual selection of Innovation Strategy investment priorities, the Leadership Team created this framework.

FRAMEWORK / DEFINITIONS FOR CONTENT DEVELOPMENT—INNOVATION STRATEGY INVESTMENTS

PORTFOLIO = A broad category of societal, economic, business, or technological problems or needs in the world, to which OHIO has strengths / assets to apply. Portfolios are defined to be university-wide areas of innovation focus, within which specific niches of expertise will be cultivated. The portfolios were defined with the intent that they will be enduring, for some period of time.

SUB-PORTFOLIO = An intermediate level of definition for a realm of activity, or a fairly broad component of activities within a portfolio, narrower than a portfolio, but still broad enough to encompass many specific niches. The sub-portfolios may change, over time, more than the portfolios.

NICHE = An area of endeavor within a portfolio that addresses a societal or industry problem or need, in which OHIO has competitive expertise that can be developed for greater distinction and impact. Like portfolios, niches establish university-level priorities; thus, a niche is defined to be a subject matter that engages more than one college and multiple disciplines. Niches may focus on research, applications, and service, but also may have associated instructional components, or focus on training.

THE FOUR PORTFOLIOS

Preliminary Criteria in Portfolio to Niche Development

OHIO’s Leadership Team identified four portfolios, each with sub-portfolios and potential niches—for future discussion and possible investment. Preliminary criteria used in development of the portfolios, sub-portfolios, and niches are that they:

- Must respond to a big problem or need in the economy or for society
- Must be an area in which OHIO already has strengths / assets
- Must be multidisciplinary, and involve faculty from more than one college.

Additional criteria may be developed, when the proposal process is defined.

The content of the four portfolios is described in the following section.
Portfolio A: Digitally Connected World

Portfolio Definition
Create new solutions and implement innovations in mobile, social, and digital technologies and other forms of communication that promote connections between people, places, and things

Portfolio Structure—Summary

Digitally Connected World

New Communication Technologies

- Data and Information Infrastructure and Networks
- Social and Mobile Media
- Human Computer Interaction
- Security and Privacy
- Digital Ethics
- Multimedia Design (formerly Digital Arts & Design Innovation)
- Visualization / Simulation / Gaming
- Communities of Interest
- Communication and Development

Digital Literacy

The World Within the Universe

Colleges / Units Involved
Minimally, this Portfolio involves various departments and programs of the:

- Scripps College of Communication
- The Patton College of Education
- Russ College of Engineering and Technology
- College of Arts and Sciences
- College of Fine Arts
- College of Business
- Voinovich School of Leadership and Public Affairs
- Global Affairs and International Studies
- Regional Higher Education.
Definitions of Sub-Portfolios and Niches

Sub-Portfolio A.1: New Communication Technologies

Targets innovation related to the ways that new communication technologies bring together people, places, and things

Niches

- **Data and Information Infrastructure and Networks.** Explores the characteristics of communication networks—hardware, software and human interface and the online environment

- **Social and Mobile Media.** Considers the creation, design, and assessment (e.g., social media analytics) of digital-social-mobile media

  Development and utilization of such technologies is taking place in multiple, diffused academic and support programs. Significant expertise currently resides in the Patton, Scripps, and Russ Colleges.

- **Human Computer Interaction.** Focuses on technologies and approaches for expanding and refining the ways in which humans send, receive, and interact with computers and digital networks

  As the interaction between humans and computers becomes increasingly ubiquitous, the methods with which we interact with computers will expand and become more nuanced across an ever-expanding set of use-case scenarios.

- **Security and Privacy.** Contemplates the meaning of privacy and security in the 21st century

  This niche considers solutions to problems associated with the release of personal and / or sensitive information to outsiders due to flaws in either physical / virtual systems or human nature and whether intentional (in the case of privacy) or accidental (in the case of security).

Sub-Portfolio A.2: Digital Literacy

Addresses individuals’ abilities to effectively employ operational skills (e.g., the ability to use a computer), formal skills (e.g., the ability to handle the formal characteristics of a computer network and web environment), and information skills (e.g., skills in selecting, evaluating, and processing information) using new and emerging communication technologies

Niches

- **Digital Ethics.** Addresses ethical, courteous and productive behavior in use of digital media

  Digital Ethics, also known as cyber-ethics or cyber-citizenship, is defined by the US Department of Justice as a code of safe and responsible behavior for the Internet community.

  This includes issues such as cyber-bullying, privacy, digital manipulation, and copyright / intellectual property, among others.

- **Multimedia Design.** Explores how digital tools can be used to create rich narratives using multimedia tools

  Significant areas for growth include evolutions in how those technologies are utilized and deployed. This niche includes topics like user interface design and aesthetics of digital design.

- **Visualization / Simulation / Gaming.** Addresses technology convergence in bringing overlapping innovations that promote and utilize visualization, simulation, and gaming for both entertainment and instrumental outcomes

  This niche includes topics like data visualization, augmented reality, and gamification.

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Sub-Portfolio A.3: The World Within the Universe
Studies relating to the ways in which communication innovation has “flattened” the world and created new forms of community

Niches

- **Communities of Interest.** Maximizes the promise and avoiding the perils of communities of interest—including face-to-face, virtual, and blended communities
- **Communication and Development.** Explores relationships between communication and advancing development
Portfolio B: Energy, Environment, and the Economy

Portfolio Definition
Create new solutions and implement innovations in education, technology, policy, communications, and economics that enhance responsible and sustainable use and stewardship of the Earth’s resources.

Portfolio Summary

Our Energy Future
- Evolutionary Energy Policy, Technology, and Economics
- Environmental Communication
- Environmental Safety Training
- Biofuels
- Fuel Cells
- Biomass to Syngas to Fuels
- Responsible Utilization and Re-Use of Natural Resources, Materials, Fuels, and Energy Generation
- Sustainable Materials, Devices, and Processes
- Design and Practices for Sustainable Communities
- Air Quality Monitoring and Mediation
- Water Quality Monitoring and Watershed Restoration and Protection
- Oil and Gas Pipeline Corrosion Mitigation

Energy Generation
- Environmentally Responsible Technologies

Environmentally Responsible Technologies

Environmental Mediation and Remediation
- Environmental Mediation and Remediation

Colleges / Units Involved
Minimally, this Portfolio involves various departments and programs of the:

- Russ College of Engineering and Technology
- College of Arts and Sciences
- Voinovich School of Public Affairs and Leadership, CE3

For some niches, this also possibly involves:

- Regional Higher Education
- Scripps College of Communication
- College of Health Sciences and Professions.
Definitions of Sub-Portfolios and Niches

Sub-Portfolio B.1: Our Energy Future

Multi-disciplinary study of the long-range future of energy generation, distribution, and use—including technology, policy, economics, and civic engagement perspectives and knowledge—as well as some pragmatic aspects of preparing for the future

Niches

- **Evolutionary Energy Policy, Technology, and Economics.** Provides a forum to tightly integrate economists, technologists, business, and public/social policy professionals, who will lead in development and continuous rejuvenation of an Evolutionary Energy Policy and Mature Technology Roadmap for a many-decade time horizon
  
  Policy and economic aspects of these studies (as a group) also may contribute to work under the other three Sub-Portfolios.

- **Environmental Communication.** Develops and applies communication strategies to engage citizens in environment issues—for example, digital story-telling

- **Environmental Safety Training.** Focuses on developing innovative training programs and conducting related research in the field of Environmental Safety
  
  This includes introducing cutting-edge technologies and industry best practices to first responders, industrial hygiene and environmental repair professionals.

Sub-Portfolio B.2: Energy Generation

Research and development to discover and apply effective, cost-effective, and sustainable ways to generate energy, encompassing traditional, currently alternative, and not-yet-foreseen energy technologies

Niches

- **Biofuels.** Addresses the direct use of biomass for energy generation

- **Fuel Cells.** Focuses on conventional and solid oxide fuel cells for direct electrical power generation

- **Biomass to Syngas to Fuels.** Considers the intermediate conversion of biomass to a standard fuel which, in turn, is converted to traditional fuels
  
  Example: Dimethyl ether is a syngas. There are only a few places in the world where it is used. But dimethyl ether can be converted relatively easily into gasoline, kerosene, or other standard fuels.

Sub-Portfolio B.3: Environmentally Responsible Technologies

Research and applications, encompassing materials, devices, and processes, by which to avert, reduce, or minimize harmful impacts on the environment from industrial and societal uses

Niches

- **Responsible Utilization and Re-use of Natural Resources, Materials, Fuels, and Energy Generation.** Addresses ways to reduce waste and re-use natural resources and man-made materials, where appropriate
  
  Examples include: the alternate use of coal combustion byproducts, in making building products; the treatment and use of iron oxides from acid mine drainage in pigments for paints and concrete; and the treatment and re-use of produced and flow-back waters from high-volume hydraulic fracturing to reduce the water footprint of this technology; and the reduction of municipal solid waste going into landfills.
• **Sustainable Materials, Devices, and Processes.** Studies materials that can be used to make energy-efficient or environmentally-responsible products; devices that minimize energy usage and emissions; and processes that efficiently and environmentally produce products—all designed for the entire lifecycle of the products.

• **Design and Practices for Sustainable Communities.** Develops and applies ways to enhance our abilities to design and build resilient buildings, infrastructure, and communities, using advanced materials and technologies.

Sub-Portfolio B.4: Environmental Mediation and Remediation

Research and applications for improved technologies and methods to avert or reverse environmental damage.

Niches

• **Air Quality Monitoring and Mediation.** Addresses the measurement of pollutants in the atmosphere; the modeling of the propagation of those pollutants; and techniques for preventing their introduction.

• **Water Quality Monitoring and Watershed Restoration and Protection.** Concentrates on assessment techniques and restoration practices for highly disturbed lands and waters.

• **Oil and Gas Pipeline Corrosion Mitigation.** Develops analytical and computer tools based on empirical results from operating oil and gas pipeline facilities, in order to improve the understanding and design of corrosion-resistant oil and gas transport facilities.
Portfolio C: Health and Wellness

Portfolio Definition
Create new solutions and implement innovations in education, science, technology, clinical care, public policy, and business models that improve health and the delivery of care

Portfolio Structure—Summary

Colleges / Units Involved
Minimally, this Portfolio involves various departments and programs of the:

- Heritage College of Osteopathic Medicine
- College of Health Sciences and Professions
- College of Arts and Sciences
- Scripps College of Communications
- The Patton College of Education
- College of Fine Arts
- College of Business
- Voinovich School of Leadership and Public Affairs
- Global Affairs and International Studies
- Regional Higher Education.

Also, some future Niches in Emerging and Novel Technologies could engage the Russ College of Engineering.
Definitions of Sub-Portfolios and Niches

Sub-Portfolio C.1: Public Health
All organized measures to prevent disease, promote health, and prolong life among populations as a whole (from World Health Organization definition)

Niches
- **Population Health.** Studies health outcomes of a community of people living with certain conditions or living in similar circumstances
- **Global Health.** Working collaboratively with others around the world on the examination and application of Population Health issues and delivery models
- **Environment and Food / Nutrition.** Explores the impact of the environment and food on human health, and solutions
- **Social and Mental Health.** Advances the science of mental health and addiction prevention through research and evidence-based prevention programs
  The objective is to create measurable change statewide in the quality, availability, and effectiveness of mental health care and treatment for addiction.

Sub-Portfolio C.2: Underserved Populations
Research and application of educational outreach, health promotion, and health care delivery specific to areas with inadequate or underutilized resources

Niches
- **Healthy Aging.** Studies means to optimize the health and well-being of our aging population, with efforts aimed at understanding specific diseases and neuro-musculo-skeletal and other physiological systems
- **Health Care Delivery in Appalachia.** Studies and applies national, contemporary / best-practice models for health care delivery to populations in rural areas, such as Appalachia
- **Health Care Delivery in Urban Communities.** Studies and applies national, contemporary/best-practice models for health care delivery to populations in urban areas, including means to address the health disparity issues of minority populations

Sub-Portfolio C.3: The Art and Science of Health Care Delivery
Research and application of innovative modes of delivering cost-effective and quality health care

Niches
- **Arts and Wellness.** Studies and applies ways to use the arts for health care delivery and to maintain or improve health and wellness
- **Health Communication.** Develops systems and methods for delivery of health information to patients, care-givers, and populations
- **Health Leadership.** Develops management and leadership skills for those who lead health care delivery systems, as well as those who direct health policy and funding
Sub-Portfolio C.4: Emerging and Novel Technologies

Research and application regarding new pharmaceuticals, devices, diagnostic testing or other techniques which improve the human condition

Niches

- **Personalized Medicine.** Studies this emerging practice of medicine that uses an individual’s genetic profile to guide diagnosis and treatment

- **Prevention, Diagnostics and Therapies.** Studies of new pharmaceuticals, devices, diagnostic testing, or other techniques by which to prevent or treat high-impact diseases that are prevalent in the region, including diabetes and one of its major underlying causes, obesity
**Portfolio D: Vibrant Societies and Economies**

**Portfolio Definition**
Create new solutions and implement innovations in physical, economic, social, arts/cultural, education, and human development environments that help individuals, families, organizations, and communities thrive

**Portfolio Structure—Summary**

Colleges / Units Involved
Minimally, this *Portfolio* involves various departments and programs of the:

- College of Fine Arts
- College of Business
- The Patton College of Education
- College of Arts and Sciences
- Scripps College of Communications
- Russ College of Engineering and Technology
- Heritage College of Osteopathic Medicine
- College of Health Sciences and Professions
- Voinovich School of Leadership and Public Affairs
- Regional Higher Education.
Definitions of Sub-Portfolios and Niches

Sub-Portfolio D.1: Human Capital

Research and applications that define ways to strengthen skills, knowledge, and effective human development of people—cradle to grave—in the context of a knowledge- and human capital-dependent global society

Niches

Some niches may focus on SE Ohio or Ohio, as a laboratory for global challenges.

- **Effective Pre-K to 12 Schools.** Engages teachers and educational leaders in new modes of preparation and professional development designed to improve positive impact on learners
  This currently involves designing and implementing a clinical model that focuses on experiential learning—patterned after the medical model—and a focus on educating children and youth for democratic citizenship.

- **School and Community-Based Health Interventions.** Addresses physical, dietary, and mental health initiatives that focus on health, working through school, parent/family, and community organizations

- **Workforce Development.** Provides lifelong education and training programs to develop skills and technical knowledge of the workforce to meet current and future needs of employers in Ohio, including a focus on employing persons with disabilities

- **Adult Literacy.** Concentrates on research and applications to achieve a wide range of development goals for adults, e.g. functional and reading literacy, numeracy, digital literacy, civic participation, financial literacy and wise consumer behaviors

Sub-Portfolio D.2: Arts and Culture as Forces for Economic Prosperity

Research and applications for ways in which arts and cultural resources create *Quality of Place* and also contribute to economic prosperity and social / individual well-being

Niches

Some niches focus on Athens and southeastern Ohio.

- **Design Thinking.** Applies formal, solution-based (as opposed to problem-based) approaches to development, using potential solutions as a way to initiate dialogue, explore concerns, and ultimately select the best solution
  Design Thinking is relevant in several disciplines, such as Business, Education, or Engineering.

- **Arts and Education.** Applies project-specific, research-based techniques to develop models and methodology for how arts-oriented education can contribute to Human Development at all ages and stages

- **The Regional Arts and Culture Economy.** Creates, with partners, a pragmatic, economic development focus on enhancing Arts and Culture assets and supporting Arts Entrepreneurship
  The idea is to cultivate and promote Athens as a top-ranked Tourism / Arts destination.
Sub-Portfolio D.3: Entrepreneurship and Economic Development
Research and application of innovation and entrepreneurship to deliver solutions to improve quality of life for residents in rural and economically distressed regions

- **Rural Economic Development.** Facilitates research and service programs that support economic activity in rural and economically distressed regions, with programs that offer unique capacities, exportable best practices, and measurable impact on regional economies

- **Executive Leadership Development.** Develops and deploys innovative, interdisciplinary programs to provide leading-edge strategic leadership thought and practice
  
The objective is to enable leaders to more effectively and efficiently position their organizations in an increasingly complex, dynamic global environment. Target sectors include corporations, non-profits, government agencies, higher education / education institutions, and health organizations.

- **Transportation and Logistics.** Studies transportation infrastructure that is designed for sustainability (durability and efficiency)
  
  This *Niche* responds to the fact that vibrant communities require supporting infrastructure. Transportation may include all modes, from pedestrian to mass transit (buses, rail, and air). Logistics is included, as even well-designed infrastructure is inefficient, if movement of goods and people is not well coordinated.
SUMMARY COMMENTS ON THE PORTFOLIOS

The foregoing framework is a considerable body of thoughtful work—produced by the Leadership Team.

While there are mild variations of degree or scale, these portfolios, sub-portfolios, and niches constitute a hierarchy / framework that meet the three criteria that were posed at the outset:

- Must respond to a big problem or need in the economy or for society
- Must be an area in which OHIO already has strengths / assets
- Must be multidisciplinary, and involve faculty from more than one college.

Now, EKA expects that:

- The names and definitions of the four portfolios should be enduring, in that they define innovation content broadly. (Note: Different versions of these four topics are beginning to appear in various configurations and variations at other major universities—offering some confirmation of their validity.)
- The names and definitions of the sub-portfolios may be somewhat less enduring, and may be moderately revised or reconfigured, with time and experience.
- There are many potential niches of innovation that can be included under each sub-portfolio. Some niches may bridge two sub-portfolios, or even two portfolios. It is important that niches are not the same as projects. They are broader, and they will not be in the domain of individual faculty; to be successful, they will require multidisciplinary groups of faculty to be engaged.
- It is at this level of specificity—the niches—that special investments make sense. Also, it is at this level—the niches—where we expect that OHIO’s faculty will contribute the most valuable insights and ideas for refinement.
The Leadership Team concluded that some areas of knowledge and inquiry that were suggested initially as niches are much broader areas that, in fact, enable or support other multi-disciplinary programs. These came to be understood as areas that did not fit the Portfolios, Sub-Portfolios, or Niches framework; yet, they could be important areas for the University to consider for strengthening the overall innovation framework. These areas function as knowledge platforms.

**DEFINITION**

KNOWLEDGE PLATFORM = An area of knowledge, discovery, and development that is a core capability that undergirds (or must be part of) solutions in several niches, and across more than one of the four portfolios or their sub-portfolios.
THREE KNOWLEDGE PLATFORMS

The following knowledge platforms have been identified as potentially likely needs in light of the niches currently defined for consideration.

- **Policy and Social Innovation**
  The application of entrepreneurship and leadership skills to address public and social issues has emerged as a broad-based methodology for advancing knowledge and innovation to foster positive change. The university has taken steps to grow this capability, through leadership programs in the College of Business and Russ College, innovation initiatives in the Scripps College, and creation of the Center for Public and Social Innovation in the Voinovich School, among other developments. Policy and Social Innovation approaches likely will be important for supporting a number of niches, especially, but not exclusively, in the Vibrant Societies and Economics portfolio.

- **Big Data Analytics**
  Sometimes referred to as Big Data or Data Analytics, this is a critical capability in computational and social sciences, with emerging relevance to multiple content areas including business, health, communication, and others. It involves processing enormous volumes of data to extract meaningful information—enabling investigators to capture, visualize, and analyze extremely large data sets.

- **Basic Sciences**
  Various Basic Science disciplines (e.g. Molecular Biology, Physical Sciences, Nanoscience) may be needed as part of the development of advanced capabilities in various niches.

Actual priorities for selective investment in knowledge platforms may be guided by the niches that ultimately are selected for special investment.

Knowledge platform needs will be explained in niche proposals. Certainly, other knowledge platforms, not yet identified, may be identified either in the open dialogue process or in the niche proposals.
5—Expanded Innovation Ecosystem

OHIO's Innovation Ecosystem—Original Business and Economic Focus

History of Development

OHIO's present-day Innovation Eco-System evolved during a period of three decades, as illustrated in this graphic. Its focus, through most of this period was in the realm of Business and Economic Innovation—where all research universities started. In OHIO’s case, entrepreneurship has been, for some time, extended to encompass a second realm of innovation, Social and Public Policy Innovation.

Evolution—Now and Future

This chapter describes a proposed next stage of evolution—to encompass the first three realms of innovation more broadly (with connections to a fourth—Teaching and Learning Innovation).

It is important to state that even the expanded Innovation Ecosystem concept described herein is not the last word. This Ecosystem will continue to evolve over time, as new ideas for how to deploy innovations arise.

Assessment Comments

One of EKA’s core assignments was to examine OHIO’s Ecosystem for Innovation and Entrepreneurship and help the University determine how that Ecosystem should be expanded or strengthened. We conclude the following.

Very Strong Innovation Ecosystem Results to Date

OHIO has built an unusually well-developed Innovation Ecosystem, if evaluated in terms of the kinds of programming that universities typically have considered as innovation-centric economic development programs since approximately the 1980s.
Indeed, OHIO has been engaged in these endeavors longer than most peers, and has done so very well—in metrics from technology transfer licensing to company incubation. For example:

- **Research Growth.** From 2004 to 2012, OHIO’s research expenditure growth, at 45 percent, mirrored that of all higher education institutions.

  ![Ohio University Total Research Expenditure Trend: 2004 to 2012](image)

- **Edison Biotechnology Institute.** Combining discovery research with an entrepreneurial focus, the Institute has a strong record of commercializing biotechnology that advances medicine and health.

- **TechGrowthOhio.** Serving SE Ohio, TechGrowthOhio is the only one of OHIO’s six Entrepreneurial Signature Programs (ESPs) that is operated by a public university.

- **Innovation Productivity.** In 2011, OHIO ranked first among Ohio universities for research licensing revenue, with faculty inventions generating $8.6 million. OHIO also ranked fourth after Princeton University, Northwestern University, and New York University for return on investment in research, with a 29.7 percent return.

  ![Selected Tech Transfer Statistics--2009-2013](image)
Innovation Center. For more than 30 years, OHIO’s business / tech incubator has provided suitable facilities and services to university and regional entrepreneurs, helping them launch successful technology start-up companies.

The Center for Entrepreneurship. This Center provides both entrepreneurship education and business development assistance. Also, the Center sponsors several events, such as:

- Start-Up Weekend Competition
- Idea Pitch Competition
- Innovation Challenge (led by Scripps College of Communication)
- Venture Café Series
- Guest Lecture Series

Changes in the Third Frontier Program

OHIO needs to do even more to integrate elements of its Innovation Ecosystem, in light of the State’s desire to achieve more integration and collaboration within each of its six ESP regions.

Implications of OHIO’s Statewide Footprint and Location Strategies

Also of relevance to the new Innovation Strategy is OHIO’s new presence in Dublin, Cleveland, and Dayton areas. Provision of Innovation Ecosystem services in those locales needs consideration.

The Innovation Center: A Pioneering Program

OHIO’s Innovation Center (views above) was the first university-sponsored tech incubator in OHIO and fourth in the Nation, by founding date. It served as a model to many other programs / facilities.
2013 VS. THE NEXT-GENERATION ECOSYSTEM

OHIO’s New Innovation Strategy and Implications of the Five Realms of Innovation

OHIO’s adoption, in this planning process, of a very broad definition of innovation—the Five Realms of Innovation—suggests that OHIO’s conception of what is included in its Innovation Ecosystem also expands, to embrace broader functions relating to the Innovation Strategy, and to further increase value and relevance.

The graphic on this page shows the OHIO Entrepreneurial Ecosystem as of 2013. It is an extremely interesting graphic, because it captures brief descriptions of program/service elements and also serves to guide faculty and company entrepreneurs to resources that may be of interest to them.

Then, the graphic on the facing page shows the proposed, expanded concept of the OHIO Innovation Ecosystem—more broadly representing realms of innovation in addition to Business and Economic Innovation.
AN EXPANDED CONCEPT OF THE OHIO INNOVATION ECOSYSTEM

OHIO University All Programs + Specific Innovation Strategies

Innovation Portfolios / Niches + Knowledge Platforms + Learning Modes for Innovation + Location Strategies

Research Centers & Institutes (Academic Units) — Research Infrastructure (Core Facilities & Research Administration) — Technology Management (and Business Formation & Development)

Internal Funding Strategies ($100MM Fund: Proof-Of-Concept Fund) — TechGrowth (and Other Business Support Services) — Business Capital Formation (OSU-OU Innovation Fund: Third Frontier)

Global Affairs / International Studies — Leadership Centers, Institutes, Programs

Center for Entrepreneurship — Center for Policy & Social Innovation

Innovation Center — OHIO Partners Program (OUT-reach & Sustained Strategic Relationships) — OHIO Partners Portal (“Front Door” IN-reach (web-based & via personnel)

Community-University Partnerships) — OHIO Resident Partners Program (Mixed-Use Facilities Strategy)
An Expanded Concept for OHIO’s Innovation Ecosystem—Aligned with Three of the Five Realms of Innovation:

Definition

Expanded Innovation Ecosystem = A wide range of modes and mechanisms for delivery of innovation content that includes integrated education and research programs, services, specialized facilities, and pathways / organization / processes for outreach, service provision, and mutually beneficial relationships with businesses, communities, state agencies, other institutions of higher education or health care, or still other partners.

While this definition includes reference to integration of education programs with research and service programs, it also is the case that Teaching / Learning Innovation is its own realm of innovation, not possible to incorporate under the Ecosystem concept.

Ecosystem Delivery: From One to Three Realms of Innovation

The EKA team has been thinking about the future Innovation Ecosystem in light of the Five Realms of Innovation, once these were defined. We realized that the earlier notion of the Ecosystem was focused nearly entirely on Business and Economic Innovation. This is essentially consistent with national practice—as the forms of university economic development and innovation that have been evolving since approximately the 1980s did indeed focus on business formation, growth, and relationships. This realm, of course, continues to be a priority.

However, OHIO’s new definition of innovation explicitly includes Public and Social Policy Innovation and Quality of Place Innovation, as well as Teaching / Learning Innovation and Institutional Innovation.

Thus, we sought to define an Expanded Innovation Ecosystem as including existing OHIO programs, centers, and services, plus a few new or expanded elements, that relate to OHIO’s first three of five realms of innovation—which are areas of innovation content:

The Other Two Realms

Teaching / Learning Innovation and Institutional Innovation are themselves entire systems of programs and activities—and they are core functions of OHIO’s transformational mission. They are treated as separate subjects in subsequent sections of this Interim Report.
OBSERVATIONS AND POSSIBLE STRATEGIES

Following are observations and ideas for possible strategies for some new Innovation Ecosystem elements and for expansion of some others.

New Elements Already in Implementation

Capital Formation—The Innovation Fund

OHIO and Ohio State University (OSU) have executed a Memorandum of Understanding by which they are jointly creating a venture fund to complement the Third Frontier capital fund, and specifically to fill a capital formation gap in Ohio, by focus on early-stage funding. Funding would be available for ventures associated with OSU, OHIO, or other universities in the State. OHIO is contributing $15 million and OSU is contributing $20 million. This Fund is in early stages of implementation and the universities are seeking a fund manager.

Community-University Partnerships

OHIO strives to develop strategic partnerships to ensure a healthy local and regional economy in Ohio’s Appalachian region that creates and sustains a place where people choose to live, work, and raise a family.

Through active partnerships, OHIO will position itself as a statewide and national leader in attracting and recruiting high quality students, pre-eminent faculty and expert staff in support of its teaching, research and service missions, and will position Ohio’s Appalachian region as a preferred destination for residents and visitors.

Benefits of Community Collaborations

Benefits to the University of forming these community-based alliance networks on the Athens campus, for example, include:

- Building stronger linkages between the University and the City and County
- Expanding critical community-based resources that support faculty, staff and students
- Reinforcing Athens as a livable city in Southeast Ohio
- Promoting Athens and the surrounding region as a destination place for recreational and cultural activities
- Enhancing Athens’ ability to attract and recruit non-university related companies to the region
- Focusing the University’s community-based resource expenditures to strategic initiatives of mutual benefit to the community and to the University.
OHIO’s Commitments

OHIO has demonstrated a commitment to local and regional well-being through membership in organizations such as the Athens County Chamber of Commerce, the Athens Uptown Business Association and the Athens County Economic Development Council.

Through a joint-membership committee, OHIO and the City of Athens have established a partnership to cultivate town-gown relations to further the mutual desire of creating and maintaining a safe, civil and vibrant community for its citizens.

Project Examples

Specific projects include:

- The Uptown Revitalization Initiative is a recently completed project, phased over a two-year period, as a collaborative effort with the Athens Uptown Business Association to improve lighting in the uptown area.
- In addition to providing family entertainment, the Film Festival series held twice a year at the university-owned Athena Theater, benefits Big Brothers and Big Sisters of Athens County as well as the local Food Bank.
- In partnership with the Athens County Economic Development Council, secondary and primary research was used to tailor a strategic retention and recruitment plan to Athens County, promoting better collaboration between educational institutions and area businesses.
- Based upon research and collaboration with the Corporation for Appalachian Development (COAD), a committee is developing recommendations to address the need for quality day care options in the Athens area.
- Addressing the need for fair-market housing options for professional faculty, staff and graduate students is necessary to retain and attract long-term residents. The structure of this initiative is currently in development with the vision of establishing residential neighborhoods centered on public schools to promote a strong, diverse community that encourages staff and faculty to live closer to the university.
New Elements for Consideration

Proof-of-Concept Fund

These very early, pre-seed fund initiatives have become quite common among universities, as important first, small investments in faculty research that may prove to have promise for commercialization—and where a small amount of funding can lead to better decisions about commercial viability, potential for company formation or licensing or seed/venture capital investments, etc.

At present, OHIO does not have a specific program or source of funding for a formally-organized Proof-of-Concept Fund. Funding currently is based on Third Frontier funding, which requires university matching funds. There is some availability of funding but future demands could result in a need for enhancement of this endeavor in the future.

One of the desired outcomes of this Innovation Strategy will be a greatly enhanced, although strategically focused, research program. Targets for research expenditures and related metrics will be developed. In expectation of increasing demand for proof-of-concept funding arising from research, OHIO should keep in mind the idea of adding a separately dedicated Proof-of-Concept Fund to its Innovation Ecosystem.

A fund initially in the range of $2 million might be sufficient to start. A donor or other external funding could be pursued, at the right time.

The OHIO Partners Program

At OHIO, there are many academic units, administrative functions, and innovation ecosystem programs that actively seek and carry out relationships with external entities. For pursuit of a broad Innovation Strategy, it is certain that OHIO will seek to enlarge further its focus on partnerships and collaborations—with many types of partners and on many dimensions.

While there is undoubtedly extensive activity, what may be missing is a better way to:

- Coordinate and leverage these activities for more opportunities
- Ensure that follow-through occurs or that commitments are carried out properly
- Facilitate full reporting of accomplishments to OHIO’s Board and to OBOR.

On the last point, we are convinced that, as state governments press universities for more engagement in public and economic problem-solving and innovation, universities typically do not even know all the accomplishments they already have—or at least not in a way that can readily be evaluated, monitored, and reported.

If partnerships and collaborations are essential to the realms of innovation and to the 21st century institution, then it is logical that, like Research, Development, Admissions, Alumni Affairs, and many other functions, there should be a central point of authority for coordination across the University; for promotion; and for tracking progress and outcomes.

We therefore recommend establishment of a program and an office, called the OHIO Partners Program—a broadly construed organizational element in the University, to link together the many partnership activities of the institution.
Partners are defined as other institutions of higher education, community or non-profit organizations, health care systems, pre-K to 12 education systems, state agencies, and the private sector.

Other than the 100-year old Agricultural Extension framework, there is no one model that is used elsewhere. This would be the Office at OHIO to which are assigned responsibilities that include:

- Elevating the focus of the institution on collaborations for achieving its ends
- Overall coordination of promotion and marketing to external parties for establishment of partnerships with OHIO
- Specific marketing to / for Resident Partners—formerly discussed as a research park (see below)
- Leading ongoing strategic dialogue with those units that actively seek and support OHIO Partners
- Promoting internally the value of collaborations and help university personnel in outreach initiatives
- Providing policy for management of relationships, where / when needed
- Creating and maintaining an active database that combines data on all forms of OHIO partnerships, and using the data (1) to help OHIO leverage additional benefit from relationships, as appropriate; (2) to monitor progress internally; and (3) to report innovation and engagement accomplishments to OBOR.

A small staff would be Athens-based but could include staff who regularly deploy to Dayton, Columbus, and Cleveland. The lead administrator and all staff in an Office of Partnerships would need to be very well-informed about all university programs, assets, initiatives, faculty and administrators.

The OHIO Front Door (Portal)

All universities have points-of-entry and coordinating offices for student applicants, research funding agencies, donors, and alumni. Land-grant institutions always have had the Extension Service as the point of both OUT-reach and IN-reach for Agriculture constituents and, to some extent, for manufacturers.

But, in general, because of the highly varied nature of partnerships and relationships that a university can provide and because of the equally varied nature of the external constituents who might desire relationships or information, there never has been a uniform, coordinated approach to managing these relationships and exchanges. Commonly expressed concerns are that the extent of available university resources is not known and that questions do not receive timely response.

Following the recommendations of its Fifth Condition Report, OBOR is establishing a pilot program with leadership from OHIO for the establishment of a research portal to address some of these concerns, delivering data on faculty expertise and other assets of interest to external parties. We thus suggest that one main function of the Ohio Partners Program would be to leverage this portal to develop a more complete infrastructure for in-reach, including personnel capable of directing inquiries to the right place and ensuring timely follow-up.
**OHIO Resident Partners Program: Multi-Tenant, Mixed-Use Partnership Facilities**

Unlike many peers, OHIO never has launched development of a research park. The question of whether, where, and how to do so was among the questions put to EKA for this study. One idea was to dedicate some acreage at the Ridges to this purpose.

**From 1950s/1980s Research Park to 21st Century Knowledge Community**

EKA has a long history of assisting research universities with planning research parks and incubators and is recognized nationally in this field. (The very first was Eva Klein’s involvement with Virginia Tech in planning its Corporate Research Center, in 1984.) We have, however, long ago decided that the separate site model (derived historically from the idea of the industrial park) is not the correct model for the 21st century institution.

Thus, not having done a research park may be an advantage now; it makes it possible for OHIO to embark on a strategy to engage companies and locate them at campus, based on a 21st century version of the strategy—the mixed-use knowledge community or innovation district.

**Resident Partners Program for OHIO’s Campuses—A Distributed Function**

We propose that this function—seeking private sector or governmental / non-profit entities that would co-locate all or part of their functions at OHIO—should be established as one major part of the **OHIO Partners Program**—and specifically called the **OHIO Resident Partners Program**.

Rather than a large, single, designated site, the **Resident Partners Program** can be a distributed activity, at OHIO’s various locations. It can be carried out in the form of mixed-use facilities—buildings that contain academic and research activities and some private sector, partner space. The capital risk and reputation risk would be much lesser and the flexibility and progress much greater.

This is complex subject by itself and it is beyond the scope of this **Interim Report** to provide all the details.
6—LEARNING DELIVERY MODES FOR INNOVATION

DEFINITION

LEARNING DELIVERY MODES FOR INNOVATION = All current and future educational delivery models and content that represent innovations in the learner’s experience and preparation for the Global Knowledge Economy, as being developed at / by OHIO, or that are education delivery models normally associated with innovation strategies, e.g. Entrepreneurship Education and Experiential Education.

Some of these program models are not new—either at OHIO or in higher education generally. However, we have seen nationally that some of these programs are taking on new importance in the context of the Global Knowledge Economy and in the context of a broadly-defined Innovation Strategy.

OBSERVATIONS AND POSSIBLE STRATEGIES

Learning / Teaching Modes Relevant to Innovation

Teaching modes / models were not within EKA’s scope of work for facilitating the Innovation Strategy. Accordingly, we have not studied the scope or nature of these instructional programs, nor the numbers of students they serve.

However, now that Teaching / Learning Innovation has become one of the stated five realms of innovation in the definition that OHIO adopted, we have some general observations and strategies for OHIO’s consideration.

OHIO currently offers, is developing, or is expanding activities in the following teaching / learning modes.

- eLearning and Strategic Partnerships
- Entrepreneurship Education
- Experiential Education (may be least developed of these; most always included in innovation strategies)
- Service Learning
- Innovative General Education
- International Education / Study Abroad
- Dual Enrollment
- Undergraduate Research
- Integrated Professional Education
- Adult Education (degree completion)
- New Multi-Location Delivery Models
- New Multidisciplinary Degree Programs Related to Niches / Portfolios.
Two Possible Strategies

New Multidisciplinary Professionally-Oriented Master’s Programs and Doctoral Programs

Some niches that may be selected for special investment may already have academic programs associated with them; some may not. Where there is not a degree program, but it would make sense to offer one, the University may want to consider expanding its offerings of professionally-oriented masters programs. Degrees that are interdisciplinary, industry-focused, and facilitating career growth are most likely to find a market. OHIO already has demonstrated success with such programs through on-line degrees including the Master of Engineering Management and Master of Health Administration.

In a few cases, cultivation of particular niches may lead to new multidisciplinary doctoral programs.

University-Level, Expanded Experiential Education Program

We understand that, at present, the Russ College of Engineering and Technology operates a Co-op Program. Of course, the programs in health and education professions have clinical components. We found that various other departments offer internship programs.

In the Leadership Team’s dialogue, the ideas of Experiential Education and, in the alternative, Service Learning, came up several times as possible niches. It was determined that these did not fit the idea for niches, but the interest of several deans in these learning connections should not be overlooked.

As a matter of historical curiosity, we note that the Cooperative Education model was invented in Ohio. It is widely known that the first Co-op Program was founded by the Dean of Engineering Herman Schneider, at the University of Cincinnati, in 1906. Also, the first and only (required) Co-op Program in a liberal arts college setting was at Antioch College, in Yellow Springs.

Recently, there has been a major resurgence of interest in Co-op Programs, almost always in connection with innovation strategies. For example, Dr. Nancy Zimpher, Chancellor of the SUNY System (and formerly of Ohio State) is seeking to implement Experiential Education on a system-wide basis in New York, as part of a larger set of SUNY Innovation Strategies.

EKA proposes that OHIO should consider implementation of a broad, university-level initiative (also with an Office created for coordination) to materially expand this learning form at OHIO. We note that the former Cooperative Education Association is now called the Cooperative Education and Internship Association (CEIA) and that CEIA uses the term work-integrated learning.

With many details omitted here, EKA envisions a broadly-designed program, to include various styles of supervised experiential education—Co-op, internships, service learning, study abroad, and undergraduate research / discovery projects.

The main arguments for expansion of Experiential Education are:
■ **Student learning is strengthened.** Hands-on experience in real settings enhances education outcomes for students. This is why it is considered essential and is mandatory in many professions, and so common in Engineering programs. We believe this is truest when the experiences bear some credit and are “supervised” by a faculty member—EKA’s preferred model.

■ **Students may earn money to support their costs.** In the case of paid experiences, the program also helps families with financing education.

■ **Employers want this.** There is enormous evidence that human capital (not research) is what business and industry want most from universities, and that companies especially like the opportunity to get an early look at young people they may hire later—and to have a hand in their preparation.

■ **Faculty benefit.** In our experience, one of the immense advantages of a for-credit model, with faculty involved, along with the student and employer, is that faculty gain new experience and insights.

■ **OHIO is expanding.** The fact that OHIO has bases of operation throughout the state of Ohio would facilitate student placements outside of Athens, in OHIO. And OHIO’s global focus will make it possible to include global opportunities—both for study and for experiential work placements.

Details are well beyond the scope of this *Interim Report*. If there is interest, this idea would require a specific effort to design the program, taking existing OHIO programs into account and building around them, based on best current practices and on connections to the OHIO *Innovation Strategy.*
7—INNOVATION STRATEGIES BY LOCATIONS

DEFINITION

Locations = the new campuses / locations in Dublin, Cleveland, and Beaver Creek / Dayton, as well as the existing Regional Campuses in Southeast Ohio and, of course, Athens. Locations also include OHIO’s growing online / virtual presence and its expanded commitments on a global scale.

Thus, the new vision for developing and expanding the reach of OHIO’s Innovation Strategy exists within an OHIO geographic dimension, as well as a programmatic one.

OBSERVATIONS AND POSSIBLE STRATEGIES

An Expanded OHIO Footprint

A More Visible Statewide Footprint

While OHIO may have been identified by some as a regional institution, clearly and unequivocally, OHIO now is a multi-campus university—delivering services not only to a statewide constituency of undergraduate and graduate students who come to Athens, but also, by virtue of multiple locations, able to participate with and serve the several communities and regions of Ohio in which it is located. The nature and range of OHIO’s partner relationships also is taking new forms, with some alignments that are specific to each of the University’s Ohio locations.

A Global Footprint

In collaboration with the Office of Global Affairs, led by the recently appointed Vice Provost for Global Affairs, OHIO’s colleges are committed to expanding and strengthening the University’s global footprint—for education of students and for partnerships of many kinds, including in research and innovation.

Online / Virtual Footprint

Under the leadership of the Vice Provost for E-Learning and Strategic Partnerships, and in collaboration with all academic units, OHIO has been aggressively advancing its initiatives for online learning. In one set of programs, OHIO has significantly expanded community college partnerships for online bachelor’s degree completion. OHIO also has expanded its online programs at both undergraduate and graduate levels. All of this is aimed at improving access and completion.

General Observations for the OHIO Locations

To help OHIO assess how its future Innovation Ecosystem would be managed within this emerging multi-campus framework, we gathered extensive information about each of OHIO’s locations, conducted stakeholder interviews with key partners at each location, and formulated observations about critical factors at play for the respective campuses, within the context of their surrounding regions. In this chapter, we suggest how implementation of the Innovation Strategy might play out across OHIO’s system of campuses in near-term and intermediate timeframes.
Reflecting this enlarged view of OHIO as a system, general observations are these:

- **Local Contexts Drive Programming Decisions for Physical Presence.** The University will locate *Innovation Strategy* programs and functions where they are most likely to succeed. Timing and phasing will need to be factors in predicting success.

- **Multi-Location Delivery Model—Academic Programs.** The University will build its capabilities for distributed academic content delivery, to achieve a truly robust and comprehensive multi-location delivery model for serving learners outside of Athens and southeastern Ohio. These virtual technology approaches may go well beyond OHIO—to a global delivery model.

- **Multi-Location Delivery Model—Innovation Ecosystem Programs and Services.** With Athens remaining the core, over time, *Innovation Strategy* programs and services will make a statewide footprint. A range of *Innovation Strategy* priorities, services, and community engagement activities may be implanted, aligned to needs and opportunities of each location. Delivery modes may vary, from permanent staff presence to mobile or virtual presence.

- **OHIO Partners Program.** The opportunity exists to plant the University’s flag and raise its statewide visibility through building (on many and diverse existing relationships) a better-coordinated and more robust *OHIO Partners Program*. (See discussion in Chapter 5—Expanded Innovation Ecosystem.)

- **OHIO Resident Partners Program.** Each of OHIO’s locations presents a different degree of opportunity to engage with and/or co-locate with private sector enterprises and other institutions. We strongly recommend against using research park terminology and, more importantly, to not think of the old-style strategy of a research park as a fully-segregated site developed for the sole use of private companies. Rather, EKA urges OHIO to consider this a Resident Partners Program, and to define a multi-occupant, mixed-use facility model, and then to determine to what degree that mixed-use model is important to develop (and when) at Athens, the Regional Campuses, Dublin, Cleveland, and Beavercreek (Dayton). (See discussion in Chapter 5—Expanded Innovation Ecosystem.)
Observations and Possible Strategies—By Location

This discussion is focused on OHIO’s physical locations in Ohio.

Each OHIO campus has current characteristics and existing functions, as well as a unique history and built-in partnerships, in varying degrees. The campuses differ markedly in the nature of their existing (or pre-OHIO) activities; their facilities and infrastructure; their location and scale; the units of OHIO to which they are most attached; and in their surrounding contexts—which notably are urban, suburban, and rural in nature.

While the function of each campus will evolve based on new and emerging opportunities that present themselves, there is practical value to articulating at least the directions for a differentiated strategy and tactics for each of them in the framework of this Innovation Strategy.

For each location, observations and possible strategies are organized into:

- Key External Stakeholders or Partners
- Context and Opportunities
- Possible Strategies

Athens (including Athens Campus and The Ridges)

As OHIO’s home since its founding in 1804, the Athens campus always will be home base for this University, and thus also for its Innovation Strategy. University leadership, in / from Athens will guide strategies at all locations, to enhance excellence, acquire resources, achieve strategic competitiveness, and respond robustly to mandates of the OBOR.

We recommend that leadership be purposeful in naming the connection between The Ridges and the existing structure of “greens” on the Athens campus, so that The Ridges Green will be seen as an integral part of the Athens campus—not a separate place “over there” or “across the river.” This could be an essential outcome of the Master Planning initiative.

Key External Stakeholders or Partners

In addition to self-evident state-level stakeholders—State Government, the OBOR, and the people of Ohio, specific regional stakeholders include: City of Athens; Athens County; other local jurisdictions; their public and community organizations and businesses.

Context and Opportunities

Athens is a classic college town in a rural setting—surrounded for many miles by open land and small communities. For this reason, historically there has been a strong university focus on its Appalachian Heritage and regional context. Elements of the Innovation Strategy clarify that OHIO retains its strong commitment to advancing opportunities for Southeast Ohio as part of its mission. In contemporary times, this regional focus is balanced with OHIO’s equivalent commitment to a global reach and perspective, also relevant in the Innovation Strategy.
Athens, in this context, is largely defined by the full complement of OHIO’s educational and innovation assets. Of particular relevance to the location strategy are these:

- The significant academic assets at both the undergraduate and graduate levels, with defined and growing areas of research excellence. Some academic programs and research centers are nationally or internationally recognized.
- The distinctive, long-standing emphasis on public and social policy, with wide, multi-disciplinary applications across subjects and disciplines.
- Outstanding, nationally-recognized economic development capabilities (Innovation Center incubator / accelerator; TechGrowthOhio, Center for Entrepreneurship, etc.).

A number of dynamic features are in play that, together, frames the Innovation Strategy focus for Athens:

- It will always be essential for OHIO to be able to attract world-class faculty to Athens. The Innovation Strategy should contribute to that permanent objective.
- OHIO owns The Ridges 740-acre site—with its unique facilities and land. It is also the steward of the site’s institutional legacy and architecture—a place with great meaning for the community.
- Transformational Gifts (e.g., The Heritage Foundation grant to the Heritage College of Osteopathic Medicine; The Fritz and Dolores Russ Gift, The Patton Gift) support future growth of its research and cultural enterprises.
- The merger of Columbus-based Ohio Health with Athens-based O’Bleness Health System, to create Ohio Health O’Bleness Hospital, will make it easier for OHIO to directly connect the medical / health care innovation strategies for Athens with those for Dublin / Columbus.
- Athens County Economic Development Council is a strong local partner for OHIO’s technology commercialization efforts.

Strategies

- OHIO’s Athens campus always will function as the home base for development and delivery of economic development / innovation services to its other locations.
- OHIO intends to adopt a holistic vision and approach to future development of its Athens Campus including The Ridges, in the full context of its physical interface with the City of Athens. A single, coherent integrated Master Plan, inclusive of The Ridges, will provide the physical underpinning of the Innovation Strategy for Athens.
  - Long-range projections of student enrollments and academic program and research growth for Athens, along with condition and quality of existing facilities, should drive the capital projects in the Master Plan.
  - The Ridges Master Plan should show how the land and buildings might be developed, and may provide invaluable guidance as to what kinds of uses would work, but, ideally, that Master Plan should not definitively determine specific
uses. Uses should be determined as part of the comprehensive Master Plan for the entire Athens campus.

- The Ridges is not optimum for a traditional research park or for corporate/industry type uses. Compared with OHIO’s three urban campuses, it is the least competitive location for attracting businesses. Within Athens, The Ridges is also less competitive as a site for business than other areas of OHIO’s Athens Campus.

- The **Innovation Strategy for Athens** should strive to accommodate its economic development goals for growing businesses as an integrated component of the original campus footprint. Adopt mixed-used campus Master Plan guidelines that allow for private business partners to be co-located on all Greens and the Ridges Green as academic uses are relocated into new facilities. Consider NC State’s Centennial Campus as the role model for this type of integrated academic and business expansion.

- The sense of urgency to meet college space needs informs the campus Master Planning process (e.g. Interdisciplinary Science Facility, HCOM expansion; Russ College of Engineering 100,000 SF research space expansion).

**Regional Campuses and Centers (OHIO Regional Higher Education)**

Ohio University extends its reach and impact throughout Southeast Ohio via its regional campuses and centers. Located in Chillicothe, Ironton, Lancaster, St. Clairsville, and Zanesville, its five regional campuses and three centers in Proctorville, Cambridge, and Pickerington—are uniquely positioned to provide assets to the region for access to both affordable education and resources for community members and organizations. Regional campuses convert hope into the reality of achieving an advanced education for many first-generation college students.

The regional campuses’ open admissions policy allows Ohio high school graduates to be admitted. Students are commuters and there are no residence halls. The campuses also participate in duality enrollment programs, by which students dually enroll in high school and college.

**Key External Stakeholders**

In addition to state-level stakeholders, specific stakeholders include:

- Regional **Campus Advisory Groups** for each campus, composed of local business owners, alumni and community leaders
- Local and community jurisdictions
- Public, educational, and community organizations and businesses.

**Context and Opportunities**

- Regional campuses provide access to higher education throughout Southeast Ohio through lower costs than available at residential campuses.
More than 10,000 students attend a regional campus or center annually. Many regional campus students are nontraditional: 42 percent are age 25 or older, and 65 percent are female. Many are first-generation college students, place-bound, and/or are from impoverished environments and backgrounds.

Regional campuses are embedded in their communities. They respond to local workforce needs; support community development activities; and provide arts, cultural, recreational, and entertainment opportunities to area residents.

**Strategies**

- Expand the customized industry and employer training adapted to local needs. Regional campuses are positioned to adapt and respond to changing workforce needs. Facilities like the Technology and Business Center on the Chillicothe campus provide one possible model.

- Engage in master planning for the regional campuses including an exploration of the possibility of multi-tenant, mixed use partnership facilities.

- Given the emphasis on the quality of teaching at the regional campuses, innovations in learning delivery modes for innovation could be a particular area for consideration.

**Ohio University in Cleveland**

The primary focus for academic expansion to the South Pointe Hospital campus is to establish the HCOM Cleveland program for medical education in 2015. It is anticipated that this will remain the primary role of this campus in the near term (next three to five years).

**Key External Stakeholders**

Cleveland Clinic (strategic partner for medical education; clinical practice; clinical trials and applied research).

**Context and Opportunities**

Cleveland Clinic’s South Pointe campus is located in an older, suburban part of the Cleveland metropolitan area, surrounded by middle income residential areas and diverse mixed uses (industrial R&D, race track, light commercial). It is a well-established campus setting with modest but important expansion potential.

For OHIO, in addition to its partnership with world-renowned Cleveland Clinic, there are opportunities associated with being in a large urban area that has a strong private company base, a strong entrepreneurial ecosystem, a diverse population and housing options, significant cultural attractions, and excellent air service. And through the presence of the HCOM medical education program, OHIO now is able to position its “brand” for greater visibility in the Cleveland metro area, an asset for recruitment of students and for maintaining relations with alumni.

Additionally, the *Innovation Strategy* for the OU-Cleveland may include:

- Exploration of additional College of Health Science & Professions programs
- OHIO co-programming with Cleveland Clinic related to health care policy, delivery systems (business and economics), and leadership development (build on existing discussions)
Development of a one-of-a-kind innovative medical education program that integrates medical school and residency training in a seamless whole embedded in an evolved Patient Centered Medical Home that builds on the Cleveland Clinic’s integrated care delivery model.

Possible opportunities to commercialize medical technologies or health care services in collaboration with Cleveland Clinic, drawing on its exceptional network of resources (regionally, nationally and internationally).

Potential collaboration with Case Western Reserve University in areas that are not in competition with Cleveland Clinic.

**Strategies**

The key near-term opportunity in Cleveland is to establish institutional relationships (versus longer-term entrepreneurial or corporate ones).

Given the location of the site and the nature of OHIO’s relationship with Cleveland Clinic, medical education will remain the primary focus for the near term (3 to 5 years).

A unique opportunity for innovation is Cleveland Clinic’s interest in new medical education and health care delivery models, building on OHIO strengths in Osteopathic Medicine. This is viewed as having potential to transform medical education.

Given the world-class stature of Cleveland Clinic research, OHIO could identify one or more high profile research areas of its own (niches), around which to establish an on-site OHIO collaborative research presence.

OHIO can partner with Cleveland Clinic Innovations (CCI) to spur innovations based on work in Cleveland or Athens (e.g. via Global Cardiovascular Innovation Center incubator or CCI’s national Healthcare Innovation Alliance).

Building on the Cleveland Clinic relationship, OHIO can build partnerships with the Jumpstart and the BioEnterprise organizations; through them, OHIO may find opportunities to access Cleveland-based seed and venture capital, or managerial talent for startups.

OHIO could co-invest in Cleveland Clinic Innovations proof-of-concept, seed, or venture funds—although the new Innovation Fund with OSU may be so large a commitment that further investment in seed or venture funds is not practical at present.
**Russ Research Center at Beavercreek (Dayton)**

Through the generosity to the Russ College of Engineering of Fritz and Dolores Russ, OHIO alumni and benefactors, OHIO’s *Innovation Strategy* today already benefits from the existence of a research park / incubator within the University’s portfolio of locations. It was an idea of Dr. Russ, who was ahead of his time, to create a place where he could nurture new companies and technologies. A private venture of this kind is at least a rarity, if not completely unique.

**Key External Stakeholders**

No singular, strategic partnerships have been established to date, although the Russ College has begun to develop relationships in the area.

**Context and Opportunities**

The Russ Research Center (RRC) is a well-established 28-acre campus that supports several existing legacy companies. It offers the potential to establish an OHIO innovation / entrepreneurial hub in southwestern Ohio through newly recruited tenants and delivery of innovation support services to the site—with new facilities.

Given its proximity to central Dayton, the RRC offers access to an urbanized region with a significant corporate base: The metro area is particularly strong in defense contractors and the IT sector, drawing on Dayton’s historical strengths, e.g., Mead Nexus Lexus, NCR. It also has a diverse population, cultural attractions, varied and attractive housing options, and a well-established economic development and entrepreneurial infrastructure.

Additional Beavercreek assets that can support OHIO’s Innovation Strategy include:

- Proximity to Wright Patterson AFB in ex-urban Dayton (Wright Patterson AFB has strengths in human performance, biotechnology and life science in addition to traditional defense and aviation-related disciplines.)
- The Information Technology industry segments in which the region is strong may connect with OHIO *niches* related to big data, simulation, gaming etc.
- Potential partnerships with or through Wright State University or the Wright State Research Institute are possible
- Enhanced ability for OHIO to access the Dayton-area entrepreneurial ecosystem.
Strategies

- The RRC represents an immediate and ongoing opportunity to provide space to private sector companies as OHIO Partners. The RRC provides a base from which to promote additional research, internship / co-op, or other partnerships between companies and the Athens campus.

- The RRC also is a place to locate (selectively) OHIO academic programs that can serve the population of the Dayton region—especially in any niches for which there is not much competition from local institutions.

- In the future strategy for the RRC, the Russ College and OHIO should identify ways to incorporate various elements of OHIO’s Innovation Ecosystem into the delivery model at the Beavercreek campus.

- The Russ College should be strongly supported in its efforts by other university academic units, to develop the full range of commercialization or social and policy innovation opportunities that have potential to be nurtured at the RRC.

- OHIO may be able to tap into networks of existing RRC tenants, including their connections with Wright Patterson AFB, and their relationships with other contractors and technology companies in the region, in order to attract new companies and entrepreneurs to the campus, or to form partnerships.

Ohio University Dublin Campus (Columbus)
The initial Innovation Strategy focus for this campus will build on the opening in July 2014 of the HCOM Dublin Medical Education Program, to be followed soon by additional programs of OHIO’s College of Health Science and Professions. This will remain the primary role of this campus in the near term (next three to five years).

Key External Stakeholders
Key partners include:

- Ohio Health (e.g., medical education; clinical practice; clinical trials and applied research; commercialization of medical technologies or health care services)

- City of Dublin (land use; campus development; public / civic functions)

- Columbus State Community College (education).

Context and Opportunities
Formerly a business park, three existing buildings on the core 14.8 acre site have been redeveloped to include a new simulated operating theater and emergency room, imaging labs, a café and spaces for modern medical education curriculum delivery, student support, activities and study. These are surrounded by an additional 75 acres donated to OHIO by the City of Dublin.

OHIO’s Campus occupies a prime location in the City of Dublin’s master plan and long-term vision for the West Innovation District. In addition to the 14.8 and 75 acres initially being developed, more acreage adjoins the site. The West Innovation District encourages development of technology-based companies. The nearby Town Center offers additional cultural, recreational and retail opportunities.

This is a highly visible, signature initiative by OHIO, located in the State’s capital, and offering immediate access to government agencies and innovation amenities,
including those based at The Ohio State University across town. The Columbus metro area’s strong private sector base includes a number of Fortune 500 headquarters located within the City of Dublin proper. The City of Dublin has adopted a sophisticated approach to planning, zoning, and redevelopment of existing, older suburban areas.

Additionally, **OHIO’s Innovation Strategy** for the OHIO Dublin Campus is supported by the following assets or opportunities:

- Potential City of Dublin *Health & Wellness Center* on-site in multi-tenant building
- Potential OhioHealth Family Medicine Residency Program on-site in multi-tenant building
- Potential for collaborative conference center programming
- Potential to partner with the TechDec Incubator (outstanding track record for IT companies)
- Hosting a statewide conference on Health Care Workforce with Columbus State Community College and other partners
- Potential to establish high visibility OHIO arts presence (e.g. summer theater program)
- Potential to partner with major companies in Dublin and the metro area.

**Strategies**

Outside Athens, the Dublin Campus offers OHIO its greatest potential for new growth with substantial adjacent land for private sector development. OHIO may develop specific academic and non-academic programs here over time, as appropriate to its mission and as market demand and strategic partners are identified. Additionally:

- Among the four OHIO campuses / communities, Dublin presents one of the two best opportunities (along with the RRC in Beavercreek) to implement a distributed model of *OHIO Resident Partner* space (formerly referred to as research park)
- OHIO may provide programs at Dublin originating from its Athens campus via multi-location delivery
- Strong opportunities exist to collaborate with the region’s community colleges
Institutional Innovation—An OHIO Commitment

Clearly, the Innovation Strategy is but one of many inter-connected, ongoing OHIO planning initiatives. None of the several planning initiatives other than the Innovation Strategy were within the scope of work of EKA’s assignment and the scope of this Interim Report.

However, this Interim Report does articulate Institutional Innovation as one of OHIO’s five realms of innovation. When one looks at the University through the prism of innovation, all the resource/smart growth planning and resource allocation initiatives can be considered to constitute the fifth Realm of Innovation—Institutional Innovation.

OHIO has promoted Institutional Innovation as a strategy to provide the necessary fiscal and physical resources essential to supporting its core academic and research mission, but also to maintain and enhance its position as one of the Nation’s leading regional research universities in an increasingly competitive world.

OHIO’s Institutional Innovation initiative recognizes that, for a 21st century university to remain relevant, it must continue to evolve and adapt to its changing environment. The strategies outlined below are examples of how OHIO is doing this today and will continue to do so based on the broader Innovation Strategy.

For the above reasons, brief information about OHIO’s institutional planning and resource allocation initiatives is summarized here.

Objectives

Recognizing that universities cannot cut or grow their way to excellence, university leadership has undertaken new planning processes at OHIO driven by three principles of what they refer to as smart growth:

- Making strategic investments in new academic programs and initiatives that diversify revenue streams and promote economic stability
- Developing flexible budget strategies
- Developing management practices to ensure that resources are used efficiently and meet the academic needs of the campus
EXAMPLES OF SMART GROWTH PRACTICES AND PLANNING

Planning initiatives and projects underway include the following strategies:

**Enrollment Plan**

Given the changing demographics in the State of Ohio, one of the first initiatives undertaken was the development of a *University Enrollment Plan*. This Plan focused on a targeted national recruitment strategy in regions where OHIO was a known quantity. The strategy included enhanced marketing and prospect identification, to further increase market penetration and to increase the admissions pipeline in what is becoming an increasingly competitive market.

Results over the last several years would suggest this strategy is working as the University has seen an increase in applicants (both in and out-of-state), an increase in quality and an increase in yield, which has allowed the University to maintain and increase its State Share of Instruction (SSI) funding.

**Responsibility Centered Management**

Seeking to align resource allocation decisions closer to where the resources are earned and therefore provide the right incentives around resource allocation decisions, the University adopted *Responsibility Center Management* (RCM) budgeting in FY 2012. RCM is a smart growth budgeting strategy as academic units are incentivized to grow programs that support and promote academic quality and are financially sustainable over time. RCM already has begun to pay dividends, as colleges and departments have begun to identify new academic opportunities for investments, while simultaneously assessing how to re-allocate existing resources to higher priorities.

**$100 Million Investment Fund**

*Responsibility Center Management* requires central investment capital to support institutional and college-based academic collaborations. Investment capital is a scarce resource in universities the size of OHIO, given the competing pressures. To generate these kinds of resources requires a disciplined approach to budgeting and a commitment to utilizing unallocated resources for institutional priorities.

In FY 2012, university leadership, with the support of the Board of Trustees, established the principle of only spending 98 percent of projected tuition, fees, and State Share of Instruction, and using the remaining two percent, along with interest income earned on the University’s cash balances, to create the *$100 Million Investment Fund* that OHIO projects will be earned in an eight-year period.

This Fund supports a number of mission critical initiatives:

- $75 Million Endowed Scholarship Fund
- $50 Million Endowed Professorship Fund
- Academic Investment Fund
- Student Success Investment Fund
- Infrastructure Support Fund
- Community Investment Fund.
The $100 Million Investment Fund will be the primary source of funding for a number of the Innovation Strategy initiatives, including the Endowed Professorship Program.

**Service Alignment Initiative**

OHIO recognizes that the administrative services units must support the academic and research mission of the University in as cost-effective and efficient way as possible. Efforts currently under way are intended to maximize the overhead dollars spent to support college-based activities and to reduce the overall amount of administrative spending on campus. The University is in the early stages of this initiative, but there already are examples of shared administrative services, improved technology functionality and re-engineered business processes, all demonstrating commitment to improving administrative services across the campus.

**20-Year Capital Plan (Space Management / Administrative Space Strategy)**

OHIO is arguably one of the Nation’s most attractive university campuses. This is an asset in recruiting students, faculty and staff to Athens and, as such, needs to be well maintained and cared for.

During the last several decades, with the decline in state capital support, it has been difficult to find funding to invest in maintaining and preserving the campuses’ physical assets. This led to university leadership undertaking a Capital Planning effort, built on several smart growth principles:

- **Campus Core.** The first principle is to protect the core campus for academic and research needs, by moving administrative units to the periphery of campus.

- **Maximum Use of Existing Assets.** The second principle is to maximize existing assets, rather than building new—recognizing that facilities costs are second only to people costs in impacting institutional budgets.

- **Central Bank and Debt Reduction.** The final principle is to reduce OHIO’s long-term dependence on external debt and move to a funded depreciation budget model through the establishment of a Central Bank.

**Campus Master Plans**

The impact of all these innovative strategies—Enrollment Plan, Responsibility Center Management, Service Alignment Initiative, 20-Year Capital Plan, $100 Million Investment Fund—is to enable the colleges to think about investments in new programs and to expand into new fields of study and research.

They also support and encourage the cross-college faculty collaborations envisioned in the Innovation Strategy outlined in this document.

Collectively these initiatives require a more detailed and more visionary Comprehensive Master Plan for Athens and for OHIO’s statewide campuses. This effort will support transformation projects currently under consideration in the Colleges. This effort also will inform how OHIO thinks about itself, and its physical form as a 21st century innovation university.
The following graphic demonstrates example of integrated nature of OHIO’s Institutional Innovation and illustrates some of the broader array of initiatives underway across the campus.

The graphic is intended to show that the leadership for these innovation initiatives stems from the academic core and our collective efforts are intended to support OHIO’s core teaching, research, and service missions.
9—SUMMARY

OHIO’s internal and external environments continue to evolve. To remain vibrant and relevant, OHIO also must adopt an institutional culture that adapts.

The OHIO Innovation Strategy, as described in this Interim Report, provides a strong launching point for development of strategic directions in the Five Realms of Innovation and lays the groundwork for transformative investments, going forward.

The Leadership Team has adopted a broad definition of innovation content and distilled Portfolios, Sub-Portfolios, and Niches, as the framework from which to decide on potential investments in multidisciplinary research that will address significant real-world problems. Along the way, there may be needs to strengthen Knowledge Platforms.

OHIO’s already strong Innovation Ecosystem is positioned, in this strategy, to be conceived more broadly, for elements that already exist—and for creation of a few new elements.

In terms of geography, the OHIO Innovation Strategy seeks to leverage OHIO’s academic strengths, the existing campus footprints, new locations, and new modes of delivery—from presence in Athens, to other places in Ohio, to the University’s global presence.

With this work as the base, participation by the university community will inform development of a competitive process for special investments in multi-disciplinary, high-impact innovation.

With this endeavor, OHIO embraces a transformative model and designs its future as a 21st century innovation university.

In the Innovation Strategy, OHIO will select priorities—grand issues to which to apply its faculty’s many talents—and will seek to solve problems in ways that advance communities, the economy, and the human condition.
EXHIBIT 1—INNOVATION STRATEGY PARTICIPANTS

INNOVATION STRATEGY LEADERSHIP TEAM

John Brose, Vice Provost for Health Affairs
William Burke, Dean, Dublin Campus, Heritage College of Osteopathic Medicine
Lorna Jean Edmonds, Vice Provost for Global Affairs and Executive Director, Center for International Studies
Robert Frank, Dean, College of Arts and Sciences
Dennis Irwin, Dean, Russ College of Engineering and Technology
Kenneth Johnson, Executive Dean, Heritage College of Osteopathic Medicine
Margaret Kennedy-Dygas, Dean, College of Fine Arts
Isaac Kirstein, Dean, Northeastern Ohio Extension Campus, Heritage College of Osteopathic Medicine
Randy Leite, Dean, College of Health Sciences and Professions
Renee Middleton, Dean, The Patton College of Education
Hugh Sherman, Dean, College of Business
Scott Titsworth, Dean, Scripps College of Communication
Mark Weinberg, Founding Dean, Voinovich School of Leadership and Public Affairs
William Willan, Executive Dean, Regional Higher Education

INNOVATION STRATEGY STEERING COMMITTEE

The Steering Committee consisted of the three chief academic, research, and business officers of the University, and key members of their staff. Steering Committee members participated in meetings of the Leadership Team.

Pam Benoit, Executive Vice President and Provost
Stephen Golding, Vice President for Finance and Administration
Joseph Shields, Vice President for Research and Creative Activity
John Day, Associate Provost for Academic Budget & Planning
Donna Goss, Director of Engagement and Real Estate Management
Laura Myers, Chief of Staff for the Executive Vice President and Provost

STAFF SUPPORT

EKA team members sincerely thank OHIO staff members whose assistance with scheduling and logistics for this project was both essential and excellent.

Among these were several assistants to the academic deans and Barb Mash, Dawn Weiser, Eva Aspegren, and Valerie Pettit. Thomas Rabbe assisted the EKA team with Dublin information and meetings.
Interpreters in Part 1—Situation / Contexts

Internal Interviews
All the Deans of the Colleges
Executive Dean, Regional Education
Pam Benoit, Executive Vice President and Provost
Shawna Bolin, Director of University Planning
John Brose, Vice Provost for Health Affairs
Deb Gearhart, Vice Provost for eLearning and Strategic Partnerships
Stephen Golding, Vice President for Finance and Administration
Lorna Jean Edmonds, Vice Provost for Global Affairs
Brenda Noftz, Project Director, Central Ohio Extension Campus, Office of the Dean, HCOM
Dick Planisek, Director of Facilities Planning and Space Management
Joseph Shields, Vice Provost for Research and Creative Activity
Robert Silva, Director, Office of Technology Transfer
Jennifer Simon, Director, Innovation Center
Shiyong Wu, Director, Edison Biotechnology Institute and Professor, Department of Chemistry and Biochemistry, College of Arts & Sciences
Harry E. Wyatt, Associate Vice President for Architecture, Design and Construction

External Interviews
City of Athens / Athens County / Ohio Health O’Bleness Hospital
Christine Knisely, Member, Athens City Council
Paul Logue, Planner, City of Athens
Greg Long, President & CEO, O’Bleness Health System (Now part of Ohio Health)
Sara Marrs, Director, Athens County Economic Development Council
Paula Horan Moseley, Safety Director, City of Athens
Andy Stone, Engineer, City of Athens

Cleveland (South Pointe) / Cleveland Clinic
David Bronson, MD, President, Regional Hospitals, Cleveland Clinic
Robert S. Juhasz, DO, President, South Pointe Hospital, Cleveland Clinic
Brian Kolonick, Director of Business Development & Strategic Alliances, Cleveland Clinic Innovations
Michael Lang, Venture Partner, Jumpstart, Inc.
Russ Research Center / Beavercreek / Dayton
Michael Cornell, City Manager, City of Beavercreek
Bob Glaser, Commissioner, Green County
Scott Hall, Consultant (retired, Human Effectiveness Directorate Technology Manager, Wright-Patterson Air Force Base)
Howard Poston, Green County Administrator
Tenant companies of Russ Research Center (group meeting)

Dublin (Columbus) / City of Dublin / Ohio Health
Michael Dalby, President and CEO, Columbus Chamber of Commerce
Chas Freuntel, Manager, Dublin Entrepreneurial Center (TechDEC)
Colleen Gilger, Manager, Department of Economic Development, City of Dublin
Jim Hayes, Director of Infrastructure & Technology, Metro Data Center, Dublin
Rob Kopp, President and CEO, Metro Data Center, Dublin
Doug Knutsen, MD, System Vice President and Chief Academic Officer, Ohio Health
Tom Walker, CEO, Tech Columbus
Dana McDaniel, Deputy City Manager and Director of Economic Development, City of Dublin
John P. Niles, Corporate Director, Ohio Health Research and Innovation Institute
Ellen Smith, System Director of Growth and Business Development for Riverside, Ohio Health

State of Ohio
Anthony Howard, Universities & Business Partnerships Manager, Office of Technology Investments / Ohio Development Services Agency

Contributors to Portfolio, Sub-Portfolios, and Niches
We are aware that there were academic participants whose inputs were incorporated into the Leadership Team’s dialogue because the deans consulted internally with their staffs and faculty. We do not have a list of those names, but we wish to acknowledge all those participants. The following persons are those with whom EKA interacted directly, for inputs:
Scott A. Miller, Director, Energy and Environmental Programs, Voinovich School of Leadership and Public Affairs
Lynn R. Gellerman, Executive Director, The Center For Entrepreneurship, TechGrowthOhio, Voinovich School of Leadership and Public Affairs

EKA Team for Ohio
The core team included Eva Klein, William C. (Bill) Morlok, and Steven A. Spalding. Two more EKA Associates, W. Mark Crowell and Raymond D. Smoot, participated in initial meetings and provided background advice and input.
OHIO Innovation Strategy
(5 Realms of Innovation)

- Business and Economic Innovation
- Social and Policy Innovation
- Teaching and Learning Innovation
- Institutional Innovation
- Quality of Life Innovation