

Wyoming Innovation Partnership

03 September 2021

The Honorable Mark Gordon
Governor of Wyoming
State Capitol
200 West 24th Street
Cheyenne, WY 82002

Dear Governor Gordon,

The Presidents' Steering Group (PSG) of the Wyoming Innovation Partnership is committed to a collaborative and holistic approach to leveraging Wyoming's Institutions of Higher Education (IHE) to drive economic development across the state. The attached Year 1 proposal outlines a joint funding request that builds on clear connections to the original WIP ARP Funding request with identified phase one components that can be implemented in the first year and that maximize economic impact across the state.

We greatly appreciate the opportunity to serve the great state of Wyoming.

Sincerely,



Steve Farkas
Executive Director, WIP

Wyoming Innovation Partnership

Prioritized Project List for Initial (Year 1) Implementation September 3, 2021

Background: The Presidents' Steering Group (PSG) has created a holistic approach to leveraging Wyoming's Institutions of Higher Education (IHE) to drive economic development across the state. This document focuses on the initial phases of this project, including only phase one components that can be implemented in the first year and that maximize economic impact across the state.

Overview: The WIP endeavors to create the functional environment through a collaborative approach that will give Wyomingites the skills, means, and tools to drive economic development across the state. This requires **Digital Infrastructure** to bring digital expertise and computing power to all corners of the state. It also requires widespread **Entrepreneurial Spirit** where the skills and ambition are cultivated and developed to empower citizens to create engines that drive economic advancement. It also requires a **Consortial Infrastructure** that allows the nine IHE's to share expertise and increase the educational capabilities needed to advance the statewide economic workforce needs. With these infrastructure improvements, Wyoming can more effectively capitalize on its unique location and resources to ensure that the benefits of our natural resources (energy, agricultural and touristic) stay in the state.

Process: To better understand the rationale behind the proposals listed below, it is important to note the process and criteria utilized. The proposals below are the result of the PSG collaboratively applying the criteria of speed to market and maximal economic impact to prepare for a proposal of first round WIP - ARP funding. Note: The proposals below are not necessarily the top priorities for any given institution and not representative of individual requests associated with an individual institution, but rather are key considerations in support of the state's economic priorities. It is expected that additional funding tranches will be made available for WIP projects, consistent with those represented in the original 3-year ARP proposal. Additionally, the WIP – ARP proposal in general has prioritized flexibility in the face of an uncertain funding environment.

Notes on Projects:

- Costs are based on informed estimates. Up-front, one-time costs have been prioritized, but some administrative or faculty lines have been included where necessary to create or expand a high-priority program.
- The location of programs is not finalized and subject to discussion and change. Lead institution and locations will be based on the expertise of the PSG and consider current employment needs, established infrastructure and facilities, faculty expertise, and speed to implementation.
- The January deliverables are estimates based on established norms for contracting, purchasing, curriculum development, curriculum approval processes, and funding availability. Ongoing costs for new faculty or administrative lines will, of course, be ongoing cost centers.
- Total amount included in requests: \$24,170,000

Consortial Infrastructure

Overview: Immediate and long-term success relies on establishing the administrative tools to implement, manage, and continuously improve collaborations across the eight IHE's, as well as establishing the delivery tools to ensure that educational offerings are available across the state without unnecessary and expensive duplication.

Component Description	Cost	January 2022 Deliverables
Component 1: Administrative Support - Ongoing coordination of the collaborative and consortial approaches is necessary to scale up impact more quickly, but also increases administrative load. Additional administrative support staff at a state-wide level can reduce any negative workload impacts the WIP has on the eight institutions. Additional support for Project management, analysis, Finance/Accounting and Admin Support	\$820,000 , inclusive of benefits for five full-time staff	5 FTE hired and providing administrative support for WIP and WIP subcommittees.
Component 2: Course-sharing Platform – Several third-party organizations have developed established, effective platforms to allow multiple institutions to share courses, allowing IHE's to increase the number of programs offered without the normally required increase in staff and/or facilities/equipment.	\$400,000 , inclusive of five years of platform maintenance.	Functional course-sharing platform with a sizeable course catalog sufficient to expand program offerings across institutions.
Component 3: Virtual-reality expansion – Many technical training programs utilize hands-on training with expensive equipment and facilities. The state's IHE's and K12 recently began using third-party VR companies to develop online versions of these courses – this funding allows that to be scaled up to increase the geographic availability of previously site-limited training programs.	\$2.5M Includes hardware, software, and training to allow for all 8 institutions to offer substantial VR versions of technical programs. Ongoing subscription costs are substantially lower.	Initial installation and implementation of VR functionality across the eight institutions.
Total	\$3,720,000	

Energy

Overview: Wyoming's location provides both abundant energy sources (coal, oil, gas, solar, wind) as well as a key role in America's energy transmission infrastructure. We must ensure Wyomingites have the cutting-edge skills sets necessary to both fill the workforce needs and drive innovation that maximizes the economic impact of our state's unique resources.

Component Description	Cost	January 2022 Deliverables
Component 1: Powerline Technology program – Wyoming does not currently offer a powerline technology program and training within the state, yet increased electricity transmission capability is needed for the scale-up of renewables and other low-carbon energy production. The key limiter on this program is upfront costs – once established the cost of instructors will be covered by program tuitions. Currently these roles are trained out-of-state, and are frequently filled by temporary workers who leave Wyoming when individual projects conclude.	\$2M/college – For purposes of Year 1, only one college will participate.	2 years. At this time students could begin matriculating. The need for new facilities is the biggest factor extending this timeframe.
Component 2: Low-voltage Fiber Optic Program – Just as the national energy grid crosses Wyoming, so does the nation's information infrastructure. This program can be affiliated with Powerline Technology program due to related equipment and expertise needs. Also provides opportunities for displaced energy sector workers.	\$500k – Covers curriculum dev and equipment necessary for two programs	One year. Curriculum development is the limiting factor, given the program approval timeline.
Total	\$2,500,000	

Entrepreneurship

Overview: An entrepreneurial spirit and skill set are necessary to unlock the job-creating potential of Wyoming's citizens. This requires the development of state-wide training capabilities, incubator spaces for start-ups, and wide-spread access to expertise, mentorship, and banking/finance tools.

Component Description	Cost	January 2022 Deliverables
Component 1 - Center for Entrepreneurship and Innovation- Development of the CEI will deliver necessary infrastructure and support for statewide expansion of entrepreneurship, to include the Cheyenne Center for Entrepreneurship and Education (C2E2) and expansion of IMPACT 307 to offer augmented curricula and expand physical locations, including but not limited to Evanston/Uinta, CWC and LCCC.	\$2M in ongoing and one-time costs.	<ul style="list-style-type: none"> • Supplemental funding for faculty to create pathways and articulations between UW and the CC's to support statewide entrepreneurial education. Hire additional labor resources to begin development of "bootcamp" activities across the state. • Creation of the C2E2 Board of Advisors and Initial Cataloging/Inventory of local resources, efforts, activities, etc. Foundational documents for the network and its operations may also be completed.
Component 2 - Innovation workshops, student projects, business/corporate engagement Coordinated activities that allow for sharing of best practices and enable state-wide network connections. Destinations for UW and CC collaboration supporting local, regional and state-wide innovation activities that connect our industry partners to faculty and students to tackle strategic challenges in innovative and applied ways.	\$2M in ongoing and one-time costs	<ul style="list-style-type: none"> • Expand IMPACT 307 assets in addition to similar resources at community colleges to deliver workshops, projects, etc. • Business engagement • Faculty workshop design • Faculty project advisement • Project Delivery + Student Experience Coordinators • Event Production Calendar • Marketing / Communications • Travel
Component 3 - Expansion of MakerSpace Availability – includes creation of permanent maker space facilities across the regions, and expansion of mobile maker spaces to allow for multiple, simultaneous “residencies” outside of areas served by permanent sites.	\$1.5M	Initial design concept (Level II), cost estimates, and programming plan. Can include fabrication labs, food industry incubators, and other relevant manufacturing equipment.
Total	\$5,500,000	

Digital Infrastructure and Technology

Overview: Economic development requires access to information, computing resources, and the skills and training necessary to create new industries and expand existing industries. Access to digital resources requires a significant improvement in existing digital infrastructure, and improving the digital skillsets of Wyoming's workforce requires an expansion of training and educational resources in regards to both content and accessibility. Economic advancement across all sectors (Energy, Technology, Agriculture, Tourism, Education, Health Care, Advanced Manufacturing, Workforce etc.) will be reliant upon increased computational power, big data computing abilities and hyper focused resources in the digital arena. Dispersed computing capabilities, with a centralized nucleus of hyperacute data processing power will be critical for Wyoming to support expansion and advancement of current industries as well as provide the stability of digital infrastructure in support of growth among new and existing industries in Wyoming and out.

Component Description	Cost	January 2022 Deliverables
Component 1: Software Development degree(s) – Wyoming does not currently have a Software Development/Engineering degree which is a growing an immediate need across business and industry sectors of the state. This degree is being crafted amongst the 8 IHEs in the state and alongside Wyoming based businesses to create an online program that can produce workforce ready software development graduates who can respond immediately to the industry needs of Wyoming businesses.	\$600k - 3 faculty, 1 support staff; infrastructure improvements and equipment for Software Development degrees *Ongoing funding will be needed in years 2-3 with corresponding increases assoc. w/ any added faculty expansion across WY.	Launch hiring process
Component 2: School of Computing -will serve as an engine to build out training and education programs for college students in big data, artificial intelligence (AI), and their applications. A corporate partners program will develop close research connections to Wyoming industries and work with the university's new Center for Entrepreneurship and Innovation to build a talent pipeline from K-12 to the workforce. The SoC, by design, creates the foundation and infrastructure of support for programmatic expansion across all 8 IHE's through increased data computing and capabilities within the state. Creating opportunities for increased computational power in support of economic growth.	\$1,150,000 total. Training and curriculum development (\$750,000), Research Scientists (\$250,000), Graduate Assistants (\$100,000), Visiting Scholars (\$50,000)	Hire initial staff for WIP project management and training/outreach for K-12 and CCs, prepare initial training material, deliver initial training courses, develop undergraduate curricula for new majors/minors, develop 2+2 agreements across state, host visiting scholars, hire initial research staff and graduate students

Component 3: Wyoming Data Hub- The Hub will support technology-based approaches to specific important areas including biodiversity, agriculture, energy, health sciences and advanced manufacturing. These investments will foster an open culture for data sharing and data innovation among its inaugural faculty and student programs and with Wyoming Community Colleges, state agencies, industries and national partners.	\$4M total. \$175,000 staff costs to initiate and coordinate planning for the datahub, \$3.325M for new instrumentation, \$500K for staff/student costs for operation and dataset generation, analytics etc. for datahub, including new AI/ML support.	Procurement of new instrumentation, hiring of initial staff, report detailing build out and management of the new datahub including its integration with WIP.
Component 4: FinTech and BlockChain- Develop educational programs to be shared between the Community Colleges and University in support of expansion of existing minors and develop certificates across the FinTech and BlockChain areas	3 FTEs = \$450,000	Implement process for current blockchain/FinTech courses available for online, statewide consumption
Total	\$6,200,000	

Tourism and Hospitality

Overview: Just as Wyoming's central location in the US has allowed us to develop important transportation industries, our natural beauty and unique outdoor recreation venues can be better leveraged to extract added revenue from domestic and international tourism. This requires improvements in access to diverse trainings, coordination and collaboration across the tourism industry, and investment in tourism infrastructure to extend the average duration and spending amounts amongst out-of-state travelers.

Component Description	Cost	January 2022 Deliverables
Component 1: Establishing training programs to address growth areas currently not served. Hospitality, ORTM and EMT Search and Rescue Programs, Bicycle Instructor Cert. Programs, Aerial Advent. Operations, Mech. Trail Const. Certl, Outdoor Rec programs.	\$3.5M	<ul style="list-style-type: none"> Stakeholder Engagement Program Dev Program start-up Search Costs Market Research Research support Data sets/access
Component 2: Culinary & Hotel/Restaurant Management – Expansion of program in Teton County, which is drastically underserved, and expansion and marketing of programs in Casper, Cheyenne and elsewhere.	\$750K	<ul style="list-style-type: none"> Hire Chef Temporary Kitchen Rental Program start-up Kitchen design and construction Statewide Culinary Expansion efforts
Component 3: Wyoming Outdoor Recreation, Tourism and Hospitality Center (WORTH Center) A central hub to provide professional development, extension and outreach, and applied research to support these industries across the state.	\$2M	<ul style="list-style-type: none"> Director Program Developer Office Asst Existing Faculty Comp Visiting Faculty Comp CBEA Research Hire Graduate Research Students
Total	\$6,250,000	