

Council Approval

Note: This form is intended to track the progress of a proposal (whether from Academic Affairs or Health Sciences) through the Undergraduate and Graduate Councils.

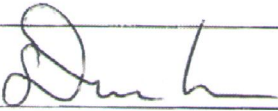
Proposal: Manufacturing Extension Partnership Center

This proposal needs to go through:

Undergraduate Council	☐
Graduate Council	☒
Both Approvals	☐
Grad Approval/Undergrad Notification	☐

This proposal has been approved by:

Chair of Undergraduate Council



Date: _____

Chair of Graduate Council



Date: 2/2/17

Once the appropriate signature(s) have been obtained, please forward this completed form to the Office of the Senior Vice President for Academic Affairs. *(NOTE: The SVP-AA is the Chief Academic Officer for the University of Utah and reports to the Board of Regents in this capacity. When necessary, the CAO will get a signature from the SVP-HSC.)*

Chief Academic Officer



Date: 2-7-17

Once the Chief Academic Officer's signature has been obtained, this approval document will be forwarded to the **Office of the Academic Senate**.

Utah System of Higher Education
New Administrative Unit Proposal
Cover/Signature Page - Abbreviated Template

Institution Submitting Request: University of Utah

Proposed Effective Date¹: 10/01/2016

Institutional Board of Trustees' Approval Date:

Proposed Unit Title: University of Utah Manufacturing Extension Partnership Center

Sponsoring School, College, or Division: College of Engineering

Sponsoring Academic Department(s) or Unit(s): Mechanical Engineering Department

Proposed Unit Type:

☐	New Administrative Unit
☒	New Center
☐	New Institute
☐	New Bureau
☐	Conditional Three-Year Approval for New Center, Institute, or Bureau

Chief Academic Officer (or Designee) Signature:

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Please type your first and last name _____ Date: _____

☐ I understand that checking this box constitutes my legal signature.

¹ "Proposed Effective Date" refers to date after Regent approval when new unit is operational or change to unit is published.

New Unit Description - Abbreviated Template

Section I: The Request

University of Utah requests approval to establish University of Utah Manufacturing Extension Partnership Center effective 10/01/2016. This action was approved by the institutional Board of Trustees on .

Section II: Program Proposal

Administrative Unit Description/Rationale

Present a brief description of the unit. Describe the institutional procedures used to arrive at the action being proposed. Briefly indicate why a new administrative unit or change to the unit is justified. Are similar units offered elsewhere in the USHE or the State? State how the institution and the USHE benefit from the proposed unit or unit change.

Present a brief description of the unit.

The University of Utah Manufacturing Extension Partnership Center is part of the nationwide Hollings Manufacturing Extension Partnership (MEP) network and the only public - private partnership dedicated to serving small and medium-sized manufacturers. Since 1988, the MEP network has worked to strengthen U.S. manufacturing. The national network of MEP Centers works directly with manufacturers and contribute to the growth of well-paying jobs, dynamic manufacturing communities, and American innovation and global competitiveness.

The mission of the University of Utah Manufacturing Extension Partnership Center is to help small- and medium-sized manufacturing businesses in Utah be competitive in the global marketplace. Six pillars to this mission are (1) reducing cost, (2) retaining and (3) increasing revenue, (4) retaining and (5) increasing jobs, and (6) increasing investment.

Describe the institutional procedures used to arrive at the action being proposed.

The University of Utah, Department of Mechanical Engineering, had submitted a proposal on 05/01/2016 to a federal funding opportunity organized by the National Institute of Standards and Technology (NIST) and the Department of Commerce (DoC), to implement a new paradigm for the MEP Center in Utah. The proposal was awarded on 08/31/2016, with a start date of 10/01/2016, and the University of Utah is now the MEP Center in Utah.

Briefly indicate why a new administrative unit or change to the unit is justified.

The new University of Utah MEP Center enables implementing the NIST award. Formally establishing a University of Utah "Center" emphasizes the connection between the University of Utah, the NIST MEP nationwide network, and the Utah manufacturing industry.

Are similar units offered elsewhere in the USHE or the State?

No, there is only one NIST MEP Center in each of the 50 states and Puerto Rico.

State how the institution and the USHE benefit from the proposed unit or unit change.

The University of Utah MEP Center tightens the connection between the University of Utah and the local Utah manufacturing industry, spurring industry collaboration, and enabling manufacturers to access University of Utah infrastructure. Furthermore, the University of Utah MEP Center participates in outreach events to inform high school students about high-tech

careers in manufacturing, and to link Utah manufacturers with University of Utah graduates.

- Meeting minutes of the Department of Mechanical Engineering faculty meeting of 09/13/16, showing that the NIST MEP award was announced to the faculty. In addition, PI Raeymaekers gave a brief overview of the MEP Center and answered questions from the faculty.
- Meeting minutes of the College of Engineering Council meeting of 10/28/16, showing evidence of faculty consultation and unanimous support for establishing the University of Utah Manufacturing Extension Partnership Center.

The University of Utah Manufacturing Extension Partnership (UUMEP) Center aims to help small- and medium-sized manufacturing businesses in Utah succeed in the global marketplace in the face of extreme foreign competition. Six pillars to this mission are (1) reducing cost, (2) retaining and (3) increasing revenue, (4) retaining and (5) increasing jobs, and (6) increasing investment. The UUMEP center implements this ambitious mission by providing subsidized services to Utah manufacturers that focus on the following five key elements.

- (1) **Product and process innovation:** Use data-driven business analytics to identify new products and markets that increase revenue, and create new jobs through economic growth.
- (2) **Advanced manufacturing:** Support product and process innovation through implementation of advanced manufacturing technologies, automation, and robotics.
- (3) **Workforce education:** Promote technology adoption through workforce education, to retain and grow a highly-skilled workforce. Additionally, drive enthusiasm for high-tech careers in manufacturing through active outreach to students.
- (4) **Investment access:** Link Utah manufacturing businesses with capital and investment groups to fund growth through implementation of advanced manufacturing technologies. Link manufacturers with experts to pursue federal SBIR/STTR grants to fund early-stage innovation.
- (5) **Operational excellence:** Maximize profit through manufacturing and business process optimization based on lean, six-sigma, and other operational excellence methods. Implement rapid and efficient execution of innovation and advanced manufacturing technology.

This vision for assisting the Utah manufacturing industry is tightly aligned with Utah's economic objective of increasing innovation, investment, and entrepreneurship to create more high-paying technology jobs. It also aligns with recently launched federal manufacturing initiatives focused on new advanced manufacturing research, including the Manufacturing USA network.

Consistency with Institutional Mission/Institutional Impact

Explain how the unit is consistent with the institution's Regents-approved mission, roles, and goals. Describe how the existing administrative structures support the proposed unit and identify new organizational structures that may be needed. What changes in faculty and staff will be required?

Explain how the unit is consistent with the institution's Regents-approved mission, roles, and goals.

The mission statement of The University of Utah states that it is a world-class research and teaching institution built on a legacy of innovation, collaboration, community engagement, and service. The University of Utah MEP Center aims to contribute to all four pillars.

- (1) Innovation: The University of Utah MEP Center helps Utah manufacturers be competitive in the next decade through innovation and adoption of advanced manufacturing technology. It will do so by linking manufacturers with University of Utah faculty and experts, spurring joint research programs.
- (2) Collaboration: The University of Utah MEP Center is a collaboration between federal and state governments, industry, and the University with the intent of benefitting the Utah manufacturing companies.
- (3) Community engagement: The University of Utah MEP Center aims to become the central hub in the Utah manufacturing industry, engaging all stakeholders, partners, and participants in the manufacturing community.
- (4) Service: The University of Utah MEP Center aims to serve the Utah manufacturing industry by providing subsidized services in several focus areas, aimed at helping manufacturers compete in the global marketplace, and re-shoring jobs to Utah. Ultimately, the activities of the University of Utah MEP Center aim to drive economic growth and create high-paying jobs.

Describe how the existing administrative structures support the proposed unit and identify new organizational structures that may be needed.

The University of Utah MEP Center will be housed in the Department of Mechanical Engineering and, thus, the administrative structures of the Department will be leveraged. However, the University of Utah MEP Center also has its own accountant and administrative assistant, funded by the NIST award, to avoid extra workload on the existing administrative structures and personnel.

The University of Utah also has established a partnership with University of Utah Professional Education (PROED), and the Technology Venture Commercialization (TVC) office. PROED will implement all workforce education activities of the Center, whereas TVC will be involved in providing business analytics services to Utah manufacturers (funded by the Center). Also, the University of Utah MEP Center will act as a gateway for manufacturers to obtain access to University of Utah user facilities, such as the Nanofab, and other centers such as the Center for Medical Innovation.

What changes in faculty and staff will be required?

No changes in faculty staff will be required other than the staff funded in its entirety by the NIST MEP award. The University of Utah MEP Center will employ 13 full-time staff members and both PI Raeymaekers and co-PI Gale will allocate 3 and 1.5 months of their time,

APPENDIX D: LETTERS OF SUPPORT

We had included a long list of support letters with the proposal submitted to NIST on 05/01/2016, to illustrate the broad support for a University of Utah MEP Center. For this R-401 proposal, we have included a selection of these letters, from University of Utah and community stakeholders.

Prof. Tim Ameel, Chair of the Department of Mechanical Engineering: Letter expresses the strongest support from the Department of Mechanical Engineering, and explains how this MEP center would be a great fit with the Department of Mechanical Engineering, as manufacturing is a focus area of the Department.

Prof. Richard Brown, Dean of the College of Engineering: Letter expresses that the College of Engineering is strongly supportive of establishing an MEP center on campus. The letter also highlights the in-kind cost match and facilities that the College of Engineering is willing to share with the MEP program.

Prof. Thomas Parks, Vice President for Research: Letter expresses enthusiasm of the University to establish an MEP center at the University of Utah, and the unique advantages and benefits the University of Utah can bring to the MEP program. This enthusiasm is reinforced with a \$1.1M cash cost match by the University of Utah (over 5 years, as detailed in the budget).

(Note: The MEP Center proposal was submitted on 05/01/16, i.e., before the retirement of Prof. Parks).

University of Utah Professional Education (PROED): University of Utah PROED will be the UUMEP center's KEY partner to implement the majority of the Workforce Education Business Unit. PROED's existing infrastructure enables the UUMEP center to roll-out workshops and courses throughout the entire state, both through classroom-based education and online-platforms. Furthermore, PROED will drive the innovative 8 for 80 program, where each provider will give back 8 hours of free consulting time to rural and small businesses for each 80 hours of business they receive from the UUMEP center.

University of Utah Technology Venture Commercialization Office (TVC): Letter details the partnership between the UUMEP and TVC specifically regarding (1) business analytics, (2) business accelerator, and (3) access to capital networks. The TVC will be a key partner in offering business services to the Utah manufacturers, through the UUMEP center.

Greg Jones, Founding Lead, Utah Advanced Materials and Manufacturing Initiative (UAMMI): Letter explains how the findings of our market survey dovetail with the findings of a market survey that UAMMI has performed of the advanced composites industry in Utah, expressing the strong need for implementation of advanced manufacturing technologies, education, scientific approach to manufacturing, access to manufacturing experts, and need for market analysis.

Utah Manufacturers Association (UMA): Letter states that the UMA looks forward to being an active partner with the University of Utah when awarded the MEP center.

Val Hale, Executive Director, Utah Governor's Office of Economic Development (GOED): Expresses support for the Manufacturing Extension Partnership program, specifies the current cash cost match to the program, and expresses confidence that the State of Utah will keep providing this cost match.

Senator Orrin G. Hatch, U.S. Senator for Utah: Expresses support for a cooperative agreement between NIST and a partner to *increase innovative MEP services and expertise*.

Small Business Development Centers (SBDC): Letter from the director of the Utah-wide SBDC network expressing support to the UUMEP center. In addition, the letter also states that co-locating satellite offices with SBDC centers is an option.

Salt Lake City, UT
02 November, 2016

Dear Members of the Undergraduate and Graduate Council,

On 08/31/16, the National Institute of Standards and Technology and Department of Commerce awarded the University of Utah the Manufacturing Extension Partnership for the State of Utah. Since 1988, the Hollings Manufacturing Extension Partnership (MEP) has worked to strengthen U.S. manufacturing, through a national network of MEP Centers that work directly with manufacturers and contribute to the growth of well-paying jobs, dynamic manufacturing communities, and American innovation and global competitiveness.

This five-year, renewable award starts on 10/01/16. Following University Policy 6-001 and Board of Regents' Policy R401-5.4.2 and/or 5.4.3, a letter of intent to establish a "*University of Utah Manufacturing Extension Partnership Center*" was approved by Prof. Watkins (SVP Academic Affairs) on 10/05 and, subsequently, by the College of Engineering Council on 10/28/16.

Thank you in advance for considering this request to establish the "*University of Utah Manufacturing Extension Partnership Center*". The R401 proposal and the required documentation as outlined in the "Centers, Institutes, and Bureaus Guidance Document" has been included with this request.

Sincerely,



Bart Raeymaekers
Associate Professor of Mechanical Engineering
bart.raeymaekers@utah.edu

www.mep.utah.edu

April 02, 2016

Dear NIST Manufacturing Extension Partnership Program Review Panel:

I provide my strongest support for the proposal submitted by Professors Raeymaekers and Gale, who are faculty members in the Department of Mechanical Engineering, to establish a NIST Manufacturing Extension Partnership (MEP) center within the Department of Mechanical Engineering at the University of Utah.

The Department of Mechanical Engineering at the University of Utah has experienced tremendous growth over the past decade, more than doubling the number of B.S. graduates to approximately 130 in 2015. Currently, the mechanical engineering program comprises approximately 950 undergraduate students and 200 graduate students along with 34 regular faculty members. Recent legislative funding will allow us to grow further; we expect to have over 40 faculty members in the next few years. In addition, the Department of Mechanical Engineering is the single largest engineering department at any institution of higher education in Utah.

Manufacturing is a vital component of mechanical engineering. As such, the Department of Mechanical Engineering places strong emphasis on manufacturing in both our undergraduate curriculum and research activities. Just last year, we hired a new tenure-track faculty member in the area of laser-based additive manufacturing, to supplement several other tenured and tenure-track faculty members who conduct research in various areas of manufacturing. In support of this manufacturing emphasis, the Department of Mechanical Engineering maintains state-of-the-art facilities related to traditional manufacturing, composite materials manufacturing, additive manufacturing, and shares in the facilities needed for micro- and nanoscale manufacturing. In addition, we provide skilled staff to operate these respective facilities. Thus, the proposed MEP center fits well with the manufacturing emphasis in the Department of Mechanical Engineering, and is synergistic with the existing state-of-the-art facilities that are operated by the department.

I am very excited about the proposal to establish a NIST MEP center in the Department of Mechanical Engineering and the College of Engineering. We value and maintain strong ties with the local manufacturing industry and other technology companies, and many of our faculty members actively work with small- and medium-sized enterprises (SMEs) through e.g. STTR and SBIR grants. Thus, an MEP center would be a natural fit with the Department of Mechanical Engineering. In addition, the team of PIs has established an impressive list of partnerships with other organizations, institutions, stakeholders, and consultants throughout Utah, to best serve the Utah manufacturing eco-system.

Most importantly, I believe that innovation and advanced manufacturing technology are paramount to the success of SMEs, which form the backbone of the economy, in the next decade. The vision that the team of PIs has defined for the proposed MEP center, captures this idea perfectly. Implementation of this vision through a new MEP center at the University of Utah will help the manufacturing industry in Utah grow and become more competitive in the global marketplace. It is my understanding that MEP centers have historically focused on process optimization through lean manufacturing and six-sigma techniques, to assist SMEs to save cost, retain jobs, and retain revenues. However, with the proposed new approach

focused on innovation and technology, the MEP will assist manufacturing businesses create new products to enter new markets, thereby increasing jobs and sales, and driving economic growth in Utah.

I am aware that the PIs have performed an extensive analysis of the Utah manufacturing industry, conducted a survey of more than 200 manufacturing companies in Utah, and interviewed all stakeholders within the state and in the surrounding states of Idaho, Montana, Nevada, and Wyoming. Consequently, the services offered by the proposed MEP center address the actual needs of the Utah manufacturing industry. Additionally, conversations with MEP centers in surrounding states have revealed that the MEP center at the University of Utah could become a regional MEP hub, making its facilities available to MEP centers in surrounding states. The team of PIs has already identified a strong team of engineers with experience working with SMEs in Utah, to run the proposed MEP center. Furthermore, the center will capitalize on existing administrative systems (payroll, purchasing, and benefits) already in place at the University, yet work independently of the academic part of the University to ensure operation “*at the speed of business*”. The team of PIs has mapped out an aggressive roll-out strategy for the center, and I am very confident that the implementation of the proposed MEP center will be a success. Thus, I am enthusiastic about increasing our involvement with the local manufacturing industry and am confident that the unique strengths of the Department of Mechanical Engineering bring to the MEP program cannot be provided by any other organization in Utah.

In conclusion, the proposal to establish a NIST MEP center in the College of Engineering at the University of Utah has my strongest endorsement. The focus of the proposed center is aligned with the educational and research activities, facilities, and expertise of the Department of Mechanical Engineering at the University of Utah.

Sincerely,

A handwritten signature in black ink that reads "Tim Ameel". The script is fluid and cursive, with the first letters of each name being capitalized and prominent.

Tim Ameel, Ph.D.
Professor and Chair



Richard B. Brown

Dean of Engineering
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72 S. Central Campus Drive
Salt Lake City, Utah 84112
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<http://www.coe.utah.edu/~brown>

April 4, 2016

Manufacturing Extension Partnership
NIST
100 Bureau Drive
Stop 1070
Gaithersburg, MD 20899

Dear MEP Program Manager:

I am writing this letter to express my strongest support for the proposal of the Mechanical Engineering Department and the College of Engineering at the University of Utah (Pls Raeymaekers and Gale), to establish a NIST Manufacturing Extension Partnership (MEP) center on campus.

The College of Engineering at the University of Utah has established a growth trajectory in the past decade that is unparalleled by any other university in the nation. The College of Engineering, with the support of the State of Utah, has expanded its tenure-track faculty from 110 in 2003 to over 200 in 2016, while simultaneously more than doubling the number of engineering graduates from 400 to 876 per year. In addition, research expenditures have grown from \$25M/year in 2002 to more than \$80M/year today, ranking 37th out of 205 schools for research expenditures according to the American Society of Engineering Education.

I am very excited about the vision for the MEP center proposed by the team from the Department of Mechanical Engineering, which is focused on innovation and technology implementation. This vision aligns very well with the focus, goals, and activities of the College of Engineering. In addition, the Pls have established partnerships with other institutions, organizations, and stakeholders throughout Utah, to best serve the manufacturing industry. The proposed University of Utah MEP center capitalizes on the following five unique strengths of the College of Engineering and the University of Utah:

1. The University of Utah is the only "Highest Research Activity" research university in Utah (Carnegie Classification of Institutions of Higher Education), and the entire Intermountain West region. Hence, the expertise and facilities of the College of Engineering are unique in Utah and the surrounding states. The proposed University of Utah MEP team has already started conversations with MEP centers in Wyoming, Montana, Colorado, and Idaho with the intent of becoming a regional hub in the Intermountain West, providing facilities to other MEP centers to enhance their service offerings to the local manufacturing industry, which was enthusiastically received by the MEP centers. The University of Utah MEP center will also provide a streamlined pathway for manufacturing companies to access the expertise and facilities of the College of Engineering.
2. As a research university with a strong track record in research funding, the proposed MEP center will connect Utah manufacturing companies with engineering faculty and experts to collaborate on R&D projects. These collaborations will lead to increased investment in small- and medium-sized manufacturing businesses in Utah through federal SBIR and STTR grants to fund early-stage innovation, which will stimulate R&D and job growth in the Utah manufacturing industry.
3. The College of Engineering and the Department of Mechanical Engineering already have the infrastructure and systems in place to interface with companies in the industry. Several centers

- are currently housed within the College of Engineering, including the University of Utah Nanofab, and the Center for Engineering Innovation. These centers already work with technology companies in Utah and around the nation. Thus, a University of Utah MEP center would be a natural addition to the already existing centers, and would be able to benefit from the infrastructure and resources already in use to facilitate interactions between the university and industry, thus leveraging prior investment of public and private funds.
4. The proposed University of Utah MEP center focuses on innovation and technology implementation. The University of Utah has consistently ranked in the top 5% amongst research universities in the United States in terms of technology commercialization. The proposed MEP center will capitalize on the existing innovation infrastructure at the University of Utah to help small- and medium-sized manufacturing companies implement new technologies, through a strong partnership with the Technology Venture Commercialization office and the Lassonde Entrepreneur Institute.
 5. The Pls have obtained a cash cost match from the State of Utah Governor's Office of Economic Development and the University of Utah Office of the Vice President for Research, thereby satisfying the required cost match entirely in cash. The College of Engineering operates the University of Utah Nanofab and provides significant funding to operate this facility. Similarly, the Department of Mechanical Engineering operates machine shop facilities. The proposed MEP center will be able to use the Nanofab and machine shop facilities without having to invest in infrastructure, operations, and dedicated staff. This represents a significant non-cash cost match that goes far beyond the required cost match outlined by NIST.

In conclusion, the proposal to establish a NIST MEP center in the College of Engineering at the University of Utah has my strongest endorsement. The vision for the proposed center will help small- and medium-sized manufacturing companies in Utah be competitive in the marketplace to retain and grow sales, jobs, and increase investment. The focus of the proposed center is synergistic with the research activities, facilities, and expertise of the College of Engineering at the University of Utah. I believe that the College of Engineering will provide unique and significant new resources to the MEP program, which no other organization in Utah can provide.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Richard B. Brown", followed by a long horizontal flourish line.

Richard B. Brown



VICE PRESIDENT FOR RESEARCH

THE UNIVERSITY OF UTAH

April 18, 2016

Manufacturing Extension Partnership Program Manager
National Institute of Standards and Technology
Gaithersburg, MD 20899

Dear Sir or Madam:

I write in support of the University of Utah's proposal to establish a Manufacturing Extension Partnership (MEP) center in Salt Lake City. We are the state's flagship university, currently ranked 47th in the U.S. (of 108 research universities) in the 2015 Academic Ranking of World Universities. The University supports over 80 centers and institutes serving academic, research, and community interests. In addition, Utah is a recognized leader in innovation, entrepreneurship and investment, and the University of Utah is a catalyst for leading this renaissance. Over the past eight years, the state of Utah has invested over \$150M to build a state-of-the-art interdisciplinary innovation center, and the University of Utah's College of Engineering is at the center of that structure.

Should the University of Utah be awarded this MEP center, we will provide generous matching funds, to supplement the matching funds provided by the Utah Governor's Office of Economic Development (GOED), and the federal funding of NIST and the Department of Commerce. Specifically, as detailed in the budget of the proposal, the University of Utah will provide matching funds in the amount of \$50,000 (year 1), \$150,000 (year 2), \$200,000 (year 3), \$300,000 (year 4), and \$400,000 (year 5), together with GOED funds and center revenue sufficient to meet the mandatory cost match set forth in the Funding Opportunity Announcement.

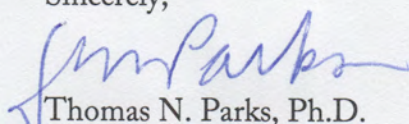
The proposed MEP center focuses on helping small- and medium-sized manufacturing companies be competitive through technology innovation and adoption. This vision aligns with national manufacturing initiatives such as the National Network of Manufacturing Innovation (NNMI), issued by the White House's National Science and Technology Council in 2013, and with Utah's economic objective of increasing innovation, investment, and entrepreneurship to create more high-paying technology jobs. In addition, the proposed MEP center capitalizes on some of the core strengths of the University of Utah, and the College of Engineering.

- (1) The University of Utah's technology commercialization performance ranks in the top 5% of all Tier 1 research universities. Establishing an MEP center on campus will enable us to engage with Utah's Manufacturing Industry, which accounts for almost 15% of the Gross State Product, and spur the adoption of innovations and technology through their established sales channels and partnerships. This will actively contribute to the "manufacturing research-to-manufacturing infrastructure" paradigm, which is at the core of the NNMI.

- (2) The MEP center would leverage prior investment of public funds in the College of Engineering at the University of Utah, including the University of Utah Nanofab and Micron Microscopy facilities housed in the \$130M Sorensen building funded by the State of Utah.
- (3) The University of Utah faculty has been successful working with small- and medium-sized tech businesses on joint SBIR and STTR grants, transferring research and innovation into the marketplace, while creating new jobs in Utah, thus benefiting the Utah economy. The proposed MEP center will enable a concerted effort to successfully increase this activity specifically with Utah manufacturing businesses.

In summary, the Office of the Vice President for Research strongly endorses the University of Utah's proposal to establish a new NIST MEP center on our campus. The University of Utah provides unique and significant new benefits to the MEP program, and a clear and innovative vision, for fostering the growth of manufacturing within the State of Utah, which no other institution in Utah can provide. Therefore it is an excellent location for a new NIST MEP center.

Sincerely,


Thomas N. Parks, Ph.D.
Vice President for Research



April 14, 2016

MEP Program Manager
National Institute of Standards and Technology (NIST)
Hollings Manufacturing Extension Partnership
Gaithersburg, MD 20899-1070

Subject: "University of Utah MEP center" proposal submitted in response to Federal Funding Opportunity 2016-NIST-MEP-01

Dear NIST MEP Program Manager:

University of Utah Professional Education is an organization that is dedicated to workforce education through expert training, facilitation and consulting. Our academies, certificate programs and classes provide students with the essential knowledge and skills to succeed in today's fast-paced business and manufacturing environments. We offer professional training and certificate programs in many programs that benefit Utah manufacturers, such as: operational excellence, business management, project management, technology management, and many others. We have over 140 professional trainers, consultants and vendors who can immediately and positively impact the workforce education and process improvement efforts of small- and medium-sized manufacturing companies.

We are pleased to be a key partner with Dr. Bart Raeymaekers and the Mechanical Engineering Department on the proposal listed in the subject line. We fully support the vision and strategies for the establishment of a University of Utah Manufacturing Extension Partnership (UUMEP) Center as outlined in this proposal. Specifically, we will provide our vast teaching, consulting, instructional design, marketing, and technology resources to help the Center provide excellent workforce education and operational excellence programs. We will customize and deliver our programs to meet the needs of manufacturing companies throughout the state—we can deliver workforce education using face-to-face, online, virtual, and simulation instructional methods and technologies. We will also use our state-of-the-art teaching facilities at our Sandy Training Center and our St. George Graduate Center. Through these facilities, we can directly connect small- and medium-sized manufacturing companies, who operate in remote or rural areas, with our trainers.

The proposal identifies some innovative programs that we will help the UUMEP to manage. These programs are designed to assist those manufacturing companies who may struggle financially, even with the help of NIST and State funding. All of our instructors and consultants will commit to our "8 for 80" program, in which they will provide 8 hours of free training or consulting (to small, struggling, manufacturing companies) for every 80 hours of work they receive under this program. We will also work with our instructors and vendors to provide scholarship opportunities and free webinars and workshops for these same companies. We feel that this is an excellent way to give back to the manufacturing industry and to help grow our state economy, which, in turn, benefits all of the participants in the UUMEP program.

We look forward to serving the needs of manufacturing companies in the State of Utah. We are also excited about our partnership with the UUMEP Center!

Thank you for your consideration of this letter. Please contact me directly with any questions about this letter.

Respectfully,



Dr. Denis R. Petersen, PMP
Director, Professional Education
University of Utah
Phone: 801-390-7244
Email: denis.petersen@utah.edu



April 12, 2016

Dear NIST program manager:

This letter is to express our strongest support for the University of Utah's proposal to establish a Manufacturing Extension Partnership center focused on innovation and advanced manufacturing.

The Technology and Venture Commercialization (TVC) office at the University of Utah is dedicated to commercializing new technologies and inventions from discoveries made and developed at the University of Utah. It accomplishes this purpose by applying a stage-gated, milestone-driven process called "The Commercialization Engine" that has as an end-goal of building value for inventors, the university, and the community through licensing intellectual property, starting new ventures, building beneficial commercial partnerships, supporting the community, and educating students. The consistent development and application of the Commercialization Engine has led the TVC to be a recognized leader in the commercialization of university technologies often ranking in the top tier (usually top 10) of US universities (see Nature Biotechnology November 2015, page 1131 for a recent example).

I met with Prof. Raeymaekers to discuss his team's proposal, which clearly aligns with the goals of the TVC, on how their proposed MEP center could partner with the TVC. We identified several focus areas in which we could strengthen each other's activities.

- 1) The TVC houses expertise in market research, market validation, intellectual property strategy, and licensing. The proposed University of Utah MEP center will take advantage of these existing strengths to benefit its manufacturing clients. The MEP center will offer business intelligence services through its "Innovation" business unit, which dovetails with the already existing activities of the TVC.
- 2) The TVC Accelerator program is an 8 week program that is an integral part of the Commercialization Engine process. The Accelerator is designed to advance 6-10 startups from an early-stage to having a scalable and repeatable business model. It creates value by connecting companies to seasoned and successful mentors, product development professionals, and the necessary equipment and resources for effective testing and refining of assumptions. Throughout the process, the startup's value proposition, market opportunity, intellectual property protection, competitive landscape analysis, and technology overview are thoroughly determined. The TVC will open-up the Accelerator program to clients of the University of Utah MEP center (through its "Innovation" business unit) and, if there is sufficient demand, even a separate track for MEP clients could be installed.
- 3) The TVC is well-connected to regional investment and capital networks, and will partner with the proposed University of Utah MEP center to match up MEP clients with potential investors, through its "Investment Access" business unit. Increasing investment in the Utah manufacturing industry is one of the focus areas of the proposed MEP center, and the TVC is well-placed to help broker connections between the MEP center clients and local investors and capital networks. One way to accomplish this is through the networking events organized by TVC, such

TECHNOLOGY & VENTURE COMMERCIALIZATION

615 Arapeen Drive, Suite 310
Salt Lake City, UT 84108
801-581-7792
www.tvc.utah.edu

as its well-known "Tech Tuesdays" where entrepreneurs, investors, TVC staff, and members of the community visit and network to create strategic partnerships.

The University of Utah TVC is already actively, and successfully performing the activities described above. However, currently, these services are only available to companies that license technology from the University. Thus, by partnering with the proposed University of Utah MEP center, we will also make these services available to small- and medium-sized manufacturing businesses that are clients of the MEP center, and the MEP center will subsidize these services for client companies through their regular business model (One federal dollar/one state dollar/one client dollar). Conversely, this is another avenue for the University of Utah TVC to expose the Utah manufacturing industry to our intellectual property portfolio.

In conclusion, the TVC enthusiastically endorses the University of Utah's proposal to establish an MEP center that is focused on innovation and advanced manufacturing. Such a center caters to the present and future needs of Utah manufacturing businesses to be successful in the next decade. The TVC looks forward to a strong partnership with the University of Utah MEP center.

Sincerely,



James Thompson

Interim Executive Director

615 Arapeen Drive, Suite 310
Salt Lake City
Utah, 84108, United States



Utah Advanced Materials and Manufacturing Initiative

May 27, 2015

Dear Dr. Raeymaekers,

First, congratulations on the assembly of your proposal to build an NIST MEP Center at the University of Utah. In reading your proposal I see the effort and reward in your outreach efforts into Utah's manufacturing community. Let me offer the support of Utah's Advanced Materials and Manufacturing Initiative (UAMMI) for your team's effort and this proposal.

In 2016 the UAMMI effort was recognized as an Economic Development Administration Investing in Manufacturing Community Partnership (IMCP). UAMMI was initiated several years ago, at the suggestion of Dr. Rebecca Blank, acting Secretary of Commerce, to sustain the early successes of Gov. Jon Huntsman's Governor's Office of Economic Develop (GOED) economic clusters program. For Utah our IMCP efforts are focused in a sub-cluster of the state's advanced manufacturing community, specifically the cluster of "Advanced Composites". Utah is within the top quartile in the United States in both employment and establishment quotients in Advanced Composites. This industry segment supports both Utah's Aerospace and Sports Manufacturing clusters. Both of these clusters are also ranked in the top quartile in the United States in employment and establishments.

Our in depth interviewing of Utah's carbon composites manufacturing industry needs resonates very well with the focus of your proposal, specifically areas we found significant need included:

(1) Product and process innovation

(2) Workforce education

(3) Operational excellence

In our work we are specifically addressing: Workforce and training; • Supplier network; • Sharing of innovation needs and innovation; • Trade and international investment; and • Operational improvement and supply chain access to small to medium enterprises (SMEs). There are obvious overlaps with your proposed center and we look forward to exploring alignment with you and the UUMEP.

The challenges for Utah's advanced materials and manufacturing community are clear and even striking, with regards to Advanced Composites market analysis for the years 2005-2010 show the geographic distribution of patents awarded in the area of carbon fiber production and application favored Japanese companies, with Japan accounting for 71% of the patents awarded where US companies account for less than 20% of patents awarded.¹ The US and its companies are beginning to fall behind in a industry created by the United States.

And while Utah has a leadership position in aerospace, the lack of continuous manufacturing methods and other advanced manufacturing methods in Utah advanced composites SMEs is leaving our state behind in moving advanced composites into automotive manufacturing and similar "next industries" for composites.

Recently UAMMI efforts were recognized by the Utah legislature with a commitment of \$750,000 in 2015 and \$1,000,000 in 2016 to continue UAMMI's work.

¹**Figure 20**, Global Carbon Fiber Market By Types, Applications, Trends & Forecasts (2011–16), Markets and Markets Report, 2011

Over the past year UAMMI leadership has engaged with IMCPs around the country. We have found, to a significant advantage, a high percentage of IMCP efforts are extremely close partners with the region's MEP. As such, we are excited build a collaboration with the MEP toward the resurgence of Utah Manufacturing!

Sincerely,

A handwritten signature in black ink, appearing to read "Greg Jones", written in a cursive style.

Greg Jones

Greg M. Jones, MBA, PhD
Founding Lead,
Utah Advanced Materials and Manufacturing Initiative
An EDA Investing in Manufacturing Community Partnership designee
Assistant Vice President for Research,
USTAR/Corporate Relations
University of Utah
Associate Director,
Scientific Computing and Imaging (SCI) Institute
University of Utah
801-859-5149



428 East Winchester Street, Suite 135
Murray, UT 84107
Telephone: (801) 363-3885
Fax: (801) 363-0505
Email: uma@umaweb.org

April 14, 2016

MEP Program Manager
National Institute of Standards and Technology (NIST) Hollings
Manufacturing Extension Partnership Gaithersburg, MD
20899-1070

Subject: "University of Utah MEP center" proposal submitted in response to Federal Funding Opportunity 2016-NIST-MEP-01

Dear NIST MEP Program Manager:

The Utah Manufacturers Association (UMA) is a 111 year-old trade association representing the manufacturing industry in the state of Utah. The Utah Manufacturers Association mission is to enhance the business climate in Utah by shaping a legislative and regulatory environment conducive to economic growth and by increasing understanding among policymakers, the media and the general public about the vital role of manufacturing in determining Utah's and America's economic future and standard of living.

We understand the University of Utah will be submitting a proposal to NIST to be selected as the MEP center here in the state of Utah. We fully support the ongoing existence of a Manufacturing Extension Partnership (MEP) Center here in Utah. It is very important for the manufacturing community in Utah to be able to receive excellent workforce education and operational excellence programs. Customization and deliverance of these types of programs to meet the needs of manufacturing companies throughout the state is vital to their success.

Should the University of Utah be selected to house such a center, we look forward to a great and collaborative relationship with them. Both, the Mechanical Engineering and Professional Education Departments at The University of Utah are members of the Utah Manufacturers Association currently and we strive to work with them on a variety of projects.

We look forward to being an active partner with the University of Utah should they be selected. Thank you for your consideration of this letter. Please contact me directly with any questions.

Regards,

Todd R. Bingham, President
Utah Manufacturers Association



Governor's Office of Economic Development

BUSINESS • TOURISM • FILM

State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Q. VAL HALE
Executive Director

April 18, 2016

Diane Henderson
National Institute of Standards and Technology
Manufacturing Extension Partnership
100 Bureau Drive, Mail Stop 4800
Gaithersburg, MD 20899-4800

RE: NIST MEP Federal Funding Opportunity for Utah

Dear Mrs. Henderson,

With approximately 3,500 manufacturing companies in Utah offering 120,000 jobs, manufacturing is an important part of the Utah economy. The Utah Governor's Office of Economic Development (GOED) has supported NIST's Hollings Manufacturing Extension Partnership since its inception in Utah, providing cost-match support for this initiative in the state.

In FY 2016, state funding for the MEP center is \$1,111,900. We are confident that this ongoing funding will be available for the organization selected by this NIST federal funding opportunity.

The Utah Governor's Office of Economic Development values its partnership with MEP and expects to continue substantial funding and support for the state's MEP center.

Sincerely,

Q. Val Hale
Executive Director
Utah Governor's Office of Economic Development

ORRIN G. HATCH
UTAH

ROBERT PORTER
CHIEF OF STAFF

104 Hart Senate Office Building

TELEPHONE: (202) 224-5251
TDD (202) 224-2849
FAX: (202) 224-6331

Website: hatch.senate.gov

United States Senate

WASHINGTON, DC 20510-4402

PRESIDENT PRO TEMPORE

COMMITTEES:

FINANCE
CHAIRMAN

JUDICIARY

HEALTH, EDUCATION,
LABOR, AND PENSIONS

AGING

JOINT COMMITTEE
ON TAXATION

April 19, 2016

The Honorable Carroll Thomas
Director, Manufacturing Extension Partnership
100 Bureau Drive, M/S 4800
Gaithersburg, MD 20899-4800

RE: 2016-NIST-MEP-01 Award Competitions for Hollings Manufacturing Extension Partnership (MEP) Centers

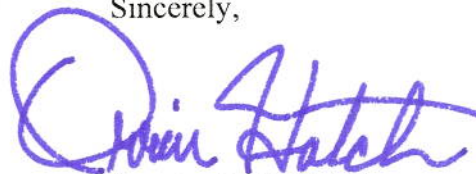
Dear Director Thomas:

Over many years, MEP services have assisted Utah enterprises in expanding customer bases, developing new markets and creating new products. MEP services are vital to Utah's small and medium sized businesses in finding growth opportunities and in increasing profitability.

The Utah Governor's Office of Economic Development has had a long-standing co-funding partnership with NIST in creating a renowned Manufacturing Extension Partnership (MEP) Center. I am pleased that Utah and a partner selected in this competition will enter into another five-year cooperative agreement with NIST to increase innovative MEP services and expertise.

I appreciate the collaborative work NIST undertakes with my state as a part of the MEP national system of extension service providers.

Sincerely,



Senator Orrin Hatch

April 4, 2016

Bart Raeymaekers, PhD
Department of Mechanical Engineering
University of Utah
1495 East 100 South, 1550 MEK
Salt Lake City, UT 84112

Dear Dr. Raeymaekers,

I am writing this letter in support of your NIST MEP proposal on behalf of the Utah Small Business Development Network (SBDC).

The Utah Small Business Development Center Network is the largest and most accessible statewide source for small business assistance at every stage of business growth and development in Utah. The SBDC provides business counseling and training assistance to small business owners and entrepreneurs across all sectors of the state. It has also maintained a strong and valuable partnership with Utah MEP since the early 1990's, a partnership which supports our mission to "strengthen the economic fabric and quality of life in Utah by facilitating the success and prosperity of small business endeavors." We are committed to this ongoing relationship with MEP and the critical role it plays in business and economic development.

Utah's SBDC Network has a long history of assistance, support, and collaboration with partnering private organizations, public institutions of higher education and state agencies. We value and encourage the contributions and cooperation of all organizations that support outreach, assistance and the overall improved economic viability of Utah's small business and manufacturing community. If your organization were to receive the NIST MEP award we would certainly endeavor to establish the same levels of partnership and cooperation that we have had with MEP Utah in the past, including, if feasible, the co-location of services at our SBDC facilities in Cache Valley.

Thank you so much for reaching out to the Utah SBDC Network for support in your proposal. I wish you well in your endeavors.

Sincerely,

Marion T. Bentley

Director, Extension Business and Economic Development Center
Utah Small Business Development Network
Utah State University
(435) 797-2284 office
marion.bentley@usu.edu

APPENDIX E: BYLAWS

BYLAWS
OF
UNIVERSITY OF UTAH MANUFACTURING EXTENSION PARTNERSHIP CENTER
(UUMEP)

ARTICLE I

NAME AND PURPOSE

UNIVERSITY OF UTAH MANUFACTURING EXTENSION PARTNERSHIP CENTER (UUMEP)

Section 1.01 The University of Utah Manufacturing Extension Partnership Center (UUMEP) (the "Center") is a university-based center. The Center is organized exclusively to provide subsidized services to the manufacturing industry in the State of Utah. The mission of the Center is to help small- and medium-sized manufacturing businesses in Utah be competitive in the global marketplace. Six pillars to this mission are (1) reducing cost, (2) retaining and (3) increasing revenue, (4) retaining and (5) increasing jobs, and (6) increasing investment. The Center is part of the nationwide Hollings Manufacturing Extension Partnership (MEP) network and the only public-private partnership dedicated to serving small- and medium-sized manufacturers. Since 1988, the MEP network has worked to strengthen U.S. manufacturing. The national network of MEP Centers works directly with manufacturers and contribute to the growth of well-paying jobs, dynamic manufacturing communities, and American innovation and global competitiveness.

ARTICLE II

OFFICES

Section 2.01 The principal offices of the University of Utah Manufacturing Extension Partnership Center shall be located at its principal place of business in Salt Lake City, Utah, County of Salt Lake. The organization may have such other offices as the Board may designate or as the business of the organization may require from time to time.

Section 2.02 The registered office of the Center in the State of Utah may be, but need not be, identical with the principal office in the State of Utah, and may change from time to time.

ARTICLE III

MEMBERSHIP

Section 3.01 The Center shall not have members.

ARTICLE IV

BOARD OF ADVISORS

Section 4.01 Number and Tenure. The number of Advisors of the Center shall be not less than three (3) or more than nineteen (19) as determined from time to time by the Board of Advisors. The majority of the Advisors shall have their primary association with a Utah manufacturing company. Only Advisors who have their primary association with a Utah manufacturing company shall be voting members of the Board. The initial number of Advisors shall be sixteen (16). Approximately one half (1/2) of the initial Board members as well as one-half (1/2) of the Board members appointed to fill newly opened positions on the Board shall serve for a term of two (2) years and approximately one-half (1/2) shall serve for a term of three (3) years. Thereafter each Advisor shall serve for one or more two (2)-year terms and until his or her successor is duly appointed and qualified. An advisor shall not serve more than two (2)-year consecutive terms.

Section 4.02 Removal of Advisor. Any Advisor may be removed from office with or without cause upon a vote of two-thirds (2/3) of the incumbent Advisors.

Section 4.03 General Powers. The Board of Advisors shall constitute the advisory body of the Center, and shall have and exercise the following duties, together with all other duties necessary or beneficial in discharging such responsibility:

- (a) Establish and recommend the policies, goals and objectives of the Center;
- (b) Establish and recommend guidelines to ensure high levels of performance by all employees and volunteers in all endeavors of the Center;
- (c) Recommend such committees and reporting criteria as may be needed for the proper operation of the Center and the achievement of its goals;
- (d) Appoint the Advisors of the Center;
- (e) Advise the duties, and review the performance of the Executive Director of the Center;
- (f) Every Advisor shall have the right at any reasonable time to inspect all the Center's books, records and documents of every kind.

Section 4.04 Annual Meeting. The annual meeting of the Center shall be held each year on a date designated by the Board of Advisors for the purpose of appointing Advisors and for the transaction of such other business as may come before the meeting. Appointments to fill vacancies among the Advisors, and others due to death, resignation or removal may be held during any regular or special meeting.

Section 4.05 Regular Meetings. Regular meetings of the Board of Advisors shall be held quarterly or at such times as may be determined by the Board.

Section 4.06 Special Meetings. Special meetings of the Board of Advisors may be held at the call of the Chairman.

Section 4.07 Notice of Annual, Regular, and Special Meetings; Waiver. The Secretary or Assistant Secretary shall notify each Advisor of every annual, regular, and special meeting at least five (5) days prior thereto, to his or her last known post office or electronic address. Attendance of a Advisor at any meeting shall constitute a waiver of notice of such meeting, except where such Advisor attends a meeting for the express purpose of objecting to the transaction of any business because the meeting is not properly called or convened.

Section 4.08 Quorum and Manner of Acting. One half (1/2) of the voting members of the Board of Advisors shall constitute a quorum for the transaction of business at any meeting of the Board. The act of a majority of those present at a meeting at which such a quorum is present shall be the act of the Board. If a quorum shall not be present at any meeting of the Board, a majority of the Advisors present may adjourn the meeting until a quorum shall be present. Minutes of each Board meeting shall be mailed or electronically mailed to Board members within seven (7) business days after each such meeting.

Section 4.09 Informal Action by Advisors. Any action required to be taken or which may be taken at a meeting of the Board of Advisors may be taken without a meeting if consent in writing, setting forth the action so taken, shall be signed by a majority of the Advisors entitled to vote with respect to the subject matter thereof.

Section 4.10 Resignations and Retirement. Any Advisor may resign at any time by submitting his or her resignation, in writing, to the Board of Advisors or the Chairman. The resignation shall become effective on its acceptance by the Board, provided that if the Board has not acted thereon within ten (10) days from the date presented, the resignation shall be deemed accepted. Any Advisor who, for reasons other than illness, fails to attend at least sixty percent (60%) of Board meetings held in any calendar year shall be interviewed by the Chairman of the Board as to whether said Advisor should resign from the Board.

Section 4.11 Conflict of Interest. Neither Advisors, contractors nor employees of the Center shall receive nor provide a direct or indirect financial benefit from the Center to any member of the Board of Advisor during their term of office, nor one year immediately thereafter other than reasonable compensation for services provided.

Section 4.12 Chairman of the Board. The Board of Advisors shall be presided over by a Chairman, who shall be elected at the annual meeting of the Center by and from among the Advisors to serve for a term of two (2) years. The Chairman shall preside at all meetings of the Board of Advisors and shall have the following duties, responsibilities and powers, together with all others necessary or beneficial in the discharge thereof:

- (a) To provide leadership to the Board and its committees in formulating, developing and advising policies and goals for the Center;
- (b) To ensure that there is appropriate communication between the Board and corporate staff;

- (c) To appoint committees of the Board and their chairmen in consultation and with approval of the Board, subject to the advice and consent of the Board of Advisors; and
- (d) To establish the agenda for all Board meetings.

Section 4.13 Vice-Chairman of the Board. The Board of Advisors may, but shall not be required to, elect a Vice-Chairman at the annual meeting of the Center from among its members to serve for a term of one (1) year. The duties, responsibilities and powers of the Vice-Chair shall include the following:

- (a) Act as Chair in the absence or disability of the Chair; and
- (b) Perform such other duties as may be assigned by the Chair or Board of Advisors.

Section 4.14 Secretary of the Board. The Board of Advisors shall elect a Secretary at the annual meeting of the Center from among its members to serve for a term of one (1) year. The Secretary shall perform such duties as from time to time may be assigned by the Chair or Board of Advisors. In the unlikely event of the incapacity or inability of the Chair and Vice-Chair (or in the event of the incapacity of the Chair serving without a Vice-Chair) to serve, the Secretary will serve as temporary Chair of the Board.

ARTICLE V

AMENDMENT

These By-laws may be amended in whole or in part, consistent with the requirements of the University of Utah and the National Institute of Standards and Technology, by the Board of Advisors at any regular or special meeting, provided the amendment was proposed at a regular or special meeting immediately preceding the meeting at which the amendatory action was taken. A two-third (2/3) majority is required to approve an amendment to the By-laws.

ARTICLE VI

CONFLICTS; CONSTRUCTION

Any discrepancies or conflicts between the provisions of the University of Utah and the National Institute of Standards and Technology and the Bylaws shall, unless otherwise provided, be resolved by giving priority first to the University of Utah and the National Institute of Standards and Technology.

Adopted by the Board of Advisors, on this day of _____.

APPENDIX F: SIGNED LETTER OF INTENT BY PROFESSOR WATKINS

Salt Lake City, UT
04 September, 2016

R. Watkins
Approved 10-5-16

Dear Prof. Watkins,

On 08/31/16, the National Institute of Standards and Technology and Department of Commerce awarded the University of Utah the Manufacturing Extension Partnership for the State of Utah. Since 1988, the Hollings Manufacturing Extension Partnership (MEP) has worked to strengthen U.S. manufacturing, through a national network of MEP Centers that work directly with manufacturers and contribute to the growth of well-paying jobs, dynamic manufacturing communities, and American innovation and global competitiveness.

This five-year, renewable award starts on 10/01/16. Following University Policy 6-001 and Board of Regents' Policy R401-5.4.2 and/or 5.4.3, a letter of intent to establish a "*University of Utah Manufacturing Extension Partnership Center*" is enclosed with this cover letter. Also, the required documentation as outlined in the "Centers, Institutes, and Bureaus Guidance Document" has been included.

Thank you in advance for considering this request to establish the "*University of Utah Manufacturing Extension Partnership Center*".

Sincerely,



Bart Raeymaekers
Associate Professor of Mechanical Engineering

respectively, to the MEP Center. This time is also funded by the NIST MEP award.

Finances

What costs or savings are anticipated with the actions proposed? What new facilities or modifications to existing facilities or equipment are needed? Describe any budgetary impact on other programs or units within the institution. If new funds are required, describe expected sources of funds.

What costs or savings are anticipated with the actions proposed?

No cost savings are anticipated from the University of Utah MEP Center. However, it will generate approximately \$1M in F&A income each year for the University of Utah.

What new facilities or modifications to existing facilities or equipment are needed?

No new facilities or modifications to existing facilities or equipment are needed. The University of Utah MEP Center is located in the Rio Tinto Kennecott Mechanical Engineering (MEK) building, room 1121, and will have a North and South satellite office in Cache and Utah county, respectively, colocated with the Small Business Development Center in those counties.

Describe any budgetary impact on other programs or units within the institution. If new funds are required, describe expected sources of funds.

Positive budgetary impact for the University, College of Engineering, and Department of Mechanical Engineering is expected from the F&A generated by the MEP Center. The University of Utah VP for Research has committed approximately \$1.2M in matching funds spread over 5 years.