Budget Detail Request - Fiscal Year 2016-17

Your request will not be officially submitted unless all questions and applicable sub parts are answered.

1. Title of Project: University of Central Florida Advanced Manufacturing Sensor Project
2. Date of Submission: 12/10/2015
3. House Member Sponsor(s): Mike LaRosa

4. DETAILS OF AMOUNT REQUESTED:

a. Has funding been provided in a previous state budget for this activity?   No
   If answer to 4a is ?NO? skip 4b and 4c and proceed to 4d
b. What is the most recent fiscal year the project was funded?
c. Were the funds provided in the most recent fiscal year subsequently vetoed? No
d. Complete the following Project Request Worksheet to develop your request (Note that Column E will be the total of Recurring funds requested and Column F will be the total Nonrecurring funds requested, the sum of which is the Total of the Funds you are requesting in Column G):

FY:	Input Prior Year Appropriation for this project for FY 2015-16 (If appropriated in FY 2015-16 enter the appropriated amount, even if vetoed.)			Develop New Funds Request for FY 2016-17 (If no new Recurring or Nonrecurring funding is requested, enter zeros.)			
Column:	A	B	C	D	E	F	G
Funds Description:	Prior Year Recurring Funds	Prior Year Nonrecurring Funds	Total Funds Appropriated (Recurring plus Nonrecurring: Column A + Column B)	Recurring Base Budget (Will equal non-vetoed amounts provided in Column A)	**INCREASED or NEW Recurring Requested**	**TOTAL Nonrecurring Requested** (Nonrecurring is one time funding & must be re-requested every year)	**Total Funds Requested Over Base Funding** (Recurring plus Nonrecurring: Column E + Column F)
Input Amounts:					10,000,000	0	10,000,000

e. New Nonrecurring Funding Requested for FY 16-17 will be used for:
   ☐Operating Expenses   ☐Fixed Capital Construction   ☐Other one-time costs

f. New Recurring Funding Requested for FY 16-17 will be used for:
   ☑Operating Expenses   ☐Fixed Capital Construction   ☐Other one-time costs

5. Requester:

a. Name: Dan Holsenbeck
b. Organization: University of Central Florida
c. Email: dan.holsenbeck@ucf.edu
d. Phone #: (407)823-2387

6. Organization or Name of Entity Receiving Funds:
a. Name: University of Central Florida
b. County (County where funds are to be expended)   Osceola
c. Service Area (Counties being served by the service(s) provided with funding) Statewide

7. Write a project description that will serve as a stand-alone summary of the project for legislative review.   The description should summarize the entire project?s intended purpose, the purpose of the funds requested (if request is a sub-part of the entire project), and most importantly the detail on how the funds requested will be spent - for example how much will be spent on positions and associated salaries, specifics on capital costs, and detail of operational expenses. The summary must list what local, regional or statewide interests or areas are served. It should also document the need for the funds, the community support and expected results when applicable.   Be sure to include the type and amount of services as well as the number of the specific target population that will be served (such as number of home health visits to X, # of elderly, # of school aged children to receive mentoring, # of violent crime victims to receive once a week counseling etc.)

Investing in Florida?s Smart Sensor Project is a Smart Move for Jobs and Economic Development for the State

The state of Florida will soon be home to the most advanced smart sensor manufacturing center in the world. Why is this important for Florida? It will create and sustain new high-technology jobs and bring international recognition for a new industry to our area. Betting on smart sensors and the businesses that will support smart sensors is smart for Florida. The smart sensor market is one of the fastest growing in the world. In addition to supporting the design and advanced manufacturing of smart sensors, the new center, located in Osceola County, will also support the companies that design the information systems the sensors connect to. This means that a wide-variety of high-paying jobs will be created in Florida, and opportunities will grow as more companies are attracted to the area.

Why are smart sensors becoming so important? Basic sensors are devices that replicate the five senses of humans. Sensors see, hear, touch, and even taste and smell. Sensors become ?smart? when they combine sensing functions and the ability to analyze what they sense and make decisions about this information. Some sensors are so smart that they also communicate this sensed information to other systems, much like the human body integrates information from all five senses and enables complex decisions to be made. Advances in electronics and computing systems now allow us to collect and process much more information (data) than at any time in history. This is often referred to as ?big data? and the ?internet of things.? The demand for gathering and sensing this information is the driver behind the need for new smart sensors, for systems to process the new data, and also for the new sensor manufacturing center in Osceola County.

One example of this technology in action is the iPhone 6. This phone has many sensors embedded within it that make the iPhone truly smarter. One such example is a smart sensor which measures relative air pressure (a barometer) that is used to track changes in elevation of the phone. This sensor enables the phone to track how many stairs you climbed in a day, or what floor of a building you are on. Another sensor measures the changes in speed of your movements (accelerometer). This sensor is often used for gaming applications or GPS tracking. And a third sensor detects how you are holding the phone (gyroscope) to change the picture on your phone from horizontal to vertical so you see it exactly the way you want to. Smart sensors are the devices that will connect all of our personal and business information systems together. Sensors like these are being designed into cars, buildings, appliances, eyeglasses, medical equipment, personal fitness items we wear, and other devices at an increasing rate. If there is not currently a sensor in a device that you regularly use, in five years there most likely will be.

As the number of new smart sensor designs rapidly increase, manufacturers are challenged to find new ways to manufacture a high volume of these smart sensors in a cost-effective and efficient way. Sensors have to be very small, highly reliable, and not too expensive. Smart sensors integrate multiple functions into one device, and as a result, they are more complex to design and manufacture than the most of the electronic parts used in typical electronic products. Therefore, the demand for technically trained people who can bridge the gap from the laboratory design of these complex sensors to actually manufacturing them is rapidly increasing. This translates into jobs and economic development.

Florida?s new smart sensor manufacturing center is currently being built in Osceola County with a planned completion scheduled for early 2017. A 200 plus acre land space in Osceola County has been dedicated for this project and future high technology firms. The official name for this first building on this property is the Florida Advanced Manufacturing and Research Center (FAMRC). The new 100,000 square foot center is being built as part of a high-technology campus with ample room for other businesses to build their facilities. The center will assist local, national and global companies by moving basic research from their labs and universities into the industry mainstream through assisting with developing the manufacturing technologies for these smart sensors. The campus will also become the residence for other companies who want to develop the systems to collect, analyze and use the information from these new smart sensors. This is another significant opportunity for job growth. The design and advanced manufacturing work on smart sensors represents between 15 to 20% of the market growth opportunity. The rest of the growth will come from companies who manage the data gathered by the smart sensors and convert this to useful information.

This is a significant milestone for Florida. The scope and potential impact of this project has been compared to what SEMATECH in Austin, Texas and in Albany, New York did for those areas. Over a 10 year period, it is anticipated that from 4,000 to 5,000 high-technology jobs will be created. The number of additional jobs created to support this new effort is likely to be three to four times that number of jobs. As with SEMATECH, the smart sensor project in Osceola will be driven by private industry partners based on what they need for their markets. Research and design of the sensors will come from these industry partners and also from universities across the state of Florida. To coordinate the work of these private and public partners, a consortium was formed to manage and direct the resources of the project. This consortium is named ICAMR (International Consortium of Advanced Manufacturing Research), and it is a non-profit (501.c.6) association formed by Osceola County, the University of Central Florida, and the Florida High Tech Corridor Council and supported by Enterprise Florida, Metro Orlando EDC, the University of Florida, the University of South Florida, Florida International University, and several other organizations.

ICAMR?s consortium model provides a collaborative solution for the challenges that both universities and industries face in order to bring research through early stage development and into high volume manufacturing. This model helps create collective industry product roadmaps and common manufacturing standards, along with access to the equipment and facilities needed to conduct product and process development.

Industry leaders from defense, security, healthcare, energy, and consumer products have signed letters of support for this project. Universities across the state have also signed on as research partners. And public support at the local level has been the key source of support and funding to date. Osceola County is providing over $140 million in support, and the University of Central Florida has pledged $17 million toward the construction and operations of the FAMRC complex, and the Florida High Tech Corridor Council has provided financial support on many fronts. To achieve the full potential this project offers, additional private and state funding is needed. This is a rare opportunity for Florida to diversify its jobs and industrial partner base.

ICAMR has the potential to leverage research knowledge in order to develop and improve the complete value chain related to smart sensors. It also represents the fastest avenue to ensure that needed manufacturing of the current technologies can be developed. ICAMR can fuel research initiatives that keep our local area advancing. It will provide improved competitiveness and productivity for consortium members and for the local economy. This opportunity will include new industry partners, universities, and our next generation of STEM students who will find jobs locally due to this project.

8. Provide the total cost of the project for FY 2016-17 from all sources of funding:
    Federal: 0
    State: 0 (Excluding the requested Total Amount in #4d, Column G)
    Local: 157,000,000
    Other: 0

9. Is this a multi-year project requiring funding from the state for more than one year?
    Yes