Center for Technology Development: Product and Technology Development for the Advanced Manufacturing Industry

Background

"America’s ability to make things underpins America’s ability to innovate, compete, and create good jobs. U.S. manufacturers perform 70 percent of all private-sector R&D and account for 60 percent of U.S. exports and the majority of U.S. industry patents. Over the last six decades, innovation - in new products or new processes - was central to three-quarters of the nation’s economic growth.**

Universities need a systematic process to partner with manufacturing companies to develop technologies and bring new products to market. This translational research capability is critical to leveraging research investments to grow innovation-based manufacturing companies.

Kansas State University seeks to expand its capability to collaborate with industrial partners in product and technology development by building on the following unique technology development assets:

- The Advanced Manufacturing Institute (AMI) has completed more than 2,500 technology development projects with 500 businesses across the nation. AMI employs an integrated business/technology development approach that facilitates collaborative industrial projects and partnerships.
- Nationally recognized tools to facilitate open innovation through opportunity recognition, innovation analytics, and network weaving.
- Distinguished faculty researchers and productive laboratories conducting advanced manufacturing related research across the university, including one faculty member currently serving as an NSF Program Director for an Advanced Manufacturing program.
- An EDA-funded innovation accelerator focused on animal health and food processing industries located on the K-State Olathe campus.

Relevance

In order to improve the competitiveness of U.S. manufacturers, federal agencies have been directed to: 1) strengthen advanced manufacturing research and development; 2) support the education of a highly skilled manufacturing workforce; and 3) spur innovation in new products and processes.

Description

K-State will achieve these objectives by building the Center for Technology Development (CTD). The CTD will forge strategic university/industry partnerships that will accelerate industry-focused research and innovation, commercialize technology, and bring new products to market. The CTD will integrate K-State’s advanced manufacturing and technology development capabilities and engage industrial companies in mutually beneficial projects that generate new technologies and products and help technology-based companies to grow.

The CTD will be a unique university, industry, and government partnership that will facilitate open collaboration between advanced manufacturing researchers, industrial scientists, and engineers. It will leverage faculty expertise and encourage collaboration between colleges, between K-State and industry, and between design and manufacturing.

Efforts will be concentrated in areas that support university and government priorities. The CTD will use AMI’s industrial partnering experience and project management expertise to establish and manage collaborative technology development partnerships.

The CTD will produce proof-of-concept artifacts, prototype device and processes and harden technologies for targeted uses. Ideas will be transformed into reality, students will be engaged in creating and developing products, applications for new technologies will be defined and developed, and university technologies and inventions will be developed and hardened for specific market uses.

To realize the full potential of the CTD requires an investment to expand faculty and doctoral student involvement, enhance advanced manufacturing and realization laboratories, and expand CTD’s geographic and industrial reach.

The CTD will help K-State realize its goal to become a Top 50 Public Research University by supporting and developing an advanced manufacturing industry sector that is critical to economic vitality. The CTD will:

- increase the value of industrially sponsored research and intellectual property generated;
- develop an innovation workforce by expanding student involvement in the CTD;
- catalyze industrial partnerships to jointly develop new technologies and products.

Agency Contact Information:

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*http://manufacturing.gov/welcome.html
Summary: The Center for Technology Development (CTD) is a unique university, industry, and government partnership that facilitates open collaboration between Kansas State University (KSU) and industrial partners to accelerate the development of new products and technologies.

Opportunity: Federal agencies have been directed to: 1) strengthen advanced manufacturing research and development; 2) support the education of a highly skilled manufacturing workforce; and 3) spur innovation in new products and processes.

Solution: K-State’s Center for Technology Development (CTD) will forge strategic university-industry partnerships that will accelerate industry-focused research and innovation, commercialize technology, and bring new products to market. The CTD will enhance the Kansas economy by supporting the growth of technology-based companies.

Impact: The CTD will help K-State realize its goal to become a Top 50 Public Research University by supporting and developing an advanced manufacturing industry sector that is critical to economic vitality. The CTD will:

- catalyze industrial partnerships to jointly develop new technologies and products;
- increase the value of industrially sponsored research and intellectual property generated;
- develop an innovation workforce by expanding student involvement in the product and technology development.

Equipment and Expertise:

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- K-State boasts distinguished faculty researchers and productive laboratories conducting advanced manufacturing related research across the university, including one faculty member currently serving as a National Science Foundation Program director for Advanced Manufacturing.
- A U.S. Economic Development Administration (EDA)-funded innovation accelerator focused on animal health and food processing industries located on the K-State Olathe campus.