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Ohio State adds expertise to national research initiative focused on textiles

Project will develop technology for nation's textile industry

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The Ohio State University will play a key role in a \$75 million national research institute announced last week by U.S. Secretary of Defense Ashton Carter. Led by MIT, the Advanced Functional Fabrics of America (AFFOA) Institute will be a national manufacturing resource center for industry and government, drawing on multiple universities' research in revolutionary fibers and textiles.

Led by Electrical and Computer Engineering Professor John Volakis (<http://u.osu.edu/volakis/research/research-areas/>), Ohio State will contribute extensive research expertise in wearable textile sensors and communication devices for health monitoring, medical imaging and energy harvesting, among other purposes.

AFFOA becomes one of eight National Network for Manufacturing Innovation Institutes (<https://www.manufacturing.gov/funding/>), a \$317 million public-private effort to boost the value of American-made products on the international market. The newest NNMI institute will support American textile manufacturers in applying advanced materials and textiles to products from active wear to protective armor.

In addition to MIT and Ohio State, AFFOA is comprised of 31 universities, including Cornell, Georgia, Penn State, and Cal-Davis, and 16 industry partners including Nike, Microsoft, Goodyear, The North Face, Bose and Medtronic. In addition, 26 start-up incubators and venture capital groups have pledged their support.

"Fibers and fabrics are among the earliest forms of human expression, yet have changed very little over the course of history," said Yoel Fink, director of MIT's Research Laboratory of Electronics. "Our institute will become the focal point of innovation in manufacturing and production, realizing the vision of advanced functional fabrics for the benefit of consumers as well as our men and women in uniform."

This new initiative will receive \$75 million in federal funding out of a total of \$317 million through cost sharing among the Department of Defense, industrial partners, venture capitalists, universities, nonprofits and multiple states.

According to a White House fact sheet (<https://www.whitehouse.gov/the-press-office/2016/04/01/fact-sheet-obama-administration-announces-new-revolutionary-fibers-and>), the American textile industry is adding jobs for the first time in decades, increasing shipments by 14 percent from 2009 to 2015, and growing exports globally with a 39 percent increase in exports from 2009 to 2015.

This is the third NNMI institute in which Ohio State is integrally involved. In February 2014, Ohio State, EWI and the University of Michigan launched the \$148 million American Lightweight Materials Manufacturing Innovation Institute, now operating as Lightweight Innovations for Tomorrow (LIFT) (<http://lift.technology/about/founders/>). Ohio State researchers also support the Advanced Composites Manufacturing Innovation led by the University of Tennessee.

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