

# Commonwealth Selected to Lead in Flexible Hybrid Electronics

## UMass, in partnership with the Commonwealth, will lead New England in advanced manufacturing research

Boston – August 28, 2015 – Today, the Baker-Polito administration is pleased to announce that Massachusetts will be a partner in the nation's Manufacturing Innovation Institute for Flexible Hybrid Electronics.

UMass Amherst will serve as the New England lead in the Manufacturing Innovation Institute for Flexible Hybrid Electronics. UMass Amherst will be joined by partners from the Massachusetts Institute of Technology, UMass Lowell, Harvard, Northeastern University, and partners in private industry. The manufacturing institute is part of the National Network for Manufacturing Innovation (NNMI), a federal competition sponsored by the US Department of Defense that seeks to advance manufacturing by connecting academic researchers with private firms.

As part of Governor Charlie Baker's commitment to advanced manufacturing in Massachusetts, the Commonwealth is pledging matching funds to support capital projects at the Institute.

The Manufacturing Innovation Institute for Flexible Hybrid Electronics will be led nationally by the FlexTech Alliance, a California-based nonprofit.

"Leveraging Massachusetts' incredible research universities to produce revolutionary flexible manufacturing breakthroughs will help provide cutting-edge technology for our troops, and a foundation for advanced manufacturing growth in the Commonwealth," said Governor Baker. "This partnership showcases the strength of our manufacturing sector, the unique assets at UMass Amherst, and the depth of expertise in our world-class educational institutions. I look forward to working with UMass, MIT, Harvard, Northeastern, and the Department of Defense as we continue to push the limits of technology, and build a platform for economic growth across the Commonwealth."

"Our administration is committed to fostering economic development from Boston to the Berkshires," said Lieutenant Governor Karyn Polito. "These partnerships between manufacturers and educational institutions keep good manufacturing jobs here in the Commonwealth, and help today's companies create tomorrow's jobs. We are proud to build on Massachusetts' legacy as a national leader in the innovation economy."

Flexible hybrid electronics (FHE) focuses on using sensors printed into thin ribbons of plastic to replicate functions performed by semi-conductor chips found in computers and other electronic devices. An existing FHE collaboration between UMass, General Electric, and the Air Force is working to create a small sensor patch that can be worn by military personnel to report stress and fatigue based on biomarkers in sweat. Other projects could use personal sensors to monitor for signs of disease, or use sensors on bridges and rotor blades to monitor structure and resilience in real time. UMass Amherst will focus on new processes and materials that will define later generations of FHE manufacturing.

"The flexible hybrid electronics grant award to UMass Amherst illustrates that the university is a national leader in research, innovation and technology," said Senate President Stan Rosenberg. "With this additional funding UMass Amherst will continue developing technologies and products, through public-private partnerships, that will grow advanced manufacturing in Massachusetts, build upon the success of our life sciences industry, and move our economy forward. Congratulations to the university on winning this very competitive grant."

"With this award, UMass Amherst is once again showing why it is a national leader in the cutting-edge research that will power the 21st century economy," said Congressman Jim McGovern. "Advanced manufacturing has seen tremendous

growth in recent years and Massachusetts is well-positioned to seize this moment. Supporting strong public-private partnerships like this are key to creating the good-paying jobs Massachusetts families need. I am grateful to work side by side with such strong partners at the local, state and federal level to recognize the incredible work of UMass Amherst and other Massachusetts schools and look forward to seeing all that they will accomplish with this exciting opportunity.”

“The support of Governor Charlie Baker and his administration, our supporters in the state Legislature, led by Senate President Stan Rosenberg, and the entire Massachusetts Congressional delegation led by Congressman Jim McGovern were central to the success of our proposal,” said UMass Amherst Chancellor Kumble Subbaswamy. “The flagship campus, through the power of our research, is committed to partnering with the state and with private industry to address the Commonwealth’s critical needs. Today’s announcement will lead to breakthroughs in advanced manufacturing that will expand the boundaries of our state’s innovation economy and benefit all of the citizens of Massachusetts.”

“The selection of UMass Amherst to lead New England’s R&D effort in this emerging field of technology demonstrates the university’s national prominence and its importance as a catalyst for the state’s future economic growth,” said UMass President Marty Meehan. “The Commonwealth, under Governor Baker’s leadership, played a critical role by making a major investment in this partnership, in a period when securing federal research dollars is increasingly competitive. This historic success demonstrates what’s possible when our public and private universities, state government and private industry combine their talents and resources in a partnership to help create new economic opportunities for our citizens.”

“This award is recognition of the incredible research and manufacturing expertise present in Massachusetts,” said Housing and Economic Development Secretary Jay Ash. “The skills and training required by today’s advanced manufacturing employers make Massachusetts an ideal location for this new research institute, and the economic development generated by these activities will drive prosperity across the Commonwealth.”

As part of the national public-private partnership in flexible hybrid electronics, the Executive Office of Housing and Economic Development will work closely with UMass Amherst to ensure that current and future investments by the Commonwealth support and leverage the federal investment in this cluster, and that the expertise of this innovation center is made available to industries throughout the state.

The National Network for Manufacturing Institutes (NNMI) is a rolling series of federally sponsored advanced manufacturing competitions. NNMI competitions seek to spur research into cutting-edge technologies that can be applied to advanced manufacturing processes. Bidders in the competitions frequently form teams of universities across different states, with regional nodes supporting the lead bidder. The federal awards, which are funded by the Department of Defense, are leveraged several times over through a series of state and industry matches.

This is second recent NNMI win for Massachusetts. Earlier this month, the Baker-Polito administration announced a partnership between MIT, Quinsigamond Community College, and the Commonwealth in support of the Integrated Photonics Institute in Manufacturing Innovation.

The five-year NNMI awards are part of the Baker-Polito administration’s ongoing commitment to advancing manufacturing in Massachusetts. The administration’s fiscal year 2016 capital budget makes up to \$15 million per year available for NNMI matching funds.