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The Eds, Meds, and Industry: What's Next for this Critical Partnership?

**Executive Summary
June 17, 2011**

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MassEcon 18th Annual Conference Executive Summary
The Eds, Meds, and Industry: What's Next for this Critical Partnership?
Newton Marriott Hotel, June 17, 2011

Panelists: **David Boloker, M.S.** *Chief Technology Officer, Emerging Internet Technology*
 IBM Software
 Mark Rice, Ph.D *Dean*
 WPI Business School
 Ira Rubenzahl, Ph.D *President*
 Springfield Technical Community College
 Susan Windham-Bannister, Ph.D *President & CEO*
 Massachusetts Life Sciences Center

Moderator: **Jack Wilson, Ph. D** *President*
 University of Massachusetts

MassEcon's 18th Annual Conference began with moderator Jack Wilson, President of UMass, discussing Massachusetts' innovation ecosystem as the envy of the world. With the highest density of education, medical institutions and research, the state is a model economy. New collaborations between incubators, private investors, and public grants have facilitated high productivity and movement from the lab to the market. From his own experience, Wilson cited his past company as a case when nurturing startups can help economic development to grow farther than acquisitions can. President Wilson used ventures across the state, such as the Pfizer Global Centers for Therapeutic Collaboration, the Massachusetts Green High Performance Computing Center, and the UMass Innovation Institute, to illustrate the shift in business strategy to partner with universities and the shift in education to multidiscipline research. President Wilson introduced the four panelists providing unique perspectives from education, life sciences, and industry and opened the floor to David Boloker.

For President Wilson's powerpoint slides, click [here](#) or go to <http://ow.ly/5z4Ia>

David Boloker, IBM Software

After a brief introduction of IBM and its role in Massachusetts, David Boloker discussed IBM's acquisitive growth in Massachusetts. Since 2003, IBM has acquired 18 Bay State companies with entrepreneurial and research accomplishments that have pushed the entire economy forward. Connecting to the panel topic, Mr. Boloker cited many of its local clients and collaborations in education and healthcare.

David outlined the focus areas of IBM's Emerging Technology sector. He included the commercialization of the Watson supercomputer and Jeopardy king, a project collaborated with UMass and MIT as well as DIY analytics, maquetta, and mobile phones. David explained that the best ways to innovate are by starting technology creation from square one and by facilitating open source collaborations. With the third world behind in terms of communication, IBM is working with the Children's Hospital to improve healthcare across the globe through the use of audio, video, SMS, and phones.

Outlining his most recent collaboration with Brigham & Woman's Hospital, David identified both sides of the partnership with both his perspective and that of Steven Seltzer, the Chairman of the Radiology Department. Both parties see the cross-fertilization of ideas as the catalyst for growth and innovation which ultimately helps customers and patients alike. David stated that short term, local improvements can grow to affect long term changes internationally. David has helped Brigham & Woman's through the COPD Application, a communication system that allows for the highly-interactive collection of 10,000

research cases onto one web browser. He concluded with the recognition that none of this could happen without the partnership of all three sectors: industry, academia, and health care.

For David Boloker's powerpoint slides, click [here](#) or go to <http://ow.ly/5z4L3>

Mark Rice, WPI Business School

Mark Rice began with the two issues of collaboration: first, the exchange must create enough value to be worthwhile, and second that resulting value must exceed the cost of a talent, resource, and time-intensive engagement. Industry and medical institutions tend to be connected primarily through customer-supplier relationships while education interacts with both as a talent exchange. WPI is preparing students to be valuable in this exchange while industry leaders are helping WPI through projects, curriculum guidance and industry speakers.

Mark then listed four case studies that highlighted WPI partnerships. The first was Gateway Park, an initiative to create value through research, technology transfer, talent development, and economic development. The second case study was the WPI Qualifying Project, a professional-level project for graduating students that teams to find solutions for real companies. The project provides both valuable solutions and a context for talent judgment, leading to capable new hires. Next, Mark listed some new technology ventures, highlighting Insight MRI with a WPI professor as its cofounder; the new industry formation of tech transfer and business incubation is helping to support regional economic development. The last case study was the Center for e-Health Innovation and Process Transformation which utilizes its partners and research grants to develop better healthcare management.

According to Mark, knowledge is no longer enough; education needs to include creativity, innovation, and entrepreneurship to help students succeed. Industry partnerships can help with this. In conclusion he outlined what's next: a fluid, supportive ecosystem that will bring together talent, financial sources, and intellectual property to create international market value.

For Dean Rice's powerpoint slides, click [here](#) or go to <http://ow.ly/5z4NL>

Remarks by Senator Scott Brown. Senator Brown paid a surprise visit to the conference.

Ira Rubenzahl, Springfield Technical Community College

President Rubenzahl began with an overview of the community college system throughout Massachusetts; with 15 community colleges and 100,000 students, the mission of each community college is for its students to either transfer to a baccalaureate program or go directly into the workforce. As a technical college, STCC focuses on manufacturing, a job market that is consistently growing faster than the rest of the United State economy. In Massachusetts, manufacturers account for 94% of our exports with \$33 billion output and a much higher average salary than other fields.

Ira discussed the many programs that STCC has designed to fit Massachusetts manufacturing companies looking for highly-skilled employees. Previously the manufacturing programs were under-enrolled but through promotions to middle schoolers have created more demand; Ira stated that the programs are now over-enrolled. STCC has made efforts to reach out to manufacturers in Western Mass for curriculum guidance. Ira commended Massachusetts for its highly-skilled, highly-intelligent workforce, but stated that programs like those of STCC need to be supported in order to maintain the high standards of education in the Commonwealth.

For President Rubenzahl's powerpoint slides, click [here](#) or go to <http://ow.ly/5z4RE>

Susan Windham-Bannister, Massachusetts Life Sciences Center

Susan Windham-Bannister began by describing the vision of the Mass Life Sciences Center, to invest in the state's innovation cluster and to be an innovation arm of the state government. Susan outlined the investment strategy of the MLSC: investing tax dollars alongside their five priorities—competitiveness, pipeline, supply and even distribution of the workforce, life science infrastructure (both basic and cutting-edge) and ecosystem, retention and economic growth. Susan stated that the MLSC strives for investments stable enough to be matched at least dollar for dollar. She stressed that they strive for bullet-proof investments with priorities in regenerative medicine, neuroscience, combination products, precision medicine, and bio manufacturing. Susan listed examples of their past investments, spotlighting the Framingham pumping station that led to Genzyme's biomanufacturing facility.

Susan next discussed MLSC's workforce development. With two million open jobs in precision manufacturing, MLSC has been working with community colleges to provide educational equipment and internships for real-life experiences to educate the future's human capital. Susan discussed the almost \$5 million invested in collaborations with both education and health care. She concluded with a few of MLSC's accomplishments including the \$1 billion invested leading to the creation of thousands of jobs and the freeing of the state budget for other programs.

For Susan Windham-Bannister's powerpoint slides, click [here](#) or go to <http://ow.ly/5z4Vc>

Question and Answer Period

Steve Andrade, Program Manager at Battelle Technology Partnership Practice, asked, "What do you see as a key challenge moving forward relative to how universities work to make start-up companies attractive to larger corporations?"

Susan Windham-Bannister and MLSC are using cooperate research grants to solidify partnerships; many small companies want to retain their university relationships but have difficulty providing sponsorship. Grants can help bridge the technology transfer. MLSC's loan programs pick companies up and have also engaged large companies to provide money to invest in smaller companies for the sake of the pipeline. They are stepping up as mentors for smaller companies.

Mark Rice added that technology innovators tend to come up short on business issues; one of the challenges is partnering engineers and scientists with entrepreneurs and business leaders who can relate to the technology side.

Rich Ryan, Director at Coldwell Banker Relocation Services, asked, "What is being done to attract middle and high school students to the many jobs in manufacturing?"

Ira Rubenzahl said there needs to be a lot more outreach from both business and higher education. Going to the factories and seeing the manufacturing will demonstrate the high-paying, attractive jobs offered in manufacturing. Another barrier is math and science education which needs to improve to fit the high-tech jobs.

Susan Windham-Bannister outlined some of MLSC's grants targeting young people such as Science Club for Girls or the Stem Cell Bank.

Jack Wilson stated that while Massachusetts has best education in the US, on world standards we're not internationally competitive. For example, the Governor recently started the STEM (Science Technology Engineering and Mathematics) Council. Many of the same people who find STEM important, do not list it high as a future career for their children.

Bob Brustlin, President and CEO of Vanasse Hangen Brustlin, asked, "What is Massachusetts competitive in that cannot be stolen from us? What is in the way of connecting economic competitiveness to the state's employment?"

Susan Windham-Bannister described the overarching framework in the state's government to make the state cost competitive and streamline doing business in Massachusetts. More and more there is a

connecting of the dots; we're all converging on what is important which creates more collaboration and better alignment.

Ira Rubenzahl emphasized that higher education cannot be cut if you want a talented workforce. Tuitions are much too high; education should be encouraged, not unattainable. Affordable education is critical to building a high-productive workforce.

Mark Rice responded that taxes are not adding up, either government needs to shrink or taxes need to increase. However, education is a differentiator in Massachusetts and there need to be more and better investments into education. Our competitive advantage is our citizens constantly working to stay ahead in innovation and entrepreneurship.

David Boloker and IBM believe that well-rounded investments from early to higher education are vital. The US has an entrepreneurial spirit that is cultivated by our education system and we will slide if we don't focus on education.

Mark Rice added that China's Institute of Science and Technology is already looking ahead to innovation and entrepreneurship because they know they will be surpassed in manufacturing. The United States has the cultural innovative advantage that must be protected and preserved.

Jack Wilson stated that China has followed the American business model but has done so with deliberate intention. It's not a mystery what needs to be done, but the hard decision to act must be made.

Marla Michel, Industry Liaison and Economic Development Director at STCC, asked, "How can companies be drawn to incubators and what kind of boost does the incubator industry need?"

Mark Rice described his experience with incubators and then said that incubators aren't perfect; they are run on human efficiency, but when they are efficient there is a huge return on them. We need to look at those incubators that create economic value and duplicate that.

David Boloker responded that the business behind the technology is what drives incubators. From day one, business needs to lead the technology to success.

Susan Windham-Bannister said that incubators are more than a real estate play. Young companies need more than just space, they need coaches and mentors from the ecosystem.

Mark Bilotta, CEO of College of Worcester Consortium, asked "What more can higher education do to advance business?"

David Boloker answered that the key is cross fertilization at all different levels of higher education. The partnership infuses new ideas while bringing the other side back to stay grounded and practical. Working together as a unit can move everyone forward.

President **Jack Wilson** concluded the question-answer session by reiterating that now is an exciting time for partnerships among government, academia, and industry. He said that partnerships have come a long way and can do better still.

Susan Houston thanked the entire panel, the sponsors, and all who attended the event.

Opening remarks by Jack Wilson, Ph.D., President, University of Massachusetts

Jack M. Wilson is the 25th President of the five-campus, 68,000-student University of Massachusetts system. President Wilson has led UMass since 2003, before which he held teaching and administrative positions at the University of Maryland, Rensselaer Polytechnic Institute and the University of Massachusetts. Understanding that the University plays a critical role in the state's social and economic growth, President Wilson has created three presidential grant programs, established strong international relationships, and founded the highly profitable UMass Online. He is Co-Chair of the Massachusetts Life Science Collaborative of Business and Universities, as well as Vice Chair of the Commonwealth Life Sciences Center. President Wilson has won the Theodore Hesburgh Award, the Boeing Award, and the Pew Charitable Trust Prize and is recognized nationally and internationally for his higher education reforms. He received his BA from Thiel College and his Master's and Doctorate in Physics from Kent State University.

Remarks by David Boloker, M.S., Chief Technology Officer, Emerging Internet Technology, IBM Software

David Boloker is the CTO of IBM's Emerging Internet Technology group and also holds the title of Distinguished Engineer -- one of the highest levels of technical distinction at IBM. Mr. Boloker is currently working with the COPDGene Foundation and physicians at the Brigham & Woman's Hospital to study the inherited factors that can lead to Chronic Obstructive Pulmonary Disease (COPD) - a disease largely caused by cigarette smoke and the fourth leading cause of death in the United States. Mr. Boloker is responsible for the internet platform enabling doctors and researchers to share textual, CT and genetic information. Mr. Boloker formed IBM's technical strategy around the emerging markets of mobile devices and the desktop Web. While at IBM, he has held the role of CTO for Java technology and worked at IBM's esteemed Thomas J. Watson Research Center and the Cambridge Scientific Center. Mr. Boloker earned a BA and MA in Mathematics from Boston University.

Remarks by Mark Rice, Ph.D., Dean, WPI Business School

Mark P. Rice is the Dean of the School of Business at Worcester Polytechnic Institute. Dean Rice previously served as the director of a nationally recognized Incubator Program and as the co-founder and director of a Center for Technological Entrepreneurship. His research on corporate innovation and entrepreneurship has been published widely in academic and practitioner journals and he co-authored Growing New Ventures -- Creating New Jobs: Principles and Practices of Successful Business Incubation with Dr. Jana Matthews. Dean Rice has served in a variety of roles for Association for the Advancement of Colleges and Schools of Business and has been a frequent speaker at AACSB Deans conferences. Dean Rice holds a BS and Master's in Mechanical Engineering, and Management Doctorate from Rensselaer Polytechnic Institute.

Remarks by Ira Rubenzahl, Ph.D., President, Springfield Technical Community College

Ira Rubenzahl is President of Springfield Technical Community College, the only technical community college in Massachusetts. Springfield Tech has been praised for its Technology Park, Scibelli Enterprise Center, Springfield and Student Business Incubators, Entrepreneurial Institute, and the Young Entrepreneurial Scholars Program. Before taking his post in 2004, President Rubenzahl was the President of Capital Community College in Hartford and the VP for Academic Affairs at Greenfield Community College in addition to teaching at Middlesex Community College, MIT, and the Massachusetts College of Liberal Arts. President Rubenzahl was awarded the Distinguished Community Partner Award in 2009 for his leadership in the greater Springfield community. He holds a BA from Princeton University in Mathematics and a Doctorate in Physics from MIT.

Remarks by Susan Windham-Bannister, Ph.D., President & CEO, Massachusetts Life Sciences Center

Susan Windham-Bannister is President and CEO of the Massachusetts Life Sciences Center (MLSC). The MLSC is a quasi-public agency that promotes the life sciences within the Commonwealth through research, innovation, and economic development. Dr. Windham-Bannister was formerly the Managing Vice President of the Commercial Strategy Group for Abt Bio-Pharma Solutions Inc. In that capacity, she managed a research-based consulting business that provides consulting services to firms in the life sciences -- health care delivery, pharmaceuticals, biotech, diagnostics, devices and healthcare information technology. With 35 years of consulting experience in life sciences, she has worked with companies that represent all major industry sectors. Dr. Windham-Bannister has co-authored two books: Competitive Strategy for Health Care Organizations and Medicaid and Other Experiments in State Health Policy. She holds a BA from Wellesley College, a Doctorate in Health Policy and Management from Brandeis University, and was a post-doctorate fellow at Harvard University's Kennedy School.

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