Advanced Manufacturing Working Group Initial Meeting
October 1, 2014—10:00 A.M. – 12:00 P.M.
Deloitte
200 Berkeley Street
Boston, MA 02116

Meeting Summary

I) Introduction

a. Chris Averill, New England Council (NEC) staff person for the Advanced Manufacturing Working Group, welcomed New England Council members in attendance and those participating via conference call to the initial meeting of the Working Group.
b. New England Council President & CEO James Brett noted that representatives of all six New England states were in attendance and that they collectively reflected the many industries that rely on manufacturing in the region.
c. Chris introduced Mark Price, Mike Reopel, and Brooke Lyon from Deloitte and thanked them for not only hosting the meeting but for once again partnering with the NEC to compile and release a report on advanced manufacturing in New England.
d. In 2009, the New England Council and Deloitte released their first joint report on the manufacturing industry in New England. However, much has changed since then and both groups agreed that there is a need to update the report as a means to inform policymaking and accelerate economic growth in the region.

II) Purpose of the Working Group

a. Advanced manufacturing is important to the New England region's economy. The six New England states have strengths in many industries, such as aerospace, defense, medical devices, shipbuilding, and others, that depend on a robust advanced manufacturing sector.

b. The Working Group will act as a forum to discuss success stories, challenges, opportunities, and solving problems. The New England Council, as the country's oldest regional business association, believes it is well positioned to speak on this issue given its singular voice that is shaped by the expertise and insights of its members.
c. The Working Group will discuss what an ideal manufacturing policy looks like and it will lend its support, through letters or other means, to current or future legislation that supports the Group's goals.

III) **Current Advanced Manufacturing Legislation Sponsored, Co-Sponsored, or Supported by New England Congressional Delegation (NOTE: Many bills have additional co-sponsors that may not be noted)**

a. We are fortunate that our region's leaders in Congress appreciate the importance of advanced manufacturing to the New England economy. There are several pieces of legislation currently pending in Congress and sponsored by New Englanders, all aimed at helping this sector continue to grow and thrive (this is only a small sample of legislation the Council can consider supporting):

   i. The Revitalize American Manufacturing and Innovation (RAMI) Act - Rep. Joseph Kennedy (D-MA)
   ii. The Manufacturing Skills Act - Senator Kelly Ayotte (R-NH)
   iii. The Manufacturing Reinvestment Account Act - Senator Richard Blumenthal (D-CT), Senator Chris Murphy (D-CT), and Representative Rosa DeLauro (D-CT)
   iv. The Make It in America Manufacturing Act - Representative David Cicilline (D-RI)

   The Council has supported the RAMI Act from the beginning, and was proud to help push for its passage in the House, as well as encourage New England Senators to cosponsor the Senate version of the bill. The Council continues to advocate for its passage in the Senate.

IV) **Updating the Report**

a. The goal of updating and rereleasing the report is threefold:
   i. The report will act as a resource for anyone in New England interested in the state of the manufacturing industry. These interested parties include public officials, policymakers, private companies, non-profits, and many other groups.
   ii. The report will highlight the many advantages held by New England in relation to facilitating the growth and development of advanced manufacturing when compared to the rest of the country. We should substantiate why this region is so well-regarded for both those that are already here and those looking to invest here.
   iii. The report will show that New England is an attractive candidate for receiving

one of the National Network of Manufacturing Innovation (NNMI) regional hubs.

b. There have been a number of major changes since the first report, including: federally funded hubs (NNMI centers); the emergence of additive manufacturing; a newfound interest on the part of many stakeholders in advanced manufacturing; new clusters and areas of advantage within New England; and innovation in both education and skill-force development activities.
    i. Some emerging clusters in New England's advanced manufacturing sector include:
        1. Signal processing/optics
        2. Advanced computing
        3. Material sciences
        4. Robotics/automation
        5. Aerospace and defense
        6. Instrumentation/sensors
        7. Semi-conductors
        8. Medical devices
        9. Textiles and fabrics
        10. Energy/fuel/hydrogen
        11. Tooling/advanced rapid tooling
    ii. Game changers within the advanced manufacturing sector include:
        1. Digital and additive manufacturing
        2. Small batching/online collaboration
        3. Hubs and innovation funds
        4. Flexibility – small/medium batches and low transportation costs
c. The "brand" of manufacturing is changing. Thanks to improvements in technology, manufacturing is responsible for producing highly specialized goods and services in an environment where workers are not intimidated by the myth of manufacturing as a "dark, dirty, and dangerous" job. In today's economy, manufacturing is one of the few sectors that pays above average wages and has job openings despite nationwide unemployment.
    i. Manufacturing requires highly skilled labor and manufacturers have a hard time finding qualified potential employees to fill job openings. The manufacturing industry is one of the few sectors that steadily added jobs before, during, and after the Great Recession. So far this year, the advanced manufacturing industry has added over 240,000 jobs and has over 281,000 unfilled job openings as demand increases and older workers leave the workforce. Demand for advanced manufacturing is going to keep growing; the region must be able to meet demands of today while building capacity to meet needs of tomorrow.
        1. Identify and address talent pipeline issues, perhaps through showcasing

successful apprenticeship programs.

ii. The skill, ingenuity, and innovation of American companies and workers are what gives the United States a competitive advantage in advanced manufacturing compared to other nations. In the globally competitive manufacturing environment, there is no room for modestly performing companies, only the best will survive.

d. In discussing education, Council members spoke of a number of key considerations worthy of exploration during the construction of this report, including:
   i. A new model of apprenticeship
   ii. Finding new and innovative ways to get New England's youth interested in advanced manufacturing (i.e. – "Little League of Manufacturing" at Keene State, Maine MEP partnering with NAM to screen high school juniors and their parents for training and in-person experience)
   iii. Finding ways for educational institutions to provide credit for real-life experience and training from employers and other organizations
   iv. Contemplating the role of industry in both on-the-job training and incumbent worker training
   v. Incorporating digital modeling and simulation, as well as the use of 3D printers, within classrooms
   vi. Examining stackable credentials within the parameters of the new Workforce Investment and Opportunity Act, which updated WIA
   vii. Ensuring teachers have standards for problem-based learning
e. On the policy side of the coin, Council members also had important ideas for consideration, including:
   i. The role creative innovation competitions play in spurring developments
   ii. Employing regional innovation grants to help branding, much like current state innovation grants
   iii. What role social impact bonds can play
   iv. Examining the maker-state movement and the use of maker fairs
   v. Employing mobile fab labs
   vi. Using the report to compile a roadmap of federal agencies (the triple helix model) to see where the opportunities are
f. Advanced manufacturing is not one firm making a highly sought after or sexy product. Instead, it is a network composed of many independent, differentiated, and complementary companies that combine to form a cluster of capabilities.
   i. The 2015 report will identify and highlight existing or potential networks and the clusters of capabilities contained within them.
   ii. These networks drive economic productivity and enhance revenue growth at every stage of manufacturing from design to marketing.

iii. A real effort will be made to improve the recommendations of the report, and make them more action oriented.

V) Timeline

a. As discussed at the meeting, Deloitte and the Council would like to follow this timeline as closely as possible in completing their work on the updated report:
   i. **October/November** – conduct interviews with Working Group members (both individual phone interviews and small group in-person roundtables) to garner input. These are presently being scheduled, and someone from Deloitte or the Council will be in touch as they are organized.
   ii. **Early December** – Working Group Meeting #2 to be held, date and time TBD
   iii. **Late December/January** – Edit and adjust final report for publication. During this time, Working Group members will have the opportunity to read the draft report and provide feedback and comments.

VI) Want to Participate or Learn More?

a. New England Council members who are interested in participating in the new Advanced Manufacturing Working Group should contact Chris Averill at 202-547-0048 or caverill@newenglandcouncil.com.