

Advanced Manufacturing Partnership (AMP) 2.0 *Northeast Regional Meeting*

Technology / NNMI Breakout Session Notes

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Rensselaer



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- Technology Areas

- Balance between broader focus vs. finer bore:

- Important to leverage technology mix instead of a narrow focus
- Valuable to have a platform usable by many applications.
- Better to engage broader array of industries than just targeting one
- Example: solid state battery engages both energy and semiconductor
- Broader systems level focus than just component manufacture

- Battery technology (scale-up, solid state and solution based, automation, flexible substrate)

- Strength of Northeast:

- Optics and Photonics – see April 2014 OSTP report
- Remanufacturing
- industry machinery (tool and die makers) could be leveraged to add in software and automation.



- Technology Areas (cont.)
 - Flexible manufacturing: flexible manufacturing equipment to enable low volume production, flexible factory floor, fast set up time, rapid prototyping (not just 3d printing) for full scale products. Information-driven manufacturing: convergence of industrial robots, mobile service robots, sensing.
 - Hybrid Technologies: leveraging two technological areas for something new, e.g., hybrid vehicles. Change of domain: take a product for a different use.
 - Rehabilitation/medical/assistive robotics and other technologies: NIH involvement?

- Technology Areas (cont.)
 - NNMI focus on innovation methodology, not tied to a specific technology focus?
 - Automation and robotics
 - Biomimicry
 - Software aspect of manufacturing: open architecture to foster collaboration and innovation? Combination of multiple software packages.



- NNMI Operation
 - Interests to learn more about America Make experience, what's working and what's not.
 - Labyrinth for small companies, would like to see user friendly playbook for small companies. Information not always clear, e.g., membership fee could be in-kind. Would be helpful to have intermediary connectors such as MEP serving as conduit for SME to engage NNMI.
 - Membership fee: maybe a zero cost trial membership for small companies
 - NNMI should have education/workforce development as part of operation. Maybe education oriented membership.

- NNMI Operation (cont.)
 - Can members access multiple facilities in the network – does it require to be multiple members (maybe network membership)?
 - Shared infrastructure between institutes in the network?
 - Local disseminator, possibly resident in universities for several months, in the entrepreneur-in-residence model
 - Proximity does matter, e.g., maybe hard for CA manufacturer to leverage assets of NNMI in Chicago.
 - Ideally should be grassroot driven rather than agency driven: maybe soliciting multiple topics that fit into agency portfolio rather than a single focused area.



- Technology/Solution Access
 - How does NNMI reach out/help/educate small manufacturers? Small companies get confused about who to approach. Need match.com for manufacturers. A solution provider day, such as NY Fuzehub Solution Fair (speed dating for manufacturers and solution providers), could be a model
 - How does NNMI work with existing economic development efforts?
 - How to find supply chain team information in NNMI?
 - Strengthen the one common thread across nation: MEP. But it's not uniform across the states.
 - Regional nature of NNMI: does it leave other regions out in the cold?



- Other Issues
 - Small companies need better access to capital, e.g., low interest loans, and entrepreneur-friendly regulations, e.g., ability to use home equity, 401K for personal investment in own start-up.
 - We need to empower entrepreneurs: fast prototype, reduction of product development time, shared facilities (e.g., Techshop?).
 - Not enough alignment/dialog between various federal investment such as NSF ERC and I/U-CRC, DOE Hub, Army CTA, etc., and state investments (e.g., in NY, CAT, COE).

