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To: nnmi\_comments <nnmi\_comments@nist.gov>  
Cc: "Toone, Curtis F (US SSA)" <Curtis.Toone@baesystems.com>  
Date: Tue, 29 May 2012 14:59:04 -0400  
Subject: NNMI Comments

In response to the information requested for the NIST-hosted AMNPO, the following input is offered from the perspective of BAE Systems Land & Armaments, York, PA:

Technologies with Broad Impact:

1. What criteria should be used to select technology focus areas?

Until the new Institutes for Manufacturing Innovation (IMIs) mature and develop more sophisticated processes, I recommend that the OSD ManTech Directorate and the Joint Defense Manufacturing Technology Panel (JDMTP) executive board be looked to for early selection of technology focus areas. The JDMTP represents at least five subpanels focused on specific technical areas like Metals, Advanced Manufacturing Enterprise, etc. It is the JDMTP executive board and its subpanels that helps determine the topics and technical focus tracts for each year's Defense Manufacturing Conference. This is a very successful venue in which to present, evaluate and recognize new technologies and ideas; and I believe this resource could be very helpful in launching the IMI's near term.

Each JDMTP subpanel is comprised of several members from across the manufacturing landscape including commercial and defense industry representatives. These subpanel members are chartered to provide annual evaluation and feedback on 100's of Congressional, ManTech, DARPA, and IBIF type project initiatives. The varied nature of the subpanel membership causes a broad cross-section of industry to be represented, albeit primarily a defense related focus.

Even so, as demonstrated at the Society of Manufacturing Engineering's recent 'Mfg4 the Future' conference in Hartford, CT the Aerospace, Defense, Medical, and Energy sectors all share a number of the same issues and concerns. What is good for one sector is relevant and good for all sectors. I recommend a process similar to that used by OSD ManTech and the JDMTP subpanels for identifying IMI focus areas and getting them launched.

2. What technology focus areas would you be willing to co-invest in?

BAE Systems is very interested and supportive of the first three example focus areas. We will co-invest by participating on the boards and panels that develop the standards and processes for additive manufacturing and lightweight materials; and will

provide industry relevant venues demonstration of resultant technology solutions. We will also do likewise with Smart Machining solutions and processes.

3. What measures could demonstrate that Institute activities assist U.S. manufacturing?

Measures around 'faster, better, cheaper' are relevant for determining effectiveness in the US manufacturing industry. The prevailing notion currently is 'pick two of the three' options. However today's world demands that we receive the regular expected benefit of all three: we deliver solutions that do indeed provide for 'faster, better, cheaper.'

Institute Structure and Governance:

1. What business models would be effective?
2. What governance models would be effective?
3. What membership and participation structure would be effective?
4. How should a network of Institutes operate?
5. What measures could assess effectiveness of Network?

In response to these questions Institute Structure and Governance, I recommend the National Science Foundation model it has been using for years to create and monitor its funded technology consortiums. One I am somewhat familiar with is the Friction Stir Joining Consortium created and managed out of the South Dakota School of Mines and Technology. The NSF model provides a ready-made straw man from which the IMI structure and governance can be crafted.

Respectfully submitted,

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Please contact me any time to discuss any aspect of this response further.

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