Sent: Friday, January 13, 2017 8:49 PM
To: meprfi <meprfi@nist.gov>
Subject: MEP Competitive Awards Program RFI Responses

Colleagues:

As Managing Director of Global HeavyLift Holdings, an entity formed in 2002 at the recommendation of the US Secretary of the Air Force (SECAF) in collaboration with Boeing, the USAF and other OEM and global supply chain partners comprising the US industrial base tasked to craft architecture for infrastructure of a new globe spanning air cargo industry subset, HeavyLift, I completely support the multi-pronged competitive enhancement of US-based small and medium sized supplier and manufacturing entities within the global supply chain as proposed by the university consortium comprised of Michigan State, Penn State and Arizona State.

(Note: HeavyLift is the movement via air of goods too large or outsized to fit in any 747 or similar sized freighter, but can be accommodated by military airlifters such as a proposed commercial variant of Boeing C-17 or Russia's An-124)

It is to be accomplished, I understand, through continuous learning and embrace of not readily exportable technological and process strategy proposed by this consortium of world renowned universities.

Please know that the primary focus of our team of industrial, academic and government personnel over the the past 16-plus years has been preservation of the industrial base and addressing supply chain vulnerabilities.

The architecture of this tri-university response to your RFI and the funding request to follow echoes Congressional, military and private sector testimony given since 2002 with the express purpose of calling attention to the critical need of maintaining this country's ability to produce and transport, via the global supply chain, goods essential to economic and national security.

I have included links below for your ready reference, as well as answering select questions within your RFI:

(1) What are the key problems and issues facing small U.S. manufacturers and their competitiveness and opportunities for growth in the near-term (1 to 2 years), mid-term (3 to 5 years) and/or long-term (more than 5 years)?

Many of our colleagues do not understand the concept of "economic war": the deliberate targeting of another nation's manufacturing base, financial sector and supply chain as a means to maximize market infiltration success of their own industries. The end result is often the target country becoming a consumer economy, as they have lost

their ability to produce things of value, and control of the supply chain pathways to move them.

It is fact that China along with South Korea, control ocean-borne shipping, which is excessively problematic, as they can disrupt the global supply chain at will. Conversely, what the consortium proposes is timely, and in our view, will go a long way in contributing to overall supply chain and production base robustness. Moreover, I believe this strategy addresses systemic inefficiencies at the "DNA" level and properly implemented as expeditiously as possible, will accelerate competitiveness through continuous improvement and real time dissemination throughout the SC of "new" knowledge, inclusive of cybersecurity, essential to growth, operational flexibility and cost reductions near, mid and long term.

(2) What advanced manufacturing technologies are and/or will be needed by small U.S. manufacturers for the companies to be competitive and grow in the global marketplace in the near-term (1 to 2 years), mid-term (3 to 5 years) and/or long-term (more than 5 years)?

As some are aware, Henry Ford II had the farsightedness and vision to hire in 1946 the famous "Whiz Kids" of the US Military's STAT CONTROL unit during WWII headed by future Secretary of State Robert S. McNamara. With only analog based data input and tracking equipment for distribution of critical-to-the-war-effort supplies, they were able to create a legendary reputation of goods delivered on time, anywhere in the world, from crated aircraft to crates of a commandant's whiskey.

Imagine if McNamara and his team had the astounding array of supply chain management software allowing for real time and enhanced awareness of product flow and anticipatory risk analysis; tracking technology utilizing GPS and embedded RFID; the ability to utilize the data derived to identify future SC partners and customers. In short, recreating their own supply chains.

(a) What would be the appropriate Manufacturing Readiness Level [6] or Technology Readiness Level [7] for those technologies in order for small U.S. manufacturers to consider adoption?

It would be most appropriate for small manufacturers to work closely with technology providers at the conceptualization, design, design for manufacturability, prototypical/test and demonstration phases along with a near symbiotic interaction during the demonstration phase to create training materials, guideline, troubleshooting/repair documents and software tools. We can reasonably expect Manufacturing Readiness and Technology Readiness levels of TRL/MRL 4.

As the maturation process continues along with an expanded rollout, higher TRL/MRL values can be anticipated, with TRL/MRL 4 as a constant value concomitant with continuous improvement activities.

(b) What information will be required for small U.S. manufacturers to understand a technology or related group of technologies and the risks and opportunities associated with making or not making an investment in any given technology?

We would have to respond TBD, however, this information can be rapidly developed via a partnership of OEMs, and logistics providers collaborating with MEPs and community colleges.

(c) How is the information about advanced manufacturing technologies best delivered to small U.S. manufacturers and/or MEP Centers that support those small U.S. manufacturers?

There are multiple delivery pathways to the various categories of involved personnel and could include university executive programs for managers and MEP staff; MEP training platforms targeting core personnel within supplier entities, along with developing community college curricula for employee feeder mechanisms.

Links for inclusion in NIST response...

http://origin.www.uscc.gov/sites/default/files/transcripts/7.17.06HearingTranscript.pdf
note: see testimony pages 101 and 173

http://www.slideshare.net/GHHLLC/ghhsecafroche-the-grand-strategy13-presentation

http://www.slideshare.net/GHHLLC/speed-news-aerospace-and-defense-conference-an-usnato-controlled-heavylift-industry-utilizing-boeing-bc17-globemaster-iii-commericalmilitary-airlifters

https://www.researchgate.net/profile/Sheila_Ronis/publication/265195037_A_DEFENSE_INDUSTRIAL_BASE_SCENARIO/links/55de232708ae45e825d398ef.pdf

We appreciate the opportunity to participate in this timely and much needed, initiative.

Global HeavyLift Holdings, Inc.

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