

Personal Reflections on MEP Legacy and Implications for Future

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MEP 30th Anniversary Convening, National Academy of Sciences
November 22, 2018**

I appreciate the opportunity to comment on the history of the MEP program at this 30th anniversary event. I especially wanted to offer the perspective that some lessons learned from those origins could still be useful in identifying growth opportunities for MEP today.

My personal experience with MEP began in 1989. The roots of this program were by then already planted at NIST under the name “Manufacturing Technology Centers,” supported by Senator Hollings, Chair of the Senate Commerce Committee, and George Brown, Chair of the House Science Committee. It was a small program then with a handful of MTCs, budget under \$10 million, and strong resistance to further growth from Republicans and private sector consultants who questioned the need for it. Adding just 1-2 MTCs each year to the program was an uphill battle.

At that time, I was on detail to the Center for Strategic and International Studies (CSIS) under the Diplomat-in-Residence program, where I was working with a group of defense companies on a report called, “Defense Reductions and Economic Adjustment.” With the Cold War winding down and defense budgets starting to decline, the report focused on “Dual Use.” This was a strategy for easing the prospective transition of the U.S. industrial base to technologies—including highly flexible advanced manufacturing process technologies—that have both military and civilian uses.

During this process, I worked with a large cross-section of defense firms, such as Boeing, Lockheed Martin, Grumman, and United Technologies and gained the attention of leading automation companies, such as GM Fanuc Robotics, GE Fanuc Robotics, IBM, Westinghouse and Rockwell Automation. I also became aware of several Senators who had a keen interest in dual use, including most importantly, Senator Jeff Bingaman from New Mexico, Chair of the Industrial Base Sub-committee of the Senate Armed Services Committee.

When researching “dual-use” concept with other federal departments, including Commerce, I first became aware of the NIST MTC program. The automation companies with which I was working were very attracted by that program as building, effectively, a distribution system for their new technologies able to reach the large customer base of some 250,000 small and medium-sized manufacturers.

As a result of that work on dual use, I accepted an industry offer to leave the State Department to form an industry-led, research-advocacy non-profit organization, called the National Coalition for Advanced Manufacturing (NACFAM). Its purpose was to identify and help develop a range of federal programs that would move the entire industrial base—civilian as well as defense-- towards the development and deployment of advanced manufacturing technologies.

When the Cold War ended interest in “Dual Use” grew exponentially. It culminated in March, 1993, when President Clinton announced five-year, well-funded legislation for DoD called the Technology

Reinvestment Project (TRP). This was widely viewed as kind of postwar “peace dividend.” It identified eight technology programs, most of which were directed towards high-technology dual-use research, development and deployment that encouraged firms to produce goods that have both military and civilian uses.

The principal designer of that program was Senator Bingaman. He decided to include two specific Technology Deployment programs among the eight: While he was aware of the MTC program, he decided to call these two programs: *Manufacturing Extension* and *Dual-use Assistance Extension*. He strongly favored the term “manufacturing extension,” because it would increase support on the Hill. If it sounded much like Agriculture Extension, he argued, so much the better, since support for the venerable and highly successful Ag Extension program was well established in Congress. Recognizing the need to upskill the workforce to keep pace with technological changes, Sen. Bingaman also included funds to give greater priority to industrial engineering education.

Most importantly, the TRP included \$190 million in annual funds for the two new extension programs. Please recall that these funds were allocated to the Department of Defense. However, the responsible DoD officials concluded from the outset that manufacturing extension did not fit their job description. This led to a behind-the-scenes negotiation with NIST, ably led by Phil Nanzetta, head of the MTC program, to shift operational responsibility from DoD for implementing these extension programs, NIST agreed to add some funds of their own to the package and to adopt the term Manufacturing Extension Partnership (MEP).

So, while the MTC program by FY 1992 had grown slowly to \$15 million to support seven MTCs, the FY 93 budget for MEP now included \$190 million from DoD plus \$30 million from NIST, totaling \$220 million annually. The funds were now available to transform the struggling MTC program into a nationwide network of MEP offices. This defined the MEP program that has continued to this day.

In that early period, NACFAM continued as the lead industry association advocate for MEP on the Hill. NACFAM also attracted the support of other leading corporations, including Merck, Dow, Ford, and Johnson & Johnson, who were interested in accelerated development and deployment of advanced technologies, including into their supply chains, as well as workforce upskilling programs. Some of those large corporations later testified on the Hill on behalf of the MEP program. They were joined by several dedicated MEP Directors, which is why I am so pleased to see Joe Houldin and Jacques Koppel on today’s agenda, given their own highly effective advocacy.

I wanted to review this history with you, as a reminder that MEP’s nationwide expansion in the early 1990’s was enabled by extraordinary historical circumstances: a DoD Technology Reinvestment Program, widely regarded at that time as a post-Cold War “peace dividend” for the country. I also want to suggest that those early and successful experiences point to the fact that MEP enjoyed support from highly important constituencies that could, in my view, be fertile fields for MEP’s future growth and higher budgets. Here are three examples:

- **DoD:** The fact that Congress originally identified Manufacturing Extension as a “dual-use” program underlines that our industrial base should be viewed as *a single base with dual-use*

capabilities needed both for national security as well as global economic competitiveness purpose. That is why I am so pleased that partnering with DOD is a major focus for MEP today.

- **Leading Corporations.** The willingness of many large corporations and automation companies to support MEP on the Hill as a conduit of advanced technologies among their smaller suppliers and customers suggests that robust MEP programs to support OEM supply chains would still resonate with those larger corporations.
- **Workforce Training and Certification Providers.** The continuing reality that workforce skills development and certifications are vital for the successful deployment of advanced technologies should strengthen MEPs capacity to help small- to-medium sized manufacturers deal with the deepening workforce skills gap crisis.

I thank you for this opportunity to share these experiences and reflections.