

IMIP
by
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IMIP (Industrial Modernization Incentives Program) was a mid-to-late 1970's ManTech program that later spread across the entire military industrial complex as well as NASA. Its reality was most likely the cause for its ultimate demise. But it also fomented one of the most successful modernization and monetary savings programs in Air Force, and perhaps military, history.

The intent of the program was to provide an incentive for major aircraft manufacturers and their subcontractors to "become more productive through plant modernization and capital investment." The basics of the program allowed weapons and equipment manufacturers to have the needed capital to invest in new equipment necessary to modernize their manufacturing facilities in order to reduce the cost of ongoing production.

In their proposal, contractors and their subcontractors would lay out the cost of needed capital equipment and other major investments. Then they would calculate the production cost reduction attributable to the funded investment. The basis for the program was that the Air Force and the manufacturer would, at some pre-agreed point, share in the projected savings for the remainder of the production program as well as future production of other products manufactured using that same equipment and/or production line. From the agreed upon point or points, the Air Force would reduce the price it would pay for the products by the pre-agreed amount, or amounts in cases whereby the savings were projected in steps. The ultimate demise of the program, as I understand it, was when contractors balked at participating in the program when they realized the Government was serious regarding implementing the projected price reductions. Like so many projected savings on military ManTech programs over the years, the estimated savings was much greater than that actually realized.

However, in the beginning, IMIP had one major success, that was the F-16 Industrial Technology Modernization (Tech Mod) Program. At the time, the F-16 was being produced by General Dynamics (GD, later purchased by Lockheed Martin - LMAC) at their plant in Ft. Worth, Texas. As the program brochure notes, "The F-16 Technology Modernization (Tech Mod) Program originated in 1978. A joint effort of the United States Air Force F-16 System Program Office (headed up at that time by Major General Ron Yates) and General Dynamics Fort Worth, Division, the program became a successful major initiative for plant modernization, technology enhancement, and systems development. This experiment in industrial productivity was so successful that it became the model program for many existing and all new Department of Defense (DoD) Industrial Modernization Incentives Program (IMIP) procurement programs. It has also been adopted by the National Aeronautics and Space Administration and many commercial firms."

The USAF/GD Tech Mod program fomented one of the first and largest ever Flexible Manufacturing System (FMS) production facility at the GD F-16 plant in Fort Worth. In 1980, the program was expanded to include F-16 subcontractors. The Program then assisted these subcontractors in modernizing their production processes via "structured IDEF analysis tools, technical assistance, and methodology to properly assess current production baselines, determine cost drivers and areas of needed improvement, and assist with the technical implementation of selected productivity improvement projects."

By 1993 there were 89 subcontractors participating in the GD Tech Mod Program that “initiated over 100 projects resulting in new enabling technologies made available to American industry through technology dissemination initiatives.”

In the early stages of the Program, \$25 million in CRAD (Contract Research and Development) projects were awarded to GD by AFWAL/ML and the F-16 SPO incentivizing an additional \$100 million investment by GD resulting in the development and implementation of the following technologies, among others:

- Cast Aluminum Primary Structure
- Engineered Computer Automated Ultrasonic System (CAUIST) Production Demonstration for the F-16
- Advanced Composites In-Process Controls/Inspection
- Manufacturing Methods for Precision Aluminum Powder Metallurgy Structural Components

A major non-technology development that came about as part of the Tech Mod Program was the development and implementation of an “MRPII process for government-furnished equipment and Business Processes Projects.”

Included in the 100+ projects noted earlier were the following major technology projects:

- Robotic Canopy Frame Drilling
- Automated Marking System
- Semi-Automated Wafer Termination
- Automated Brake Press
- Adhesively Sealed Fuel Tanks
- Robotic Wing Drilling
- Photogrammetric Inspection
- Complex Composite Fuselage Shapes
- Robotic Composite Drilling
- Robotic Machining of Interchangeable Replacement Panels

GD noted that “Today’s modernization projects will continue to benefit DoD programs well into the next century. F-16 modernization programs benefit not only the F-16 weapon system, but also other weapons programs throughout the Army, Navy, and Air Force. For every dollar of savings generated, 80 cents flow to other products and programs. For every government dollar of seed funding provided, industry has committed six additional dollars of capital investment and ten dollars of savings to the government.”

You would think such a successful program would be continuing today but IMIP was a mere memory by the turn of the century. A “Google” search for the original GD Tech Mod / IMIP program described herein yields only alternate results of later programs.