



## ONE YEAR INTO ITS MSG-3 PROGRAM ON THE C-5, THE AIR FORCE HAS ACHIEVED:

- 20 percent reliability improvement
- Seven fewer aircraft per day tied up in scheduled and unscheduled maintenance
- 14-point mission capability improvement
- 4,000 Air Force standard (-6) work cards transformed into commercial best-practice work cards

## TESTIMONIALS

“MSG-3 is the 730th Aircraft Sustainment Group’s top priority in order to increase C-5 reliability and maximize aircraft availability. MSG-3 will revolutionize how the Air Force maintains its aircraft.”

Scott P. Vandersall  
GS-15, DAF, Chief Engineer  
730th Aircraft Sustainment Group

“We’re going to put the G-IV on a MSG-3 program, which will save another 20 percent in maintenance costs ...”

Larry Flynn  
Senior Vice President of Aircraft Sales

## MAINTENANCE MANAGEMENT

Intergraph®’s Maintenance Management solution incorporates the proven concepts of Maintenance Steering Group 3 (MSG-3), High Velocity Maintenance (HVM), and the Maintenance Program Office (MPO). Implemented by experienced Intergraph professionals and tailored to individual requirements, our solution improves aircraft safety, ensures availability, and reduces overall maintenance costs.

### WHY USE MSG-3?

Aircraft maintenance is a demanding and complex process. Ensuring aircraft safety, increasing aircraft availability, meeting mission requirements, and adhering to shrinking budgets are often conflicting objectives. MSG-3 analysis is a rigorous, structured process that identifies optimal scheduled inspection tasks and intervals for aircraft maintenance. By adopting the MSG-3 methodology and applying it to aging Air Force and Army weapon systems, Intergraph helps precisely schedule maintenance to ensure equipment is safe and available on demand.

Maintenance Steering Group processes were originally designed by the Air Transport Association (ATA) to build scheduled inspection programs for new commercial aircraft. Still exclusively used by commercial aviation and incorporating industry best practices, MSG-3 is system-driven, top-down, and task-oriented, employing a lean set of building blocks consisting of zonal/enhanced zonal, general visual, detailed visual, and non-destructive inspections. Coupled with a hierarchical inspection/check process, it ensures that higher-level tasks include all lower-level requirements.

Intergraph engineers have adopted MSG-3 and made the appropriate adjustments to meet the military’s needs and mission. We employ experts on U.S. Air Force and commercial maintenance processes and practices, and offer exclusive capabilities in weapon systems maintenance management. We are the only company that has implemented MSG-3 on legacy Air Force aircraft – the C-5 Galaxy – and the only company that can efficiently translate our success with that aircraft to other weapon systems.

### MAINTENANCE PROGRAM OFFICE

As part of the MSG-3 process, Intergraph, in concert with our customers, establishes a MPO to collect program data, perform a MSG-3 analysis, implement a redesigned maintenance and inspection program, and adjust the maintenance schedule as needed. This is an inseparable part of Intergraph’s MSG-3 solution and ensures your maintenance management program delivers aircraft safety, reliability, cost-efficiency, and ultimately, optimal support for the military’s critical missions.

## OUR SOLUTION IN ACTION

The U.S. Air Force Materiel Command (AFMC) continuously faces the challenge of keeping weapon systems mission-ready. To help meet this challenge, the Warner-Robins Air Force Base partnered with Intergraph to streamline depot maintenance processes for C-5 and C-130 aircraft. We are providing support and expertise to the Air Force as they implement the MSG-3 methodology in support of their nose-to-tail, Isochronal (ISO) inspections on the C-5, which occur every 16 months. As an initial step in optimizing the maintenance process, it has consolidated C-5 aircraft ISO inspections to three regional centers (R-ISO): Dover Air Force Base, Westover Air Reserve Base, and Martinsburg Air National Guard Base.

## MAINTENANCE MANAGEMENT BENEFITS

Through our MSG-3 programs, Intergraph provides our customers with a logical framework for scheduled maintenance plans that maintain airworthiness and safety at lower costs. Since we are not an aircraft equipment manufacturer and do not build or supply parts for weapon systems, we can provide an objective analysis of your needs. Benefits include:

- Provides an independent and objective authority on weapon system safety, reliability, and cost-efficiency
- Enables precise timing of all applicable scheduled maintenance, ensuring assets are available when needed
- Gives you a reliable, substantiated, and defensible maintenance program
- Complies with U.S. Air Force operational safety, suitability, and effectiveness
- Provides a comprehensive maintenance program based on ATA MSG-3 scheduled maintenance development
- Follows appropriate inspection intervals determined by MSG-3 methodology

- Incorporates a hierarchical inspection convention with established ATA MSG-3 inspection criteria
- Identifies all structurally significant and maintenance-significant items
- Ensures previously missed items are included and eliminates insignificant inspections
- Uses commercial best-practice work cards so tasks are accomplished consistently and effectively

## ABOUT INTERGRAPH

Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualize complex data. Businesses and governments in more than 60 countries rely on Intergraph's industry-specific software to organize vast amounts of data into understandable visual representations and actionable intelligence. Intergraph's software and services empower customers to build and operate more efficient plants and ships, create intelligent maps, and protect critical infrastructure and millions of people around the world.

Intergraph operates through two divisions: Process, Power & Marine (PP&M) and Security, Government & Infrastructure (SG&I). Intergraph

PP&M provides enterprise engineering software for the design, construction, and operation of plants, ships, and offshore facilities. Intergraph SG&I provides geospatially powered solutions to the defense and intelligence, public safety and security, government, transportation, photogrammetry, utilities, and communications industries.

For more information, visit [www.intergraph.com](http://www.intergraph.com).

