

INTEGRATED AEROSPACE PROTECTION

The role of the traditional aerospace inspection service provider is evolving

When it comes to the typical aerospace manufacturing chain, adhering to strict schedules is of the utmost importance. But outsourcing inspection, testing, machining and finishing operations to multiple vendors can lead to delays that impact every step of the process.

Enter the fix: MISTRAS Group, a leading, global OneSource provider of asset protection solutions.

As a complete asset protection solutions provider, MISTRAS can provide high-quality solutions throughout aerospace manufacturers' production cycles and their assets' operational and recurring maintenance phases. Performing quality assurance and quality control for aerospace components and composite materials, MISTRAS simplifies aerospace production logistics by performing multiple services at convenient locations, helping to ensure production remains on-time and on budget.

Traditionally, the role of aerospace inspection providers has been confined to performing non-destructive inspection (NDI) services on pre- and post-forged components. The same company often inspects the same batch of components at various points throughout the production process. But with the current backlog of engines that need to be built, the need to optimize production cycles is greater now than ever before. The MISTRAS OneSource approach to aerospace protection provides a solution: a global, multidisciplinary lab network capable of performing multiple services throughout the production process.

MISTRAS is evolving the role that an inspection partner can play. The company's lab network provides pre-machining, finishing, and destructive testing (DT) services – in addition to ultrasonic testing (UT), penetrant testing (PT), magnetic particle testing (MT), and other NDI solutions, helping its clients to keep up with the demands for

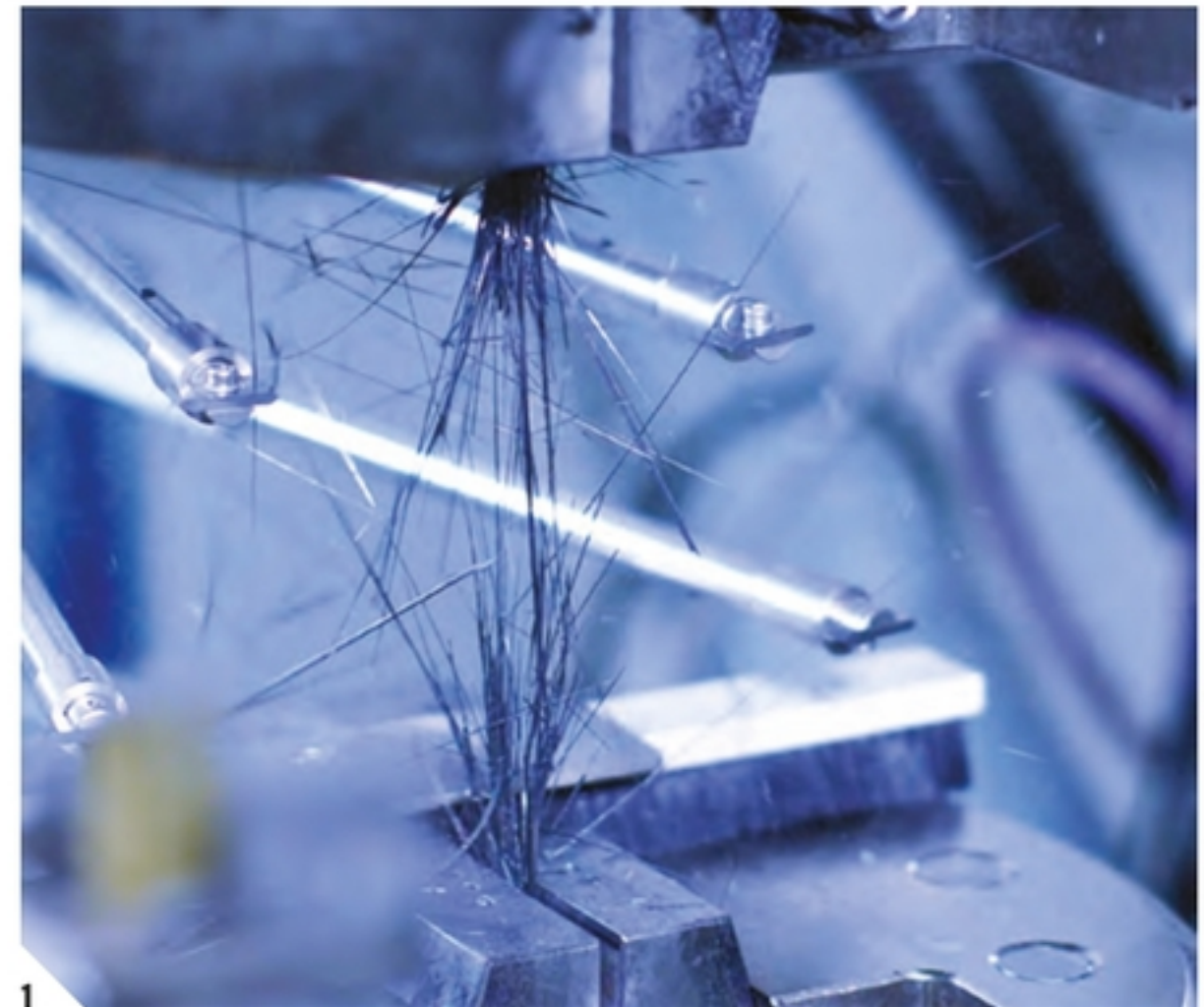


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faster turnaround times while maintaining high levels of quality.

Integrated aerospace protection provides many benefits for aerospace manufacturers, primarily in regard to optimizing production cycle logistics. For example, since many parts may be too rough from the initial forging process to perform UT on, they may need to be polished prior to inspection. Traditional NDI service providers often have to send these parts away for polishing and bring them back for inspection, creating multiweek lead times. With MISTRAS's extended laboratory network, which is capable of performing polishing and NDI services, these times are significantly reduced.

Centralizing to a minimal amount of service providers may not only enhance time efficiencies, but may also enhance inspection and testing quality. For example, macro etch and fluorescent penetrant inspection (FPI) are common testing and inspection processes for aerospace components, but are often performed by separate providers. This can cause extended delays in between the etching and inspection processes. As FPI is most effective when performed immediately following macro etch, these delays potentially increase the chances of not detecting manufacturing flaws and wear-related defects that can affect safe operations.



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1 // Destructive testing services performed in a MISTRAS lab in Germany

2 // Finishing services performed at a MISTRAS lab in the USA

Through its manufacturing division, MISTRAS develops technology that its laboratories use to increase inspection and testing accuracy and productivity, by enabling robotic equipment to autonomously conduct inspections while technicians focus on higher-value tasks. These automated inspection technologies significantly reduce human error and inspection times compared with traditional techniques.

Additional inspection and maintenance will be needed once components have been operating in high-stress conditions. In addition to expanding the role that traditional NDI service providers play during the aerospace production cycle, MISTRAS partners with its clients to provide field inspection services and offers a full range of ultrasonic testing and acoustic emission inspection systems. This enables the operators to discover cracks, flaws, delamination and other discontinuities in new and aging aerospace components, with technical support from the same company that initially worked on the components. \

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