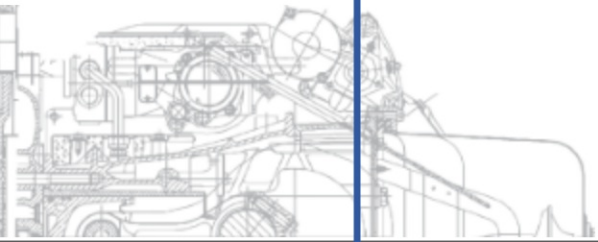
Avoid Catastrophic Events by Future-Proofing with NDT

Q&A with Advanced Material Solutions



Introduction

"The automotive industry is in the midst of an unprecedented transformation, including improving safety features. Inspection and quality control are the most important safety tools in today's business world."

Peter Miller, President of Advanced Material Solutions (AMS), shares his insights on the topic of future-proofing in the manufacturing industry, highlighting four key steps manufacturers should take to approach non-destructive testing in this Q & A with Generis.

What value does non-destructive testing offer manufacturers?

Today's imperatives are to do more with less:

- Accelerate time
- Minimize investment and product costs
- Differentiate ourselves with improved competitive processes and designs.

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NDT has been utilized for more than one hundred years and has come a long way since the early years. For example, today the proactive use of NDT can eliminate non-conforming parts from incoming material streams. By assuming a proactive NDT approach, manufacturers are able to catch non-conformances that aren't detectable by visual or functional inspections. Our pioneers would be proud.

Waiting to test for issues after they've been uncovered in production is known as "reactive testing."

It can be costly and is built around a failure mentality. The AMS philosophy is to proactively provide materials evaluation, cleaning, and finishing to address problems before they become problems.

Proactive NDT provides several significant benefits:

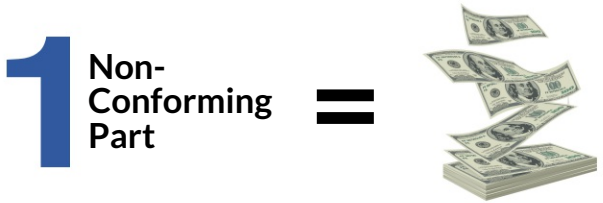
- Improves product quality
- Lowers PPM scores
- Improves plant productivity
- Reduces cost of quality
- Reduces scrap cost
- Lowers warranty costs
- Less frequent incident investigations and reporting
- Lowers containment costs
- Limits missed deliveries
- Limits third party defect investigation
- Lowers product recall costs
- Provides higher customer satisfaction

AMS provides comprehensive materials evaluation through robust industry knowledge and the latest technologies, future-proofing your firm from costly incident investigations and containment costs. We help customers safeguard their parts to protect their company's bottom line and avoid catastrophic events.

When it comes to non-destructive testing, what are some common misconceptions that manufacturers may have?

The leading misconception is that NDT increases process time and costs.

The benefits far outweigh the investment because the quality control process of NDT adds considerable value. Eliminating non-conforming parts from incoming material streams offsets added costs. A single non-conforming part can lead to substantial cost increases.



For example, if a non-conforming part leads to a test exception in routine lot acceptance testing, an investigation must be undertaken. Even if that investigation is conducted internally, without the need to report to customers or regulatory bodies, it can represent significant costs in engineering, operations and quality department human power.

Costs are incurred for substantial added testing and lost production.

If the exception is significant enough to warrant reporting to a customer or regulatory bodies, these costs increase by orders of magnitude. Thus, avoiding the potential for all cost escapes by proactively inspecting high-risk parts with NDT makes good economic and business sense.

Solving problems often requires different NDT methods, but we fully understand that there isn't a one size fits all solution. AMS looks at specific problems that could arise when new materials are introduced, or when a greater level of inspection becomes necessary on established materials and products.

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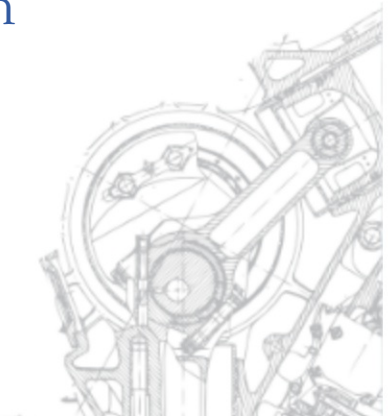


Why do the majority of manufacturers take a reactionary approach to non-destructive testing?

Some companies take risks.

Perhaps they are unaware of or simply not focused on risks inherent in the manufacture of their components.

- There are also companies that have tight delivery schedules and don't want to invest new money into materials evaluation.
- Then there are companies that don't utilize proactive testing as a protection for their brand.

The "it-will-never-happen-to-us" mentality dominates the culture of too many businesses. This needs to be changed.

What future-proofing best practices do you recommend manufacturers employ in their approach to non-destructive testing?

1 We ask:

- Is this application “safety critical?”
- How is the raw material produced and are there inherent risks that flaws at the raw material state could be passed onto secondary processing?
- How is the secondary process conducted? Could flaws in the raw material - even benign flaws - be re-shaped or re-positioned in the finished part and result in unwanted conditions?

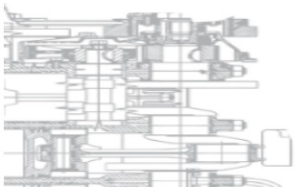
The degree to which the answers are positive suggests the level of priority each application should be given.

AMS sees testing as an opportunity for your company, rather than a reaction to a problem.

2 Provide a custom blueprint.

Providing companies with a blueprint to proactively evaluate their materials, before issues arise, is critical. Identifying and eliminating root causes, thereby averting crises and unnecessary costs, is the priority goal of our collaborative partnerships with our customers.

Selecting the optimum, holistic approach to inspection involves understanding the advantages and limitations of the various NDT methods, the type of material being inspected, and the flaw type, location, and shape. There is no one-size-fits-all approach. Selecting the right technique is the core mission of what we do at AMS. Our expertise lies in our ability to identify and deploy the ideal mass production inspection method that is most efficient, effective, and affordable for each project.



Everything we learn, our customers learn.

3 Ensure impartiality and transparency.

We move beyond a “spot-buy” mentality to an interactive partnership centered on testing impartiality and our deep institutional knowledge. Transparency and collaboration through third party testing allow us to provide findings and communicate every aspect of discovery with our customers. This collaboration provides valuable knowledge for our customers, reducing the likelihood of recurring issues.

When troubleshooting in-house, manufacturers may discover glaring issues, but may not find those that that are less obvious. Unaccounted for, these issues may be encountered by a company’s customer or end user base. At AMS, non-conforming materials are contained and true fallout rates are disclosed daily so that root causes can be identified and preventive actions put in place.

AMS reaches impartial, fact-driven, conclusions by comparing parts to agreed-upon accept/reject parameters. Results data and other relevant information are fully transparent and are shared daily or as needed. Our certified operators are trained to do one thing: provide the highest level of impartial testing services. That’s all they do. Our team is adept at identifying optimum solutions for any application.

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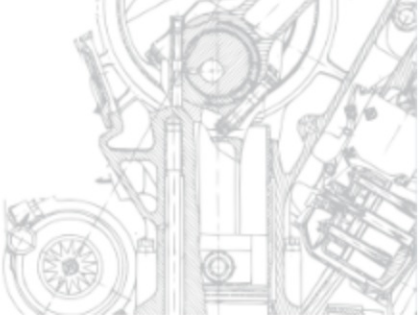
4 Invest where safety critical and high volume intersect.

Today's executives recognize that taking a proactive approach to materials evaluation, inspection, cleaning, and finishing are the highest form of averting a crisis, maximizing plant output, and minimizing costs.

Protecting a company's brand and reputation by ensuring the safe and efficient operation of products and parts is the AMS approach to NDT. Helping to save time and money by avoiding the costs and loss of revenue due to product or equipment failure, all done with the minimum of disruption to production processes and schedules, is what drives AMS.



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LEARN MORE

AMS, Inc. is an industry leader in Non-Destructive Testing (NDT)
AMS works with commercial and industrial companies to quickly and efficiently test their products. We do Automotive Safety Systems, Tube Inspection, Ultrasonic Inspection and more.

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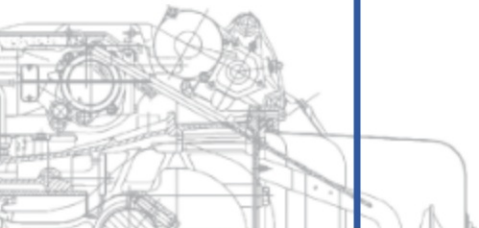

Join Advanced Material Solutions on November 10-11, where AMS President, Peter Miller will share his insights with us at the American Automotive Summit.

usautosummit.com

PETER MILLER

President

Advanced Material Solutions

FUTURE-PROOFING MANUFACTURING THROUGH NON-DESTRUCTIVE TESTING

- NDT 101: An overview and comparison of NDT disciplines, capabilities, limitations and applications
- Minimizing containment costs through proactive materials evaluation
- "Seeing things differently" to protect your company's tomorrow