

The UPDATE Report

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Congress Passes Safety Management Law

The next great management theory, Safety Management Systems, is now required by law!

The President signed into law the Airline Safety and Federal Aviation Administration Extension Act of 2010 on August 1. One of the provisions of this new law is a requirement that the FAA publish a notice of proposed rulemaking within 90 days that would impose a requirement for Safety Management Systems (SMS) on air carriers. Under the law's deadline, the final rule must be issued by August 1, 2012.

This should be a concern for distributors, because one of the elements of a robust SMS is data collection. It often falls to distributors to provide the logistics for parts-related issues and no one should be surprised if air carriers start asking their parts vendors to provide them with additional data to support the air carriers' SMS data collection obligations.

Congress has directed that the SMS follow the model published in AC 120-92. This model diverges from the international standards for SMS that were published by ICAO by including additional details and elements, but it is nonetheless sufficiently similar to the ICAO model that air carriers following the new regulations ought to be in compliance with the international standards.

Distributors should expect to see the NPRM published by November 1. It is likely

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MESSAGE FROM ASA'S PRESIDENT

THE UPDATE REPORT

is the newsletter of
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ASA is committed to providing timely information to help members and other aviation professionals stay abreast of the changes within the aviation supplier industry.

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*Committee to
Safeguard
Impartiality*

Dear Colleagues,

A heavily discussed and highly controversial item at the Annual Conference was the new "Commercial Parts" rule and the anticipated guidance. Many companies discussed the adverse effect this rule will have on their business. The air carriers in attendance discussed the inventory logistical nightmare associated with the proposal. The draft guidance material has been released and a short article is in the newsletter. If your company buys and/or sells commercial parts read the guidance carefully and submit comments. If you have any questions, contact Jason Dickstein.

ASA has awarded the 2010 Edward J. Glueckler Award to Mike Molli. Mike was one of the original Directors of ASA and ended his 16 years on the Board last year. Through his company Technitrade, Inc. he represented distribution from an international air carrier, repair station and distributor perspective. Mike is still very active within ASA and volunteers on the Committee to Safeguard Impartiality which is a group that oversees the impartiality and confidentiality within the ASA audit program.

ASA recognized two members of its team for their years of exceptional service. Stephanie Brown, Director of Programs, has been with ASA for 5 years and Richard Smith, ASAAP Auditor, has been auditing for ASA for 10 years. ASA has been fortunate to have an extremely competent and dedicated team.

There is currently an election for the Board of Directors. All members were emailed a ballot with five candidates running for four positions. Make sure to vote, not all trade associations allow its members to elect the leadership of the association. If you do not have the ballot, contact me.

Take care, Michele

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that we will all want to comment on this proposal in order to make sure that data collection paradigms that are developed will support safety without imposing unwarranted burden.

The FAA continues to investigate strategies for implementing SMS rules for all certificate holding companies in aviation. 

FAA Seeks Comments on Commercial Parts

The FAA has published a draft advisory circular on commercial parts. This is an issue that could affect many ASA members, so it is worthwhile for every ASA member to review this draft and offer their comments.

The revisions to the Part 21 manufacturing rule that the FAA published on October 16, 2009 included new rules that affect distributors both directly and indirectly. One of those changes was a modification to the standards for manufacturing. Under the old standards, only parts that were manufactured for installation in type certificated aircraft were regulated by the FAA. This means that parts made for other industries were not regulated. For example, a light bulb with general utility across a wide variety of industries would not be regulated by the FAA at the manufacturing level. At the time of installation on an aircraft, the FAA would regulate the installation of the light bulb through Part 43, and would impose on the installer an obligation to assure the airworthiness of the installation.

Under the new standards, articles are subject to FAA manufacturing regulations if the manufacturer knows, or should know, that the article is reasonably likely to be installed on a type-certificated product. This expands the scope of parts that will be subject to the FAA's PMA rules. For example, if a light bulb manufacturer sells its light bulbs to aviation industry customers (or knows that its distributors make such sales) then the manufacturer should know that such articles are reasonably likely to be installed on aircraft. Under this situation, the manufacturer must obtain a PMA in order to continue making those articles.

In order for a part to be "commercial" under the new standards, the design approval holder (e.g. type certificate holder) must create a list of such parts and make application to the FAA, proving that each part on the list has no safety effect. Informal interviews with type certificate holders suggest that few of them are interested in the additional burden associated with publishing a commercial parts list. This poses a potential commercial problem for operators and for the distributors upon whom they rely.

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There is a fear that manufacturers of would-be "commercial" parts may start to mark them as "not for aviation use," in order to avoid the PMA requirements under the new legal standard. In such a case, it would be difficult for air carriers to purchase and install those parts even though they are the same parts that the air carrier has been using for many years. Distributors of such parts may find it difficult to continue selling parts that are labeled in that way to their air carrier customers.


This is an issue on which distributors should be weighing-in.

The draft advisory circular is available online at http://www.faa.gov/aircraft/draft_docs/media/AC_CommPartsFP.pdf.

The draft is open for comments through August 19, 2010. ASA will be filing comments, but we would appreciate receiving copies of your comments as well, so that we can make sure our comments reflect the range of concerns expressed by our members. 

ASA 2010: A Tremendous Success

ASA is proud to announce that the 2010 ASA/AFRA Conference was a success. It was well attended and participants found it valuable. For the first time, this year AFRA had its own separate day that AFRA planned apart from ASA. ASA attendees were welcome to spend the extra day with the AFRA attendees as a no-cost-added benefit of normal ASA registration.

Did you leave the Conference at the end of the ASA portion? Many people did. But those that stayed for the June 29 AFRA day were treated to some important market information that could affect parts distribution (directly or indirectly). We have included a few articles in this month's issue of the Update Report that are based on the discussions at the AFRA Conference. 

Five and Ten Year Market Projections

On June 29 at the ASA/AFRA Conference, Dave Marcontell, President of TeamSAI Maintenance and Engineering Solutions, predicted little growth in the aviation industry over the next five years. But he predicted tremendous aviation industry growth in the 2015 to 2020 period.

Marcontell explained that spare parts demand is driven by MRO activity. The MRO spare parts market will be about \$22.9 billion in 2010, and will grow at 4.1% over the next ten years, to hit \$34.0 million by 2020. As many others have predicted, he suggested that much of this growth will come from outside of North America; and that a wise company will therefore seek international diversification among its customer base.

Marcontell predicted a relatively flat market for MRO in North America between 2010 and 2015. Over that same period (the next five years), Marcontell expects to see significant retirements of narrow-body and wide-body aircraft. There will be significant numbers of aircraft available for disassembly, and they will serve as a source of parts in the aftermarket.

Marcontell explained that a "best-practices" business model will track the demand for material to assure that there are still enough aircraft flying in a given fleet to justify the investment in parts being removed from retired

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aircraft. He feels that the optimal ratio is found in fleets where about 10% of the fleet is parked and available for disassembly – this ratio yields an optimal return on investment for the parts removed from a disassembled aircraft. Beyond that ratio, disassembly becomes less cost effective because the remaining market for the parts (the demand) is diminishing while the potential sources for these parts (the supply) is growing.

Contract maintenance continues to grow. In the engines and components MRO markets, about 75%-80% of the work being done is being done on a contract (“outsourced”) basis. Only about 5% of engineering tech support is contracted-out, but he sees a great deal more of this being contracted in the near future. While the “total-value-proposition” is important – like turn-time, quality and performance – bottom-line financial cost nonetheless remains an important driver that can never be ignored. Thus, distributors can have the most significant impact on the value proposition when they can provide cost savings to the MRO community, but the impact of other factors like turn-time, quality and performance should not be ignored.

Distributors are viewed by air carriers as providing lower-cost overhead for warehousing of parts. They are also expected by the customers to bear the capital costs of stocking, and to provide logistics network support, including integration of related articles from different sources in a “one-stop shop.”

Airlines are transitioning to a model in which they carry no inventory. This has been happening for a decade. Some air carriers acknowledge that this entails higher operating costs (the parts may cost more if someone else is incurring the warehousing costs), but it also reduces their risks, provides greater flexibility, and gives air carriers a better return on their capital, which can be divested from parts warehouses and inventories, and invested in other ways to improve the carrier. In order to make this model work for the air carrier customers, parts providers need to meet the customers’ service availability needs. Having the part when the airline needs it is a key to success in this model.

Marcontell sees a significant increase in aviation industry MRO growth rates during the period between 2015 and 2020. This will make up for the flat growth rates he expects over the next few years to yield the 4.1% overall annual growth rate over the coming decade. In order to be able to take advantage of this tremendous growth in the latter half of the decade, distribution companies must look at their “key success factors.” Marcontell identified several key success factors for aircraft parts distributors:

- Parts availability – the parts must be in stock and shipped today in order to meet air carrier demands for just-in-time and AOG coverage
- Customer service – having someone that the customer can talk to when THEY want to talk is an important element of customer service
- Financial strength – air carriers seem to expect distributors to make the capital investment necessary to support the customer and this requires the distributor to have the financial strength to make that investment
- Integrity – developing a long-term relationship that shows that the customer can count on you to be fair is important
- Price – all buyers always want the best price they can get - the safety assurance of FAA-approved parts combined with competitive pricing is an attractive match 

Disassembly Management

Are you having problems finding the packages of surplus aircraft parts that used to be so common a decade ago? Worried about your sources for surplus parts? Consider parting out an aircraft in order to refill your warehouse shelves!


In a presentation on June 30, 2010, Alain Berube explained that his company, Volvo Aero Services Corp., performs asset management functions that include management of disassembly projects. He described the process for management of disassembly projects.

Asset evaluation requires that the disassembler plans the revenue stream from the asset. The evaluator must ask, "Which parts will be most likely to sell and for what amounts?" Parts that sell as repaired or overhauled often fetch the best value, so Volvo's evaluation will identify what needs to be overhauled in order to make an assembly saleable for maximum value. There is a balance to be achieved in such decisions, because investment in the cost of overhaul may not be worthwhile for a part for which there is no reasonable market.

When Berube's company is managing a disassembly project, Volvo Aero works with the customer to choose a location and a vendor for the disassembly. Depending on customer needs, Volvo will generally look for AFRA-accredited organizations and Part 145 organizations as partners.

Once the asset is evaluated and the partners are chosen, Volvo will develop a work scope definition that describes the disassembly process, and that will include documentation standards (tagging of parts to support traceability). The work scope allows the work to be completed efficiently and without waste (there is no need to remove parts that are not going to be sold or treated separately). The documentation standards help to ensure that all material removed from the aircraft can be traced according to industry standards, can be properly identified, and can be efficiently processed according to customer desires.

While Volvo works with partners to perform the tear-down, Volvo always has on-site management in order to perform inspections, classify the removed material, ensure that material is appropriately marked and packaged, and ensure that the material is prepared to be entered into the Volvo computerized inventory system. The onsite management allows parts to be efficiently shipped directly to repair vendors or to customers from the work site, as necessary, without being returned to the main Volvo site.

Final receipt at Volvo becomes a very simple process – confirming that the parts have not suffered shipping damage and placing bar tags on packages – because so much preparation work is done at the disassembly site. 



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Invoice Management*

Provides the opportunity to manage the invoice process by viewing system wide for open sales orders and determining if these can be expedited or consolidated with existing invoices, etc.



Purchase Orders & Requests*

Manages the purchasing process including request routing and approval by dollar amount and employee position. Manages purchasing activity for stock, non-stock and exchange.



Purchase Management*

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Manages the shipping and order consolidation process to include user defined stages and statuses. Creates custom invoices, packing slips and certification forms within one shipment.



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Lot Costing

Manages lot purchases and assembly teardowns. Provides total tracking of acquisition costs, overhaul expenses, component part sales, profit margins and full traceability.



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Repair Orders*

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Contact Management

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Document Imaging

Provides the ability to attach images or documents against part number, stock line, work order, and company.



Company Management*

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Magellan Focuses on Quality When Disassembling Aircraft

Ken Auen is the Vice President of Technical Services from the Magellan Group. Magellan has supervised the dismantling of hundreds of aircraft.


When examining whether to buy an aircraft, Magellan looks at the asset value, the dismantling costs to recover that value, and the projected returns. They use their past transactional history to identify high-value, high-demand parts. They will examine the cost-benefit analysis of whether to fly an aircraft elsewhere for disassembly, or whether to disassemble on-site (for more on this subject, see *Challenges of Disassembling an Aircraft at a Remote Site*, in this issue). Labor availability and costs figure into this analysis, but labor costs can be adjusted by flying in the labor from another location.

Auen feels that even where the use of non-certificated parties for disassembly is permitted, the savings in initial labor costs may not always be worthwhile. Thus, when choosing a contractor for disassembly, the total value offered must be considered. Where a certificated repair station can process parts and issue 8130-3 tags for them as they are removed (overhauling parts as they are removed, for example), it can be less expensive to have a certificated repair station perform the disassembly, because the net value of the parts is greater when they have appropriate 8130-3 tags and there are cost and time savings associated with the lack of shipping.

Preparing the aircraft, in the right order, is important. Some disassemblers will do things in the wrong order, like removing power from the aircraft while power is still necessary (e.g. hydraulic power would be necessary to manipulate control surfaces) or removing the landing gear while the aircraft still needs to be moved. This can make it more difficult to accomplish disassembly efficiently.

Magellan always makes sure that they have an on-site representative in order to make sure that the contractor complies with the Magellan requirements. Magellan audits the removed parts lists on a daily basis, in order to make sure that they are meeting their expected schedule and to make sure that they are getting the parts that they expect to get. They start entering their parts lists on ILS immediately, so that parts become available for sale as soon as they are removed.

Magellan likes to keep the fuselages, because they can find places to sell the fuselages for non-aviation use. This practice has a positive environmental effect because it limits the material that may potentially end up in a landfill. Also, sometimes a minor part becomes unavailable from the OEM, and a fuselage can yield a part that might not have been expected to be saleable.

Magellan uses a two-part removal tag to track parts as they are removed. The removable bottom provides duplicate information so that if a tag is lost from a part, there is a duplicate paper record of the removal information for the part that can be useful in some circumstances. 

Challenges of Disassembling an Aircraft at a Remote Site

On June 30, Derk-Jan van Heerden of Aircraft End of Life Solutions (AELS) spoke about the challenges of disassembling an aircraft at a remote site. His company, AELS, disassembles aircraft for parts and materials. AELS also buys, sorts, destroys, and recycles aerospace materials.

An issue that often faces his company is that there is an aircraft that is currently not flyable, and is at a remote site at which AELS has never previously performed a disassembly (a site without the appropriate infrastructure

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for disassembly). The buyer in such a case faces the choice of whether to return the aircraft to flyable condition and ferry it to a regular disassembly site, or to disassemble the aircraft on site.

If the aircraft cannot be moved, or if it would be economically unfeasible to move the aircraft, then the choice is made, and it must be disassembled at the site where it is found. There are a number of elements that the disassembler should consider in examining the costs associated with remote disassembly, and these are all elements that must also be considered in planning for a remote disassembly.

One of these elements is hangar availability. Is there hangar space that you can use in order to protect your employees and to protect the remote materials from weather? If not, then it may be necessary to erect temporary structures, which imposes an additional cost.

Government interaction is also an important consideration. You need to negotiate with the local Civil Aviation Authority (where the aircraft is located) as well as the Civil Aviation Authority that issued the aircraft registration, in order to make sure you remain in compliance with their regulations. Some Civil Aviation Authorities (including many of those who follow the EASA rules) require that the disassembly be performed by a certificated repair station. In some cases, a Civil Aviation Authority may draw legal distinction, distinguishing between disassembly of aircraft with a valid certificate of airworthiness (which may need to be done by a certificated repair station) and those for which the certificate of airworthiness has been surrendered. In other cases, like in the United States, a disassembly of an aircraft may be performed by uncertificated individuals, but they may not perform inspection or other maintenance activities.

Tooling can be a challenge when performing a remote disassembly. You will need cranes, stands, and aircraft-specific tooling. This must be part of the planning for the disassembly; no one wants to find out that the disassembly must be halted because the proper tool is 1000 miles away.

Airport access can also be a challenge. This can be a security issue for the airport, and you may need to undertake a process with the airport in order to secure permission to access the airport with your disassembly employees.

Security of the aircraft itself can also be a challenge, as you try to secure your worksite against theft. Unfortunately, sometimes third-parties want to take "souvenirs" when they see an aircraft being disassembled. You should consider securing your worksite against loss stemming from others (third parties) who may have airport access.


Disassembly is often an unknown process for airports. Communication is key to developing the right relationship. You need to explain to the airport officials what you are doing and how you are doing it, with a special emphasis on how you will protect the interests of the airport. Airport interests include ground damage from heavy equipment, groundwater protection, foreign objects that might lead to foreign object damage (FOD), and disposition of hazardous materials. Hygiene issues, including toilet access should also be considered in the discussions with the airport, in order to make sure that the logistics of access are not overly burdensome.

When it comes to recycling, it is almost always best to work with local partners because of the transportation costs for using remote partners. New technologies, though, are changing this equation. Long distance transportation can be a reasonable option, when improved recycling technologies allow better extraction and thus yield a better price that offsets the transportation costs.

When managing the removed components, you should have a local storage location (a staging location), but you should also plan to transport the items away from the remote location as soon as possible in order to limit the possibility for loss, as well as to expedite the return of such items to useful life.

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When dealing with a disassembly at a remote location, you will face unique challenges that you may not have faced when performing disassembly "at home." With proper planning, in many cases, it can be more profitable to disassemble on site rather than expend resources to return the aircraft to a flyable condition and try to move it (ferry it) to your regular disassembly site. 

Hidden Value in Scrap Aircraft Parts: Precious Metal Recovery

Are you scrapping engine parts that are deemed unsaleable or unlikely to be sold? Are you getting the full value for that scrap? Greg Hutchinson of ECS Refining discussed with us the recovery value of precious metals in aircraft engines on June 30. This discussion really opened our eyes to the potential value in parts that are deemed "scrap."

Hutchinson explained that aircraft engines generally include valuable metals that are worth recovering. These include gold, palladium, platinum and silver. His company, ECS Refining, recovers precious metals from aircraft engines.

The ECS process for end-of-life engines involves sorting, testing and processing in order to optimize segregation to get the most value from the recovered metals. They use the spectral emissions created when metals are exposed to a radioactive source in order to identify metals automatically, and to segregate the parts that include precious metals.

ECS then uses a leaching process to chemically remove precious metals from the parts that contain them. Once the precious metals have been leached from the parts into the leaching solution, those metals are then precipitated out of the solution. These precious metals can easily reflect 50% of the residual recycling value of an engine.

An alloy-based engine might have few precious metals, but there is still generally some precious metals and some other non-precious metals that are valuable to recover. There is a base recovery in most engines, which represents the amount that can always be recovered, and then there is also a potential recovery of precious metals based on optimal recovery. Real recovery for any given engine tends to fall between these two figures, depending on how efficiently the recovery process operates.

ECS has published figures on how much precious metal can be found in certain engines. They have indicated base yield from engines as well as a "potential" number that would represent 100% recovery of all precious metals in the engine (which is usually not possible).

Engine	Total Average "Base" Recovery	Total Possible Recovery
CF6 –	\$1,600	Not specified
JT3D	\$700	\$6,675
JT8D	\$3,425	\$18,625
JT9D	\$800	\$6,050
RB211	Not specified	\$6,875

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REGULATORY UPDATE

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The figures in these tables are based only on gold, palladium, platinum, and silver - these figures do not take into account the value of the other strategic and non-strategic metals that might be recovered from engines and engine parts. There is an additional recovery associated with the non-precious metals that may be recovered and recycled.

Aircraft engine parts that may contain precious metals include:

- Stators
- Blades
- Vanes
- Fuel Nozzles
- Fuel Manifolds
- Tobi Ducts
- After Burner Liners
- Heat Exchangers

When the disassembler pre-sorts the metals, this can make recycling more efficient, by allowing the recycler to better focus on the parts most likely to contain recoverable precious metals. Distributors can make recycling more expedient and productive by sending the alloy-based parts to a company that specializes in alloy-based recovery, and sending the parts with precious metals to a company like ECS that specializes in precious metal recovery. 

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Boeing Sets Its Sights On Environmental Improvements

Jeanne Yu, Boeing's Director of Environmental Performance, addressed strategies for improving environmental performance in aircraft during the ASA/AFRA Conference on June 29, 2010.

Yu explained that the 18,800 aircraft in the 2008 fleet are expected to nearly double over 20 years, growing to about 36,000 aircraft by 2028. Yu explained that the aviation industry accounts for about 2% of CO₂ emissions. Without intervention, it is estimated that this could rise to 3% over the next twenty years because of the size of the fleet (environmental improvements in engines mean that the doubling of the world's fleet does not reflect a doubling of the emissions). As a consequence of the fleet increases, and the increases' impact on Carbon emissions, Boeing is working with the rest of the industry by taking proactive steps to reduce aviation's environmental impact.

Aviation has had tremendous success in reducing its environmental impact in the past. From the 1950s to the 1990s, aviation achieved a 90% reduction in noise footprint and a 70% increase in fuel efficiency, with a correlative reduction on CO₂ emissions. Yu explained that the aviation community wants to build on this history of success and further reduce its emissions.

Yu boasted that 75% of Boeing's R&D is focused on developments that benefit environmental performance. These research projects include:

- Next generation materials to reduce weight and thus decrease fuel burn
- Aerodynamic improvements to reduce drag and thus increase fuel efficiency
- Switching to less energy intensive systems, like reducing pneumatic systems and replacing them with electric systems where possible

Boeing is also researching biofuel viability. Current biofuel testing involves mixtures that include:

- 20% coconut & babassu;
- 50% jatropha;
- 50% algae & jatropha.

Boeing has set a goal to make each generation of their aircraft 15% more fuel efficient. These "green" technologies are being implemented in the 787.

Boeing is not just working on making its upcoming aircraft more efficient. Boeing is also working on strategies for making the existing fleet more fuel-efficient. Strategies for improving worldwide fleet efficiency include:

- Implementing airplane modifications like winglets that increase fuel efficiency;
- Develop operational efficiency strategies for air carriers to decrease the total fuel burn on each flight;
- Optimize worldwide airspace efficiency and navigation methods to decrease the total fuel burn on each flight.


100% of Boeing major manufacturing sites are now operated in compliance with the ISO 14001 environmental management system standard. This applies to the operation of the facilities as well as to the processes that are being used for building aircraft. Boeing also uses LEAN theories to reduce waste, which

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helps to reduce Boeing's environmental impact. Finally, Boeing is a strong supporter of AFRA, the non-profit organization that works on strategies for efficiently recycling aircraft at the end of their life-cycle.

Through AFRA, Boeing is working with its peers to develop recycling technologies that could achieve 90% recyclability in the world fleet by 2016. She estimated that the existing advances that have been developed could reduce aviation's contribution to landfills by 75% by 2012. AFRA's members are identifying, accelerating and integrating promising recycling solutions. She explained that one example of the advantages that can be realized is that there is a 90-95% reduction in energy use (and a correlative reduction in CO₂ emissions) when using recycled carbon fiber, instead of creating virgin fiber. Yu explained that joint action, like the efforts of trade associations, allows the entire industry to create a better future, together. 

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CONTACT US!

ASA Staff is always interested in your feedback. Please contact us with any comments or suggestions.

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