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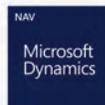
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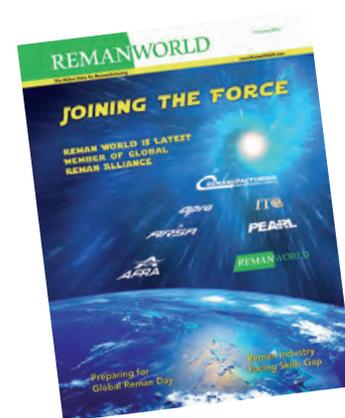
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Missing in Action

A shortage of technicians and engineers is already costing remanufacturers world-wide billions of dollars. Mobilizing the workforce of the future is among the greatest challenges facing the industry

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A New Beginning

This edition marks the first anniversary of Reman World.

While we can take no credit for the past 12 months that have been perhaps the most eventful and transformative in the history of remanufacturing, we are pleased that we were here to play our small part and report on it.

Let us focus here on two developments of particular significance.

The Remanufacturing Industries Council, RIC, became a stronger global voice for remanufacturing, partly by entering into MoU partnerships with five industry associations from four different reman sectors.

The greatest breakthrough, however, was the formation of the REMADE Institute, the private/public US consortium pooling the reman efforts of leading companies, top universities, trade associations, national research laboratories and states. The creation of REMADE signifies a historic recognition and elevation of remanufacturing by business, academia and government as an industry of the future.

We are honored to announce that Reman World will be part of this future as the official media partner of the Remanufacturing Industries Council, RIC. As a global promoter and organizer of remanufacturing across all industries and borders, and closely associated with REMADE, RIC represents the same aspirations, ideas and hopes for remanufacturing that drive us at Reman World.

For a long time, the remanufacturing industry has deserved a common communications platform, a platform for news, views, trends and developments, a forum dedicated to the benefits of remanufacturing. And while all of us who are familiar with the industry know and appreciate remanufacturing as the ultimate form of recycling, much remains to be done to carry this message to related industries, decision-makers and, ultimately, the general public.

Reman World, is designed to become that platform and to help carry that message.

As the most recent MoU partner of RIC, we take pride in joining this influential group. In all, so far, five industry associations representing remanufacturers in four reman sectors - automotive, printing, electrical and aeronautics (two) - have joined this growing movement to the furthering of all of remanufacturing.

The time has clearly come to tell the world what remanufacturing is all about – a superior and rewarding way to ensure that coming generations will inherit a healthy environment and a sustainable future.

We thank everyone who have used Reman World to present news, views and information since our arrival last year. To those who haven't yet, we extend an open invitation to all corners of the industry to do so. The quality and value of the remanufacturing is a good story that needs to be told and told again.

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Wabtec Corp. Acquires UK Turbocharger Specialist

After more than 20 years as an innovator in the turbocharger aftermarket industry, UK-based Melett Ltd. has joined the Wabtec Corp. family.

A well-known player in turbocharger markets with operations in the U.K., Poland, North America and China, Melett provides turbochargers and repair parts to reconditioning and remanufacturing customers in more than 100 countries. Founded in 1995, Melett has annual sales of 40 million dollars.

Wabtec Corp. is a global provider of equipment, systems and value-added services for transit and freight rail. Through its subsidiaries, the company manufactures a range of products for locomotives, freight cars and passenger transit vehicles. The company has facilities located throughout the world. ■



Ian Warhurst, Melett

Accolade for Arnott Air Suspension Products

Alliance Parts Warehouse, a major US distributor of auto parts, has awarded Florida-based Arnott Suspension Products its prestigious Diamond Award.

"The award was created to recognize channel partners who distinguish themselves through their category expertise, quality and knowledge of their sales staff, as well as their willingness to collaborate in the areas of customer service information technology and marketing," Alliance said.

For more than 25 years, Arnott has been developing and distributing air suspension replacement products and accessories. During this time, Arnott expanded globally. Currently, the company has a rapidly growing presence in Europe through Netherlands-based Arnott Europe. ■



New Chairman Heading APRA Make-Over

After almost 80 years in the vanguard of remanufacturing, the Automotive Parts Remanufacturers Association, APRA, is getting a makeover. According to the new APRA chairman, Jay Robie of Phoenix Automotive Cores, Phoenix, Arizona, the process, started during the tenure of his predecessor, Omar Cueto, is nearing some conclusions.

"We are looking at the association from the ground up – the objective, the mission statement, the board structure, the bylaws," Robie told Reman World. "There's been a consolidation of the industry. Companies have gone from small to big. That means fewer companies and fewer members. So we have to change the focus."

"In the past, the focus has been mainly about networking opportunities at our trade show. But as the dynamics of the industry changes, the way you meet the needs of the members also changes. So we feel the model needs to be refreshed."

As part of the process, according to Robie, the board is seeking to maximize feedback from members. After a year's deliberations and exploration, a new vision for APRA is emerging.

"The main thing is that we want more engagement with the members, so they feel they have a voice and that they can reach out to the board and have their message heard and ideas considered."

To further promote member engagement and a continuous flow of ideas and energy, term limits on board members are likely to be imposed.

"We have people like myself who have been on the board since 2009, and we don't feel anyone should be on the board beyond six years. We believe, the more ideas come through the organization, the better the organization will be," Robie said. ■



Jay Robie

New Era For MERA

David Overbeeke, president and CEO, Brake Parts Inc, was elected new chairman of MERA - the Remanufacturing Association. He succeeded Peter Butterfield, chairman and CEO, Omega Environmental Technologies. Butterfield who served as MERA chairman for two years will remain on the MERA Board as a member of its Executive Committee.

MERA also elected two long-serving board members to its Executive Committee: Sanjiv Khurana, president, Detroit Diesel Remanufacturing LLC; and Andreea

Raaber, vice president, business development, Bendix Commercial Vehicle Systems LLC. Khurana and Raaber take on key duties in shaping the future of MERA.

In addition, the association has welcomed three industry leaders to its Board of Directors with effect from January 2018. The new directors are Justin Greenberg, CEO, DieselCore LLC; David Olsen, CEO, Transaxle LLC;



David Overbeeke

and, Russ Schinzing, president, Electronics Remanufacturing Company LLC.

"I believe our newest directors will help usher in a new era for MERA," said John Chalifoux, MERA President and COO. "It is an exciting time for the remanufacturing industry, and these changes will keep MERA well-positioned to advance the business interests of our members." ■

Level Seven Expands Reman Team

Level Seven, the supplier of specialized software for the remanufacturing industries, has appointed Ole Larsen Enterprise Practice Manager. In his new position, Larsen will be an important part of Level Seven's remanufacturing software practice, which includes multi-site and multinational implementation projects.



Ole Larsen

"Ole Larsen brings more than 20 years of EPR experience in various distribution and manufacturing industries. His leadership and implementation experience is essential as Level Seven positions itself for continued growth in the reman industry," Level Seven said.

"I am excited to join Level Seven as they expand their footprint in the Reman ERP market," added Larsen. ■

Leadership Change at Centric Parts

Centric Parts, a division of APC Automotive Technologies, has announced that James Tucci has joined the company as Vice President of Operations for the Centric, Qualis and StopTech divisions. Tucci will be responsible for the company warehouse, manufacturing and remanufacturing operations. In addition, he will lead its Global Quality and Logistics teams.

Bringing a wide range of qualifications to his new job, Tucci was Vice President of Operations for Prime-Line Products before joining Centric. Earlier in his career he held senior supply chain management and operations responsibilities at Fleetpride Inc., a heavy-duty truck and trailer parts distribution business.

Tucci holds both Bachelor of Arts and Master of Science degrees in supply chain

management from Michigan State University. He is a Lean Master, Lean Six Sigma Master Black Belt and Six Sigma Black Belt and also is a 19-year veteran of the United States Marine Corps and Marine Corps Reserve.

Centric Parts claims to be North America's leading manufacturer and supplier of aftermarket brake and chassis components for passenger vehicles, medium duty trucks, fleet vehicles, high performance vehicles and race cars under the Centric®, C-Tek®, PosiQuiet® and StopTech® labels. Founded in Southern California in 2000, the company has enjoyed year-on-year solid growth ever since. Currently, the company operates multiple warehouse and manufacturing facilities totalling over one million square feet and employs a workforce of 850. ■

Power Test and Superflow Join Forces

Two leading suppliers of testing equipment for remanufacturers have become one. Last fall, Power Test Inc., the dynamometer and custom test stand manufacturer, acquired well-known dynamometer specialist SuperFlow Technologies.

Power Test CEO Alan Petelinsek will be working closely with former Superflow owner, Scott Giles, who will continue as general manager at the company's Des Moines HQ. Based in Colorado Springs, Division Manager Dave Arsenault will also continue in his position. "We believe there will be tremendous engineering and manufacturing synergies between these industry leading companies," Petelinsek said in a statement.

For over 40 years, Power Test has provided specialized test equipment to manufacturers, rebuild facilities and distributors in the mining, oil & gas, power generation, marine, trucking, construction, rail, and military markets in more than 90 countries on six continents. Founded in 1957 as Hicklin GM Diesel, SuperFlow® is specializing in test and remanufacturing equipment for vehicle drivelines. ■



Scott Giles

Michael Cardone III Becomes Executive Chairman

As the third generation of the Cardone dynasty to rise to the top of the remanufacturing giant, Michael Cardone III has been appointed Executive Chairman of Cardone Inc.'s board of directors.



Michael Cardone III

A co-owner of the world's largest privately owned remanufacturer, he has served in executive leadership roles with CARDONE, including as president, since 1998.

"As executive chairman, he will focus on CARDONE's long-term growth strategies, including acquisition activity and the company's footprint and real estate holdings. He also will be responsible for managing the board of directors and its processes," the company said in a statement.

Michael Cardone III also serves on the board of MERA – The Remanufacturing Association.

Michael Cardone Jr., CARDONE founding owner and board member, said, "I am so proud to see my son take the role of executive chairman. As a third-generation family owner, Michael is well-attuned to our rapidly changing industry and understands what our company needs to do to be successful. I am confident in his leadership of our board of directors." ■

Harald Benninger Retires from APRA Europe Board

Harald Benninger, a long-standing profile of European remanufacturing, has retired after decades of service to APRA Europe.

After 20 years as a member of the association's European board, Benninger decided to call it a day and focus on his full-time occupation as co-owner of Germany's IKA, a global supplier of electrical spare parts for remanufacturing.

"I have had a wonderful time working with my colleagues at APRA, but I feel the time has come to let others continue this important mission," Benninger told Reman

World. "I'm pleased to continue working in the reman industry where I have found so many friends and good colleagues over the years."



Harald Benninger

Having started his career with ZF Friedrichshafen and contributed to the German giant's aftermarket business in Eastern Europe, Benninger joined IKA where he rose to become co-owner and further developed the company's extensive network. ■

Caterpillar Adds to Marine Portfolio

Caterpillar has announced an updated portfolio of remanufactured short blocks, long blocks and engines for the Marine industry. Ranging from 300 to 700 bhp, the program provides improved productivity and efficiency at a fraction of the cost of new, while reducing impact on the environment," the company said in a press release.

As the world's leading remanufacturer of diesel engines, Caterpillar employs state of the art techniques, advanced remanufacturing processes, and genuine Cat parts to return each engine to same as new specifications. "Remanufacturing is more than rebuilding," said David Holt from Caterpillar's Marketing and Brand Division. "It's returning engines and components to their original performance specifications and latest engineering changes using salvage technologies, strict reuse guidelines, advanced manufacturing systems and unequalled quality control."

Bendix Launches New Reman Brake Shoe

Bendix Commercial Vehicle Systems has launched a remanufactured brake shoe with the same friction and coating as its OE brake shoe. Like the original OE version, the brake shoe has an extended five-year warranty against rust jacking.

"The introduction of the new reman shoe comes as Bendix's remanufactured brake shoe production has topped six million units," the company revealed. "Bendix's rate of production has steadily increased to meet growing demand from fleets and owner-operators wishing to replace shoes."

"We are focused on offering reman brake shoes that maximize safety and perfor-

mance by resisting premature lining wear and rust jacking to provide full service life," explained Keith McComsey, Director of Marketing and Customer Solutions at Bendix Spicer Foundation Brake LLC (BSFB).



"Rust jacking protection is about much more than a quality coating," McComsey said. "At Bendix, we also coin 100 percent of our reman shoes to return them to OE geometry so they will perform as designed by OE engineers. Many brake shoes are relined, not truly remanufactured. And most reliners don't coin. The coining process removes the gap between the shoe and friction, where rust jacking can initiate more easily." ■



"Restoring original performance is possible since new Cat engines and engine components are built to be remanufactured for a second life." ■

Breakthrough Partnership: Reman World and RIC Join for the Future

For 25 years, the Remanufacturing Industries Council (RIC) has pioneered relationships that connect industries and promote advancement. Now, Reman World will be the RIC's exclusive outlet

By Dr. Nabil Nasr

Today's remanufacturing industry is inclusive, collaborative, and growing; a far cry from its humble beginnings. The Remanufacturing Industries Council, RIC, a multi-industry business council headquartered in Rochester, New York and supported by the Rochester Institute of Technology, RIT, has played a major part in making that possible. After twenty-five years of outreach, research, and collaboration, there is no more valuable source of information on new technology, business strategy, and industry opportunity. Now, to support the industry at large with consistent access to the RIC's valuable resources, Reman World will act as the exclusive publisher of RIC content. A look back at how far the industry has come with the RIC's involvement will help highlight this partnership as a milestone in industry advancement. We sincerely welcome Reman World as an important partner in our work.

A LOOK BACK

Before 1993, remanufacturing was a small part of the industrial ecosystem, known best only to those whose businesses depended on it. Groups across industry lines knew little of each other, and industry at large knew even less of the vast opportunities remanufacturing holds.

At the time, we approached the U.S. Department of Energy (DOE) and asked for support to characterize remanufacturing in the scope of broader industry. By better understanding the remanufacturing industry, the DOE agreed that decision makers should learn more about its potential to strengthen U.S. manufacturing as a whole.

As a result of this work the industry was characterized in terms of the 12 sectors we recognize today, and, subsequently went on to identify the technology and business needs that could increase the potential of remanufacturing even further. In turn, this led to the idea of creating the partnerships which we see today:

“We sincerely welcome Reman World as an important partner in our work.”

Although each industry is unique, there are many cross-cutting areas in remanufacturing where new technology can help multiple industries at once. Accordingly, the idea was to get representatives from all disciplines together and talk about whether it made sense to develop an organization to unify the industry and push collaboration. And so, in a 1994 Rochester meeting supported by RIT, the RIC was born.

A LOOK IN

Since then, the RIC has been a key source of partnerships, providing a forum for discussions and learning that led to a new business strategy, best practices, and market growth. At first, we worked to expand the visibility of remanufacturing in a broader industrial context, carving out a place for reman businesses and raising awareness of their benefits. Working with diverse companies to understand the role

of reman and its integration into larger business, of course, was a key issue.

This type of work has already led to broader unification across industry lines encouraging leaders to recognize where business and technology advancements can benefit everyone. And as recognition has increased, so has RIC's influence. Right from the outset, the RIC has been inspired by leaders who have changed the face of the reman industry – from Jack Stack of SRC Holdings and Mark Stratton of CAT to Bill Davies, the Council's current chair and CEO of Davies Office. And with a structure now optimized for inclusion and results, RIC is attracting engagement from some of the industry's top talent: Cummins, John Deere, and GE. There is little doubt that RIC is now poised to become a key player in the global remanufacturing industry.

A LOOK FORWARD

Through it all, RIT has been a champion of industry connections. While many universities do technology research, most starts and ends in the lab. For RIT, however, the goal is to accelerate the timeline between concept and commercialization.

Accordingly, we want to look at technologies that companies can use, adopt and use to make a measurable difference in their business. To do that, we need to know what the industry actually wants. Because RIT's focus is applied research with on-the-ground results, supporting the RIC means listening to multiple industry perspectives and using real needs to guide R&D objectives. And with RIT behind it, the RIC's strength is growing. The success of last year's RIC-RIT World Remanufacturing



Dr. Nabil Nasr is Associate Provost, Rochester Institute of Technology, Director, Golisano Institute for Sustainability, Chairman and CEO, REMADE Institute, Director, co-founder of the Remanufacturing Industries Council

Conference attracted international attention, leading the organizers of the World Remanufacturing Summit to choose RIT for its 2018 event.

Although each industry is unique, there are many cross-cutting areas in remanufacturing where new technology can help multiple industries at once.

And now, with the announcement of an exclusive publishing arrangement with Reman World, the ability to communicate these opportunities to the industry at large will be better than ever. As an outlet for industry news, company outreach, and technology education, Reman World provides a platform to reach many stakeholders on level ground. This accessibility is key to ensuring the industry as a whole can grow. Remanufacturing is growing in market share, and becoming a key part of an evolving global industry. More and more cutting-edge research is being focused on capturing its economic and environmental potential. But creating results for a better future means everyone must be involved.”

Thanks to Reman World, the RIC, and the unique support of RIT, now they can. ■

Gearing Up for First Ever Reman Day

Remanufacturing companies across the globe will have their opportunity to engage with the general public on a large scale on April 12. Here is what some companies are planning

The brainchild of RIC, the Remanufacturing Industries Council, Reman Day is intended to promote remanufacturing on a world-wide scale and celebrate remanufacturing with an Annual Reman Day on the second Thursday of April each year.

"Remanufacturing has reached a level where there are so many good reasons for industry leaders to commit to spreading the message beyond the industry itself," said Jena Holtberg-Benge, who was appointed Head of Remanufacturing at John Deere last year. Holtberg-Benge has been charged by RIC with spearheading the Reman Day project over the next few years.

"In the mid-term, the ambition is to involve reman businesses and organizations across the world in spreading the message of reman to a much wider audience than is the case today," she added. "Education is one of the areas where much needs to be done. We plan to establish closer contact with educational institutions in order to explain what reman is all about and its benefits for Earth. On top of that, of course, it's good for business which is why so many important companies are now including reman in their business models."

Among these are Holtberg-Benge's own company, John Deere Remanufacturing, and Springfield Remanufacturing Company, SRC, both headquartered in Springfield, Missouri, and America's Remanufacturing Company, operating out of Augusta, Georgia.



SRC, Springfield, Missouri Big Local Event

Other local companies, including John Deere Remanufacturing, are partnering in the SRC event.

The idea is to use the first Remanufacturing Day as a major local community awareness event, focusing mainly on educators and influencers.

"We will do this in the form of a trade show, combined with a half day event at one of our locations," explained Vaughn Henson, General Manager of SRC Logistics.

"For this we're inviting a broad spectrum of participants from the community – including schools, local and state legislators, the governor, our senators the business community, suppliers, partners and vendors. We're also reaching out to local newspapers and TV stations."

SRC's planned activities include:

Displays showing cores alongside finished products, so visitors can compare hands-on a pile of core and a high-quality finished reman product with a full warrantee.

Group tours where participants can see a working SRC reman operation in one of the company's 10 divisions.

Product giveaway. "We're even thinking of donating a vehicle with remanufactured driveline and engine or other components to a family in need, perhaps a single parent

who needs a vehicle to go to work," said Henson. "We want to get some goodness out of it by getting a remanufactured product into someone's hands, who otherwise wouldn't be able to afford it."

Overall, SRC wishes to focus on three major themes: The value proposition of remanufacturing, the environmental impact and local job creation.



Vaughn Henson



John Deere Remanufacturing, Springfield, Missouri, and Edmonton, Canada:

Global Event for Sister Companies and Stakeholders

"The jobs aspect is probably closest to my heart," said Henson. "At SRC Logistics, we handle the inflow and outflow of all cores, so right now we do about 70 million pounds of core per year. In total, this amounts to around 2.5 million pieces. Every one of those pieces is transported, evaluated, sorted by a person. To remanufacture all of these products takes a lot of highly skilled, highly trained people, so we want to emphasize the human side, the jobs, involved."

"Once you educate people on the benefits, they become fans. If they are not educated, they go by a core yard, and they just see a pile of rusty metal. Until you educate them, they're not going to know the value, but once you do, they realize there's not a single downside to reman. Its a great message, but education is the key, and that's what we want to contribute to." ■

In addition to plugging into local communities with SRC, John Deere Remanufacturing in Springfield and Edmonton is going global on Reman Day.

General Manager Jena Holtberg-Benge, John Deere Reman:

"My team feels this is such a good opportunity for us to educate internally – other engineers, sister factories, and, as an example, the designers in our tractor facility in Waterloo, Iowa. We believe this is a great opportunity for them to learn about remanufacturing and how to design for remanufacturing – which will help us in the future."

"In Edmonton and Springfield we have a



Jena Holtberg-Benge

formal program – educational sessions for dealers, internal stakeholders, and external partners. They will be doing tours of our facilities, and we will have videos and animations and, in general, focus on educating our internal stakeholders in the John Deere organization."

"On the dealerside, we have targeted key distribution partners to come in. This will give us an opportunity to tell them either "you're doing a great job leveraging remanufactured parts", or "we think there's an opportunity here for you to do more."

"We are also doing webinars for our global audience." ■

America's Remanufacturing Company, ARC, Augusta, Georgia Family and Friends

A fast growing US reman company, ARC is specializing in reverse logistics and remanufacturing of small appliances, vacuum cleaners, hand power tools and outdoor power equipment. ARC has grown from 40 employees a few months ago to 100 today, with more hirings to come. The company is located in Augusta, Georgia.

Paul Adamson, Chief Revenue Officer:

"I want people to understand what their family members do for a living. My father worked on top-secret projects for a



Paul Adamson

military contractor and all I knew was that he was an engineer of some sort. So I

recognize the benefit of knowing what people do for a living, and that's why our inaugural Reman Day is focused on friends and family."

"We want them to get a clear picture of the value of what their mother, father, husband, wife, sister or brother do every day. I want them to see returned goods become like new again and how they're helping to keep things out of landfills."

"Augusta is an interesting market. There's a heavy medical and military influence, and they're building the new

Georgia Cyber Innovation and Training Center for cybersecurity there.

There's a lot of flashy jobs. But there's also a lot of great jobs in remanufacturing with tremendous long term value.

"So we are reaching out to educational institutions and hoping to add a technology and trade school focus and have high school programs come in, as well." ■

Disharoon New RIC Chairman as Industry is in Sweetspot

John Disharoon of Caterpillar Inc. brings global expertise and practical outlook to the chairmanship of the Remanufacturing Industries Council

As a globe-trotting dynamo at Caterpillar Inc., John Disharoon has vast direct experience from the frontlines of remanufacturing around the globe. With reman baked into its business model, Caterpillar has built the world's biggest remanufacturing operation.

In much of his 30 year career at the company, Disharoon has operated at the highest levels, currently as Director of Market Access for Reman. As a result, his practical and strategic hands-on experience and knowledge of the issues facing RIC and remanufacturing across the globe may be unmatched.

think is the largest cross section of remanufacturing industries of any association."

In all, eight of 12 current remanufacturing industry sectors are represented on the board of RIC. They include motor vehicle parts, office furniture, IT and imaging products, consumer products, electrical apparatus, medical devices, heavy-duty and off-road equipment and machinery. The four sectors yet to be represented are aerospace, locomotives, retreaded tires and restaurant equipment.

"I'm confident that we're going to gain some continued interest from the remaining four sectors," said Disharoon. "We must try to get everybody represented. This is a great time to be a remanufacturer."

The reman sectors were identified in the Technology Roadmap for Remanufacturing in the Circular Economy, outlining the way forward for the entire industry. The future outline of a dynamic, efficient and increasingly important part of a sustainable world economy was developed under the leadership of the Golisano Institute for Sustainability at the Rochester Institute of Technology with the support of RIC, among others.

Alongside his considerable reman responsibilities at Caterpillar, Disharoon is looking forward to accelerating the progress along the road map.

"I'm going to be a very open chair and listen to ideas, concerns and comments from our members of the association," he said.

THE BENEFITS OF REMAN

Overall, Disharoon is a strong believer in the benefits of remanufacturing and in the growing potential of the industry. This is

His predecessor in the RIC chairmanship, Bill Davies of Davies Office is widely credited with infusing energy and urgency to the job of making RIC the central organization for furthering remanufacturing on a global scale. Not surprisingly, based on his background, Disharoon is poised to build on this with a pragmatic and practical approach.

"I just want to continue executing our vision of education, collaboration and advocacy for the remanufacturing industry that we serve," he told Reman World following his election to the chairmanship at the end of January.

"I believe that the next big wave is upon us."

"We are in a sweetspot now in the industry. The economy is starting to improve. Business is picking up across the globe for our members and we have to provide a good service to what I





John Disharoon, a popular speaker at reman events, brings his hands-on approach to the RIC chairmanship



common interest of the industry and will enable it to “crack some of its engineering challenges much quicker than we could do on our own.”

“Rather than scientists, academics and professors writing papers on what they think is intriguing, they can collaborate with industry on projects designed to meet clearly identified market demands, and we can do it sooner.”

REMAN DAY

In the promotion of remanufacturing to lawmakers, educational institutions, the young work force of the future and the general public, Disharoon sees the inaugural global Reman Day on April 12 as an important step forward.

“Reman day is exciting,” he said. “Last year, Caterpillar participated in the fully established Manufacturing Day at Caterpillar facilities across the United States. Reman is a relatively small portion of Caterpillar but a very important one. So we want to get our facilities engaged. We’re going to have people looking at us who may not have much of an idea of what reman is about outside of our industry, and that will be a good thing.”

partly due to his own experiences with Caterpillar and partly because of the increasingly strong demands for sustainability among authorities, manufacturers and consumers.

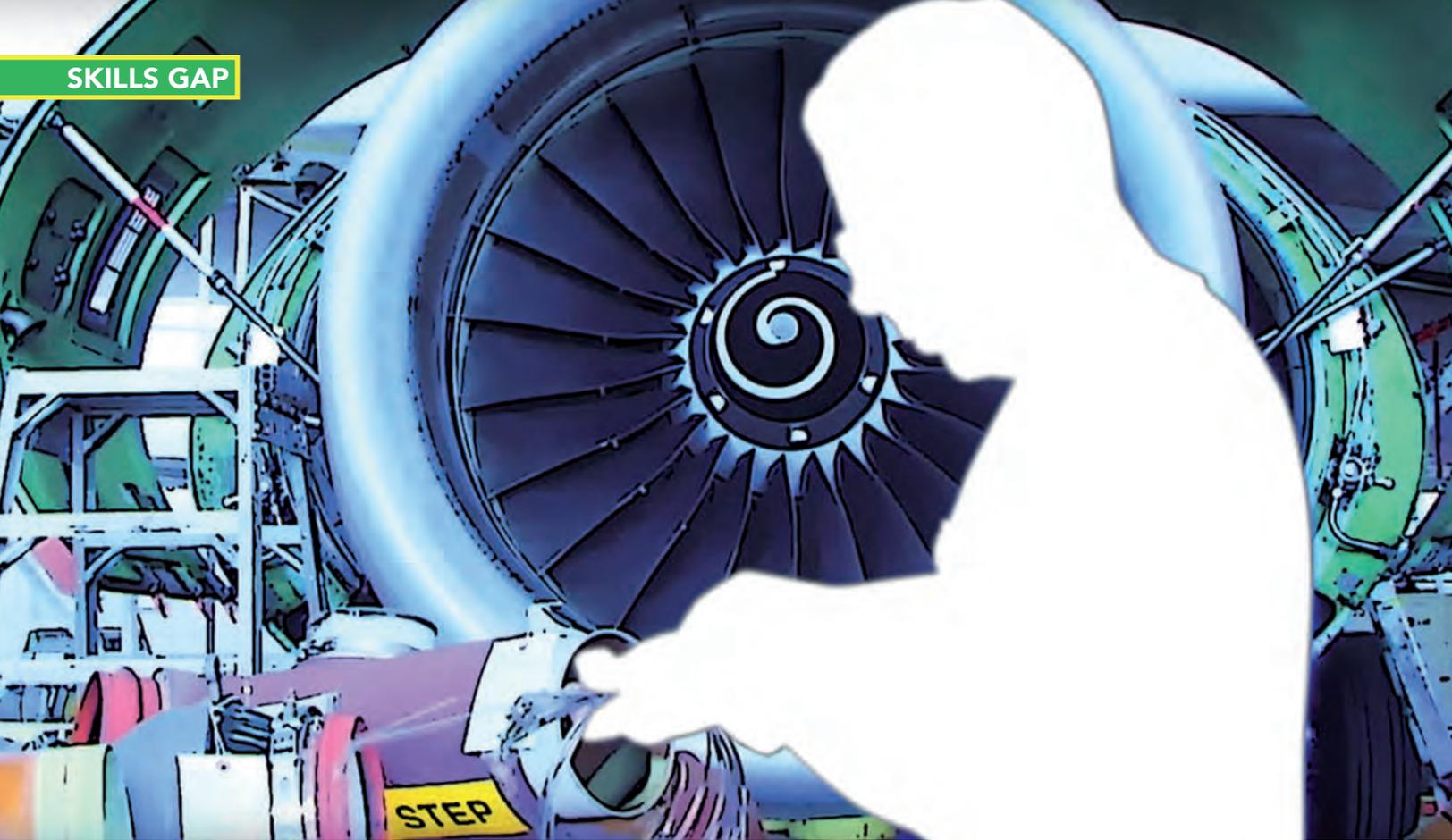
“There are opportunities in remanufacturing that we have never seen before as OEs demand more and suppliers supply more reman products. The last few years have also helped us lowering operating costs for customers, and today there is greater acceptance from customers and regulators,” he said. “In fact, I believe that the next big wave is upon us.”

REMADE CRUCIAL

In his view, this wave is closely aligned with the increasing importance of the field of electronics components and technological advances, which among many benefits will enable remanufacturers to improve cleaning and salvage processes.

Disharoon sees the establishment of the REMADE Institute as a crucial development. This private/public consortium of academia, industry, trade associations, national research laboratories, states and the US Department of Energy, Disharoon believes, is bringing the best minds together in the

“Being the first year of this, our goal is to put it on the map and make it as big as we can. The very first Manufacturing Day had only a small participation, and the same may be the case for the first Reman Day. But if we can get more companies to put it on the calendar that will be a success in my book. We can build off of that momentum for years to come. It’s certainly a good concept for remanufacturing and anybody involved in the industry should support it.” ■



Reman Industry Challenged by Widening Skills Gap

Remanufacturers world-wide are already missing out on billions of dollars in annual revenue because of a shortage of skilled workers for unfilled technical jobs. Developing the workforce for the future will largely be in the hands of the industry itself

By Niels V Christiansen, US Editor

On the threshold of a new age for remanufacturing, the otherwise promising outlook is threatened by a shortage of engineers and skilled technicians that is only projected to get worse, especially in the United States.

A study by the Aeronautical Repair Station Association, ARSA, whose members maintain commercial airliners around the world, provides the most recent illustration of the challenge.

Based on a 2017 survey among its member companies, ARSA estimated the number of open technical positions in the entire

sector of Federal Aviation Administration certificated repair stations in the US at about 11,000. Assuming a constant level of unfilled jobs throughout the year, the estimated loss in revenue for the US aviation repair stations was on the order of \$1.95 billion.

"These numbers are a snapshot of how just one industry segment is being affected by the technical worker shortage plaguing the US economy," ARSA Executive Vice President Christian Klein said. "Well-paying jobs in the high-tech aviation maintenance sector are going unfilled because workers aren't available or candidates lack basic skills."

TOP CONCERN

The wider aeronautics industry, which includes one of the largest global reman sectors, is facing an overall need to expand the number of high skilled technicians by 679,000 worldwide by 2035, as tens of thousands newer generation aircraft are put into service, according to a 2016 outlook report by Boeing. The needs include Asia Pacific (268,000 new technicians), the US (127,000), Europe (118,000), the Middle East (66,000), Latin America (50,000), C.I.S./Russia (26,000) and Africa (24,000).

The repair station skills gap numbers are in line with those of more general manufac-

turing industry surveys. They confirm one of the top concerns for today and the future expressed by remanufacturers in all sectors who depend on skilled workers and technicians.

The skills gap across increasingly high-tech industries has been documented for decades. It is widening because increases in demand are outstripping the supply of newly trained and educated high-skills workers.

MILLIONS OF JOBS TO GO UNFILLED

In the US, over the next decade, more than 3.4 million manufacturing jobs will need to be filled, and the skills gap is expected to result in two million of those jobs going unfilled, according to a 2014 analysis by the National Manufacturing Institute and the Deloitte management consultancy.

The two major contributing factors to the widening gap are retirements in the post-World War 2 baby boomer generation and general economic expansion. An estimated 2.7 million jobs are likely to be needed to be filled as a result of retirements of the existing workforce. The other 700,000 jobs are likely to be created due to natural business growth.

“Meeting the skills gap challenge will be a central theme across the remanufacturing industry for years to come”

Just like the aviation maintenance, repair and overhaul industry, which is projected to grow from \$75 billion in annual revenue to \$100 billion over the next decade, remanufacturing across the board – from automotive and trucks to medical equipment, heavy equipment, printing, electronics, furniture and other sectors - is in for sharp growth, world-wide.



Christian Klein

GROWING COMPETITION

“Finding technical workers is always going to be a challenge,” stated Klein. “And then you throw on top of that, as hot as the economy is, the potential for additional infrastructure, which is also going to suck up talent in the engineering and technician realm. Someone’s going to run and fix the machines, someone’s going to design the new bridges and water systems. So you have a lot going on that’s going to exacerbate the problem.”

Meeting the skills gap challenge will be a central theme across the remanufacturing industry for years to come, yet even as it affects remanufacturers around the world, the full scope of the problem has never been mapped out.

MAPPING THE CHALLENGE

In the US, new direction and innovation may come from the newly formed private/public REMADE Institute, pooling academic, business, trade association and research laboratory forces to improve reman and other manufacturing processes. According to Todd Oldham, Education & Workforce Strategist at REMADE headquarters in Rochester, New York, the institute is gearing up to make a baseline labor market report about the occupations that are influenced or impacted by remanufacturing, such as electric design engineers and technicians.

“We are going to look at what the demands are in different parts of the country and the skillsets that are being asked for,” he said. “We want to learn where the gaps are and how we can close them over time.”

Oldham is expecting the baseline report to be completed late this year.

STRATEGIES

Strategies to cope with the existing skills gap vary widely.

Whereas some European countries and most notably Germany, already enjoy better

national levels of training, partly because of longstanding apprenticeship traditions, the US industry is primarily recruiting from a much larger proportion of workers with less formalized education and lower skill levels.

In Europe, one major European Union objective is to narrow the skills gap by increasing the labor market participation by about 4 percent to 75 percent of the population aged 20 to 64.

To combat the immediate skills gap, US trade organizations, legislators, companies and educational institutions are engaging at a variety of levels and ways to develop and retain workforces regionally, locally and often one company at a time.

As other trade organizations, ARSA works with lawmakers in Washington to promote the passage of policies funding educational programs and tax benefits for companies that hire and train technical workers. Like ARSA, some also collect and share best practices among their members.

Adopting the European style apprenticeship is among the most promising remedies garnering interest in the US.

GOING REMAN GREEN

But mostly, remanufacturers train their own recruits, set up training programs with local technical high schools or colleges or look for other creative ways to attract, train and retain technicians and other skilled workers.

A major hurdle for remanufacturing is the competition for the same shrinking pool of engineers, technicians and other skilled workers with more trendy and often higher paying industries.

So far, the reman industry has failed to create awareness of perhaps the strongest selling points of remanufacturing, particularly among the young generation it needs to attract - as a green industry of the future, preserving resources, saving energy and building local economies.

A first concerted step in that direction will be the first annual Global Reman Day on April 12. (page 10) ■



Todd Oldham

CoremanNet Strengthens Presence in North America

The award-winning international core return service, offered by Circular Economy Solutions GmbH, C-ECO, is now up and running in North America

Originally developed a decade ago, the CoremanNet concept combines reverse logistics software and information system and full logistics support for the automotive remanufacturing industry. It promises to take the headaches out of the core return process for companies of all sizes and needs.

C-ECO was established two years ago as an independent spin-off company from Robert Bosch GmbH in Göttingen, Germany. The US office was set up in Chicago to develop the North American operation of CoremanNet.

WHOLE CORE MANAGEMENT

World-wide, the company has more than 20 collection points, mainly in Europe. In North America, CoremanNet is running two collection facilities, one in the US and one in Canada. In all, CoremanNet handles about 3 million used automotive parts per year.

"Fifty percent of the market is in the US. To be in the heart of it, we decided to establish a local presence," said Andreas Frey, who is heading up the North

American CoremanNet operation.

"Currently, the clients are remanufacturers in the automotive aftermarket. We offer whole core management, picking up the cores from customer locations, bringing them to our collection stations for identification and evaluation, and on to the remanufacturers. If needed, we also offer warehousing."

FLEXIBLE SOLUTIONS

"Our service solutions are flexible. We can easily work with companies that have no core management or experience with core management. We offer consulting up to building their core management, specifically based on their needs, with core management at their site or by using our external core facilities."

C-ECO is planning to expand the range of core return services to other industries, such as power tools, appliances and printing cartridges.

Collected cores and parts not suited for



Andreas Frey, building core management network in North America.

remanufacturing are refurbished, reused or otherwise recycled.

CoremanNet was awarded the German government's Bundespreis Ecodesign (Federal Eco Design Award) in 2015 for its innovative approach to creating an efficient core return system and for leadership in contributing to the building of the environmentally friendly circular economy. C-ECO is also among 120 companies admitted to the Ellen MacArthur Foundation program, recognising leaders in circular economy development. ■

MEMA Promotes Reman in NAFTA Appeal to Trump

MEMA, the powerful trade association for USA's motor industry and the parent body of MERA - the Remanufacturing Association, has included remanufacturing in an important message to President Trump. Recommending that the president continue to negotiate with Canada and Mexico concerning sustaining and improving the controversial NAFTA agreement, MEMA includes remanufacturing in five key points. These, MEMA said, aims at "strengthening our nation's ability to manufacture products in the U.S. and

export globally." The letter lists five specific recommendations to improve NAFTA:

1. Recognize innovative technology developments by providing suppliers a framework to include research and development (R&D), engineering, designing, and software development expenditures in regional value content calculations (RVC);
2. Retain tariff shift for automotive parts;



3. Standardize the rules of origin for automotive parts to allow the options for either tariff shift or RVC with no required tariff shift;
4. Ensure that aftermarket parts, including remanufactured goods, are not treated differently from new goods imports.
5. Provide incentives to U.S. companies to train and expand the U.S. workforce.

In the letter, MEMA emphasizes that withdrawal from NAFTA would put 250,000 American jobs at risk. ■

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Leading Core Dealer RAS Rides High on Takata Airbag Debacle

Top automakers turn to core dealer for removal of dangerous airbags

In the wake of the ongoing airbag debacle, safety recalls are offering major opportunities for a leading US core dealer. The Takata airbag affair has caused a huge auto safety recall, and Rhode Island-based Rebuilders Automotive Supply, (RAS) has taken a lead in a new business area - as the recall partner of some of the world's largest carmakers. Partnering with automotive giants Honda, GM, Subaru, Mazda, Toyota, and Mitsubishi, RAS has been charged with collecting some of the millions of dangerous Takata-made airbags to be removed from passenger vehicles.

So far, The Takata airbag recall encompasses 19 automakers, 22 brands and more than 42 million vehicles. In total, almost 70 million airbag inflators worldwide are or will be under recall by 2019.

In the recent words of U.S. Secretary of Transportation Anthony Foxx, the huge recall is "the most complex consumer safety recall in U.S. history."

A longstanding player in the global automotive remanufacturing industry, RAS first added recalls to its business in 2014, when the company kicked off its first recall program, taking faulty GM ignition switches out of circulation.

The Takata debacle dates back to 2013 when the Japanese airbag manufacturer admitted that its airbags carried the risk of exploding or malfunctioning. Since then, some 40 motorists are reported to have been killed and almost 200 injured by faulty Takata airbags. Takata has now filed for bankruptcy.

"The extension of our core business into airbag recalls requires a new level of sophistication."

"With our broad industry experience, RAS is in a unique position to bring together all recall stakeholders and provide solutions that satisfy OE and Governmental requirements," RAS CEO Bob Grady told Reman World.

"The extension of our core business into airbag recalls requires a new level of sophistication in dealing with 50 states worth of Departments of Transportation



Bob Grady with airbag slated for destruction.

and HazMat regulations as well as high demands for on-time reporting up to the time of destruction," he said. "We are fully confident in our ability to manage and grow this segment."

BUSINESS OPPORTUNITY

Following the initial GM Ignitions switches campaign, when the company was awarded the GM Supplier of the Year distinction, automotive recalls have emerged as an important business segment at RAS. The company has continually added human resources to its recall team to ensure the flow of recalled parts from the auto recyclers to their final destruction.

"In the airbag program RAS comes in when the OEMs have lost contact with the original owner of a vehicle," explained Grady. "It may have gone to a salvage yard through an insurance company, and now the car is sitting there, and there is no way to tell someone to get that bag out of that car. We are tasked with getting the VIN, finding that vehicle, procuring that bag and making sure it disappears from the market. We buy it, and it gets destroyed."



Rebuilders Automotive Supply CEO Bob Grady (far left) and the growing recall business team at headquarters in Rhode Island. RAS made its name in cores and catalytic converters, but safety recalls is becoming a substantial part of the business.

So far, RAS has collected 155,000 airbags for destruction. Grady expects the airbag program to continue for many years.

HIGH EXPECTATIONS

"Handling recalls brings heightened expectations. The RAS recall business team is using the company's established proprietary receiving technology on the large volume of airbags," Grady explained.

"We're very much expecting the recall side of our business to progress further.

The addition of 'recall' to its portfolio provides another example of the opportunities open to the reman industry as the world is looking for sustainable, resource-saving solutions.

Rebuilders Automotive Supply operates 300,000 sq. feet of real time inventory storage space, 40 product lines, and over 3 million cores sold per year. In addition to the main facility in Coventry, Rhode Island, RAS operates a facility in Tampa, Florida. ■

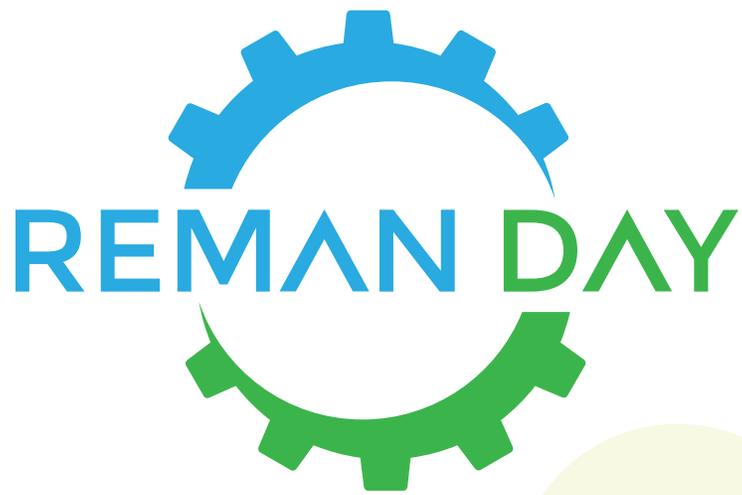


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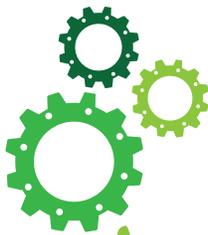


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AFRA Becomes Fifth Reman Association to Sign RIC MoU

Reman World isn't the only new member of the growing reman alliance headed by the Remanufacturing Industries Council, RIC. In late 2017, The Aircraft Fleet Recycling Association, AFRA, became the fifth leading remanufacturing association to sign a Memorandum of Understanding with RIC



“It has been a strategic objective for the Board to engage with key industry organizations whose activities influence our businesses on a regular basis,” stated AFRA President Derk-Jan van Heerden when he announced the collaboration with RIC to his association.

Established in 2006, AFRA is the leading global organization for developing and promoting the safe and sustainable

management of end-of-life aircraft and components.

AFRA represents companies from across the globe and throughout the supply-chain – from manufacturers to materials recyclers. Nearly every major aircraft and engine manufacturer – including Boeing, Bombardier, Embraer and Rolls-Royce – are members of AFRA.

Through the collective experience of its

members, a Best Management Practice (BMP) Guide, compiled by the association, has significantly improved the management of end-of-life aircraft in terms of environmental and sustainable performance.

An estimated 12,000 aircraft will be retiring in the next two decades, and AFRA is involved with aerospace leaders in developing new strategies for management of end-of-life aircraft, from parts distribution, to dismantling and materials recycling.

RIC taking ACE Award Nominations

The Remanufacturing Industries Council, RIC, is accepting nominations for the second annual Remanufacturing ACE awards, recognizing people or organizations who make extraordinary efforts on behalf of remanufacturing.

Three winners in the three categories - Advocacy, Collaboration and Education - will be announced at the RIC-RIT World Remanufacturing Conference in Rochester, New York in September.

The ACE Awards are the first awards recognizing people or organizations

associated with all remanufacturing industry sectors. The award categories correspond to the mission of RIC.

The Advocate award is awarded for promoting Remanufacturing or sustainability in business, government, education or other field.

The Collaborate award recognizes collaboration with other companies, regulatory bodies and lawmakers to build consensus and team work in order to promote remanufacturing and other sustainable practices.

The Educate award will go to a recipient who demonstrates passion toward educating others on the benefits of remanufacturing and sustainability.

For more information and making nominations, visit RemanACEawards.org

Proposed ISO Reman Standard Now available in Chinese

The text of the US ANSI remanufacturing standard, which is about to go through a three year process to be turned into an official global ISO standard, is out in a Chinese translation.

The official ISO languages are English and French, but according to Remanufacturing Industries Council Business Manager

Michelle Hayes, the translation into Chinese was made by a request from Chinese government officials.

“The Chinese tried to propose an ISO standard for remanufacturing in the past, and it hasn’t gone through, so we want them to get on board



Michelle Hayes, RIC Business Manager

with our proposal,” Hayes said. “As we were communicating with them about it, they wanted to be able to read the text in their own language. So we have provided a translation and put it up for anyone interested on our website at remanstandard.us.” ■

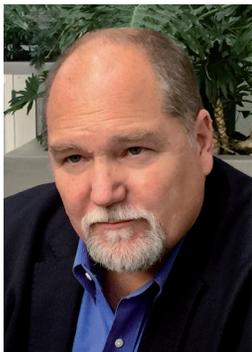
Covering a Wide Span of Remanufacturing

With eight of the 12 reman sectors represented, the newly elected Remanufacturing Industries Council Board of Directors spans wider than those of any other large reman organization. Board members come from

motor vehicle parts, office furniture, IT and imaging products, consumer products, electrical apparatus, medical devices, heavy-duty and off-road equipment, and machinery reman sectors. (Yet to have their

own representatives are restaurant equipment, locomotives, aerospace and retreaded tires).

The following Officers were elected to serve until 2020:



John Disharoon
Chairman



Vaughn Henson
Vice President



Jena Holtberg-Benge
Secretary



Michael Schmit
Treasurer



William Davies
Immediate Past Chairman

The following Directors were elected this year to serve a two-year term:

- **Paul Adamson**, America’s Remanufacturing Company
- **John Disharoon**, Caterpillar
- **Steven Holden**, Carlyle Compressor (Carrier Corporation)
- **Jena Holtberg-Benge**, John Deere
- **Donald Olson**, Nokia
- **Michael Schmit**, GE Healthcare
- **William Schofield**, Advanced Electrical & Motor Controls

They will join the existing Directors who will serve until 2019:

- **Vaughn Henson**, SRC Logistics
- **Bruce Krueger**, CNHi Reman
- **Nabil Nasr**, RIT/REMADE
- **Jeffrey Stukenborg**, WABCO Reman Solutions
- **Todd Wieland**, Cummins
- **William Davies** will also serve as a Director in the newly created Officer role of Immediate Past Chair.

RIC MOU PARTNERS:

Remanufacturing Industries Council, RIC
RemanCouncil.org

Automotive Parts Remanufacturing Association, PRA
APRA.org

Aeronautics Repair Station Association, ARSA
ARSA.org

Aircraft Fleet Recycling Association, AFRA
AFRAassociation.org

International Imaging Technology Council, I-ITC
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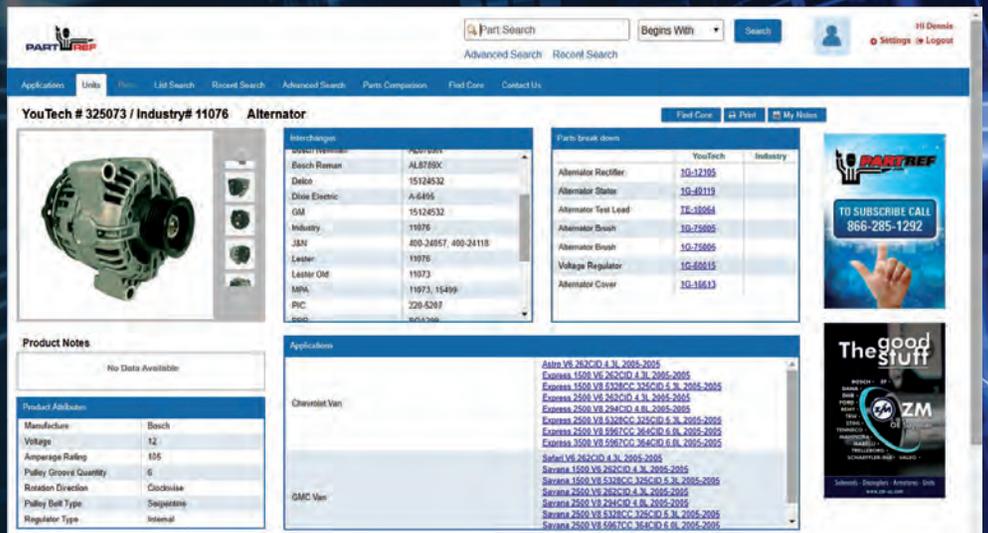


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