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Chris Bailey picks up boxes attached to wood pallets, which will be mechanically sheared and separated by equipment at the General Motors Customer Care and Aftersales facility (formerly GM Service Parts Operations, or "Otterburn") in Burton, Mich.. The technology helped the facility to earn landfill-free status this year.

GM Continues Emphasis On Reducing Plant Waste

DETROIT — General Motors' efforts to eliminate the shipment of plant waste to landfills is spreading to its non-manufacturing sites, 10 of which now reuse, recycle or convert to energy all waste from normal operations.

"Our non-manufacturing facilities see the importance of being waste-reduction leaders, and they know their customers value it as well," said John Bradburn, manager of GM's waste-reduction efforts. "Being landfill-free has become a point of pride for our people and we hope even more facilities achieve the goal this year."

Converting non-manufacturing facilities meant rethinking packaging such as cardboard — a significant waste stream due to volume. GM engineers work to create designs with recyclable attributes intended for disassembly. Technical specifications that can be followed on a global basis are being developed.

At a landfill-free Customer Care and Aftersales (CCA) facility in Burton, Mich., a supplier helped GM engineers solve a waste challenge with a patented technology that shears and separates cardboard boxes attached to wood pallets.

The separation is necessary to manage each material with the least environmental impact and gain significant financial value. The technology not only enabled it to earn landfill-free status this year, but the facility now generates \$20,000 a month from recycling its cardboard.

Another CCA facility in Flint, Mich., that is pursuing landfill-free status is using an environmentally friendly, bio-based packaging foam from supplier Landaal Packaging Systems that blocks and braces product like sheet metal to ensure safe arrival. Made from extruded cornstarch, the foam is both biodegradable and compostable.

"We believe GM has more landfill-free facilities than any other automaker," said Mike Robinson, GM vice president of Environment, Energy and Safety Policy. "Our engineers and suppliers are finding ways to reduce challenging waste streams, eliminate scrap, and design for the environment."

The non-manufacturing facilities are in addition to GM's 76 landfill-free manufacturing facilities.

The automaker remains focused on converting more of its manufacturing plants, and has a goal of adding 10 facilities by the end of 2011. Last year, it surpassed a global operations commitment to make half of its 145 plants landfill-free. Manufacturing is at the

company's core, so converting plants produces the largest environmental benefits.

In 2010, all of GM's worldwide facilities combined — including regular and landfill-free plants — recycled 92 percent of the waste they generated.

GM has won a number of awards from the state of Michigan for more than a half-dozen facilities in the state that are low- or no-output as far as landfill use goes.



HUD Secretary Shaun Donovan, center, visited the lofts at 6200 2nd Ave. in New Center last week to announce that HUD would be embedding staff at city hall to help Mayor Bing, on Donovan's left, turn around the city.

HUD to Embed National Staff at Detroit City Hall

by Gerald Scott
News Dept.

You know how in the recent wars in Iraq and Afghanistan, the U.S. military "embedded" real reporters and journalists amongst the friendly troops?

Well, the U.S. government is going to try to do something similar with staff from the HUD (Housing and Urban Development) department in Washington, D.C., fanning out to help urban centers and cities all facing similar challenges.

The good news from a local point of view is that the city of Detroit is scheduled to take on "embedded" HUD staff soon. HUD Secretary Shaun Donovan was in Detroit last week to make the announcement, one in which sees this activity being launched under a new "Strong Cities, Strong Communities (SC2)" national initiative.

Tires are Now a Critical Target at Ford

DEARBORN — Ford Motor Co. has established a unique cross-functional team whose mission is to develop innovative new tires that improve safety, boost fuel economy and enhance vehicle handling.

Located at Ford's Research and Innovation Center in Dearborn, the dedicated tire team works closely with Ford's Chassis Engineering and Vehicle Engineering functions, as well as leading tire companies, to test new compounds, new tread designs and other innovations.

Most automakers don't influence significantly the development of the tires they use. But tires — the only component that touches the road while you drive — are one of the most important components of any vehicle.

Because tire tread is the main contributor to rolling resistance, which is simply the measure of force needed to roll the wheel forward, the team has focused its immediate attention on this part of the tire.

The three key attributes to any road tire tread are traction or grip, wear and rolling resistance. The challenge to building a better tire is that often improving one attribute may compromise another. A tire with better grip, for example, may have a higher rolling resistance and therefore, energy consumption.

"Traditionally, the challenge of improving tire treads is to expand all facets of the 'magic triangle' — grip, wear and rolling resistance. We want to improve all attributes without compromising others," said Dan Haakenson, technical expert, Vehicle Dynamics.

"Our goal is to anticipate, innovate and incorporate technologies to make Ford a leader in fuel economy and to help deliver superior low-rolling-resistance tires to customers faster than anyone else."

A no-compromise attitude to fuel efficiency has been a key benefit for Ford customers. The 2011 Ford Mus-

tang coupe, for example, is the first car to achieve the combination of 305 horsepower and 31 mpg highway. The all-new 2011 Ford Fiesta and 2012 Ford Focus usher in a new era of what a small car can achieve in terms of in-vehicle technology and a fun-to-drive experience, as well as fuel economy.

Producing no-compromise vehicles has its roots in an exhaustive, focused examination of each component — like tires — to optimize design, systems and materials.

"While Ford doesn't manufacture tires, we do want to become smart buyers for our customers," said David Rohweder, global chief engineer for Tire and Wheel Engineering.

"Fuel economy is on the minds of consumers globally more than ever and is a critical factor for most when purchasing new vehicles," said Rohweder.

"Ford is leading the drive for innovation for fuel economy, and one mechanism to do that is through the research program on advanced tire technologies."

"We are developing our own in-house expertise on tire materials and compounds," said Dr. Cynthia Flanigan, technical leader of elastomers research. (An elastomer is something that can be stretched or deformed, then returns to close to its original shape — like a rubber band.)

"And through our research, we want to be the catalyst, working with chemical and rubber suppliers as well as tire manufacturers, to pull new technologies and solutions through the industry."

Flanigan and her team are focused on the materials aspect of tire construction. While the actual recipes of these complex systems are often proprietary, the Ford research team seeks new technical advances for tires in the future.

The mandate to become more engaged with tire suppliers and manufacturers and to better understand the benefits of low-rolling-resistance

tires has been under way since after the last spike in fuel prices in the summer of 2008.

"Based on the feedback we received from chemical suppliers and tire companies, Ford is now at the forefront of understanding tire technologies on a deeper level and pushing hard for new technologies," Flanigan said.

Flanigan's group, which is part of Research and Innovation, was formed in October 2009 and works with Ford's Vehicle Engineering and Chassis Engineering teams to ensure potential tire material solutions can be implemented in Ford vehicles and exceed customer expectations.

"Each of our tires needs to satisfy customer demand for excellent grip in any condition dry or wet, for low noise levels, tires that handle well and have good rolling resistance," Haakenson said.

Current research is focused on the tread cap — literally where the rubber meets the road.

"By being more involved upstream, we think we can be a driver for innovation," said Flanigan.

Ford is expanding its expertise on other components and is applying this knowledge to the tire research project.

"Ford is doing research in a wide breadth of materials ar-

eads," Flanigan said. "Current research spans from the molecular level to sustainable raw materials. There's a whole portfolio of research Ford does that we can bring to the table."

For example, Ford has developed technologies for soy-based seats, and this team is applying these concepts to tires and other rubber products. The research team has already developed patent-pending technologies for EPDM (Ethylene Propylene Diene Monomer — used in weather stripping) rubber using bio-oils.

"Rubber is used throughout cars — weather strips, gaskets, interior trim, underbody shields, floor mats — so our research could benefit those as well," Flanigan said.

Ford research into other rubber parts could provide new solutions for tires. Additionally, the Ford team is researching beyond the automotive field for new ideas, and continues to lead the way for innovative material solutions.

"We're casting a wide net as we seek innovative and beneficial solutions for our customers," Flanigan said.

When hybrid cars were introduced a decade ago, low-rolling resistance tires gave the industry what was then a new niche, and is now a growing business, to develop.

Ford Expert Nancy Gioia Speaks in Traverse City

ANN ARBOR — Ford Motor Co.'s Nancy Gioia leads a stellar list of automotive speakers scheduled to present at the Management Briefing Seminars (MBS) in Traverse City in August.

With technology and policy at the heart of the debate on increasing fuel economy standards, two key sessions at the Center for Automotive Research-sponsored car conference will feature technical experts and senior leadership providing perspective on how

to best meet and set new mandates.

"As the federal government pushes to establish Corporate Average Fuel Economy (CAFE) standards for 2017 - 2025, the industry must plan to meet new targets," said Brett Smith, session chair and co-director of the Manufacturing, Engineering and Technology group at CAR.

"The Advanced Powertrain Forum presents an opportunity to hear first-hand about the technologies and strategies vehicle manufacturers and suppliers will use to meet the challenge."

The Advanced Powertrain Forum will take place on the morning of Tuesday, Aug. 2.

Speakers include Nancy Gioia, director, Global Electrification, Ford Motor Co.; Ken Davis, president Americas - Vehicle Group, Eaton Corp.; Charlie Klein, director, Global Mass, Energy and Aerodynamics, General Motors; and Douglas E. Patton, senior vice president, Engineering Division, DENSO International America, Inc.

Meanwhile, the topic continues on a related front with a Tuesday afternoon session entitled, "Policy Matters: How Much Faith Can We (or should we) Put in Technology?"

"A great deal of time and effort has been spent on what the CAFE targets will be," said Kim Hill, organizer of the session and director of CAR's Sustainability & Economic Development Strategies Group.

"But it is also critically important to understand how the policy process can be made more effective. We will explore the pros and cons of current approaches to setting vehicle standards and how future goals and mandates should be determined."

They keynote speaker at the afternoon session will be Dr. Sean McAlinden, executive vice president of research and chief economist at CAR.

CAR adds that a number of other relevant sessions are scheduled throughout the week, including seminars focused on manufacturing excellence, connected vehicles, purchasing and labor negotiations.

Leaders from automotive manufacturers, suppliers and the UAW will discuss both "Prosperity Amid Uncertainty" as well as "Rebuilding the New North American Supplier Sector" during the Wednesday and Thursday sessions, respectively.

The Management Briefing Seminars in Traverse City have a long history of supporting a wide range of auto-related thought leaders and idea floating as the Detroit auto industry does its annual migration "up north" for both work and pleasure.

PHOTO: GERALD SCOTT

land, Ohio; Detroit; Fresno, Calif.; Memphis, Tenn.; and New Orleans.

These HUD teams will work with local governments, the private sector, and other relevant institutions to leverage federal dollars and support the work being done at the local level to encourage economic growth and community development.

The announcement came in two places in Detroit last week — the Detroit Economic Club meeting at the RenCen and a new-loft development in the New Center area of the city.

The lofts were built into the former industrial facility at 6200 2nd Ave., which is across from the Henry Ford Health System headquarters, and just down 2nd Ave. from the former GM Building and Fisher Building icons in New Center.

Donovan personally toured

the loft project, which took a former outboard motor and small marine engine factory and lately made it a residential loft unit. It took eight years of development and funding to accomplish the makeover, but New Center officials told Donovan that this is a good example of re-use and what the city can do when it has funding and guidance from the federal sector.

Said Detroit Mayor Dave Bing, "Strong Cities, Strong Communities is a program that will help us make Detroit a city that works."

"The support of the Obama administration is critical as we continue to strengthen neighborhoods, put Detroiters back to work and improve essential services such as transportation."

Donovan's talk at the Detroit Economic Club the same day was well received by the local business community.