Statistical data contained in this report is compiled by primary and secondary research and in-house analysis by Plastics News’ team of experts. To discuss specific research needs, please contact Kelley Trost at +1-313-446-6761.

Plastics in Automotive Innovation & Emerging Trends

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Plastics Recycling Trends in North America
Released: October 2014

Statistical data contained in this report is compiled by primary and secondary research and in-house analysis by Plastics News’ team of experts. To view our library of market analyses and data reports, please visit www.plasticsnews.com/data
ON THE ROAD AHEAD, IT’S ALL ABOUT SUSTAINABILITY

CONSERVE IT

Resources are precious. That includes industrial resources like raw materials and natural resources like energy and water. Make every pellet count by converting in-process scrap into process-neutral regrind. Save big on energy by fine-tuning your drying systems. And conserve water AND energy with efficient heat-transfer solutions.

For more than 50 years, processors in the global automotive industry have relied on Conair’s equipment, in-depth knowledge and unparalleled support to help them along the road to profitability.

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Lighweighting ignites opportunity in plastics

DETOUR — The strongest, most potent, symbol of the potential opportunity for plastics in the auto industry came in the first few weeks of January in a metal box.

Ford Motor Co. altered expectations when it announced at the North American International Auto Show in January 2014 that its next F-150 pickup truck would be made primarily of aluminum.

The announcement, followed by the end of the year by the first 2015 models coming off the assembly line with the aluminum body, marked the first time the company would take a major step away from the industry’s steel standard. And Ford wasn’t just doing it on a small volume or niche vehicle. The F-150 is Ford’s bread and butter. This year, it will make and sell an expected 650,000 of the pickups.

To make the F-150, Ford is rolling out new joining technologies at its plants, using rivets rather than standard steel spot welds throughout the production. Automotive News, a sister publication of Plastics News, estimates Ford will use 2.4 billion rivets each year on F-150 production.

Forecast: US auto production to increase

The latest forecast calls for an increase of 5 percent in the total number of motor vehicles assembled in the United States in 2015. This follows a gain of just under 5 percent in 2014. In 2013, the total number of motor vehicles assembled expanded by 6.9 percent.

This will most surely be welcome news to the entire plastics industry because this industry has relied heavily on the automotive end-market as a source of demand for plastics parts and as a source for capital investment ever since the recession ended.

Our research indicates that during the past four years, the automotive industry (along with the packaging and medical end-markets) has consistently been the highest-ranked in terms of future growth expectations by plastics professionals. And capital spending by the auto sector drives demand for molds, screws, barrels, and auxiliary and primary processing equipment.

So the auto industry is, and will remain for the foreseeable future, a major end-market for plastics processors. The data on motor vehicles assemblies represent the best indicator of the North American automotive industry’s financial health.

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A FORECAST OF ECONOMIC CONDITIONS IMPACTING THE INDUSTRY ...

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This forecast is based on a continuation of a number of trends that drive demand for motor vehicles.

The most direct indicator of market demand for automobiles in this country is the widely-reported monthly data on U.S. auto sales. The future trend in the assemblies data is largely driven by the recent trend in total market demand for autos. The monthly data on auto sales combines the sales of domestically-produced autos with imported vehicles, so it is the best overall indicator of total market demand.
Materials innovation driving plastics auto market

The presence of major plastics in North American automotive applications continues a post-recession recovery, driven by new and advanced grades of long-glass fiber compounds based on polypropylene and nylon.

The amount of PP, polyethylene, PVC, polystyrene and epoxy resins sold into the transportation market in the region hit a recession low of two billion pounds in 2009, but since that point has rebounded to reach the 2.8 billion pound level in both 2012 and 2013, according to the American Chemistry Council. In 2009, transportation accounted for only 2.7 percent of the total market on PP and nylon. These compounds – especially those filled with long-glass fiber – are replacing not only metal but also other plastics because of their increased abilities to handle high under-hood temperatures, active 25mph, the Google car features a plastic windshield and foam unobstructed radar vision. With its speed capped at a conservative 40mph, the car features a plastic front for greater safety should a collision occur.

THE LATEST TECHNOLOGIES THAT WILL IMPACT PLASTICS CONTENT IN VEHICLES ...

Autonomous vehicles and the road ahead for plastics in automotive

The autonomous or self-driving vehicle has captured the attention of the nation in recent years. It’s been a recurring subject of discussion at industry trade shows and conferences, not to mention Google’s self-driving car, the darling of cable news. Although there is some disagreement on timing, many see the technology as inevitable, and a shift toward more connectivity and automation in vehicles is undeniable.

The National Highway Traffic Safety Administration defines automated vehicles as those “in which at least some aspects of a safety-critical control function occur without direct driver input.”

Several OEMs have predicted partial self-driving automation in some level of driver assistance is almost universal in new cars. Some level of driver assistance is almost universal in new cars.

The coming decade will see a transformation in the driving experience, driven by replacement opportunities for compounds based on polycarbonate, nylon and polyethylene. The latest technology leads to higher plastic content in new vehicle interior designs.

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Auto industry drives growth among mold and toolmakers

North American mold and toolmakers supporting the auto industry include about 750 individual shops, mostly in the U.S. and Canada, which produced an estimated $10 billion in tooling in 2014.

As the auto industry in North America ramps up for new models over the coming years, mold makers and tool and die shops will be asked to support an estimated $13 billion worth of tooling demands, according to Laurie Harbour, CEO of Harbour Results.

“Now one of the things that’s becoming a hot topic is the utilization of tools,” she said. “When you build up a door panel mold, it’s built by a toolmaker to run 300,000 to 400,000 parts per year. Because that’s what the engineering is. To get the quality and robustness they want, they’ve got to make it in a certain engineered fashion, even if you’re only going to need 90,000 door panels.”

So automakers and top suppliers have started talking about trying to find a way to develop a “mid-range” and mid-priced tool, which might cost about $1 million, according to Harbour.

AN OVERVIEW OF THE INDUSTRY IN MEXICO, CANADA, BRAZIL AND ARGENTINA ...

Auto production on the rise in Mexico

MEXICO CITY – Mexico assembled a record 3,011,288 light vehicles from January 1 through November. It was the country’s first 3 million-plus output of vehicles in a calendar year.

The figure is 8.7 percent more than the 2,769,244 units assembled in the same period in 2013, according to the country’s national automotive industry association, Amia.

In 2013, Mexico accounted for about 18 percent of North American automotive production. It is expected to increase to 20 percent by 2020, according to Automex and the ALIA Industry Group.

Prototypes of plastics processors and materials suppliers ...

Continental Structural Plastics
255 Rex Boulevard
Auburn Hills, MI 48326
248-237-7900
www.cspplastics.com
Frank Macher, Chairman and CEO
Continental Structural Plastics Inc. of Auburn Hills, Mich., manufactures lightweight SMC structural components, automotive body panels and other products, with annual sales of $600 million, according to the company.

Denso International America
24777 Denso Drive
Southfield, Mich., 48033
248-350-7500
www.globaldenso.com
Hikaru “Howard” Sugi, President and CEO
Japan-based Denso has 126,000 employees globally, operating in 35 countries.

The company produces a variety of key parts for thermal systems, powertrain controls, safety and information and electronics. It is the world’s largest supplier of climate control systems.

DLH Industries
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Canton, Ohio 44706
330-478-2130
www.dlh-inc.com
John W. Saxon, President & CEO
Based in Canton, Ohio, DLH Industries has provided engineered solutions for plastic product applications since 1975. In the automotive sector, the company is recognized as the premier supplier of air and fluid handling assemblies and components.
In December Tier 1 auto industry supplier Mecaplast Group processing industry in the past month or so include the following:

and heavy duty vehicles likely to exceed 5 million vehicles a year $81 billion worth of parts this year, 5.4 percent up on 2013, and

production was $61.4 billion."

suppliers association INA (Industria Nacional de Autopartes AC), Manuel Cedillo Pulido, economics studies manager at Mexican was 11.4 percent up on November, 2013, Amia stated on its Web

Amia (Asociación Mexicana de la Industria Automotriz AC)

10.2 percent, Brazil's 4 percent, Germany's 3.3 percent and China

exports to the United States by the end of 2014. Canada's share was

accounting for 70.9 percent of the total.

25 percent by 2020. Mexico also was the fourth largest light

automotive industry association, Amia.

in the same period in 2013, according to the country's national

3 million-plus output of vehicles in a calendar year.

Auto production on the rise in Mexico

Plastics News

As part of its manufacturing efforts, Den -

In 2013, Denso announced a $750 mil -

award for supplier quality, recognizes

The award, which is GM's highest global

awards worldwide for its efforts in 2014.

General Motors Supplier Quality Excellence

Drive in Southfield.

near Telegraph Road and Civic Center

foot building next to its current campus

would be expanding its North American

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