Global market review of road wheels – forecasts to 2013

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Just-auto

Global market for road wheels – forecasts to 2013

by Matthew Beecham

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Preface

Research methodology

This report is intended to provide an overview of road wheels, providing top level market fitment, volume and value forecasts through 2013. Our forecasts are not extrapolative but dependent on the underlying drivers of supply and demand. Our forecasts are largely based on interviews with the author's extensive international network of industry contacts. This allows us to consider and explain the meaning and implications of industry events, rather than offer simple description based on incomplete data.

Our approach is divided into two distinct methodologies:

- qualitative interviews – these are generally opinion-based, which aim to build knowledge about future road wheel market trends and company strategies; and
- quantitative interviews – typically fact-based, focused on establishing market values, shares, and volumes.

Report coverage

In this, the fourth edition of this report, just-auto reviews the key market drivers for road wheels, and updates the market analysis. Following our market overview in Chapter 1, just-auto's product fitment forecasts in Chapter 2 predict the market (by volume and value) worldwide (and by major car-producing region) for road wheels. This chapter includes three exclusive Q&As with senior executives from ArvinMeritor, Hayes Lemmerz and the American Iron and Steel Institute. Chapter 3 sets out a review of recent innovations in this arena while Chapter 4 provides brief profiles of the major manufacturers, namely Accuride, Alcoa, Amcast, ArvinMeritor, Hayes Lemmerz, Superior Industries and Topy Industries.

The author

Since 2000, Matthew Beecham has served as an associate editor for just-auto. He authors a range of global auto components' market research reviews, including batteries, braking systems, coatings, clutches, cockpits, driver assistance systems, door modules, electric motors, engine cooling systems,

exhaust systems, front-end modules, fuel injection, fuel tanks, glass, interiors, lighting, mirrors, roof systems, shock absorbers, spark plugs, rotating electrics, tyre pressure monitoring systems, tyres, wheels and wipers. Matthew has also written a number of features for magazines including *Car Graphic* (Japan), *JAMA* (Japan) and *Automotive Engineer* (UK). He earned his PhD in automotive technology transfer at Cranfield University.

Chapter 1 Introduction

Styling flexibility, reduced weight and high quality are just some of the requirements OEMs expect from their wheel suppliers today. Although the North American and European aluminium wheel market has grown over the past decade, the pace of growth has slowed recently and is set to stabilise over the next few years. Advances in the use of steel, supported by industry groups such the American Iron and Steel Institute (AISI), has meant that manufacturers of steel wheels can meet alloy wheel designs head on. For this reason, the steel wheel market will remain significant. Indeed, according to the AISI, steel wheels are making a comeback as vehiclemakers realise they can save up to US$xxx per vehicle, without making any sacrifice to quality or performance. Ford, DaimlerChrysler and General Motors are among those switching to steel wheels, thanks to the development of new high-strength steels and improved design and simulation technology. Other trends in wheel design include larger diameter wheels.

Chapter 2 The market

Market trends

During the 1980s, with the growing emphasis on fuel economy and the need to reduce vehicle weight, vehiclemakers turned to alloy wheels with aluminium leading the charge to grab market share once almost exclusively steel. Hurt by the loss, steelmakers enlisted the help of wheel manufacturers and OEMs and launched a campaign to create new wheel styling and explore the use of new steels. Using bright materials like stainless steel that attach predominantly to the wheel and modifying disc and rim designs to enhance styling, wheel makers managed to satisfy consumers' desire for a decoratively-styled wheel.

Among the reasons for the comeback of steel wheels are high strength steels and new designs that offer large ventilation openings that mimic the thin-spoke appearance of some alloy wheels. An auto executive told us: *"These high strength steels allow a number of things. First, it has the ability to design different styles in the wheels. It also allows us to take weight out of the wheel. Today, there is less of a differential between the aluminium and the steel products, which for us is a big deal because by being the only company that offers both then we can help the customer whichever way they are going."*

According to the American Iron and Steel Institute (AISI), acceptance and use of the high-strength steels for enhancing performance and reducing mass in wheels is *"extraordinary"*. Significant in all of this, says the AISI, is the fact that there is very little or no additional cost to automakers. The AISI reckons that switching from styled aluminium to styled steel for OE wheels or optional styling packages can improve an automaker's margin by about US$xxx per vehicle. The AISI says that there are a number of examples of steel wheels with weights essentially equivalent to aluminium wheels, including:

- The Chrysler PT Cruiser uses a xx x x wheel that in steel weighs xxlb while its alloy counterpart is xxxxlbs.
- The xx x xxx base steel wheel for the GM Cobalt/Ion is xxxxlbs while its alloy counterpart is xxxxlbs.
- The xx x xxx steel wheel for the Chevy Malibu weighs xxxxlbs while its alloy counterpart weighs xxxxlbs.
- The xx x xxx steel wheel for the Renault Mégane weighs xxxxlbs while the alloy counterpart weighs between xxxx and xxxxlbs.

Chapter 3 Technical review

Defining the elements

Since being rolled out by the Sumerians in around xxxx BC, the wheel has been constantly re-invented. Today, the main development trends in the automotive wheels industry centre on producing larger, brighter and cheaper wheels.

Over the past xxx years or so, road wheels have been made from a variety of materials including wood, steel (casting, sheet or wire), aluminium (casting, forging or sheet), magnesium, composites and a combination of the above. Although during the early days of motoring, steel was seen as the preferred choice for producing wheels, from the 1930s through to the 1980s, steel wheels dominated the market. By 1935, steel wheel diameters had decreased from xxins to xxins and rim widths increased from xins to xins. The process of stamping the centre (disc) and rolling the rim was well suited for high-volume, low-cost production. Hot-rolled, low-carbon steel grades were predominant for wheels prior to the 1970s and continue to be used, mainly on rims, today. The early- to mid-1970s brought the need to reduce weight and led to the introduction of higher-strength steels into wheels.

The wheels fitted to modern vehicles are almost always of pressed steel (low-end models) or light aluminium (high-end and luxury models). Steel wheels, which are heavier than aluminium wheels, are typically low-cost, high-volume production items that consist of two separate pieces – a rim and a centre – welded together. Pressed steel wheels have a number of advantages: they are cheap, they can be manufactured with high accuracy and they resist damage due to minor impacts (‘kerbing’) much better than their alloy counterparts. On the other hand, aluminium wheels are generally lighter in weight, more readily styled and more expensive than steel wheels. Aluminium wheels are around xx% lighter than steel wheels but the material and manufacturing costs are considerably higher, making them at least three times more expensive than steel wheels.

Chapter 4 Manufacturers

Accuride

In January 2005, Accuride completed its acquisition of Transport Technologies Industries Inc (TTI), one of the largest North American producers of truck components for the heavy- and medium-duty trucking industry. Following its acquisition of TTI, Accuride Corp set about trimming overhead costs by consolidating purchasing, research and development, information technology and sales and distribution functions.

Today, Accuride is one of the largest and most diversified manufacturers of commercial vehicle components in North America. Its products include commercial vehicle wheels, wheel-end components and assemblies, truck body and chassis parts, seating assemblies and other commercial vehicle components. Its products are marketed under the following brand names:

- Accuride Wheels – steel and aluminium wheels;
- Gunite – wheel-end components;
- Brillion – iron castings and non-powered farm equipment;
- Imperial – truck body and chassis components;
- Bostrom – seating assemblies; and
- Fabco – steerable drive axles, gearboxes and other truck components.

Accuride Corp's customers include most of the North American commercial vehicle makers, such as Freightliner Corp (with its Freightliner, Sterling and Western Star brand trucks), PACCAR Inc (with its Peterbilt and Kenworth brand trucks), International Truck and Engine Corp (with its International brand trucks) and Volvo Truck Corp. It also supplies commercial trailer makers, including Great Dane and Wabash National. Its light truck customers include Ford and GM.

Accuride Wheels produces wheels for heavy- and medium-duty trucks and commercial trailers. Its heavy- and medium-duty steel wheels range in diameter from xxxxins to xxxxins. Accuride also designs and produces a range of aluminium wheels for heavy- and medium-duty truck and commercial trailer markets. Its wheels range in diameter from xxins to xxxxins. This business is the only North American producer of both steel and forged aluminium heavy- and medium-duty wheels. The company also produces wheels for buses,