Automotive Textiles

The global supply chain to OEMs

40 tier 1 and tier 2 profiles

From the publishers of mobileTex

Adrian Wilson

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Textile Media Services

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The publisher

Textile Media Services Ltd publishes commercial news, business information and business opportunities of the textile and clothing industry in emerging markets and also news of the global transport textiles industry. Monthly newsletters are *Textiles Eastern Europe*, *Textiles South East Asia* and *MobileTex*. Textile Media Service also publishes the *Central and Eastern Europe Textile Business Review*, an annual magazine reviewing the textile and clothing industry in Central and Eastern Europe, including statistical data, information on leading companies and analysis of business in all 28 countries of this rapidly developing region.

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Front cover image

Measuring a Rieter interior carpet in the acoustic roller test bench of Rieter Automotive Systems in Winterthur, Switzerland. Photo: Rieter

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Foreword

Automotive Textiles: The global supply chain to OEMs is divided into several sections:

The Introduction provides an overview of the global automotive industry and an analysis of the automotive textiles sector, including:

- principal drivers for automotive interiors;
- the market for automotive occupant restraint equipment;
- current and future production methods for automotive textiles;
- challenges and threats to the increased use of automotive fabrics;
- interior automotive fabrics by manufacturing method;
- automotive tufted carpet producers and converters in Europe;
- future trends in automotive textiles.

The report also contains the latest financial, commercial and marketing information on 40 of the most important global companies operating in the automotive textiles industry. It highlights the changing strategies and initiatives of these groups as they seek growth opportunities in this rapidly evolving market.

The Glossary provides a list of terms and definitions from the automotive textiles and related sectors.

The List of tables lists the key industry figures and financial details of the companies profiled in the report.

The Company index lists the more than 500 companies and organisations referred to in the report, including the 40 companies profiled.

Throughout this report:

- 1 million (m) is 1,000,000;
- 1 billion (bn) is 1,000,000,000 (1,000 million);
- I trillion (trn) is 1,000,000,000,000 (one million million);
- numbers in tables may not sum correctly due to rounding or non-supplied supplementary data;
- all measurements are given in the International System of Units (SI units) unless otherwise stated;
- company's financial (fiscal) years end on 31 December unless otherwise stated;
- financial data are given in local currencies unless otherwise stated.

Contents

Introduction

A number of clear trends in the global automotive industry have become apparent over the past few years. First, there has been stagnation in the vehicle output of North America and Western Europe, while in other parts of the world – notably in China, other Asian countries and Eastern Europe — significant growth has been witnessed. In the next ten years, mainly as a result of emerging markets, such as China, India, Eastern Europe and Russia, global vehicle production is expected to increase by 16m units — the equivalent of the entire North American or West European markets today.

Tables 1.1 and 1.2 provide estimates of the global production of light vehicles from two separate sources, while Table 1.3 shows the outlook for global sales of cars.

Table 1.1: Global production of light vehicles[1], 2001-2007

(million)	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Western Europe	16.8	16.5	16.4	16.4	16.1	16.2	16.1
Eastern Europe	2.9	2.9	3.3	3.9	4.2	4.4	4.7
NAFTA	15.5	16.4	15.9	15.7	15.7	15.6	15.9
South America	2	1.9	1.9	2.5	2.8	2.7	2.9
Asia	16.8	18.5	20	21.5	23.2	24.4	25.7
Africa and Middle East	0.9	0.9	1.1	1.3	1.4	1.5	1.7
Total	**54.8**	**57.1**	**58.6**	**61.3**	**63.4**	**64.8**	**67.0**

[1] cars and light commercial vehicles (< 6 t)

Source: Global Insight

Table 1.2: Global production of cars and light vehicles, 2002-2006

(million)	**2002**	**2003**	**2004**	**2005**	**2006**
Western Europe (including Czech Republic)	16.5	16.9	16.9	16.4	16.4
North America	16.3	15.9	15.9	15.6	15.7
South America	1.9	2.3	2.3	2.7	2.7
Asia/Pacific	17.3	20.9	20.9	22.5	24.8
Total	**52.0**	**56.0**	**56.0**	**57.2**	**59.6**

Source: ArvinMeritor

Table 1.3: Global sales of cars, 2001-2007

(million)	**2001-03**	**2004-05**	**2006[e]**	**2007[f]**
Western Europe	14.5	14.5	14.6	14.5
North America[1]	19.4	19.6	19.3	18.2
South America	4.7	2.2	2.7	2.8
Asia	8.6	11.2	12.8	13.7
Total	**44.9**	**47.5**	**49.3**	**49.2**

[1] includes light trucks, [e] estimate, [f] forecast

Source: Scotiabank Group

In addition, Table 1.4 shows Tier 1 components supplier ArvinMeritor's estimate of production of commercial vehicles in North America and Europe.

Table 1.4: Global sales of commercial vehicles, 2002-2006

('000)	2002	2003	2004	2005	2006
North America, heavy duty trucks	169	235	235	324	352
North America, medium duty trucks	133	172	172	208	216
US and Canada, trailers	145	284	284	327	312
Western Europe, heavy and medium duty trucks	101	109	109	115	118

Source: ArvinMeritor

Automotive industry conditions in North America and Europe continue to be challenging as a result of this global shift. In North America, the industry is characterised by significant overcapacity and fierce competition. In Europe, the market structure is more fragmented, but also with significant overcapacity.

In particular, North American automotive production by General Motors and Ford has declined between 2000 and 2006, and these two companies have recently announced facility closures and other restructuring actions.

North American automotive manufacturers are also burdened with substantial structural costs, such as pensions and healthcare, which have affected their profitability. Several other global automotive manufacturers are also experiencing operating and profitability issues, as well as labour concerns.

Lower vehicle production levels and increases in certain raw materials, commodity and energy costs have resulted in severe financial distress among many companies within the automotive supply base. Several large suppliers have filed for bankruptcy protection or ceased operations.

As a consequence, to realise substantial cost savings and improve product quality and consistency, automotive manufacturers are increasingly requiring their suppliers to manufacture products in multiple geographic markets.

Asia

Many of the North American and European companies featured in this report now have operations in China, as highlighted in Table 1.5.

China will account for approximately 50% of automotive growth in Asia between 2006 and 2010, according to Johnson Controls. With an estimated 4.2m vehicles produced in China in 2005, some 6.5m will be made in the country in 2010. Most recently, Sweden's Volvo announced in March 2006 that it would start producing cars in China. The new Volvo S40 will be built at Volvo's partner Chang'an Ford's production plant in Chongqing, aiming for an annual production volume of approximately 10,000 units. "Local production is the key to remaining competitive in China," said Volvo's president and chief executive officer Fredrik Arp. "We are facing a scenario where the import duty is levelling out at

Freudenberg Nonwovens

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With origins dating back to the purchase of a tannery in 1849 by founder Carl Johann Freudenberg, Germany's Freudenberg Group has grown in to a diversified collection of companies with annual sales in 2005 of more than €4.8bn. Of this, 40% was achieved through sales of a range of products to automotive original equipment manufacturers (OEMs), its largest sectoral market, while the company's nonwoven fabrics business, also serving a range of industries, contributed sales of €956m. The company employed 33,420 people worldwide in 2005.

Freudenberg's sales to the automotive sector are achieved by a number of group businesses, including Freudenberg Seals and Vibration Control Technology and Freudenberg-NOK — a joint venture (JV) between Freudenberg, which has a 75% share, and Japanese partner NOK. Both owners supply synergistic seals and vibration control components. Vibracoustic also supplies anti-vibration components and solutions to the automotive industry. The Burgmann Industries business group produces and markets mechanical seals, expansion joints, magnetic couplings and special automotive seals. On the international stage, the company co-operates with the Japanese seal manufacturer Eagle Industry under the name of Eagle Burgmann Industries.

Nonwovens

Freudenberg is the leading producer of nonwoven fabrics worldwide with sales of €995m in 2005 and 18 production sites in 12 countries. It has been a pioneer in this industry, working with Buna S and Buna N synthetic rubber in the 1930s to develop synthetic leather and rubber soles. This led to floorcoverings and nonwovens, which were initially a further development of the base material for synthetic leather.

Nonwovens were soon recognised as universally applicable materials and interlinings under the Vlieseline and Vileda brand household products, which have been available since 1948. Viledon filter materials were introduced in 1957. Between 1962 and 1965, the spunbonded nonwovens process was developed in-house at Freudenberg.

The North American headquarters for Freudenberg Nonwovens, located in Durham, North Carolina, USA, is now a significant Tier 2 supplier to the automotive industry, while in Europe, a technology centre at the Kaiserslautern site in Germany is devoted to high-technology automotive interior filter production.

Freudenberg Nonwovens products for the automotive industry fall into the following general categories:

- filters — activated-carbon filters, air filtration, air intake systems, automotive interior filtration, cabin air filters, climate control and air filtration;

Freudenberg Group: global workforce, 2001-2005

	2001	2002	2003	2004	2005
Number of employees	28,063	27,728	28,416	32,044	33,420

Source: Freudenberg

Freudenberg Group: sales by business area, 2001-2005

(€m)	2001	2002	2003	2004	2005
Seals and Vibration Control Technology	2,024	2,028	1,932	2,346	2,693
Nonwovens	964	924	960	956	995
Household Products	516	526	548	566	588
Specialities and others	757	685	673	794	827

Source: Freudenberg

Freudenberg Group: sales by region, 2005

Region	%
EU (excluding Germany)	33
Germany	25
North America	25
Asia	7
South/Central America	4
Other	4
Africa/Australia	2

Source: Freudenberg

Freudenberg Group: sales by sector, 2005

Sector	%
Automotive OEMs	40
Other industry	13
Final users	12
Mechanicals and plant engineering	10
Textiles and clothing	8
Construction	6
Medicine and pharma	4
Spare parts	4
Energy and chemical	3

Source: Freudenberg