

CBI Product Factsheet:

Vehicle Batteries in Poland, the Czech Republic, Hungary, Bulgaria, Romania, Slovakia and Slovenia

Introduction

The Original Equipment Manufacturer (OEM) market for conventional lead-acid batteries is set to grow at a rate of 9% a year in 2016, due to new investments across Eastern Europe. The aftermarket sector is also increasing, due to a greater wear and tear to batteries in colder countries. The biggest importers of batteries are Poland and the Czech Republic, with imports of over €120 million each. Poland currently procures around 7.5% of its automotive batteries from developing countries, making Poland a relatively large and open market for developing country exporters.

Product definition

Automotive batteries are grouped under the Automotive Parts and Components sub-category "Parts, components, and accessories for all kinds of common automotive vehicles" (HS codes: 85071031, 85071039, 85071041, 85071049, 85071089, 85071092, 85071098, 85072031, 85072039, 85072041, 85072049, 85073020, 85073081, 85073091, 85073093, 85073099). This Product Factsheet discusses the market for batteries in Eastern Europe, including Poland, the Czech Republic, Hungary, Bulgaria, Romania, Slovakia and Slovenia.

The product group comprises batteries mainly used as power sources for the starter of a combustion engine, as well all the electrical components of a vehicle. Main batteries types discussed in this report include lead-acid batteries, nickel-cadmium, lithium-ion batteries and sodium-nickel chloride batteries.

Product specifications

Quality

In the EU, the quality of batteries is considered to be very important. Battery quality is determined based on its durability and other factors (depending on the battery's function). Lead-based batteries used in combustion engine driven vehicles for example, need to function in cold temperatures and be compatible with the car's electrical system. In addition, suppliers are facing increasing demands in terms of environmental and social responsibility.

Most vehicle batteries are manufactured and sold under brand names, as customers have associated performance and quality with branding. Original Equipment Manufacturers (OEMs) will utilise specific branded batteries in the assembly of vehicles. In the aftermarket sector there are various channels with different requirements, which provide opportunities for both branded and non-branded batteries.

In addition, increasing demands are made of suppliers in regards to environmental and social responsibility.

Tips:

- The EU's technical requirements differ per product. To explore the requirements of your product, we would like to refer you to the <u>EU Export Helpdesk</u> and the <u>International Trade Centre's Standards Map</u>.
- For more information on requirements for exporting batteries to the EU read the <u>CBI Buyer Requirements</u>: Automotive Parts and Components

Materials: Batteries are comprised of a number of different materials. These depend on the type of battery and its application. The following materials are utilised in standard automotive batteries

- Lead
- Lead dioxide
- Sulphuric acid
- Water
- Polycarbonate

Polypropylene

Packaging & Labelling

In general, packaging is determined by the buyer: either the OEM or the end user (retailer, or wholesaler in the aftermarket). In order to reduce costs and to improve the efficiency of packaging operations, OEM suppliers often use returnable packaging. Returnable packaging is not discarded after use and the empty packaging is recycled by the OEM or by a designated packaging operator. In the aftermarket sector, packaging is typically disposable, as it is discarded after being used just once.

Tip:

 For more information on requirements for packaging and packaging waste, we would like to refer you to the European Commission.

Automotive batteries are usually covered in plastic. The use of metal is restricted due to the risk of short circuiting. Batteries are often shipped on pallets in cardboard or fiberboard boxes.

In order to export to the EU, product packaging must comply with EU standards and legislation, for example:

- Wood packaging materials used for transport (including dunnage) (<u>Directive 2000/29/EC</u>): Europe sets requirements
 for wood packaging materials such as packing cases, boxes, crates, drums, pallets, box pallets and dunnage (wood
 used to wedge and support non-wood cargo).
- Another packaging-related directive is the general directive about packaging and packaging waste (<u>Directive 94/62/EC</u>). This directive stipulates the marking of the kind of packaging material used, and the maximum levels of heavy metals allowed in the packaging material.

Design: Vehicle batteries are used in a number of different vehicles with varying specifications. Each OEM will have specific requirements for vehicle battery suppliers. Requirements in the aftermarket sector will vary according to vehicle, make, model, and customer needs.

Figure 1: Vehicle batteries and packaging



Buyer Requirements

Requirements can be divided into:

- (1) musts; these are legal and non-legal requirements you must meet in order to enter the market and
- (2) common requirements; which most of your competitors have already implemented; in other words, the ones you need to comply with in order to keep up in the market.

Musts: The most important requirement for automotive components such as vehicle batteries is that they comply with the technical standards set by EU legislation in order to guarantee vehicle and environmental safety.

Type-approval is a certification for various types of motor vehicles and their components, which includes agricultural and forestry tractors. The type-approval or certification is valid in all EU Member States and is required when selling any products in the EU. Many automotive components are not approved until the final assembly, in which case certification of individual components is not necessary, although these components will still have to comply with type-approval requirements.

Tips:

- Check with your buyer, or with the approval authority of the country you want to export to, what the specific standards are for the parts you are manufacturing.
- Read more about type approval at the <u>EU Export Helpdesk</u> website.

The <u>End of Life Vehicles</u> (ELV) Directive aims to avoid environmental pollution during the scrapping process through reducing the hazardous materials used in vehicle production. Vehicles must be designed to facilitate proper dismantling

and recycling (by coding the components) and the use of heavy metals such as lead, mercury, cadmium and hexavalent chromium is prohibited (with the exception of a few applications).

Tip:

• Check if your buyer uses the <u>International Material Data System (IMDS)</u>. This is a collective, computer-based data system developed by automotive OEMs to manage environmentally relevant aspects of the different parts used in vehicles. It has been adopted as the global standard for reporting on material content in the automotive industry.

In addition, more legal requirements are discussed in our study on <u>buyer requirements</u>. When exporting chemicals, we would like to refer you to the <u>REACH regulation</u>. In the EU, buyers are responsible for <u>CE marking</u>, which means that they will have to comply with additional requirements on safety, health and environmental protection.

Common buyer requirements:

Additional requirements can be those put in place by the public sector (such as standardisation bodies), or they may be industry-led requirements (such as buyer requirements and private standards). Private standards are on the rise in Europe, and include industry-led (niche) initiatives used to enhance quality, traceability and unity in design and dimensional specifications.

In general, standards can focus on quality of the product and production process (including social and environmental issues).

Quality Management: In order to apply for type-approval, production processes need to meet quality management criteria. ISO TS/16949 focuses on the design, development and production of automotive-related products and ISO 9001 is a more general quality standard. Both are accepted as standard requirements and EU buyers and manufacturers often insist on them.

Tips:

- Implement ISO 9001 and ISO TS/16949, as it is a standard requirement of EU buyers.
- Check our study on buyer requirements within the automotive industry for more information.

The EU has set binding emission targets for new cars and vans. This means that every new car or van sold is permitted a certain level of CO_2 and NO_x emission. Note that pollution levels are currently only measured in the lab. Recent scandals with respect to real-world pollution levels versus the levels in the lab tests led to the introduction of the Real Driving Emissions (RDE) test in February of 2016. This means that cars sold in the EU must pass an RDE test, starting in September 2017. Since the emission targets will become stricter on a gradual scale, new cars need to become less thrifty [A1] every year. OEMs will demand more and more from their parts and material suppliers.

Tip:

• Be prepared that the requirements stated by your buyer might become even stricter in the future, in order to comply with binding emission targets.

Corporate social responsibility (CSR) and the extent to which buyers expect a certain level of social and environmental performance is becoming increasingly important. Bigger EU companies have developed their own CSR policies and require their suppliers (and their sub-suppliers) to conform to these. Signing a supplier code of conduct is often a prerequisite. These codes of conduct generally cover compliance with local laws, protection regarding workers' health and safety, respecting basic labour rights and also business ethics. The implementation of an environmental management system is often a requirement for core suppliers.

Tips:

- The leading car producers publish their CSR policies and supplier code of conduct on their websites. An Internet search for these may give valuable insight into assessing your company's performance by comparison.
- Implement an environmental management system, such as ISO 14001, as it is a common requirement.

Macroeconomic statistics

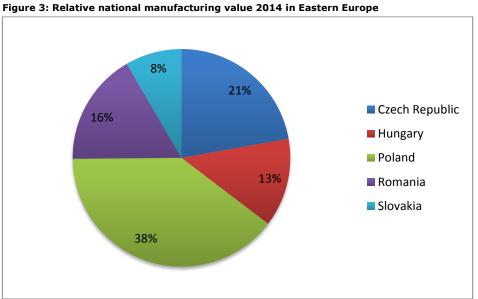
The national Gross Domestic Products (GDPs) of all Eastern European countries together saw an average growth of 2.7% in 2014. The International Monetary Fund (IMF) predicts an average GDP growth of 5.0% in Eastern Europe between 2015 and 2017. The GDP growth factor is an important economic indicator. This positive economic forecast in Eastern Europe is one of the reasons we expect the production and demand for vehicle batteries to rise as well.

4,5% 4,0% 3,5% 3,0% 2,5% 2015 2,0% **2016** 1,5% **2017** 1,0% 0,5% 0,0% Bulgaria Czech Hungary Poland Romania Slovakia Slovenia republic

Figure 2: GDP (constant prices prices) Compound Annual Growth Rate (CAGR) forecast for 2015 - 2017 in Eastern Europe

Data source: IMF 2015, World Economic Outlook Database

The value of the national GDP for the seven Eastern European countries covered by this document combined was estimated at €975 billion (or roughly one-tenth of the GDP value for the biggest Western European economies of Germany, France, the UK, Italy and Spain; the EU5) in 2014. Poland is the largest market in Eastern Europe, with a GDP of approximately €413 billion and a total national manufacturing value of €74 billion, accounting for a share of almost 40% total GDP and manufacturing values for the seven Eastern European countries in question. The Czech Republic is the second largest Eastern European economy with a strong manufacturing base, followed by Romania and Hungary. Bulgaria and Slovenia are relatively small economies, together accounting for less than 10% of the total Eastern European GDP.



*No data available for Bulgaria. Romania's percentage of the GDP, which is produced by manufacturing, is based on an estimate from 2012. Data source: IMF 2015, World Economic Outlook Database

Trade Statistics

Imports and exports

The Eurostat data do not provide complete trade values for automotive batteries after 2010. As of 2010, Eastern Europe imported roughly €362 million worth of automotive batteries. Taken together, Poland and the Czech Republic represent 68% of the total imports of batteries into Eastern Europe (€246 million). They are followed by Slovakia with €32 million. The imported batteries are mainly shipped from Eastern and Western Europe as well as from Mexico and China.

The value of automotive battery imports from the developing countries to Eastern Europe in 2010 was estimated at \leq 21.5 million (6% of total automotive battery imports). Poland imports the most from the developing countries in absolute terms (\leq 9.2 million), followed by Romania (\leq 4.6 million) and the Czech Republic (\leq 3.4 million). Bulgaria and Romania have the highest shares of batteries originating from developing countries (18% and 14%, respectively), which indicates a willingness to source components from these parts of the world.

Eastern Europe is a net exporter of batteries, having exported approximately €891 million worth of those in 2010. The Czech Republic is the largest exporter with €351 million (or nearly 40% of total Eastern Europe battery exports), followed by Poland with €271 million and Slovenia with €115 million. Together, these countries account for nearly 83% of Eastern Europe's battery exports. The batteries are mainly exported within the EU countries as well as to other developed countries. Roughly €85 million worth of batteries are exported to the developing countries (approximately 9.6% of all exports).

The OEM battery market in Poland, the Czech Republic, Slovakia, Hungary and Romania was estimated at 3 billion units in 2013 and expected to grow to approximately 4 billion units in 2016 at a CAGR of 9%.

Tip:

• For more information on automotive trade statistics, read our study on the demand for automotive products in the European market.

Market trends and opportunities

- Forecasts for the Eastern European battery market are good. Eastern Europe is in a prime position to capitalise on the decline in the European automotive market, with lower labour costs, a solid infrastructure and locations close to major Western European markets. Before the economic crisis started in 2008, many European OEMs invested in production sites across Eastern Europe. Few of these plants have been closed and production volumes have remained stable. Eastern Europe looks set to remain a strong hub of automotive manufacturing in the near future, although the risk does exist that OEMs could move labour intensive operations to lower-cost regions, such as North Africa.
- The new trend towards Electric Vehicles (EVs) has not yet made an impact on the Eastern European market. Adoption of EVs is non-existent in Eastern Europe, mainly due to high upfront costs, and the manufacturing of EV batteries is currently still being completed in Western Europe.
- The technology on vehicle batteries is evolving rapidly. For cars with an internal combustion engine, the use of leadacid batteries is still common. Although car manufacturers work with different types of batteries, the 48 volt batteries will probably dominate the market in the future especially within combustion driven cars. Due to rapid technological changes, you should keep your products updated and be highly aware of technological trends.

Tip:

• For more information on automotive market trends, read our study <u>CBI Market Trends</u>

Price

Apart from the distribution of new parts, the aftermarket for automotive parts also encompasses a lively distribution of used or overhauled parts and components. Pricing depends on the supply chain positioning. The aftermarket, in particular, is very discount-driven and has varied mark-ups at each distribution step, and for different parts and components. Due to large variation in types and models of parts, it is difficult to provide a general overview of vehicle battery prices, but it is possible to provide some insight into margins imposed by different players in the supply chain. Based on the margin ranges, developing country suppliers selling to the Tier 3 supplier in the OEM supply chain could price their products at between 64% and 81% of the OEM delivery price. The differences in price of branded spare parts will not be great among

the various countries. Those players who are present in several European countries have largely harmonised their prices; any differences in pricing may occur because of different logistics and local costs. In the Original Equipment segment, the price is set by 4+ year contracts, which usually include a 3-5% price reduction each year after the first year. In the aftermarket, the prices are negotiated every year.

OEM supply chain	Margin
Tier 1 supplier delivering to OEM	7-9%
Tier 2 supplier delivering to Tier 1	7-17%
Tier 3 supplier delivering to Tier 2	11-27%
Aftermarket Original Equipment Supplier (OES)	Margin
Tier 1 delivering to OEM for OES sales through approved service chain	11-32%
Tier 1 delivering to OEM for OES sales through independent outlets	11-27%
OEM delivering OES parts through its approved service chain	26-67%
OEM delivering OES parts through independent outlets	31-42%

Tip:

• In order to better ascertain prices of specific products and models, you should talk directly to wholesalers and local experts. The only way to gain information about products or materials within specific markets is with inside information.

Main sources

- OECD good source for macroeconomic and industry-specific information
- <u>CLEPA</u> European association of automotive suppliers
- ACEA European automobile manufacturers association
- EY's Automotive information Automotive information good source on automotive information
- Inovev Worldwide automotive knowledge platform that offers free-of-charge and fee- based content
- Trade fairs are a good place to network, to meet buyers and to promote your company. The most prominent agricultural machinery trade fairs in Western Europe are: Hannover Messe World's leading trade fair for industrial technology taking place in Germany; Internationale Automobil-Ausstellung (every year) German automotive trade fair; Barcelona Motor Show (once every two years) Spanish automotive trade fair; British International Motor Show (organised by SMMT once every two years); Paris Motor Show (once every two years) French automotive trade fair.

CBI Market Intelligence

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This survey was compiled for CBI by Marktonderzoekbureau Molgo in collaboration with CBI sector expert Peter Nagel, anp management consulting GmbH

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