



CBI Product Factsheet for Vehicle Radiators in the EU5

‘Practical market insights for your product’

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The aftermarket sector for water cooled radiators is limited as radiators tend to last the entire lifecycle of a vehicle.

Product definition

Radiators are grouped under the product category of Automotive parts and components/Parts, components, and accessories for all kinds of common automotive vehicles/Radiators (HS codes 87089110; 87089120; 87089135; 87089190). This Product Factsheet analyses the market for automotive radiators in EU5 countries (i.e. the biggest EU economies: Germany, France, the UK, Italy and Spain).

Product specifications

Quality: Compliance with international standards and European standards on safety is required, as is conformity to existing EU and national legislation and practices. The ISO/TS 16949 standard is considered to be the highest level of quality. This standard is important for the European automotive industry as it outlines best practices for designing, developing, manufacturing, installing or servicing automotive products.

Materials: An operational radiator contains a water/antifreeze mix that flows through the radiator's tubes to absorb the heat generated by the engine. The radiators contain brass (coated in lead) and copper. To keep the radiator protected, once assembled it is painted with a heat-resistant paint. There has been an increasing demand from manufacturers for lightweight materials and thus a trend towards using aluminium instead of copper is starting to emerge, even though aluminium is more expensive.

Design: Radiators are used in different types of vehicles that have varying specifications. OEMs will have specific commercial and technical requirements for exhaust system suppliers, while purchasers in the aftermarket sector emphasise versatility and shorter lead times over volume.

Packaging & Labelling: In general, packaging is dependent on the buyer: either the OEM or end user (the aftermarket sector). In the aftermarket sector, the packaging is typically disposable, as it is discarded after being used just once. Returnable packaging is most often used by OEM suppliers, so as to reduce cost and to improve the efficiency of packaging operations. Returnable packaging is not discarded after use and the empty packaging is recycled by the OEM or by a designated packaging operator. In order to export to the EU, product packaging must comply with EU standards. To reduce the harmful impact of packaging on the environment, the EU has instituted legislation concerning the management of packaging and packaging waste.

Considerations for action

- For more information on packaging and packaging waste requirements, please refer to [EU legislation: Packaging and packaging waste](#)

Figure 1: Vehicle radiator parts and their packaging



Source: Fotolia

Buyer Requirements

Legislative Requirements: The most important requirement for automotive components 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.

The End of Life Vehicles (ELV) Directive aims to avoid environmental pollution during the scrapping process through reducing the

Considerations for action

- 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 [EU Export Helpdesk](#).
- Check if your buyer uses the International Material Data System (IMDS). This is a collective, computer-based data system

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).

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.

Common buyer requirements: In addition to legislative approval, there are other common buyer requirements. While these are not obligatory in the legal sense, they are implemented by various competitors in the market and are thus necessary in order to compete effectively.

Quality Management: In order to apply for type-approval, production processes need to meet quality management criteria. ISO TS/16949 and ISO 9001 are accepted as standard requirements and EU buyers and manufacturers often insist on them.

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.

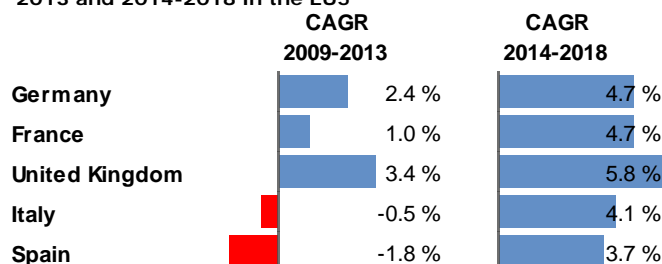
Considerations for action

- Implement ISO 9001 and ISO TS/16949, as it is a standard requirement of EU buyers. Click [here](#) for more information on ISO TS/16949 at the ISO website
- Most big car brands 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 GDPs of the EU5 countries grew by only 1.3% on average between 2009 and 2013. However, the IMF predicts a considerable rise in the GDPs of all of the EU5 countries between 2014 and 2018. The estimated UK GDP CAGR for 2014-2018 is an impressive 5.8%, followed by solid increases in all other EU5 countries. Italy and Spain, in particular, went from negative growth in 2009-2013 to a predicted growth of close to 4% for 2014-2018.

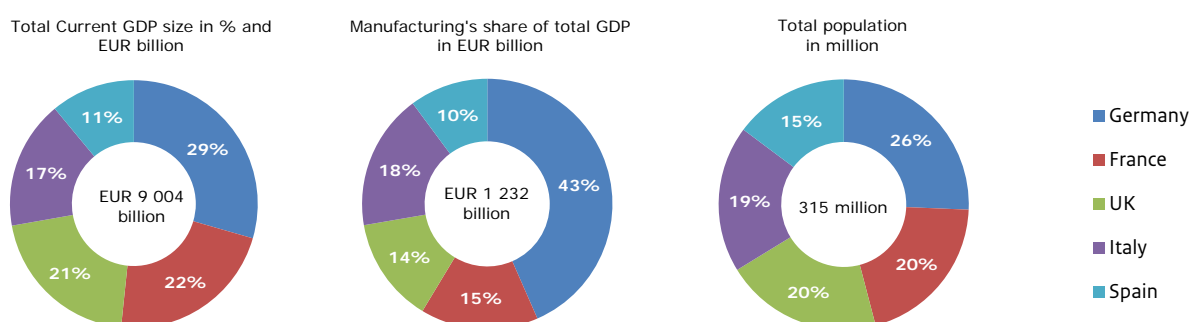
Figure 2: GDP Compound (current prices) Annual Growth Rate (CAGR) for 2009-2013 and 2014-2018 in the EU5



Data source: IMF 2014, World Economic Outlook Database

The total GDP for the EU5 countries was estimated at more than €9 trillion in 2013. Germany is the largest market in the EU5 with a GDP of €2.65 trillion, accounting for almost one-third of the total GDP, and with by far the strongest manufacturing base of all the EU5 nations (€535 billion in 2013). Germany is followed by France and the UK, each of which represent roughly one-fifth of the GDP value and 15% of total manufacturing for the five countries. With its GDP in 2013 close to €1 trillion and manufacturing at €125 billion, Spain is the smallest of the five economies.

Figure 3: Key 2013 macroeconomic indicators for the EU5, in billions of euros (population in millions)



Data source: IMF and OECD 2014

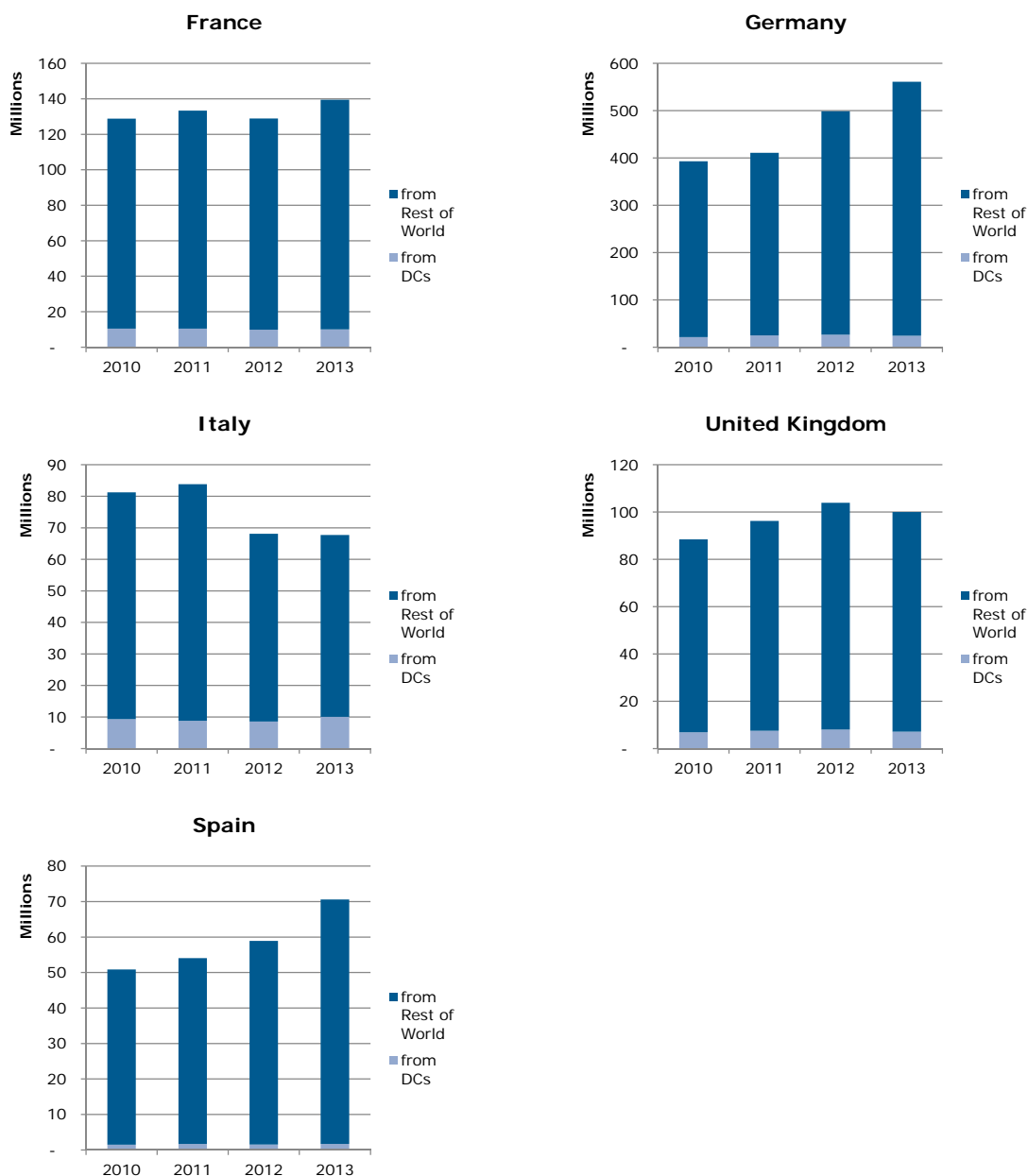
Trade Statistics

Imports and exports

The EU5 imported roughly €939 million worth of automotive radiators in 2013. Germany alone represents nearly 60% of the imports, standing at €561 million in 2013. It is followed by France at €140 million and the UK at €100 million. The imported automotive radiators are shipped mainly from Western and Eastern Europe as well as from other developed countries such as Japan and the United States.

Imports of radiators from the DCs to the EU5 represented over €53 million (5.6% of total imports) in 2013 and grew at a CAGR of 2.3% between 2010 and 2013. Germany, Italy and France together represent nearly 83% of DC radiator imports. The biggest DC exporters of radiators to the EU5 are China (€26 million), Turkey (€11 million) and South Africa (€5 million), which account for approximately 80% of radiator imports from the DCs to EU5.

Figure 4: Total import of vehicle radiators in the EU5 countries, in millions of euros (the range of the y-axes varies by country due to different import levels)

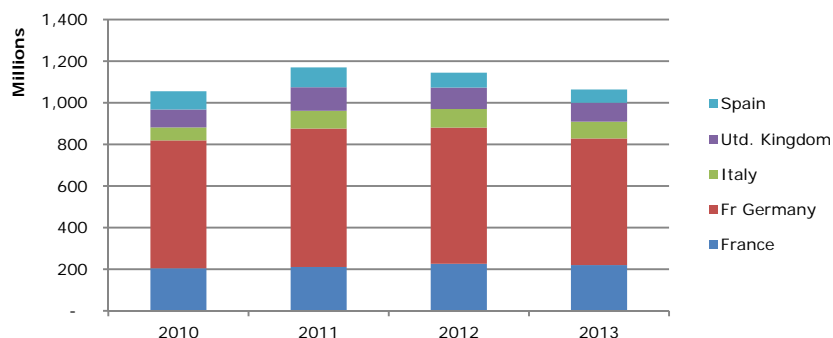


Data source: Eurostat 2014

The EU5 is a net exporter of automotive radiators. In 2013, it exported close to €1.1 billion worth of them. Germany is by far the largest exporter of radiators among the EU5 countries, with nearly €608 million in exports (comprising a 57% share of all EU5 radiator exports). It is followed by France with €220 million (21% share of the total). EU5 radiator exports grew at a 0.3% CAGR between 2010 and 2013. The export market is subject to demand by developed countries, as roughly 81% of the exports end up sold in Western and Eastern Europe and in other developed countries. However, it must be noted that the exports to the DCs have been growing at a much higher rate than exports to the Rest of the World. Between 2010 and 2013, they grew at a CAGR of 9%. China,

Turkey and South Africa are the largest importers and together account for roughly €144 million.

Figure 5: Total export of radiators in the EU5, in millions of euros



Data source: Eurostat 2014

Market trends and opportunities

Although the European market is expected to stagnate over the short/medium term, there are still opportunities to be explored by the DC exporters within the EU5. The liquid cooling radiator market mainly comprises of the OEMs for cars and commercial vehicles as well as for agricultural and construction equipment. On top of that, the emissions regulations and the demand for maximum power are driving the motorcycle and outdoor power tools industry to employ liquid cooling. The key market is Germany, where one in three vehicles within the EU region is made. On the downside, German vehicle production is growing slowly and the total EU5 production is falling due to stagnating demand within developed countries and the intensifying competition from developing countries. So it is likely that the most potential for the DC suppliers of radiators exists outside the vehicle OEMs. The aftermarket sector for water cooled radiators is limited as radiators tend to last for the entire lifecycle of a vehicle.

Germany is the biggest European market for radiators with estimated imports of €561 million in 2013 (up from €393 million in 2010). With an average compound growth of 12.6% per year and a 4% share of imports originating from the DCs, Germany is an excellent market for DC radiator exporters. France and the UK are the second and the third largest EU5 markets for automotive radiators, with 2013 import values of €140 million and €100 million respectively. Italy has the largest shares of radiator imports from DCs, at 15%, indicating a high degree of willingness to source materials from developing countries. While Italy has been increasing its share of DC imports for automotive radiators, all other EU5 countries have seen a decline in this sector, indicating that they are sourcing their radiators at more competitive prices elsewhere (specifically Poland and the Czech Republic). Based on the current trends, the future outlook is that the imports from the DCs will continue to grow at a very moderate rate, with the share of DC exporters in the market possibly decreasing.

For more information on automotive market trends and opportunities please refer to [CBI Trend Mapping for Automotive Parts and Components](#).

Price

Apart from the distribution of new parts, the aftermarket for automotive parts also encompasses the vigorous distribution of used or overhauled parts and components. Pricing depends on supply chain positioning. The aftermarket sector, in particular, is very discount-driven and has varied mark-ups at each distribution step for different parts and components. Due to the large variation in parts types and models, it is

difficult to provide a general overview of radiator prices, but it is possible to provide some insight into the margins imposed by different players in the supply chain. Based on the margin ranges, DC suppliers selling to a tier 3 supplier in the OEM supply chain could price their products at between 64% and 81% of the OEM delivery price. In order to better ascertain the prices of specific products and models, check the internet to determine the appropriate range, or talk directly to wholesalers and/or retailers. The price of branded spare parts will not differ greatly among the various countries. Those players who are active in several European nations have largely unified their prices, and any differences in pricing may be because of different logistical- and local costs. In the Original Equipment sector, the price is set in contracts of four years or more, which usually includes a 3-5% price reduction each year after the first year. In the aftermarket sector, the prices are negotiated every year.

OEM supply chain	Margin
Tier 1 supplier delivering to OEM	6-8%
Tier 2 supplier delivering to tier 1	6-15%
Tier 3 supplier delivering to tier 2	10-25%
Aftermarket OES supply chain	Margin
Tier 1 delivering to OEM for OES sales through approved service chain	10-30%
Tier 1 delivering to OEM for OES sales through independent outlets	10-25%
OEM delivering OES parts through its approved service chain	25-65%
OEM delivering OES parts through independent outlets	30-40%

Main sources

- [European Commission's macroeconomic publications](#)
- [IMF](#) – a good source for macroeconomic information
- [OECD](#) – a good source for macroeconomic and industry-specific information
- [European Commission's Directives and Regulations pertaining to motor vehicles, their trailers, systems and components](#)
- [CLEPA](#) – the European Association of Automotive Suppliers
- [ACEA](#) – the European Automobile Manufacturers Association
- [Ernst & Young's Automotive information](#) - Automotive information – a good source on automotive information
- [Ernst & Young's European Automotive Survey 2013](#) – interviews mostly with automotive suppliers
- [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 automotive trade fairs in Western Europe are: [Hannover Messe](#) - the world's leading trade fair for industrial technology taking place in Germany; [Internationale Automobil-Ausstellung](#) (annual) – German automotive trade fair; the [Barcelona Motor Show](#) (biennial) – Spanish automotive trade fair; the [British International Motor Show](#) (organized by SMMT once every two years); the [Paris Motor Show](#) (biennial) – French automotive trade fair and the [Bologna Motor Show](#) (annual) – Italian automotive trade fair.

More information

CBI market information:

- [CBI Buyer Requirements: Automotive Parts and Components](#)
- [CBI Buyers' Black Box: Automotive Parts and Components](#)
- [CBI Market Channels and Segments Automotive Parts and Components](#)
- [CBI Market Competitiveness Automotive Parts and Components](#)

This survey was compiled for CBI by Global Intelligence Alliance

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