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How Dependent Is the Austrian Automotive Industry on Volkswagen?

ASCI Research Brief

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Abstract

The Austrian automotive industry is heavily reliant on German carmakers, with 65% of the companies exporting directly to Germany. Recent challenges faced by VW, including plant closures and downsizing, threaten Austrian suppliers, particularly in automotive clusters in Upper Austria and Styria. This study identifies 135 Austrian companies connected to VW, categorized by supply type (e.g., components, machinery, electronics). Approximately 6,300 jobs are directly at risk, with dependencies concentrated among a few large firms. Component suppliers are most vulnerable to immediate effects, while machinery suppliers may face longer-term impacts from cancelled projects. These findings highlight the need for structural reforms in the EU automotive supply chain, including energy cost reductions, increased automation, and enhanced technological competitiveness, to mitigate risks and ensure resilience in the face of industry challenges.

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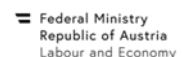
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1. Introduction

According to Statistics Austria, 37,033 people were directly employed in the manufacture of motor vehicles, trailers and semi-trailers in 2022. Including indirect and induced effects, about 110,000 jobs in Austria depend on the industry.¹ In addition, Austria's car industry estimates that it produces goods with a total value of €28.5 billion, of which 85% is exported.² It is also estimated that approximately 65% of Austrian automotive suppliers export directly to Germany, three-quarters of which directly to carmakers.³ Given this strong exposure and direct supply relationships, developments in the German automotive industry have a direct impact on Austria.

German carmakers are facing significant challenges due to increasing competition from Chinese electric vehicle manufacturers, shifting consumer preferences, and the need to adapt to the electric vehicle market. Volkswagen, a major original equipment manufacturer, has come under pressure and announced plans to close at least three of its production facilities in Germany, including the Osnabrück plant. It also plans to downsize remaining operations, potentially resulting in tens of thousands of job losses. This decision is further driven by declining sales and a need to reduce costs or profit margins. The closures are expected to become effective from 2026 onwards, with the Osnabrück plant facing a lack of new orders following the end of current production contracts. These developments may have immediate repercussions on Austrian suppliers of Volkswagen, as reduced production volumes potentially lead to decreased demand for components and services.

The aim of this research brief is to provide a quantitative and comprehensive assessment of the extent of this impact. In particular, we seek to identify which of the Austrian suppliers are directly or indirectly related to Volkswagen and to classify the nature of this relationship, i.e. whether they supply components, machinery or other services, which in turn may indicate how directly Volkswagen's downsizing will be felt by these companies. We also characterise these companies by their location, size, and degree of dependency on Volkswagen to understand the regional distribution of this dependency.

We construct a novel dataset to perform this analysis. We identify Austrian companies with the potential to be Volkswagen suppliers, aggregating data from Orbis, Marklines, and ArgeAuto. We then leveraged the Common Crawl dataset, an extensive archive of the World Wide Web to identify all companies that disclose a relationship with Volkswagen on one of their websites using an established web scraping approach.⁴ The types of connections were manually categorized. Also, inconsistencies in these

¹ See also IWI (2021), Automotive Zulieferindustrie als Exporterfolg – Strategien für Post-COVID.

² <https://www.advantageaustria.org/ne/zentral/branchen/automotive/zahlen-und-fakten/zahlen-und-fakten.en.html>, accessed November 7, 2024.

³ <https://www.derstandard.at/story/3000000235157/wie-wird-sich-der-sparkurs-bei-vw-auf-oesterreichs-autozulieferer-auswirken>, accessed November 7, 2024

⁴ <https://arxiv.org/abs/2408.11635>, accessed November 7, 2024.

classifications were manually resolved. Table 1 gives an overview of the proposed categories. Finally, for a subset of companies with more than 2,000 employees, we also estimate the share of revenue represented by supplying Volkswagen.

Table 1: Relationship categories considered in this study.

Category	Explanation
Supplier-Component	The company produces components for Volkswagen.
Supplier-Machinery	The company produces equipment and tools for manufacturing for Volkswagen.
Supplier-Electronics	The company produces electronic components for Volkswagen.
Supplier-Software	The company produces software for Volkswagen.
Supplier-Indirect	The company supplies a supplier of Volkswagen.
Supplier-General	The company produces products not mentioned above for Volkswagen.
R&D	The company owns or produces Intellectual Property used by Volkswagen.
Other	The company has any other relation with Volkswagen not mentioned above.

2. Results

The data indicate 146 relationships with Volkswagen. As some companies produce several products and offer several services, they may be categorized more than once. In total, we identified 135 unique companies in Austria with some kind of relationship with Volkswagen. Figure 1 gives an overview of the number of relationships we found for each category, as described in Table 1. Out of the 146 relationships, more than 47 relationships showed the supply of components, followed by the production of machinery and equipment as the second largest category.

In total, we find 208,766 employees in companies with any kind of relationship with Volkswagen. Figure 2 shows the number of employees at the companies we identified. Most employees are found in companies that supply Volkswagen with components (90,345), machinery (56,388) or electronics (28,057).

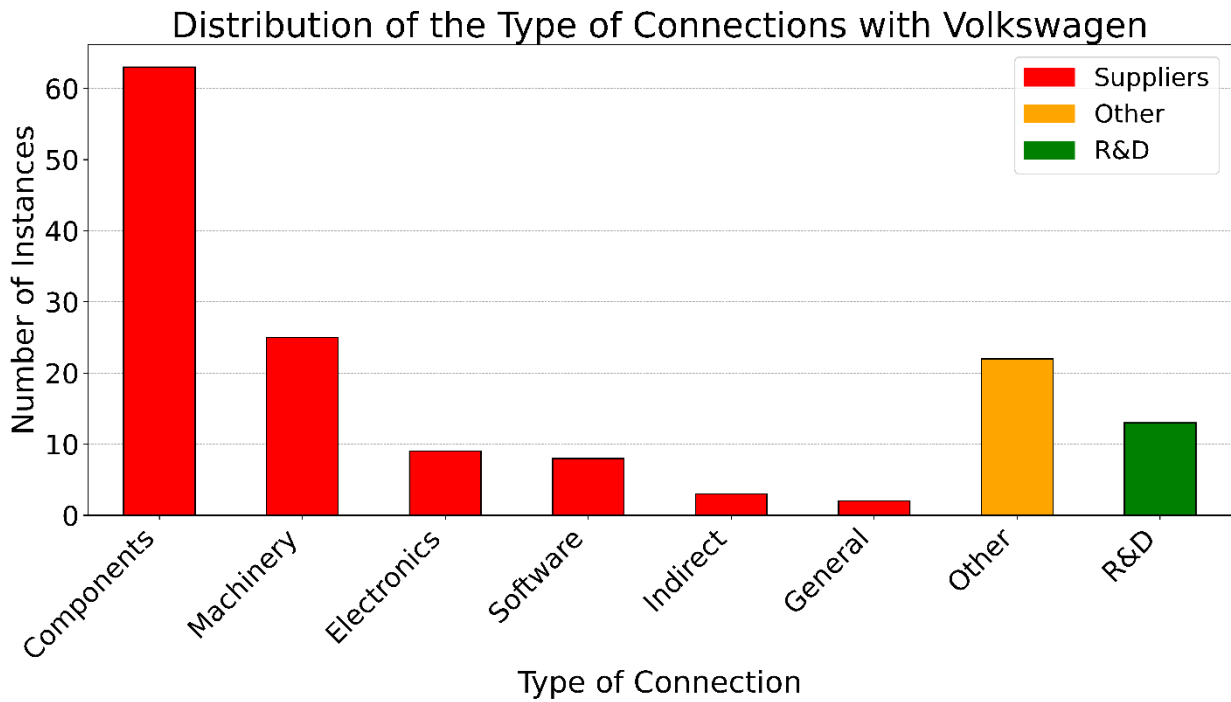


Figure 1: Distribution of the number of companies with a given type of relationship with Volkswagen from the dataset we constructed.

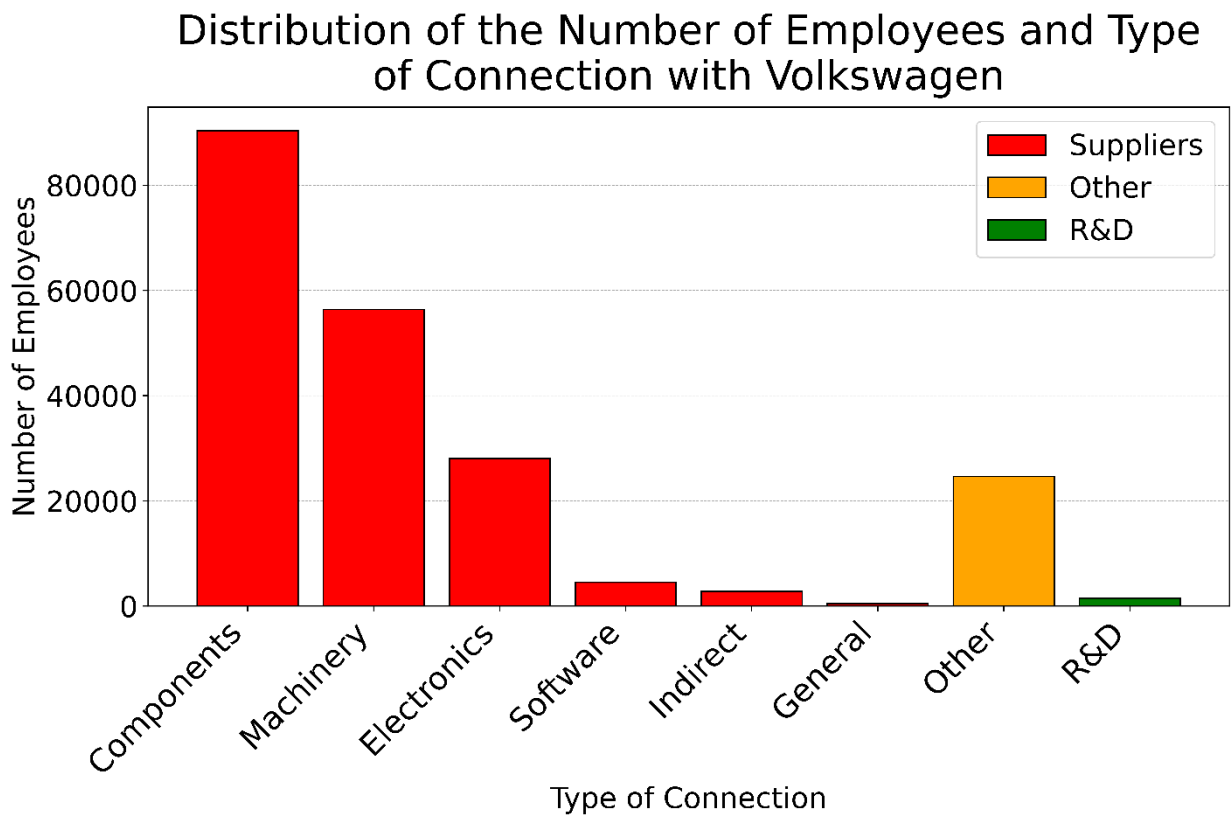


Figure 2: Distribution of the number of employees by the type of relationship their company has with Volkswagen.

Company Locations and Size of Volkswagen Suppliers

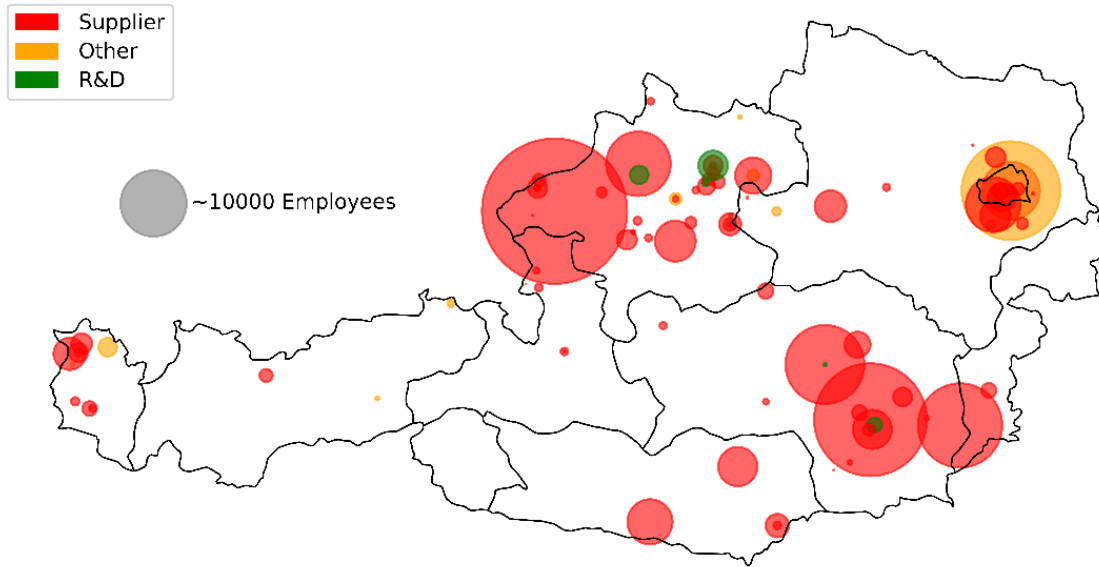


Figure 3: The identified companies are located on a map with circle areas proportional to their number of employees. The colours indicate the type of relationship.

Distribution of the Number of Employees and Type of Connection with Volkswagen per Region

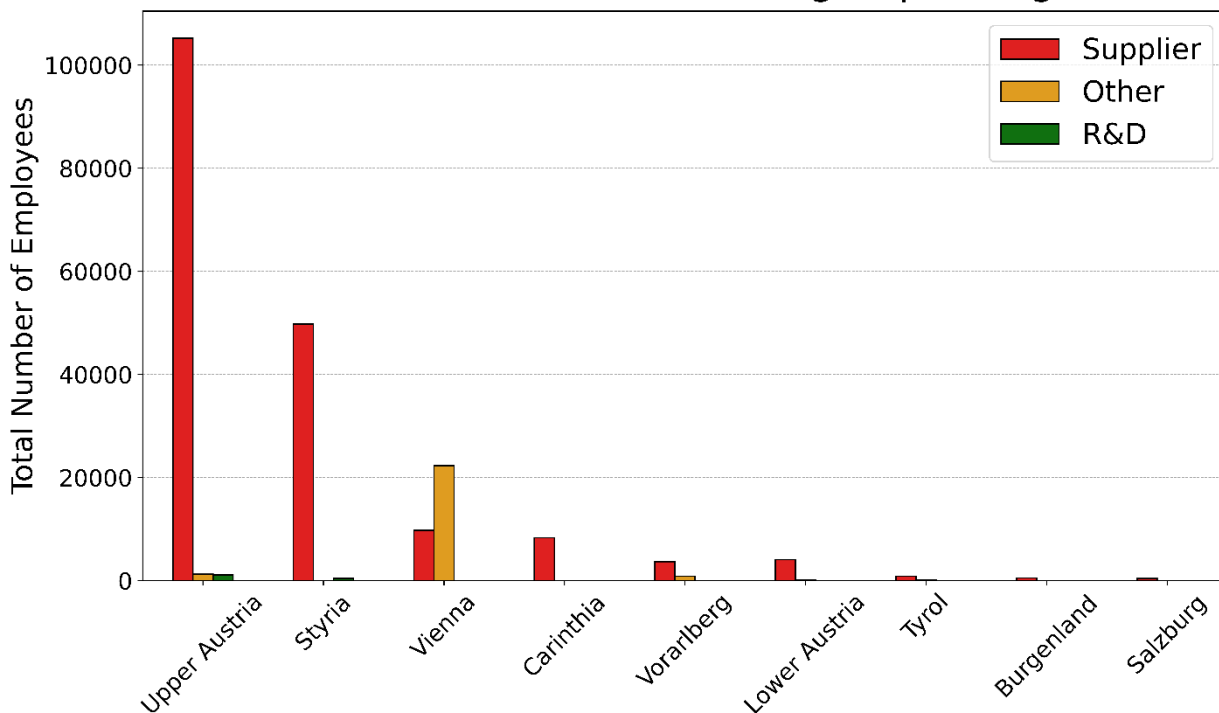


Figure 4: Histogram of the number of employees by type of connection and federal state.

The regional distribution of the identified companies and their suppliers is shown in Figure 3 and Figure 4. The dependencies concentrate on suppliers from the automotive clusters in Upper Austria and Styria.

To estimate the number of jobs that could be at risk, we use Volkswagen's share of the turnover of the larger companies.⁵ As information on this share is only available for a subset of companies, we estimated it for the remaining companies. We assessed qualitatively based on the text extracted whether the identified business relationship is likely to indicate a substantial and long-lasting customer-supplier link (e.g., a company reporting that it supplies Volkswagen for several years and has now received a supplier award from them) or only a minor link. In the latter case, we imputed the smallest non-zero share that we observed in the available data; in the former case, we imputed the median share. We also provide higher and lower estimates by imputing the median or lowest share across all relationships.

In total, we estimate that 6,293 jobs might be at risk, with a lower estimate of 3,560 and a higher estimate of 10,864. As expected from Figure 4, most of these jobs are in Upper Austria and in Styria. For these regions, the preferred estimates indicate that 4,031 and 2,028 jobs, respectively, are at risk.

3. Summary and conclusions

Our results support the observation that the Austrian automotive industry is closely linked to Volkswagen. We estimate that between 3,600 and 10,900 jobs are directly dependent on Volkswagen, with a most likely point estimate of 6,300 jobs. These dependencies are concentrated in Upper Austria and Styria, which is also where most affected jobs are. Therein, they mostly concentrate on a few large companies with a substantial dependence on Volkswagen.

The impact is likely to be felt unevenly due to different types of relationships. Immediate effects can be expected for component suppliers, for whom reduced demand from Volkswagen may translate directly into fewer orders. Yet, the impact on companies that supply production machinery is likely to be less direct. It is less costly for Volkswagen to close a plant where the product life cycle of the model series produced is coming to an end, because tangible assets such as tools or machinery are already written off. This seems to be the case in the Osnabrück plant. Hence, suppliers of machinery are more likely to be affected by cancelled investment plans for new plants rather than by the closure of existing, often older plants. Hence, growth opportunities disappear.

These specific results for Volkswagen might only be the tip of the iceberg and need to be assessed in the context of a competitive gap of the EU automotive supply chain in terms of costs, technology lag (e.g., software-defined cars, autonomous driving) and development time (1.5-2 years in China versus 3-5 years in the EU).⁶ This disadvantage is of particular relevance for the Austrian automotive industry, as the supply chain of car manufacturers tends to be regionally concentrated due to the requirements of just-in-time production models (i.e. most suppliers of EU car manufacturers are located in close geographical proximity to the car manufacturers, in line with the strong dependencies

⁵ For the largest company that could be affected, we also conduct a more detailed breakdown of the share of revenue by division.

⁶ Draghi, Mario. "The Future of European Competitiveness Part B: In-depth analysis and recommendations." (2024).

between Austrian suppliers and German car manufacturers, as reported here for Volkswagen).

The current crises are aggravated by the recession and trade developments. In addition, there is a debate about the long-term competitiveness of the industry. The European Commission has recently presented targets and proposals to close this competitiveness gap.⁷ According to this proposal, energy costs could be reduced by increasing the supply of clean energy and promoting longer-term power purchase agreements to hedge against short-term price fluctuations. Short-term remedies may also include reducing the regulatory burden and increasing the coherence and predictability of forthcoming legislation. Finally, a comprehensive strategy is needed to close the technology gap. The strategy should cover all stages of the value chain to improve coordination (e.g. a European supply chain for primary battery production of the next generation as well as secondary use) and use horizontal enablers such as digital technologies, a coherent digital policy for system interoperability and artificial intelligence to optimise the design and production of cars, components and manufacturing technologies.

⁷ Draghi, Mario. "The Future of European Competitiveness Part B: In-depth analysis and recommendations." (2024).