Remanufacturing of automotive components in Europe

A value chain perspective

Forum on Automotive Aftermarket Sustainability

Stijn Vervoort, September 2025

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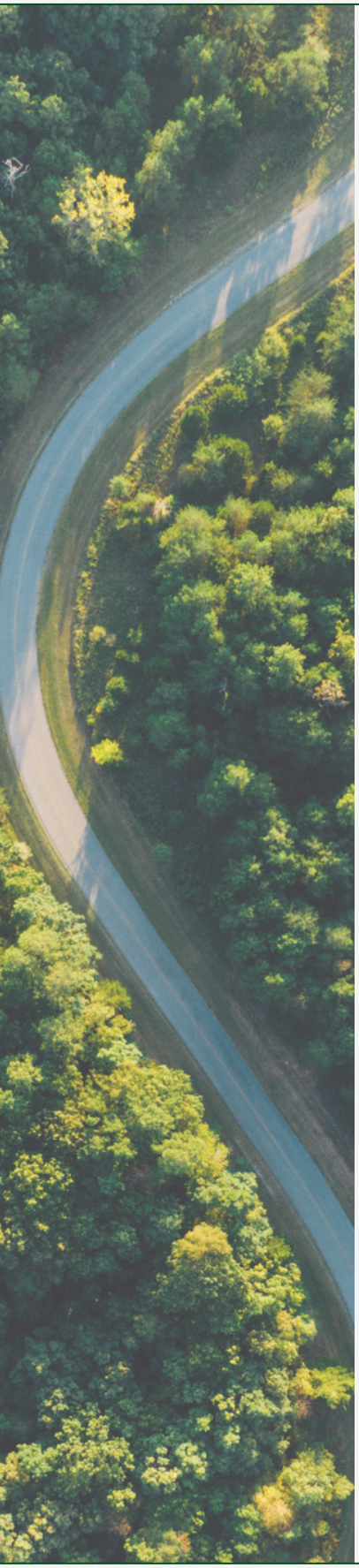


This study explores the use and perceptions of remanufactured parts within the automotive aftermarket value chain. The findings show that remanufactured parts are already widely adopted across the supply chain. To further increase uptake, efforts should both encourage existing clients to deepen their adoption of remanufactured products and address gaps in customer coverage.

Several barriers must be addressed to unlock the full potential of remanufacturing. While adoption is already widespread, availability remains limited. Workshops cite the availability of remanufactured alternatives and the limited wholesaler offering as the main barrier to choosing remanufactured parts. Improving the availability of remanufactured components is instrumental to their uptake. Wholesalers highlight several barriers to offering a wider range of remanufactured products: the financial risk of not being reimbursed for returned cores, the complexity of core management within product groups, and unclear or inconsistent reasons for core rejection. Opportunities for improvement therefore include simplifying core management systems, harmonizing acceptance criteria, and ensuring greater transparency in return decisions.

The final decision to use a remanufactured part rather than a new one typically happens at automotive workshop level. Therefore, targeted marketing efforts should focus on this segment. For workshops, competitive pricing is the primary driver behind choosing remanufactured components. Most respondents express a clear willingness to opt for more remanufactured parts when they are attractively priced. While product quality is also considered, it plays a secondary role. Environmental benefits are acknowledged but are not a primary factor in the workshops' purchasing decisions.

2. Introduction

2.1 Background

The Forum on Automotive Aftermarket Sustainability (FAAS) aims to facilitate the sustainable transition of the automotive aftermarket industry. To achieve this, FAAS organizes Working Groups for automotive suppliers and distributors to develop concrete projects that answer their sustainability needs. FAAS' Working Group 2 (WG2) contributes to the circular economy by promoting the use of remanufactured components. One of the workstreams within WG2 aims to identify and prioritize barriers facing the remanufacturing industry and develop solutions to relieve these barriers (FAAS, 2025).

The study defines remanufacturing according to the sectoral definition developed by (CLEPA, MERA, APRA, ANRAP, FIRM & CPRA, 2016): "*Remanufacturing is a standardized industrial process, by which cores are returned to same-as-new, or better, condition and performance. The process is in line with specific technical specifications, including engineering, quality and testing standards. The process yields fully warranted products*." Related definitions can be found under title 7. Glossary.

A Polish study finds 79% of workshops use automotive parts, but to a limited extent. Only 8% of Polish workshops reach a remanufactured market share of 10% or higher (Mielecki, 2025). To fully realize the potential of remanufacturing, a comprehensive value chain perspective is essential. This includes understanding the views and experiences of both automotive wholesalers and workshops. In response, WG2 conducts a standardized survey targeting these stakeholders.

2.2 Research Questions

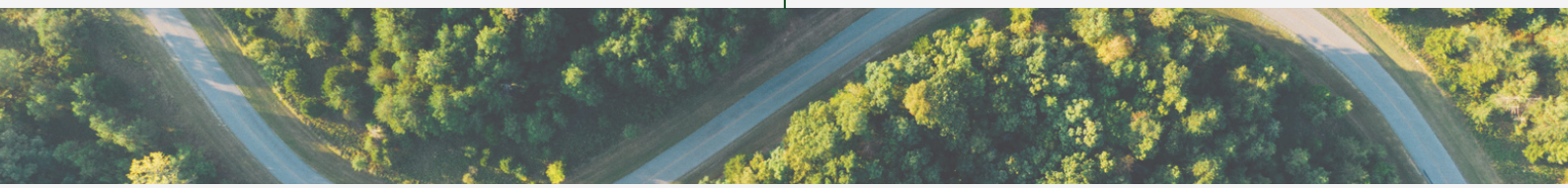
RQ1: What are the barriers to the uptake of remanufactured components in the automotive aftermarket value chain?

- **RQ1.1:** What barriers do automotive wholesalers perceive?
- **RQ1.2**: What barriers do automotive workshops perceive?

RQ2: What are the opportunities for remanufacturing in the automotive value chain?

- **RQ2.1:** What are the opportunities for automotive wholesalers?
- **RQ2.2:** What are the opportunities for automotive workshops?

RQ3: How does the market for remanufactured components evolve?



3. Study Method

WG2 members developed a standardized survey aimed at wholesalers and workshops (appendix 1). This survey is originally developed in English, and translated into Czech, French, German, Hungarian, Italian, Polish, Romanian, Slovenian, Spanish, Swedish and Turkish to enable a correct understanding of the nuances by all respondents. Translations were carried out by native speakers with experience in the automotive aftermarket sector, ensuring accurate and context-specific interpretation of technical terms.

The survey was implemented using the SurveyMonkey (SurveyMonkey, 2025) online platform. The landing page provided a clear definition of the term *remanufactured part* to ensure a consistent understanding among respondents. To optimize the user experience and minimize response burden, the survey included branching logic that guided participants through relevant questions based on their role and prior responses. The structure was designed to keep completion time under five minutes.

FAAS members were responsible for the dissemination of the survey link within their European networks of wholesalers and workshops. The data collection period ran from 26 May 2025 to 1 July 2025. With a population size of around 46 000 wholesaler outlets, and 401 000 workshops (FIGIEFA, 2024), the target sample size is 384 respondents to achieve a 95% confidence level and a 5% margin of error.

3.1 Appendix 1: Questionnaire

To see the original questionnaire and download the full survey results, please visit https://www.faasforum.eu/european-study-on-remanufacturing/
or scan the QR code.

4. Results

4.1 Respondent overview

A total of **1 109 responses** were collected from participants across 38 European countries. This sample size ensures statistical reliability, with results considered significant at a 95% confidence level and a margin of error of ±3%.

The majority of respondents were workshops (859 responses, or approximately 77%), while wholesalers accounted for 250 responses (23%). Accordingly, results pertaining specifically to wholesalers have a margin of error of ±7%, while those for workshops carry a margin of error of ±4%.

The countries with the highest response rates were Romania (186 responses), Italy (163), Poland (154), Hungary (143). Country-level analysis for these countries is statistically viable, with each having sufficient sample sizes to support a margin of error of ±8%. A more complete view of the countries where the respondents are active can be found in figure 1.

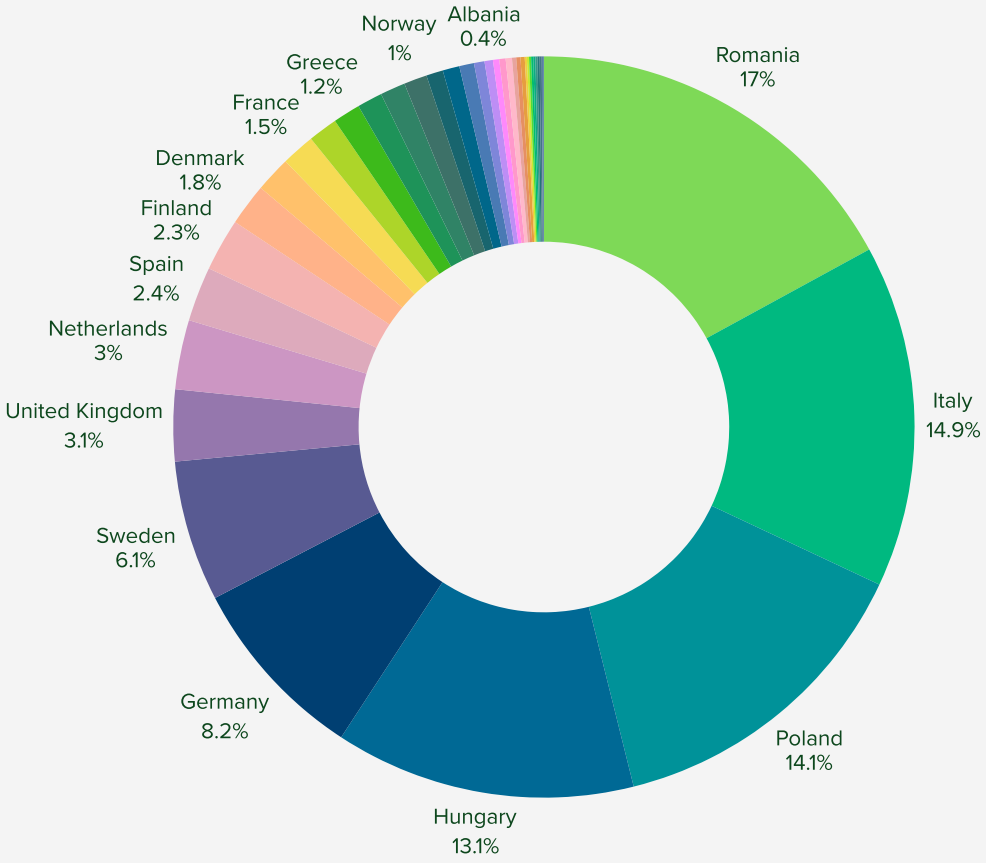


Figure 1: Respondent countries of activity (n=1 109)

4.2 Remanufactured offering

The survey results indicate strong market acceptance of remanufactured components. Nearly 85% of wholesalers report that they distribute remanufactured parts, and 90% of workshops confirm that their preferred wholesaler offers such products. Workshops consistently report having the choice between remanufactured and new components for their customers. Furthermore, 92% of workshops state that there are specific situations in which they actively choose to offer remanufactured parts.

Remanufactured components represent a notable portion of company offerings: approximately 18% for wholesalers and 24% for workshops. Over the past 2–3 years, 30% of respondents observed an increase in demand for remanufactured parts, a trend consistent across both wholesalers and workshops. While the majority saw stable demand, a decline was reported by a minority, more frequently among wholesalers (12.5%) than workshops (5%).

More than half of the respondents express intentions to expand their remanufactured offerings in the future, with interest stronger among workshops (58%) than wholesalers (49%). Some respondents noted specific conditions under which they would consider expanding, aligning with the opportunities discussed in Section 4.4.

The most commonly offered remanufactured product categories among wholesalers and workshops are presented in Figure 2.

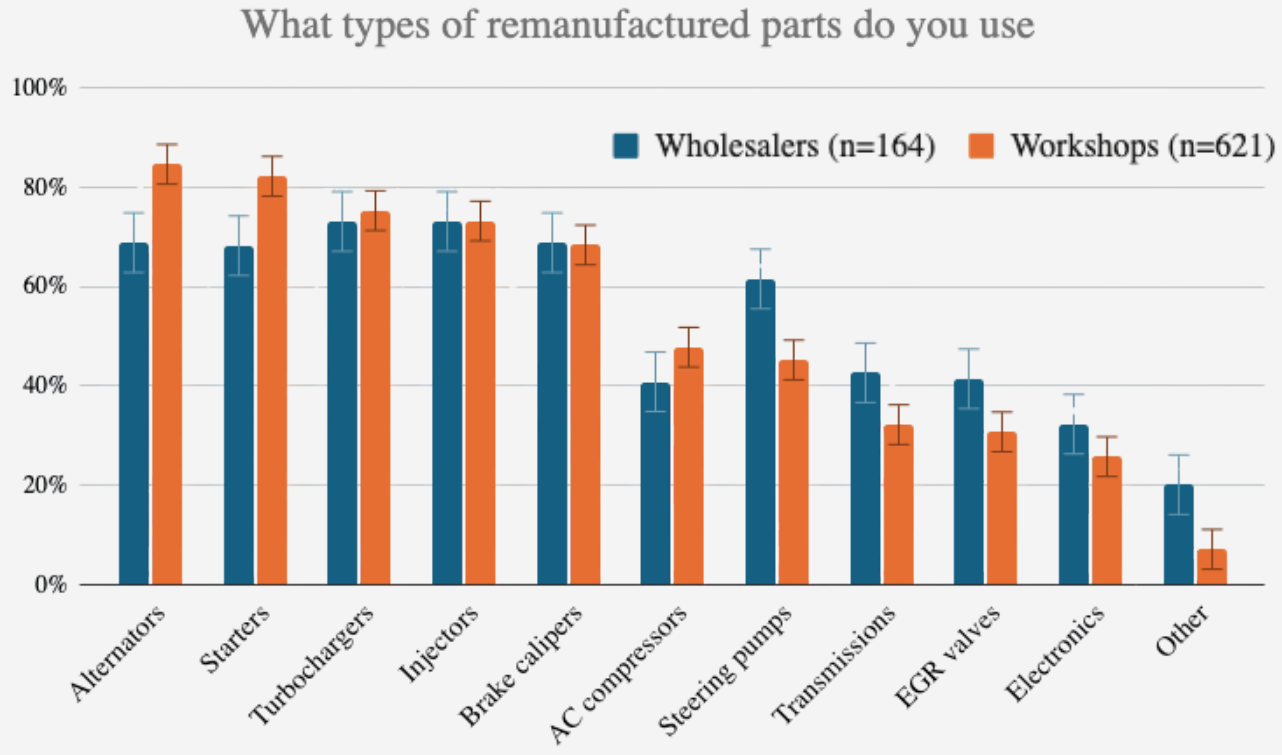


Figure 2: Respondents considering the remanufactured offering per product category

4.3 Perceived Barriers

More than two thirds of respondents face challenges in offering or using remanufactured parts. These barriers fall into four broad categories: availability, logistics, customer-related issues and supplier-related issues. The frequency with which these barriers are mentioned is represented in figure 3.

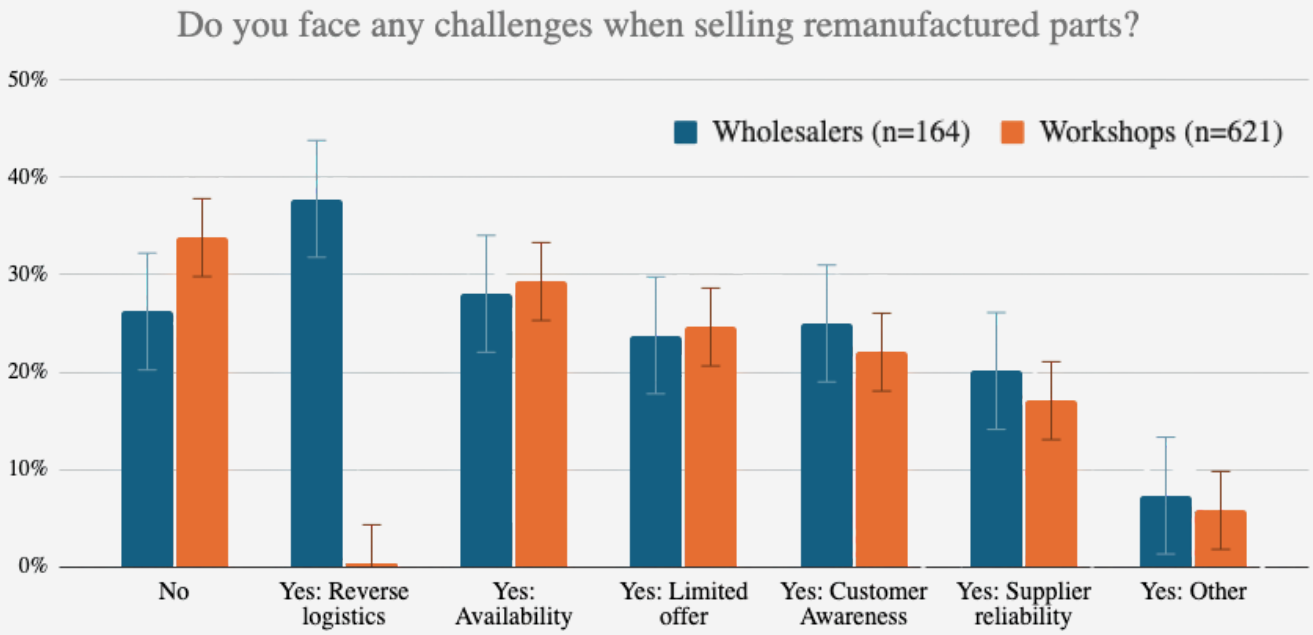


Figure 3: Perceived barriers

4.3.1 Availability

Limited product availability is the most commonly cited barrier. When asked about this barrier, respondents point to two main issues: remanufactured alternatives do not exist for certain parts (24%), and remanufactured products are not available when needed (29%). These challenges are reported at similar rates by both wholesalers and workshops.

Among workshops that currently do not use remanufactured components, 39% say it is because their wholesaler does not offer them.

4.3.2 Logistics and Core Management

Core management is a significant issue for wholesalers. They face the final risk that a core they accept from their customers is in turn not accepted by the supplier of remanufactured products. One wholesaler describes the improvements requested:

"[...] better information in images and text on the exclusion criteria for deposit refunds by individual manufacturers."

Workshops rarely mention this as a barrier.

4.3.3. Customer-Related Issues

A lack of customer awareness and understanding hinders adoption in some cases. 25% of wholesalers and 22% of workshops who offer remanufactured components say their customers are unaware of the remanufactured offering. Workshops mention the end customer often does not understand the process of remanufacturing and its quality proposition.

Among the limited subset of wholesalers that do not offer remanufactured parts, 50% cite the lack of customer demand as the primary reason.

4.3.4. Supplier-Related Issues

Wholesalers and workshops both identify supplier reliability as a barrier to remanufacturing, though they interpret this issue in distinct ways. Comments from wholesalers highlight concerns about the unpredictability of core acceptance by suppliers, who serve as their clients in the reverse logistics process. In contrast, workshops focus on the quality problems they have experienced when installing remanufactured components, suggesting that reliability from their perspective relates more to product performance than process consistency.

4.4 Perceived opportunities

Despite the barriers, respondents identify several clear opportunities to expand the adoption of remanufactured parts, grouped into four key areas.

4.4.1 Communication and Marketing

Effective communication is seen as critical to increasing awareness and trust in remanufactured parts. Many wholesalers call for a central marketing campaign, including industry testimonials. Better catalogue visibility of remanufactured options is also requested.

When asked how remanufactured components should be marketed, wholesalers suggest emphasizing the key benefits of remanufactured products. These include the price advantage (24 mentions), product quality (19 mentions) and sustainability benefits (14 mentions). Only one respondent suggested that remanufactured parts should not be labeled as such in communication. Figure 4 shows how wholesalers and workshops estimate these key benefits.

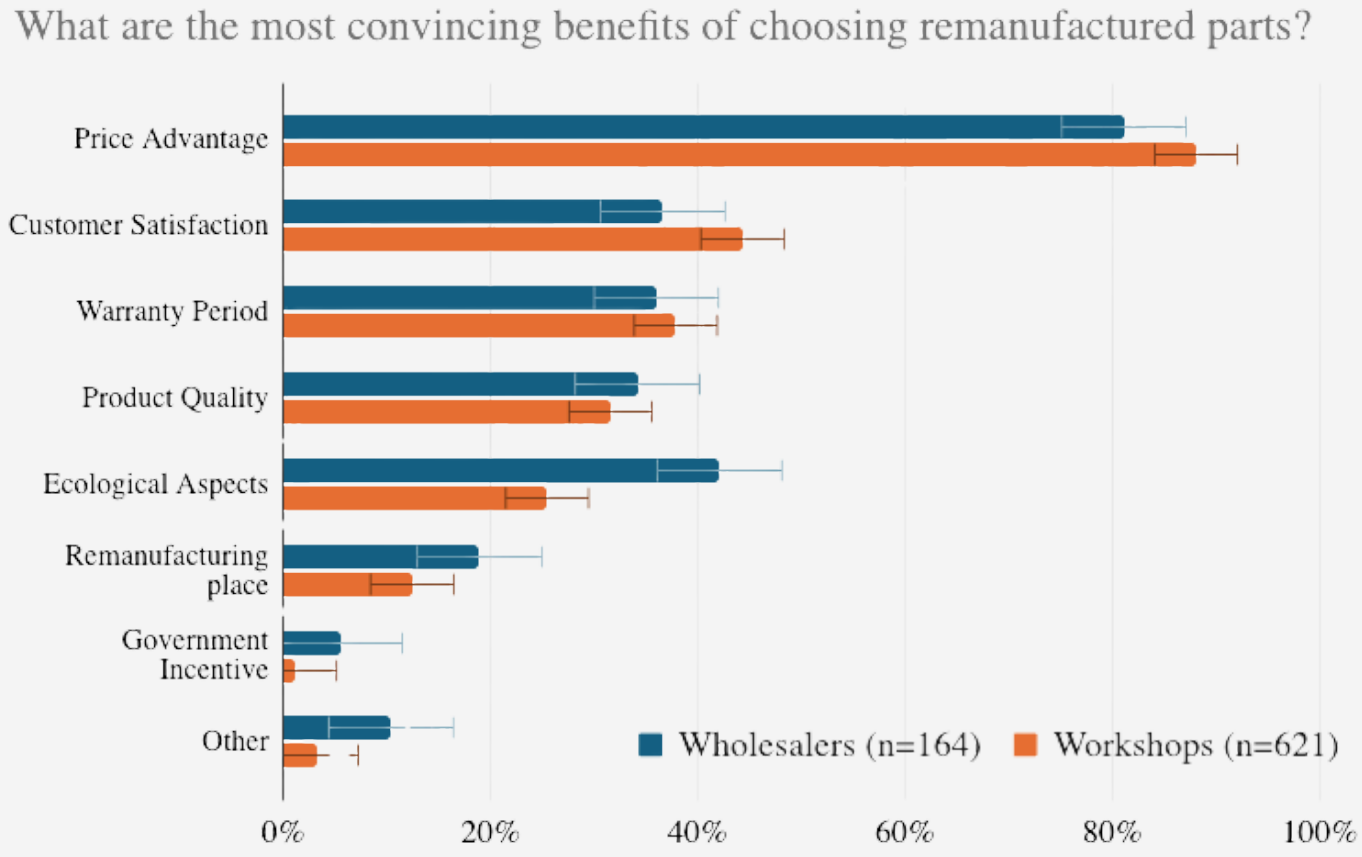
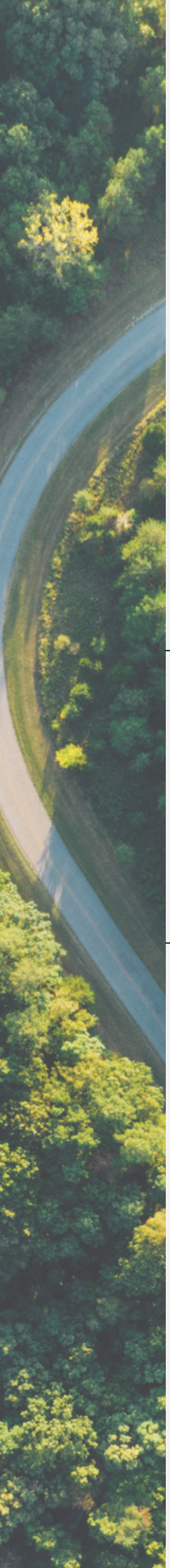


Figure 4: Perceived benefits



Pricing

Price advantage is the most commonly cited reason for offering or using remanufactured components. This view is consistent across both wholesalers (81%) and workshops (88%). When asked what could increase their interest in remanufactured products, 85% of respondents identified a greater price difference compared to new products as the most influential factor.

Workshops who do not offer remanufactured components mention ‘Better pricing’ as the main factor that would encourage them to start offering remanufactured parts. One wholesaler explains the situation as follows:

“*If the distributor is efficient and has the logistics in place, independent workshops don't put up much resistance to the use of remanufactured parts. Of course, they prefer new parts and T1 brands, but whenever there is a competitive difference in price, they don't stand in the way of using this type of part [...].*”

Quality

Beyond pricing, respondents indicate customer satisfaction (43%), warranty period (37%), and product quality (32%) as the most influential factors to choose the remanufactured offering. Wholesalers mention communicating on testimonials, warranties and brands of the original component manufacturers could help boost the quality perception of remanufactured components.

Sustainability

The survey results show wholesalers place more value on ecological benefits than workshops do (42% vs. 25%), highlighting a possible divergence in priorities between supply chain actors.

When asked if eco-friendly options matter for their clients, 56% of wholesalers and 82% of workshops believe sustainability is a relevant argument. However, actual communication of CO_2 benefits remains low: only 42% of wholesalers and 39% of workshops actively highlight these environmental advantages.

Notably, 80% of workshops offering remanufactured parts feel they have the necessary information to promote them as an eco-friendly choice. Still, 26% of all respondents ask for more support in marketing and communication, and 21% request clearer information about CO_2 savings.

4.4.2. Core Management Improvements

While reverse logistics for used parts poses no significant challenge for workshops (0,7%), core management remains a considerable hurdle for many wholesalers (24%). This issue affects both internal financial and logistics processes, as well as the perceived complexity of returning cores to their various suppliers of remanufactured products.

A simplified, fast, and transparent handling of core reverse logistics is widely regarded as a key enabler for increasing the market share of remanufactured products in the automotive aftermarket, as indicated by 27% of workshop and 43% of wholesalers.

4.4.3. Expanding Product Range

When asked how to better market remanufactured products, many wholesalers mention they want to cover a wider product range. They specifically request a wider vehicle coverage, and a bigger stock availability. Some wholesalers believe that the demand is there to justify expanding the range. As one explains:

“The competitive situation demands the use of reman items. We need to have them because our customers would otherwise buy them elsewhere.”

Among workshops that currently do not use reman parts, over one-third say they would adopt them if their wholesaler made them available.

Some respondents suggest specific product categories for which they would like to see the remanufactured offering expand. Electronic components such as sensors, computing units and lighting are most often suggested (9 mentions). High-voltage components such as traction batteries or electric motors are also frequently mentioned (7 mentions). Other cited systems are: Braking, gearbox components, engine parts, steering parts, and AdBlue

4.4.4. Regulatory and Sectoral Support

Some respondents advocate for policy interventions, such as tax incentives for using remanufactured parts or obligations for workshops to offer remanufactured alternatives. These obligations could be either regulatory or client imposed, as workshop mentions:

“*Insurance companies force us [to us remanufactured parts].”*

Wholesalers also note that if such legal or sector-wide initiatives exist, they should be clearly communicated to ensure awareness and adoption.

5. Discussion

The findings of this study indicate that most wholesalers and workshops already make use of remanufactured parts, either by selling or installing them. This indicates that remanufactured components are accessible within the supply chain and are being actively adopted by existing clients. Consequently, for FAAS members aiming to further increase the use of remanufactured parts, efforts should focus on deepening adoption among current clients, in addition to expanding the overall customer base.

Survey responses show that if remanufactured alternatives are available at a competitive price, most wholesalers and workshops are interested in using them. However, the remanufactured offering is not always broadly available. This lack of availability could be explained by absences of a remanufactured alternative, or stock depletions throughout the value chain.

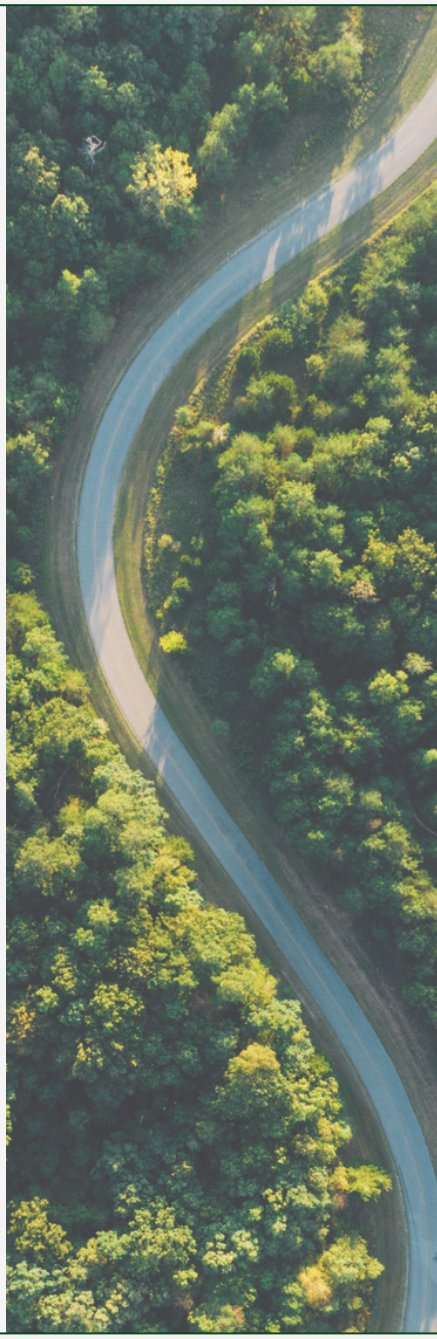
Wholesalers often face challenges related to core management. They often perceive the added stock and financial risks associated with core handling as a barrier to including remanufactured parts in their portfolio. To reduce this burden, wholesalers express a need for more efficient core management systems and clearer core return criteria, which could help streamline operations and encourage a broader offering.

The final decision to use a remanufactured component is made at the workshop level. A targeted campaign is suggested to motivate workshops to choose remanufactured alternatives. When marketing remanufactured components to workshops, the price aspect is the most persuasive proposition. The survey clearly identifies competitive pricing as the primary driver behind the decision to choose remanufactured alternatives. While product quality and sustainability aspects are also factors, they play a secondary role in the part selection process. A holistic message focusing on the reduced price for the same quality and more sustainable offering compared to new components could motivate workshops to choose more remanufactured parts.

Most workshops acknowledge that environmental benefits matter to end consumers. However, the sustainability aspects of remanufactured parts are rarely communicated to the end-user. This disconnect likely stems from the fact that component choices are typically made by the workshop, without input from the consumer. As such, sustainability considerations are deprioritized.

Finally, respondents report no regulatory obstacles to the use of remanufactured components. However, a few participants suggest that advocacy efforts targeting institutional stakeholders could further promote the adoption of remanufactured alternatives by creating a more supportive policy environment.

Several limitations should be acknowledged in this study. First, there is a potential selection bias, as respondents were contacted through a FAAS-member in their network. This may have influenced the pool of participants and limited the diversity of perspectives, resulting in higher remanufactured market shares than other studies report. Relatedly, this method of recruitment may have led to a misrepresentation of geographic markets, as the distributors' network might not fully reflect the broader market landscape. Additionally, a self-selection bias may be present due to the study's clear focus on remanufacturing. Respondents who view remanufacturing favourable may have been more likely to answer, potentially skewing responses toward more favorable views and experiences with remanufacturing. Finally, the exploratory nature of the study means that while it successfully identifies potential barriers to remanufacturing, some findings are not statistically generalizable. Further research is needed to quantify these barriers and assess their significance across different contexts, as well as to identify potential solutions to the barries.



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7. Glossary

All terminology is based on (APRA, 2012).

Core	The basic, essential or most important part; the used product which is returned.
Deposit	A sum of money given as security for an item acquired for temporary use. The deposit is a price condition.
Remanufacture	The process of returning a used product to at least its original performance with a warranty that is equivalent or better than that of the newly manufactured product.
Repair	The process of returning a faulty or broken product or component back to a usable state.
Spare part	Replaceable component, sub-assembly and assembly identical to and interchangeable with the item it is intended to replace.

Forum on Automotive Aftermarket Sustainability

Driving Sustainability in the Automotive Aftermarket

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