

AVAILABILITY AND ADEQUACY OF PARTS IDENTIFICATION DATA IN THE INDEPENDENT AFTERMARKET

A SPECIAL REPORT BY ICDP, COMMISSIONED BY ACEA

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European
Automobile
Manufacturers
Association

THE AIM OF OUR STUDY

ICDP, the world's leading research-based organisation focused on automotive retailing and aftersales was commissioned to provide a neutral assessment of how effectively the independent sector manages to identify its parts needs today, and whether the task will get more difficult in the future and if so, is the commonly-proposed solution of a cross-brand data exchange standard still appropriate? The study was partially funded by ACEA, but editorial control remained wholly with ICDP.

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HOW DO
INDEPENDENT
REPAIRERS
IDENTIFY THE
PARTS THEY NEED?

WHAT ARE THE
OBSTACLES TO
ACCURATE
IDENTIFICATION?

CAN IMPROVED
ACCESS TO OEM
DATA MAKE THE
TASK EASIER?

IS A COMMON DATA
STANDARD
REQUIRED?

EXECUTIVE SUMMARY

Car manufacturer authorised repairers (AR) and independent repairers (IR) depend on being able to identify the parts that are needed in order to carry out a service or repair. ARs rely on the support of their manufacturer (OEM, or Original Equipment Manufacturer) and IRs draw on a range of resources, including parts distributors (PD), data publishers and sometimes OEM-provided catalogues. The independent aftermarket (IAM) believes that growing levels of vehicle complexity are making this task harder. They see a need for a regulatory solution to safeguard their market position, by giving them improved access to OEM parts identification data. The OEMs counter that they have long been shown to be providing equivalent access to that enjoyed by their own franchised networks.

Our research found that IRs prefer to order parts by phone and the identification process usually becomes the responsibility of their PD. Most PDs draw on catalogue providers and data publishers to identify IAM parts. Despite a steady improvement in catalogues, the IAM stakeholder consensus is that growing vehicle complexity is now starting to outstrip the ability of their databases to identify a part. To overcome this increase in complexity, we found a consistent view that an ideal starting point for parts identification is the car's vehicle identification number (VIN). This should provide a direct link to the OE-numbers of all parts fitted to the car and which they could use to find an IAM equivalent part. IAM stakeholders point to a lack of VIN format standards across OEMs, data usage restrictions and licence costs as some of the barriers to such a process. However, we understand that OEMs struggle themselves to maintain this type of VIN to OE-number process, even for internal needs. OEMs are also concerned about potential data protection issues if VIN-derived data was supplied to a third party without the explicit consent of that data's ultimate owner i.e. the car owner.

We examined the proposed solution of a cross-brand common data exchange standard giving the IAM neutral access to standardised data across all OEMs in a single format. We concluded that it would not prove to be a panacea in practice. The standard would be extremely complex to implement, and may be unnecessary in any case if improved systems integration capability was used based around common access protocols (APIs) rather than standardised data. Such a standard would go beyond the core requirement of providing data access on an equal basis to OEM-franchised and IAM operators alike, by effectively providing an OEM subsidy through the standardisation to those operators in the IAM who choose to provide a cross-brand service. It would also risk creating different types of competition problems if its effect were to concentrate market power in the hands of third party 'data gatekeepers'.

In conclusion, we established that the IAM has developed a variety of strategies for handling the parts identification task, but that these are being stretched by growing product complexity. The transparency of the full VIN linked to OE-numbers would be beneficial to the IAM, with the interpretation and cross-brand aggregation managed as it is today by specialist data publishers, funded by their subscribers.

THE AUTOMOTIVE AFTERMARKET IS A FIERCELY COMPETITIVE BUSINESS. AND, IN ORDER TO REPAIR A CAR, YOU NEED THE RIGHT SPARE PART

The aftermarket is vital and required to keep the millions of cars on Europe's roads maintained, repaired, and safe. This responsibility is shared between the OEM-authorised repairers (AR) and independent repairers (IR). There is fierce competition between all workshop formats and aftermarket players. Historically, competition between the franchised and independent aftermarket sectors has generally been delineated by age of car. However, in recent years, this picture has become increasingly blurred, as authorised repairers have sought to retain older cars, and the independent sector has targeted younger cars.

At the same time, the IAM parts distribution sector has itself seen a considerable amount of change, with consolidation and the decline of traditional second- and third-level distribution structures in many countries driving the growth of larger players with scale presence across their markets. The overall picture of the distribution flow of parts across the "two worlds" (OE-parts and IAM) is complex.

Besides these changes in the market environment, the task of maintaining and repairing a modern car is an increasingly complex business for the repairer. In addition to traditional mechanical repairs, electronics complexity is growing and drives higher skills requirements. There is an increased number of car models with many more variants within a model range than a decade ago including significant mechanical and systems variations. This requires more training, product, diagnostic and repair know-how for repairers. This situation can be translated into three challenges for repairers when a car enters any workshop:

1. How to identify any faults on the car, some of which may not be immediately apparent to the driver or technician?
2. How to identify all the spare parts that are needed to service or repair the car and rectify any faults?
3. How to carry out the service or repair itself?

This report focuses on the second challenge of the three and considers how the independent sector represented by repairers who are free of any contractual tie to a specific OEM brand and their parts distributors identify all the spare parts that are needed to service or repair the car that stands in the workshop.

Comparing a truly independent repairer with an AR, the latter form part of the OEM's network and represent the OEM's brand. As part of their franchise agreement, ARs have ready access to the resources for parts identification of their OEM(s) for the brands of car they represent. In contrast, IRs typically work across multiple brands. For them it is necessary to be able to identify the parts needed for potentially any car model of any brand that enters their workshop. Access to parts identification resource is a vital element to enable this competitive offer. This right of access to relevant OEM resources is covered by European-level regulation, aimed at preserving level competition for any repairer. EU-Regulation 715/2007 and 692/2008 (also referenced in the Block Exemption 461/2010) requires open and standardised access to repair and maintenance information (RMI) for independent aftermarket operators. As a consequence, OEMs have been refining their RMI approaches over many years, mainly through offering subscription websites to OEM branded parts catalogues. It is the view of the OEMs that they fully provide this equivalent access to parts identification resources for their respective brands to the independent aftermarket. Even so, the collective independent aftermarket sector lobby (which brings together repairers, parts distributors, parts catalogue publishers, and others) has maintained for some time that current levels of access are both inferior to those offered to OEM-authorised repairers, and also insufficient for their purposes.

This study set out to provide a neutral assessment of how effectively the independent sector, and in particular the independent repairers and parts distributors, manages to identify its parts needs today, and whether the task will get more difficult in the future.

HOW DO INDEPENDENT REPAIRERS IDENTIFY THE PARTS THEY NEED?

The independent repairer sector is made up of a wide variety of repair formats, from multi-outlet autocentre, fast fit chains, independent repairers right down to individual technician owner-operators. Their degree of sophistication and of functional specialisation therefore varies substantially. Generalisations around capability or process therefore need to be seen within this context, but nevertheless, there are several consistent reasons why a pure independent repairer might not be able to complete a service or repair job. The majority of IRs service and repair cars older than 4 years. This means, that new car technologies arrive at independent repairers later than in the ARs. In the past IAM suppliers and service providers have always found a way to supply IRs with the right technology to service and repair all cars as they start to enter their business mix. In our survey of 900 IRs across six markets (EU5 plus Poland), we found that 45% of those interviewed said that they are not able to repair all cars and the instances where this was the case was equivalent to 4% of their monthly jobs. We also asked what the main reason for this was and 6% cited difficulties in parts identification. Considered on the basis of all IRs, this suggests that parts identification reasons affect only 0.1% of total jobs (45% x 4% x 6% (see Figure 1). However, there is the possibility that a job refused by one IR would be acceptable to another more capable IR, so this work does not necessarily end up in an AR.

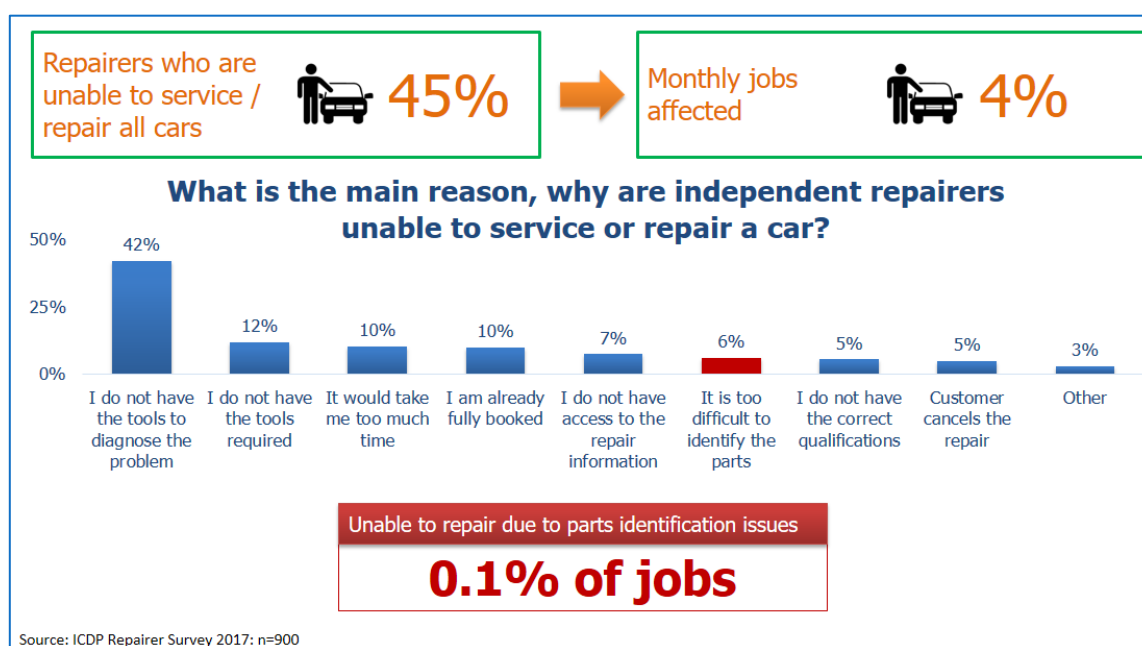


Figure 1: Repairers who are unable to service or repair all cars

When it comes to parts ordering, IRs typically pass the burden of parts identification on to the independent parts distributors they buy from. This is not just because of the complexity of the identification task, but also for reasons of simple preference and practicality, in particular because the majority (76%) of independent repairers surveyed prefer to order by phone in a traditional manner, rather than relying on online parts catalogues. This is also reflected in the opinion of managers of parts distributors that we interviewed separately. These managers do not expect that this behaviour by IRs will change significantly in the short to mid-term (see Figure 2).

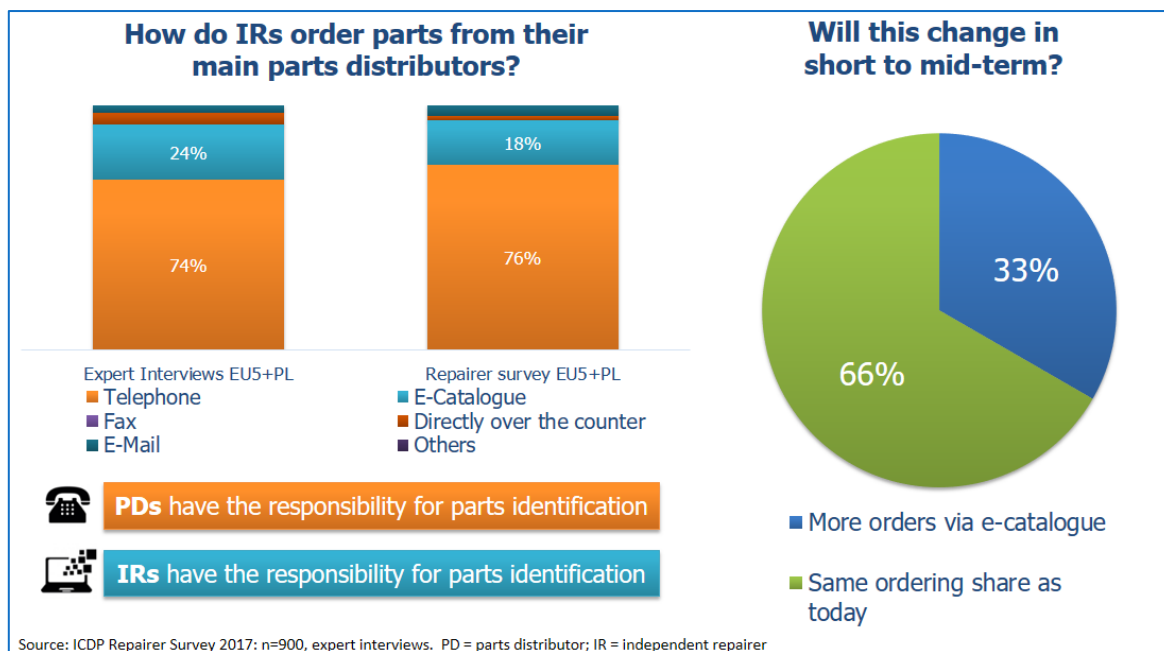


Figure 2: How do IR order parts from their main parts distributor

For those IRs who mainly favour using an e-catalogue system (18%) to search for the vehicle and identify the parts by themselves, a significant share of 45% use more than one e-catalogue system. They see advantages of using this technology and like to compare parts distributors' offers to guarantee prompt delivery and get competitive price comparisons. However, there are always parts that are difficult to identify, and repairers lack the experience and familiarity of the distributors in interpreting the catalogues. 79% of IRs who use one catalogue and 55% who use more than one catalogue, call their main parts distributor when they are unable to identify a part (see Figure 3).

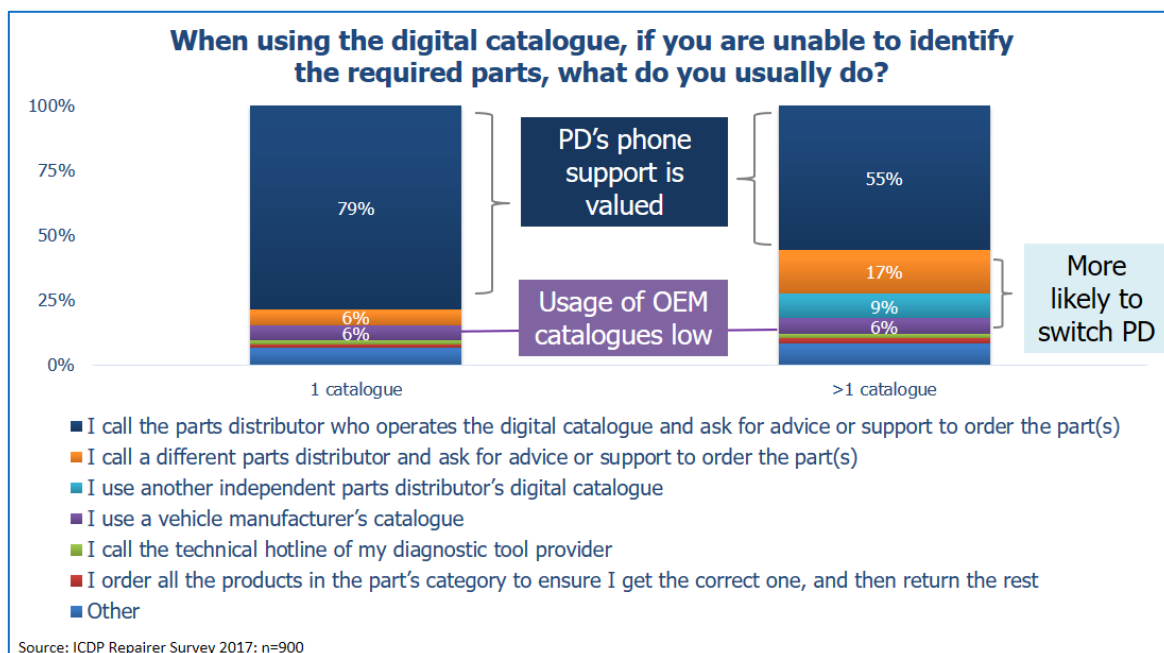


Figure 3: When using the digital catalogue, if you are unable to identify the required parts, what do you usually do?

PD managers interviewed told us that they use the same system as the IRs and face similar challenges. The feedback from the IRs proves that a seamless identification process is not guaranteed for all vehicles and the parts distributors' experience and support is still valued. If a repairer has difficulties in this process, they are likely to switch PD. Therefore for parts distributors, this parts identification process via a catalogue system or telephone is essential for good customer service and retention.

Any failures in the effectiveness of parts ordering processes can be seen in the rate of parts returned to the independent repairer's main parts distributor. The average return rate quoted by repairers in our survey is 9%. This is consistent with the 7% return rate quoted by parts distributor managers. Of all returned parts, 77% of them (indicated by the dark blue bars in the chart) are returned due to the wrong part having been delivered, but this could be due to multiple factors and includes failures by both the IR and PD. For example, it includes 13% where the IR deliberately orders multiple parts to be sure of having the correct one, cases where the PD does not have all the information they need for a correct identification, the IR providing incorrect information, simple 'picking' errors at the warehouse, or other process failures (see Figure 4).

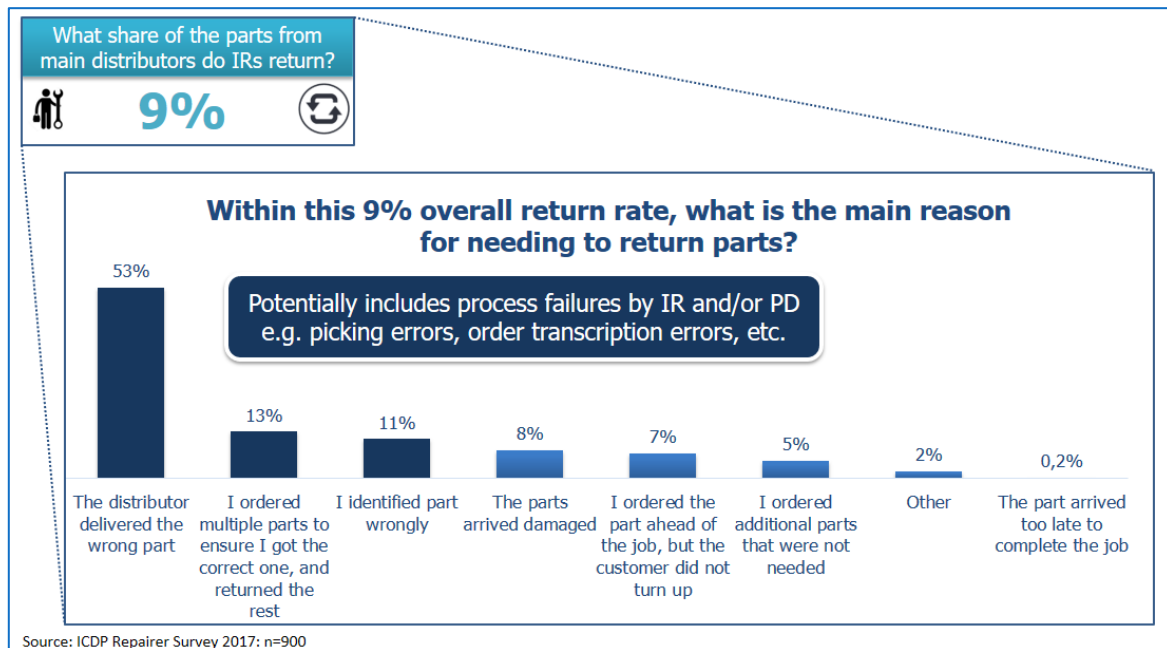


Figure 4: What is the return rate and what is the main reason for needing to return parts

To identify the parts, PDs draw on cross-brand catalogues developed by specialist catalogue providers who assemble the relevant parts information from data publishers. Additionally, to ensure correct parts identification, a few more advanced firms supplement the database with further information from original equipment parts suppliers (OES), additional, specialised data publishers and workflow specialists, and sometimes the OEMs themselves through their subscription databases.

The leading data publishers and catalogue providers (and even some individual parts distributors, who have developed their own catalogues) have worked hard to improve their internal processes and database architectures to combine such additional information sources, all aimed at improving data accuracy. Thanks to the availability of improved information presentation, visualisation, and animation tools, the quality of these catalogues has improved in recent years. The majority of distributors commented that, thanks to better catalogues, it is actually easier than it used to be to find the parts they want.

Looking down to the repairers themselves, these distributors' comments are reflected in the majority view (56%) that there has been a reduction in the return rates of parts going back from repairers to the parts distributor for whatever reason (see Figure 5). A further third do not feel that there has been any change in return rates. Together, the data suggests that overall accuracy throughout the whole independent parts supply chain has improved in recent years.

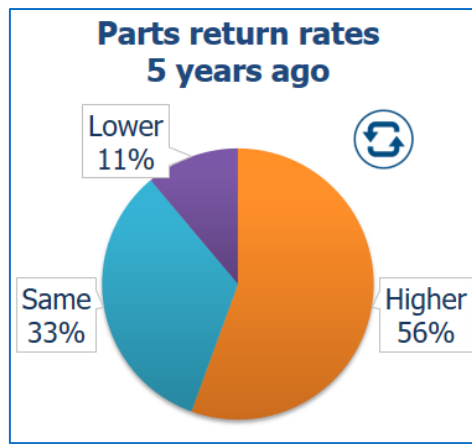


Figure 5: Expert estimation - Parts return rate 5 years ago

However, the view of the catalogue providers and some parts distributors is that an increase in car and component complexity is now keeping pace with, and in some cases outstripping, the ability for both them and the data publishers to improve their systems, chiefly because of a growing difficulty in being able to unequivocally identify a car and its components.

WHY ACCESS TO OEM DATA IS BECOMING MORE IMPORTANT

In most cases, it is the responsibility of the PD to identify the correct OES part. PDs rely on the independent cross-brand catalogue providers to provide the linkage between vehicle and parts identity. Most catalogue providers drawn on the data publisher TecDoc. TecDoc is the most widely recognised data publisher and has developed a de facto European reference standard for part identification. TecDoc's database aims to be able to identify, manage, and maintain most vehicles and IAM parts data correctly.

Behind one TecDoc reference number for one part sits multiple OES numbers from each supplier offering the specific part for this car. TecDoc relies on information provided from OES, who are continuously matching the TecDoc reference numbers with OE- and OES-numbers. Over the lifecycle of a vehicle, an OEM changes some parts and their related part numbers due to new technical requirements, engineering changes, change of part supplier or other reasons. This drives the need for the OES to maintain their matching procedure, providing new information to the TecDoc database corresponding to the OEM changes. In addition, parts distributors need to organise their own catalogue system to keep them up-to-date with their own internal numbers. It is common that behind one TecDoc reference number lies multiply parts numbers reflecting the outputs of these processes, and those numbers need to be organised and maintained by the parts distributors' catalogue provider (see Figure 6).

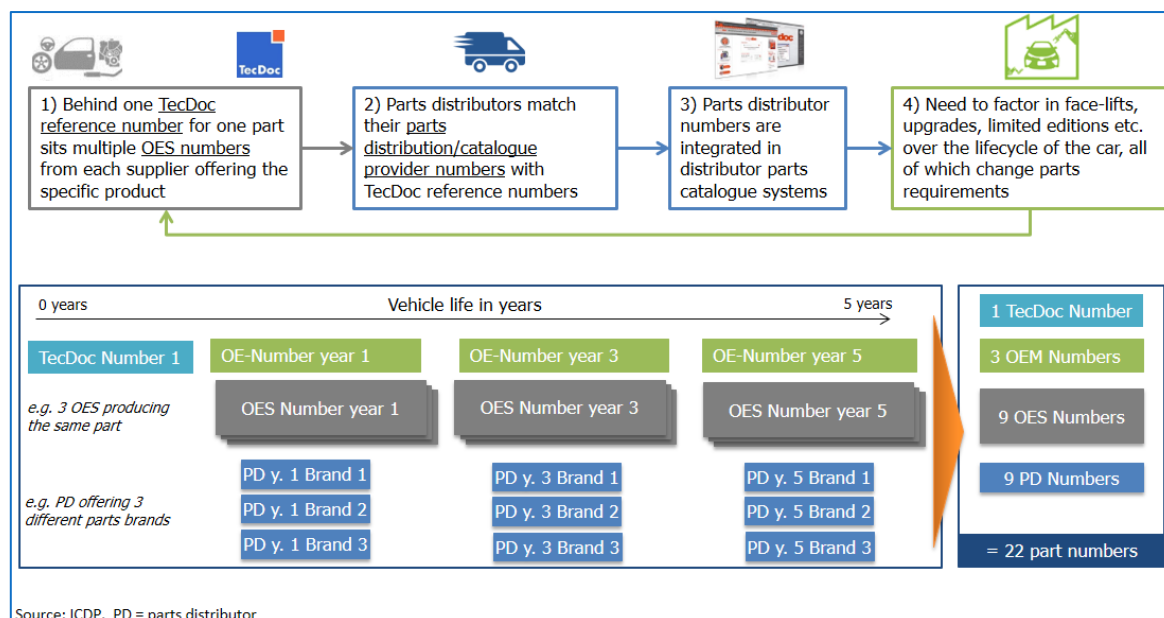


Figure 6: Data management

This approach and the data publisher's database worked in the past and is still working most of the time to identify vehicles and parts. However, our IAM research respondents were clear that growing car and component complexity is starting to expose the limitations more and more frequently of parts distributors catalogues based on the TecDoc standard. This complexity can be seen by the dramatic expansion in new car product variety offered over the last two decades. Each build combination has the potential to draw on new unique parts that need to be reflected in another part requirement with a new OE-number and consequently, also reflected in parts catalogues. Now, it is increasingly difficult to clearly identify the correct spare part. This increases the risk of mis-identification when using IAM catalogue systems.

For instance, a vehicle may require different brake pads depending on the options it has fitted – even in the same car/model/variant category of TecDoc database. PD catalogues show all relevant brake pads options under one category because the TecDoc database has limited sub-categories and cannot display every single variant, special edition, upgrade etc. In this case, and if available, the technical description of each brake pad

needs to be read carefully, to select the right part. If the identification is not clear, then it becomes necessary to use an external system

If PDs are using other systems, they are mainly used to identify the OE-number and afterwards PDs use their catalogue search function to match the OE-number with an equivalent IAM part. There are various systems available for sourcing OE-numbers: OEM catalogues, OEM catalogue aggregators (e.g. partslink24) and crash repair estimation tools. The PDs as users have the possibility in these systems to click through the bill of material or use the VIN-number to clearly identify the car and find the specific OE-number of the needed part.

PDs comment that IRs use the VIN more often than in the past. Using phone order data as an indicator, it appears that VIN-level data is required in 25% of cases. This might be due to the repairers' normal ordering behaviour or indicates that the repairer already knows that the parts are not easy to identify and proactively gives the PD the VIN-number.

The growing use of VIN-number as a starting point for parts identification then hits barriers at the PD level due to limits in functionality. Depending on PD's catalogue system some can use the initial standardised digits of the VIN to "shortcut" through to search in their existing database. However, not all PDs have incorporated this minimum VIN search function and even when using this method there remains the risk of mis-identification.

We see the most efficient way to cope with current levels of car model complexity is to use the complete 17-digit VIN. In principle, this could be linked back to OEM data, to show OE-numbers of all the parts fitted to the car. There are only a few examples of databases with this capability, including those developed in the crash repair estimation sector. Although the structure of the VIN is covered by ISO standard 3779, a data publisher told us that the VIN is not standard across OEMs, either in number format translation, or in the level of detail on installed components that then can be accessed. Faced with such barriers, data publishers have been working to achieve a cross-brand standardised database. However, this kind of full VIN-based database search functionality is not yet widespread amongst parts distributors, attributed to contractual restrictions around data usage imposed on the data publishers by the OEMs as well as high licence costs charged by the publishers to the parts distributors. Both have been cited as obstacles to greater take-up by our interviewees.

There was consensus amongst our parts distributor interviewees that the car's VIN, and ideally in full 17-digit format, should play a central role in supporting more accurate vehicle and parts identification in the IAM in the future, and in our opinion, this position is a logical one.

However, there are a number of practical and legal challenges to be overcome for this to happen. For example, the VIN is not standard across OEMs, either in the format of the digit string itself, or in the level of detail on installed components (OE-numbers) that can then be accessed once the VIN is deciphered. Within some individual OEMs, the structure has also changed over time. This reflects not only different approaches, but also differing levels of systems development and data integration within the core corporate systems for different OEMs, and this would not be an easy matter to resolve.

There is also a view from some OEMs that the VIN-data may be classed as personally-identifiable data within the meaning of the General Data Protection Regulation, especially if it were combined with other available information to reveal the identity of the car's owner or driver. This raises the possibility of legal challenges by owners if this data was made available on a general basis to third parties, including data related to owners who had no interest in buying parts through the IAM, as well as those who did. Under these circumstances, it is the OEMs' view that releasing the full VIN details to an independent operator who did not themselves have the consent of the data's ultimate owner for subsequent processing would be a potential breach of the data protection regulations. Mechanisms would need to be put in place to ensure correct handling of the VIN and related data on a vehicle by vehicle basis.

We therefore believe that, whilst in principle using the full 17-digit VIN would make a definite contribution towards more accurate parts identification, it cannot solve the IAM's challenge altogether. Data publishers, catalogue providers, parts distributors, and ultimately repairers will still need to find ways of coping with the complexity of modern cars (including their frequent updates), of combining the information into a cross-brand offer where they need to, and of matching OE-numbers with the available independent options.

WHY A COMMON DATA EXCHANGE STANDARD WOULD NOT NECESSARILY BE THE PANACEA IT HAS BEEN HELD OUT TO BE

Parts distributors' "ideal solution" for parts identification would start with the VIN and ends with the reference IAM part. And a belief in the power of "open data" can be seen in many of the hypothetical solutions to the parts identification problem suggested by our research respondents, in which "standardised", "regular updates" and "free" were common themes. These solutions also reflect the long-standing position of European-level regulators and refers to EU-Commission Regulation 566/2011 that a common data exchange standard would help safeguard competition between the OEM and independent sides of the aftermarket.

Leaving commercial considerations and sensitivities to one side for a moment, we believe that there would be many practical obstacles to creating such a cross-brand standardised approach in the mature environment of the automotive industry. The accuracy of parts identification relies on many factors that needs to be overcome first. For the moment, there is only limited access to VIN-OE-number reference lists and no common structure, navigation, or parts description in a standardised bill of material from OEM-catalogues. In addition, parts data accuracy relies on a synchronised update of VIN-data, OE-numbers and matching of OE-numbers to IAM products, the latter the responsibility of each OES. This 'ideal' process would involve the buy-in of many parties – all OEMs, data publishers and OESs – and reconciliation of many different internal formats and standards (see Figure 7).

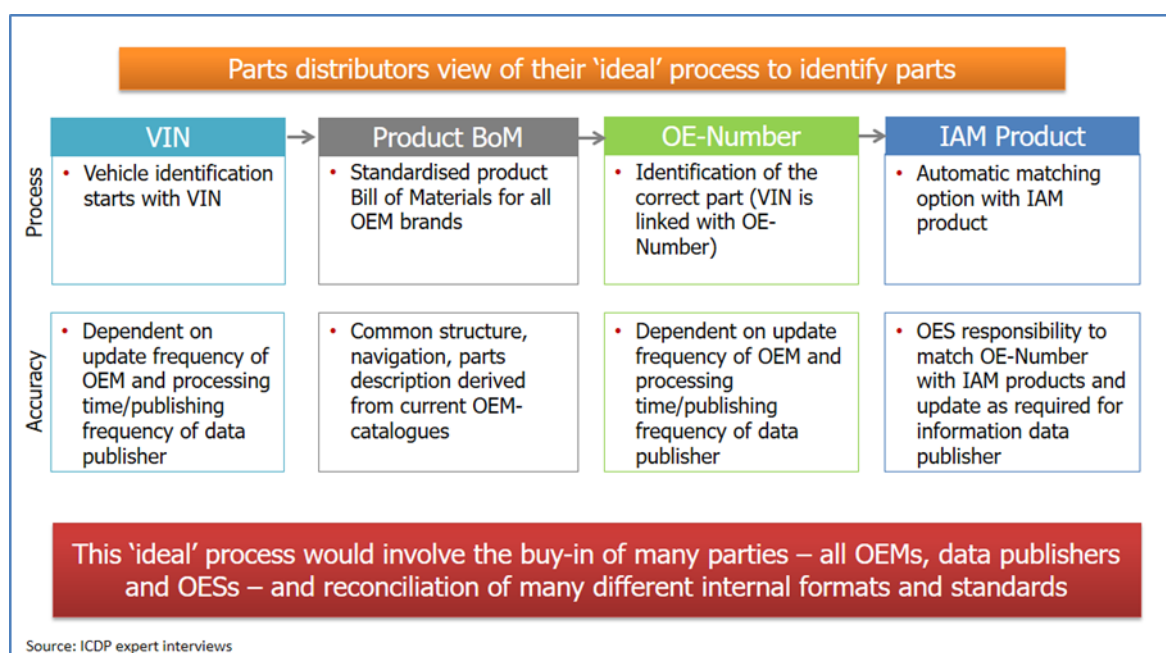


Figure 7: Parts distributors view of their 'ideal' process to identify parts

Experience from other sectors, and also from other standardisation initiatives in the automotive sector itself suggest that they can be extremely complex, time-consuming and expensive undertakings. Furthermore, insight from other sectors and applications suggests that modern systems integration capability, particularly the ability for systems to communicate and for data to flow using standard interface protocols (such as APIs) increasingly means that the underlying data itself no longer needs to be standardised, simply that the "key" which defines each dataset is available to third parties. For this reason, we suggest that some ideas around standardisation might now be outmoded, and that a study of comparable developments in other sectors might yield ideas for alternative solutions.

From a commercial consideration, a common data exchange standard would most likely not be neutral in its impact. Our view is that a common cross-brand standard, as opposed to providing access on a comparable

basis to an authorised repairer for a single brand, would be going beyond the creation of a level playing field. It would effectively involve the OEMs (who would largely have to shoulder the costs of the standards creation process) in actively supporting and subsidising a specific operating complexity of those IAM operators (be they data publishers, catalogue providers, parts distributors, or repairers) that choose to serve a cross-brand customer base. They would effectively be taking on part of the role played by data publishers. Furthermore, if poorly implemented, we see a further risk of a common standard creating a different type of competition issue, if its effect were to concentrate market power into the hands of third parties, such as the data publishers, who could act as 'data gatekeepers' between the OEM and IAM worlds.

For these reasons, we do not believe that a common data exchange standard would necessarily serve the best interests of either the OEM or the independent aftermarkets.

In today's aftermarket, the available resources and practices, both OEM- and independently-provided (and including both formal and informal channels) do enable independent repairers to identify most, if not all, of their parts needs correctly. However, greater vehicle and parts complexity is making this task more complex. Current database standards will reach their limits and parts distributors will rely increasingly often on additional sources and systems to identify a part correctly.

Our research respondents highlighted the growing interest in the car's VIN-data, and ideally in its full 17-digit format, as the foundation stone for future approaches to provide correct vehicle and parts identification. We believe that a greater degree of openness around VIN-data is desirable, but practical and legal obstacles need to be overcome, and a rigorous cross-sector approach to data protection. Any imposed solutions would need to be commercially equitable to all stakeholders (on both the OEM and independent sides of the aftermarket), and would also need to avoid the risk of creating different types of competition problem in the future.

We do not believe that a common data exchange standard would pass this test of commercial fairness. It would effectively require the OEMs to pay for an efficiency improvement (which would go beyond the requirement for equitable access for the IAM when compared with the OEM-franchised networks) for those data publishers, catalogue providers, parts distributors, and repairers who choose to maintain a cross-brand offering. This would be to the detriment of the OEM-franchised sector and effectively their customers.

Data publishers already handle the consolidation of parts identification data from multiple OEMs (in some cases already accessing enhanced levels of OEM data via the full 17-digit VIN), and provide this as a service (for a fee) to parts distributors and repairers. Given that, we do not see any added value in terms of competition in transferring this responsibility in part to the OEMs, as there would still need to be a process of matching the OE-numbers with the various available independent sources of parts.

Greater vehicle complexity is a fact of life for all operators in the sector, in both the OEM-franchised and independent aftermarkets. Greater openness of VIN-level data would help both sides to do a better job of identifying the spare parts they need. But in handling multiple car brands, and multiple independent choices for each spare part, there is only so much help that an individual OEM can offer to the IAM. We will continue to see information aggregation across OE brands and OES ranges as being a key role in enabling the independent sector to function effectively on a cross-brand basis.

METHODOLOGY AND ICDP

METHODOLOGY

ICDP conducted 21 expert interviews with parts wholesalers and distributors, parts buying groups, parts catalogue providers, and technical data publishers across France, Germany, Italy, Spain, United Kingdom and Poland. We also conducted a telephone survey of 900 independent repairers across those six markets, and spoke to aftermarket representatives of the major OEMs.

ABOUT ICDP

ICDP is an international research-based organisation focused on automotive distribution, including the supply and retailing of new and used vehicles, aftersales, network structures and operations. Through our research, consulting, and data services activities, we work with vehicle makers, dealers, suppliers, and related organisations to improve the quality and effectiveness of the retailing and aftersales model.



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