

## Remanufacturing as best practice of the Circular Economy

A Position Paper of the Automotive Parts Remanufacturer Association – Europe

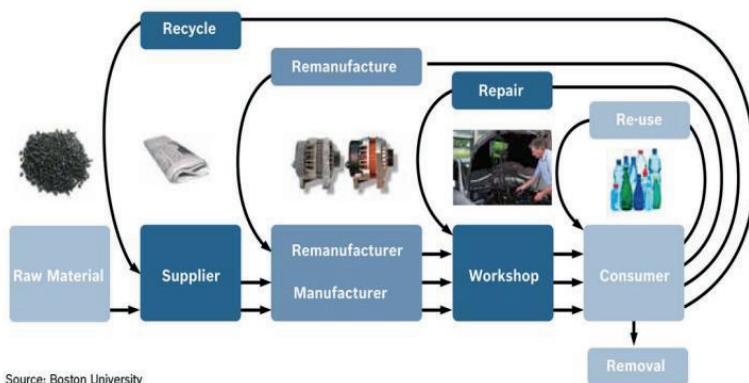
Key messages:

1. Remanufacturing is an essential part of the automotive aftermarket with growing relevance in the future.
2. A remanufactured product is a best value proposition for the end customer.
3. Remanufacturing is sustainable and reduces CO2eq at lower costs for the consumer.
4. Remanufacturing is a best practice of circular economy but needs political support.

### The importance of circular economy for the automotive aftermarket:

For service and maintenance of motor vehicles, the automotive industry has to provide the relevant spare parts to the aftermarket. These service parts have to be available for decades after the original parts were developed and produced. Market demands, even for older vehicles, quality spare parts at a reasonable price. Often, this is only possible with a remanufactured product.

Delimitation Remanufacturing vs. Recycling, Repair, Re-use



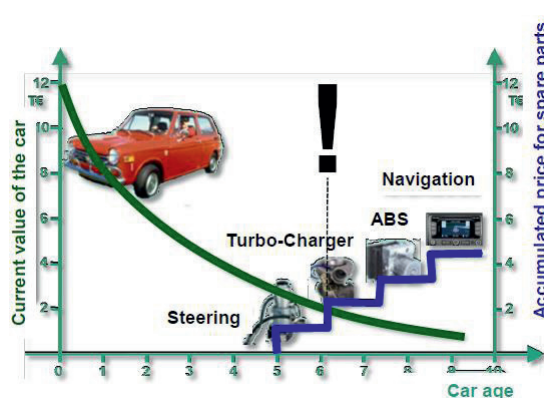
Source: Boston University

The customer has, when purchasing a remanufactured spare part, the right to return the defect used part [Core] out of his vehicle. The reverse logistic process, back to the supplier is supported by financial incentives. Cores are the raw material for the next remanufacturing cycle. Within the

European Community about 10% of the technical spare parts in the automotive aftermarket are remanufactured.

European Community about 10% of the technical spare parts in the automotive aftermarket are remanufactured.

### The automotive aftermarket and future challenges:



Motor vehicles are progressively getting more complex using specific production processes and a higher diversity of materials. Many of these specific production processes will not be available in future decades. For example today the life-cycle of semiconductors is less than the production life of a vehicle. We can expect that in the future the production costs of new spare parts will dramatically increase.

Without remanufacturing, spare parts for a reasonable price will not be available. Relatively new cars will be scraped as maintenance is getting unaffordable and prohibitive for the customer.

Today the preferred end of life treatment of motor vehicles is shredding. Actual processes are highly efficient to reach the legally

requested demands. But most of the materials besides iron, aluminum and copper are lost. Future need to recover strategic elements cannot be achieved with today's recycling technology.

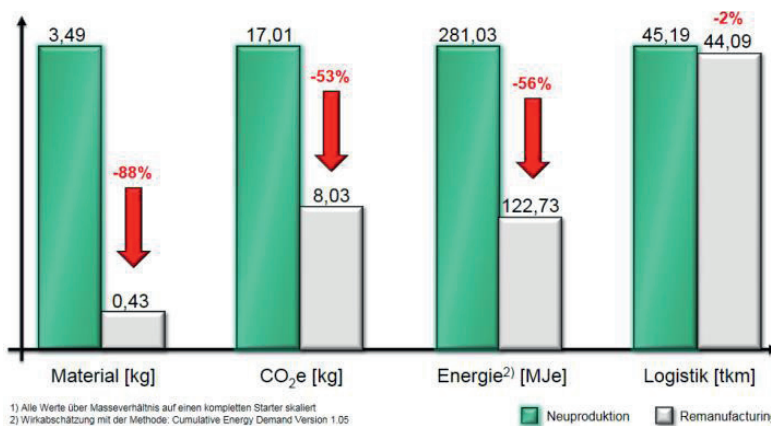


### The remanufacturing process

A remanufactured part fulfills a function which is at least equivalent compared to the original part. It is restored from an existing part (Core), using standardized industrial processes in line with specific technical specifications. A remanufactured part is given the same warranty as a new part and it clearly identifies the part as a remanufactured part and states the remanufacturer.

### Social and environmental benefits of remanufacturing

In the remanufacturing process the core (failed part) is used as raw material for the production. REMANUFACTURING has positive impacts on:



#### Environment

Reducing potential of CO<sub>2</sub> emissions by 400 kt (only EU 28).

Saving natural resources – up to 85% of raw material – using only 55% of the energy compared to that of producing a new unit.

#### Safety

Remanufactured products fulfill the equivalent function and are warranted as the “original product”.

#### Employment

32,000 jobs are offered (only EU 28).

#### Economy

Best choice for the end user by offering the

best quality at a reasonable price compared with a new unit.

### How to make circular economy fit for success – policy recommendations

- The used part, intended to be remanufactured [Core], is the raw material for remanufacturing. This core should be handled and declared as valuable raw material within reverse logistics. An official guideline for transport and customs declaration is missing.
- The reverse logistic process is supported with financial incentives, a surcharge. Various tax authorities are tempted to consider the core surcharge as an income, turnover. If we are committed to the circular economy surcharges should be free of tax / VAT.
- Cars have become more and more „computers on wheels“. While technological innovations provide better emissions control as well as more safety and comfort, they make it challenging to service or repair a vehicle and to remanufacture the parts.
- The right to repair, including the access to technical information has to be extended for the automotive remanufacturing.
- To ensure that strategic elements and materials stay in the production cycle, remanufacturing should be positioned as preferred end of life treatment in related legal guidelines.

### About APRA:

APRA is a global association with over 1,000 member companies with a combined revenue of approximately 25 billion euros.

The Association’s objective is to promote the general business interests of the remanufacturing industry as a whole and to foster the spirit of circular economy in pursuit of a better environment. It also provides members with forums, exhibitions and workshops to interact and consult with each other on issues affecting the entire industry.