

Regulation and information technology in automotive remanufacturing

– Working group –

Motivation and target:

The industrialization and further development of remanufacturing and circular economy business in automotive is affected by growing external interest, i.e. environmental concerns and regulatory pressure. This leads to business opportunities as well as bureaucratic requirements on behalf of the European Union.

The target of the working group is to identify and cluster common regulatory challenges for APRA EUROPE members given by the European Green Deal (EGD). In addition, the role of technology as an enabler to cope with regulatory demands is critically assessed using the key technologies artificial intelligence and digital twins as an object of research.

Empirical study as methodical frame

For this, an empirical study with a structured questionnaire has been carried out based on the regulations identified as most relevant within the automotive remanufacturing sector. Parameters for relevancy were number of mentions within industry literature with a regulatory context, target group allocation according to APRA Europe member types, effective date and consequences of non-conformity.

Data base and result:

Thanks to the APRA Europe network and a visit at Rematec in April 2025, 62 qualified participants from the industry were interviewed. Further, top regulations have been prioritized in an on-site workshop with APRA members and selected for an elaboration in a second working group. The results of the study will be published shortly.

Outlook and further work:

As part of a PhD project, the technological perspective is being deepened in a targeted manner. The focus is on the question of how AI can support or automate regulatory obligations and connected use cases that have been identified most suitable by the market research.