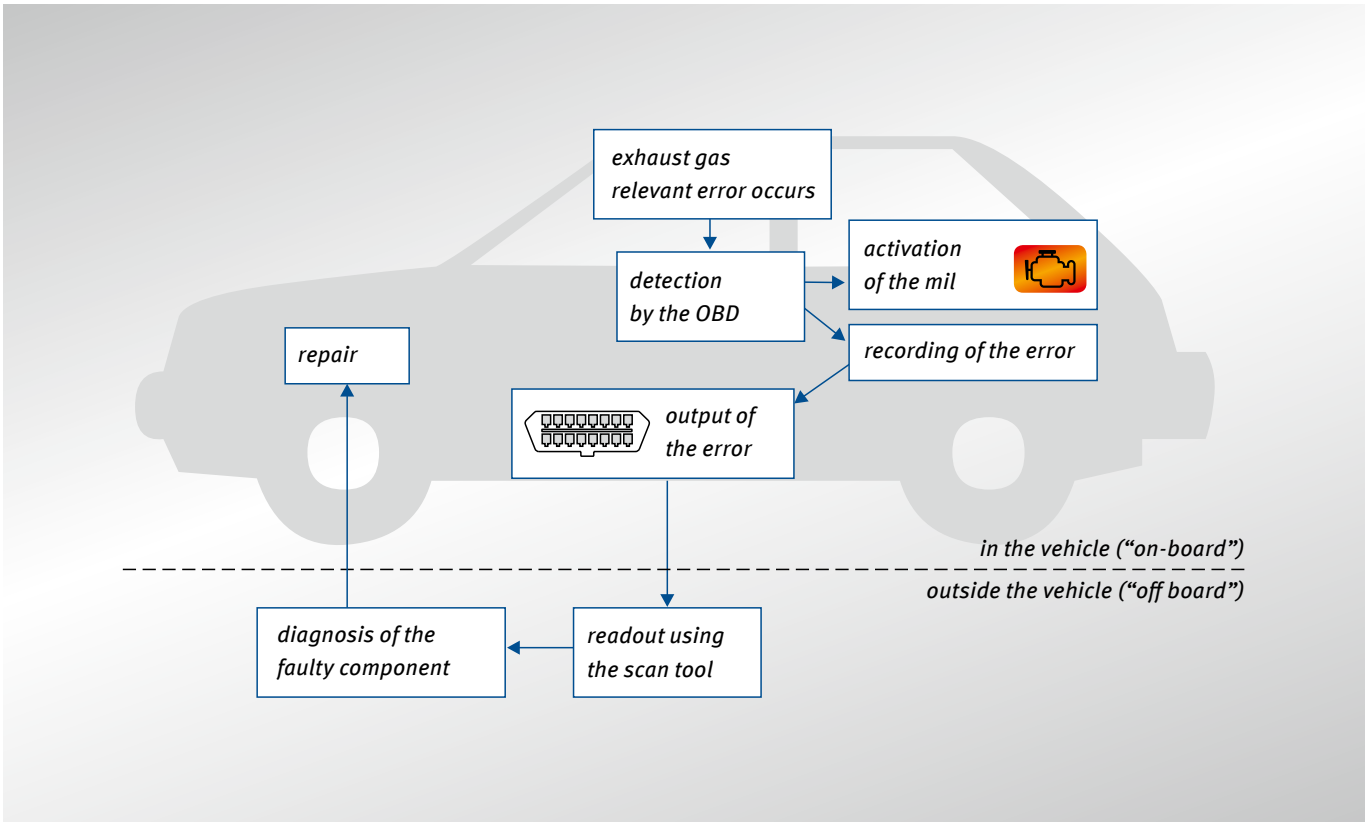

Fig. 5: OBD diagnostic concept in the vehicle

2.7 Diagnostic concept in the vehicle

In OBD it is not the quality of the exhaust gas itself that is checked, but rather the function of the exhaust gas relevant components.

- The engine control unit is expanded to include the “OBD diagnosis” function field.
- Depending on the component, diagnosis are carried out permanently or cyclically.
- The status of the diagnosis performed is maintained as a readiness code (please refer to Section 2.6).
- Errors that affect emissions are detected and recorded as unconfirmed (not “debounced”) errors.
- If the same error occurs again during the following driving cycles under the same conditions or over a certain time period, it will be labelled as “debounced” (confirmed) and recorded as an OBD error. The malfunction indicator lamp will be activated.
- In addition to the error, further operating data and ambient conditions that were present when the error occurred are registered and recorded (“freeze frames”).
- If deviations that cause the exhaust gas limits to be exceeded, or that cause damage to the catalytic converter, are determined during this monitoring, the malfunction indicator lamp will be activated.
- The recorded data can be read out over the diagnostic socket (interface) by the scan tool.
  Errors are recorded as fault codes, freeze frames, other error relevant data and vehicle data, for example.