

Kraftfahrt-
Bundesamt



/ Software-Update for already registered vehicles

Administrative procedures in Germany

Agenda

- **National activities around SW-Updates**
- **General conditions for the application of SW-Updates**
- **Categories of SW-Updates**

National activities around SW-Updates

- 02/2019: Kick-Off meeting of the national Working Group on “SW-Updates” (incl. Authorities, Industry and Technical Services).
- 12/2021: KBA releases an overview for manufacturers how to handle post-registration SW-Updates for vehicles.
 - Link: https://www.kba.de/EN/Cyber_Softwareupdate_node_en.html

National activities around SW-Updates

- 01/2023: Federal Ministry for Digital and Transport releases a guideline for manufacturers regarding SW-Updates

Link: <https://www.verkehrsblatt.de/docs/verkehrsblatt>



General conditions for the application of SW-Updates

- Harmonized law (UN-R155 and Reg. (EU) 2018/858) is considered.
- The manufacturer only changes their own SW.
- The vehicles to be updated are already type-approved and registered.
- The SW-Update **does not require** any **hardware changes**.
- The manufacturer is obliged to document and verify the SW-Update according to the UN-R156 or any other similar legislations and to involve the Type-Approval Authority (KBA) if necessary.

General conditions for the application of SW-Updates

- **(continue)**
 - The SW-Update **may be subject to Market Surveillance activities.**
 - At the time of the SW-Update the affected vehicle is in compliance with the original type-approval (potential modifications done by the owner need to be considered!).

Categories of SW-Updates

- **Cat. 1: SW-Updates to restore conformity to type-approval requirements**
 - Example: Recall campaign due to wrong sensor calibration.
 - As defined in Art. 14 of Reg. (EU) 2018/858.
 - The KBA shall be informed by the manufacturer of the non-compliance and of any measures taken.
 - The manufacturer can usually carry out the SW-Update on his own responsibility and restore the conformity to type-approval requirements
 - The KBA accepts the measures proposed by the manufacturer or, if necessary, impose further measures.

Categories of SW-Updates

- **Cat. 2: SW-Updates without safety-/type-approval relevance and without impact on vehicle documents**
 - Example: New comfort features (e.g. seat massage).
 - If the manufacturer's legal check against the requirements of Article 33 of Regulation (EU) 2018/858 and § 19 StVZO (German law) shows that the KBA doesn't have to be involved, the KBA doesn't need to be involved.

Categories of SW-Updates

- **Cat. 3: SW-Updates with safety-/type-approval relevance and without impact on vehicle and type-approval documents**
 - Concerns SW-Updates to activate additional safety or type-approval related functions **already covered** by a valid system type-approval (e.g. UN-R79) at the time of the first vehicle registration but which have not been activated by the manufacturer at that time.
 - Example: Activation of driver assistant functions according to UN-R79 (Steering Equipment).

Categories of SW-Updates

- **Cat. 3 (continue):**
 - The manufacturer verifies that the SW-Update doesn't affect the vehicle or type-approval documents.
 - Since the modification made by the SW-Update has already been verified with the system type-approval by the KBA, no re-examination by the KBA is required.

Categories of SW-Updates

- **Cat. 4: SW-Updates with safety-/type-approval relevance and without impact on vehicle documents but with adaptations of type-approval documents**
 - Concerns SW-Updates to activate additional safety or type-approval related functions **not yet covered** by a valid system type-approval at the time of the first vehicle registration. Those SW-Updates are usually initiated by the vehicle owner.
 - Example: “On-Demand” functions e.g. activation of a newly available driver assistant function according to a future UN-R.

Categories of SW-Updates

- **Cat. 4 (continue):**
 - The modification made by the SW-Update must be covered by an extension of the vehicle type-approval after the time of the first vehicle registration. The manufacturer obtains this extension from the KBA before the SW-Update is carried out.
 - If the manufacturer's legal check against the requirements of § 19 StVZO (German national law) shows that there is no need to involve the KBA beyond the extension of the vehicle type-approval already carried out, the KBA does not need to be involved.

Categories of SW-Updates

- **Cat. 4 (continue):**
 - The KBA may add conditional provisions to the type-approval extension under which circumstances the SW-Update may be applied.
 - The manufacturer must provide the extension of the type-approval to the vehicle owner.
 - The manufacturer always has the possibility to apply to the KBA for a proof in accordance with § 19 Abs. 3 Nr.1 b) StVZO (German national law).

Categories of SW-Updates

- **Cat. 5: SW-Updates with impact on national vehicle documents**
 - In addition to the requirements of the respective case (see categories 2 - 5), the requirements of the **Fahrzeug-Zulassungsverordnung** (German national law – vehicle registration ordinance) that are relevant for the amendment of the vehicle documents apply.
 - Example: (Temporary) increase of the max. vehicle engine power.
 - Workaround: Homologation of “100%” of the max. vehicle engine power and reduction before registration for “on-demand” functions.

Categories of SW-Updates

- ***Additional KBA Cat. “6”: SW-Updates with safety-/type-approval relevance after the vehicle type production has been discontinued without impact on vehicle documents***
 - Concerns in particular, SW-Updates after the discontinuation of production of the vehicle type on which the individual vehicle is based.
 - Example: Fixing vulnerability in cyber-security according to UN-R155.

Categories of SW-Updates

- **Cat. 6 (continue):**
 - For this case, it is not possible under harmonized law to extend vehicle type-approvals with any necessary technical checks or documentation by the KBA.
 - If the manufacturer's legal check against the requirements of § 19 StVZO (German national law) shows that the KBA doesn't have to be involved, the KBA need not be involved.
 - The manufacturer always has the possibility of having one of the proofs specified in § 19 Abs. 3 StVZO (German national law - e.g. ABE § 22 StVZO) issued by the KBA.

**Thank you very much
for your attention!**

Contact: kaitams.petersen@kba.de

/ Legal notice

Publisher:
Krafftahrt-Bundesamt
24932 Flensburg

Internet: www.kba.de

Special information and advice:

Phone: +49 461 316-0
Fax: +49 461 316-1650
E-mail: kba@kba.de

Version: September 2022

Picture Source: KBA, Adobe Stock



All rights reserved. Reproduction and dissemination of this publication, including in parts or in digital form, is permitted provided the Krafftahrt-Bundesamt is acknowledged as its source. This includes the dissemination of contents of this publication that have been obtained indirectly.

© Krafftahrt-Bundesamt, Flensburg