



Software Update Management for multistage vehicles

Software Update R156 certification for the multistage can be categorized according to the “Types” used for cybersecurity.

Type A & B and no dependency between body SW and vehicle regulated systems:

The base vehicle R156 system type approval remains valid.

- For these type A and B, the body builder installs a body on the base vehicle according to the base vehicle OEM instructions*, no modification of the base vehicle EE Architecture and any SW modification must only be with base vehicle manufacturer SW. The body which is added by the 2nd stage manufacturer is not part of the vehicle systems under the WVTa and no SW of the body can influence the performance of a base vehicle regulated system. It should be covered by other specific regulations (e.g., machinery EU 2023/1230). **SW updates on the body are under responsibility of the body builder and are not in the scope of R156.**
- **The base vehicle SW updates management remains under the responsibility of the base vehicle manufacturer.**
- Only the base vehicle manufacturer as owner of the R156 system type approval is allowed to manage software updates and, if necessary, to make extensions to system type approvals for SW updates according to the R156 management system.

Type C or there is dependency between body SW and vehicle regulated systems:

The base vehicle R156 system type approval is not sufficient after modification.

- For these type C the body builder makes modifications to the base vehicle EE Architecture Hardware and/or SW (unknown by the base vehicle manufacturer) or a SW of the body influences the performance of a base vehicle regulated system. A Body builder installation according to type A or B can be made at the same time.
- The base vehicle R156 system type approval is not sufficient, and **the 2nd stage manufacturer must get a new R156 SW Update system type approval, including a SUMS.**
- Need for contract between the base vehicle manufacturer and 2nd stage manufacturer to manage the relationship between the SUMS and the SW updates.
- Concrete applications need still to be experienced.

* The base vehicle OEM instructions include hardware (connections), software and messages.