

Stating the issue

This presentation deals with the following constellation:

01

The Vehicle is already registered



02

The vehicle shall undergo a software update



03

The software update will change the properties of the vehicle such that

- one or more **existing type approvals covering systems** in the vehicle are **affected** and/or
- one or more **additional type approvals** are necessary to cover **additional functionalities**



All cases where **updates do not affect type approval** or where **vehicles are not yet registered** are simpler and can be handled according to **existing processes**



Certification of relevant software updates: main concepts

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Software identification number (RxxSWIN)

- In **relation** to **one UN Regulation**
- **Updated** only for **certification relevant** updates
- If an update affects several system type approvals, the RxxSWIN of each of those must be updated
- RxxSWIN must be readable from the vehicle (e.g. via OBD connector), needed e.g. for periodic technical inspection (PTI)

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Central (UN-) database for individual vehicle data (DETA)

- Contains approval information: which **type approvals** cover the **individual vehicle** and the RxxSWIN
- **Allows** for an „**update of the data**“ over the vehicle lifecycle

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Other

- The manufacturer must decide and **document** which **vehicles** may **receive** a given **update**
- If an update also **affects** the **registration** of a vehicle this must be **handled according to national processes** (e.g.: update of engine power might affect taxation)



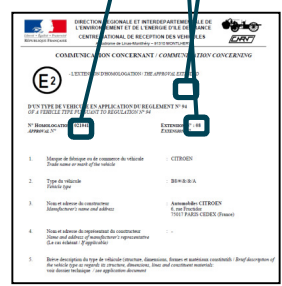
Need to type approve SW update before update of registered vehicles

CARROSSERIE		BODYWORK	
9.1.	Type de carrosserie / Type of bodywork	AC, AF	
9.2.	Matériau(s) de construction / Material and construction	Choisir en fonction des matériaux et des tôles / Choose in function of materials and sheets	
9.10.	Aménagement intérieur / Interior design		
9.10.3.	Sièges / Seats		
9.10.3.1.	Nombre / Number	6	
9.10.3.2.	Équipement et disposition / Equipment and arrangement	Décrire en détail / Describe in detail	
9.10.3.5.	Coordonnées ou dessin de pare-bris / Coordinates or drawing of windscreen	Décrire en détail / Describe in detail	
9.10.3.5.1.	Siège du conducteur / Driver seat	R03, R10, R11	

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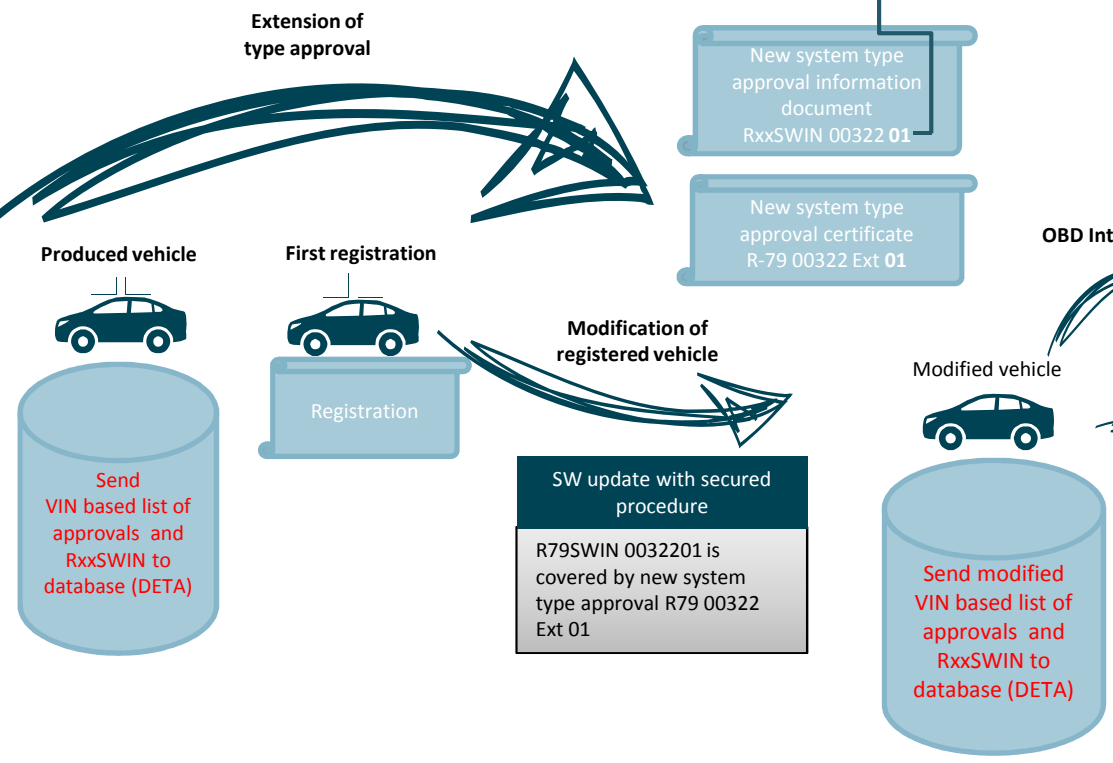
System type approval information document
R79SWIN 00322 00

System type approval certificate
R-79 00322 Ext 00



New system type approval information document
RxxSWIN 00322 01

New system type approval certificate
R-79 00322 Ext 01



Police or PTI can read RxxSWIN and check whether registration certificate covers RxxSWIN on the vehicle

Step 2 national regime
If necessary if modification affects registration parameters

Modified Registration certificate

Link between SW versions of different Electronic Control Units (ECUs) and RxxSWIN

Example: 4 ECUs have an impact on the type approval of R79

Type approval test		First registration		After registration		Update with TA impact	
ECU	SW version	ECU	SW version	ECU	SW version	ECU	SW version
1	V3.6	1	V3.9	1	V4.1	1	V5.0
2	V1.3	2	V1.4	2	V1.8	2	V1.8
3	V1.6	3	V1.6	3	V2.3	3	V2.7
4	V8.9	4	V9.1	4	V9.3	4	V9.8

R79 00322 Ext 00
R79SWIN 00322 00

R79 00322 Ext 01
R79SWIN 00322 01

