

Software Update

- Type approval related issues -

Japan

(Security TF of ITS/AD

13-14. March. 2017 @ITU Geneva)

Background

Outcome TFCS-03 // 16-17 February 2017 @ OICA Office, Paris

- Topic „Software updates“ consists of 2 elements:
 - security issues related to s/w updates => threat analysis
 - type approval related issues => dedicated discussion

=> This activity could be a response to the recommendation(ITS/AD-10-13) in a timely manner.
 - Updating of vehicles on the road (in-use) identified as one key element for future discussion => after 1st registration
- => OICA proposals based on ITS/AD-10-13: „Retrofit-Approach“

Background

Outcome TFCS-03 // 16-17 February 2017 @ OICA Office, Paris

- General principles for software updates to be differentiated into 3 classes:
 - non type relevant software changes
 - type relevant software changes requiring no further testing
 - type relevant software changes requiring further testing, e.g. for adding new functions
- Workscope of TF-CS
 - Review relevant existing regulations
 - Develop regulatory proposal to address software updates
 - Need for configuration control (s/w version identification)
 - Process for:
 - s/w updates for series production
 - s/w updates on registered vehicles (in-use)

Background

Additional Input from European Commission:

“Study on the assessment and certification of automated vehicles -Final Report-” by TRL

In this report, the idea of recall update for vehicle post delivery is introduced. (The original document is ITS-DOC-7 for ITU by Sena Consulting, 2015(?) .)

Software update cases by the report

Possible cases of software update for vehicle post delivery are

Case 1 : recall update

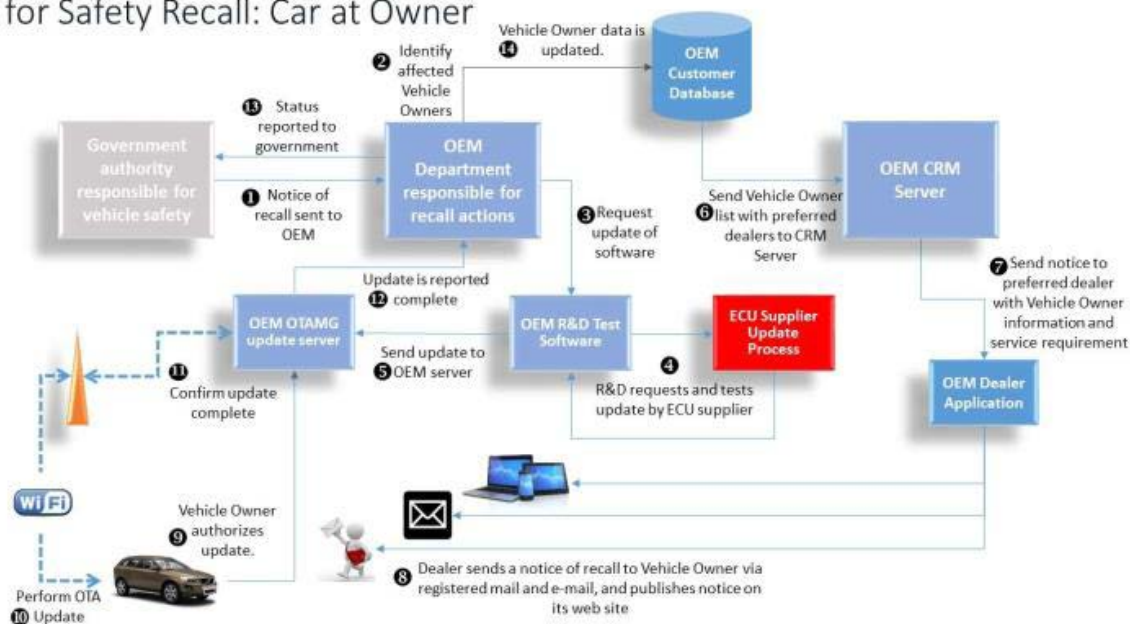
Case 2 : non-recall operation updates

Case 3 : performance improvements updates or security risk correction action updates.

Software update cases by the report

An example of processing flow of software update(OTA) for “recall update” is suggested.

Firmware Updating of ECUs in Vehicles:
OTA for Safety Recall: Car at Owner



In the report, processing flows of software update for “non-recall operation updates” are not described.

Working approach on this issue

Possible working approach on software update issue

The following steps can be considered as the working approach.

- ✓ Identifying possible software update cases for vehicle post delivery
- ✓ Identifying functions to be updated by each process of software update cases
- ✓ Building software update process flow for each software update cases
- ✓ Drafting the recommendation

Software update cases

General principles for software updates

Outcome in TFCS-03 meeting	Suggested cases in the EC's report
① Non type relevant software change	Performance improvements updates or security risk correction action updates
② Type relevant software changes requiring no further testing	Non-recall operation updates
③ Relevant software changes requiring further testing, e.g. for adding new functions	Recall update

These suggested cases are identical? => to be confirmed

Discussion points

The following software update cases for post vehicle delivery could become the base lines of discussions.

- “Recall update” including recall OTA update shall be administrated in the same line with the existing recall scheme.
- “Non-recall” cases regarding critical functions of vehicle controls, such as steering, breaking and accelerating vehicles, should be administrated by authorities appropriately.

Schedule(TBD)

2017											2018
Feb. (2)	Mar. (3)	Apr. (4)	May (5)	Jun. (6)	Jul. (7)	Aug. (8)	Sep. (9)	Oct. (10)	Nov. (11)	Dec. (12)	Jan. (1)
★2/16-17 TF#3@Paris			★5/10-11 TF#5@Paris								
	★3/13-14 TF#4@Geneva			★5/31-6/1 TF#6@Washington				★9/27-28 TF#7@Tokyo			★12/x TF#x @xx
	↔		←			→			←		
	Identify update cases		Identify functions			Building Update process			Drafting recommendations		