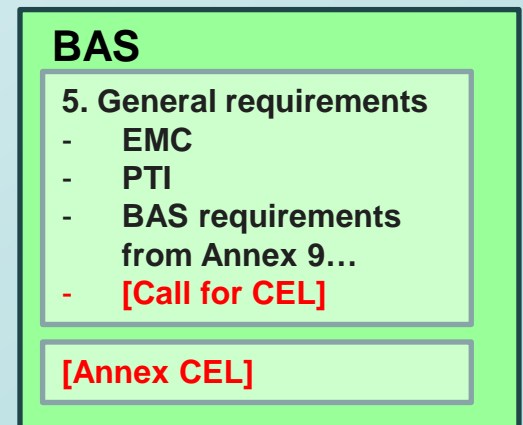
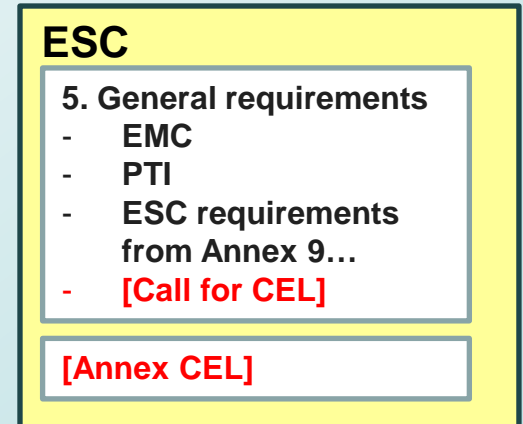
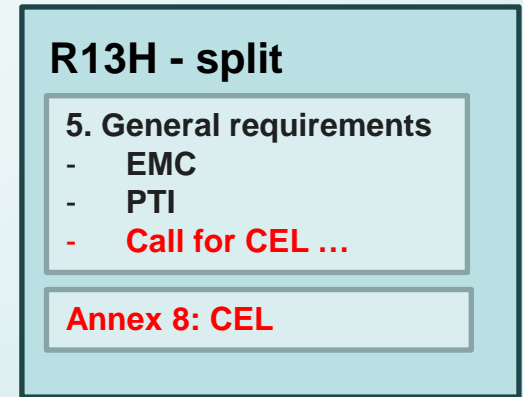
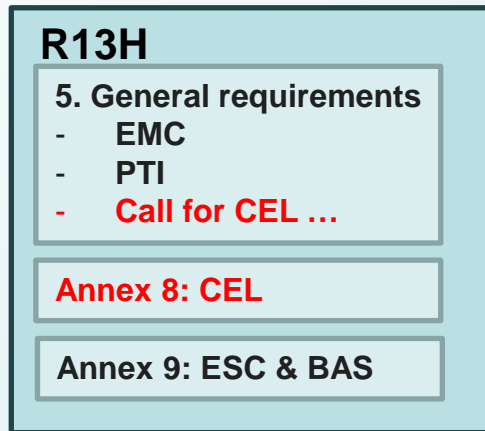




# Introduction on CEL Annex issue

- How the split of R13H was done:



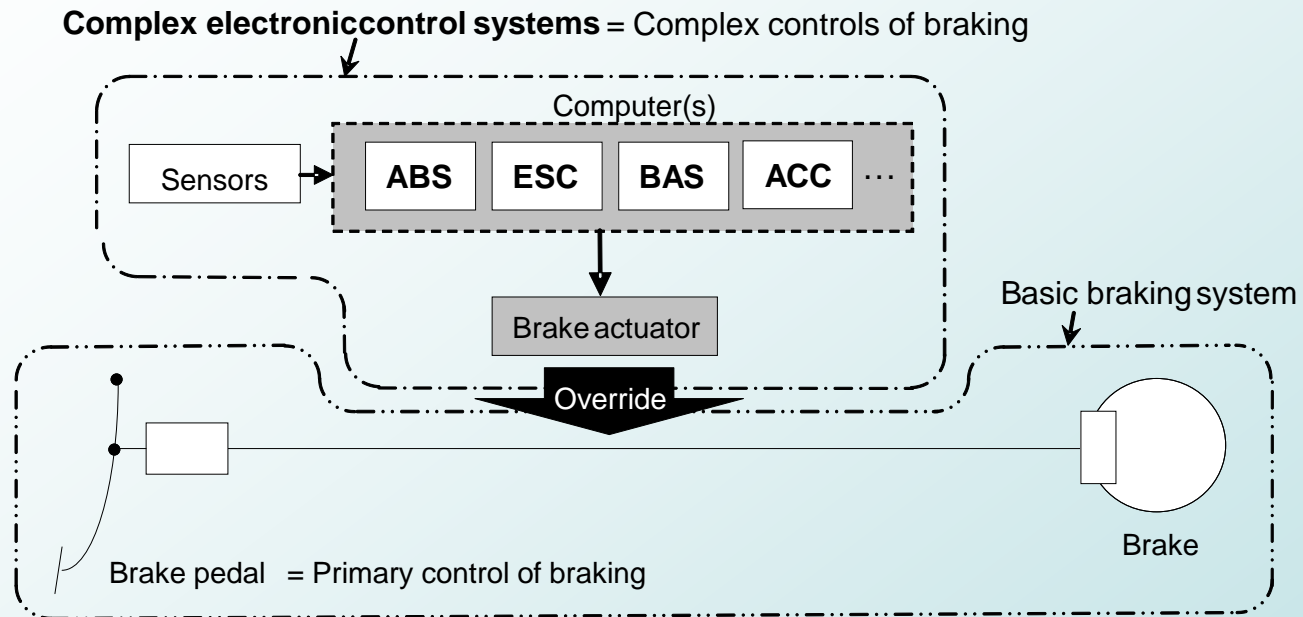
- the split of R13H creates a specific issue on CEL
- OICA is seeking for guidance from GRRF



# The issue

- Existing R13H CEL fully covers braking system, ESC and BAS.
- The CEL Annex cannot simply be duplicated in the new ESC and BAS regulations, while remaining in R13H, since it may create:
  - duplication and additional workload to repeat CEL approval for ESC and BAS in both R13H and independent regulations
  - conflicting interpretations of CEL requirements by different CPs / between each regulation
- A smart solution has to be found to avoid these risks.
- OICA is seeking for guidance from GRRF, on whether and how referring to CEL requirements in the independent new ESC and BAS regulations

# CEL Annex - Background

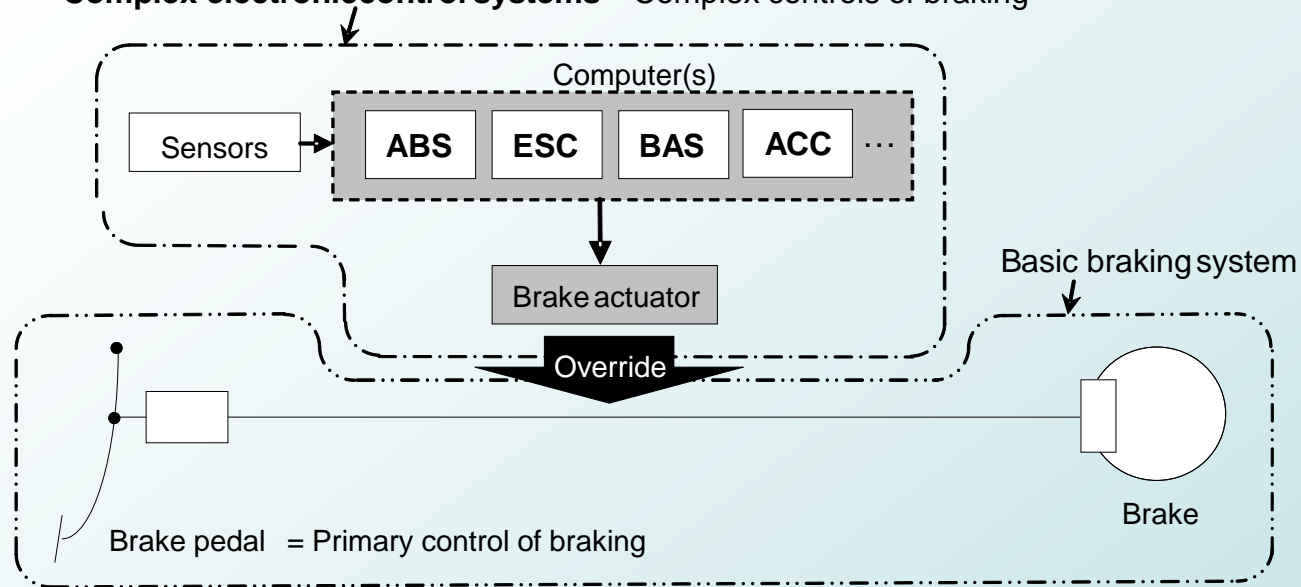


- The purpose of the complex electronic control system requirements is **to verify the basic braking system is not adversely affected by the complex electronic control systems, which override the basic braking system.**
- It is required to respect the basic performance prescribed by R13H under non-fault and fault conditions of the complex electronic control systems.
- And fundamentally, this verification has to be completed by the braking regulation.
- It is the same situation for steering systems.



# CEL Annex - Background

Complex electronic control systems = Complex controls of braking

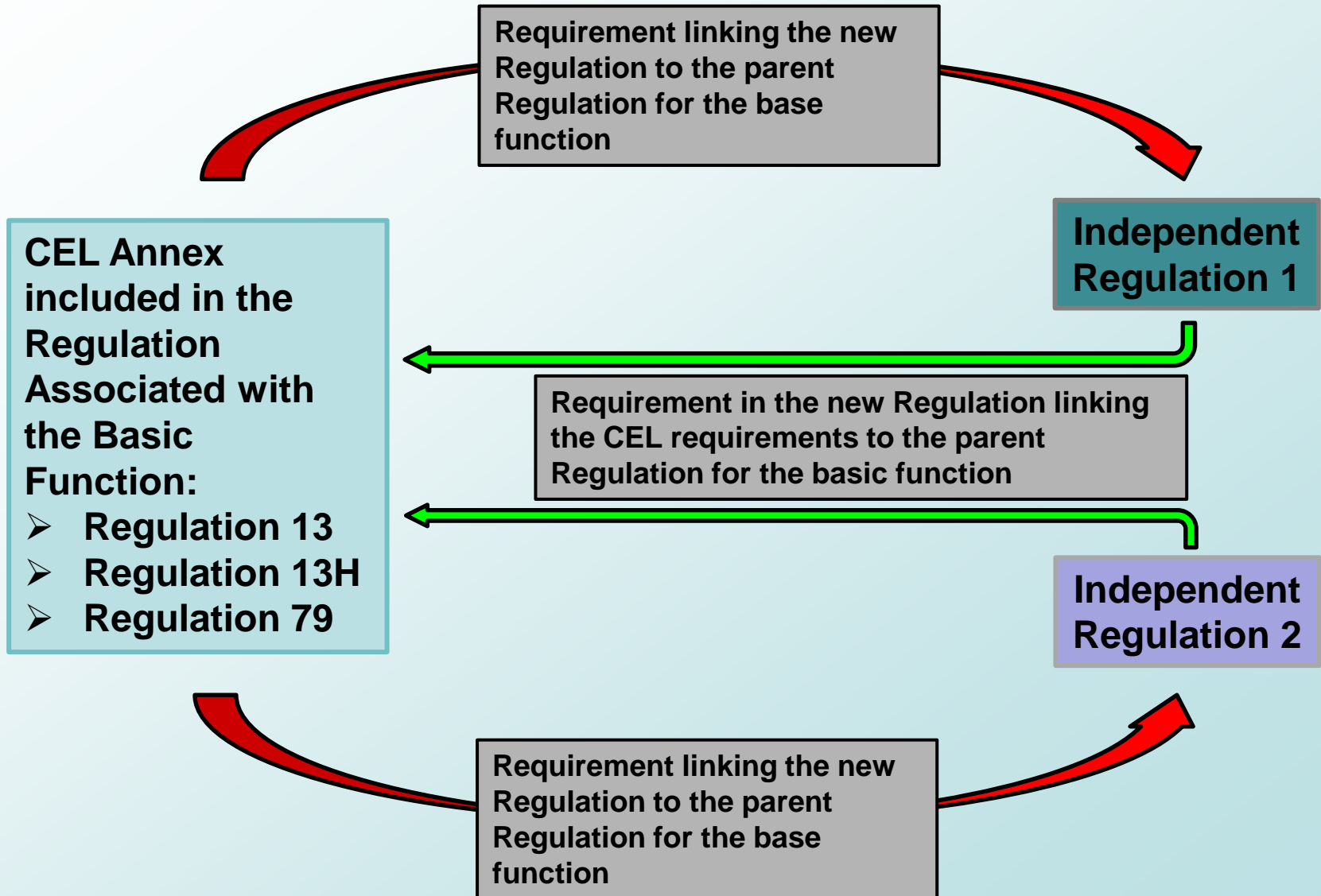


- ESC and BAS are currently covered by R13H CEL Annex: description of the function of “the system”; layout and schematics; safety concept; verification and tests...
- When splitting R13H, OICA intentions are to:
  1. Maintain the level of safety delivered today
  2. Avoid duplication and any additional workload to cover separate CEL approval’s for R13-H, ESC and BAS
  3. Avoid conflicting interpretations of CEL by CPs / between each regulation
  4. Avoid design restrictive requirements
- **OICA is seeking for guidance from GRRF, on whether and how referring to CEL requirements in the independent new ESC and BAS regulations**



# CEL Annex

## What are the options?





# CEL Annex - Different options

## Option 1: CEL present in each regulation

- R13H, ESC and BAS regulations include and call CEL Annex, **AND**

## Option 1A

- ESC and BAS regulations propose two alternatives:
  1. Fulfilling CEL Annex, or
  2. the applicant demonstrates the Systems are already covered by R13H-CEL approval

## Option 1B

- Braking system, ESC and BAS regulations propose two alternatives:
  1. Fulfilling CEL Annex, or
  2. Functions or sub-systems being subject to CEL requirements may be demonstrated by CEL annex of another regulation.

## Option 2: CEL present in R13H only

- Only R13H includes and calls CEL Annex, AND
- R13H CEL Annex covers all complex electronic control systems including ESC and BAS