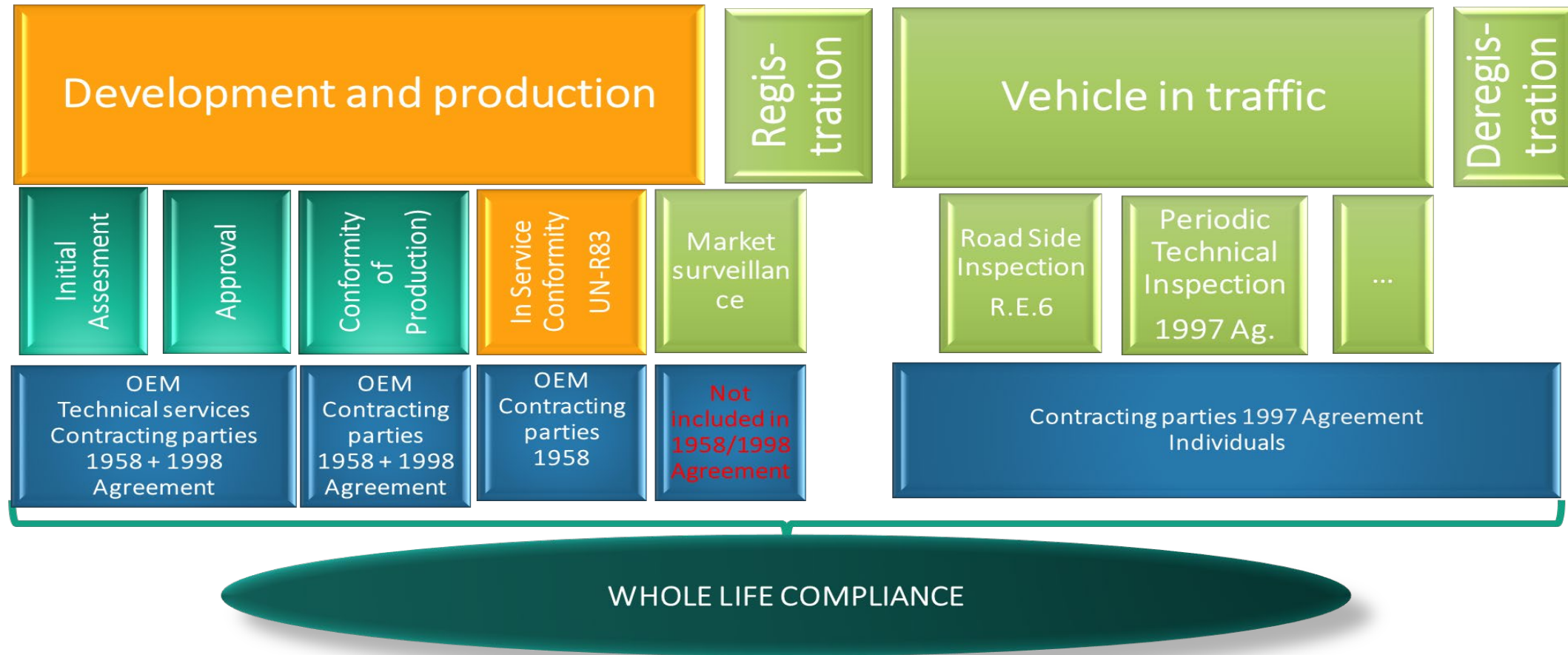


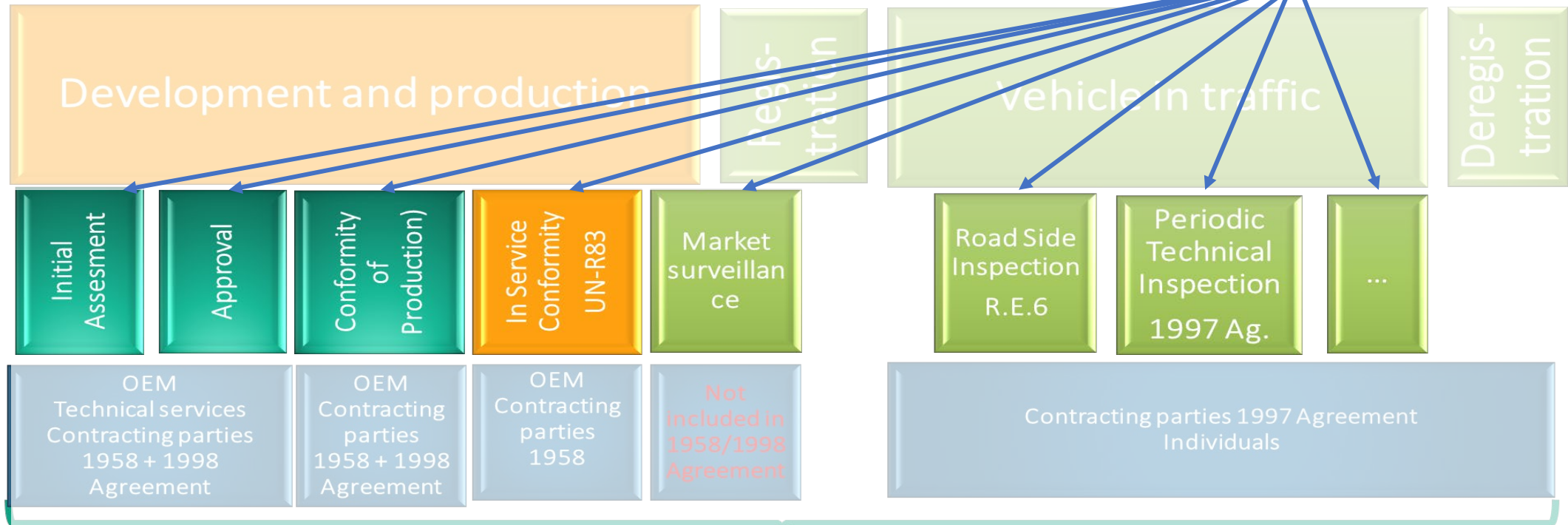
**Proposal for a Framework Document on  
Vehicle Whole-Life Compliance  
ECE/TRANS/WP.29/2021/148**

# Whole-life compliance



# Whole-life compliance

## Stages of Whole-life compliance

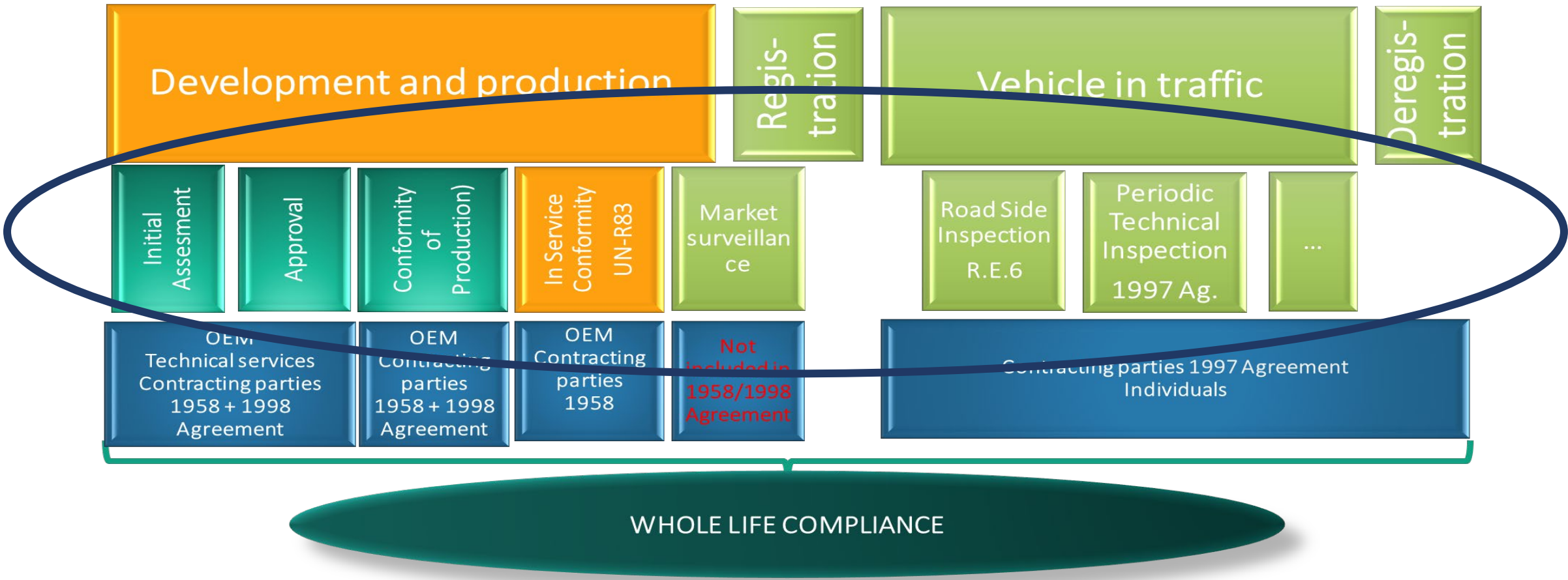


# The whole-life compliance vision

- To define the appropriate provisions to ensure that the performance of vehicles, throughout their use, fulfils the legal requirements applicable at each stage and can be impartially assessed
- in-use vehicles technical conditions shall not cause any traffic accidents resulting in injury or death that are reasonably foreseeable and preventable, shall resist cyberattacks and shall be consistent with their Type Approvals
- The coordination of technical provisions and/or guidance and resolutions for whole-life compliance of the vehicles shall be conducted by WP.29 within the context of the 1958 and 1998 Geneva Agreements and the 1997 Vienna Agreement

# Whole-life compliance

Coordination of whole-life compliance's stages

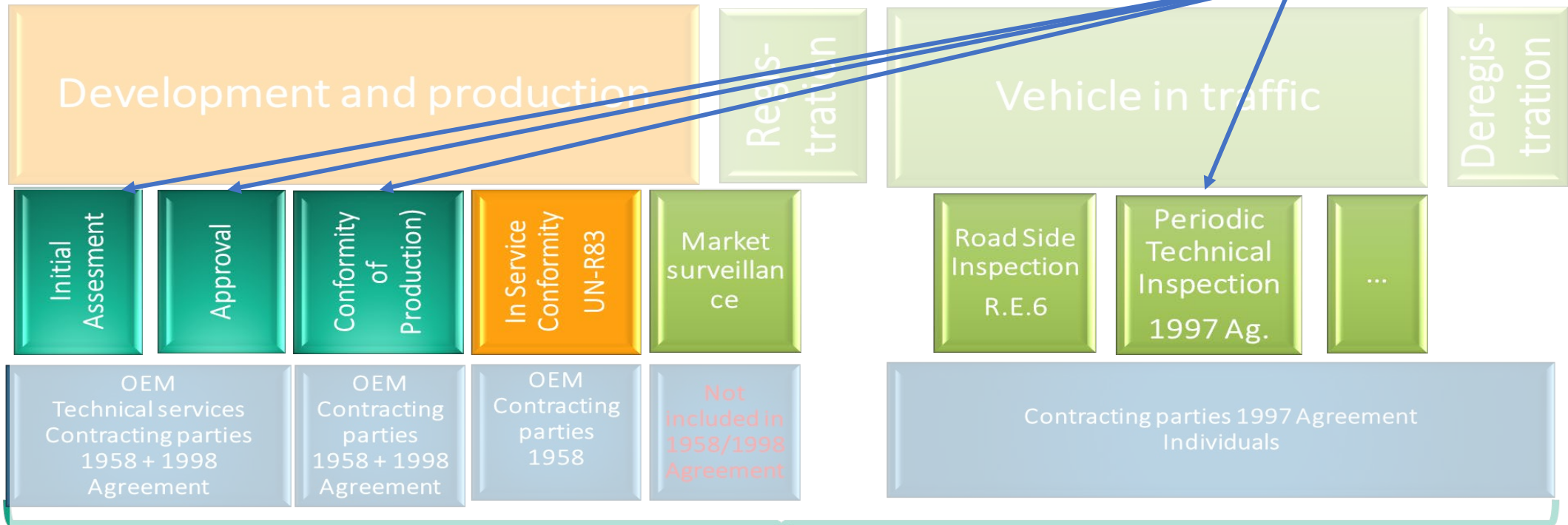


# The whole-life compliance vision

- The whole-life compliance approach shows the necessary stages to better ensure the vehicles' performance, reasonably, during their whole life. The main tool to assess the convenience of stages of whole-life compliance is the risk analysis. The risk analysis approach is also a valid framework to liaise the different stages of whole-life compliance
- The requirements to fulfil at each stage of whole-life compliance shall be coordinated with those of the Type Approval

# Whole-life compliance

UN R13 Braking



WHOLE LIFE COMPLIANCE

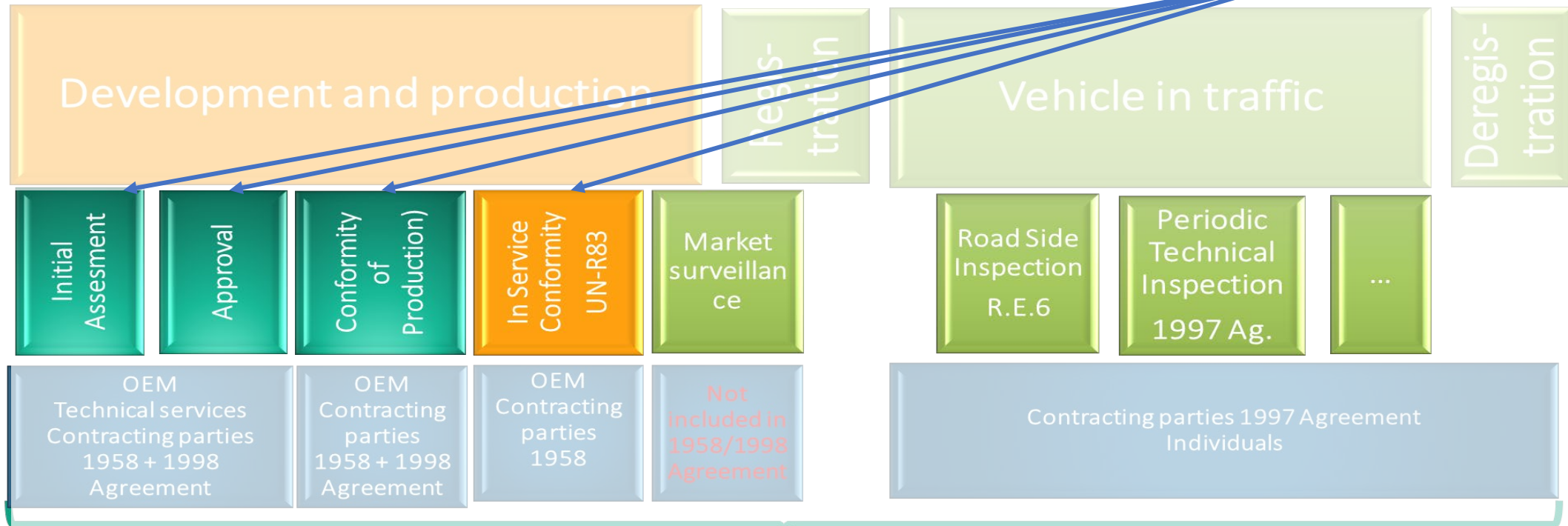
# WLC provisions prescribed by UN R13 on the approval of vehicles of categories M, N and O with regard to braking

- 5.1.1.1. The braking equipment shall be so designed, constructed and fitted as to enable the vehicle in normal use, despite the vibration to which it may be subjected, to comply with the provisions of this Regulation.
- 5.1.4. Provisions for the periodic technical inspection of braking systems
- 5.1.4.6.3. The reference braking forces shall be declared such that the vehicle is capable of generating a braking rate equivalent to that defined in Annex 4 of this Regulation for the relevant vehicle (50 per cent in the case of vehicles of category M2, M3, N2, N3, O3 and O4 except semi-trailers, 45 per cent in the case of semi-trailers), whenever the measured roller braking force, for each axle irrespective of load, is not less than the reference braking force for a given brake actuator pressure within the declared operating pressure range.



# Whole-life compliance

UN R49&83 with regard to the emission of pollutants



WHOLE LIFE COMPLIANCE

# The whole-life compliance approach

- The stages of whole-life compliance and their relationships shall be designed in such a way as to reasonably facilitate each others' objectives and provide information and data when appropriate
- Performances may be verified by methods different from those prescribed in the relevant UN Regulations, Global Technical Regulations, Rules and other relevant UN ECE documents