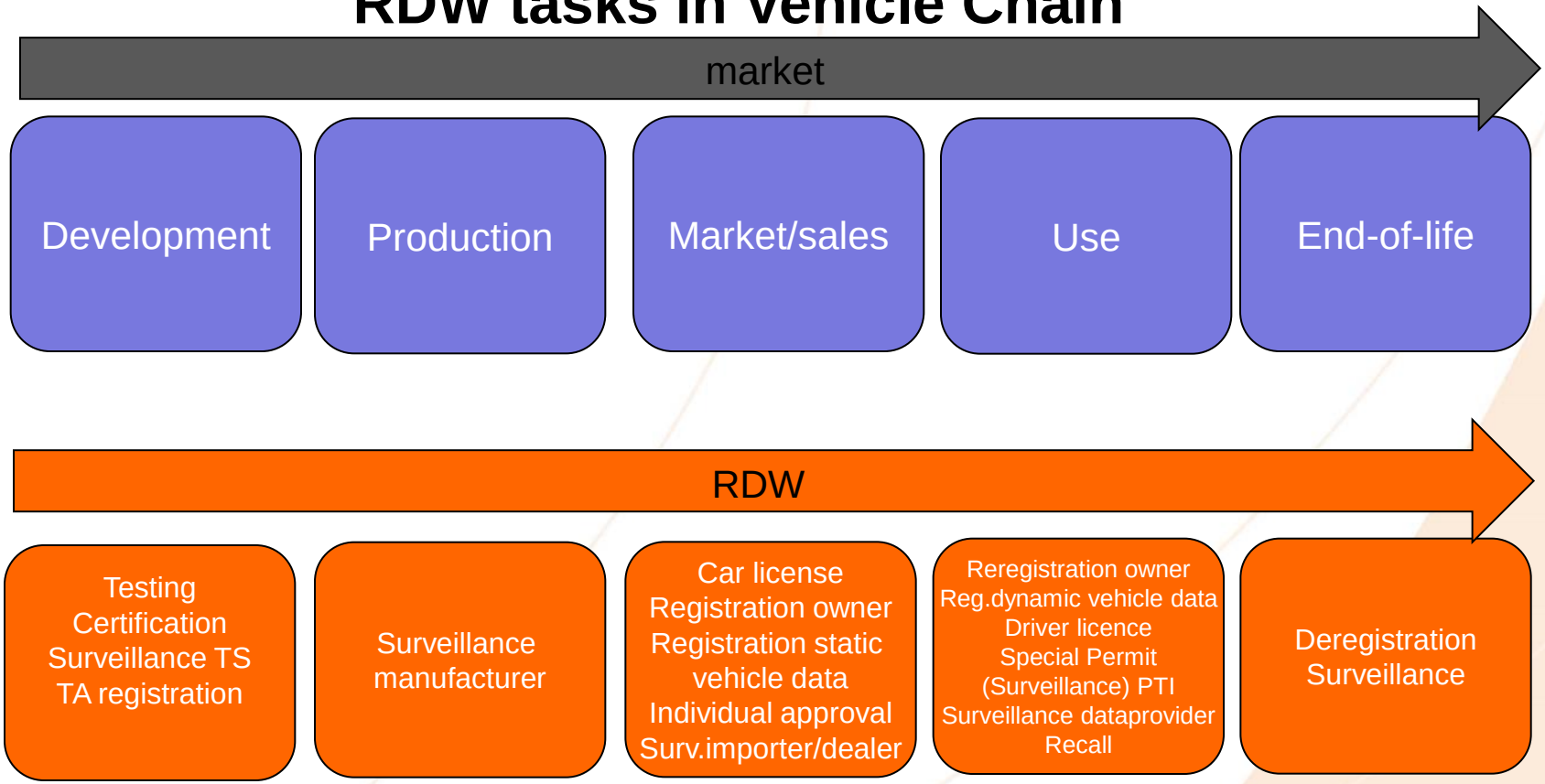
RDW

Auditmotive

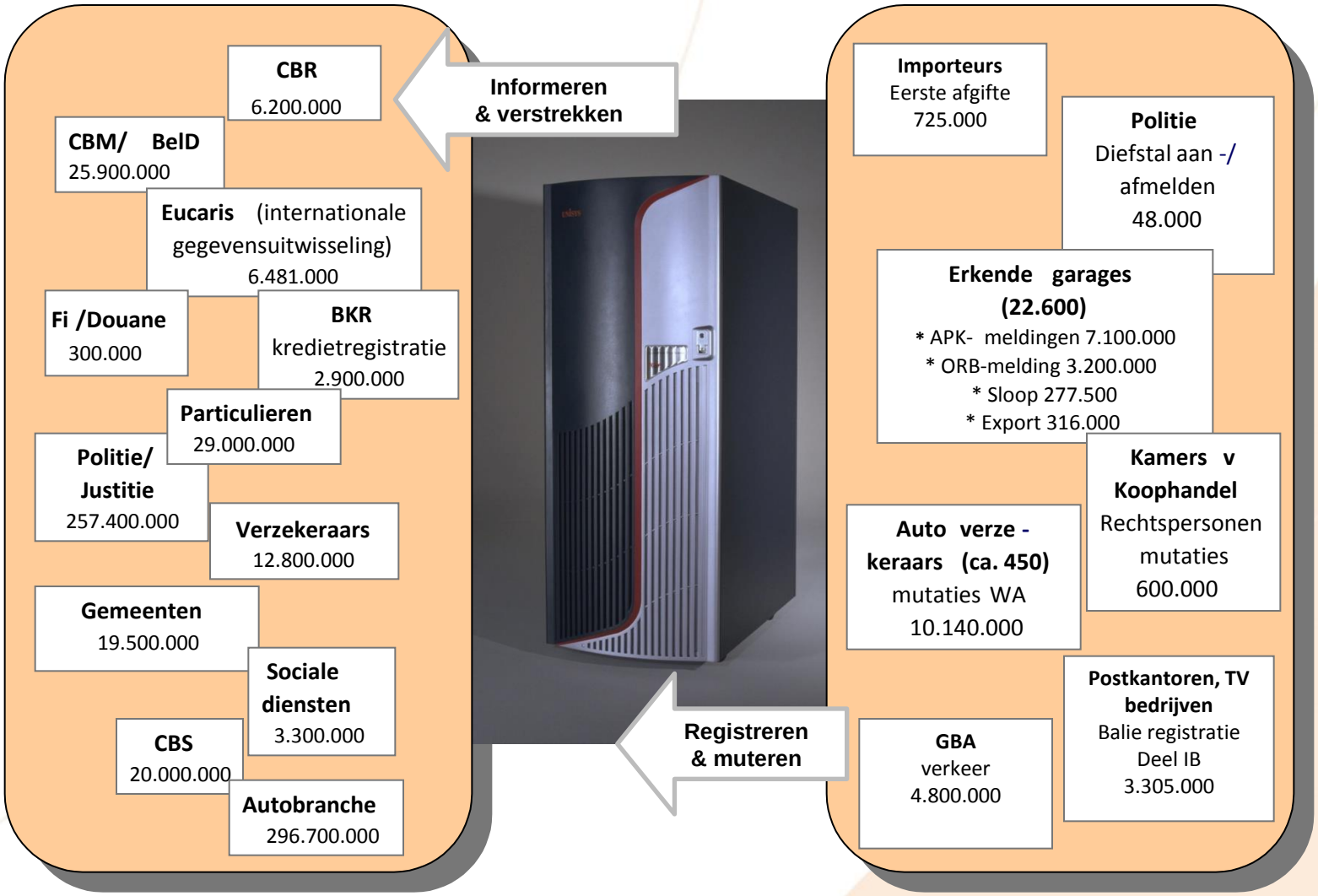
Peter Striekwold

18 mei 2017

RDW tasks in Vehicle Chain

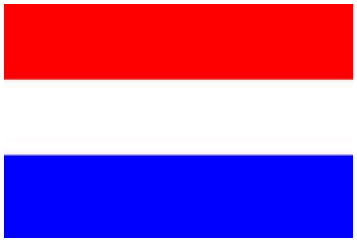


RDW: Big data



RDW

RDW en typegoedkeuring



> 50 landen
> 2500 fabrikanten
> 25.000 goedkeuringen/jaar

RDW en typegoedkeuring

RDW

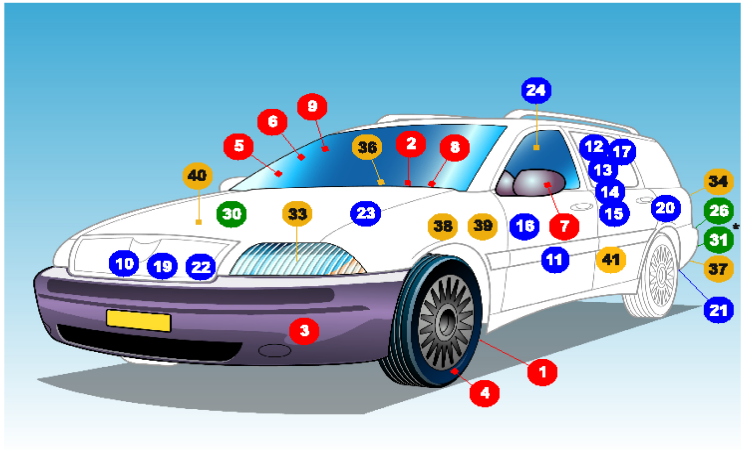
E4 e4

TYPE APPROVAL OF PASSENGER CARS

Category M_1

Topics with Base EC / ECE numbers

general topics: 18 25 27 28 29 32* 35



For more information about all directives and regulations:
visit www.rdw.nl and choose International visitor

Framework directive: 70/156, 2007/46 from 29 April 2009 onward

ACTIVE SAFETY

1	Braking	71/320	R13H
			R90
2	Steering Equipm.	70/311	R79
3	Audible Warning	70/388	R28
4	Tyres	92/23	R30
5	Forward Vision	77/649	R125
6	Defrost / Demist	78/317	-
7	Rear View Dev.	2003/97	R46
8	Speedometers	75/443	R39
9	Wipers / Washers	78/318	-

PASSIVE SAFETY

10	Front Impact	96/79	R94
11	Side Impact	96/27	R95
12	Seat Belt Anchor.	76/115	R14
13	Seat Belt Instal.	77/541	R16
14	Seat Strength	74/408	R17
15	Interior	74/60	R21
16	Latches-Hinges	70/387	R11
17	Head Restraints	78/932	R25
18	Ext. Projections	74/483	R26
19	Pedestrian Prot.	2003/102	-
20	Wheel guards	78/549	-

PASSIVE SAFETY (cont.)

21	Tank	70/221	R34
	Rear Underrun		R58
22	Front Protection	2005/66	-
23	Protect. Steering	74/297	R12
24	Safety Glazing	92/22	R43

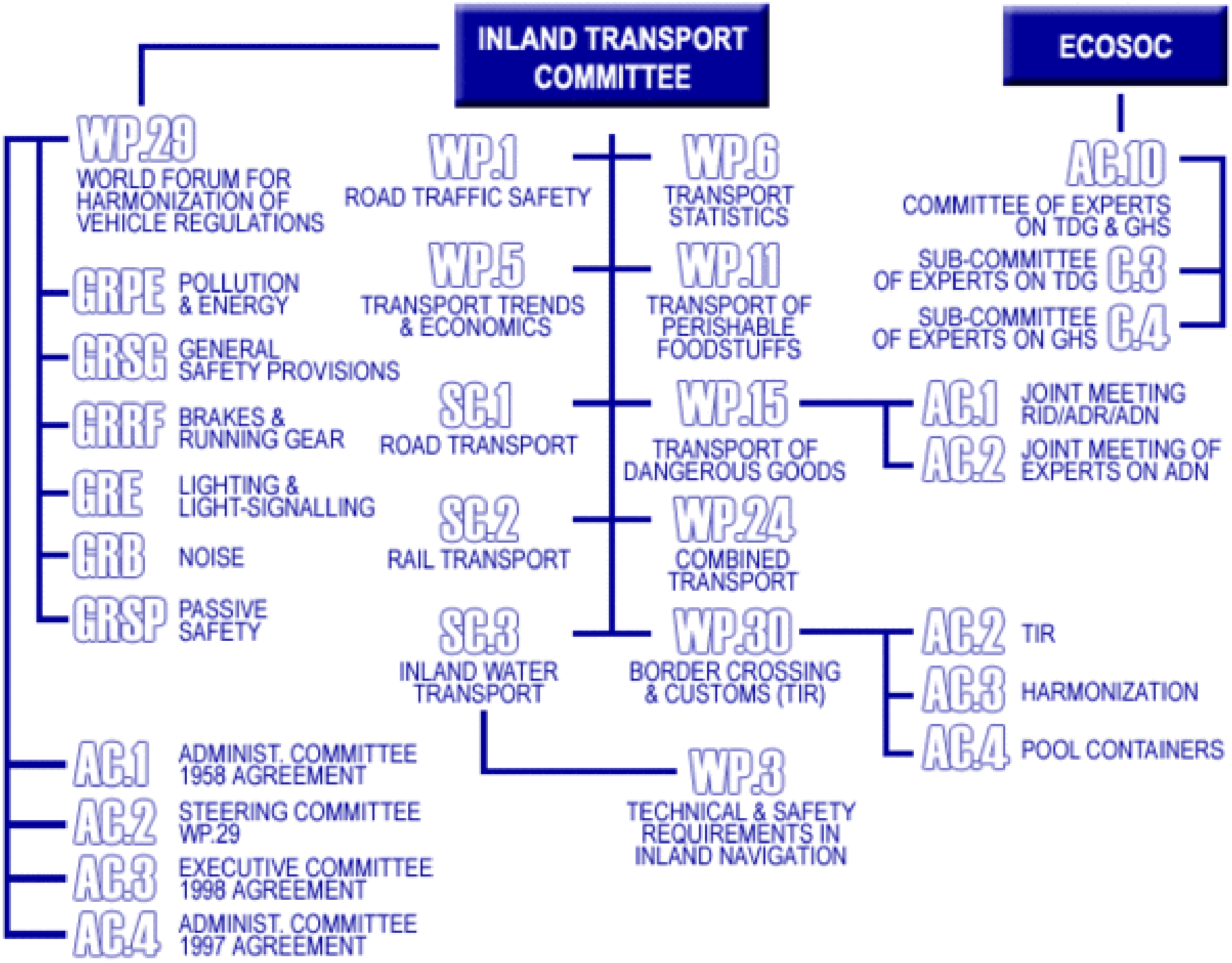
ENVIRONMENT

25	Emissions	70/220	R83
	future requirement / recommended now	715/2007	R103
26	Sound Levels	70/157	R51
27	Recyclability	2005/64	-
28	CO_2 / Fuel Cons.	80/1268	R101
29	EMC	72/245	R10
30	Aircondit. systems	2006/40	-
*31	Diesel smoke	72/306	R24
*32	Diesel Emissions	2005/55	R49

*: If applicable

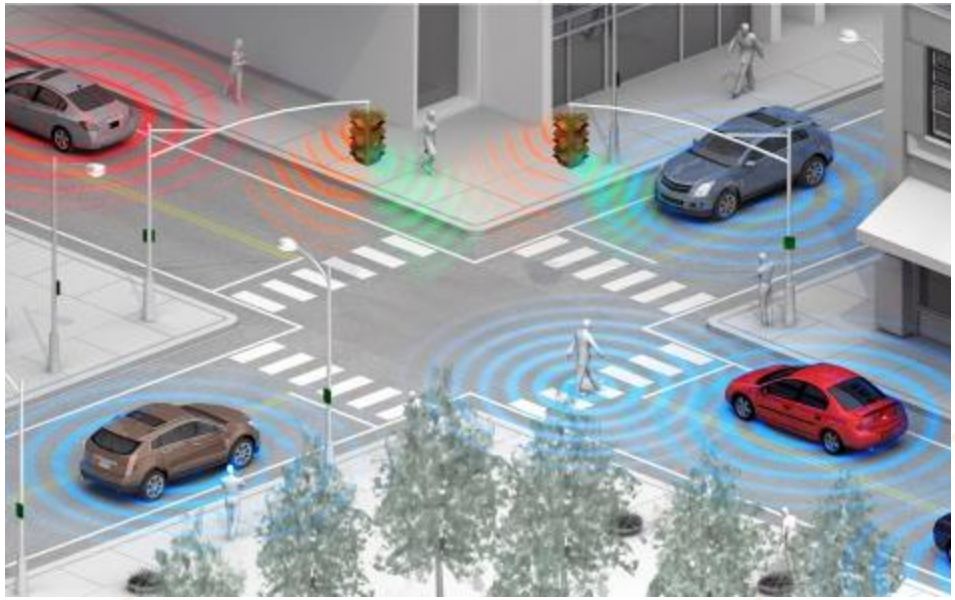
OTHER

33	Light Installation	76/756	R48
34	Registration plate	70/222	-
35	Masses-Dim.	92/21	-
36	ID of Controls	78/316	R121
37	Towing Device	77/389	-
38	Anti-theft	74/61	R116
39	Heating Systems	2001/56	R122
40	Engine Power	80/1269	R85
41	Plates (statutory)	76/114	-


INLAND TRANSPORT COMMITTEE
ECOSOC
WP.29
WORLD FORUM FOR HARMONIZATION OF VEHICLE REGULATIONS
GRPE POLLUTION & ENERGY
GRSG GENERAL SAFETY PROVISIONS
GRRF BRAKES & RUNNING GEAR
GRE LIGHTING & LIGHT-SIGNALLING
GRB NOISE
GRSP PASSIVE SAFETY
AC.1 ADMINIST. COMMITTEE 1958 AGREEMENT
AC.2 STEERING COMMITTEE WP.29
AC.3 EXECUTIVE COMMITTEE 1998 AGREEMENT
AC.4 ADMINIST. COMMITTEE 1997 AGREEMENT
WP.1 ROAD TRAFFIC SAFETY
WP.5 TRANSPORT TRENDS & ECONOMICS
SC.1 ROAD TRANSPORT
SC.2 RAIL TRANSPORT
SC.3 INLAND WATER TRANSPORT
WP.3 TECHNICAL & SAFETY REQUIREMENTS IN INLAND NAVIGATION
WP.6 TRANSPORT STATISTICS
WP.11 TRANSPORT OF PERISHABLE FOODSTUFFS
WP.15 TRANSPORT OF DANGEROUS GOODS
AC.1 JOINT MEETING RID/ADR/ADN
AC.2 JOINT MEETING OF EXPERTS ON ADN
WP.24 COMBINED TRANSPORT
WP.30 BORDER CROSSING & CUSTOMS (TIR)
AC.2 TIR
AC.3 HARMONIZATION
AC.4 POOL CONTAINERS
AC.10 COMMITTEE OF EXPERTS ON TDG & GHS
SUB-COMMITTEE OF EXPERTS ON TDG C.3
SUB-COMMITTEE OF EXPERTS ON GHS C.4

Voertuigontwikkeling

Connected Automated Vehicles (CAV)



Ontwikkeling van automatisering in CAV

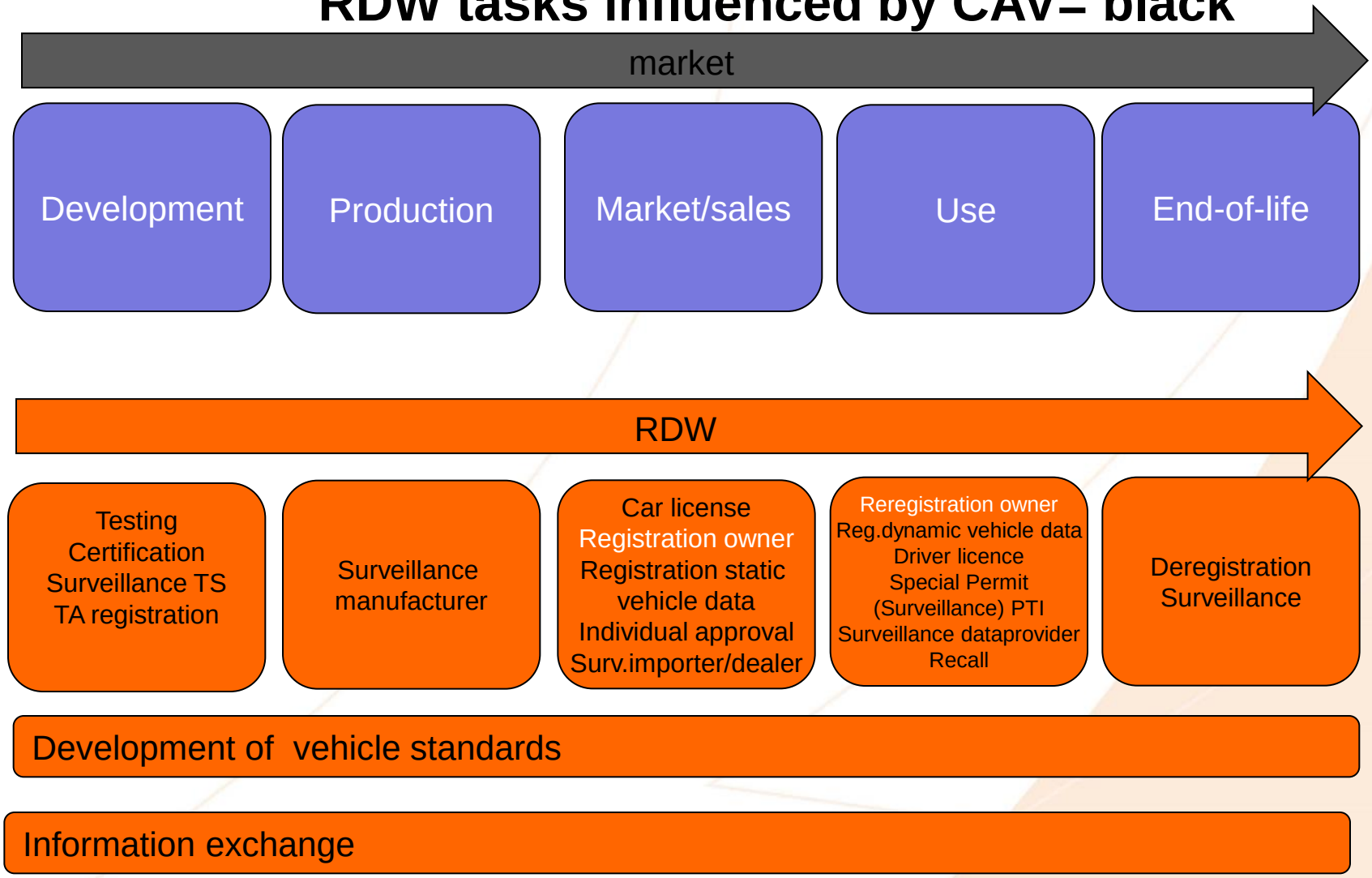
Summary of Levels of Driving Automation for On-Road Vehicles

This table summarizes SAE International's levels of *driving* automation for on-road vehicles. Information Report J3016 provides full definitions for these levels and for the italicized terms used therein. The levels are descriptive rather than normative and technical rather than legal. Elements indicate minimum rather than maximum capabilities for each level. "System" refers to the driver assistance system, combination of driver assistance systems, or *automated driving system*, as appropriate.

The table also shows how SAE's levels definitively correspond to those developed by the Germany Federal Highway Research Institute (BASt) and approximately correspond to those described by the US National Highway Traffic Safety Administration (NHTSA) in its "Preliminary Statement of Policy Concerning Automated Vehicles" of May 30, 2013.

Level	Name	Narrative definition	Execution of steering and acceleration/ deceleration	Monitoring of driving environment	Fallback performance of *dynamic driving task*	System capability (*driving modes*)	BASt level	NHTSA level
***Human driver* monitors the driving environment**								
0	**No Automation**	the full-time performance by the *human driver* of all aspects of the *dynamic driving task*, even when enhanced by warning or intervention systems	Human driver	Human driver	Human driver	n/a	Driver only	0
1	**Driver Assistance**	the *driving mode*-specific execution by a driver assistance system of either steering or acceleration/deceleration using information about the driving environment and with the expectation that the *human driver* perform all remaining aspects of the *dynamic driving task*	Human driver and system	Human driver	Human driver	Some driving modes	Assisted	1
2	**Partial Automation**	the *driving mode*-specific execution by one or more driver assistance systems of both steering and acceleration/deceleration using information about the driving environment and with the expectation that the *human driver* perform all remaining aspects of the *dynamic driving task*	**System**	Human driver	Human driver	Some driving modes	Partially automated	2
***Automated driving system* ("system") monitors the driving environment**								
3	**Conditional Automation**	the *driving mode*-specific performance by an *automated driving system* of all aspects of the *dynamic driving task* with the expectation that the *human driver* will respond appropriately to a *request to intervene*	System	**System**	Human driver	Some driving modes	Highly automated	3
4	**High Automation**	the *driving mode*-specific performance by an *automated driving system* of all aspects of the *dynamic driving task*, even if a *human driver* does not respond appropriately to a *request to intervene*	System	System	**System**	Some driving modes	Fully automated	3/4
5	**Full Automation**	the full-time performance by an *automated driving system* of all aspects of the *dynamic driving task* under all roadway and environmental conditions that can be managed by a *human driver*	System	System	System	**All driving modes**	-	

RDW tasks influenced by CAV= black



Toenemend belang van (IT) audits (1)

- Ontwikkeling:
  - certificering van softwareproducenten (bijv. ISO 26262)
  - certificering van architectuur
  - certificering van virtuele testomgeving
  - certificering van rijvaardigheid voertuig
- Productie:
  - audits op juiste inschatting fabrikant softwarewijzigingen voor typegoedkeuring
  - audits op juiste registratie van co-signature voor softwarecertificaat
- Verkoop:
  - audits op correcte registratie van softwareversie op kentekenniveau
  - import: audits op gebruik van gestolen onderdelen
  - import: audits op potentiële schade op basis van opgeslagen crashdata

Toenemend belang van (IT) audits (2)

- Gebruik:
  - audits op correcte installatie van noodzakelijke softwarewijzigingen (Recall)
  - audits op beschikbaarheid dynamische data (beschikbaarheid, tijdigheid, betrouwbaarheid)
  - audits op in-use compliance (bijv. emissies, verbruik)
  - audits op rijvaardigheid voertuig (ivm zelflerende systemen)
  - audits op security van netwerk en componenten
  - audits op gebruik van gestolen onderdelen
  - audits op potentiële schade op basis van opgeslagen crashdata
- De-registratie:
  - audits op vervallen co-signature van softwarecertificaat

Aandachtspunten vanuit regelgeving

- Testen/certificeren software, zelfcertificatie of hybride?
- Software updates
- Life cycle voertuig vs ICT
- Aansprakelijkheid
- Gedragsaanpassing
- Betrouwbaarheid techniek
- Overgangsfase met mix van voertuigen
- Harmonisatie regelgeving EU vs UNECE
- Architectuur & Databeheer/data-analyses
- Eigenaarschap van data

Toekomstplaatje

- Volledig geïntegreerde vervoersmodaliteiten
- Ombouw infrastructuur voor verkeersinfo
- Van bezit naar gebruik
- OV muteert van collectief naar individueel
- Betaling naar gebruik en servicelevel
- Van 2 naar 3 dimensies