

Simplification of the UN Lighting and Light-signalling Regulations

**Progress report on the
Stage 1, Stage 2 and
Future steps**

Workload and meeting pace

26 meetings held until now:

- | | |
|--|--|
| <i>I. 11 September 2014 in Brussels (BE)</i> | <i>XIV. 5-7 December 2016 in Brussels (BE)</i> |
| <i>II. 23 October 2014 in Geneva (CH)</i> | <i>XV. 21-23 February 2017 in Brussels (BE)</i> |
| <i>III. 14 January 2015 in Brussels (BE)</i> | <i>XVI. 22-24 March 2017 in Brussels (BE)</i> |
| <i>IV. 13 April 2015 in Geneva (CH)</i> | <i>XVII. 16-18 May 2017 in Tokyo (JP)</i> |
| <i>V. 13 October 2015 in Brussels (BE)</i> | <i>XVIII. 13-15 June 2017 in Brussels (BE)</i> |
| <i>VI. 5-6 November 2015 in Brussels (BE)</i> | <i>XIX. 12-14 July 2017 in Brussels (BE)</i> |
| <i>VII. 15-16 December 2015 in Brussels (BE)</i> | <i>XX. 4-6 October 2017 in Brussels (BE)</i> |
| <i>VIII. 13-14 January 2016 in Brussels (BE)</i> | <i>XXI. 18-21 December 2017 in Brussels (BE)</i> |
| <i>IX. 29 February & 1 March 2016 in Brussels (BE)</i> | <i>XXII. 29 Jan / 1 Feb 2018 in Shenzhen (CN)</i> |
| <i>X. 14-15 April 2016 in Brussels (BE)</i> | <i>XXIII. 4-6 April 2018 in Brussels (BE)</i> |
| <i>XI. 9-10 June 2016 in Brussels (BE)</i> | <i>XXIV. 30 May / 1 June 2018 in Brussels (BE)</i> |
| <i>XII. 5-7 September 2016 in Brussels (BE)</i> | <i>XXV. 3-5 July 2018 in Brussels (BE)</i> |
| <i>XIII. 5-7 October 2016 in Brussels (BE)</i> | <i>XXVI. 24-26 September 2018 in Brussels (BE)</i> |

Next meetings:

SLR-27 on 10-12 December 2018 in Brussels (BE)

SLR-28 on 25-27 February 2019 in Brussels (BE)

SLR-29 on 27-29 March 2019 in Brussels (BE)

SLR-30 on 22-24 May 2019 in Brussels (BE)

SLR-31 on 3-5 July 2019 in Brussels (BE)

SLR-32 on 18-20 September 2019 in Japan

Work plan and time schedule for “Stage 1”

STAGE 1	<p>The objective was to update and freeze the existing device Regulations and produce three new UN Regulations (for road illumination (RID), light-signalling (LSD) and retro-reflecting devices RRD)) based on the text of existing UN Regulations.</p> <p>This was primarily an editorial task to leave the prescriptions of the various Regulations unchanged, other than where the objectives of simplification and consolidation so required.</p>	
	Completion at GRE 80	October 2018
	Final adoption by WP.29 of the new LSD, RID and RRD Regulations and the associated package of amendments to existing Regulations	November 2018

SLR “Stage 1”

The complete package

NEW SIMPLIFIED UN REGULATIONS

- Light Signalling Devices (LSD) → [WP.29/2018/157](#) + [GRE/2018/36](#)
- Road Illumination Devices (RID) → [WP.29/2018/158](#) + [GRE/2018/37](#)
- Retro-Reflective Devices (RRD) → [WP.29/2018/159](#) + [GRE/2018/38](#)

Transitional Provisions

Coll. Amd. for Regs Nos. 3, 4, 6, 7, 19, 23, 27, 38, 50, 69, 70, 77, 87, 91, 98, 104, 112, 113, 119 and 123
[WP.29/2018/091](#) to [.../098](#), [.../103](#), [.../106](#), [.../107](#), [.../109](#), [.../112](#) to [.../119](#)
+ [GRE/2018/34](#) + [GRE-80-21 \(OICA\)](#)

Updated References to device Regs. + Reorganized and grouped definitions + Use of “**Change Index**” and its definition

- R48, series 03, 04, 05 and 06 of amendments
([WP.29/2018/102](#), [.../101](#), [.../100](#), [.../099/Rev.1](#))
- R53, series 01 and 02 of amendments
([WP.29/2018/105](#), [.../104/Rev.1](#) + [GRE/2018/35](#) as corrected by [GRE-80-05](#))
- R74, series 01 of amendments
([WP.29/2018/108/Rev.1](#))
- R86, series 00 and 01 of amendments
([WP.29/2018/111](#), [.../110/Rev.1](#))

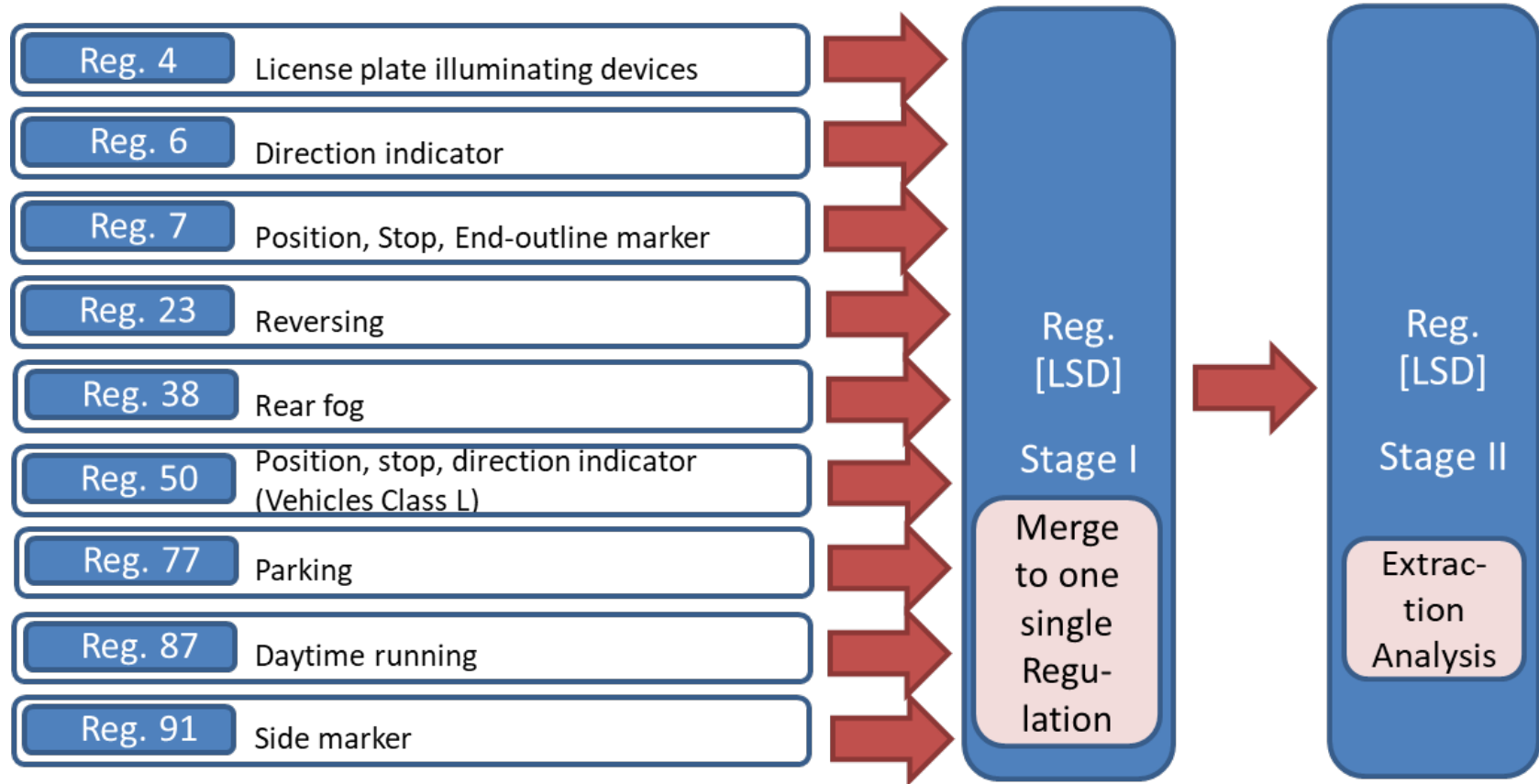
Work plan and time schedule for “Stage 2”

STAGE 2 = SIMPLIFIED REGULATIONS with technology neutral and performance based requirements

<p>STAGE 2</p>	<p>The overarching objective is to update and harmonise the technical requirements for lighting and light signalling to be <u>suitable for global implementation under the UN 1958 and 1998 agreements.</u></p>	
<p>STAGE 2 STEP 1</p>	<p>Revise the technical requirements of the new LSD, RID and RRD Regulations, to become technology neutral with performance-based and objective test requirements. Minor amendments will be required to the installation Regulations</p>	
	<p>Informal submission to GRE-82</p>	<p>October 2019</p>
	<p>Final consideration at GRE-83</p>	<p>April 2020</p>
	<p>Adoption by WP.29</p>	<p>November 2020</p>
<p>STAGE 2 STEP 2</p>	<p>Simplify and update the technical requirements of the UN installation Regulations (48, 53, 74, 86), to become technology neutral with performance-based and objective test requirements</p>	
	<p>Informal submission to GRE-86</p>	<p>October 2021</p>
	<p>Final consideration at GRE-87</p>	<p>April 2022</p>
	<p>Adoption by WP.29</p>	<p>November 2022</p>

LIGHT SIGNALLING DEVICES (LSD)

Stage II – Regulation No. [LSD]



SIMPLIFICATION

Technology independent

Objective test-methods

Performance based

Stage II – Regulation No. [LSD]

Main topics to be worked on in future

- Rearrangement of the requirements -> §5.x.x
- Align „D“ and „Y“ lamp provisions -> §4.4
- Light source module definition -> §4.3.2.ff
- Harmonise failure provisions -> §4.6. (see also §5.4.4.ff)
- Rear registration plate lamp – harmonisation -> §5.11.
- Reversing lamp – improvement -> §5.8.
- Rear fog lamp – improvement -> §5.9.
- Additional functions -> New §x.y.
- Move requirements to main text -> Annex 2,3

ROAD ILLUMINATION DEVICES (RID)

Currently



- R112 Class A
- Class B
- Class AR
- Class BR
- R98 Class DC
- Class DR
- R123 Class C
- Class E
- Class V
- Class W
- Class XR
- ADB
- R113 Class AS
- Class BS
- Class CS
- Class DS
- Class ES
- Class R-BS
- Class R-CS
- Class R- DS
- Class R- ES
- R19 Class B- F3
- R119 Class K

6 regulations
24 Beam patterns

RID "Stage 1"

- Class A
- Class B
- Class AR
- Class BR
- Class DC
- Class DR
- Class C
- Class E
- Class V
- Class W
- Class XR
- ADB
- Class AS
- Class BS
- Class CS
- Class DS
- Class ES
- Class R-BS
- Class R-CS
- Class R- DS
- Class R- ES
- Class F3
- Class K

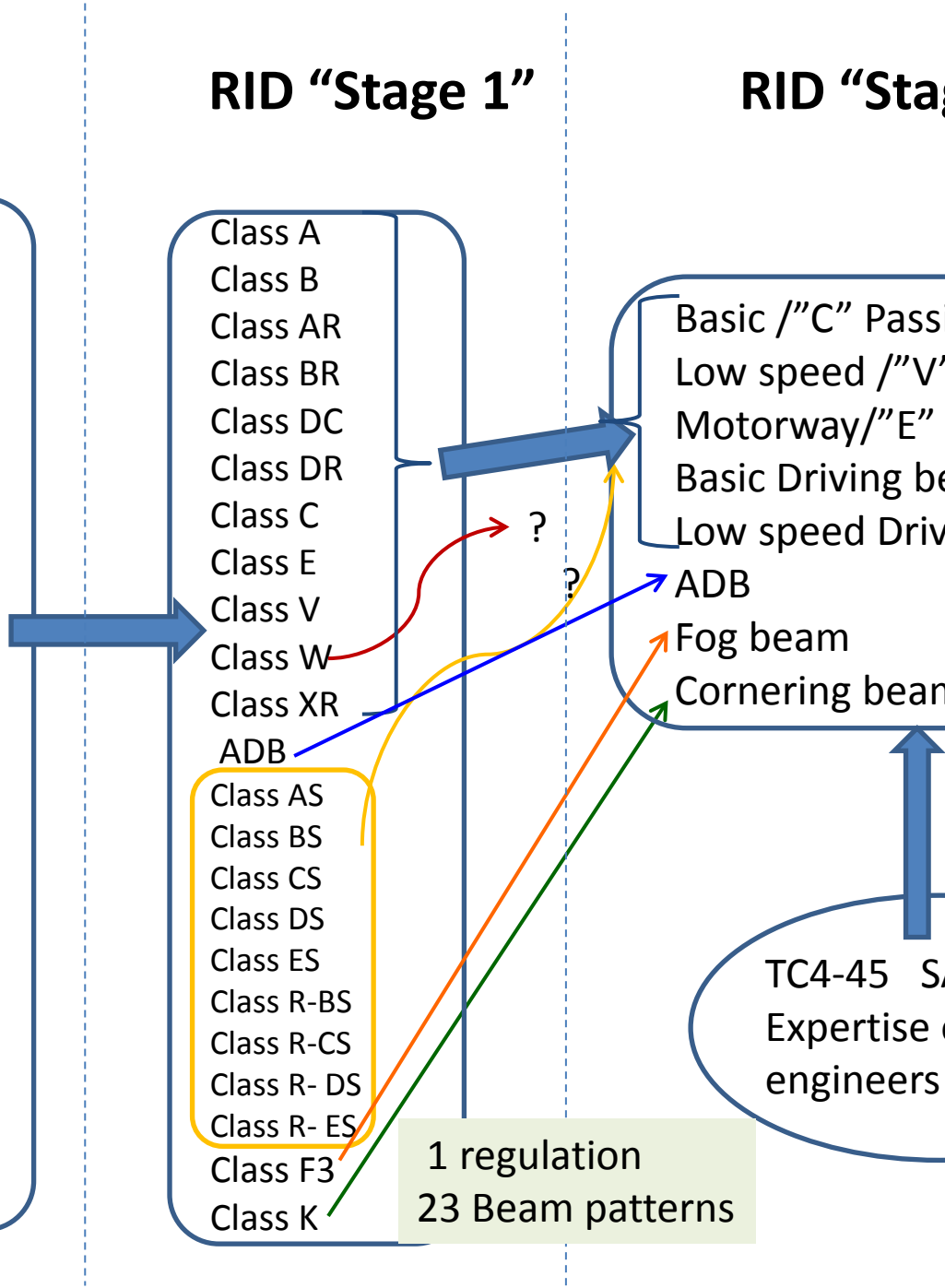
1 regulation
23 Beam patterns

RID "Stage 2"

- Basic /"C" Passing beam
- Low speed /"V" Passing beam
- Motorway/"E" Passing beam
- Basic Driving beam
- Low speed Driving beam
- ADB
- Fog beam
- Cornering beam

1 regulation
8 ? Beam patterns

TC4-45 SAE J2829
Expertise of Optical engineers



Installation requirements after SLR “Step 1”



Class B, BR
 Class DC, DR
 Class C
 Class E
 Class V
 Class W
 Class XR
 ADB
 Class F3
 Class K

R48



Class A, AR
 Class B, BR
 Class DC, DR
 Class AS
 Class BS, R-BS
 Class CS, R-CS
 Class DS, R-DS
 Class ES, R-ES
 Class F3
 Class K

R86



R74

< 50 Km / h

AS
 BS, R-BS
 CS, R-CS
 DS, R-DS
 ES, R-ES
 A, AR
 B, BR



R53

<125 cm³

CS, R-CS
 DS, R-DS
 ES, R-ES
 Class B, BR
 Class DC, DR
 F3



>125 cm³

2 x CS, 2 x R-CS
 DS, R-DS
 ES, R-ES
 A, AR
 B, BR
 DC, DR
 F3

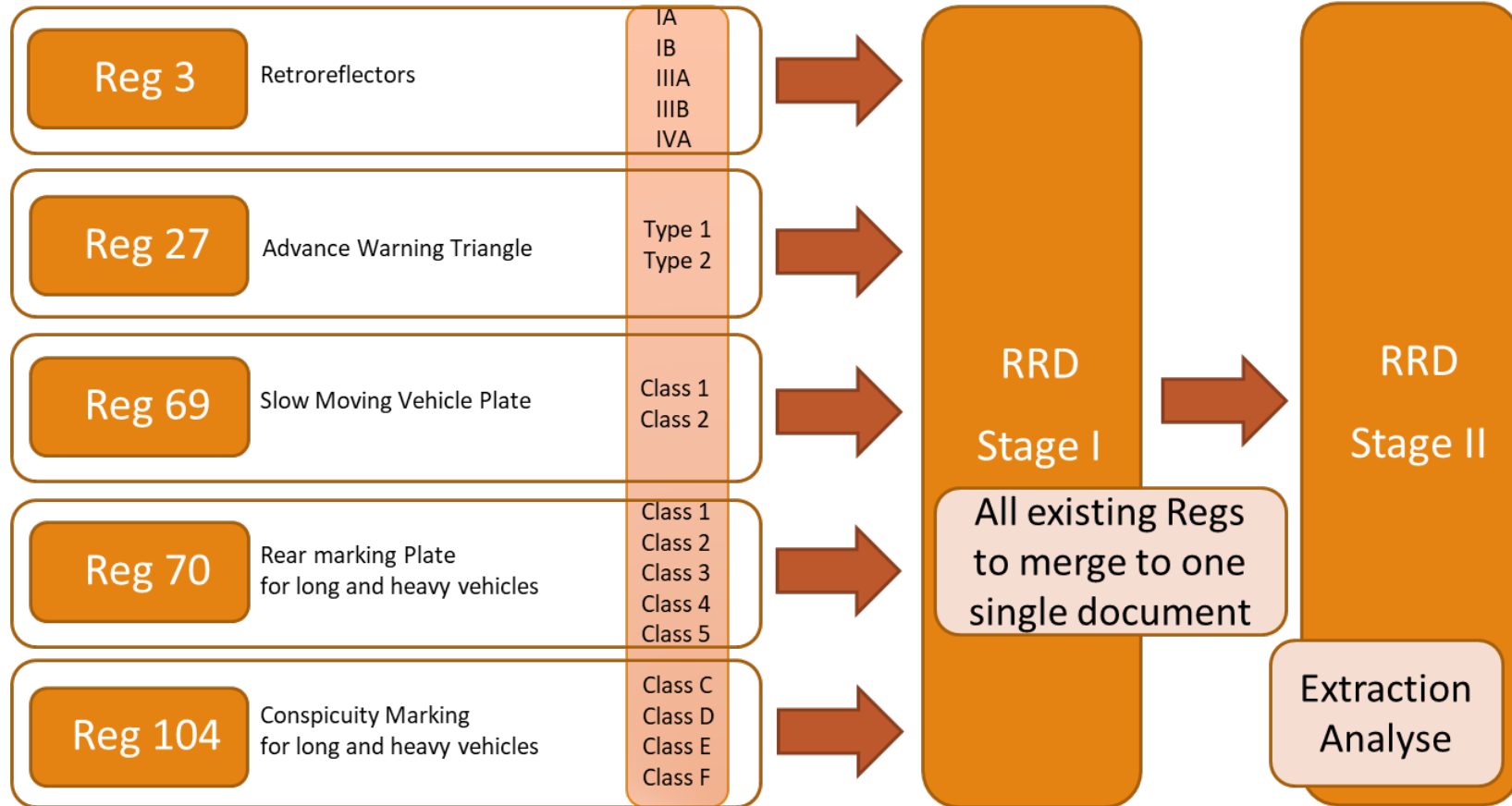
GREEN colour means «optional»

BLACK colour means «mandatory»

Should the beam requirements be based on the category of the vehicle?

RETRO REFLECTIVE DEVICES (RRD)

Stage II – Regulation No. [RRD]



System of classes

SIMPLIFICATION

Performance based

Harmonized test-methodes

Independent from technology

Stage II – Regulation No. [RRD]

Main topics to be worked on in future

- Requirements for CIL for retroreflective devices – classes
- Requirements for $R' (R_A)$ for retroreflective devices/markings – classes
- Colorimetric requirements – daytime and nighttime visibility enhanced visibility
- Photometric measurement conditions – to define independent from device
- Water-penetration test and corrosion test independent from the device
- Weathering test (colour fastness) to adapt to state of the art testing
- Mechanical requirements to define testing independent from device
- Chemical and environmental requirements - testing independent from device
- Specific requirements and testing, which is depending from the device

FUTURE STEPS...

**Updated Terms of Reference and Rules of Procedure for the
Informal Working Group "Simplification of the Lighting and
Light-Signalling Regulations" (SLR)**

SOME OF THE MAJOR PROJECT STEPS

- Develop, unless technically not feasible, performance-based and technology-neutral requirements to **ensure freedom for technical innovation within a framework of safety principles**.
- **Simplify, adhering to a technology-neutral approach, the Installation Regulations** (Reg. Nos. 48, 53, 74 and 86). All working documents on lighting installation Regulations whose purpose is to improve the performance-based and technology-neutral approach shall be taken into account.
- **Take over and consider the outcome of IWG VGL**, based on the discussion document GRE-79-29 as recommended by GRE-79 (ECE/TRANS/WP.29/GRE/79, Par. 31).
- Draft the technical requirements for lighting and light signalling to make them **suitable for implementation under the UN 1958 and 1998 agreements**.