This document is an attempt to consolidate the positions of the parties after the 9th meeting of the GRRF informal group held in Tokyo in October 2010. *

AEBS-M proposed test scenario (Collision mitigation)

Common agreements:

- Initial distance between subject and target : > 120 m
- Vehicle centreline offset: < 0.5 m
- - Subject vehicle initial speed: 80 km/h
- HMI: text limited to the 2 latest warnings and principle of a warning cascade is adopted

	Moving target / Stationary	0	Criteria		ail criter																
	/ Stationary target	target speed		reduction (warning phase inclusive)				[Soonest time for 1 st warning] (s)				Lates		for 1 st warning (s)	Latest time	for 2 nd warning		1 st regulated arning		2 nd regulated arning	
				M3 (km/h)	N3 (km/h)	M2 (km/h)	N2 (km/h)	M3	N3	M2	N2	M3	N3	M2 N2	M3 N3	M2 N2	M3 N3	M2 N2	M3 N3	M2 N2	_
J	Moving target	30 ⁺⁴ / ₋₀ km/h	Subject vehicle speed reduction, measured at the time of collision.		[50]	[Y ₁]	[Y ₂]			2.5		1	.4	0.8	0.8	0.8	1 st warning not optical	No position	2 nd means different to the 1st	No position	Necessary to consider Overreliance, Interruption of driver operation, False brake,
	Stationary target		No emergency braking before 3.0 s TTC	[20]	[20]	[X ₁]	[X ₂]			2.5		0).8	0.8	0.8	0.8	1 st warning not optical	No position	2 nd means different to the 1st	No position	False alarm, etc. Maximum braking demand $\geq 4m/s^2$ for N category. For M2/N2,nuisances could be reduced if the 1 st warning is brought back to 0.8s, hence the need for a cascade collapses Can accept 1 Regulation only. Was keen to follow the GRRF recommendation for 2 Regulations, but can support 1 Regulation only
CLEPA	Moving target	15 ± 1 km/h	No collision	> 65	> 65	No po	sition	2.5	/ 2.0	2.:	5 / 2.0	No po	osition	No position	1.4	No position	1 st warning not optical	No position	2 nd means different to the 1st	No position	Warning time window: If the window is wide, perhaps need to limit the maximum
	Stationary target	t	Subject vehicle speed reduction, measured at the time of collision	> 65	> 65	No po	sition	2.5	/ 2.0	2.:	5 / 2.0	No po	osition	No position	1.4	No position	1 st warning not optical	No position	2 nd means different to the 1st	No position	deceleration provoked by the warning braking. <u>Warning cascade</u> : not against, but finds it non necessary
OICA	Moving target	30 ⁺⁴ / ₋₀ km/h	No collision	No pos	sition			Pr	inciple r	not suppo	orted	No po	osition	No position	No position	No position	Any means	Any means	2 nd means different to the 1st	2 nd means different to the 1st	 No advantage of having 2 Regulations for one system No vehicle of category
	Stationary target		Subject vehicle speed reduction, measured at the time of collision.					Principle not supported				No po	osition	No position	No position	No position	Any means	Any means	2 nd means different to the 1st	2 nd means different to the 1st	 M2/N2 is equipped with AEBS technology at this point in time, no experience. Warning time window is restrictive against early warning, hence against safety The "no position" mainly reflect that we are keen to have 1 Regulation only. But table is OK
D	Moving target	30 ⁺⁴ / ₋₀ km/h	No collision	[50]	[50]	Later	step	Princip suppor		Later	step	compro possibl		Later step	compromise possible	Later step	1 st warning not optical	No position	2 nd means different to the 1st	No position	Warning time window: need for time to investigate the proper values.
	Stationary target	t	Position to be clarified	Position to be Later step clarified				Principle supported		Later step		2.0)	Later step	No position	Later step	1 st warning not optical	No position	2 nd means different to the 1st	No position	Mitigation is not important, do not support mitigation

	Moving target / Stationary	Moving target	Criteria	Pass/fa	ail criter	ion: spe rning ph	ed									Н	MI									Comment
	•	speed		inclusi		ning pi	ase	[Soonest time for 1 st warning] (s)			Lates		or 1 st wa	rning	Lat	est time f		varning	M			gulated	Mean		^{1d} regulated	
				M3	N3	M2	N2	M3	N3	s) M2 N2	M3	N3	(s) M2	N2	M3	N3	(s) M2	N2	M3	N3	rning M		M3 1	warı N3	M2 N2	_
UK	Moving target	30 ⁺⁴ / ₋₀ km/h	Avoid collision, assuming that system performance in real world conditions:	(km/h) [50]	(km/h) [50]	whethe	nion on	Principl support		Principle supported	1.4		No pos	l sition	0.8		No po	osition	1 st war not opt		N	o position	2 nd means different t the 1st		No position	 Warning time window: avoids system intervention while normal driving. [2.5 - 2.0] s for the ease of
	Stationary target		 Avoids false brake application Does not prevent the driver from taking action to avoid collision 	Position to be clarified		no opinion on whether discrimination 2vs3 or MvsN		Principl be remo		Principle to be removed	1.4		No pos	ition	0.8		No po	osition	1 st war not opt		N	o position	2 nd means different to the 1st		No position	 the Technical Service could extend the window to be less design restrictive Can accept one Regulation only, if possible. Was keen to follow the GRRF recommendation for 2 Regulations, but can support
NL	Moving target	30 ⁺⁴ / ₋₀ km/h	No collision	[50]	[50]	[50]	[50]	Principl	le not su	pported	1.4		1.4		0.8		0.8		1 st war not opt		N	o position	2 nd means different t the 1st		No position	 1 Regulation only OK with [1,4s] as a compromise between 0,8 and 2 s
	Stationary target		Position to be clarified	Positi on to be clarifie d	Positi on to be clarifie d	Positi on to be clarifie d	Positi on to be clarifie d	Principl	le not su	pported	1.4		1.4		0.8		0.8		1 st war not opt		N	o position	2 nd means different t the 1st		No position	 no need to make a difference in speed reduction between the categories. For category 2, need for at least the same performance as for Cat3. Need to discriminate among the cat 2. Warning strategy: Cascade, same value for all scenarios Keen to have one Regulation only to keep the spirit of the 58 Agreement. Supports staggered approach as
S	Moving target	30 ⁺⁴ / ₋₀ km/h	No collision	[50]	[50]	No pos	sition	Principl	le not su	pported	1.4		No pos	sition	0.8		No po	osition	not o	ptical	1	not optical	2 nd mea different the 1s	t to	2 nd means different to the 1st	proposed by OICA and UK. Aim is to avoid nuisance alarm. AEBS cannot prevent suicide. Sleeping driver is no
	Stationary target		Speed reduction	10	10	No pos	sition	Principl	le not su	pported	1.4		No pos	sition	0.8		No po	osition								driver anymore. AEBS can be an incentive to improve driver's attention
DK**	Mari	No No collision (at least position in the moving target scenario)		availat		chnolog	y is	D		osition	Not late 2 s	er than	No pos	ition		No p	position					No position				 wish for AEBS - CC/ACC connection (the inf gr however decided not to follow this suggestion) wish for the strongest demands on AEBS from the beginning <i>or</i> already introducing both 1. and 2. stage (2. stage being what is state of the art for the good systems already today, but maybe not possible to reach for everybody already in 2013).
F	Moving target Stationary target	30	No collision Position to be	50 No col	llision	50 No pos	sition	Principl Principl			1.4 Not late	er than	1.4 No posi	ition	0.8 No p	osition	0.8 No po	osition	_			No	position			Latest warning time: Minimum reaction time provided by the surveys (J, ITS), increased by the time necessary to take into account the drowsiness
PL**	-	No position	clarified No collision	No col	llision	No pos	sition	No posi	tion		2s Not late 2s	er than	No pos	ition	No p	osition	No po	osition				No	position			Latest warning time: Not earlier than 2.5 sec

	Moving targetMovingCriteriaPass/fail criterion: speed/ Stationarytargetreduction (warning phase							HMI																Comment				
	target	speed		inclus		rning pr	ase	[Soone	est time	for 1 st wa	arning]	Late	st time f	for 1st พ ย (ร)	arning	Late	st time f	for 2 nd w	arning	M	leans of 1 way	l st regula ming	ited	Means of 2 nd regulated warning			ated	
				M3 (km/h)	N3 (km/h)	M2 (km/h)	N2 (km/h)	M3	N3	M2	N2	M3	N3	M2	N2	M3	N3	M2	N2	M3	N3	M2	N2	M3	N3	M2	N2	
ROK*	Moving target Stationary targe	km/h	No position	No po		Later (or, N positio	step o	No pos	ition			1.4		No po	sition	0.8		No po	sition		varning optical	No p	osition	diffe	means rent to e 1st	No p	osition	 1,4s for 1st warning as a compromise between 0,8 and 2 s In Principle, support the idea of "False warning test or false braking test"

ROK communicated a position by an email sent to the informal group Secretariat on 4 December 2010.
 DK and PL did not take part to the meetings subsequent to the 68th session of GRRF (September 2010). As a consequence the positions of those Contracting Parties do not reflect the new situation of one Regulation addressing collision mitigation and one Regulation addressing collision avoidance.

AEBS-A proposed test scenario (Collision avoidance)

- Common agreements:Initial distance between subject and target :> 120 m
 - Vehicle centreline offset: < 0.5 m
 - Subject vehicle initial speed: 80 km/h
 - HMI: text limited to the 2 latest warnings and principle of a warning cascade is adopted

	target	Criteria		s/fail cri												HM	11							False	Comment	
	speed (km/h)		redu		varnin usive)	ng phase	[So	E				atest tin warı (s	ning				ne for 2 nd ng (s)	Mean		st regul ning	ated		2 nd regulated ming	- warning test/ False		
			M3 (km/ h)	N3 (km/ h)	M2 (km h)	n/ (km/	M3	N3	M2	N2	M3	N3	M2	2 N2	M3 N	N3	M2 N2	M3	N3	M2	N2	M3 N3	M2 N2	- braking test		
J	Position to be clarified	Position to be clarified	Posit ion to be clarif ied	Posit ion to be clarif ied	Posi ion to b clar ied	it Posit ion e to be	Positio	on to be	clarified		Positio be cla			ition to clarified	Position t be clarifie		Position to be clarified	Positior be clari	fied	Positi be cla		Position to be clarified	Position to be clarified	No support / support	Necessary to consider Overreliance, Interruption of driver operation, False brake, False alarm, etc. Maximum braking demand $\geq 4m/s^2$ for N category. For M2/N2,nuisances could be reduced if the 1 st warning is brought back to 0.8s, hence the need for a cascade collapses All requirements should be aligned on AEBS-M performance requirements.	
CLEPA	15 ± 1	 mean fully developed deceleration of at least 5 m/s² No impact 	> 65	> 65	No	o position	Position be class	rified	Positio be clar	ified	2	.0	No	position	1.4		No position	Positior be clari		Positi be cla		Position to be clarified	Position to be clarified	Support / Support	 <u>Warning time window</u>: If the window is wide, perhaps need to limit the maximum deceleration provoked by the warning braking. <u>Warning cascade</u>: not against, but finds it non necessary No need to align collision mitigation and collision avoidance Regulations. Collision avoidance needs earlier warning compared to collision mitigation Changes of position as in AEBS/LDWS-10-02 Then suggests to C/P to the AEBS-M Regulation. 	
OICA	No position	No collision		No po	ositior	n	Prin	ciple no	ot suppoi	rted		osition	No	position	No positi	ion	No position	Any mo	eans	Any i	neans	2 nd means different to the 1st	2 nd means different to the 1st	No support / no support	 No advantage of having 2 Regulations for one system No vehicle of category M2/N2 is equipped with AEBS technology at this point in time, no experience. Warning time window is restrictive against early warning, hence against safety No false braking nor false warning test because no safety benefits 	
D	No position	No collision	Posit ion to be	Posit ion to be	La	ater step	Prine supp	ciple orted	Later	step	Positi be cla		La	ater step	Position be clarifi		Later step	Positior be clari		Position be cla		Position to be clarified	Position to be clarified	No support / no support	Warning time window: need for time to investigate the proper values. 1 test and no more in the Type	

	target	Criteria		s/fail cri iction (w								H	IMI						False warning	Comment
	speed (km/h)		reat		usive)	pnase	-	time for 1 st ing] (s)	La	war	me for 1st ming s)		ime for 2 nd ning (s)		s of 1 st reg warning	0		n nd regulated ning	test/ False	
			M3 (km/ h)	N3 (km/ h)	M2 (km/ h)	N2 (km/ h)	M3 N3	M2 N2	M3	N3	M2 N2	M3 N3	M2 N2	M3	N3 M	2 N2	M3 N3	M2 N2	 braking test 	
			clarif ied	clarif ied	,)				l										Approval, i.e. collision avoidance test
UK	Position to be defined	No collision	Posit ion to be clarif ied	Posit ion to be clarif ied	no opinion on whether discriminatio n 2vs3 or MvsN		Principle supported	Principle supported	Positio be clar		Position to be clarified	Position to be clarified	Position to be clarified	Position be clarif		sition to clarified	Position to be clarified	Position to be clarified	Position to be clarified	 Warning time window: avoids system intervention while normal driving. [2.5 - 2.0] s for the ease of the Technical Service could extend the window to be less design restrictive keen to harmonize the requirements, i.e. addition of a stationary target test in Avoidance Regulation.
NL	Position to be defined	No collision	Posit ion to be clarif ied	Posit ion to be clarif ied	Posit ion to be clarif ied	Posit ion to be clarif ied	Principle n	ot supported	Positio be clar		Position to be clarified	Position to be clarified	Position to be clarified	Position be clarif		sition to clarified	Position to be clarified	Position to be clarified	No support / support	 OK with [1,4s] as a compromise between 0,8 and 2 s no need to make a difference in speed reduction between the categories. For category 2, need for at least the same performance as for Cat3. Need to discriminate among the cat 2. Warning strategy: Cascade, same value for all scenarios Supports a false warning test according the J proposal. Warning braking would then be forbidden in the test.
S	10	No collision	Not le 70 km	ss than /h		ess than km/h	Principle n	ot supported	2.0		1.4	0.8	0.8	not opti	cal n	ot optical	2 nd means different to the 1st	2 nd means different to the 1st	No support / support	1 test and no more in the Type Approval , i.e. collision test
F									2s		2s	1.4	1.4		1		1	1		
ROK	[30 ⁺⁴ / ₋₀ km/h]	No collision	No pos	sition	Late	r step	No p	osition	1.4		No position	0.8	No position	1 st warn: not optio		o position	2 nd means different to the 1st	No position	support / support	 Same target speed with AEBS-M scenario in principle 1,4s for 1st warning as a compromise between 0,8 and 2 s In Principle, support the idea of "False warning test or false braking test"