

Informal document No. GRE-65-38
(65th GRE, 28-31 March 2011,
agenda item 15(b))

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Item 0.4

GTB Working Group Light Sources

Status February 2011



Please view in presentation mode; animations included

Content

- Scope
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- Organization
 - Working group
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Scope

“ All aspects of light sources”
within the scope of GTB

Agenda

- Regulation 37
- Regulation 99
- Regulation xxx LED light sources

- Other light source matters
 - Light Source Modules
 - Non-replaceable filament lamps
- IEC, ISO and CIE
- US

Organization - groups

Working Group

Task forces

Active

- LED light source categories (R_{LED} , LR1, ...)

Closed (2000-2010)

- D5S
- Light source control gear
- DRL light source categories (P13W, H15)
- AFS light source categories

Organization - tools

Tools

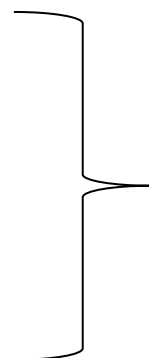
- List of work items
- Progress of amendments sheet
- Consolidated regulations at different stages
- Criteria tool for evaluation of proposals for new light source categories

Throughput time new light source categories:
37 months average (1st proposal – enter into force)

Progress - groups

Work item

- 1st Proposal
 - Origin
 - Date
- WG LS
- GTB
- GRE
- WP.29
- Expected date of enforcement



- Document numbers
- Date of approval

Progress - documents

Example

Item	WG LS	GTB	GRE	Proposal	1 st	Subject	WP.29	R37
wi 055	LS-0249 10/07 LS-0352 05/08 LS-0383 LS-0417,8 LS-0444,5	CE-4151 10/03 CE-4130	GRE/2009/10 03/09	Germany	05/05	Colour spread test	WP.29/2009/87 11/09	Draft Suppl .34
wi 014	LS-0353, LS-0369, 05/08 LS-0375-77 LS-0381,2, LS-0416			WGP/2007/08	03/06	Colour endurance test		
wi 057	LS-0387 05/08 LS-0458 LS-0461 LS-0473 LS-0474 LS-0479 LS-0490 LS-0492,...5 LS-0500 LS-0508	(CE-4178) GTB-106-32 12/08 CE-4238	GRE/2009/13 03/09	Europe	09/07	PSX26W		
wi 051	(LS-0284 inf.) 10/08 LS-0335,6 LS-0349,50 LS-0399, LS-0408,9 LS-0411,23 LS-0459	CE-4223 GTB-106-31 10/08 CE-4269	GRE/2009/14 03/09	Japan	10/06	HS5A		
wi 060	LS-0414, LS-0450 LS-0467 LS-0477 LS-0493 LS-0509 10/08	GTB-106-33 12/08 CE-4239	GRE/2009/15 03/09	Europe	04/08	H16		

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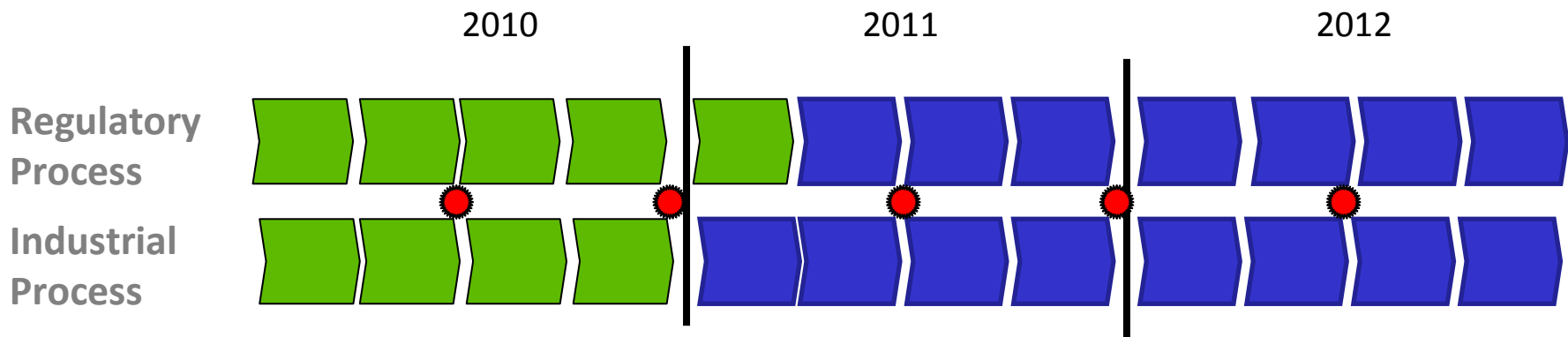
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Progress - alignment

- Light source regulations prescribe interchangeability requirements and allow less design freedom
- No development nor investments without sales is foreseen



- The regulatory process goes hand in hand with development process
- Progress of amendments info is necessary for alignment of industrial milestones

Progress – after GRE

- In force
Original/ Revision/ Amendment/ Corrigendum
- Entered in force
Official documents awaited
(WP.29 documents to be converted and published)
- Expected date of entry into force
Amendment (6-9 months after WP.29)
Corrigendum (WP.29 decision)
- Good guess of a date of entry into force
After GRE approval

Progress – after GRE

Example

In force;
Official publications
awaited

Expected date of entry into
force

Expected date of entry into
force

Good guess of date of entry
into force

			WP.29	in force	notification / progress
Corr. 1	to Suppl. 34	June 2010		19-08-2010	30-07-2010 / WP.29/2010/88
Corr. 2	to Suppl. 32	November 2010		Ab inito	23-12-2010 / WP.29/2010/103
Suppl. 35		March 2010		09-12-2010	10-12-2010 / WP.29/2010/17
Corr. 1	to Suppl. 35	November 2010		ab inito 09-12-2010	23-12-2010 / WP.29/2010/104
Draft Corr. 2	to Suppl. 34	[March 2011]	[March 2011]	[March 2011]	WP.29/2011/22
Draft Corr. 2	to Suppl. 35	[March 2011]	[March 2011]	[March 2011]	WP.29/2011/23
Draft Suppl. 36		November 2010	[23-06-2011]	[23-06-2011]	WP.29/2010/94
Draft Corr. 1	to Suppl. 36	[March 2011]	[23-06-2011]	[23-06-2011]	WP.29/2011/24
Draft Suppl. 37		[March 2011]	[Q4 2011]	[Q4 2011]	WP.29/2011/70

	To be awaited
	Awaiting conversion into Amendment or Corrigendum (at the appropriate moment)

Progress – items after GRE

Completed WG LS proposals on track to entry into force/ publication

Regulation	Work item	New		Amendments	Corrections	Maintenance (Permanent Work items)
		Regulation Text	Category			
General	wi 034			Light Source Control Gear (Definition of objective luminous flux)		
R37	wi 065		H16B			
	wi 028				Addition of ref. lum. flux at 13.2V for H16, H16B and PSX26W	
	wi 028				Repetition correction O-ring issue for S categories of P19 and 24W	
	wi 042					Deletion of light source categories (P19W, PC16W, PCR16W, PCY16W, PR19W, PR24W, PSR19W, PSR24W, PY19W)
	wi 068			Voltage controlled dual halogen light source H9 and H9B		
	wi 028			Definition of filament lamp missing		
	wi 042					Deletion of light source categories (F14, S2, S3, all 6V)
R99	wi 066		D5S, D6S			
	wi 066		D7S			
R-LED	wi 033	New draft Regulation for LED light sources				
	wi 064		LR1			

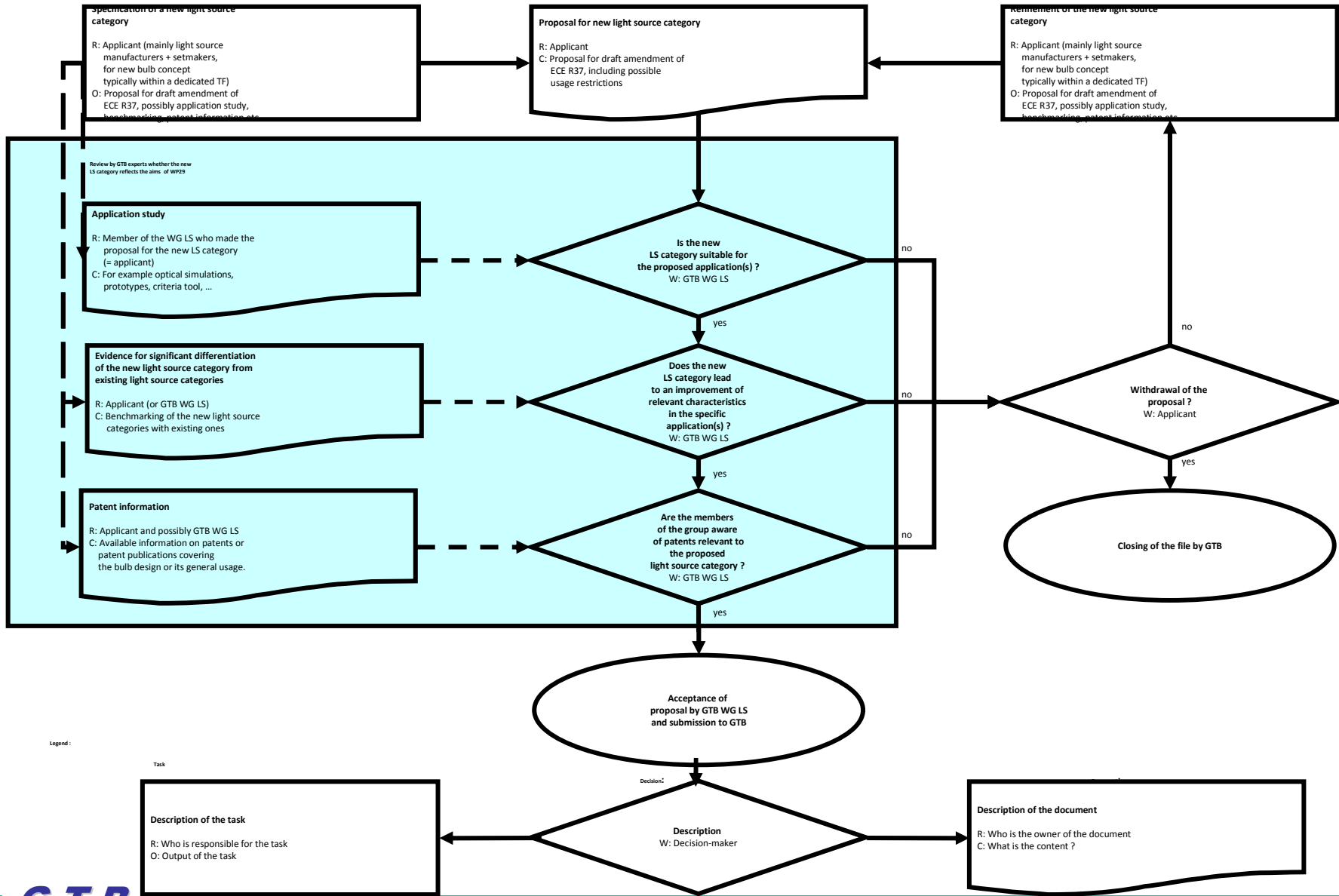
Evaluation

Criteria “tool”

GRE/2009/32

- Evaluation criteria that are applied to filament lamps of normal production
- Maintain excel base of data

- Light source regulations R37, R99 and R_{led}
 - Photometric, electrical and dimensional characteristics
 - Different character than other regulations: categories are standardized
- State-of-the-art technology (as in signatory countries)
- Other characteristics as formulated by WP.29:
 - higher levels of
vehicle safety, environmental protection, energy efficiency
 - a need to reduce the diversity



Work items - 1

Permanent

- wi 028 Updating cap references IEC60061
- wi 042 Phasing out light source categories/ types
- wi 046 Maintain evaluation results of
new proposed categories in an EXCEL base

New

- wi 067 Category H17
- wi 061 P(R)15/5W (India)
- wi 033 LED light sources; new categories LW2 and LR3

Work items - 2

Changes

- wi 028 H27W/1 and H27W/2, definition of γ_1 and γ_2
- wi 042 Phasing out of light source categories; set 3

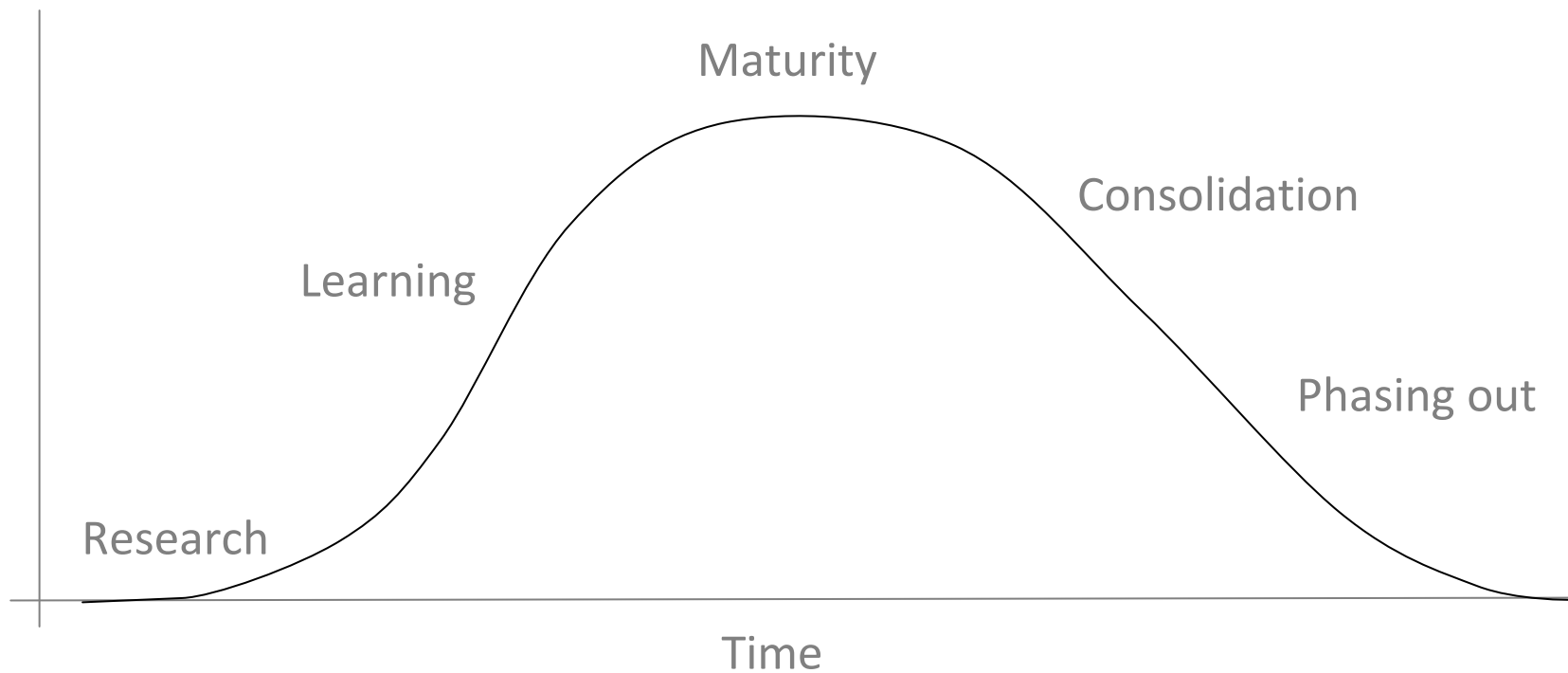
Other light source related issues

- wi 013 Non-replaceable filament lamps testing (ECE and IEC)

Other standards

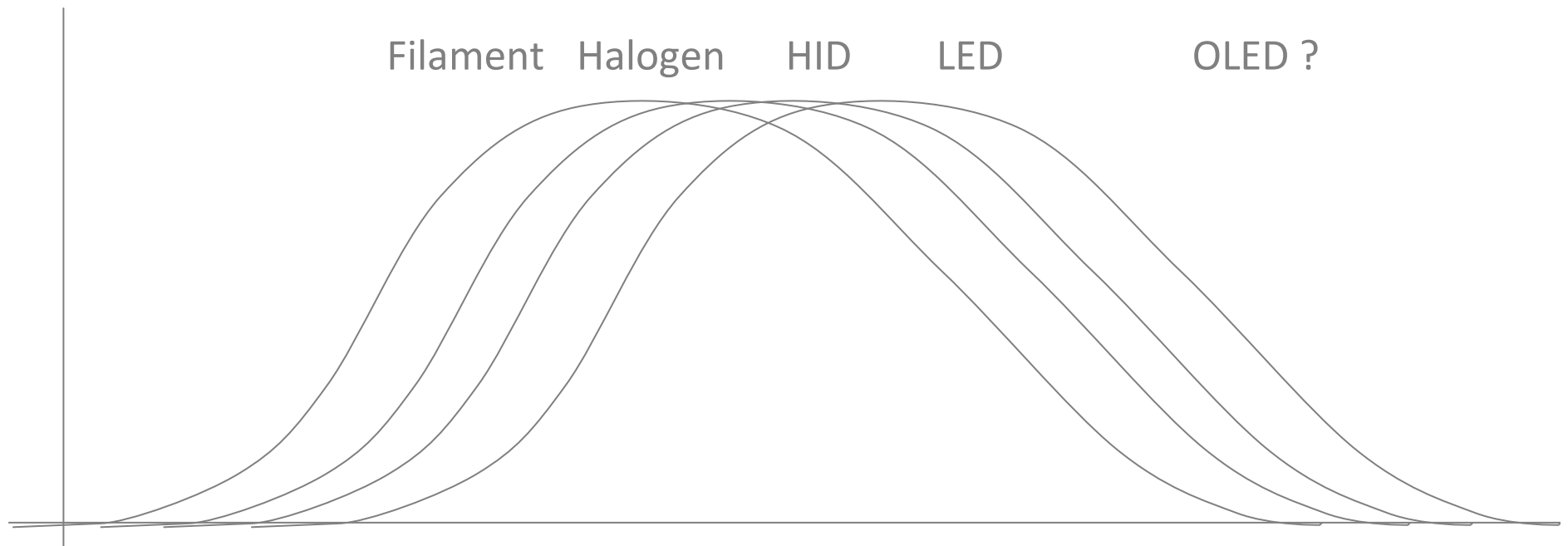
- wi 017 IEC 60809: Removal of sheets that are in R37, R99
- wi 018 IEC 60810: Test requirements for LED light sources

Outlook - theoretical



Not on scale

Technology curves - theoretical



Not on scale

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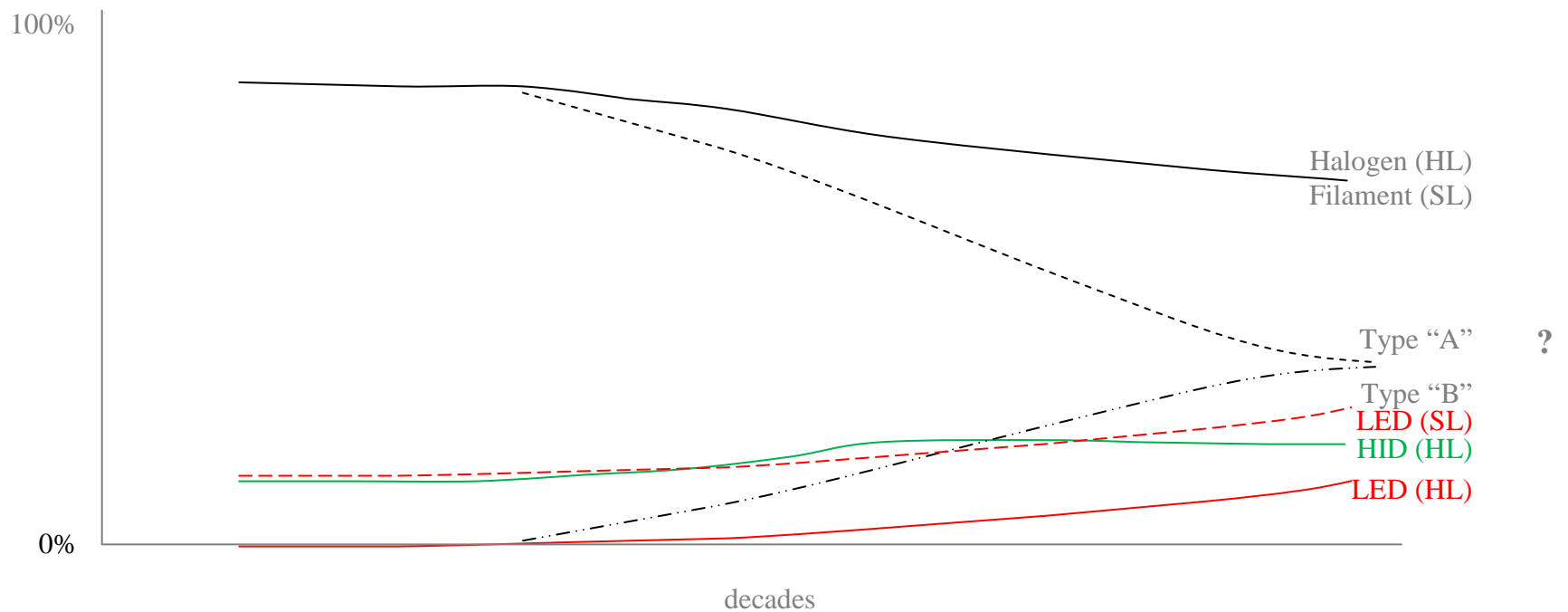
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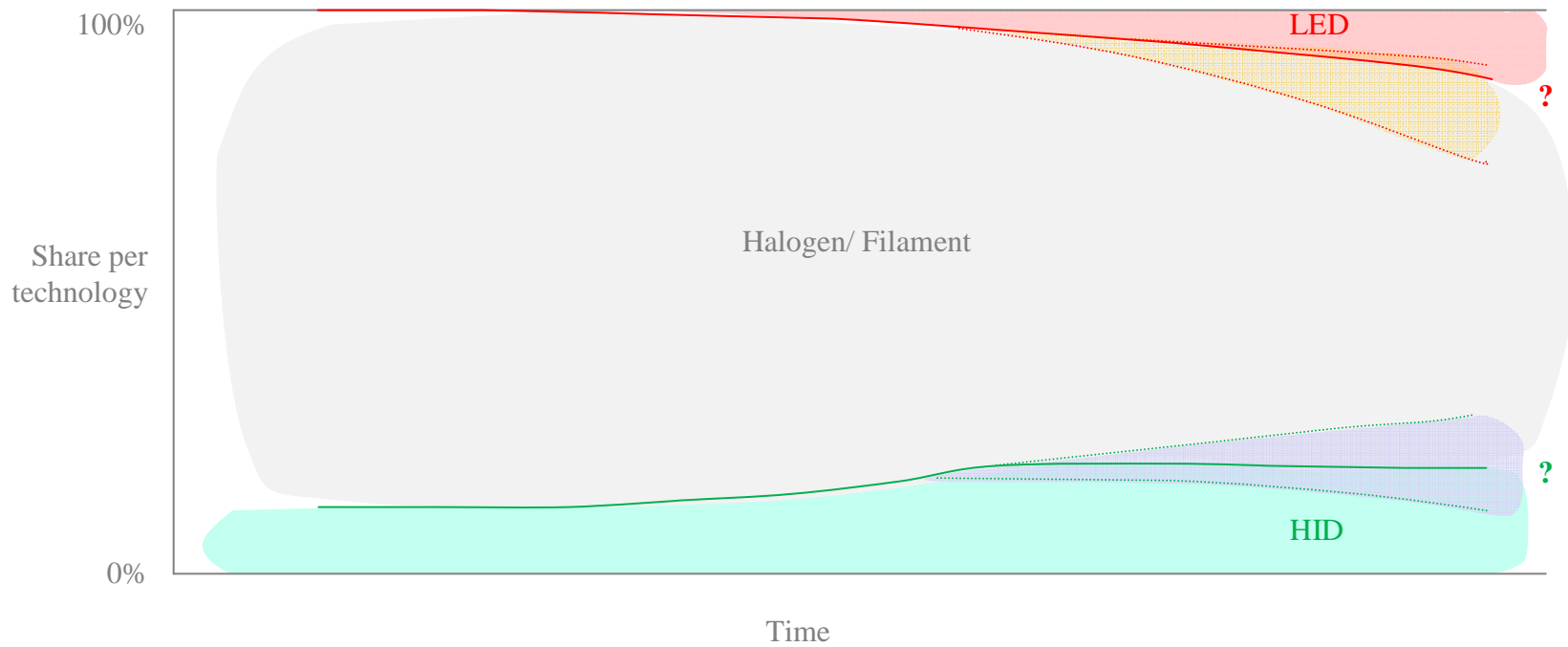
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Technology curves ?



Not on scale

Outlook ?



Not on scale

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Question

Considering requirements to *approved* light sources:

Enforcement in the aftermarket is well defined?

--- 2010 ---

--- 2000 ---

--- 1990 ---

--- 1980 ---

--- 1970 ---

--- 1960 ---

--- 1950 ---

--- 1920 ---

--- 1900 ---

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Automotive Tree of Light

Tree adapted from <http://www.dragonartz.net/>



END

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