

Presentation of Results

Study on Type approval requirements for the general safety of motor vehicles





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Introduction

- Study report based on the questions raised by the European Parliament on the proposal for a Regulation concerning type approval requirements for the general safety of motor vehicles.
- Centred on mandatory safety devices, tyre requirements, and noise emissions. Safety and environmental objectives of the proposal.
- The study is based on a thorough literature review, as well as a full analysis of available tyre test reports. Complemented by a survey and feedback from different stakeholders most likely to be affected by type approval requirements.

Tyre Pressure Monitoring Systems



- Definition
- Types
 - Direct (Active)
 - ✓ Pressure (± 0.1 bar), Temperature ($\pm 2^{\circ}\text{C}$),
 - ✓ Detection almost real time,
 - ✓ Independent from tyre type
 - Indirect (Passive)
 - ✓ Only pressure (deviation 30%), Detection time at least 5 min,
 - ✓ Dependant on tyre type
- Costs
- Underinflation
 - Effect on vehicle: Aquaplaning, Endurance, External impacts, Tread wear, Rolling resistance, Rolling noise, Wet grip, Handling, Tyre Integrity, Fuel consumption, Stability

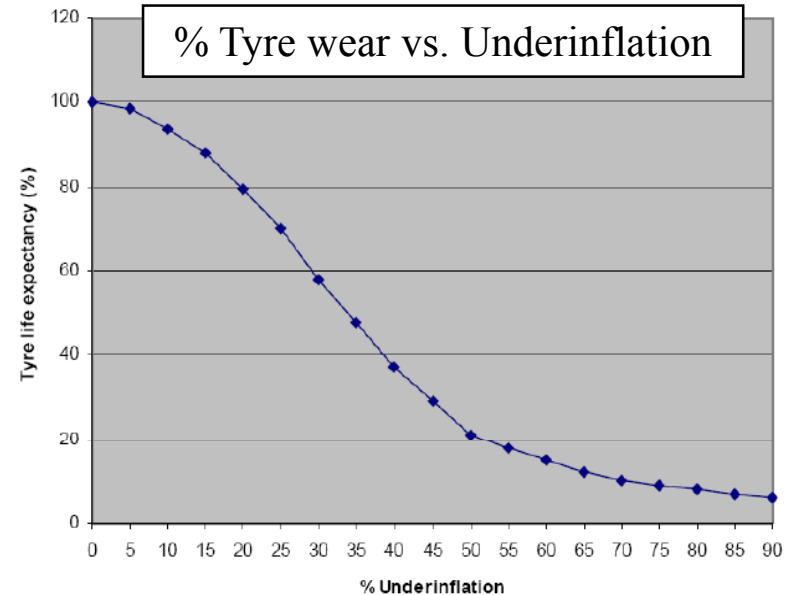


CO₂ reduction

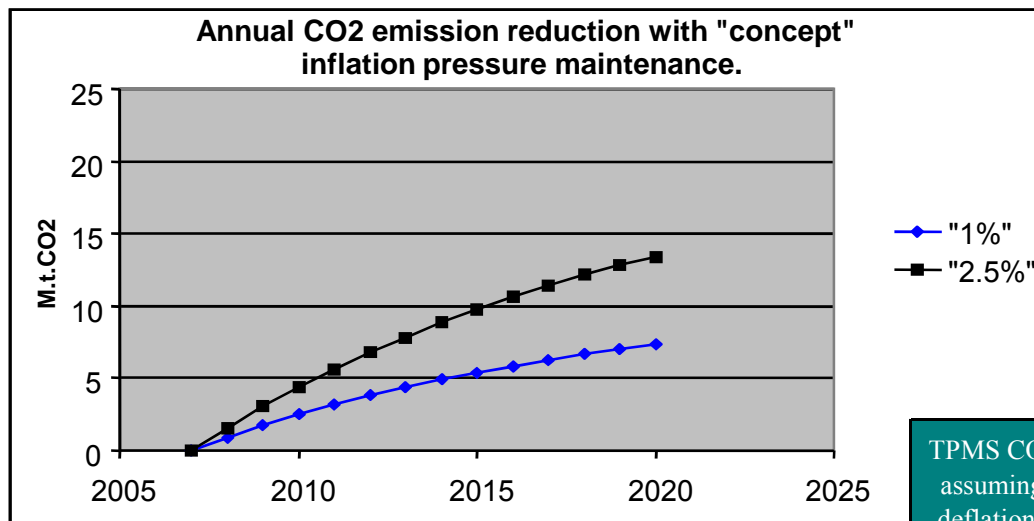
■ TPMS influence

	Dutch Survey	French Survey	UK Survey
P – 0.2 bar and more	64%	69%	75%
P – 0.3 bar and more	46%	56%	64%
P – 0.5 bar and more	18%	30%	42%

Source: UN-ECE GRRF TPMS



Source: UN-ECE GRRF TPMS



Source: ETRMA

TPMS CO ₂ benefit assuming 0.5 bar deflation avoided	Source			
	LAT	Stock 2005	Hakanen & Jukka	GRRF TPMS
	2.50%	3%	3%	2.10%

Noise



■ TPMS

- A tyre rolling with 0.5 bar underinflation produces a 1dB(A) increase in rolling noise (sources TÜV and UN-ECE GRRF TPMS).

