

Public Hearing

“Reducing CO₂ from passenger cars
and light-commercial vehicles”

ETRMA response:

Tyre performances integrated proposal

F. Cinaralp, July 11 2007



The ETRMA tyre industry members

- 10 tyre companies;
- 240 million of tyres produced per year (2nd after China)
- 200 000 direct jobs
- up to 3.8% of annual TU is invested in R&D each year
- ETRMA members realise 72% of worldwide turnover; 37% is realised in Europe

Tyre Corporate

BRIDGESTONE

www.bridgestone.eu

Continental

www.conti-online.com

COOPERTIRES

www.coopertire.com

**GOODYEAR DUNLOP
EUROPE**

www.goodyear.com

MARANGONI

www.marangoni.com

MICHELIN

www.michelin.com

**nokian
TYRES**

www.nokiantyres.com

PIRELLI

www.pirellityre.com

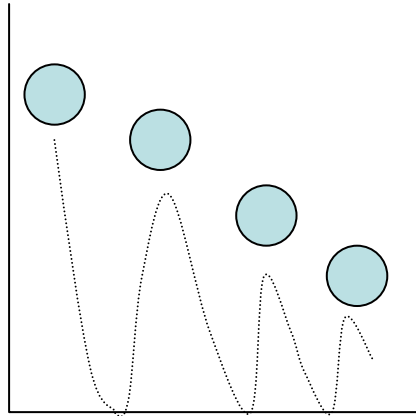
REDESTEN

www.vredestein.com

TRELLEBORG

www.trelleborg.com

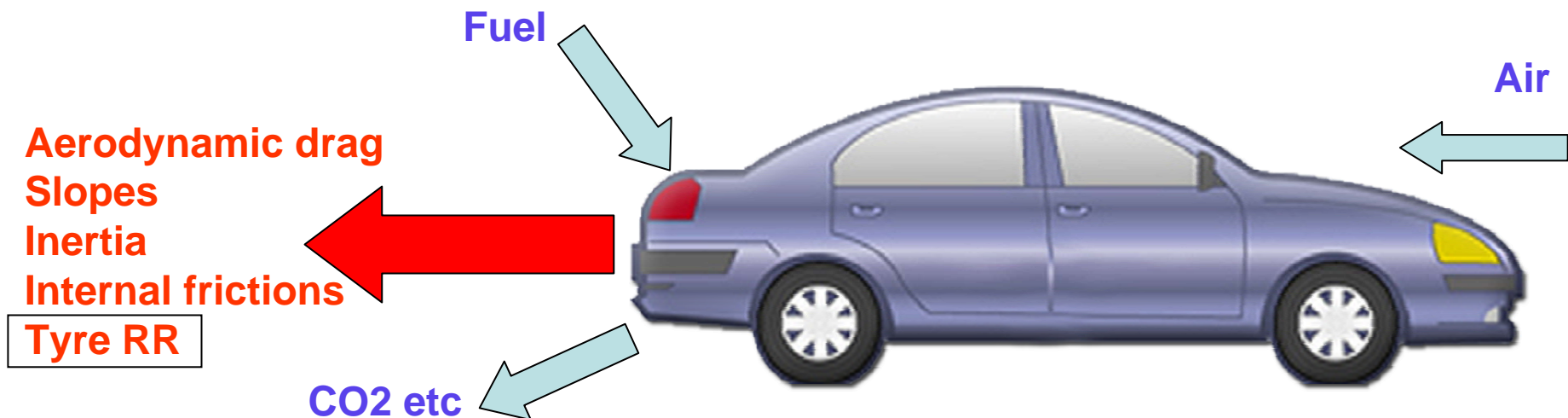
Tyre rolling resistance



The same way a rubber ball does not rebound as high as it was launched, energy is dissipated when a tyre rolls and is deformed.

This phenomenon is called **Rolling Resistance (RR)**. It contributes, together with vehicle's other sources of drag, to its fuel consumption and, thus, to its **CO₂ emissions**.

RR has an influence on CO₂ (and other) emissions by transport



RR is usually expressed in kg/t (drag in kg per ton of load on the tyres).

Tyre rolling resistance and its influence on vehicle consumption and CO2 emissions

- **The rolling resistance of tyres** is in itself a key factor in determining vehicle fuel consumption;
- Depending on the type of road and driving style, rolling resistance causes about 20% of the CO2 emitted by a car, and about 30% of the CO2 emitted by a heavy truck.

Two technological solutions are identified :

Measure	Expected CO2 emissions reduction
Tyre pressure maintenance permanently kept at placard level <i>Both safety and environmental benefits!</i>	1-2.5%
Low Rolling Resistance tyres	3-4%

Source: Tyre Industry, Cars21

The **correct tyre inflation pressure** is essential for delivering the tyre performance and **all efforts must be made** to guarantee proper setting and maintenance of the inflation pressure

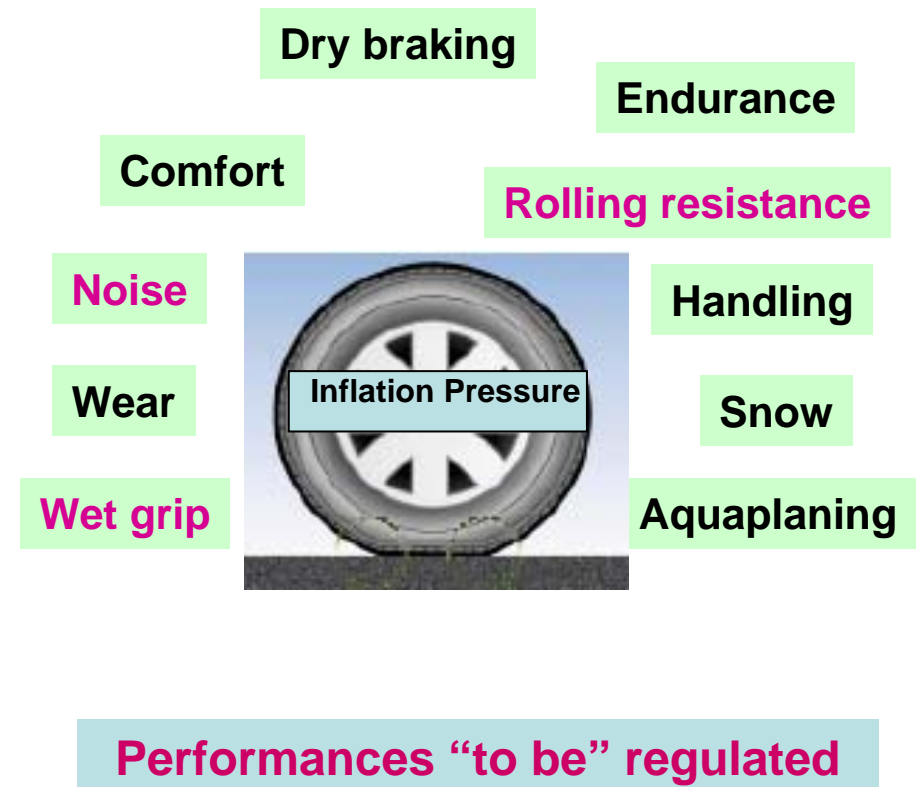
Inflation pressure has an unquestionable influence on tyre rolling resistance. Since under-inflation increases rolling resistance, it has a direct effect on both vehicle fuel efficiency and emissions.

With a permanent 20 to 25% under-inflation, the tyre rolling resistance is increased by 10%, which in turn results in about 2% more fuel consumption.

The lower the tyre inflation pressure, the higher the effect on rolling resistance!

Tyre Performances

The “to-be” regulated performance items **are not independent from each other** and imposing too high constraints on a **single property** only, will have a **negative impact** on other properties



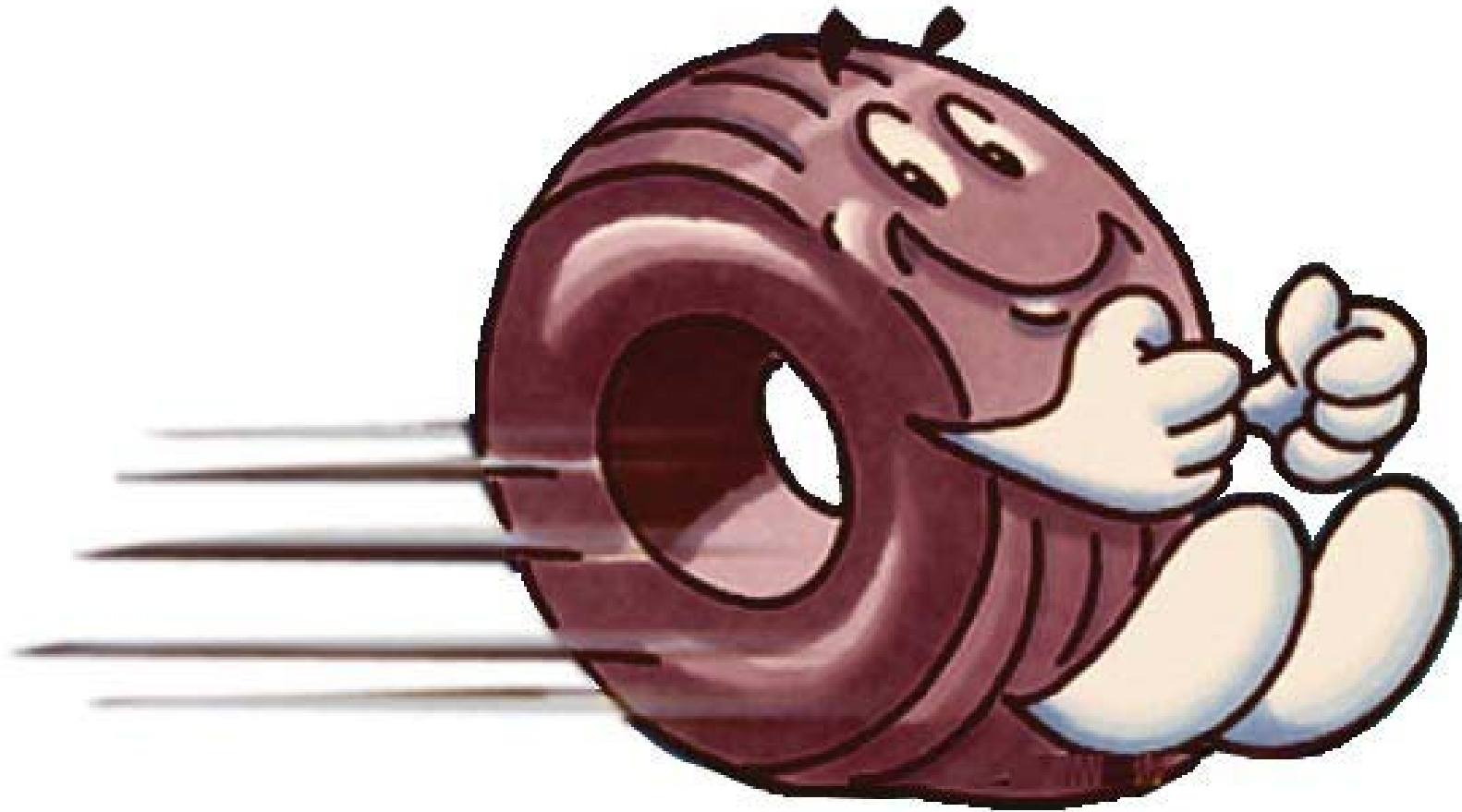
There is a relationship between Rolling Resistance and Wet Grip performances

Summary of tyre industry proposal and expected CO2 emissions reduction

Introduce an integrated regulatory framework covering the key tyre performances criteria:

- Establish maximum limits and a Grading for RR to assure that consumers can make informed choices
 - ❖ quantitative potential of ~ 22 Mt.CO2 annual savings
- Maintenance of inflation pressure at placard value; which foresees a.o. compulsory fitment of accurate tyre pressure monitoring systems
 - ❖ quantitative potential of ~10 Mt.CO2 annual savings
- Observe minimum limits and a Grading for Wet Grip to make sure that low RR tyres are achieved without compromising safety

Implement appropriate controls to establish fair global competition within the EU market



Thank you!