



PSA PEUGEOT CITROËN

# WORLD MATERIALS FORUM 2015



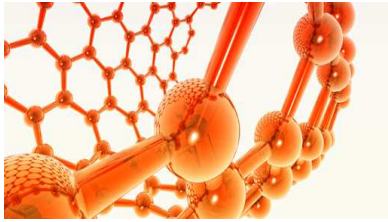
Materials  
breakthroughs  
2050

*Carlos TAVARES*

2015, June 23<sup>rd</sup>

WORLD  
MATERIALS  
FORUM

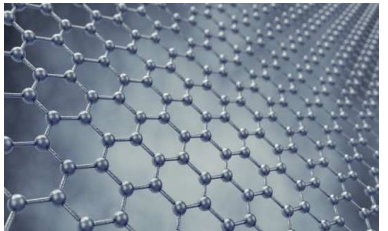
# *Material Breakthroughs mean...*



✓ **Breaking Paradigms**



✓ **Demonstrating the genius of the “&” vs the tyranny of the “or”**



✓ **Accelerating research, speeding up progress and bridging industrial sectors**

# For PSA, main goals for 2025 / 2030

## Attractivity



## Connected vehicle / Safe and intuitive autonomous driving



## Clean technologies



*Everywhere in the world*

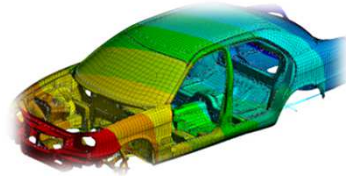


# *For the automotive industry*

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➤ Improve safety & reduce CO<sub>2</sub> emissions



➤ Improve autonomy & converge towards zero emission capability



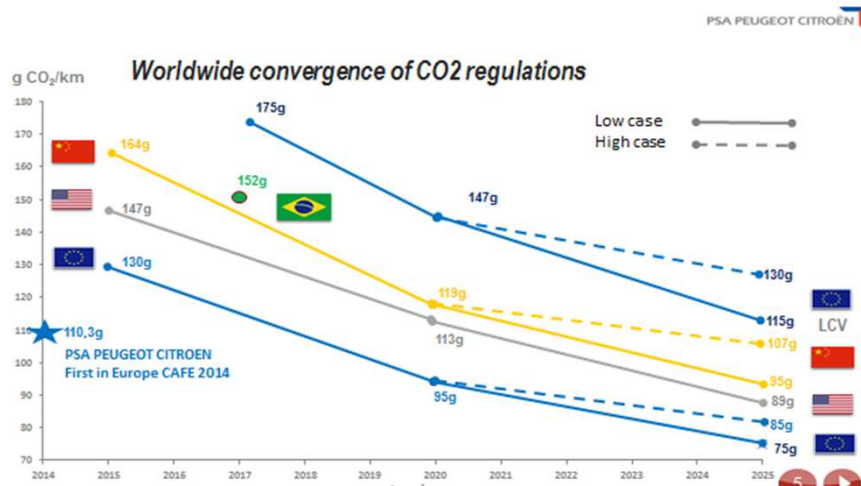
➤ Integrate connectivity & preserve security/safety

➤ Improve attractive designs & preserve quality



# CO2 emission reduction & Safety improvement through weight saving

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308 II vs 308 I



Paradigm has changed in the 2010's

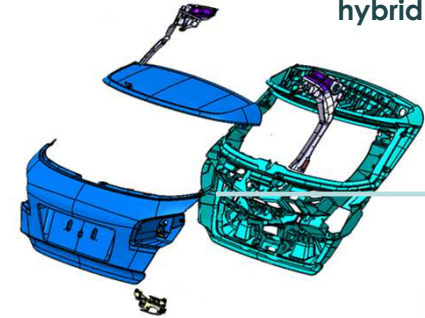
-140kg  
-20% CO2  
5\* EuroNcap



## Several lightweight solutions

- 4,5 kg saved with very high strength steels

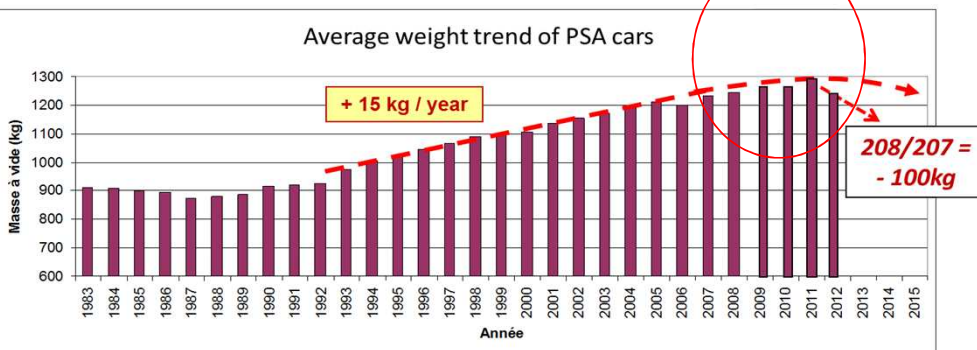
- 4 kg saved with hybrid tailgate



- 3 kg saved with composite floor



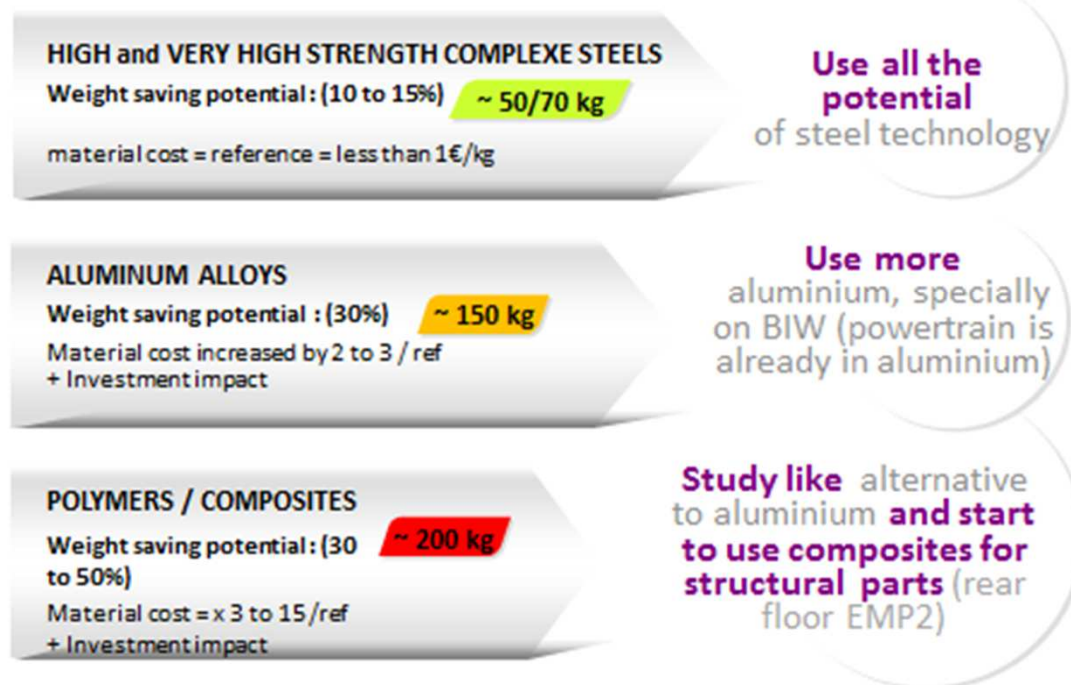
## Average weight trend of PSA cars



WMF - 2015 june 23th

# CO2 emission reduction & Safety improvement through weight saving , with cost neutrality

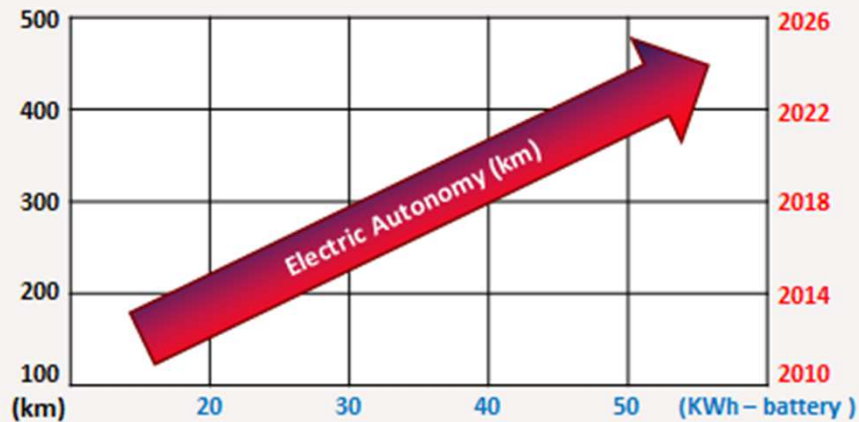
## MATERIAL TREND: « Race comes to the crunch »



Next challenge:  
 95g CO2/km by 2020  
 =  
 -100kg / 5\* EuroNcap /  
 Attractive cars /  
**At the same  
 production cost**

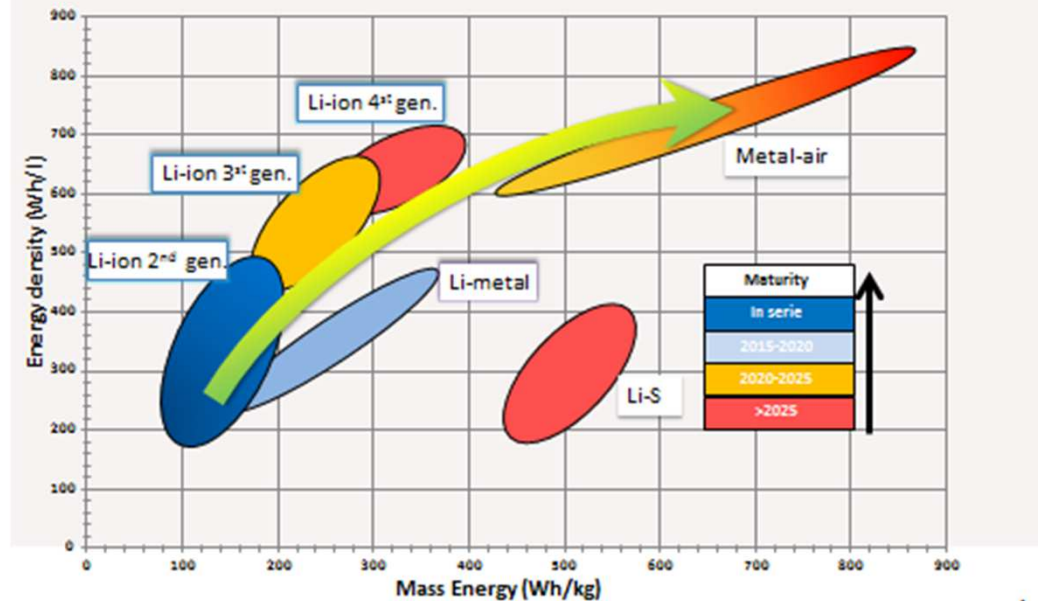
# EV paradigm : Increase autonomy & Preserve cars' roominess

Expected increase of EV autonomy with Lithium-ion technology  
with a constant weight / size battery pack



New materials & technologies  
should provide autonomy &  
size/weight optimization

Expectation of technology evolution



Chemical evolution on cathodic, anodic and electrolyte materials  
to improve cells' efficiency





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