

#### Cities - the laboratory of modern mobility

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#### Challenge Bibendum

clean safe connected affordable accessible

#### **Paris**



1998



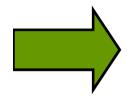
Berlin



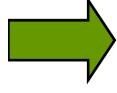
2011



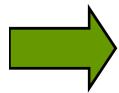
## An ambitious set of objectives and a clear timeline are required.



ZE mode and collision avoidance a reality by 2030 in cities for new vehicles?



Average GHG emissions 50g CO<sub>2</sub>/km by 2040?



Road transport CO<sub>2</sub> emissions halved by 2050 vs foday?



#### 6 enablers to improve city life

- Zero emission driving
- Collision avoidance
- Seamless connectivity
- 'Pay as you use' systems
- Diversification of travel modes
- New behaviours



### Europe – interesting initiatives

CO<sub>2</sub> reduction objectives (Vs. 1990)

	In 2005	In 2030	In 2050
TRANSPORT	+30%	+20% à -9%	-54% à -67%
(except maritime)			

- Emission-free cities: phasing ICEs out of cities by 2050.
- Safety: Road safety action plan to reduce fatalities by 50%
- ITS: Connected vehicles and clean mobility
- Support to new, low carbon vehicles, last mile delivery trucks



Zero emission driving and collision avoidance require sustained efforts and long-term decisions. They could act as fantastic drivers for widely accepted innovation in transportation.

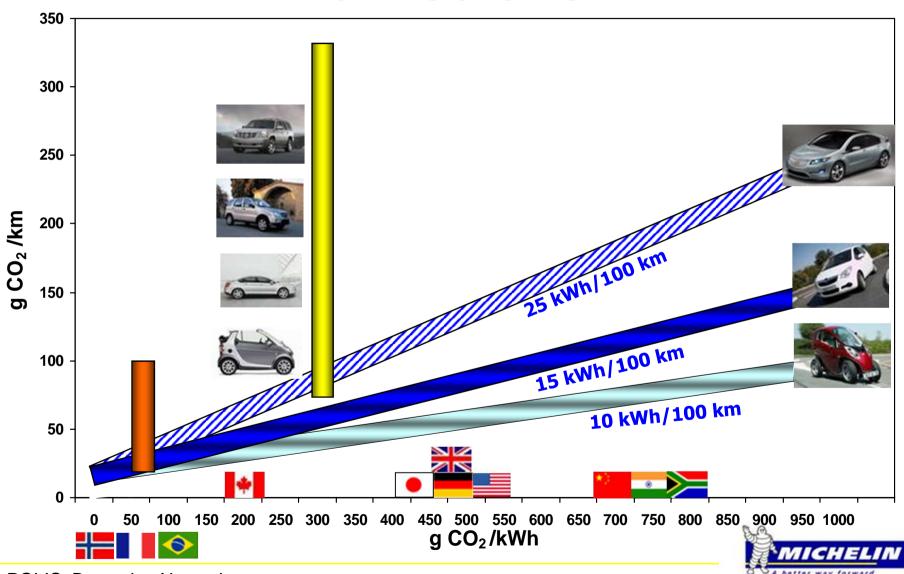


## Zero emission driving, an achievable objective

- Cost convergence between technologies should make urban electric drive (7-10km range) a viable option for hybrid cars
- Cost competitive light EVs can become a reality
- 3. Public transportation and last mile delivery trucks can also be turned ZE.

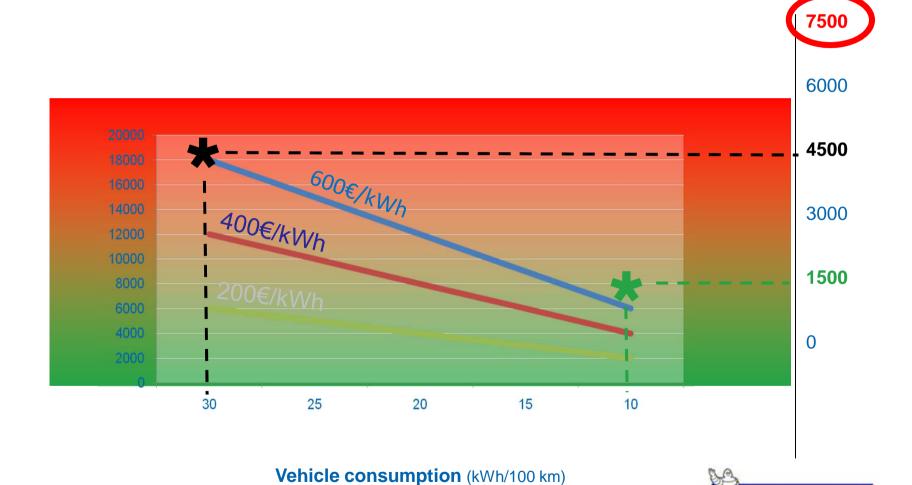


### A view of going electric and CO<sub>2</sub> emissions

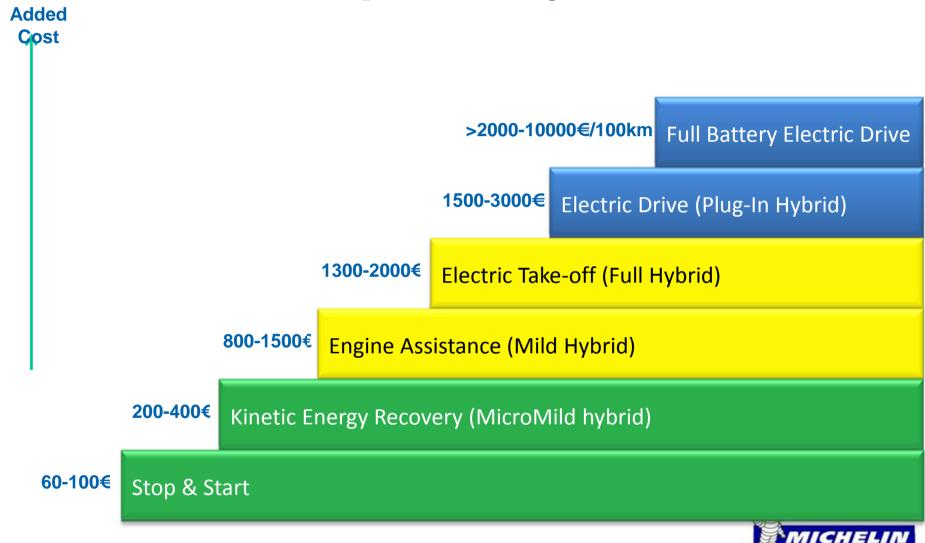


### To reduce the investment cost, energy consumption is key

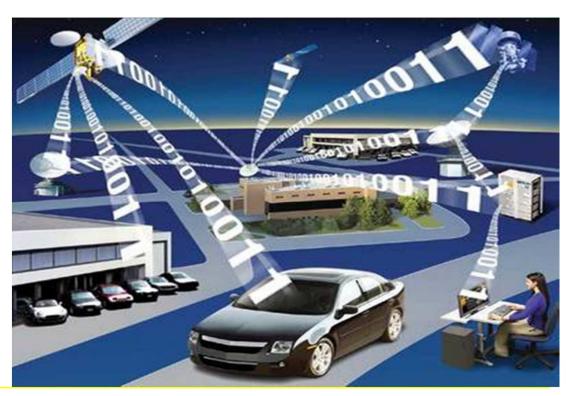
Battery price (€ for 100 km range) Cost-in-use (€/100,000Km)



## Hybridization is an affordable pathway

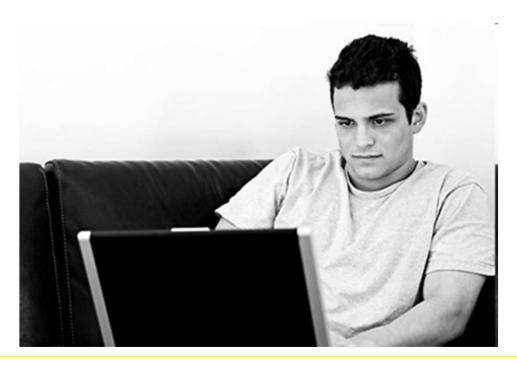


# Connectivity tools and (partial) electrification are the way to rejuvenate the relationship to car mobility through new collaborative models.





# The 'I sell you a car that you will use 2% of your time, will represent 15% of your budget and will not change for 15 years' may not have a sustainable future.





## Help build safe cities through collision avoidance to the benefit of all street users. Geo-localization and wireless information transfer are the key.







## Beware: China intends to be connected as much as the rest of us and is determined to electrify.











#### Rallying together

- As we enter difficult economic times, it is all the more critical to keep focused on disruptive innovation, the only way to bounce back and to continue improving the quality of life of people.
- This is a challenge for the whole mobility 'ecosytem'.





## Thank you for your attention!

