

46TH ASECAP STUDY & INFORMATION DAYS

The Development of the Greek Road network via PPP's and the Future Challenges

Grand Hotel Union, Ljubljana, Slovenia
6-8 June 2018

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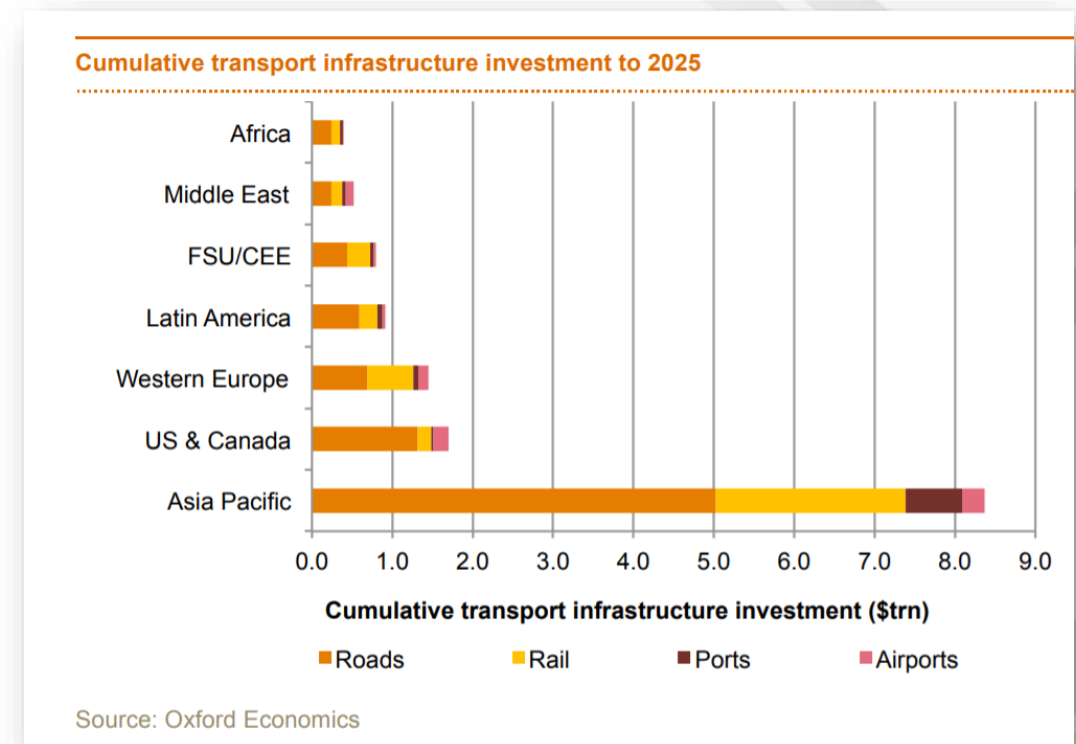


The Global Market of Transport Infrastructure

- Strong growth in the transport sector due to Motorization and Urbanization,
- Global capital investment in public and private transport is between \$1.4 trillion and \$2.1 trillion annually (1,7 \$trn in 2016)
- 7% annual growth through 2025 (World Bank).

The public sector turns to private investment due to:

- Operational expertise,
- Financial capacity
- Efficiency



The European PPP projects for Transport Infrastructure

Total value of projects: 205 EUR bn – 35% for Motorways

Evolution of the PPP market by year / Transport



The Greek PPP projects for Transport Infrastructure

Total value of projects: 13.8 EUR bn – 55% for Motorways

Evolution of the PPP market by year / Transport



The 1st Generation of concessions (Greenfields) included the development of Attiki Odos and Rion-Antirion Bridge (cost 2,1 billion €)



The Greek PPP market for Road Infrastructure

The 2nd Generation of concessions (Brownfields & Greenfields) included the development of
Athens-Korinthos-Patra
Athens-Skarfeia & Antirion -Ioannina,
Skarfeia-Raches & E65,
Maliakos-Kleidi
Korinthos-Tripoli-Kalamata/Sparti
(cost 8,5 billion €)



The Greek PPP road projects at risk..

The crisis affected severely the concessions :

- Traffic & Revenue were in some cases down by 40% !
- The viability of the 1st Generation projects has not affected but the Concessionaire “returns” were dramatically reduced
- The 2nd Generation project development was postponed for almost 3 years.
- A renegotiation (reset) was necessary, in order to reactivate the projects.



The Greek PPP road projects at risk..

The “Reset” procedure of the 2nd generation projects highlighted the issues that PPP projects face in uncertain times :

- ***No flexibility*** to accommodate unforeseen scenarios, leading to financial difficulties and contract disputes, with little or no room for resolution.
- **Uncharted ground on *Risk Allocation*** between State and Contractors
- **The difficulty of governments to commit to *future policy***

Which risks should be borne by which side?

Most of the following issues(risks) have been addressed during the Greek PPP contract renegotiations

- changing economy (Demand reduction, GDP reduction, Country rating, etc.)
- political issues (Toll price Level, support of specific user groups)
- social or environmental adjustments
- changing technology
- implementation issues (expropriations, time delays)



The way forward in an uncertain period

Banks in order to continue financing, demanded reduction of loans in order to maintain critical Project Viability (finance parameters, etc.). To make up for this shortfall the solution was in a combination of measures :

- Reduction of scope of work
- Additional Equity Subscriptions by Concessionaires
- Extension of Construction Time Schedule
- Replacement of Bank Loans by State's share of Toll Revenue
- Potential extension of Concession Duration
- Claw-back provisions for recovering additional State contributions



Would it have been easier to adapt

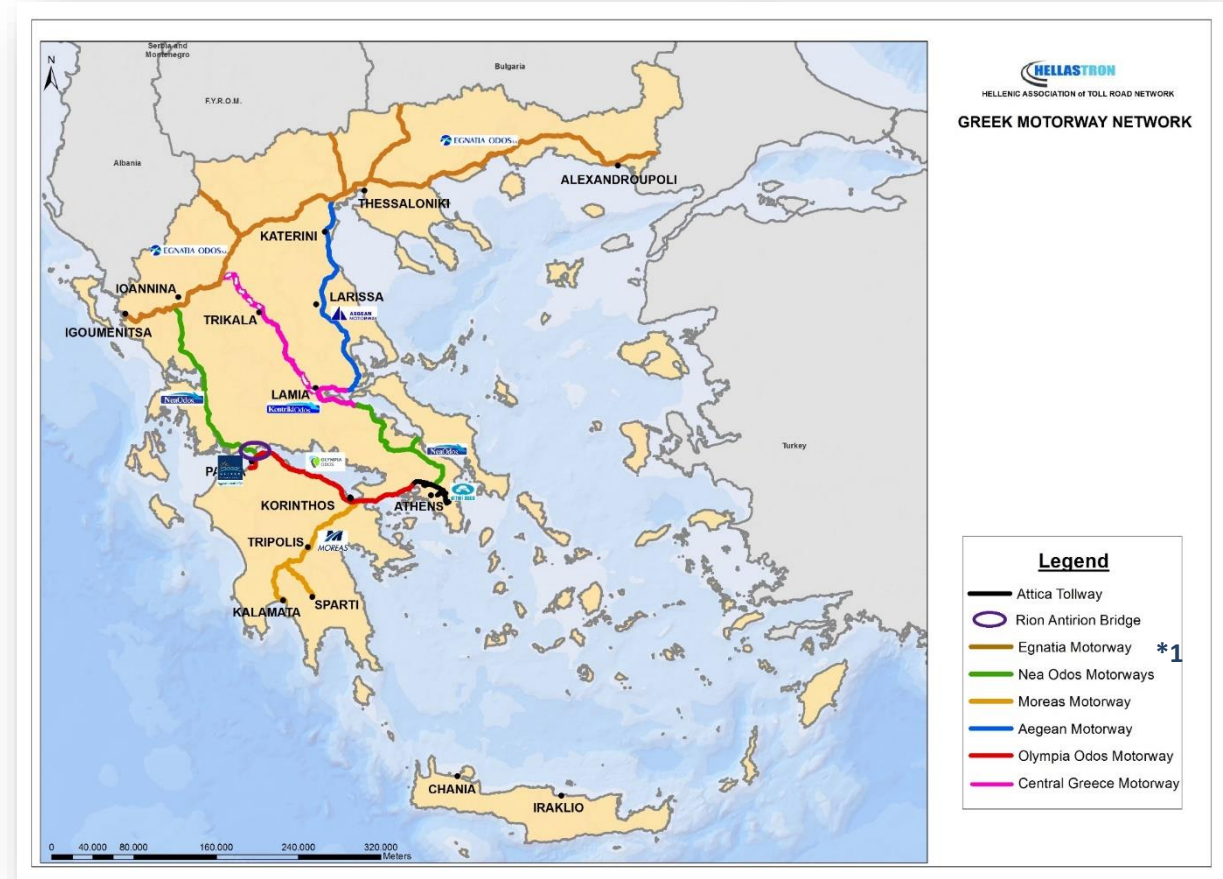
if they were set out as “Regulatory Asset Base (RAB)” projects?



The result ! A modern Greek Motorway Network

Today, more than
two thousand kilometers
of motorways in operation
creating a credible modern
National Road Network !

Completed in 2017



Source: HELLASTRON

(*1): Egnatia Odos has been constructed by sections with traditional public procurement methods

Time to look ahead : The future role of Motorways

The future role is linked to the European and Global developments of the road transport industry. The main areas that will be addressed are :

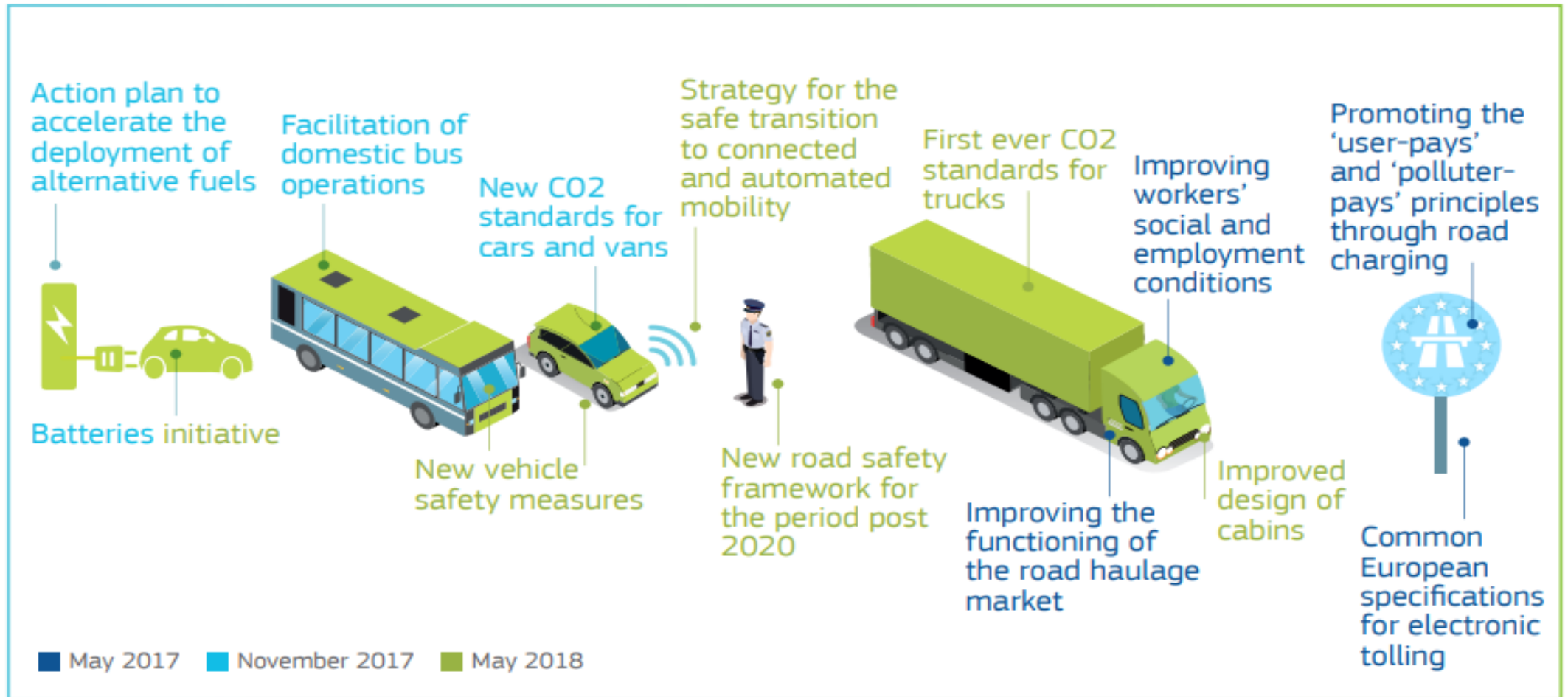
- **Clean Mobility**
- **Safe Mobility**
- **Connected Mobility**
- **Automated Mobility (Digital Revolution)**
- **Harmonized services & Road usage charges**



There are Great opportunities in this fast changing road transport reality!

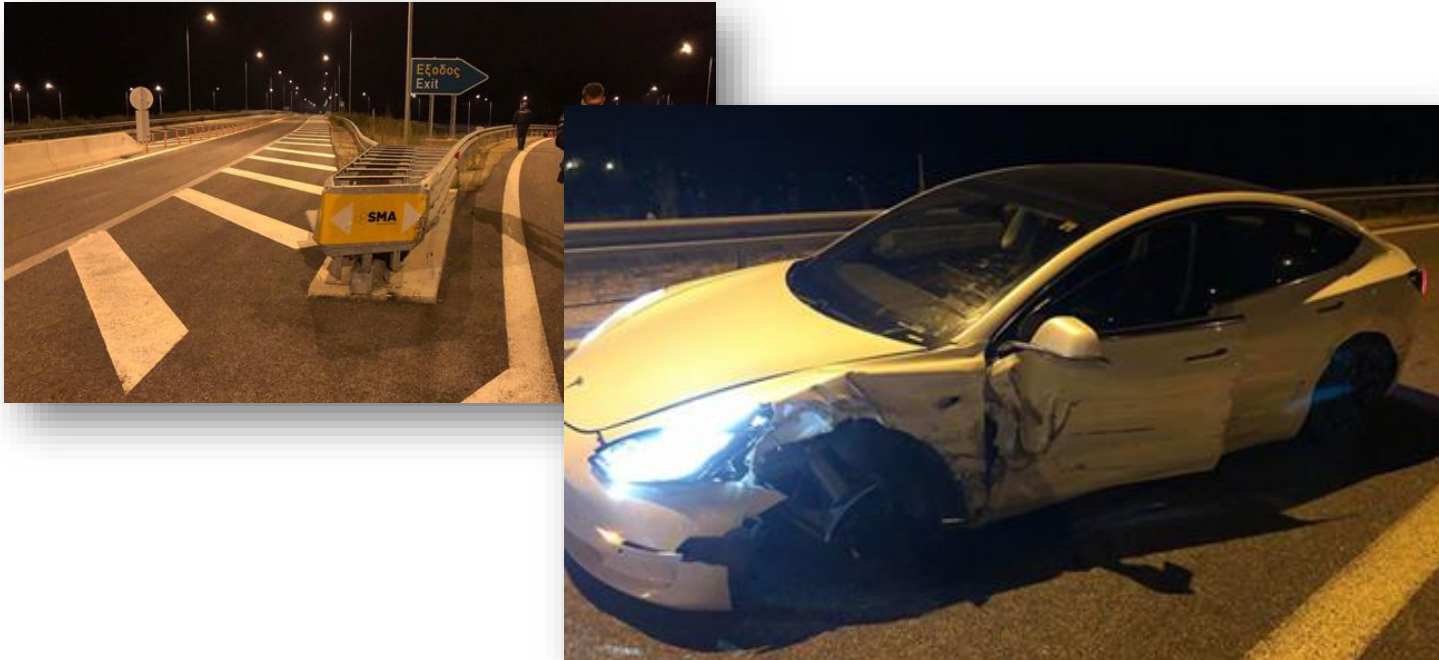
The future role of Motorways

SOME OF THE KEY ACTIONS PROPOSED BY THE COMMISSION SINCE MAY 2017



The autonomous car is here.....

In Greece the first accident with Tesla Model 3 outside America! (18/5/2018)



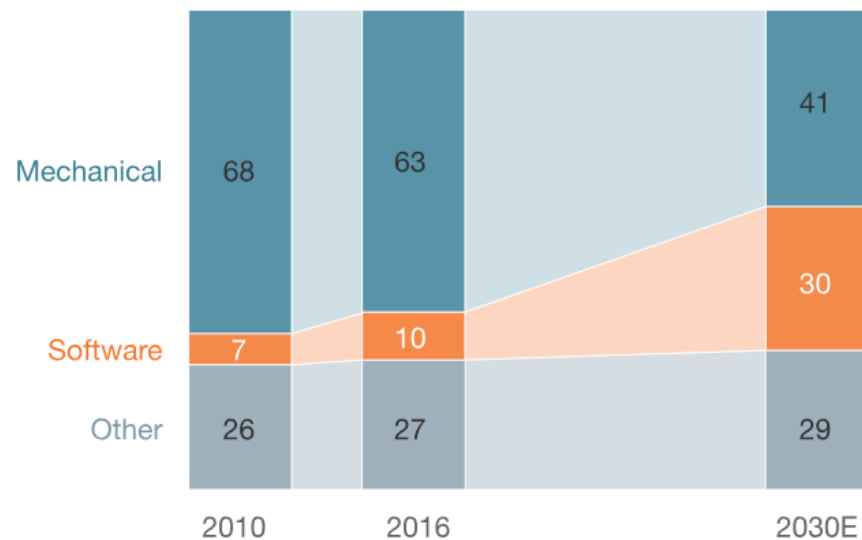
The driver (You You Xue) reports that while on Autopilot, the Model 3 suddenly took a steep turn to the right and despite the driver's attempts to get it back on his way, it crashed with its left side on the barriers of one of the motorway exits. At that time the speed of the car was 120 km/h, there were no other cars around, the weather was very good, and the condition of the pavement and the signage was perfect.

When the accident happened, he tried to touch the steering wheel with his left hand and at the same time, he was looking at his mobile the navigation system. Until the day of the accident, Xue had travelled more than 39,000 km in 25 countries on both Europe & America.

The future role of Motorways

What the development on connected vehicles mean for the Toll Road industry ?
How will Toll Road industry respond to this challenge ?

Average vehicle content, %¹



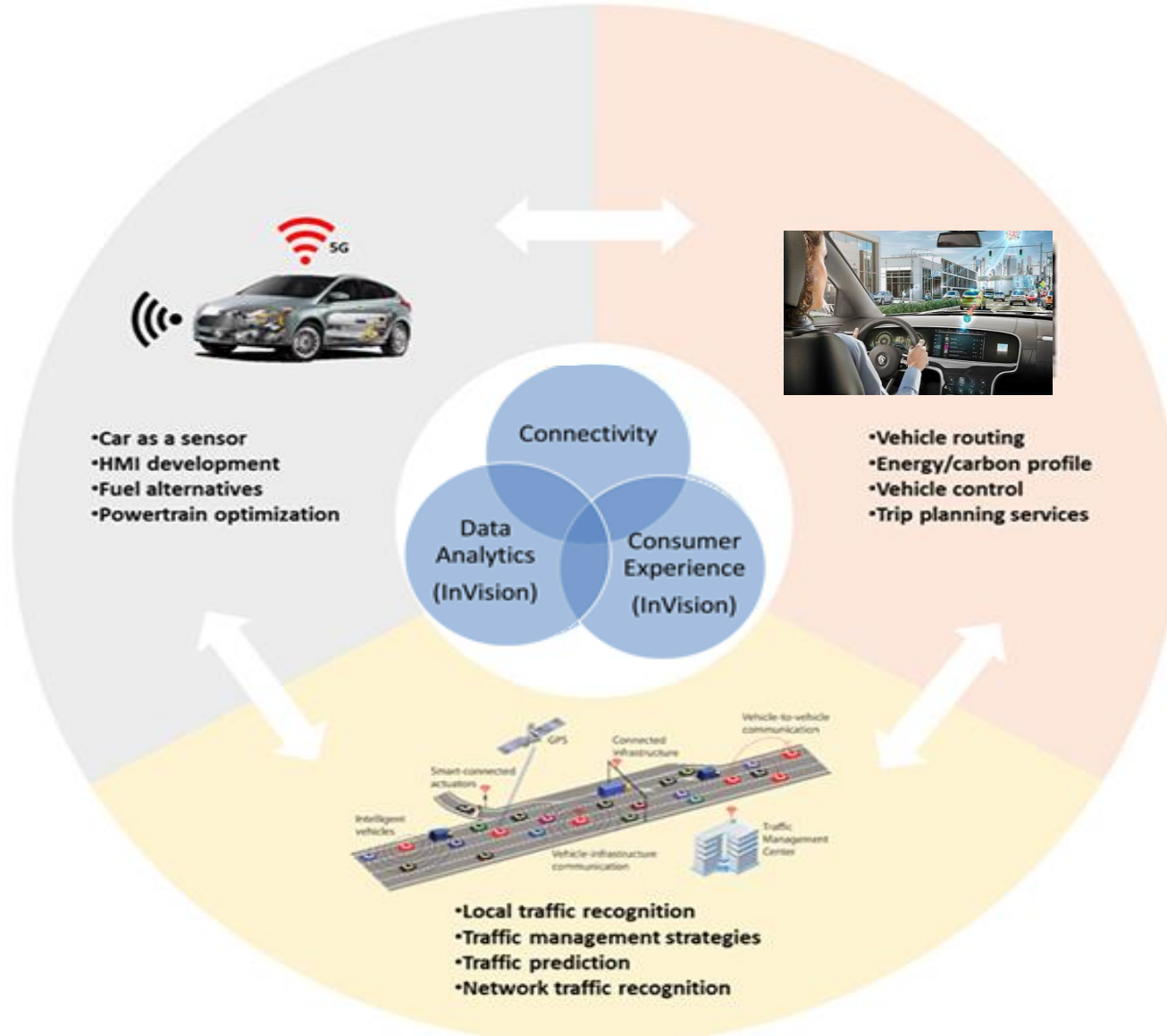
¹Figures may not sum to 100%, because of rounding.



Today's initiatives complement measures already adopted or implemented at EU level.

The most recent example is the "eCall" system, which became mandatory in March 2018 for new car models. It automatically informs emergency services in case of an accident, which will cut response time by up to 40-50%, thereby saving hundreds of lives every year.

Where the road knowledge will come from ?



The future role of Motorways

***The future** of data analytics in transportation has many applications and opportunities.*

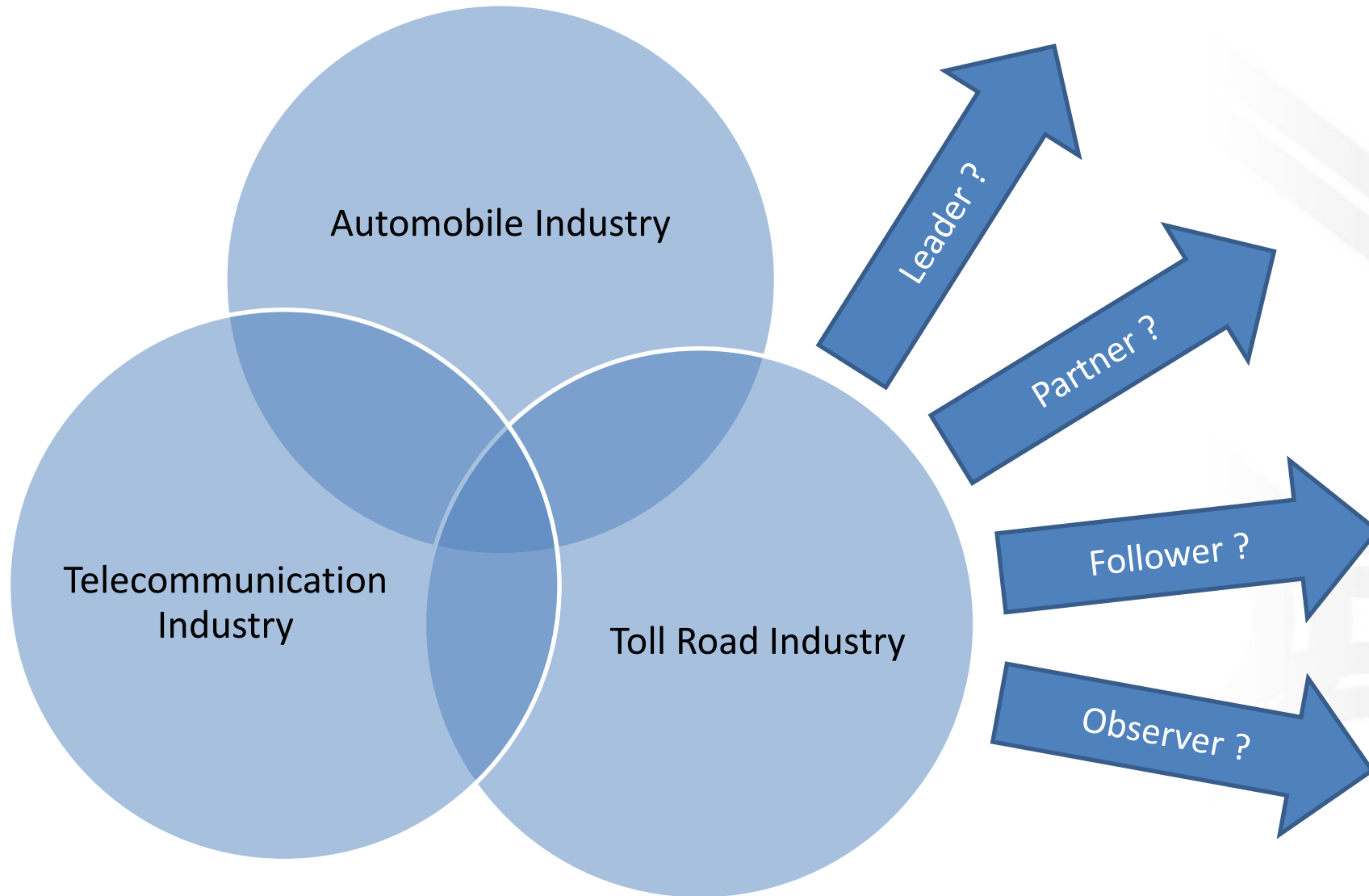
***The challenge** is certainly not the ability to generate data, because systems in place are already providing more than is currently being used.*

***The solution** therefore, is pushing forward using significantly improved means and methods to gather and understand the data in order for*

business decisions to be informed by better insights.



The future role of Motorways



The future role of Motorways



Toll Road Industry
Manifesto
??????

The new opportunities are here ...

Action areas for the Toll Road Industry

- ❑ **Organize at European and National Level.** Particularly smaller countries need to be a lot more proactive
- ❑ **Look for Financing.** Changes need a well thought out finance plan
- ❑ **Advance the PPP Contract know-how.** The fast changing technology scene will require agile contractual instruments. Countries like Greece that have just gone through “Resets” have to apply even more effort.
- ❑ **Promote more efficient state mechanisms.** Perhaps look at a possible pan-European initiative to help member states in developing modern state mechanisms to face these new challenges.



THANK YOU!



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