FEDERATION INTERNATIONALE DE L'AUTOMOBILE
REGION I - EUROPE, THE MIDDLE EAST AND AFRICA

FIA Region I, 16 July 2014

Real Driving Consumption

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FIA Region I office

Based in Brussels, FIA Region I is a **consumer body** representing 110 Motoring and Touring Clubs and their **38 million** members from across Europe, the Middle East and Africa. The FIA represents the interest of these members as motorists, public transport users, pedestrians and tourists.

FIA Region I is working to ensure safe, affordable, clean and efficient mobility for all.

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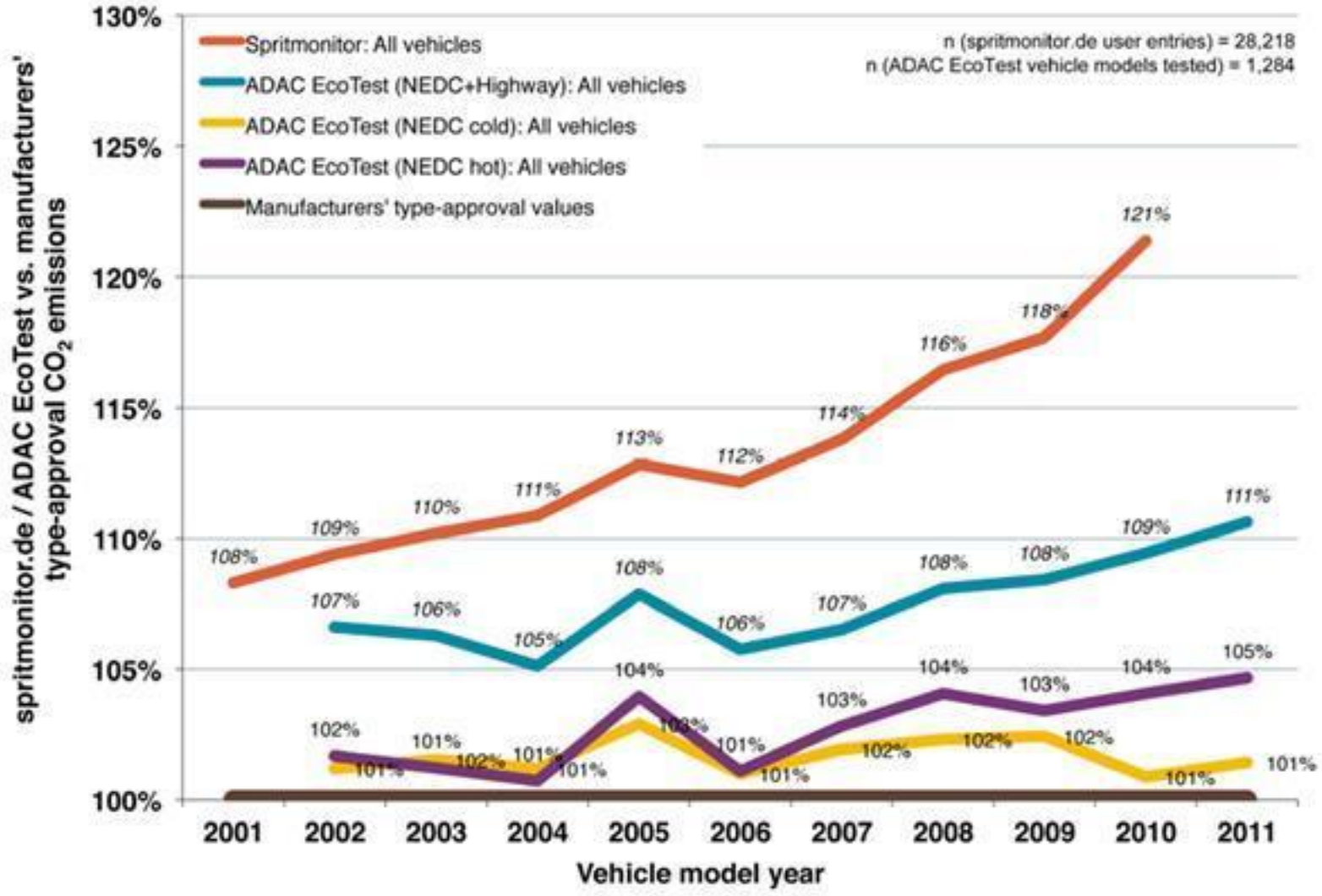
Real Driving Consumption

Scope of the project

Gaps between type approval values and real world fuel consumption



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Scope of the project

Gaps between type approval values and real world fuel consumption

- The technical requirements for the type approval (test cycles, rolling resistances and setup for the odometer chassis) are constantly updated by legislation and explicitly described in regulations. However, vehicle manufacturers have introduced features like start/stop technology, which overestimate the car's fuel efficiency, compared to in real traffic.

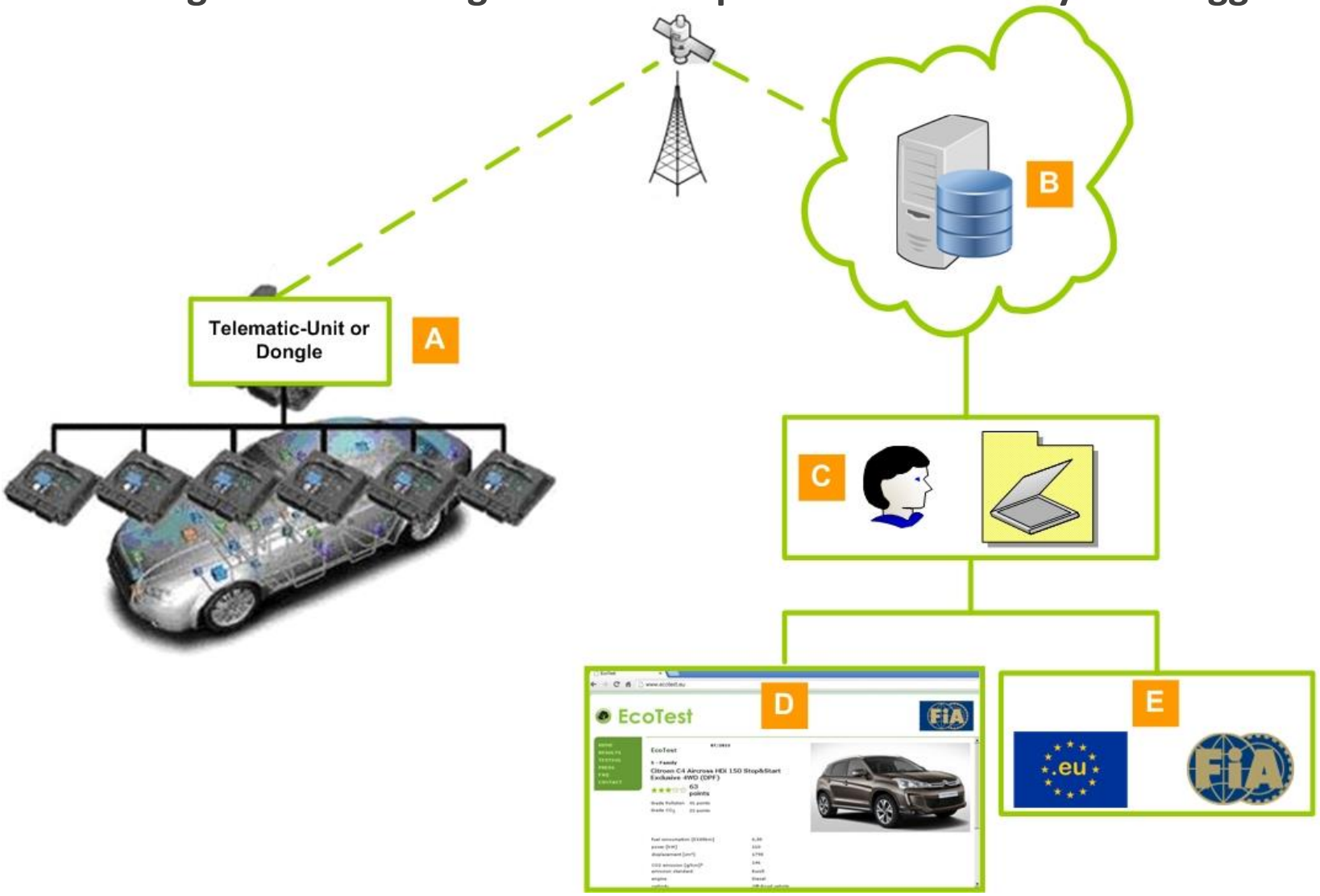
- The growing number of accessories (mobile air conditioning or electrical heating), that consume fuel and can be switched off, are not part of the 95g/km CO2 targets of the EU.
  Modern MAC systems consume appr. 0.5l/100km resp. 1.16g/CO_2/km
  Electric accessories consume appr. 0.1l/100km resp. 0.23 g/CO_2/km per 100W

- The individual driving style of each driver and the boundary conditions

Real Driving Consumption

Scope of the project

Measuring the real driving fuel consumption of a vehicle by data loggers



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Real Driving Consumption

Scope of the project

Measuring the real driving fuel consumption of a vehicle by data loggers

Step	Details	Responsibility
A	The in-vehicle data determine the overall consumption and the specific consumption of the usage of a MAC. While diagnostic experts from Bosch and Hella-Gutmann propose to use telematic devices that are fixed installed in a vehicle, ICCT and ANWB are using dongles, that are connected to the OBD port	Diagnostic Tool Suppliers of each club
B	In the cloud-server, all data from equipped vehicles are stored and transformed into readable and processable data for further usage	Diagnostic Tool Suppliers of each club
C	In clubs, data are analysed and edited. Common criteria for analysis will be clarified beforehand.	Clubs / FIA / ICCT
D	The publication of data is up to each club. FIA proposes to publish the data as an add on to Ecotest data.	Clubs
E	The FIA / Commission will use the data for political discussions on all CO_2 related topics, especially in the discussions for the gap between type approval and real driving consumption and the additional consumption of accessories. Scientific figures of real driving consumption will be available for the first time.	FIA / Clubs / ICCT

Real Driving Consumption

Stakeholders

- Industry: Bosch, Delphi, Hella-Gutmann, (Vehicle Manufacturers)
- Clubs: ADAC, ANWB, FDM, ÖAMTC, TCS,
- Politics: DG Enterprise, DG Climate, NL- Ministry for Transport
- Experts: TU Graz; TÜV-Nord
- ICCT

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Electrical Signals

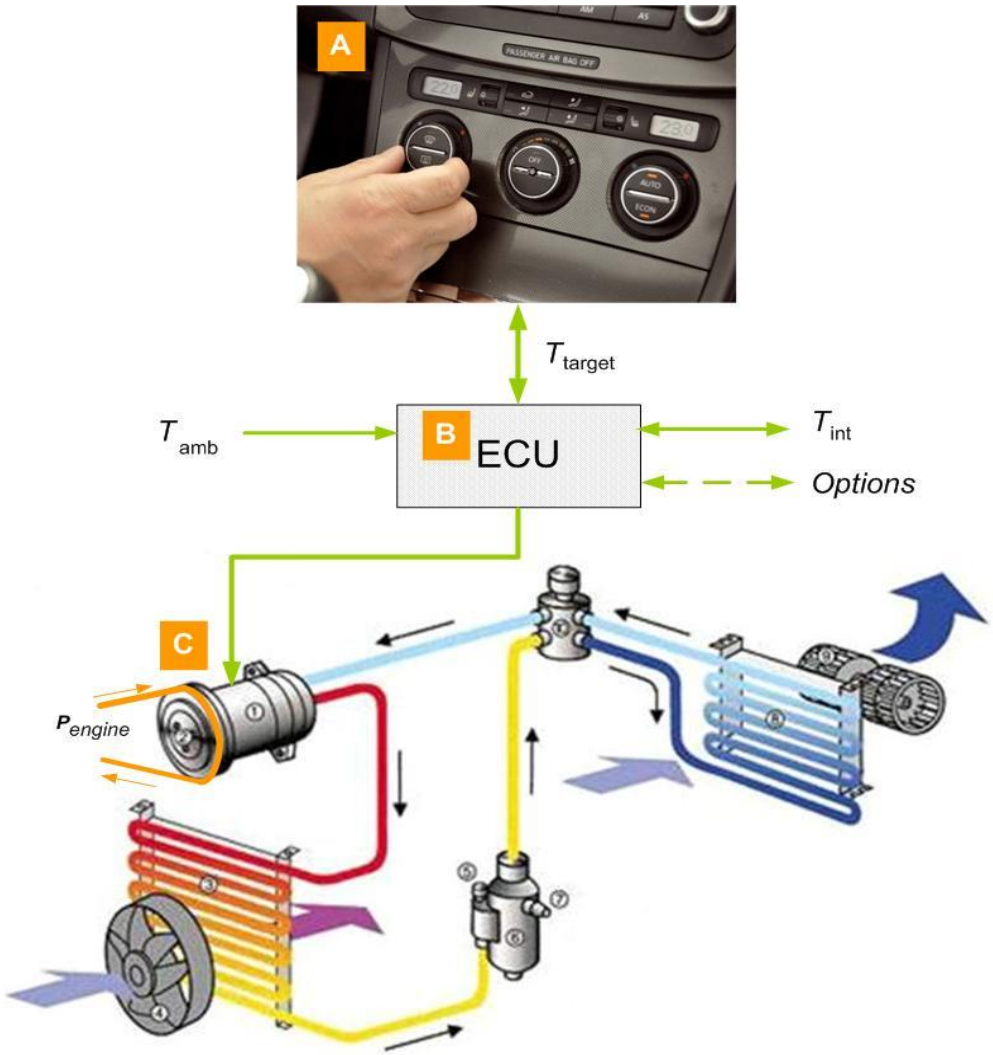
Stakeholders decided to concentrate on the following signals

- **Generic data**
  VIN, Mileage, optional: location, date and time
- **Overall fuel consumption**
  Injected quantity of fuel, mechanical load of the engine
- **Relevant signals of accessories**
  Start with Mobile Air Conditioning (MAC) as it is the accessory that consumes the most and is currently in the political debate (label, test-cycle)

Electrical Signals

Stakeholders decided to concentrate on the following signals

- **MAC signals**
  A = on/off if manually triggered
  B = load of the compressor
  "C"



Concept

The following open questions are under discussion

- **Vehicle family and size**
  ….TOP TEN vehicles sold in Europe would cover 22% of the market of new vehicles
  …stakeholders proposed to start with Volkswagen Golf only

Make	Type	# passenger cars sold in 2013 (JATO)	% of all new passenger sold in 2013 (100% = 11.850.905)
TOPTEN	***TOPTEN***	***2.619.645***	***22,11%***
Volkswagen	Golf	470.229	3,97%
Ford	Fiesta	293.663	2,48%
Renault	Clio	287.111	2,42%
Volkswagen	Polo	266.994	2,25%
Opel / Vauxhall	Corsa	239.814	2,02%
Peugeot	208	239.102	2,02%
Ford	Focus	224.232	1,89%
Nissan	Qashqai	202.593	1,71%
BMW	3 Series	201.224	1,70%
Opel / Vauxhall	Astra	194.683	1,64%

Concept

The following open questions are under discussion

- **Accuracy of Data**
  Every telematic device or every dongle has to be tested on an odometer chassis, before it is used in field tests.
  Vehicle Manufacturers should be involved to provide data (?)

- **Funding**
  FIA started talks with EC; funding/co-funding possible

- **Legal aspects**
  Data privacy in cloud computing

Next steps

The following steps are currently drafted

- **07/2014**
  Detailed information on the TOP TEN types of vehicles, their sales and their market coverage in (each) European country for 2012-__

- **10/2014**
  Defining the sample size of vehicles for each country that needs to be equipped with telematic devices

- **12/2014**
  First telematic device from BOSCH for tests in clubs

Next steps

Thank you
for your attention

www.fiaregion1.com
gpreuss@fia.com

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