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Alcohol Interlocks & Building Capacity for Automated Solutions

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- The drinking and driving phenomenon
- Attitudes towards drink-driving in Europe
- Alcohol interlocks and automated solutions
- Discussion



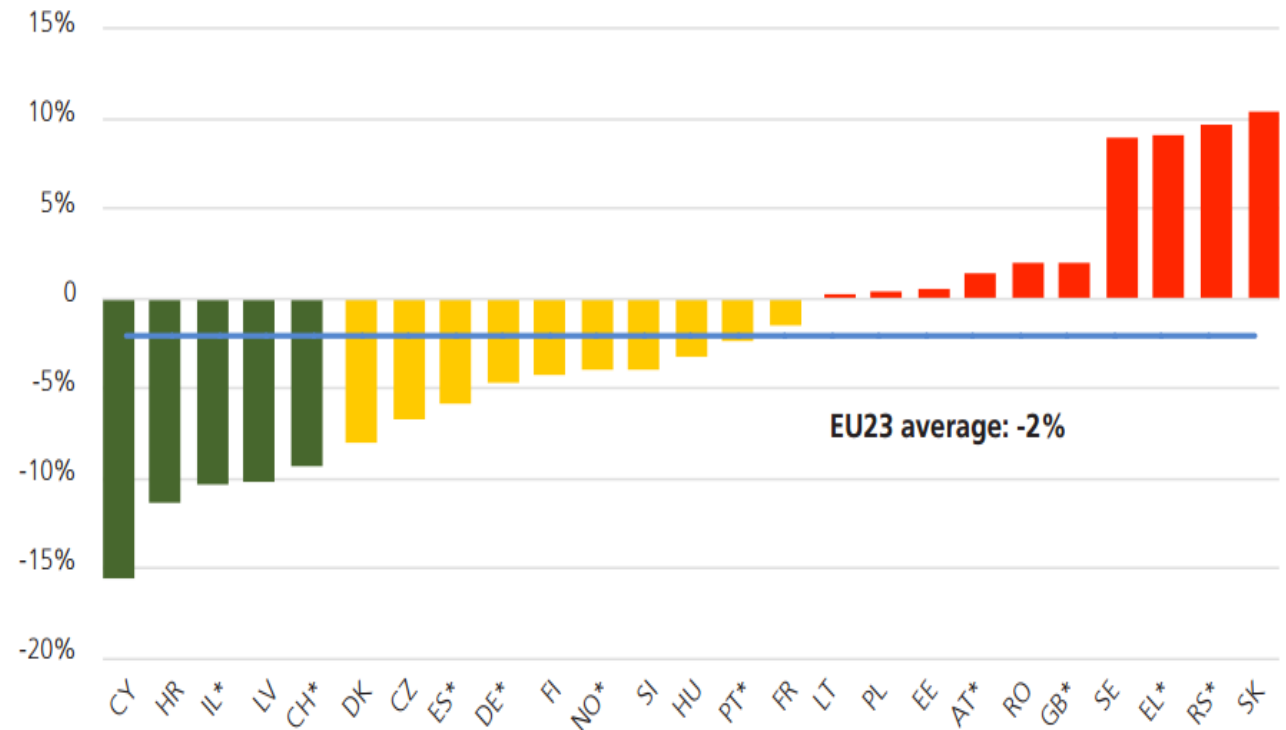
The drinking and driving phenomenon

- Despite high levels of community education and sustained enforcement, alcohol-related accidents and drink-driving offences continue to pose a **threat** to **road safety**.
- Excess alcohol contributes to about **25%** of all **road deaths** in **Europe**.
- With a BAC of 1.5g/l the **crash rate** for fatal crashes is about **200 times** that of sober drivers.
- Compared to other global regions, Europe is by far the **heaviest drinking** region of the world.



Road deaths attributed to drink driving evolution

- In the majority of countries, **progress** in **reducing** drink driving has contributed more than its share to overall **reductions** in **deaths**.
- In Cyprus, drink driving deaths were cut by 16% **faster than other road deaths** each year on average since 2010, in Croatia by 11% and in Israel and Latvia by 10%.
- In Slovakia, Serbia, Greece, Sweden, Great Britain, Romania, Austria, Estonia, Poland and Lithuania **developments** in drink driving deaths have **slowed down** overall **progress** in reducing road deaths.



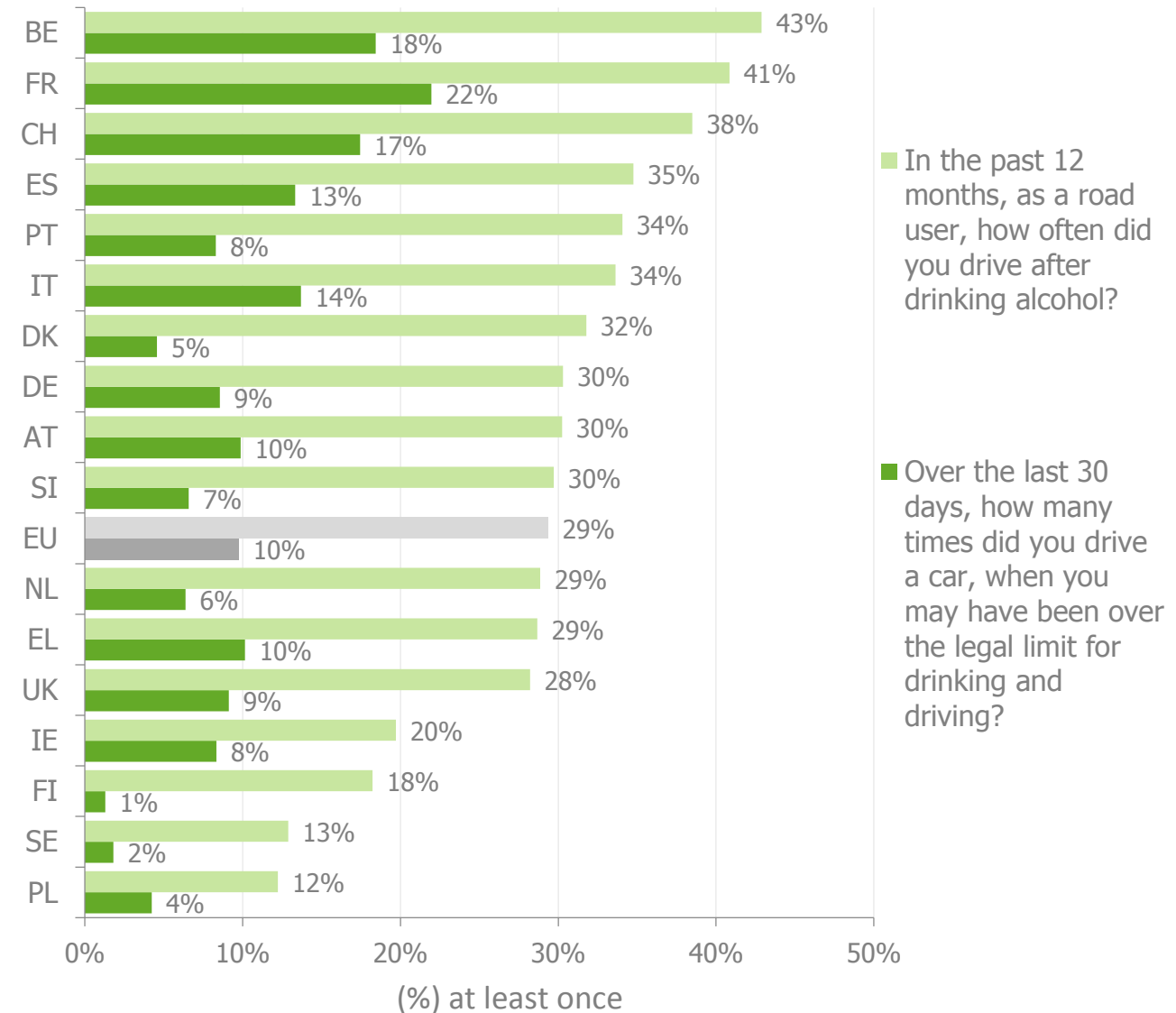
Difference between the average annual change (%) in the number of road deaths attributed to alcohol and the corresponding reduction for other road deaths over the period 2010-2015.

Source: ETSC, 2016



Self-reported behaviour of drink-driving

- The **highest** rates of **drink driving** were recorded in Belgium (43%), France (41%) and Switzerland (38%) and the **lowest** in Poland (12%), Sweden (13%) and Finland (18%).
- The same pattern was found for those who had **admitted driving** when they may have been **over the legal limit**. The **highest** rates were found in France (22%), Belgium (18%) and Switzerland (17%), while the lowest rates were again in Finland (1%), Sweden (2%) and Poland (4%).

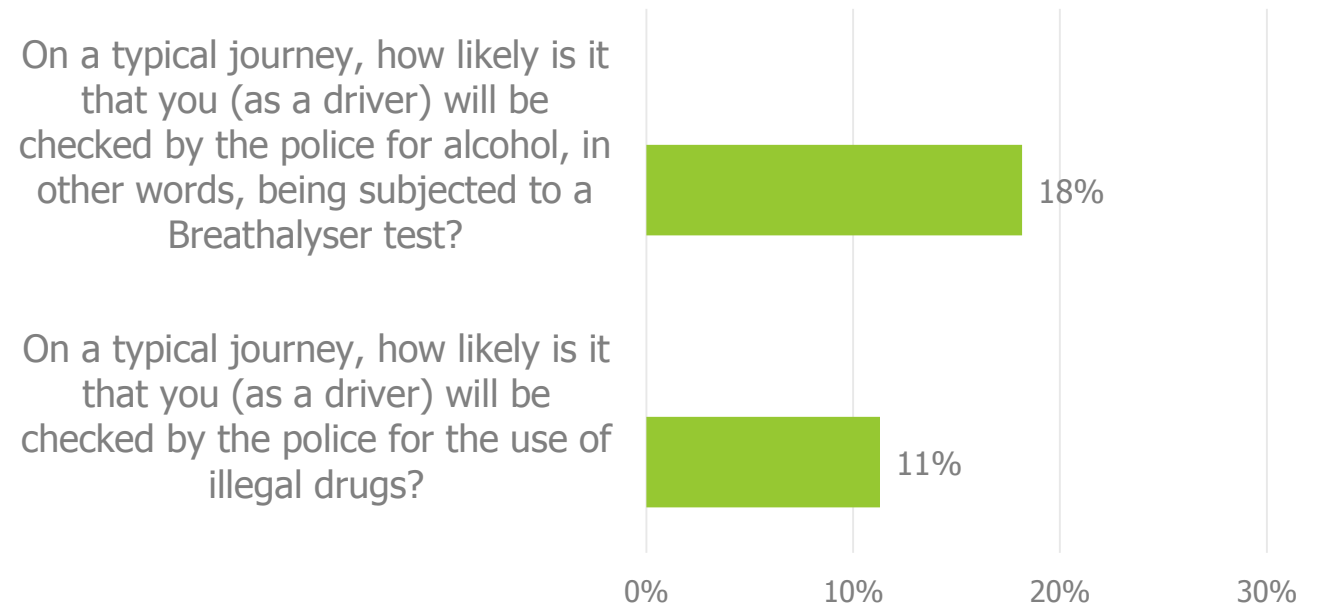


Source: ESRA, 2016 (www.esranet.eu)



Perceived likelihood of being checked for impaired driving

- In the general car driver population, the **perceived likelihood of being checked for impaired driving** is quite **low**: only 18% think that on a typical journey, the probability of an alcohol test by the police is big or very big.
- The expectation that they could be controlled for **drugs** is even **smaller**: only 11% think that the chance of such a police control is big or very big.



Perceived likelihood of being checked for impaired driving in Europe
(% of (very) big chance, i.e. scores 4-5 in a Likert scale from 1 (very small chance) to 5 (very big chance))

Source: ESRA, 2016 (www.esranet.eu)



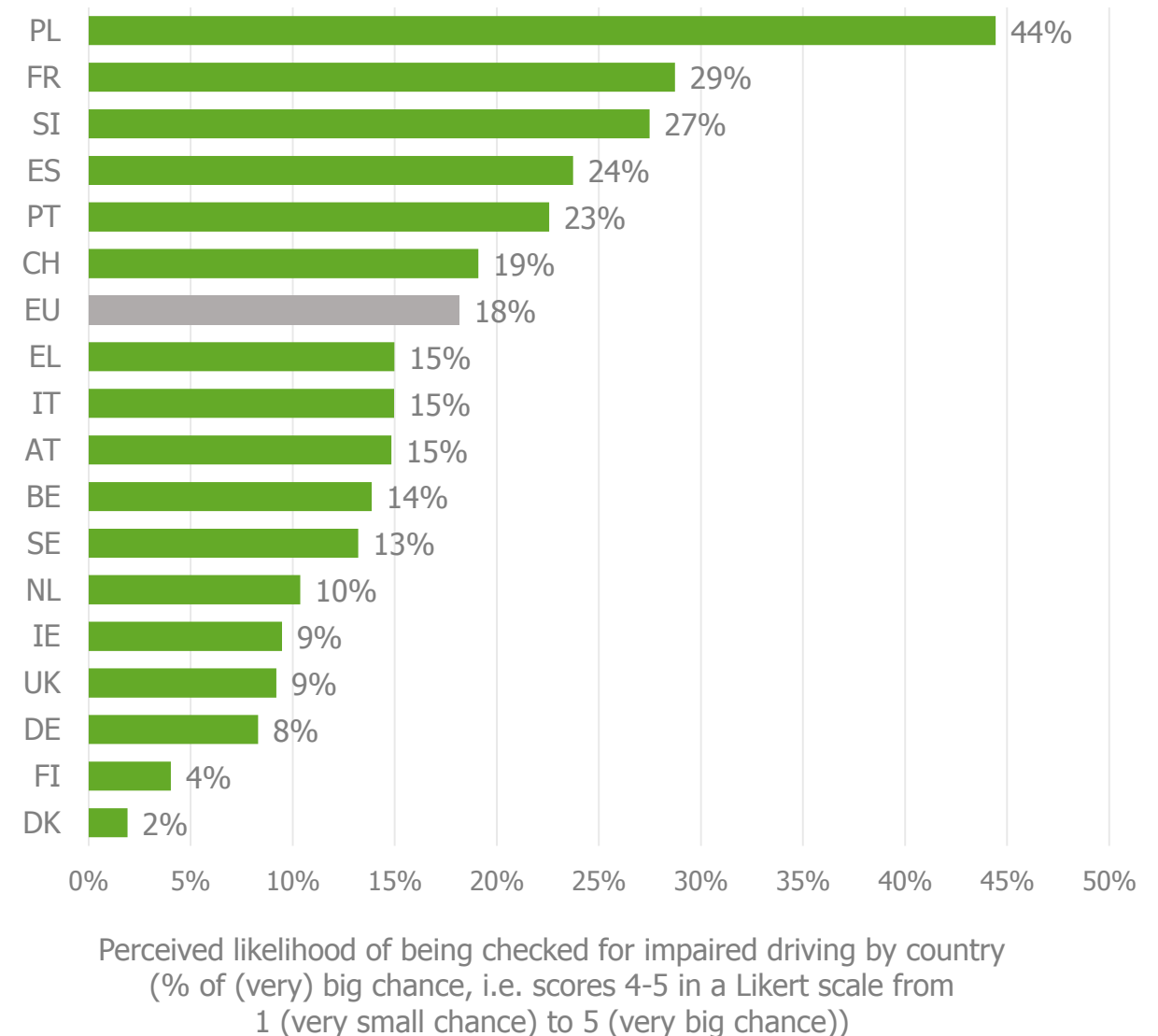
Perceived likelihood of being checked for impaired driving

The percentage of car drivers thinking that the chance of being checked for alcohol is big or very big is the **highest in Poland** (44%) and the **lowest in Denmark** (2%).

In Poland (44%), France (29%), Slovenia (27%), Spain (24%), Portugal (23%) and Switzerland (19%), the perceived likelihood of being checked for alcohol is **above the European average** (18%).

In Denmark (2%), Finland (4%), Germany (8%), the United Kingdom (9%), Ireland (9%) and the Netherlands (10%), the expectation of being checked for alcohol is **particularly low**.

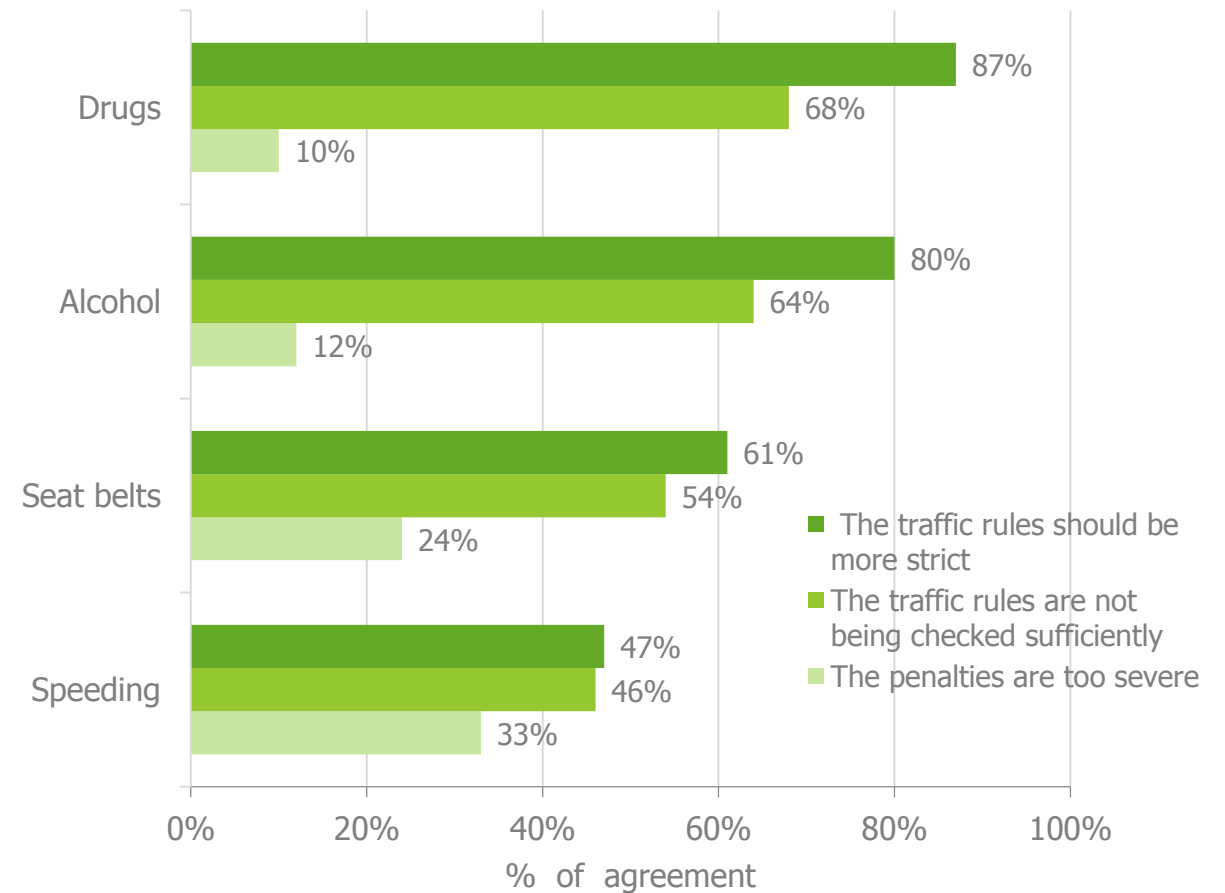
Source: ESRA, 2016 (www.esranet.eu)



Opinions on traffic enforcement

- Road user opinions about current traffic regulations, how they are being enforced and the penalties for offenders depend on the **type of offence** and on the **prevalence** of the specific **traffic behaviour**. The **rarer** a risk **behaviour** is, the **tougher** the stance on **enforcement**.
- The majority of respondents think that drink driving **regulations** should be more **rigorous**, **enforcement** should be more **intense** and the **penalties** more **severe**.

What do you think about current traffic rules and penalties in your country for each of the following themes ? (Yes)

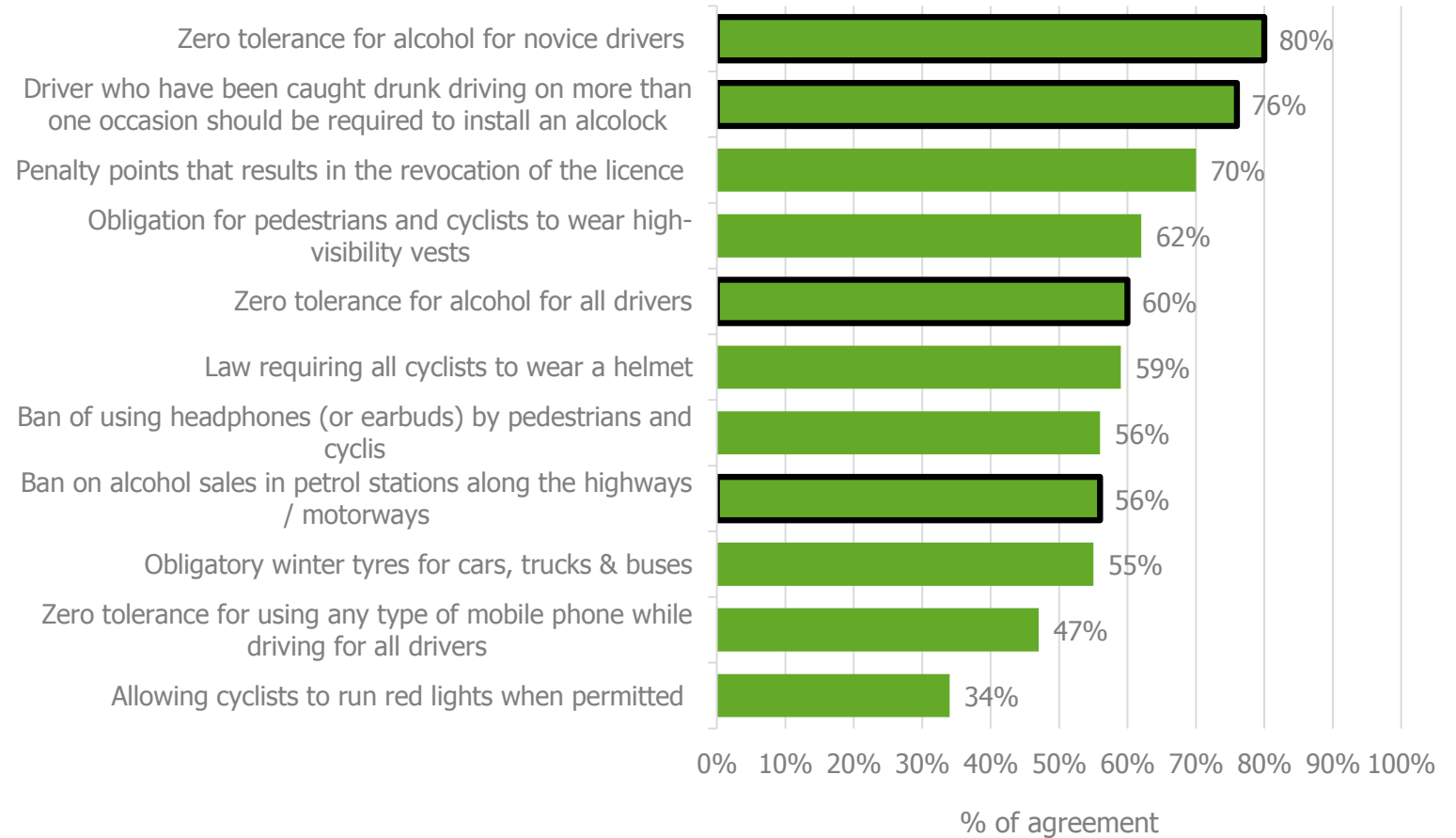


Source: ESRA, 2016 (www.esranet.eu)



- The most **supported measures** are related to drink driving: **zero tolerance** for alcohol for **novice** drivers (80%) and **installation** of alcohol **interlock** for **recidivist** drivers (76%).
- **Zero alcohol** tolerance for all drivers (60%) and **ban** of **alcohol sale** along highways (56%) are also supported by the majority of respondents.

Do you support each of the following measures ? (Yes)



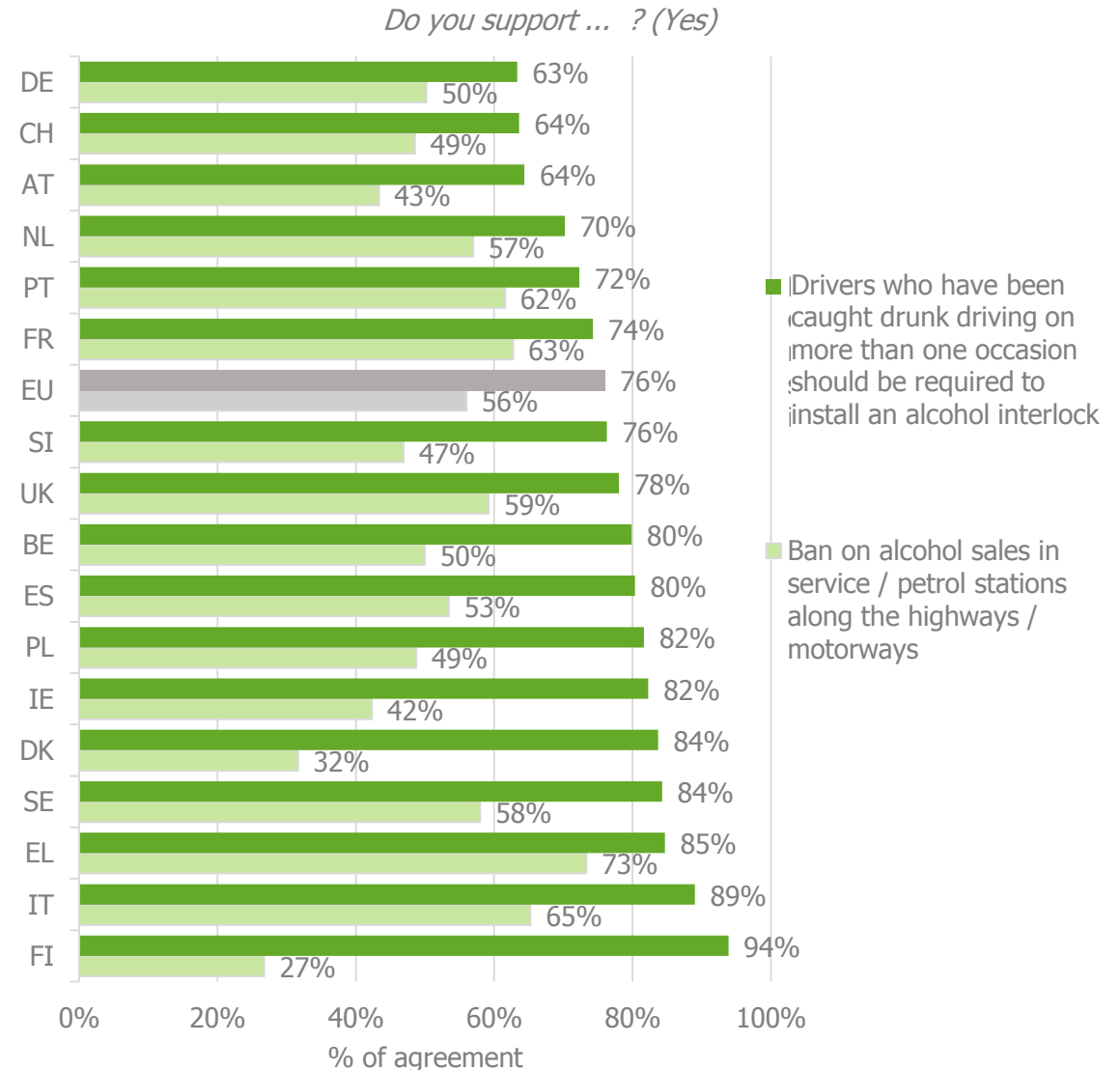
Source: ESRA, 2016 (www.esranet.eu)



Support of alcohol interlock installation

- The obligation to **install** alcohol interlocks in cars of **recidivist** drivers is most **supported** in Finland (94%), Italy (89%) and Greece (85%).
- Alcohol interlocks are **least popular** in Germany (63%), Switzerland and Austria (64%).
- The support for alcohol interlocks is not simply produced by introducing the relative law, but because road **users do not tolerate drunk drivers**.

Source: ESRA, 2016 (www.esranet.eu)



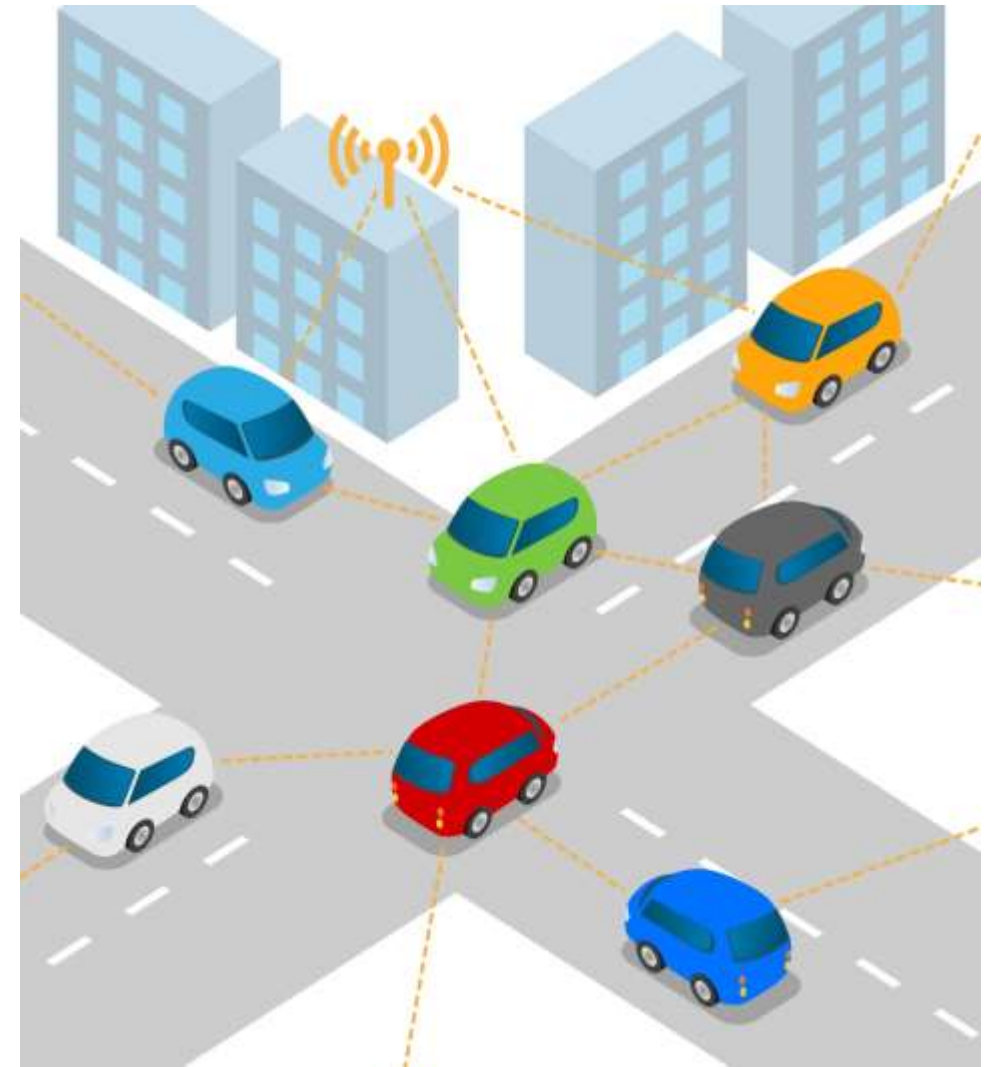
- The size of the **problem of drink-driving** is well known and understood by European drivers.
- Overall, the level of enforcement concerning drink-driving is considered rather low. **Europeans are in favor of stricter rules** and more intense enforcement of drink-driving.
- The **mandatory installation** of alcohol interlocks in the cars of recidivists **is supported by the majority** of Europeans.
- However, this **road users will has not been yet translated into legislative** measures in most EU countries.
- This indicates that the **National Authorities either have ignorance** of these public opinions or fear too much the minorities reactions.



- The **Internet of Things/Everything** (IoT/IoE) is progressively bringing new possibilities and opportunities:
 - Affordable On Board Diagnostics (OBD) systems,
 - Wide penetration of Smartphones & Social Networks
 - Efficient Data Transmission (through GSM networks),
 - Powerful Cloud computing,
 - More insightful Big Data analysis
- Great potential for **continuous monitoring** and star rating driver safety behaviour, to be exploited for:
 - insurance premiums
 - drivers' self-improvement
 - analysis to support road safety decisions
 - enforcement of special driver categories (professionals, novice, recidivists, etc,)
- **Alcohol interlock data could be incorporated** into driver safety behaviour monitoring, making the driver safety performance assessment more complete (but potentially also integrated with driver health monitoring).



- Alcohol Interlock could be very beneficial for:
 - **Connected Vehicles**
 - **Dual traffic** (automated and non-automated vehicles traffic), especially during the long transition phase
- Alcohol interlocks in **dual automated vehicles** could be proved valuable for mandatory use of the automatic mode in case of driver under the influence of alcohol.
- Alcohol interlocks can provide real-time and historical drink-and-drive data, potentially very valuable for static and dynamic programming of the **automated vehicle driving behaviour**.



Opportunities

- **Internet of Everything** will be everywhere soon and alcohol interlock will certainly become part of this "Everything" and "Everywhere"
- **Drivers acceptance** is higher when reliable automated systems are deployed for all, than towards the randomness of traditional controls and systems.

Barriers

- **Data privacy issues**, should be convincingly addressed at technical, organizational and legislation level.
- People have to **digest the idea** of being continuously controlled.

At the end of the day, **society and technology interact** and progress together; the pace is dictated by the balance between the opportunities and barriers.

Alcohol interlocks are just a part of these technology changes.



- Alcohol interlock is a great tool for **educating drivers**, especially specific driver groups (professionals, novice, recidivists, etc,).
- Alcohol interlock penetration will be accelerated if the industry comes up soon with **low cost solutions**.
- **Community attitudes** can either facilitate or inhibit the success of any policy change for alcohol interlocks. Policy makers and the public should be as connected as possible.



- Alcohol interlock should smoothly evolve to a device connected to the modern **driver behaviour monitoring systems**.
- Alcohol interlock should be fully included at the agenda of the development and operation of connected vehicles and of **automated traffic**.
- **Extensive research** on alcohol interlock effectiveness is needed, to scientifically support evidence based decision making for the further alcohol interlock wide deployment.



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