

Developments in vehicle safety technology

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DEVELOPMENTS IN VEHICLE SAFETY TECHNOLOGY

PIAB Conference

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Laurence Atchison

Project Officer



- ✓ **A science based approach to road safety**
- ✓ **Secretariat** in Brussels
- ✓ **60 member organisations** from across Europe
- ✓ More than **200 experts** contributing to ETSC's work
- ✓ The European Commission, Member Organisations, Member States and corporate sponsors are funding our work

ETSC RK



ETSC IES



Monitoring
EU
transport
safety
policy



Road
Safety
Performance Index
(PIN)

SMART 
SOBER MOBILITY ACROSS ROAD TRANSPORT

YEARS
YOUNG ROAD USERS

REVIVE
IMPROVING POST-COLLISION
RESPONSE AND EMERGENCY
CARE IN EUROPE


PRAISE
Work-Related Road Safety

**SAFE
SOBER** 

  
iSAFER
INTELLIGENT SPEED ASSISTANCE
FOR EUROPEAN ROADS



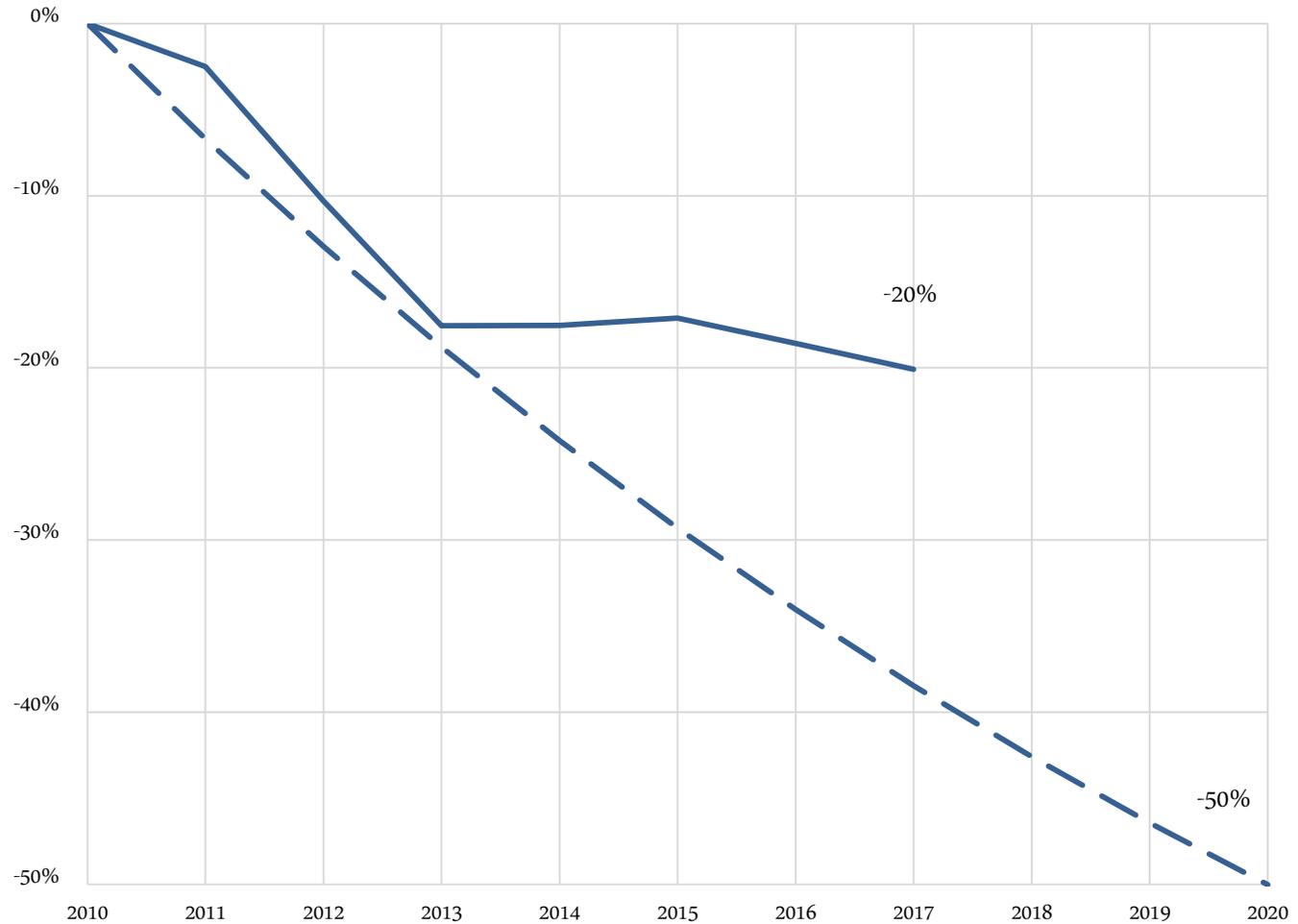
**DRUG
DRIVING**

25,10

0 people died in road
traffic in the EU in
2018

CHANGE IN ROAD DEATHS (%)

2010-2017



135,000

0

seriously injured in road traffic in
the EU in 2016 according to
MAIS3+ definition

**MAIS3+ estimates by the European Commission*

17 MAY 2018: 3rd MOBILITY PACKAGE

PUBLISHED BY

THE EUROPEAN COMMISSION

Two legislative proposals:

- 
- **Revision of the General Safety 2009/661 (and Pedestrian Safety 2009/78 Regulations)**
 - **Revision of the Road Infrastructure Safety Management Directive 2008/96**

Two communications

- **Strategic Action Plan on Road Safety**
- **Strategy on Automated Driving**

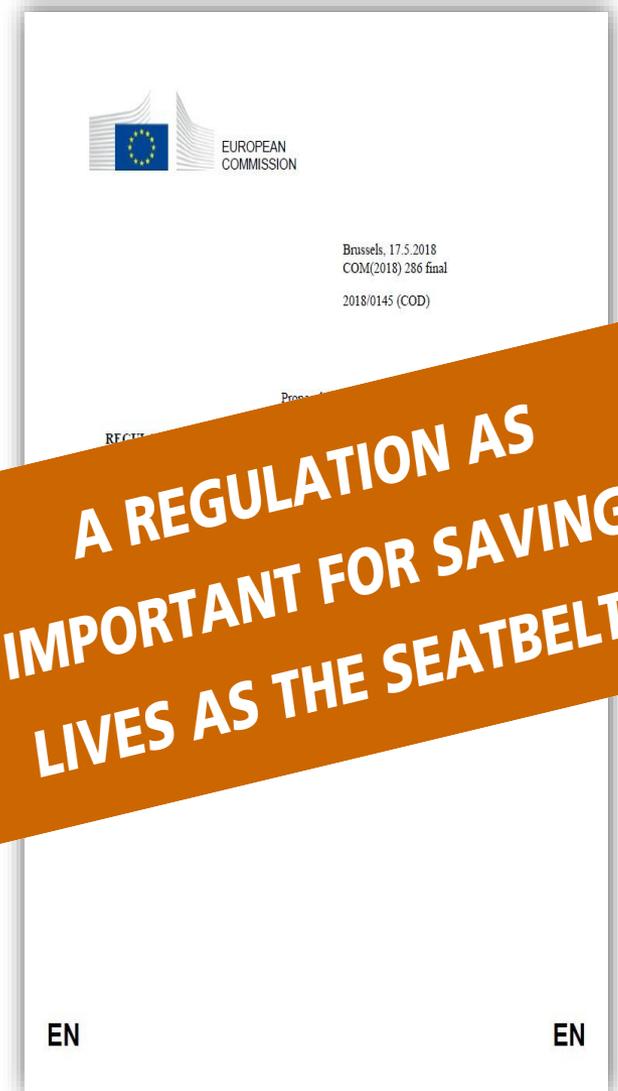
https://ec.europa.eu/transport/modes/road/news/2018-05-17-europe-on-the-move-3_en

GENERAL SAFETY REGULATION

- Type-approval system before vehicle go on the road
- Exclusive competence of the EU
- Significantly improved vehicle safety and road safety
 - International recognition
- Protection of occupants and vulnerable road users

Proposed Revision

- 17 Measures to improve vehicle safety
- Focus on 'advanced driver assist



What's included?

INTELLIGENT SPEED ASSISTANCE (ISA) ✓

AUTOMATED EMERGENCY BRAKING (AEB) WITH PEDESTRIAN ✓
DETECTION

✓
IMPROVED DIRECT VISION STANDARD

✓
ALCOHOL INTERLOCK INTERFACE DEVICE

✓
EVENT DATA RECORDERS

✓
IMPROVED PROTECTION FOR PEDESTRIANS AND CYCLISTS

✓
LANE KEEPING ASSIST

✓
DRIVER DISTRACTION MONITORING

Intelligent Speed

Assistance



INTELLIGENT SPEED ASSISTANCE (ISA)

- Speed is a primary contributory factor in 1/3 of fatal collisions
- ISA actively helps the driver to keep to the speed limit
- Overridable
- 20% reduction in road deaths, 30% reduction of collisions

How does the system know the speed limit?

- Speed sign recognition and/or
- Digital maps and/or
- Cooperative-ITS



Event Data Recorders

Event Data Recorders (EDRs)

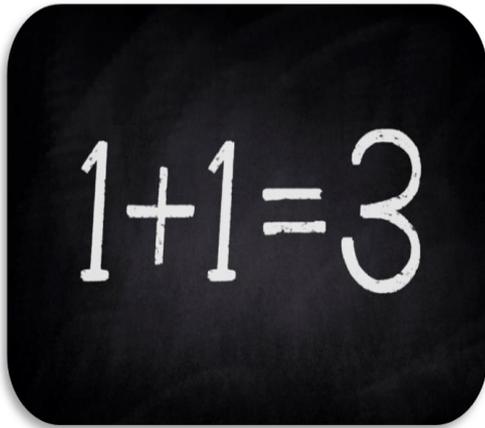
- A few seconds of data before, during and after a collision will be recorded.
- The data will be anonymous
- Accessible only by approved authorities
- Purpose is collision investigation to help prevent future collisions



Privacy concerns

- Taken into consideration by the European Parliament in particular
- Car data is subject to EU data protection legislation (GDPR)

Combined Benefits



Expected to:
Save 25,000 lives
and 140,000
serious injuries
over 15 years

With ISA, top speeds are curtailed. So:

- AEB will have more opportunity to prevent crashes
- When there are crashes, occupant protection systems will have a greater chance of preventing harm

What next?

- Package of measures was approved by the European Parliament earlier this year
- Provisionally approved in Trilogue negotiations two weeks ago.
- Next steps:
 - Potentially adopted before European Parliament elections this May
 - If not, by the end of 2019.
- Mandatory in 2022/2024
 - Later dates for some measures e.g. Direct Vision.



TELEMATICS

- Becoming increasingly common
 - Professional vehicle fleets (esp. in UK/IE)
 - Insurance packages for young drivers.
- A useful driver monitoring tool:
 - Safety implications
 - Financial benefits (fuel/repairs/insurance)
 - Research (in-house and external)
 - Collision and incident investigation
- Data and privacy issues abound

"It is unfortunate that there has been so little evaluation of an intervention that has such potential for research"



AUTOMATION AND THE FUTURE

- Automated driving technologies already preventing collisions and deaths on our roads

- This will continue to increase with the new raft c
- But – be wary of overestimates!



- The theoretical safety benefits are huge, but unknown if they will emerge

- Scenario we likely face is one of shared roads (automated/regular)
- Implications for this for safety and “responsibility”



AUTOMATION AND THE FUTURE

- How will regulators respond?
 - Difficult to keep up with the progress of change
 - A lot of push-back from vehicle manufacturers
 - Happy to innovate, less so to regulate...
- A lot of work is ongoing into the C-ITS required for automation
- Latest vehicle technology measures are a step on the way
- Cautious optimism.... Let's not forget about the present



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