Revision of the Roadworthiness legislation

Updating EU rules on roadworthiness tests, technical roadside inspection, and registration documents of vehicles (Directives 2014/45/EU, 2014/46/EU, 2014/47/EU)

12th International VERT FORUM,
March 24 2022

Outline

EU legislative framework

Review process, timing

Main changes

Some details on PN measurement

- Scope
- Instrument
- Other aspects
- Likely follow-up

EU legislative framework: „Roadworthiness Package“

Directive 2014/45/EU

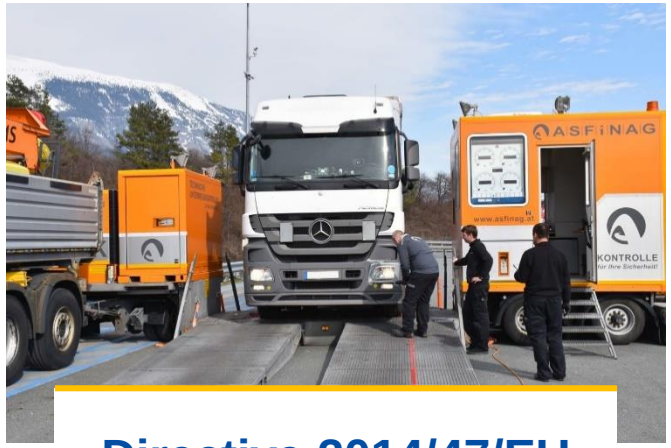
Periodic roadworthiness tests for motor vehicles and their trailers

(“PTI Directive”)

Directive 2014/46/EU

amending Directive 1999/37/EC

Registration documents of vehicles



Directive 2014/47/EU

Technical roadside inspection of the roadworthiness of commercial vehicles circulating in the EU

(“RSI Directive”)

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SUSTAINABLE & SMART
MOBILITY STRATEGY

- Adjust EU legislation on **roadworthiness**
  - Ensure lifetime compliance of vehicles with emission and safety standards

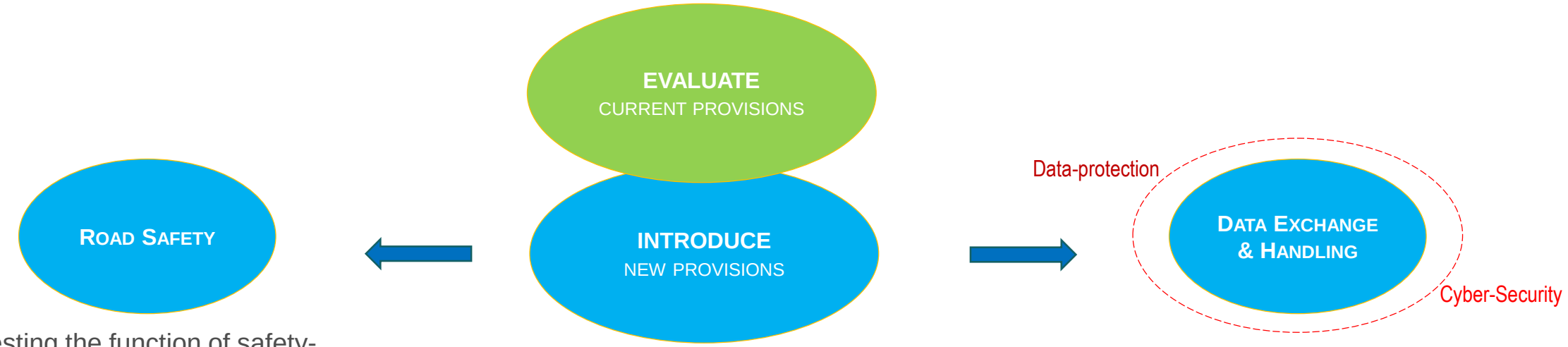
Action 7 - Improve emission testing in roadworthiness checks

Roadworthiness inspections

- Key to road safety & control of vehicle emissions
- Challenges
  - **General Safety Regulation** – Electronic safety & driver assistance systems becoming mandatory
  - Euro 6 & 7: Stringent emission requirements
  - Accessibility to RW-relevant vehicle identification & status data
  - Tampering & fraud on vehicles

Action 66 - Assess the need for a proposal to require efficient exchange of odometer readings across the EU

Revision of the Roadworthiness Package



- Testing the function of safety-relevant electronic components and ADAS
- Extend scope of application, where meaningful (PTI, RSI)
- Mandatory cargo securing provisions
- e-PTI?
- Testing of hybrid/electric vehicles?
  - Safety of users (electric, …)
  - Batteries testing
  - Relevant parts to be tested
  - …
- Recalls of vehicles?
- …

- **New PTI-methods to measure emissions (PN, NOx,…)**
- New RSI-methods to identify highly-polluting vehicles on EU roads
- Performance/software testing in HEVs/EVs?
- …

- Prevent tampering & fraud (odometer, vehicle accidents,…)
- Digitalisation of documents
- Provide for electronic storage & exchange of up-to-date RW-relevant data at EU level
- Harmonise RW-relevant documents
- Improve administrative processes
  - Re-registration of vehicles
  - Handling prohibitions/suspensions
  - Treating End-of-life vehicles
- …

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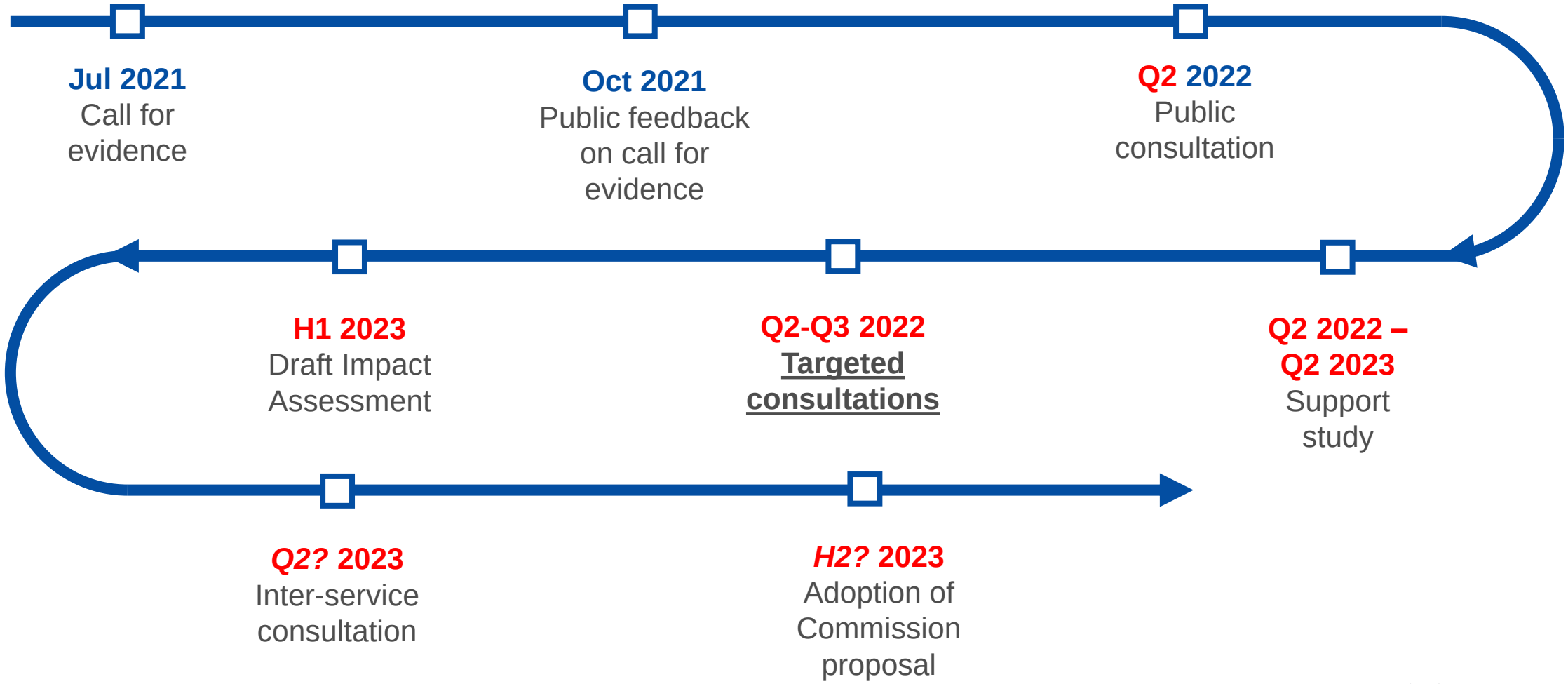
Time planning of revision



Disclaimer: work in progress, timing is tentative

Ongoing work

on measurement of PN and NOx emissions

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Emission measurement

In close cooperation with JRC

- **Measurement of PN emissions (PTI & RSI)**
  - Notifications under the Directive (EU) 2015/1535 received from DE, NL
    - Introduction of PN tests at PTI from Jul 2022 (NL, BE) and Jan 2023 (DE)
    - Taking stock of the work carried out by the JRC & the N-PTI group in the past
  - Aim: **Commission guidance** by end 2022 to complement PTI tests
- **Measurement of NOx emissions (PTI)**
  - JRC literature review & lab study ongoing
  - Challenge: large variety of after-treatment systems
  - OBM approach? (longer term)
  - Current focus on modern Diesel vehicles with SCR

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(Photo Credit : Focus)

Periodic Technical Inspection: Guidance for Particle Number Measurements

Ongoing work by the Joint Research Centre and DG MOVE,
in consultation with the Roadworthiness Expert Group
(Member States and industry representatives)

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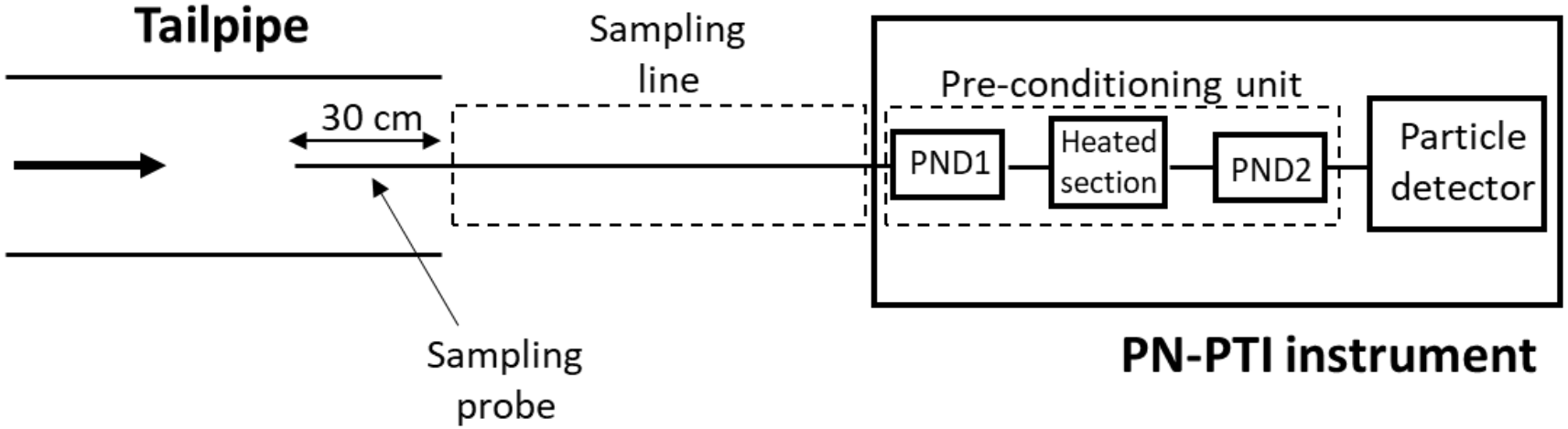
Envisaged scope

- Particle number (PN) concentration measurements during the Periodic Technical Inspection (PTI) should be applied to all passenger cars and light commercial vehicles (i.e. M and N category vehicles) starting from Euro 5 equipped with compression ignition engine and a solid PN limit applicable during their type approval.
- For Heavy Duty Vehicles (HDVs), DPF malfunctioning can be detected with low idling tests according to the literature. Intention is to include them in the scope.
    - Gasoline vehicles are out of the scope at this stage due to lack of experimental data to support a robust measurement procedure
    - Application of the method to vehicles that during type-approval did not have a solid PN limit, would “punish” vehicle owners with DPF

Envisaged description of the PN-PTI instrument

- The PN-PTI instrument should be comprised of a sampling probe, a sampling line (optional), a device/technique to avoid water condensation, a pre-conditioning unit for removing volatiles (optional), and a particle detector



With dash lines the optional parts

Additional aspects & follow-up

- Metrological and technical requirements
- Metrological controls
- Measurement procedure
- **Considered limit**: vehicles that are subject to the PN concentration test should respect the limit of 250,000 (1/cm^3) – to be able to detect malfunctioning/manipulated DPF

Final guidance/recommendation (end 2022) likely to be used in Commission proposal planned for 2023.

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Thank you

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Road transport

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