

(EC/IDIADA) LEON-T - LOW PARTICLE EMISSION AND LOW NOISE EMISSION TYRES

TYRES PARTICLE EMISSION
TYRES ROAD SOUND

MAIN MESSAGES FROM THE PRESENTATION(S)

LEON-T (Low particle Emissions and Low Noise Tyres) is a project mandated by the European Commission under the Societal challenges – Smart, Green and Integrated Transport. The motivation of this project is to significantly increase the knowledge and evidence about particle and noise emissions from tyres and their associated effect on public health, in order propose mitigating measures through regulation, labelling and tyre design.

SUMMARY

Leon-T project objectives:

- Increase the knowledge about the measurement of **particle and noise emissions** from tyres and their associated **effects on public health**
- Propose effective and efficient **mitigating measures** through regulation, labeling and tyre design
- Correlate particle abrasion and particle emissions in lab and road tests
- Proposal and validation of an in-vehicle test set-up for the determination of **tyre abrasion** rate, suitable for consumer-oriented labelling
- Investigation of the cardiovascular health effects of exposure to tyre generated noise during sleep
- Design and construction of a low noise, low rolling resistance tyre
- Recommendation of policy measures to limit the contribution of tyre-road interaction to micro plastics in the environment, to airborne particles exposure and to traffic noise.

The work has been split in 8 Work Packages between the different partners implied in this project. The work has started in June 2021 and expected to be finished in May 2024.

ADDITIONAL POINTS FROM DISCUSSIONS

The presentation explained the objectives of the program that had just started.

- Single events during night-time included in this study
- Based on studies from INSA and VTI, they have recreated real traffic scenarios in line with real life (motorways & high-speed roads nearby communities with realistic sounds which could be heard at different distances of motorways) – transition due to different density of traffics are included due to acceleration of vehicles but always in the context of high-speed tracks.
- Different concepts of airless tyres are considered. Only one tyre manufacturer for C3 in China
- Conservation of road is really important because of interaction road/tyres → The tests will be done on real roads (different types of roads) and their characteristics will be recorded. One representative pattern is defined. Overall particles generation and the size of particles will be evaluated for any tyres. But impact of road on tyres is not included in this study.
- This study could be used to make the link between tyres abrasion & noise.

REFERENCES

Partners of the Leon-T project:

- Car and tyre manufacturers: FORD, AUDI, LLG (Shandong Linglong Tire)
- Applied research organizations – Tyre/road interaction: IDIADA (Spanish Institute of Applied Automotive Research), TNO (Netherlands Organisation for Applied Scientific Research), VTI (Swedish National Road and Transport Research Institute), JRC (Belgium EC Joint Research Centre)

Category(ies) of vehicle M, N & L

- Scientific research organizations – Health aspects (Noise & particles): RIVM (Dutch National Institute of Public Health and the Environment), INSA-Lyon (French university - Institut National des Sciences Appliquées), UGOT (Swedish University of Gothenburg)
- SME: ETU (Swedish Euroturbine AB), BAX (Spanish innovation consultancy)
- [TFVS-08-08 Rev.1](#) (EC/IDIADA): ppt LEON-T project
 - EC Program : [Low particle Emissions and lOw Noise Tyres | LEON-T Project | Fact Sheet | H2020 |](#)
[CORDIS | European Commission \(europa.eu\)](#)
 - Website LEON-T: <https://www.leont-project.eu/>