

Proposed project on non-exhaust emissions from road traffic for the 2023 European Partnership on Metrology Programme

- This is an early-stage idea for the 2023 European Partnership on Metrology (EPM) Industry call: www.metpart.eu
- We need to engage the tyre / brake / automotive industry, trade bodies and regulators to better understand how metrology can support the needs of industry in the context of [non-exhaust emissions](#).
- The project will be scoped according to the needs of industry, authorities and science.
- The call is a two-stage process. Stage 1 (Potential Research Topics) deadline is mid-February
- We are currently looking for research partners and industrial actors to join the consortium.
- Please, contact Karri Saarnio, Finnish Meteorological Institute (FMI), to express your interest: karri.saarnio@fmi.fi

PRT FOR NON-EXHAUST EMISSIONS FROM ROAD TRAFFIC (METROLOGY PARTNERSHIP: INDUSTRY CALL 2023)

WP1: Tyre emissions

- Develop procedures for measuring the abrasion of tyres with defined conditions and methods
- Nano- and micro-plastics from tyres: Quantity, size and composition? Influence of different tyre materials?
- Influence of driving behaviour?
- Influence of electrification of traffic?

WP2: Brake emissions

- Develop procedures for measuring the abrasion of brakes with defined conditions and methods
- Ultra fine particles from brakes: Quantity, size distribution and composition? Influence of different brake materials?
- Influence of driving behaviour?
- Influence of electrification of traffic?

WP3: Physical and chemical properties of NEE

- Tracers
- Role of NEE in ambient road-side environment
- Transformation of NEE in ambient environment

WP4: Reference materials for NEE

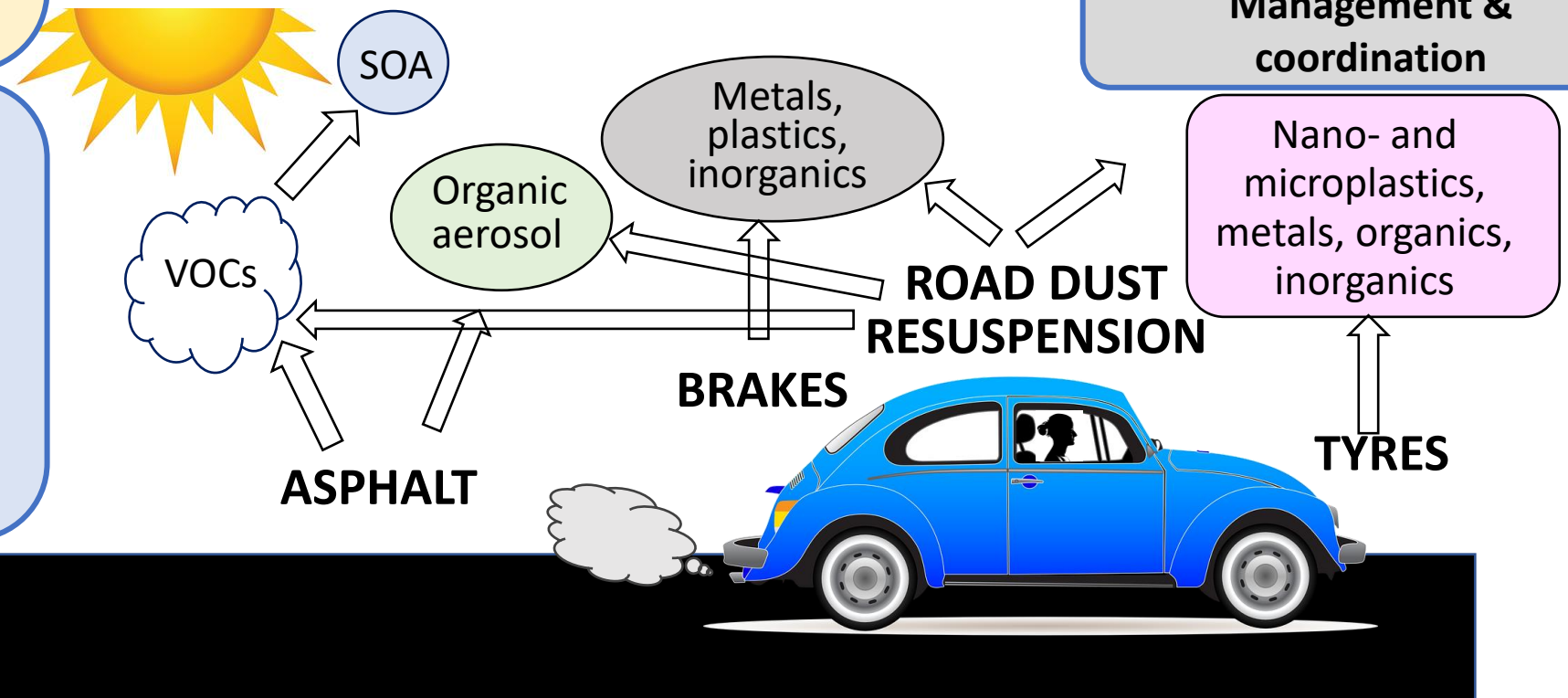
- Generation, validation, homogeneity, stability, traceability
- Calibration, product testing, method development

WP5: Creating impact and dissemination

- Standardization (CEN, ISO)
- EU legislation
- Automotive, tyre and brake wear industry
- Instrumentation manufacturers

WP6: Management & coordination

Nano- and microplastics, metals, organics, inorganics



Draft project objectives

- Tyres and brakes as sources of non-exhaust emissions: How to measure? How to make NEE measurements reliable and traceable? Reference materials?
- Nano- and micro-plastics from tyres: Measurement methods, composition, transformation in ambient environment? Influence of different tyre materials?
- Ultrafine particles from brakes: Size distribution and composition of emissions? Influence of different brake materials?
- Recommendations for suitable methods and instrumentation? Test rigs, measurement techniques
- What is the role of NEE in ambient roadside environments? Source apportionment
How to mitigate emissions?
- Improved air quality emissions inventories?

Potential partners

- NMI/DIs (internal funded):
 - FMI (ambient measurements, chemical composition, source apportionment, VOCs)
 - VTT (brake test bench, regulated emissions)
 - PTB (physical particle characterisation, XRF)
 - 3rd country needed (+ 4th?) - Possible partners: INRiM, LNE, RISE?
- NMIs with national funding (unfunded):
 - NPL
 - METAS
- Potential industry partners (external funded):
 - Measurement technology: Airmodus, Dekati
 - Automotive:
- Other research partners (external funded):
 - Demokritos (source apportionment, chemical comp.)?
 - National Technical University Athens (chemical char.)?