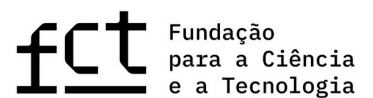




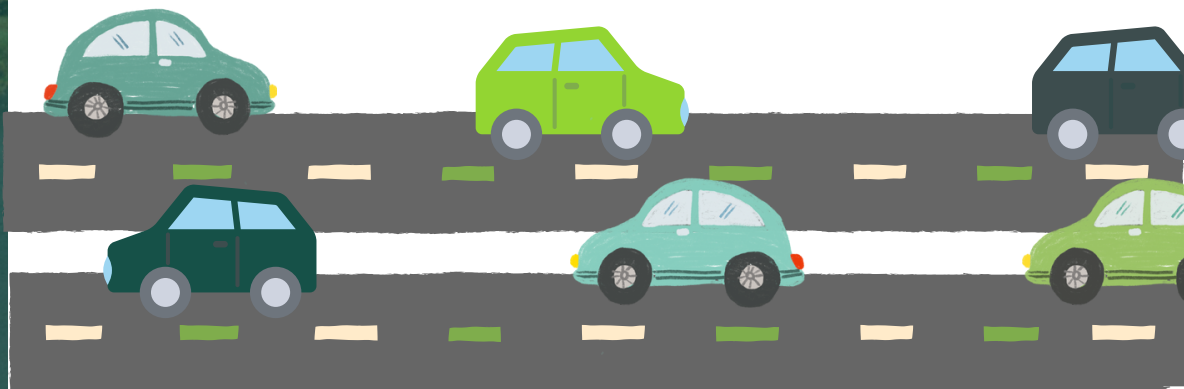
Newsletter 1

JUNE 2025



What is the iMPact project?

iMPact is a project that aims to investigate the contribution of road traffic as a potential source of **microplastics** in the environment.



General context

- Microplastics (MPs) are insoluble solid plastic particles smaller than 5mm.
- Vehicle tyre wear is an important source of MPs in the environment.
- Identifying the sources and pathways of MPs is essential to developing effective management and mitigation strategies.
- Airborne MPs have been drawing increasing global attention due to their ubiquity and potential impacts on human health



Potential negative health effects:

- Infections
- Weakened immune system
- Respiratory problems
- Allergies
- Cancer risk



Main project tasks

1.

Sampling of particles in **road traffic** pollution environments



2.

Chemical analysis of **particles** and quantification and characterisation of **MPs**

3.

Estimation of the **contribution of road traffic** to total **MP levels** in the environment

4.

Assessment of the **potential toxicity of MPs**



5.

Formulation of **effective strategies** to reduce MP emissions and protect human health

Exploring Air Quality in a Road Tunnel

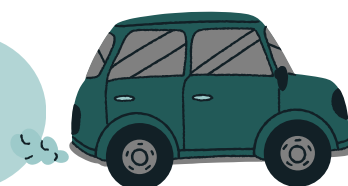
A **short-term sampling campaign** was conducted at the **Marquês Tunnel** (Lisbon, Portugal) from 22 to 30 October 2024.

Tunnel environment characteristics:

- Exhaust emissions
- Tyre and brake wear particles
- Road dust resuspension
- Minimal outside air influence

Goal

Understand the chemical composition of traffic-related emissions



Collected samples:

Airborne particles



Deposited road dust



Sampling Campaign in an Urban Traffic Environment



Location

- Entrecampos, Lisbon (Portugal)



Environment characteristics

- Dense urban area with residential, commercial and office buildings
- High traffic intensity
- Close to major roads: Campo Grande, Av. da República and Av. das Forças Armadas



Sampling Campaign in an Urban Traffic Environment



Sampling strategy

- Intensive air quality sampling campaign carried out at a representative urban traffic site
- Sampling equipment installed near the Entrecampos air quality station, part of the national monitoring network
- Measurements over 30 days in each season



Focus of the campaign

- Particulate matter
- Microplastics
- Seasonal variability of air quality



Goal

Uncovering the impact of urban traffic on air quality and microplastic pollution.

Timeline

2022

30th September: European Researcher's Night



2023

19th and 20th May: Técnico's Open Day



5th April: Road Tunnel Sampling Tests



30th May - 6th June: Road Dust Sampling Tests



3rd - 8th September: European Aerosol Conference



29th November - 1st December: WeBIOPATR Conference

29th September: European Researchers' Night



2024

20th April: Técnico's Open Day



25th - 30th August: European Aerosol Conference



1 month: Summer
Sampling Campaign



27th September: European
Researchers' Night

22nd - 30th October:
Sampling Campaign in a
Road Tunnel

1 month: Autumn
Sampling Campaign

2025

24th-27th March: IDAEA
Barcelona Visit



1 month: Spring Sampling
Campaign

1 month: Winter Sampling
Campaign

5th April: Técnico's
Open Day



12th April: Workshop
"Dia Nacional do Ar"

31th August – 5th
September: European
Aerosol Conference

What's next?

26th September: European
Researchers' Night

iMPact



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