

Consortium partners



10
countries

V·E·R·A

Vehicle Emission Retrofit Activities

VERA is a **Horizon Europe** project (2022 – 2026) with a budget of **€6 million**, bringing together different European partners to develop advanced retrofit technologies that reduce harmful emissions from road and rail transport.

The project focuses on:

- Tailpipe emission retrofit systems for road vehicles
- Brake emission reduction systems for vehicles and metro/rail applications
- Improving urban air quality and reducing health impacts from transport emissions



Brake • Retrofits

Advanced discs, pads & filtration systems

Solutions & Systems

- **Road Vehicles:** Sedans, SUVs, and LCVs (scalable to HDVs).
- **Metro & Rail:** Disc (DBU) and Tread (TBU) Brake Units.
- **Configurations:**
 - Engineered Cast Iron + Low Emission Pads
 - Coated Discs + Low Metal Pads
 - Active filtration system with Machined Pads

Key Achievements

>90% Reduction

in Brake Particle Emissions

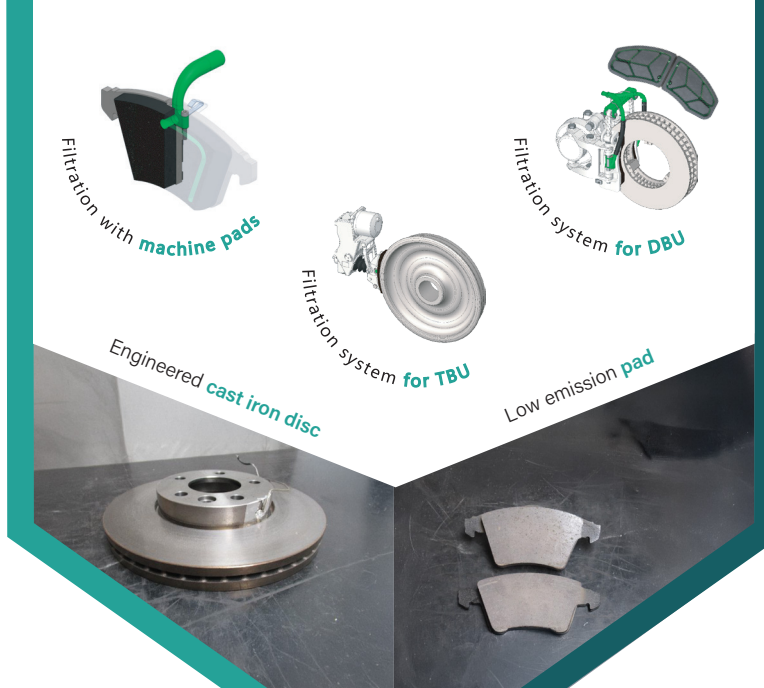
- **Safety First:** No compromise in braking performance or efficiency.
- **Health Impact:** Strong reduction of toxicological effects and harmful substances.
- **Versatile Use:** Applicable as retrofits, direct replacement, or first installation.
- **Sustainable:** Minimized impact on energy/fuel consumption.



✉ adimaratos@auth.gr

in /vera-project-eu

< Scan for more info about the project



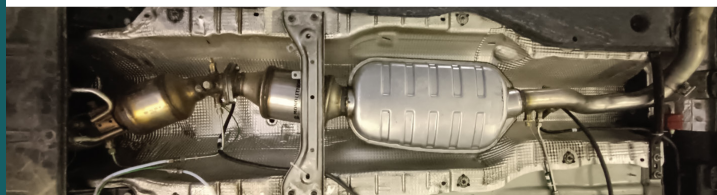
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LESS PARTICLES, BETTER AIR QUALITY

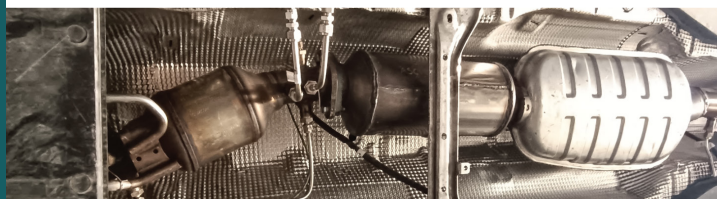
▼ PC original **EATS** ▼



▼ PC retrofit v1: **cGPF** ▼



▼ PC retrofit v2: **ASC+cGPF** ▼



Tailpipe • Retrofits

Advanced coated GPF & catalysts

Applications & Innovation

- **Passenger Cars:** Bi-fuel CNG/Gasoline (Euro 6d).
- **Light Commercial:** Gasoline PFI Van (Euro 6b).
- **Heavy-Duty:** CNG City Buses (Euro VI).
- **Tech:** GPF, Cu-based coatings, low PGM, and TWC/AOC/ASC.
- **Reducing:** nanoparticles, NO_x , and NH_3 emissions.

Key Achievements

>90% Reduction

in Exhaust Particle Emissions (CNG & Gasoline)

- **20-50% NO_x Reduction** even on low-emission Euro 6 vehicles.
- **95-100% NH_3 Removal** (Almost complete elimination).
- **Zero Fuel Impact:** No increase in CO_2 or fuel consumption.
- **Low Cost:** System price <10% of used (or in-use) vehicle market value.



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