

PROJECT

## NEMO

### Noise and Emissions Monitoring and radical mitigation

**Funding:** European (Horizon 2020)

**Duration:** May 2020 - Apr 2023

**Status:** Ongoing

**Total project cost:** €6,564,893

**EU contribution:** €6,564,893



**Call for proposal:** H2020-MG-2019-TwoStages

[CORDIS RCN : 227995](#)

#### Objectives:

NEMO aims to create a turn-key solution through which new systems are integrated into existing infrastructure to empirically measure emissions and noise emitted by individual vehicles. The new measurement systems, together with the implementation of new mitigation solutions, form a global and scalable solution to improve air quality and reduce noise impact in EU cities. By the envisaged standardization, the systems will represent an instrument for enforcement against high-emitters in Low-Emission Zones and other sensitive areas.

The first dimension comprises a new and enhanced autonomous remote sensing system that identifies noisy and polluting vehicles in existing traffic and make this information available to tolling or access systems. The system can be fully integrated into the road/rail infrastructure and will have the tools available to communicate with the existing data structure of both vehicle/train operators and road/rail authorities.

The second dimension develops a holistic solution to mitigate noise and emissions of passing vehicles. This integral approach involves road texture optimization, green barriers, photocatalytic materials and microplastics collection in the asphalt layer pore network.

The combined effect of dimensions 1 and 2 will achieve the targeted 30% improvement in air quality for road traffic and will exceed the targeted 20% improvement in noise. For rail traffic, NEMO will enable the acoustic determination and identification of individual wagons in passing trains. This improves the effectivity of tolling or banning policies for noisy cast iron block braked wagons.

The NEMO consortium covers all the relevant technologies at already quite high readiness level and incorporates extensive experiences in the application and interpretation of vehicles' noise and emission monitoring. The performance of the developed systems will be demonstrated, analysed and disseminated in four pilots (two for road, one for rail and one for shipping).

#### Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

**Institute type:** Public institution

**Institute name:** European Commission

**Funding type:** Public (EU)

#### Lead Organisation:

**Fundacion Cartif**

**Address:**

PQ TECNOLOGICO BOECILLO 205  
47151 BOECILLO  
Spain

**Organisation Website:**

<http://www.cartif.es>

**EU Contribution:** €506,250

**Partner Organisations:****Comune Di Firenze****Address:**

PIAZZA SIGNORIA 1  
50122 FIRENZE  
Italy

**Organisation Website:**

<http://www.comune.fi.it>

**EU Contribution:** €191,125

**Audiotec Ingenieria Acustica S.a****Address:**

JUANELO TURRIANO 4  
47151 BOECILLO  
Spain

**EU Contribution:** €140,500

**Agenzia Regionale Per La Protezione Ambientale Della Toscana****Address:**

VIA NICOLA PORPORA 22  
50144 FIRENZE  
Italy

**Organisation Website:**

<http://www.arp.atoscana.it>

**EU Contribution:** €186,875

**Gate 21****Address:**

LILJENS KVT 2  
2620 ALBERTSLUND  
Denmark

**EU Contribution:** €299,375

**Opus Rs Europe SI****Address:**

CALLE GAZTAMBIDE, NUM. 45  
28015 MADRID  
Spain

**EU Contribution:** €1,042,669

**Sintef****Address:**

Strindveien 4  
7034 TRONDHEIM

Norway

**Organisation Website:**

<http://www.sintef.no>

**EU Contribution:** €308,893

**Opus Technology Solutions Ab**

**Address:**

SKATTEGARDSVAGEN 122  
162 50 VALLINGBY  
Sweden

**EU Contribution:** €664,250

**Muller-Bbm Gmbh**

**Address:**

Robert Kochstrasse 11  
82152 Planegg  
Germany

**EU Contribution:** €435,000

**Fundación De La Comunidad Valenciana Para Investigación, Promoción Y Estudios Comerciales De Valenciaport**

**Address:**

Avenida Mulle del Turia s/n  
46024 VALENCIA  
Spain

**Organisation Website:**

<http://www.fundacion.valenciaport.com>

**EU Contribution:** €74,625

**Kapsch Trafficcom Ag**

**Address:**

Wagenseilgasse 1 1  
A-1120 Wien  
Austria

**Organisation Website:**

<http://www.kapsch.net>

**EU Contribution:** €460,631

**Muller-Bbm Gmbh**

**Address:**

Robert Kochstrasse 11  
82152 Planegg  
Germany

**EU Contribution:** €413,261

**Universite Gustave Eiffel**

**Address:**

5 BOULEVARD DESCARTES CAMPUS DE MARNE-LA-VALLE

77454 MARNE-LA-VALLEE

France

**EU Contribution:** €304,633

**Universidad De Cantabria**

**Address:**

Avenida De Los Castros S/n

39005 Santander

Spain

**EU Contribution:** €400,125

**M+P Raadgevende Ingenieurs Bv**

**Address:**

Visserstraat 50

344 AALSMEER

Netherlands

**Organisation Website:**

<http://www.mp.nl>

**EU Contribution:** €583,596

**Rhebergen Composites Bv**

**Address:**

M.s. Van Riemsdijkweg 7

1033RC Amsterdam

Netherlands

**Organisation Website:**

<http://www.composieten.com>

**EU Contribution:** €241,045

**Federation Europeenne Pour Le Transport Et L'environnement Aisbl**

**Address:**

SQUARE DE MEEUS 18

1050 BRUXELLES

Belgium

**EU Contribution:** €148,380

**European Commission - Joint Research Centre (Brussels)**

**Address:**

Rue de la Loi 200

1049 BRUXELLES

Belgium

**Organisation Website:**

[Organisation Website](#)

**EU Contribution:** €163,660

**Technologies:**

Noise testing, modelling and reduction

Engine core noise measurements

**Development phase:** Research/Invention

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**STRIA Roadmaps:** Other specified

**Transport mode:** Multimodal transport

**Transport sectors:** Passenger transport, Freight transport  
Societal/Economic issues, Environmental/Emissions aspects, Other

**Transport policies:** specified

**Geo-spatial type:** Other