



HORIZON 2020

LE PROGRAMME DE RECHERCHE ET
D'INNOVATION DE L'UNION EUROPÉENNE

Infoday appels à projets H2020 - 2020

***Les plastiques : nouveaux matériaux, production, usages,
recyclage et valorisation***

23/09/2019 - Lyon



MINISTÈRE
DE L'ENSEIGNEMENT SUPÉRIEUR
ET DE LA RECHERCHE



Présentation des appels « plastiques »

Défi 1 – Santé, Bien-être

**Défi 4 – Transports intelligents,
verts et intégrés**



Défi 1 – Santé, Bien-être

Appel	Titre	Action	Taille budgétaire (millions €)	Date(s) Limite(s)
SC1-BHC-36-2020	<u>Micro- and nano-plastics in our environment: Understanding exposures and impacts on human health</u>	RIA	4-6	07/04/2020



SC1-BHC-36-2020: Micro- and nano-plastics in our environment: Understanding exposures and impacts on human health

Challenge: Humans are exposed to micro- and nano plastics, through their diet, drinking, water, inhalation. However, poor understanding of the fate and toxicity. Major knowledge gap, that renders difficult proper risk assessment and management

Scope: provide policy relevant scientific data to improve risk assessment of micro and nano-plastics, inter alia:

- Environmental/food/water sources and transmission to humans
- Methods for identification and quantification, Analytical methods for detection
- Exposure levels of humans
- Microbial colonisation of micro- and/or nano-plastics as vectors for potential pathogen
- Micro- and/or nano-plastics as condensation nuclei and/or carriers for airborne particulate matter and chemicals
- Toxicology and additives/adsorbed contaminants
- Fate in the gastro-intestinal or respiratory tracts and secondary organ
- effect of shape
- Immune responses
- long-term effects

✓ 2020
✓ 1-Stage
✓ RIA
✓ 4-6M
✓ 4-6
projets

Impact:

- Better understanding of health impacts of exposure, preliminary investigations into long-term impacts
- Innovation in human health hazard and risk assessment methodologies
- Contribution to the health-relevant aims of the European Strategy for Plastics in a Circular Economy and of the Bioeconomy Strategy



Défi 4 – Transports intelligents, verts et intégrés

Appel	Titre	Action	Taille budgétaire (millions €)	Date(s) Limite(s)
LC-MG-1-14-2020	<u>Understanding and mitigating the effects on public health of emerging non-regulated nanoparticle emissions issues and noise</u>	RIA	3-4	09/01/2020 08/09/2020
LC-GV-06-2020	<u>Advanced light materials and their production processes for automotive applications</u>	IA	3-5	21/04/2020



LC-MG-1-14-2020: Understanding and mitigating the effects on public health of emerging non-regulated nanoparticle emissions issues and noise

Challenge: Growing road traffic in Europe results in detrimental effects on the environment and public health. effects of some specific emissions (e.g. particles from tyres or natural gas engines) are either not sufficiently understood or remain undetected

Scope:

(2) Reduction of noise and particles from tyres

ALL bullet points must be adressed

- ✓ 2020
- ✓ 2-Stage
- ✓ RIA
- ✓ 3-4M€
- ✓ 2-3 projects

- Assessment and characterization of tyre particles emitted in different driving conditions (car and trucks, both in lab and real road conditions with on-board systems)
- Effect of chemical transformation of these particles in the air, and negative health effect
- Evaluation of traffic noise on cardiovascular system
- Develop innovative tyres of heavy-duty freight transport, for low noise and low particle emissions
- Develop methodologies for assessment and comparison of tyre emissions for future legislation
- Particles tracing and quantification of the contribution of tyre wear to the microplastics issue in water bodies and ground.

Impact:

- Better understanding of health impacts posed by particles and noise
- Guidance for mitigation measures in future legislation
- Standards for industry
- At least 6dB truck tyre noise reduction



LC-GV-06-2020: Advanced light materials and their production processes for automotive applications

Challenge: Improve efficiency and range of EVs, through the deployment of advanced light materials. Use of appropriate hybrid, multi-material solutions with integrated multiple functionality. Adopt the circular-economy principle.

Scope: primary focus of the activities is on light-duty electric vehicles, but can be extended

At least one of the two following technical areas:

(1) Lightweight materials and design (both bullet points MUST be addressed)

- Lightweight materials (both metallic and reinforced plastics) for automotive applications, economically-viable and allow cost-effective material separation, recycling and recovery
- Manufacturing and assembly methods and tools to guarantee structural integrity, reliability and long service life by design for lightweight materials (e.g. through understanding of failure mechanisms, of impact of ageing phenomena and the effects of manufacturing processes on a microstructure level) including experimental, model-based characterization

(2) Cradle-to-cradle approach (both bullet points MUST be addressed)

- Methods for the adoption of the circular economy and eco-design approach from the earliest stages of vehicle development,
- Implementation of advanced methodologies for improved design capabilities via numerical simulation, virtual and physical testing and validation, for the lightweight design of different vehicle types. These methodologies will not cover batteries.

Impact:

- Demonstrated affordable and sustainable vehicle weight reductions of at least 10%
- Reduction in the lead times for the market introduction through the use of advanced methodologies and numerical simulation tools
- Effective solutions for reuse, recycling and/or energy recovery of all materials
- procedures to ensure structural integrity and safety of components made of advanced light materials

✓ 2020
✓ 1-Stage
✓ IA
✓ 3-5M
✓ 5-6
projets