HORIZON 2020
Call: H2020-GV-2016-2017
Technologies for low emission light duty powertrains

Portable (nano)Particle Emission Measurement System

Project acronym: PEMs-4-Nano

Type of funding scheme: Research Innovation Actions

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PEMS4nano Project Partners:

Participant	Participant Organization	Country
1	HORIBA Europe GmbH Coordinator: Marcus Rieker	Germany
2	Robert Bosch GmbH	Germany
3	Computational Modelling Cambridge Ltd	United Kingdom
4	TSI GmbH	Germany
5	The Chancellor, Masters and Scholars of the University of Cambridge	United Kingdom
6	Universite des Sciences et Technologies de Lille	France
7	IDIADA Automotive Technology SA	Spain
8	HORIBA Jobin Yvon SAS	France
9	Uniresearch B.V.	Netherlands

Work Package description

Work Package 1

starting block due to the interdisciplinary nature combining specialists from measurement technology, chemical engineering, internal combustion engines and software engineering

Work Package 2

(Measurement Technology) development of the measurement technology and the related calibration procedures to support the understanding of particle characteristics and particle losses. Measurement results will be analyzed to provide data which can be used as an input for simulation work supporting a deeper understanding of the particles.

Work Package 3

(Measurement integration into system development) focuses on particle formation and dynamics, its impact on measurement technologies and procedures, and the integration of these into system development

Work Package 4

Implementation of the calibration procedure. Definition of testing protocols. Testing activities according to regulations will be performed on the chassis dynamometer and/or real road. These tests will be used to validate the measurement procedure, and also to evaluate the robustness and verify the fulfillment of the behavior of the equipment.
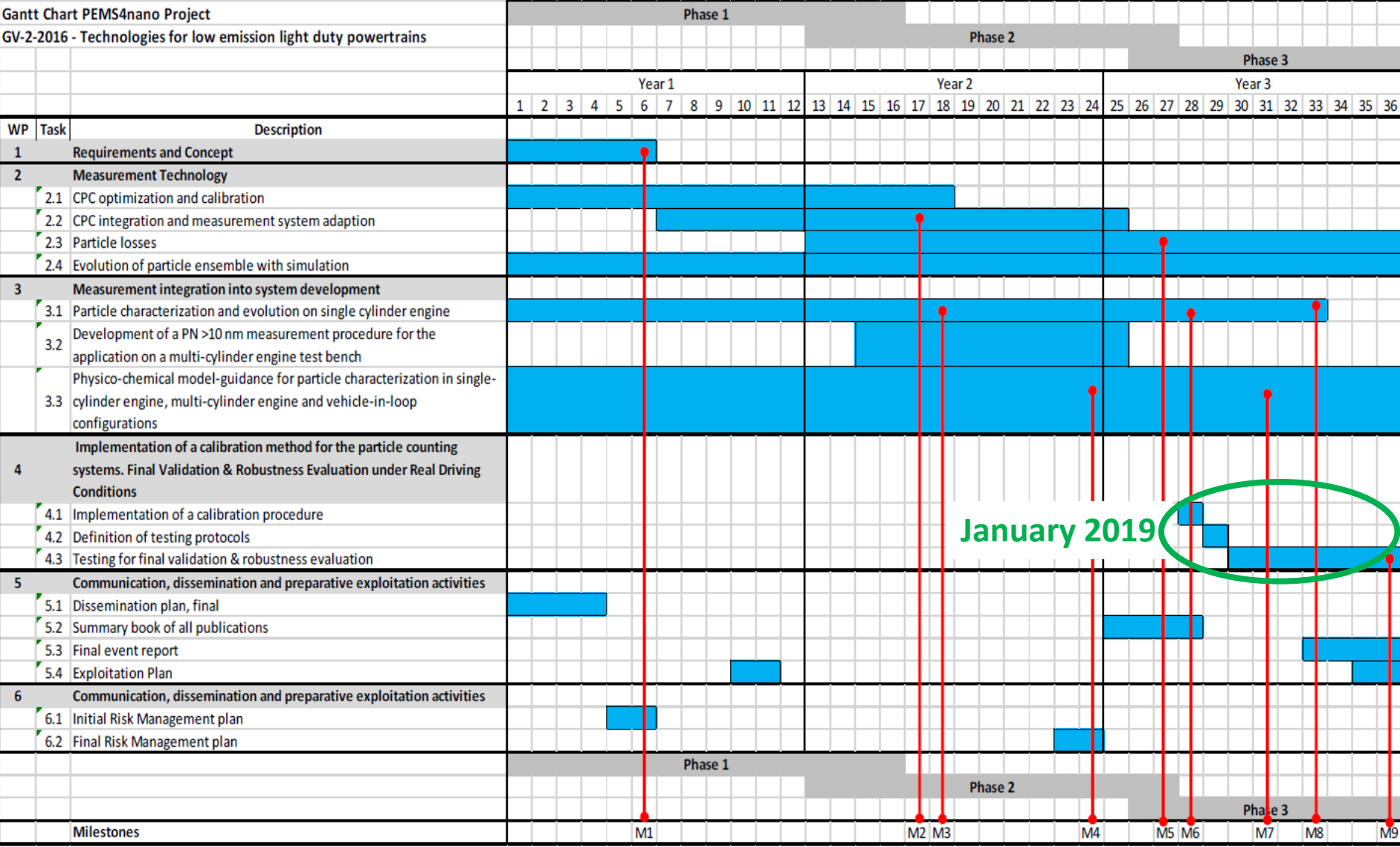
Work Package 5 (Dissemination, communication and exploitation activities
Work Package 6 (Administrative, financial technical and contract management)

WP	Exploitable knowledge	Exploitable product(s) or measure(s)
1	Establish specific requirements for each of the working focus areas of the project team	Know-how about the requirements
	Establish the criteria to be used in work-package 4 for assessing the impact of the project	Know how on the criteria to be used in WP 4
2	Modified CPCs and modified solid particle counting systems	Know-how about the process and the implementation of the calibration procedure
	Report about particle losses related to the measurement and semi-volatile removal instruments and the different sampling locations	Know-how about the particle losses and semi-volatile removal, as well as the influencing factors in the process and the measurement instruments
	Population balance nanoparticle model	Know-how about particle characteristics
	Simulation platform for particle evolution within cylinder, exhaust, and aftertreatment system	Know-how about the process and particle characteristics
	Parametric and sensitivity studies	Know-how about the process of how to validate and evaluate simulation results
3/4	Implementation of a calibration procedure	Know-how about the process of the implementation of the calibration procedure
	Testing protocols	Know-how about test protocols
	Testing for final validation & robustness evaluation	Know-how about the process of how to validate and evaluate robustness and about test results

Gantt Chart PEMS4nano Project — GV-2-2016 - Technologies for low emission light duty powertrains