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| <p><u>Review Period:</u> 2000 – 2003</p> | <p><u>Date:</u> February 2000</p> |
| <p><u>Project</u> N° GRD1-1999-11154 <u>Contract</u> N° G6RD-CT-1999-00038 01/01/2000 – 31/12/2003</p> | <p><u>Title:</u> Particulate Size and Composition Measurements for Diesel Exhaust Aftertreatment (PSICO/DEXA) <u>Cluster/Area:</u> Three projects: ART-DEXA, SYLOC-DEXA, PSICO-DEXA / Particulate traps technology</p> |
| <p><u>Partners:</u></p> <ol style="list-style-type: none"> 1. FORTH/CPERI [R] Greece, 2. CRF[I] Italy, 3. WIZARD ZAHORANSKY KG [I] Germany, 4. FEV [I] Germany, 5. AVL LIST GmbH [I] Austria, 6. CNR.IM [R] Italy, 7. JRC EC DGXII [R] Netherlands 8. CUTEC-INSTITUT GmbH [R] Germany, 9. DIP. ING. UNIV.NAPOLI [U] Italy | <p><u>Project targets:</u></p> <ul style="list-style-type: none"> • To further develop, tailor, evaluate/screen and cross-calibrate size, composition and joint size-composition measurement techniques for diesel particulate emissions in the raw and diluted exhaust, with emphasis <ol style="list-style-type: none"> (i) on the evaluation of the effects of exhaust dilution process parameters and the sampling conditions on the raw exhaust measured size distributions and the formation of nanoparticles (ii) on the cross-comparison and validation of methods (iii) on the deployment and assessment of real-time techniques • To evaluate the effect of advanced Diesel engine combustion technology management under well defined boundary conditions applying the techniques and methodologies for particle characterization. • To evaluate the effect of advanced Diesel engine aftertreatment technology under well defined defined boundary conditions applying the techniques and methodologies for particle characterization. <p><u>Strategic objectives (relating to the network):</u> The PSICO-DEXA project, mainly focus on the creation of a new measurement methodology to study the effects of engine management and aftertreatment devices on exhaust particle characteristics, and is complementary to other Industrial Research Programmes which deal with instrumentation development for real-time diesel particulate emission sensors.</p> <p>This project aims to demonstrate the potential of several real time size, composition and joint size/composition measurement techniques to evaluate the effects on exhaust particulate matter properties of both modern diesel engine management procedures under well defined boundary conditions as well as advanced aftertreatment devices. A quality assurance methodology will be developed for performing measurements on engine test benches as well as demonstrator cars. In addition an integrated database of emission factors as a function of particle size and composition will be created. As a short term impact, this project can provide measurements of scientific value to be disseminated in the research community whereas as a long term impact, it can provide the basis for future legislation framework.</p> |
| <p><u>Project coordinator:</u> Dr. A. G. Konstandopoulos, FORTH/CPERI, 6th km. Themi-Charilaou rd., 57001 Themi, Thessaloniki, Greece</p> <p>Tel. +30 31 498 192, 498 193 Fax: +30 31 498 190 E-mail: agk@alexandros.cperi.forth.gr</p> | <p><u>Achievements of the project (up to the end of 1999):</u></p> <ul style="list-style-type: none"> - New project starting in 2000 <p><u>Planned actions for the next period (2000):</u></p> <ul style="list-style-type: none"> - Definition of test conditions and procurement of engines and fuel - Size measurement techniques - Composition measurement techniques - Joint/size composition measurement techniques - Baseline measurements of particulate and gaseous emissions |