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LIFE NANORISK – EVALUATION OF THE EFFECTIVENESS OF RISK MANAGEMENT MEASURES AGAINST NANOMATERIALS

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NanoRISK project, funded under the European Union's LIFE programme environmental policy and governance (LIFE12 ENV/ES/000178), focusses on the evaluation of the effectiveness of common risk management measures to prevent or minimize exposure to engineered nanomaterials (ENMs), and the development of knowledge base tools to support the selection of proven personal protective equipment (PPE) and technical measures during the production and use of nanomaterials.

The consortium includes the research centers ITENE and VITO, two private companies working with ENMs, and the public bodies INSHT and INVASSAT. The concept and scientific approach of the project focussed on the development of a **nano-aerosol testing chamber** and a compendium **harmonized protocols** to support a robust and reproducible evaluation of common PPE, ventilation, filtration and other workplace controls used to prevent, control or reduce the exposure at industrial level. As complementary action, a complete characterization of the current levels of exposure to ENMs was conducted in 5 selected case studies to support the definition of the expected concentrations of ENMs in industrial settings.

The outcomes from the project include a set of reliable data on the performance of respiratory protection devices (RPD), chemical protective gloves, protective clothing, and exhaust ventilation, a multimedia guideline to help the industry (i.e. SMEs) and stakeholders in the selection of cost effective and adequate measures to guarantee a safe working environment when dealing with ENMs, and RMM on-line tool designed to calculate and estimate the effectiveness of common RMMs depending of the type of ENMs, life cycle stage, process and operative conditions.

The nanoaerosol testing chamber is open to the use of stakeholders upon request. The NanoRISK guidance on recommended measures and controls for mitigating the risk posed by engineered nanomaterials, and the RMM Library are available on the project web site section: <http://www.lifenanorisk.eu/index.php/interactive>.

Figure 1 shows pictures of the nanoaerosol testing chamber developed within the project.



Figure 1. Aerosol testing chamber . From Left to Right. Protective clothing test; Internal Laminar flow room; Exhaust ventilation test set up; Respiratory protection test set up.