Limpid aims at generating new knowledge on photocatalytic materials and processes in order to develop novel depollution treatments with enhanced efficiency and applicability. The main goal of LIMPID is to develop materials and technologies based on the synergic combination of different types of nanoparticles (NPs) into a polymer host to generate innovative nanocomposites which can be actively applied to the catalytic degradation of pollutants and bacteria, both in air or in aqueous solution. Single component nanocomposites including TiO2 NPs are already known for their photocatalytic activities. LIMPID will aim at going one big step further and include, into one nanocomposite material, oxide NPs and metal NPs in order to increase the photocatalytic efficiency and allow the use of solar energy to activate the process. One of the main challenge of LIMPID is to design host polymers, such as hybrid organic inorganic and fluorinated polymers, since photocatalysts can destroy the organic materials. The incorporation of NPs in polymers will allow to make available the peculiar nano-object properties and to merge the distinct components into a new original class of catalysts. At the same time nanocomposite formulation will also prevent NPs to leach into water and air phase, thus strongly limiting the potential threat associated to dispersion of NPs into the environment. Therefore nanocomposites developed in LIMPID will be used as coating materials and products for the catalytic degradation of pollutants and bacteria in water and air, i.e. deposited onto re-usable micro-particles, or in pollutant degradation reactors, and even onto large surfaces, as a coating or paint. In addition such new class of nanocomposites will be also exploited for the
fabrication of porous membranes for water treatment. In order to fulfill its objectives, the LIMPID consortium has been designed to combine leading industrial partners with research groups from Europe, ASEAN Countries and Canada.

Field of Science

/engineering and technology/materials engineering/coating and films
/natural sciences/chemical sciences/polymer science
/engineering and technology/environmental engineering/energy and fuels/renewable energy/solar energy
/engineering and technology/materials engineering/nanocomposites

Programme(s)

FP7-NMP - Specific Programme "Cooperation": Nanosciences, Nanotechnologies, Materials and new Production Technologies

Topic(s)

NMP.2012.2.2-6 - Photocatalytic materials for depollution

Call for proposal

FP7-NMP-2012-SMALL-6

See other projects for this call

Funding Scheme

CP-SICA - Collaborative project for specific cooperation actions dedicated to international cooperation partner countries (SICA)

Coordinator
### Participants (12)

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<th>Organisation</th>
<th>Activity type</th>
<th>EU Contribution</th>
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<td>€ 842 987</td>
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<td>UNIVERSIDAD DEL PAIS VASCO/ EUSKAL HERRIKO UNIBERTSITATEA</td>
<td>Higher or Secondary Education Establishments</td>
<td>€ 333 780</td>
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<td>FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.</td>
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<td>€ 390 585</td>
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<tr>
<td>ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE</td>
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Activity type
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Website
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<table>
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<td>XYLEM SERVICES GMBH</td>
<td>€ 115 350</td>
<td>Germany</td>
<td>Boschstrasse 4-14 32051 Herford</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
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<td>ACCIONA CONSTRUCT</td>
<td>€ 301 710</td>
<td>Spain</td>
<td>Avenida De Europa 18 Parque Empresarial 28108 Alcobendas</td>
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<td>AQUAKIMIA SDN BHD</td>
<td>€ 38 989</td>
<td>Malaysia</td>
<td>Taman Perindustrian Subang, Lot 803, Jalan Subang 5 47610 Subang Jaya Selangor</td>
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