



EUROPEAN PHOTOCATALYSIS FEDERATION

The power of the light

- Self-cleaning
- Anti-mist
- Smell elimination
- Destruction of microorganisms
- Air purification
- Water treatment

Photocatalytic Solutions for Environmental Protection and a better Quality of Life



For the future we all expect a better quality of life. Many different pollutants, such as bacteria, organic deposits, air pollution, are becoming an increasing matter of concern. Various groups (researchers, academics and industrialists) have been working in the area of Photocatalysis with a view to improve the well-being of environment. They have developed and promoted photocatalysis-based cleansing solutions for outside as well as inside. Spurred on by the European Photocatalysis Federation, this new technology will be encouraged and advanced by all its representatives.

EPF

Changing its status, the French Photocatalysis Federation has become EPF, the European Photocatalysis Federation, since June 2009.

FFP was created in April 2006 from the amalgamation of companies, academics and researchers because of the widespread use of Photocatalysis in industrial innovations. At present, about forty members – international groups, European SMEs and SMIs, research laboratories, universities - are involved in the Federation. Scientific laboratories, private or public, have contributed through active partnerships.

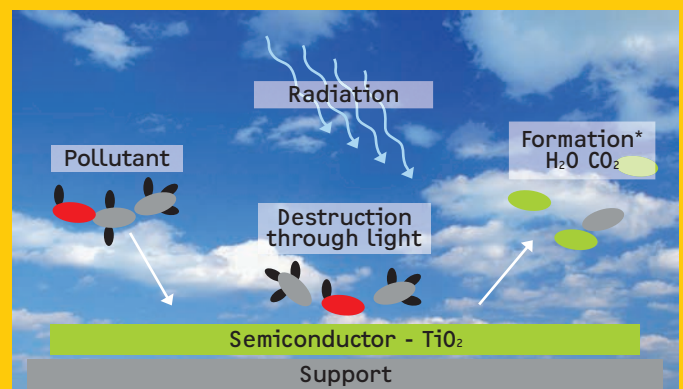
Assignments

EPF's aims are as follows:

- To identify and federate the groups working in Photocatalysis
- To list all the applications and the different jobs linked to the photocatalyst process
- To establish norms and tests for photocatalytic systems
- To represent the different researchers, producers and users at national and international gatherings
- To find the financing needed in order to continue research on new applications.

Photocatalysis principle

Photocatalysis is a process in which a substance, the photocatalyst, causes a chemical reaction through the action of light (natural or artificial) without undergoing any deteriorating. This process shows a lot of similarity with photosynthesis. Thus, using light energy, water and air oxygen, the photocatalysts generate very reactive molecules (called free radicals) which are then able to break down substances into usually harmless products.



* Infinitesimal quantity

Materials

The photocatalytic effect is now contained in several materials:

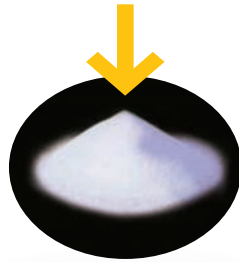
Such as: glass, ceramic, paints, metals, floodlight lamps, road coverings and cement bonds. Many technological steps have been taken with domestic applications to treat NO_x, VOC (volatile organic compounds) and moulds, using

Photocatalysis for building coatings and outside coverings. The air decontamination devices can come in the form of a wide range of air processing – air cleaner systems which clean up effectively the surrounding atmosphere.

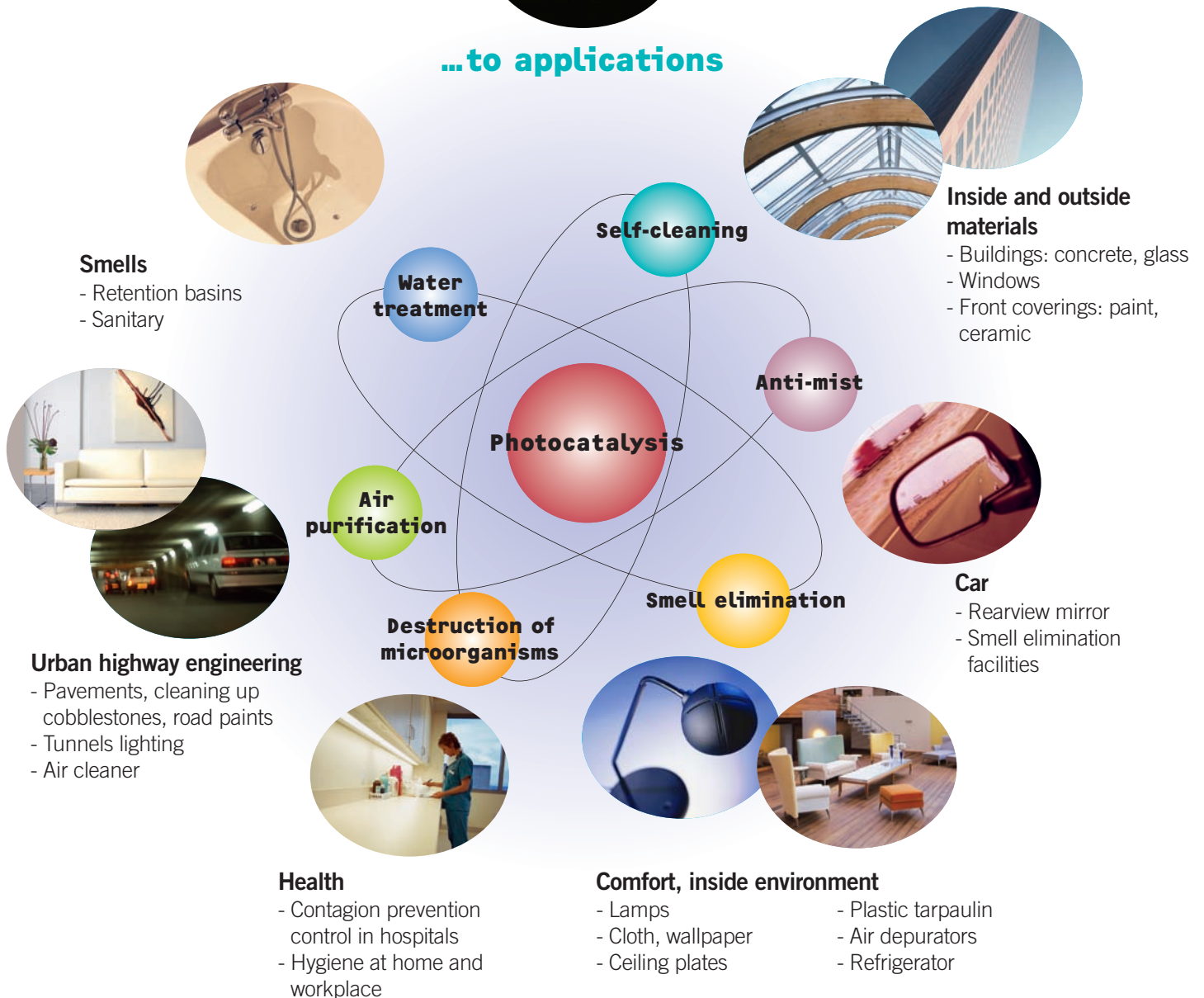
Actual and remarkable applications

The European Photocatalysis Federation revolves around researchers, producers and industrialists to enable both industrial and general public applications.

From fabrication...



...to applications



Prospective: a technology that creates new products for existing markets and new markets for the future

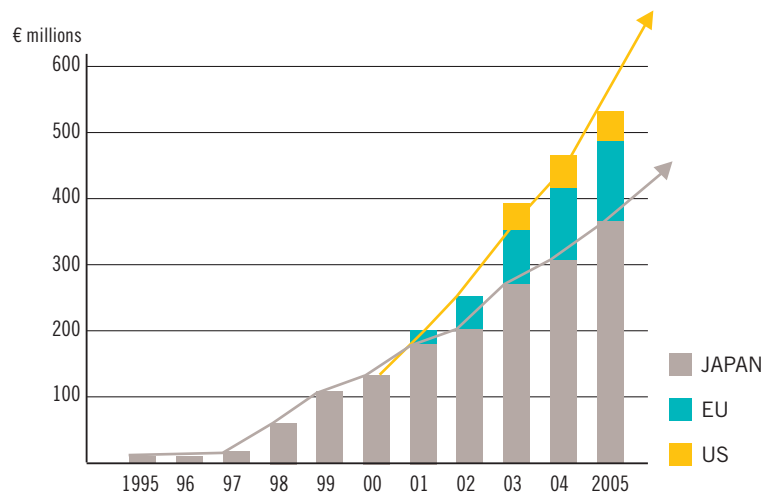
- Environment improvements
- Human and animal health

Milestones in the history of Photocatalysis

- **1980**
Organic matters' decomposition under photocatalysis and water's disrepair through light
- **1990**
Photodisrepair of Gas NO_x under TiO₂. Antibacterial and self-cleaning
- **1994**
Industrial applications of antibacterial tiles and glass
- **2001**
Works on photocatalysis in the visible
- **2003**
Applications for inside cleanup
- **2006**
FFP's birth
- **2008**
Afnor B44 norm working
- **2009**
EPF's birth

The Markets in few figures

The global market of photocatalysis amounts to one billion euros.
The European figure is several hundreds millions of euros. In the United States there is great potential. France is currently concerned with niche products available in a sustainable development strategy. Photocatalysis, is quoted in the report of the French Industry Ministry upon "the key technologies 2010", as one of the profitable expanding technologies in the French economic development.



Source: Economy Ministry of Japan

EPF is an association governed by the French law 1901
This organization aims at acting for the advancement and the use of Photocatalysis in the industrial and general public applications.

EPF has already among its members and partners:

 www.ancelormittal.com	 www.ancelormittal.com	 www.alcion-env.com	 www.biowind.fr	 www.brcsa.com	 www.certech.be	 www.ciments-calcia.fr
 www.cristalglobal.com	 www.emn.fr	 www.eurovia.com	 www.industries-conseils.fr	 www.ircelyon.univ-lyon1.fr	 www.kronostio2.com	
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European Photocatalysis Federation
Bureau OTECI. 10, rue du Havre 75008 PARIS

www.photocatalysis-federation.eu