

PRESS RELEASE

## **An innovative laser process for joints between metals and plastics**

- *The European PMJoin project led by IK4-TEKNIKER is set to develop an innovative system for joining metal to plastic components by means of laser technology to contribute to achieving lighter and less polluting vehicles*
- *The project has a budget of nearly 4 million euros and is geared mainly towards the automotive industry, although the resulting technology could also be used in the aeronautical, energy or electronics sectors*
- *The increase in the speed of joining processes on the assembly line will benefit more economic, more efficient production systems and involve fewer environmental hazards*

(Eibar, Basque Country, 28 May 2013).- In a continuing effort to reduce weight and cost, automotive OEMs and suppliers are increasingly looking at plastics to replace the heavier metal parts in an automotive structure. This drive has prompted the need to design new systems for joining plastics to metals that are robust in an industrial environment. .

The current state-of-the art is to use adhesives or mechanical joints, or a combination of both, which require a series of assembly operations.

To investigate this new laser-based joining process further, the European Commission approved funding for the PMJoin project, through its Framework 7 Programme (No. 309.993), to the value of nearly 3 million euros. The overall aim of

PMJoin is to develop the innovative process to join plastics and metals together using laser technology, without the need for additional materials, adhesive substances or other bonding elements. The project has a total budget of nearly 4 million euros.

In the project led by **IK4-TEKNIKER**, a consortium of companies and R&D centres from France, Germany, Belgium and Spain is participating; comprising the Basque R&D centre itself, the **Fraunhofer (ILT)** group, the **Armines** centre, the **Andaltec Foundation** and the companies, **PSA Peugeot-Citroën**, **Lasea**, **Valeo** and **Faurecia**.

### **Innovative laser process**

The innovative joining system using laser technology has been mainly conceived to meet the demand of the automotive industry. However, those in charge of the project consider that the applications of this laser-based technology, which will be further developed in the PMJoin project, could offer advantages in industrial processes of sectors as wide ranging as aeronautical, energy, electronics and medical.

The aim is to reduce the weight of the components by inserting polymers into those parts with fewer mechanical demands, so that the complex transformation processes required by metals are eliminated while the design specifications are still achieved.

The laser joining system that will be developed in the PMJoin project will offer greater flexibility compared with current industrial processes, such as mechanical joining and adhesive bonding. Compared with the latter, the new process will significantly reduce the environmental impact as well.

By having less assembly steps, the new joining technology will also improve the productivity, bringing with it an associated cost reduction.



*This project has received funding from the European Community's Seventh Framework Program (FP7-NMP-2012-SMALL-6) under grant agreement no.309993*

For further information, please check out the project website: [www.pmjoin.eu](http://www.pmjoin.eu)

Contact person at IK4-TEKNIKER: Carmen Sanz ([carmen.sanz@tekniker.es](mailto:carmen.sanz@tekniker.es))

Polo Tecnológico de Eibar  
Calle Iñaki Goenaga, 5  
20600 Eibar, Gipuzkoa, Spain  
[www.tekniker.es](http://www.tekniker.es)