



The **ACTECO** project is an Integrated Project within the 6th framework programme of the European Union. The project aims to develop eco-efficient plasma processes for hyper functional surfaces with applications in the textile, food packaging and biomedical industry.

One of the partners is **Europlasma** (Oudenaarde, Belgium). This company is specialised and qualified in the development and worldwide manufacturing of low-pressure plasma systems. Within the framework of **ACTECO**, Europlasma will develop innovative plasma systems and processes to extend its know-how.

Within **ACTECO**, the focus of Europlasma is on obtaining durable coatings on textile materials and on barrier coatings for food packaging. Europlasma has already experience with the deposition of nanocoatings on non-woven, those coatings are permanent but not washable. So durable means, that Europlasma wants to develop processes within **ACTECO** which lead to wash resistant coatings. To obtain this effect several plasma sources and gas mixtures will be investigated which can deposit nanocoatings on the substrate.

Gas mixtures can be a mixture of gasses and/or vaporized liquids. The challenge will be to find the perfect combination of gas mixture and plasma source/parameters which can make a perfect bonding of the deposited chemicals onto the material.

Following the philosophy of the **ACTECO** project, the aim of Europlasma is to first develop a lab scale system to investigate the working-principle and the influence of the different plasma sources and process parameters. With this system, samples can be prepared for analysis and evaluation by other **ACTECO** partners. These tests together with the experiments performed on the equipment itself will enable to scale up the system to industrial size.

Up to now, Europlasma installed several industrially sized low pressure plasma systems in a lot of markets (textile, automobile, medical, biomedical, aeronautic, electronic, ...). Europlasma has only industrial systems for disposable applications in the textile market and has not yet industrial systems in the food market. The systems and processes developed within the framework of **ACTECO** should enable Europlasma to enter the markets of food packaging and non-disposable textiles (e.g. upholstery or technical textiles).

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