

France Recycling and Recovery

press release

Paris, 19 June 2015

INNOVATION IN AIRCRAFT RECYCLING

AT THE LE BOURGET AIR SHOW, SUEZ ENVIRONNEMENT WILL ANNOUNCE THE DEVELOPMENT OF A RECYCLING AND RECOVERY SOLUTION FOR CARBON COMPOSITES, WHICH ARE USED TO MANUFACTURE UP TO 50% OF AN AIRCRAFT

Its joint investment with start-up CAMILLE¹ in researching a technology that separates and recovers carbon fibres enables SUEZ environnement to aim to recycle up to 90% of an aircraft's mass. Jean-Marc Boursier, Senior Executive Vice-President of SUEZ environnement in charge of the Waste Activity in Europe is heartened that the project received support from ADEMA and its now fully integrated into the "Nouvelle France Industrielle"² (New Industrial France) initiative.

A secure and efficient short-loop recycling and recovery technology.

Carbon composites are a mixture of resin and carbon fibres. They offer low density but high strength. These properties mean that the aviation, nautical, wind turbine and automotive industries are making increasing use of them in their products. Due to a lack of techniques to separate the two materials, at this time they do not have their own recycling and recovery channels.

Since 2011, SUEZ environnement has worked with CAMILLE on qualifying a solution that enables the separation of the resin and the carbon fibres. Together the partners developed a separation technology using the injection of pulsed energy, which enables the recovery of carbon fibres safely and without the use of chemicals. The recycled and recovered carbon fibres conserve their length and mechanical properties, making them almost equivalent to new fibres. This enables us to envisage new industrial uses in a circular economy approach.

As today it enters its development and pilot phase, the project should enable SUEZ environnement to market a new industrial recycling and recovery solution for aircraft and other products built using carbon fibre technology.

¹ Start-up company who developed and patented the innovative breakout "Xcrusher" technology used in mining and high added-value environmental applications. contact@xcrusher.fr

² The *Nouvelle France Industrielle* initiative was announced on 12 September 2013 at the French President's presentation of the country's industrial policy priorities. These priorities were broken down in to 34 industrial plans to revitalise industry. <http://www.economie.gouv.fr/nouvelle-france-industrielle>

A channel with high development potential

Carbon composites are increasingly used in the aerospace, nautical, wind turbine and automotive industries to build highly technical and heavy components. Today they represent around 50% of the components used to build the latest aircraft brought to market. The growth in production waste is estimated at 10% per year over the next ten years, with the generation of 15,000 tonnes worldwide and 3,000 tonnes just in Europe. Moreover, the dismantling of end-of-life products includes a growing proportion of carbon composites, another reason to develop this recycling and recovery technology.

SUEZ environnement aims to recover two types of composite waste: production waste as part of its environmental management contract with the AIRBUS Group, as well as end-of-life equipment waste through Tarmac Aerosave, its partnership with AIRBUS and SAFRAN (www.tarmac-aerosave.aero). Tarmac Aerosave is the biggest civil aircraft storage and maintenance provider in Europe. It also recycles and recovers end-of-life aircraft, with over 50 planes dismantled and recycled to date. Tarmac Aerosave can recycle over 85% of an aircraft's mass. Over time this new solution could enable over 90% to be recycled on a sustainable basis.

As a key player in the circular economy, in 2014 SUEZ environnement recovered over 11 million tonnes of waste in France for use as new material, organic and energy resources. It also produced over 4 million tonnes of recycled raw materials.



Pictures available on the [newsroom](#)

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SUEZ environnement

We are at the dawn of the resource revolution. Faced with an increasing world population, growing urban development and rarefied resources, the security, optimisation and recovery of resources are indispensable to our future. Suez environnement (Paris: SEV, Brussels: SEVB) supplies 92 million people with drinking water and 65 million with sanitation services, collects waste from almost 50 million people, recovers 14 million tonnes of waste per year and generates 5,138 GWh of local and renewable energy. Employing 80,990 people, SUEZ environnement is active on five continents and a key player in the circular economy for sustainable resource management. In 2014, SUEZ environnement generated sales of €14.3 billion, of which €3.5 billion through its recycling and recovery activities in France.

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