PRESS RELEASE

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SOLVAY SOLEXIS ENTERS JOINT DEVELOPMENT AGREEMENT WITH STRATEGIC POLYMER SCIENCES TO DEVELOP ULTRA-HIGH-ENERGY DENSITY CAPACITATOR MATERIALS

New materials increase efficiency of energy storage and medical therapeutics

Solvay announces today that its affiliate for fluorinated speciality polymers, Solvay Solexis, has struck a joint development agreement with Strategic Polymer Sciences (SPS), specialised in polymeric electronic materials. The agreement is about large-scale production of ultra-high-energy density capacitator dielectric materials based on biaxially-oriented Polyvinylidene Fluoride (PVDF). PVDF-capacitators can achieve about ten times higher energy loads compared to capacitators based on conventional materials. Solvay ranks second worldwide in fluoromaterial production.

SPS has patents on using these materials in capacitator applications, which are aimed at a variety of specialty markets, such as hybrid electric vehicles. Some of the main benefits from these materials for hybrid electric vehicle systems are lower cost and weight-saving and thus an increased energy-efficiency. The global capacitator market for hybrid vehicles is estimated at a conservative 1.6 billion USD by 2015.

Ultra-high-energy density capacitators are also used in medical applications, such as defibrillators. Defibrillators are medical devices which serve to detect cardiac arrhythmia and correct it by delivering a jolt of electricity.

“This agreement demonstrates how innovation can improve our everyday-life by delivering products which enable us to save energy or to improve medical care”, said Pierre Joris, President of Solvay Solexis. “This is fully in line with the direction in which Solvay Solexis wishes to develop. The prospects for such new products look very promising”, he added.

“This joint development agreement with one of the world’s top chemical companies is an important step in the growth of Strategic Polymers,” said Ralph Russo, co- founder, president and CEO of Strategic Polymer Sciences. “The agreement will enable SPS technology to enter the market much more quickly and allow Solvay to enter a new high-value market.”

Strategic Polymer Sciences, Inc. (SPS) is a closely held company which commercializes polymeric electronic materials and devices that will revolutionize energy storage and medical therapeutics. Strategic Polymer Sciences was founded in 2006 by Ralph Russo—a Silicon Valley business leader with prior senior executive experience at Apple Computer, AlliedSignal, Nortel, and Bay Networks—and Dr. Qiming Zhang—Distinguished Professor of Electrical Engineering and Materials Science at The Pennsylvania State University and one of the world's leading experts in electroactive materials. The company is headquartered in State College, PA. Additional information about Strategic Polymer Sciences can be found at www.strategicpolymers.com.

SOLVAY is an international chemical and pharmaceutical Group with headquarters in Brussels. It employs more then 28,000 people in 50 countries. In 2007, its consolidated sales amounted to EUR 9.6 billion, generated by its three sectors of activity: Chemicals, Plastics and Pharmaceuticals. Solvay (NYSE Euronext : SOLB.BE - Bloomberg: SOLB.BB - Reuters: SOLBt.BR) is listed on the NYSE Euronext stock exchange in Brussels. Details are available at www.solvay.com.

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NOTES TO THE EDITORS:

Capacitator

A capacitor is an electrical device that can store energy in the electric field between a pair of conductors. The two conductors in the capacitator are generally isolated from one another by a thin isolating film, but sometimes plates are used. The amount of energy that can be stored depends on the isolating capacities of the film. PVDF-capacitators can achieve about ten times higher energy loads compared to capacitators based on conventional materials.
The process of storing energy in the capacitor is known as "charging", and involves electric charges of equal magnitude, but opposite polarity, building up on each plate or conductor. Capacitors are often used in electric and electronic circuits as energy-storage devices, for instance in hybrid vehicles or implantable cardioverter defibrillators.

PVDF-based capacitator

Ultra-high-energy density capacitator dielectric materials based on biaxially-oriented Polyvinylidene Fluoride (PVDF) can achieve about ten times higher energy loads compared to capacitators based on conventional materials. In addition, PVDF-capacitators can be charged and discharged at very fast speed (less than one thousand of a second) and with high efficiency (more then 85% of the stored energy can be discharged).

Defibrillator

Implantable cardioverter defibrillators (ICDs) are used to correct serious ventricular tachyarrhythmia, which often result in sudden death in patients at risk, including atrial fibrillation (AF) patients. The defibrillator is surgically placed inside the patient’s chest and monitors cardiac rhythm to identify serious arrhythmias, which it corrects. ICDs work by recognizing a dangerous heart rhythm and regulating it through electrical impulses. If regulation fails, the ICD can deliver an electric shock to jolt the heart out of a nonresponsive fibrillation if detected. Implantable devices with PVDF-based capacitators can deliver very quickly a strong electrical current to regulate heart rhythm, requiring less volume.
Over the past five years, it has become more prevalent to use defibrillation systems that can also detect and treat a slow heart rhythm (bradycardia). A total of 4% of the treated AF population receive cardiac rhythm devices as therapy, approximately 180,000 patients across the seven major markets.

Hybrid vehicles

A hybrid electric vehicle generally combines a combustion engine with a rechargeable energy storage system to achieve better fuel economy than a conventional vehicle. Modern mass-produced hybrids prolong the charge on their batteries by capturing kinetic energy via regenerative braking, and some HEVs can use the internal combustion engine to generate electricity by spinning an electrical generator to either recharge the battery or directly feed power to an electric motor that drives the vehicle. Capacitators are used in hybrid vehicles for temporarily storing electrical energy.