



Dear e-news reader,

The highlight of this anniversary year was our recent composites conference. Many thanks to all who participated. We wish to extend special thanks to the Municipality of Piteå, which under the direction of Peter Roslund provided a guided boat tour of Piteå on the weekend before the conference, and to Erik Persson who presented a gift during the conference banquet. I would also like to thank Lena Nilsson, who helped me with all of the planning and preparation prior to our conference.

Other news – in addition to Leif Asp's new battery project (see press release), things are looking positive on the aerospace front. Together with Volvo Aero and Saab Aerostructures, we will participate in projects within the framework for NFFP5 (the Swedish National Aeronautics Research Programme). Several new applications for EU programmes are also in the works. More news on that in the autumn.

With best wishes for a very pleasant summer,

Lars Liljenfeldt | Business development

PRESS RELEASE

Swerea SICOMP develops new batteries for electric vehicles

Professor Leif Asp at Swerea SICOMP AB has been granted funding from the Swedish Foundation for Strategic Research (SSF) for the development of a new type of battery for electric-powered vehicles. The aim of the research project is to develop structural polymer composite materials that are capable of supporting mechanical load while at the same time storing electrical energy.

“Such materials can radically improve the outlook for the Swedish vehicle industry in its effort to design light, energy-efficient electric vehicles,” says Professor Leif Asp of Swerea SICOMP, who is leading the research. “We believe that this type of battery can be incorporated as a structural element of the vehicle, for example, in the floor structure.”

The three-year project is being financed

via funding from SSF's framework grants for materials research. The project budget is MSEK13.4. Project partners also include the Royal Institute of Technology (KTH) and Luleå University of Technology. In total, SSF has allocated MSEK 225 in the form of 13 framework grants within two areas: functional layers and light materials.

“Funding from SSF is very important for our research efforts directed towards the vehicle industry and it complements Swerea's platform for finding optimal light-weight structures,” says Hans Hansson, managing director of Swerea SICOMP.

For more information about the project, contact Leif Asp, Swerea SICOMP AB, +46 31 706 63 49, [✉](mailto:leif.asp@swerea.se).

[Read more on SSF's website](#)



The concept, based on traditional carbon-fibre composites and used in the aircraft industry, is being developed in part in collaboration with Imperial College London. The basic idea behind the concept is to allow the carbon fibre, which conducts electricity, to function as an anode while at the same time giving the composite its rigidity and strength. Here, the conventional polymer matrix is replaced by an electrically conductive polymer. Electrical conductivity is achieved by the addition of lithium salts to the polymer matrix.

Example of an electric car, the Tesla Roadster.
Photo: Tesla Motors

Swerea establishes light-weight platform

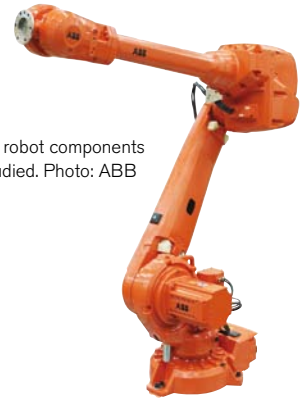
Increasingly tougher demands are now being placed with respect to light weight and lower energy consumption. A lighter vehicle uses less fuel and therefore causes less environmental impact. Other industries in which light weight is a significant factor are aerospace, building construction and windpower. In this case, lighter design refers to designs that are optimal in the sense that they provide the most weight-efficient solution under given conditions, with a focus on weight, cost, volume, production time, environmental impact, etc. The environmental aspect and effective recycling of materials will be of major importance in Swerea's Light-weight Platform projects. Swerea is investing MSEK 20 over two years to build

up the Swerea Light-weight Platform, which is a joint group effort with the participation of all of the Swerea companies: Swerea IVF, Swerea KIMAB, Swerea MEFOS, Swerea SICOMP and Swerea SWECAS.

During the project period (2009-2010), several concepts will be developed in collaboration with selected companies. The concept products are from different industries and categories and include such products as robots, caravan chassis and truck cabs. After completion of the project, Swerea will have full-coverage expertise in light-weight design, as well as an organization that can respond to customers' needs within this area.

Swerea SICOMP will manage all

Light-weight robot components are being studied. Photo: ABB Robotics



composites-related development within the project, such as concepts, manufacturing, dimensioning, environmental aspects, etc. We welcome proposals for concept products that match the Light-weight Platform profile.

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20th anniversary celebrations and the SICOMP conference

Thanks to the large number of participants, interesting papers and a very entertaining conference event, the 20th SICOMP conference was a great way to celebrate our 20th anniversary. In addition to presentations by specially invited keynote speakers, such as carbon-fibre pioneer Professor Anthony Kelly, Cambridge, England, Hans Folkesson, Swedish Hybrid Vehicle Centre and Professor Lars Berglund, Royal Institute of Technology



(KTH), a further 24 papers were given in two sessions. We also held a Poster and Table Top event. With good food, entertainment and speeches, the conference banquet was a tremendous success. On the second day of the conference, there was enormous interest in study visits to ABB AB/Plast and Composite Scandinavia, and we concluded with an Open House at Swerea SICOMP, at which we served a specially designed cake.

Visiting researcher from Holland

Wouter in het Veld is a student who specializes in production engineering at the University of Twente in Holland. As part of the final-year course, student's work at an engineering-related firm, in Wouter's case at Swerea SICOMP in Piteå. The aim of the project he has been working on has been to assess weight reduction in a space component by replacing aluminium parts with carbon fibre. The work has involved FE analyses, prototyping and testing. His adviser, David Mattsson, has worked together on the project with Rolf Lundström.



Top left: Professor Anthony Kelly, Cambridge, explained the development of carbon-fibre technology. Top right: Open House at Swerea SICOMP. Left: The composite band KompÅssit in full swing. Right: Dinner guests were spellbound by Peter Varg's magic.



Visiting researcher Wouter in het Veld (right) and his adviser, David Mattsson.

