

# Svenska Aerogel AB

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## The Company

Svenska Aerogel develops and commercializes various applications of our patented version of an Aerogel-like material. This is done in close cooperation with industrial partners representing different business areas. Founded in 2000, we have a strong portfolio of intellectual property in collaboration with leading researchers at the University of Gävle and The Royal Institute of Technology in Stockholm.

## The invention

Svenska Aerogel has developed a manufacturing process which reduces production costs of aerogels by up to 90%. This makes Svenska Aerogel the first company that can offer aerogels as a cost effective alternative to a commercial market.

## Properties

Aerogel offer a number of advantageous technical and commercial properties. It has high porosity and large specific surface, low density, it does not burn and it is also non toxic and environmentally friendly. The material is flexible and it is possible to customize the properties to meet different customer needs.

## Areas of Expertise

Svenska Aerogel is a product development partner and a material technology supplier with deep knowledge of material properties and how to design them for specific applications. In combination with the company's innovation of a clean and cost-effective manufacturing process, Svenska Aerogel is alone in offering aerogels as input material for commercial use.

## Applications

### *Insulation*

Aerogels show, thanks to the porosity, very good insulation properties up to 600°C and it will never burn. These properties make the aerogels very suitable as kernel material in Vacuum Insulation Panels. Also as composites together with mineral wools and other organic insulators it is possible to drastically improve the insulation properties of most of the existing insulation materials on the market.

The European insulation market is valid at 6 billion EUR and the market trends are leaning towards more energy and material efficient insulation materials which support Svenska Aerogel and its industrial partners.

A development project together with a leading mineral wool producer has been on-going since end of 2010 and new customer projects in other insulation areas will start Q3 2011. The ambition is to have products ready for field tests in beginning of 2012.

### *Filtration of gaseous pollutants*

Aerogels are very well suited for molecular filtration of gases. As a filter media it can be tailored to capture specific combinations of gases through a balanced impregnation of the original silicate based carrier material.



We have a product ready for the market and companies are currently evaluating our product.

### *Light weight products for the construction industry*

Aerogels in the form of gel or as a dried powder may be mixed into other material matrixes to lower the density. Aerogels goes well together with gypsum, and may as an example be utilised to lower the weight of gypsum plaster boards.

A partnership with Lafarge Gypsum has been signed since May 2010 within development of Gypsum boards.

### **Opportunities and threats**

The opportunities are enormous, especially within insulation where there is a potential multi billion market but also within other high volume areas.

On the market there is research done in trying to reduce the cost of producing aerogels and prices are subsequently going down. However we have a unique and protected production method which drastically has reduced the production cost.

### **Competition**

We have competition from already established silica based materials such as fumed silica and silica gel at some high volume applications.

The leading enterprises within the Aerogel industry are Cabot Corporation and Aspen Aerogel. They mainly produce aerogels using the expensive autoclave method. If they manage to drastically reduce the production cost they will be a threat.

### **Actual status**

2011 Q3 there will be a pilot plant delivering aerogels to customers. The production will have a one shift production capacity of 800 kilos/month. Currently a number of high volume applications are being tested and supply agreements are planned to be signed at the beginning of 2012. Full scale production plant will then be built.

### **Funding**

2-3 MEUR is needed 2012 Q1 to go from pilot production to annual sales of 18 MEUR. 2 MEUR of the funding is for standard production equipment and up to 1 MEUR is for working capital.

### **Company facts in short**

Company location:	Stockholm and Gävle
Company website:	<a href="http://www.aerogel.se">www.aerogel.se</a>
Management team:	Chairman Christer Sjöström CEO Anders Lundström CMO Susanne Hedblom CTO Peter Norberg
Start year:	2000
Number of employees:	6
Share capital:	128,400 SEK
IP rights:	Patents in Sweden and USA. Application in EU and China