

## Supplier Digest

# Wallenberg Prize to ABB staff

The Marcus Wallenberg Foundation, Falun, Sweden, recently announced that the 2009 Marcus Wallenberg Prize goes to Jouni Ikäheimo, Vesa Kajander and Bengt Welin, all of Finland and all associated with ABB.

The award is for their work on the development of direct drive systems (DDS). This opens significant opportunities for new design concepts and process configurations of papermaking lines with advantages related to the investment, operation, product quality, ergonomics and environmental impact of the paper making process.

The DDS is radically renewing traditional drive technology, which dates back some 100 years. The innovation is based on the permanent magnet synchronous motor technology and is a true breakthrough on the industrial scale. The DDS provides better torque characteristics, very precise speed control and high efficiency without the need for gearboxes, pulse encoders or auxiliary components. It leads to create innovative machine design concepts and simpler process configurations requiring less space, fewer components, less civil work and lower investment costs.

The innovation provides better runnability with fewer web breaks, better availability of the paper machine with fewer mechanical failures and less maintenance, better over-all efficiency with minimum downtime and reduced lifecycle costs. The approach reduces electrical energy and oil consumption, reduces noise levels and is more ergonomic and safe for the operators.

If applied to all paper machines with a wire width over 5 meters, DDS would have the potential to reduce energy consumption by about 400 GWh in Europe and more than 1200 GWh around the world, giving savings

equal to about one coal power plant in Europe and two globally.

The laureates have acted as pioneers and key persons within ABB to develop the technology. Now, after years of intensive development, the technology is becoming an industrial standard and is brought to commercial success by the recognized suppliers for the pulp and paper industry.

Co-operation with equipment suppliers for the pulp and paper industry has been an important element of the development. There are several other potential applications within the industry.

Since 1998, Ikäheimo has led the engineering and construction of permanent magnet motors at ABB Oy, Motors, and an inventor in the area of permanent magnet motors.

Since 2000, Kajander has been the project manager for the development of direct drives for paper machines at ABB Oy, Process Industry, and an inventor in the area of direct drives for paper machines.

Welin, now retired, has been responsible for global business development for ABB paper machine drives and an inventor in the area of direct drives for paper machines. He prepared the project proposal of direct drive to ABB Management in May 1995.

The prize will be presented by His Majesty, The King of Sweden, in Stockholm on 28 September, 2009. There will be a symposium on the subject of the prize-winning research and its impact on the forest and forest products industries on 29 September.

The Marcus Wallenberg Prize is an international prize that was established in 1980 to acknowledge the lifetime activities and the memory of Marcus Wallenberg, the late chairman of Stora Kopparbergs Bergslags AB (now Stora Enso). The prize is worth 2 million SEK. [www.mwp.org](http://www.mwp.org). **PI**