

Saving energy **WORLDWIDE**

QID Oy owns proprietary technology which is based on the polarization of conduction electrons. Directing conduction electrons reduces dissipation in conductors and appliances. The technology reduces energy consumption, improves the efficiency and lowers the operating temperature.

Technology for
greener
world

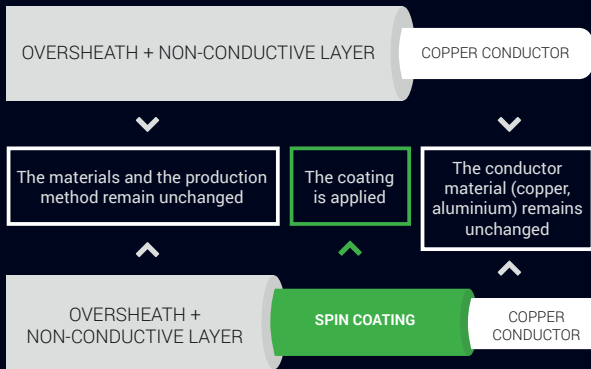


More than 15 years of research has enabled us to create a conductor which utilizes normal charge carriers together with polarized electrons. The coating that enables the polarisation is applied on the conductor via an electrochemical process. The coating was developed together with the University of Eastern Finland's (UEF) Department of Applied Physics. The process has been made ready for production in collaboration with UEF and it is scalable for various types of conductors from the microampere class to power current applications.

This method enables remarkable energy saving for large-scale energy consumers such as operators in the fields of industry, mining and lighting. The improved efficiency reduces the amount of required energy which in turn reduces dissipation and enables a longer service life for appliances.

Technology for
cleaner
world





A normal copper conductor (the upper wire) is turned into spin conductor (the lower wire) by applying patented electro-chemical treatment.

MEASURED

Efficiency with lightning grew

22%

Crusher energy consumption was reduced by

19%

	Charge current	Spin current
Unpolarized current		0
Spin-polarized current		
Fully spin-polarized current		
Pure spincurrent	0	

The technology is based on the spin-polarized current on the second row. Quantum computer developers utilize the pure spin current technology on the lowest row.

Reference: Kyushu University

THE MOST IMPORTANT APPLICATIONS OF THIS TECHNOLOGY WILL BE:

- ▶ Reducing industrial energy consumption
- ▶ Improving the efficiency of lighting (public areas, households and automobiles)
- ▶ Battery and charging device development (in particular, the development of electric cars)
- ▶ Improving the efficiency of wind generators and solar energy plants (panels, generators, transmission lines)

The method has been granted patents in China, USA, India, Australia, Great Britain, France and Germany. Numerous patent applications are pending. As the research progresses, the patent protection will be increased.

SPINTRONICS IS ONE OF THE MOST INTERESTING FIELD OF PHYSICS

Currently, spintronics is one of the most researched technologies worldwide. It studies all phenomena related to and the utilisation of electron spin. Pure spincurrent enables the development of the quantum computer among other things.

Energy saving, improved efficiency and lowered operating temperature are attributes that have been measured in laboratories around the world in connection with spincurrent research. The widely researched attributes that have only been produced in laboratory conditions can now be productized for the first time as the proprietary technology designed for both industrial and consumer use. The technology can be utilized by all plug-in and battery-powered appliances.



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FURTHER INFORMATION:

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