

## ABB pioneers breakthrough rail innovation

### Next generation power electronic traction transformer is smaller, lighter and energy efficient

Zurich, Switzerland, March 19, 2012 – ABB, the leading power and automation technology group has successfully developed a revolutionary traction transformer that uses power electronics to reduce its size and weight while increasing the energy efficiency of the train.

The new power electronic traction transformer (PETT) is based on an innovative, multilevel converter topology that uses IGBT (insulated gate bipolar transistor) power semiconductors and medium frequency transformers replacing the conventional transformer and inverter combination. The medium frequency transformer also reduces noise levels.

“The innovative use of power semiconductors in a core component such as traction transformers opens up new opportunities for rail markets around the world, and should be extendable across a range of other applications,” said Markus Heimbach, head of the Transformers business, a part of ABB’s Power Products division. “In addition to its weight and size advantages, the new power electronic traction transformer (PETT) helps improve efficiency and reduces noise levels,” he added.

As part of a long-term partnership between SBB (Swiss Federal Railway) and ABB, a pilot PETT installation is currently under trial on a shunting locomotive for use on the 15 kV AC and 1.5 kV DC lines at Geneva main railway station.

The innovation is a breakthrough that achieves one of the rail industry’s priority objectives of reducing the weight of on-board components. The traction transformer, which is traditionally made of iron and copper is one of the heavy pieces of equipment on a train.

Size is another challenge for traction transformers, because reducing the amount of space used by equipment means more space is available for paying passengers. Over the past decade, ABB has continually made design improvements in rail components, creating compact products like roof-installed transformers that reduce equipment footprint without compromising performance.

ABB ([www.abb.com](http://www.abb.com)) is a leader in power and automation technologies that enable utility and industry customers to improve performance while lowering environmental impact. The ABB Group of companies operates in around 100 countries and employs about 135,000 people.

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