



## News Release

### **Novel supercharger strategy allows gasoline to compete with diesel powertrains**

*Unique variable-speed drive by Rotrak improves supercharger efficiency*

22 September 2010... Rotrak will present a uniquely efficient supercharger system in a paper at the 15<sup>th</sup> Supercharging Conference in Dresden on September 24. The joint venture company combines a Rotrex supercharger with a Torotrak full-toroidal traction drive to produce a mechanical supercharger system that overcomes the problems inherent in conventional supercharger and turbocharger systems.

With a turbo, the delay in response, called lag, becomes increasingly intrusive as engines get smaller. Superchargers are mechanically geared to enhance performance at either low or high engine speeds. The Rotrak solution overcomes this constraint by connecting the supercharger to the engine by a compact variable drive, allowing efficient operation across the whole engine speed range.

Torotrak engineering manager David Burt, co-author of the paper, explains: "The need to reduce CO<sub>2</sub> emissions is leading to downsized engines, heavily boosted by turbo- or supercharging. But while these engines easily reach high peak power and torque figures, they struggle to provide the required low-speed response. A fully integrated centrifugal compressor connected to the engine via a variable drive will achieve a unique combination of low- and high-speed performance with a highly cost-effective system."

Gasoline engines are typically much cheaper than diesels for the same application but have higher exhaust temperatures, making advanced turbocharging more difficult.

"Independent analysis has estimated that the world market for pressure-charged gasoline engines will grow from 2.5 million today to 12 million by 2016," says Burt. "The emergence of a practical and cost-effective way to supercharge small gasoline engines could have significant market impact."

Visitors to the Dresden conference can hear the paper at 11:00am on September 24.  
Media interviews can be arranged by contacting Tristan Honeywill of Market Engineering  
on +44 1295 277070 [tristan.honeywill@m-eng.com](mailto:tristan.honeywill@m-eng.com).

#### **About Rotrak**

Established in May 2010, Rotrak is 50:50 joint-venture between traction drive specialist Torotrak plc and centrifugal supercharger company Rotrex AS. The company combines Torotrak's compact variable drive technology with a compressor technology developed by Rotrex that has been proven in motorsport and the performance vehicle market.

#### **About Torotrak**

Torotrak is the world's foremost developer of full-toroidal traction drive technology. The company designs and develops Continuously Variable (CVT) and Infinitely Variable (IVT) transmissions which deliver outstanding levels of performance, functionality and refinement along with improved fuel economy and reduced emissions. Torotrak develops main drive transmissions as well as variable ratio transmissions for application in flywheel-based mechanical hybrid systems and for use as auxiliary drives.

Torotrak operates in the automotive, truck, bus, off-highway and agricultural markets, in motor sport and in outdoor power equipment. Its customers are widely spread across Europe, North America, India and Japan, and include major vehicle makers and tier one transmission manufacturers.

Torotrak plc is fully listed on the London Stock Exchange.

[www.torotrak.com](http://www.torotrak.com)

#### **About Rotrex**

Rotrex is a technology-driven company focused on providing forced induction systems. Its patented traction drive enables the Rotrex centrifugal supercharger to achieve superior efficiency, reduced emissions and improved transient response.

The Rotrex system is smaller, lighter and quieter than competing products, making it particularly attractive for downsized engines and high-efficiency hybrid powertrains as well as high-performance applications.

In 2008 Frost & Sullivan recognised Rotrex's contribution to the gasoline and diesel engine boosting technologies market with the 2008 European Award for Product Innovation. The award cited a pioneering engine downsizing project for a German vehicle manufacturer.

Rotrex headquarters are in Copenhagen, Denmark.

[www.rotrex.com](http://www.rotrex.com)

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TOR6741 Dresden Rotrak paper release app 22-09-10

Prepared by Market Engineering,

Europe's leading communications agency for the automotive technology industry.