

FEBRUARY 2017

iVT

INTERNATIONAL
INDUSTRIAL VEHICLE TECHNOLOGY

CONSTRUCTION SPECIAL

In-depth ConExpo preview

First look at **Cat 745** articulated hauler

New **Case G Series** wheel loaders

PLUS 3D printing • Improving vehicle sales

Top 5 agricultural vehicles • Hybrid technology



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INDUSTRY-DEFINING PREDICTIONS

Experts reveal their visions
for the future of
construction vehicles

Industry-defining prediction

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The off-highway industry will look at other industries to acquire technology

As the levels of technology increase there will inevitably be more crossover between related markets. Caterpillar's Julien Balardelle says, "An area of great interest is how best to adapt on-highway technology to our off-highway machines."

COMPACT, HYDRAULIC MOTOR-DRIVEN GENERATOR

Turolla, a member of the Danfoss Group, has pushed the boundaries of electric generators with the development of its hydraulic-powered generator (HPG). This new technology provides electrical power for electronic controls, solenoids, human-machine interfaces, batteries and LED lighting, in hard-to-reach machine areas.

It uses 8 l/min and 42 bar to produce 300W at 28V DC, or 30 bar to produce 150W at 14V DC. Internal voltage regulation provides stable, ready-to-use voltage within +/-0.5V, even when 50% of the rated load is rapidly applied. This regulation allows a flow tolerance of +/-10% at full electrical load and greater tolerance with less loading. Using Turolla's Group 1 gear motor platform, a range of displacements are available that can be aligned to customers' system requirements.

Turolla's HPG was designed for the mobile equipment market. It is IP67 rated, and thermal shock dunk and vibration tested. A three-color fault lens is included and over-current protection is provided with current-limiting electronics, which allow continued operation without the maintenance of a fuse or circuit breaker.

Turolla will exhibit HPG prototypes at ConExpo. It is scheduled for release in late 2017.

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PILING APPLICATION SOLUTION



In hydraulic connections and disconnections, the piling industry commonly uses thread to connect poppet quick couplings in carbon steel material. Compared with flat-face quick couplings, poppet quick couplings are – arguably – considered to be inferior.

When they are disconnected, poppet valves leak fluid and they also allow contamination to enter the circuit during connections, which, in turn, can lower the life expectation of all components in the hydraulics system.

As a solution for such applications, **Stucchi** has developed the VEP45. It has a flat-face valving style and can be connected with residual pressure, thanks to its internal pressure-release valve system. Without this feature, poppet quick couplings would need to be forced on with tools – which could increase the risk of accidents and reduce the life of the product. The screw connection system of the VEP45 is an ideal solution for issues relating to piling applications, such as impulses, radial loads and vibrations. Stucchi's VEP45 is available with flange port and flange head connection configurations (code 62) upon request.

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