



**PRODUCT SHOWCASE**

**Diesel Engine with Innovative Combustion Technology**



John Deere's new JD18 engine has a rated power range of 522 to 677 kW (700 to 908 hp). It features a rear gear train that optimizes direct power delivery while offering up to two rear auxiliary drives. It also features hydraulic lash adjusters for a maintenance-free valvetrain. Innovative combustion technology, which eliminates the need for aftertreatment systems, includes a simplified air system with fixed and wastegate turbos.

<https://www.deere.com>

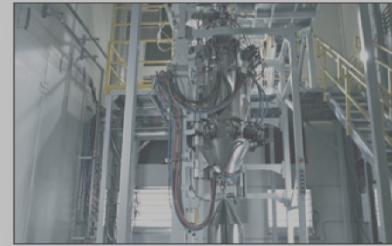
**Proportional Valve for Accurate Boom Movement**

Danfoss has partnered with Franna to improve the performance of its MAC 25 crane with the PVG 48 proportional valve. The PVG 48 is a pre-compensated proportional control valve for applications requiring flow rates of up to 180 L/min. Danfoss launched the PVG 48 valve in June 2023 with Franna as a key pilot customer. On the MAC 25, the valve turns operator joystick inputs into quick, accurate boom movement.



<https://www.danfoss.com>

**Cathode Active Material Delivers High Capacity**



6K Energy announced its latest cathode active material, the NMC811 single crystal CAM that delivers high capacity with excellent rate performance while exceeding EV cycle-life requirements. LFP CAM is achieving over 160mA/gm capacity with exceptional efficiency, trending to >6k cycles while maintaining 80% capacity, which is ideal for energy storage system (ESS) applications. A single crystal NMC811 will be offered along with two LFP variants, including a new spherical option.

<https://www.6kinc.com>

**Discharge Detection in Electric Drive Units**

FEV developed PD-HVX (Partial Discharge - High Voltage X) for early detection and prevention of partial discharge in high-voltage electric drive units. PD-HVX enables customers to identify partial discharge during the development phase and take the necessary action. The PD-HVX uses electromagnetic frequency analysis to measure the electromagnetic fields around the EDU to be analyzed. The software then uses the results to determine whether partial discharge occurs during operation.



<https://www.fev.com>

**Fuse Boxes with Intelligent Control Unit**

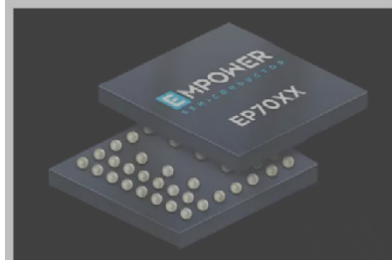


MTA announced a smart fuse box with an intelligent control unit that uses ST electronic fuses, the STi<sup>2</sup>Fuse. The unit is specifically developed for the off-highway industry and can be used to drive, protect, diagnose and monitor, through the STi<sup>2</sup>Fuse, up to 30 electric or electronic loads such as ECUs, ADAS systems, lights, heating, air conditioning and to interface analog/digital signals and loads via the vehicle's CAN network.

<https://www.mta.it/en/home>

**Voltage Regulator Offers Novel Power Management**

Empower Semiconductor's integrated voltage regulators feature IVR technology that reportedly offers a novel and advanced power management architecture, delivering power with simplicity, speed and accuracy in a compact single IC with no external discrete components. These devices can be used for traditional system power in space-constrained applications as well as integrated as a power chiplet into an SoC or chiplet-based architecture.



<https://www.empowersemi.com/>