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John Deere Debuts New Planting Technology & Electric Excavator During CES 2023 Keynote

MOLINE, IL (January 5, 2023) – During John Deere’s CES 2023 keynote address, the company revealed two new technologies, ExactShot™ and an electric excavator, that will help Deere’s customers be more productive, profitable, and sustainable.

“Everything we do at John Deere is focused on real purpose and real impact,” said Jahmy Hindman, CTO at John Deere. “This means we’re developing technology that enables our customers to provide the food, fuel, fiber and infrastructure that our growing global population needs.”

ExactShot allows farmers to reduce the amount of starter fertilizer needed during planting by more than 60%. The technology uses sensors and robotics to place starter fertilizer precisely onto seeds as they are planted in the soil, rather than applying a continuous flow of fertilizer to the entire row of seeds.

The electric excavator, powered by a Kreisel battery, will provide construction workers and road builders with lower daily operating costs, reduced jobsite noise, enhanced machine reliability, and zero emissions, without sacrificing the power and performance they need in a machine.

ExactShot Details:

- ExactShot will help farmers be economically and environmentally sustainable as they work tirelessly to grow the food, fuel and fiber that we all rely on. With the global population expected to grow



from 8 billion to nearly 10 billion by 2050, farmers need to increase production by 60% to 70% on today's arable land.

- ExactShot uses a sensor to register when each individual seed is in the process of going into the soil. As this occurs, a robot will spray only the amount of fertilizer needed, about 0.2 ML, directly onto the seed at the exact moment as it goes into the ground.
- Across the U.S. corn crop, ExactShot could save over 93 million gallons of starter fertilizer annually and prevent wasted fertilizer from encouraging weed growth or increasing the risk of running off the field into a waterway.

Electric Excavator Details:

- Deere's new electric excavator, powered by a Kreisel battery, will improve reliability, performance and safety in construction. Its use on construction sites will result in fewer moving parts, less noise pollution, and fewer emissions.



- Deere acquired a majority stake in Kreisel Electric, which created state-of-the-art battery technology for a wide range of mobile and stationary applications. Kreisel's

patented immersion cooling architecture provides unsurpassed lifetime, enhanced safety, and improved performance for battery-powered equipment.

- Kreisel's charging technology results in faster and lower-cost connections to the electrical grid.

Learn More:

- ExactShot and the electric excavator are on display at John Deere's CES 2023 booth (#5617) from January 5-8, 2023, located in West Hall at the Las Vegas Convention Center. The booth also features Deere's See & Spray and autonomous technology.
- Deere's full keynote address can be viewed on John Deere's CES microsite: www.JohnDeere.com/CES.

About John Deere

Deere & Company (www.JohnDeere.com) is a global leader in the delivery of agricultural, turf, construction, and forestry equipment. We help our customers push the boundaries of what's possible in ways that are more productive and sustainable to help life leap forward. Our technology-enabled products including John Deere Autonomous 8R Tractor, See & Spray™, and E-Power Backhoe are just some of the ways we help meet the world's increasing need for food, shelter, and infrastructure. Deere & Company also provides financial services through John Deere Financial.

For more information on Deere & Company, visit us at www.deere.com/en/news/.

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