REAL PURPOSE TECH IMPACT

QUICK FACTS

JOHN DEERE

GROWING MORE FOR A GROWING PLANET

The United Nations estimates that in the next 30 years, population growth will require twice as much food and urban areas will house nearly 70% of the projected 10 billion people living on the planet. *Deere*

MEETING FOOD DEMAND

One U.S. farm alone feeds 166 people around the world every year. *American Farm Bureau, 2020*

EXACTSHOT

ExactShot technology allows farmers to reduce the amount of starter fertilizer needed during planting by more than 60%.

LABOR SHORTAGE IS A BIG CHALLENGE

Less than 2% of the U.S. population is actively involved in agricultural production. *U.S. Bureau of Labor Statistics, 2021*

Overall employment of agricultural workers is projected to grow 1% from 2019–2029, slower than the average for all occupations. *U.S. Bureau of Labor Statistics, 2021*

Urban areas make up only 3% of the entire land area of the country but are home to more than 80% of the population. Conversely, 97% of the country's land mass is rural, but only 19.3% of the population lives there. *Defining Rural at the U.S. Census Bureau*

The average farmer is over the age of 55 and putting in 12–18 hours a day of work to grow food for all of us. This is not sustainable. *NASS, USDA, 2017*

Contractors are facing an uphill battle: to help close the world's $15-trillion *infrastructure gap* by 2040, all while dealing with increasing variability, unpredictability, and adversity led by labor shortages, workflow inefficiencies, and finite resources. *World Economic Forum*

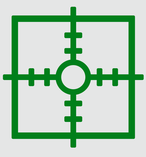
FARMING IS A FAMILY BUSINESS

86% of U.S. agricultural products are produced on family farms or ranches. *American Farm Bureau Federation*

Family farms account for almost 96% of the over 2.20 million farms in the U.S. *USDA*

John Deere Precision Ag Technology is used on farms of all sizes, from 100–10,000 acres and more (one acre is about the same size as a football field). These farms can have over 750 million plants. *Deere*

SEE & SPRAY™



See & Spray technology is so precise that it can recognize the difference between plants even in conditions that would challenge the human eye. It operates up to 12 mph via a sprayer with a 120-foot boom that scans more than 2,100 square feet per second.

With our See & Spray technology, farmers can now spray *only* the weeds, which reduces the amount of herbicide farmers need by up to 66%.

See & Spray has 36 cameras attached across the machine's 120-foot carbon-fiber boom. These cameras scan more than 2,200 square feet of land and capture 1.2 billion pixels per second. If you tried to match that level of sensing and processing with human eyes, it would take nearly 6,000 people.

EXCAVATOR

John Deere's new electric excavator, powered by a Kreisel battery, will improve the quality of work in construction. Deere acquired a majority stake in Kreisel Electric, the global leader in immersion-cooled battery technology, in 2021.

The batteries are modular, reducing the cost of ownership, and use a charging infrastructure that costs about 50% less than typical electric-vehicle (EV) fast chargers.

PINPOINT SUSTAINABILITY

The overall carbon intensity of biofuels produced from corn or soybean feedstocks, such as ethanol and renewable diesel, produces about 50% less greenhouse gas emissions compared to petroleum-based fuels.

Over the course of one growing season, a farmer utilizing foundational John Deere Precision Ag Technology avoids over 400,000 kg of CO_2 emissions — the equivalent of over 992,000 passenger-car miles driven per year. *Deere*