

## *PLANTING IDEAS.... HARVESTING SOLUTIONS*

**M**ention of a new robotic innovation hardly turns heads these days. Robotic welding systems and in-plant transport equipment, pick and place robots and automated machining centers are common factory features. Self-driving cars and delivery vans are real.

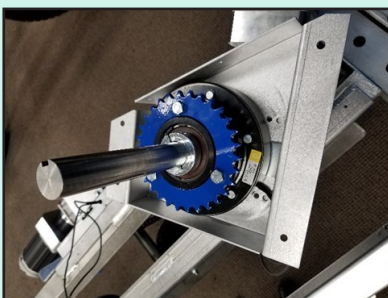
The benefits of the robotic revolution are also taking place in the strawberry fields of California thanks to farmer and entrepreneur Erik Jertberg. Erik points out that strawberries are picked by hand so any solution that would improve the efficiency of the harvester would benefit the farmer as well. Presently, 10% to 15% of a crop can be lost because it can't be harvested in time.

On a strawberry farm, harvesters fill crates with berries as they move down a row. After filling several crates they would carry them back to the edge of the field. Erik says that a worker would walk about 2/3 of a mile actually harvesting but 3-1/3 additional miles just carrying the filled crates.

AgPro's solution is the StrawBot SB2 and SB4 robotic carts. Instead of the cart being a destination for the worker at the edge of the field, it follows along the row as the berries are picked. Infrared proximity sensors tell when the harvester has moved a certain distance away from the cart. The cart's controller commands battery powered heavy-duty electric motors drive the cart forward maintaining convenient distance for easy worker access and safety.



*Harvesters using AgPro's  
StrawBot robotic cart*



*Clutch with  
mounted drive sprocket*

Electric motor torque is transmitted through an Ogura MA-7FSP general purpose clutch with an attached sprocket. Drive chain extends from the clutch sprocket to the driven wheel sprocket. The system is duplicated on the opposite side of the cart permitting each wheel to be driven independently.



*Ogura MA-7FSP Clutch*

Erik says an important feature is being able to disengage the Ogura clutch, allowing the carts to be easily moved by hand and towed for quicker transport to different fields or storage locations. Ogura's experience building clutches and brakes designed for agricultural use and outdoor equipment and reputation for high quality standards make them a natural team member of the supplier base.

AgPro is proud that this is a product development program where everyone wins. The harvester's time is more productive with far less wasted motion meaning better pay. Less waste of harvester time means less crop waste and greater profit for the farmer. The farm worker, the farmer and ultimately the consumer, all benefit.●