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LOOK TO AG EQUIPMENT SECTOR FOR HIGH-TECH CAREERS

Move over Google, Amazon, Microsoft, Boeing, and all the other companies and industries that people associate with leading edge technologies. If you are interested in leading edge, consider what is happening in the agricultural equipment space these days. Please feel free to share this article with family, friends, associates and any others who are entering the workforce or looking for an amazing experience and opportunity to work in a cutting edge field.

I'm sure you have heard of autonomous cars. Well that is certainly intriguing and will be here before we know it. Safety is obviously one of the biggest obstacles, and the bugs are being worked out. But have you heard about autonomous tractors? Yes, that is right. Tractors without a driver are in the field today - doing the tilling, planting, and harvesting activities all on their own. Now keep in mind these tractors are not just following defined roads that are well charted and mapped. Autonomous tractors must contend with varying geographic locations and terrains and are not just driving, but are simultaneously performing multiple functions, like applying fertilizer or chemicals at varying application rates.

Ok, that's pretty fun, and it leads us to machine-to-machine (M2M) communications. Yes, the machines do already talk to one another. Some like to put this in the category of the "Internet of Things". Let's look at an example: A combine's hopper is getting full and needs to unload. So it contacts the tractor to bring the grain cart. Not only does the tractor bring the cart, it pulls up next to the combine while it is still moving across the field, allowing the combine to unload into the cart while continuing to harvest. Time is money in this business; and stopping or pausing the harvest can cut into profit. Now magnify that cost savings many times over when considering a larger farm.

And no, NOT a Corporate Farm. In spite of all the rhetoric out there, ninety-four percent of U.S. farms are still family farms. They are incorporated for tax reasons. Not sure where this movement against big bad corporate farms came from, but there are families behind these farms - not corporations. Sorry, I digress on a pet peeve of mine.

Anyway, back to the large fleet of machines operating in concert on a farm. I always envision a musical conductor when I think about the orchestration of a fleet of equipment on a farm, just like a conductor bringing the musicians to perfect synchronized harmony. The farmer, who may be inside his home, shop or a tractor cab, directs and monitors the movement of his fleet and the communication among his machines.

In our world the primary function of these machines is to grow and harvest food. With today's technology, crops can also be monitored with wireless sensors that measure air temperature, humidity, soil temperature, soil moisture, leaf wetness, atmospheric pressure, solar radiation, wind speed and direction, and much more. All this data combines with data coming off the equipment to ultimately increase crop yields and quality to feed the expanding world population. Information about the equipment itself (idling time, fuel usage, speed, etc.) is used to optimize performance and prevent costly interruptions and downtime. And of course, the mountains of data (my technical term) have to be integrated, crunched and translated into decision making information for our farmers. In the end, data is king.

So how do farm managers get this information about growing their crops and maximizing their returns? Applications are written almost daily to have this information available at people's fingertips on their tablets, Smart Phones, etc.

And what about Drones? You're talking about a whole new age of data and monitoring of fields and what is happening with crops, soil, moisture, etc.

So take your pick -- the IT world, Data Analyst, Data Managers, Project Managers, Information Technician, Support Technicians, Plant Scientists, Field Agronomists and obviously many types of engineering positions. To be fair, the list of opportunities in the agricultural and agricultural equipment sector are countless.

Author



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