

# DRIVERLESS TRACTORS AND COW SENSORS



QUILTER CHEVIOT

Driverless tractors and cow sensors; how technology is shaping the future of farming and agriculture investments

The trend for investment in agriculture technology or 'agri-tech' is gathering pace. For investors looking at alternative options, the sector is certainly worth considering but to understand the market it is important to discover what types of technology are being developed and how they can improve productivity.

For those who are unfamiliar with the agri-tech scene, it may come as some surprise that more than half of UK farms are estimated to already be using agriculture technology or precision farming techniques. The technology being harnessed by farmers includes GPS guided tractors, sensor systems, robots and drones.

Millions of pounds of government investment have gone into the farming technology sector in the UK alone in recent years, with the intention of putting us firmly on the agri-tech development map. In the latter part of 2015, pioneering projects aimed at improving agriculture and food production at home and overseas received £17.8 million of funding under the latest round of the Government's Agri-Tech Catalyst.

Technology is revolutionising farming, holding the potential to increase efficiency, boost profits and reduce environmental impact. On a global scale, agri-tech is being viewed as part of the solution to the world's food production challenge by helping to mitigate the risk of both glut and famine.

To illustrate how agri-tech works in practice on a day-to-day basis, we can look at some of the most commonly used technologies; GPS-controlled tractors and animal sensors. Tractors use GPS satellite guidance systems to scan fields and identify where pesticides or fertiliser need to be sprayed. The systems also enable precise steering, ensuring perfectly straight lines and preventing over-lap. This improved efficiency saves fuel and frees up the farmers' time so that they can concentrate less on steering and more on monitoring the field operation in hand, such as planting a crop.

## CONTACT US:

Quilter Cheviot  
One Kingsway  
London  
WC2B 6AN

t: +44 (0)20 7150 4200  
w: [quiltercheviot.com](http://quiltercheviot.com)

Sensor systems for livestock also greatly improve efficiency, and can improve animal health and welfare. Cow sensors, for instance, are used by farmers to identify and contain cows that have come into heat. By monitoring body temperature and movement, the sensors can tell immediately when a cow is in heat and this data is then fed into an electronic tagging system that separates the 'in season' cows from the rest of the herd. In turn, this allows for more timely artificial insemination and an improved calving interval.

Of course, all of this technology relies upon the creation, transferral and analysis of data. The result being that both the development of the technology itself and the data storage and processing components it requires is now big business.

Like many industries, farming is being infiltrated by the 'internet of things', the development of the internet in which everyday objects have network connectivity, allowing them to send and receive data. Increasingly, global technology companies are moving into this emerging market.

In terms of investments, there are two areas to explore when it comes to stocks that are exposed to the agri-tech theme. There are companies that make the hardware, and those that make the software. UK global technology company ARM is one example of a major player looking to shift its focus to new software for connected devices. Already its technologies are being used in sensors that gauge watering and soil fertilisation for farmers. Other companies that are exposed to this theme generally include Texas Instruments, Deere & Co and Cisco.

The market will continue to develop and the potential for advancement is huge. Agri-tech holds great potential for the farming industry and the firms that can turn themselves to the development of cutting-edge systems. In a best case scenario, the innate skill of the farmer will be complemented and enhanced by technology, not replaced by it. Whatever the case, the future of farming is rapidly changing.

**Come and see us at the Quilter Cheviot Exhibition Stand (stand number 671) on Main Avenue, located next to the Ringside Club Entrance. We will be offering refreshments throughout the day, as well as running a competition to win some great prizes. The Suffolk Show is running from 31st May to 1st June.**

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