THE MARKET of CONNECTED COWS

capital access and next generation monitoring

During a recent drought In Australia, some Australian farmers opted to cull their dairy herds due to lack of feed, forgoing years of income.

Also recently, New Zealand is hit with mycoplasmas bovis – resulting in a 3% loss of dairy production and at a milk price of $6.05/kgMS implied $356m of foregone revenue.

These situations demonstrate the huge risk farmers take in today's competitive farming environment. The volatility in conditions means that potentially productive cows are sent to slaughter because of the lack of funding or monitoring or they get sick due to inadequate monitoring. Farmers also need access to capital that would allow them financial viability to survive short term downturns.

In Australia - media has helped in highlighting some farmers 'selling' ownership of cows rather than killing them. This has been successful, but the volume and timing is limited.

What if we can monitor the cows effectively and we can find funding for farmers?

Here comes the "market of connected cows".

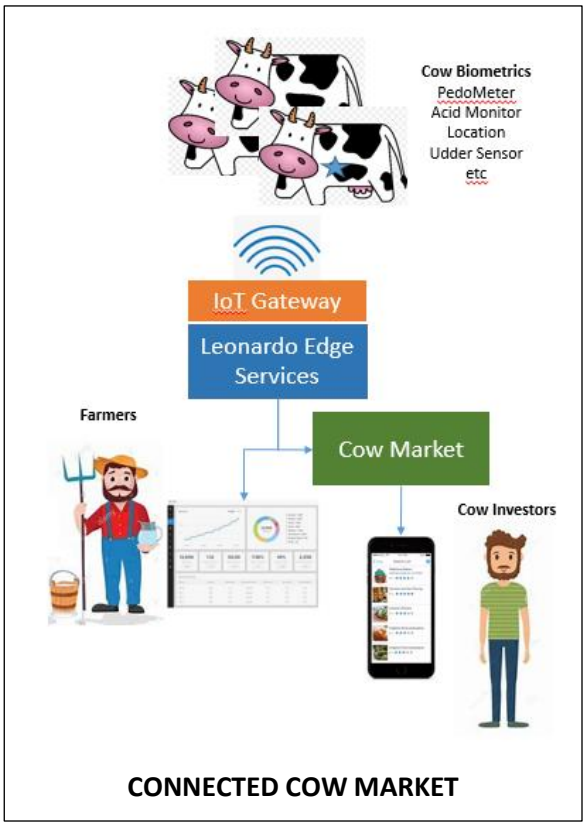
Cows can be fitted with sensors that monitors their biometric data such as temperature, mobility, stomach acidity, milk flow etc.

The data will be fed to an IoT Edge gateways that uses Streaming and Persistence services to collect and store data.

There are 2 analytical outputs – one for the farmers to monitor their herd and analyse performance in time.

And another output to market applications where investors can see cows in a map and choose to "buy" them.

Ownership here means the ability to monitor and make decisions about assets.



CONNECTED COW MARKET

If people can see the characteristics of cows and can monitor them, then they can own them.

> So let's say a farmer "John" has a dairy farm that has been hit by drought. He is currently cash-strapped, and with his current liquidity – he couldn't afford to buy more feed. He knows his cows can provide more years of dairy if only he can find a way for them to survive this year. Otherwise he has to send them to slaughter.

Let's say a typical mum-dad investor "Bob" saw the news on the tv about drought and the farmers. Now, he wants to know more about cows and send farmers some money to help.

With connected cows, we can use IoT to send cow data to a IoT Edge Gateway. From there data can be stored and analyzed.

With SCP, we can create an app where Bob can see the farms and activity of cows in the region. He can see them on the map with how many. He can even zoom into individual cows and their biometric history.

Bob is amused that with the app as he can buy cows and give them names. He invests in part ownership of 2 cows and named them Doc and Sneezy. He then tells this to his friends.

John finds that the extra cash allows him to buy feed for his herd that would otherwise have been culled. The herd continues to provide milk for years to come.

A couple of months later, Bob has forgotten about the cows. But he suddenly receives income from John's dairy farm "UdderReality Pty Ltd". He realized that the income is not bad. He's now thinking of naming more cows but he's struggles with the names. He pulls out all the characters in StarWars … "ChewBaka" sounds like a good name.

In a basic example of this approach in the UK, a farm of just 20 cows associated with Breed Reply was able to save 2000 euros just because they were able to identify that 3 cows was eating twice the feed and producing half the milk.

This web of technologies provides parties with capabilities they haven't had before. This system spreads the risk across multiple parties allowing farmers access to a source of capital which reduces his financial volatility. This provides better monitoring for farmers to allow them to manage their herd better. This also allows people to invest and engage in the farm industry which can be important not only to the economy but to the social fabric of some countries like Australia and New Zealand.

Cow sensors are not new. Various sensor makers have been in the market for years. But with Leonardo IoT, it can accelerate and consolidate connectivity to those cows and provide innovative use of data. It can also lead to some standardization of sensors and their protocols. This new market of cow data will become the commodity by which we can trade value in the new digital economy and engage the farming industry in a totally new way.

Onwards : One of the potential side effects with introducing disruptive technology is that there are new interactions to work through. One possible example is that with the visibility of cow herds in freely available apps, a higher amount of information would be available to general public about farming. This could affect their buying decisions. By sheer data size -This could even drive people to appreciate the nature of the dairy industry's relationship to climate and raise actions to mitigate them.