



It's not about the Technology



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Agricultural Business Drivers

Market Timing

- Seed
- Fertilizer
- Pesticides
- Fuel

$$\text{Profit} = (\text{Price} - \text{Cost}) \times \text{Volume}$$

- Yield / Acre
- Optimize growing conditions
 - Irrigation
 - Sprayables
- Adapt to weather + variations

Agricultural Jobs To Be Done

1. Minimize over and under spray
 - Precise control of delivery of seed, fertilizer and pesticide
 - Precise positioning – GPS + correction
2. Monitor Crops
 - Reactive vs Scheduled management
 - Identify irrigation problems
 - Adapt to changing weather conditions
3. Fuel Efficiency
 - Minimize fuel consumption
 - Manage speed and frequency

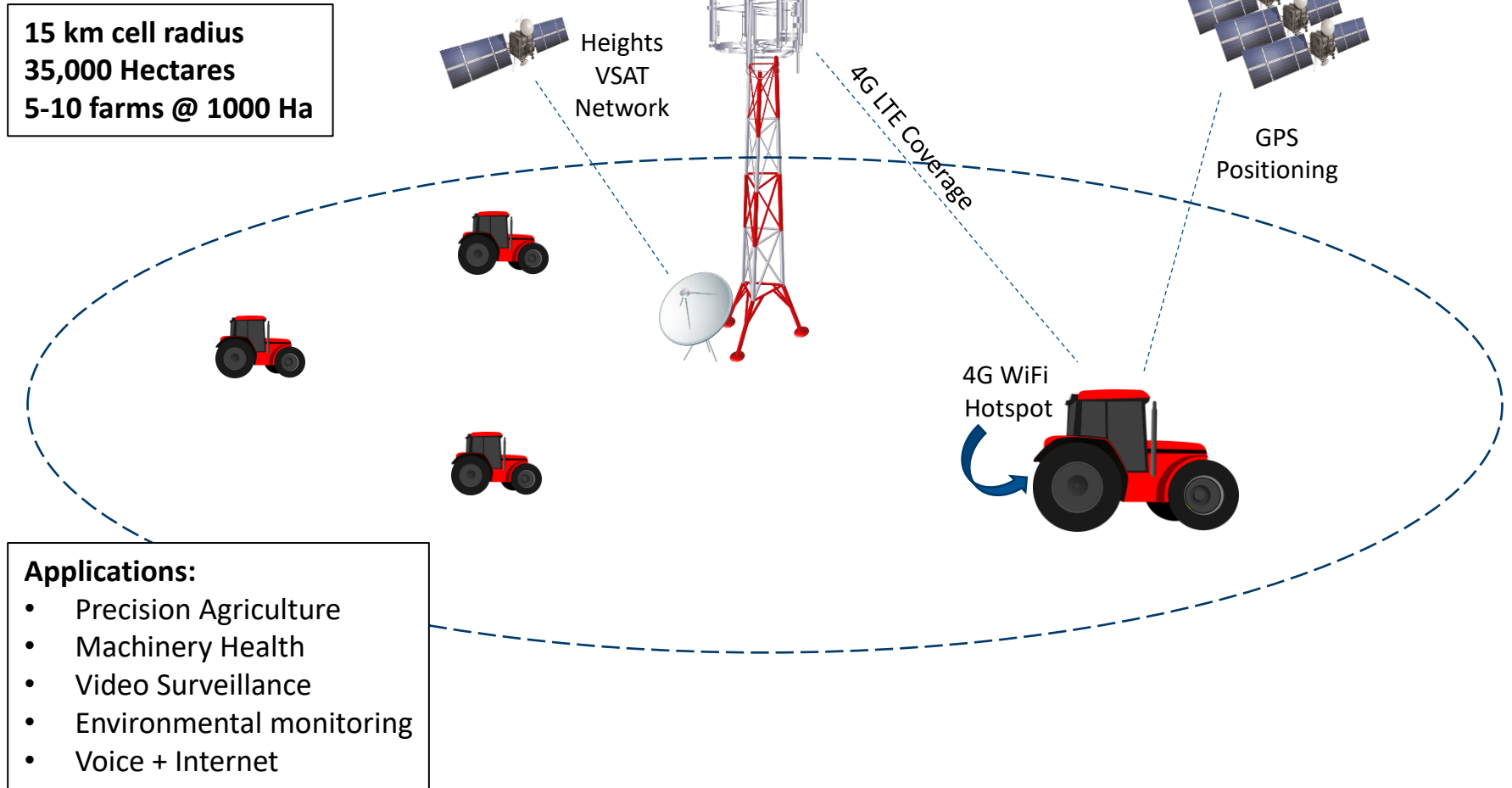
Related Jobs

- Farm business communications
 - Supply chain – Ordering of supplies, repairs
 - Operational interfaces to the IoT web platform – Mobility
- Families – Reside in the same communities
- Education – Rural schools struggle with resources
- Government – Administration of the businesses and communities

IoT + 4G + Satellite Backhaul can address all of the Jobs To Be Done

The Connected Farm Network

Brazilian Soybean Case



Project Ecosystem



- Brazilian Tractor Manufacturer
- Agriculture specific sensors
- Analysis Software

- Brazilian MNO
- Service Provider
- 4G Core and billing

- Tower + 4G eNodeB
- 4G WiFi Hotspots
- VSAT / MW / Fiber
- Comtech EF Data Heights VSAT

Business Results

- Eliminate over- and under-spray of herbicide, pesticide and fertilizer
 - 3.2% reduction
 - Can represent up to half of farming OpEx and margins are thin
- Autonomous tractors consume less fuel than manually driven tractors
 - 22.4% reduction in fuel consumption

Summary

1. The “secret sauce” is not the technology
2. IoT + 4G + Satellite Backhaul for the Jobs To Be Done
3. It’s an Ecosystem play where partners matter

At Comtech EF Data we see the MNOs and Mobile technology as the key to our success in IoT and Precision Agriculture.



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