

# Monitoring & Controlling the Environment of a Canadian Winery using NB-IOT and LTE-M





Bell





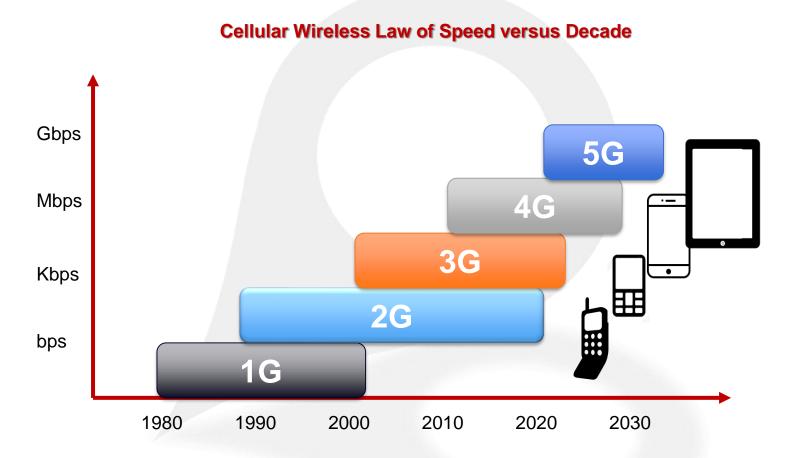
## **About BeWhere Inc.**



- A publicly traded Industrialized Internet of Things (IoT) company founded in 2014;
- 50+ years experience (as co-founders / early stage employees) in successful Vehicle Telematics Companies;
- Leveraging new technology for environmental sensing and asset monitoring;
- End to end solution provide. Develops and designs software, middleware, firmware and hardware.

### **Innovation in Wireless Cellular Data**





- Innovation dedicated to capacity and band-width (smartphone market)
- Precursor industries to IOT are M2M, Telematics, Scada.
- NB-IOT and LTE-M represented the first major innovation since CDPD

# What people are saying about licensed I PWA



• "Revolutionary..." Midas Letter June 2015



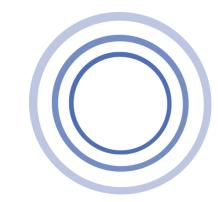
•"Innovative..." Canada News June 2017

"Game-changing..." Mobile Syrup July 2017

"Novel..." Canada News July 2017











# Henry of Pelham, Niagara, Ontario Canada

**PeWhere**Knowing Counts

- Canadian weather conditions pose unique challenges and opportunities to the Winery Industry
- Unexpected adverse weather conditions can impact quality, yield and vine mortality
- Temperature Inversions often occur during critical times of the growing season. Temperature Inversions exceed 10 Degrees Celsius / 18 Degrees Fahrenheit.
- Inversions are often localized



# Henry of Pelham, Niagara, Ontario Canada



- Phase 1. Deploy 6 NB-IOT and 6 LTE-M to increase the density of environmental sensor monitoring.
  Deploy sensors at ground level and on a 20 meter pole (update frequency every 15 minutes).
  Provide email notifications when inversion detected.
- When a Temperature inversion is detected under sensitive weather conditions > Turn on the fans.
- Phase 2. Automate control of the fans through digital I/O's

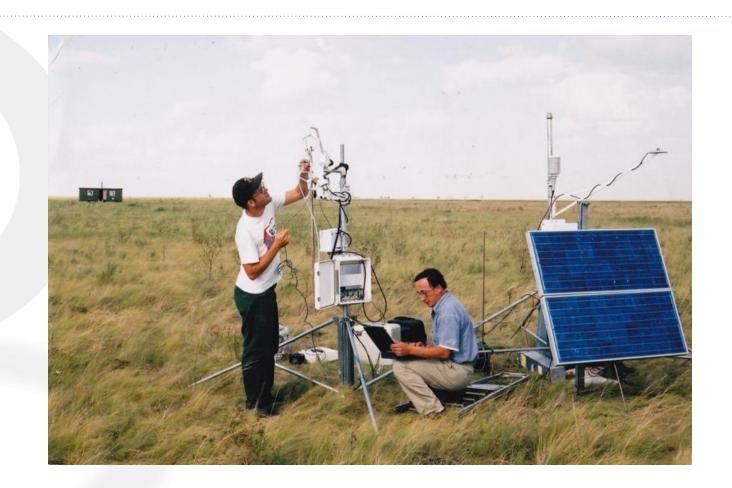


## **Disruptive opportunity**



#### Old

- Large upfront capital costs
- \$5,000 annually (limited to single site)
- Complex implementation (external sensors)
- Low density due to cost (one site per winery)



# **Disruptive opportunity**



#### New

- No upfront costs
- \$100\* annually (high density potential)
- Simple implementation (embedded sensors)
  - GPS
  - Temperature
  - Humidity
  - Pressure
  - Light
  - Accelerometer

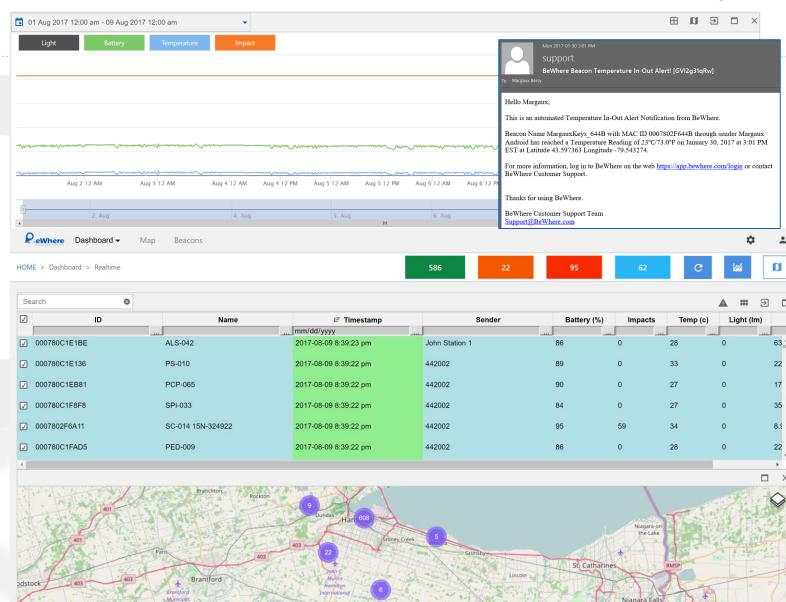




#### **Web Portal**



- Real-time environmental condition monitoring
  - Air pressure
  - Temperature
  - Humidity
  - Light levels
  - Location
- Real-time inventory/ equipment location
- Alerts and email notifications set up



## **Learn More**



