



Vital Alert C1000
Through-the-Earth Communication Platform
Applications and Use Cases

September 2011

Sandi Jones



Locations

Above Ground



Mezzanine



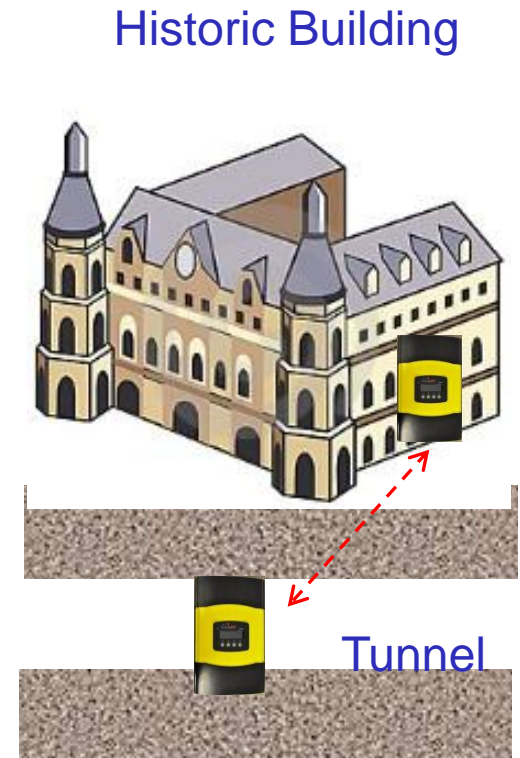
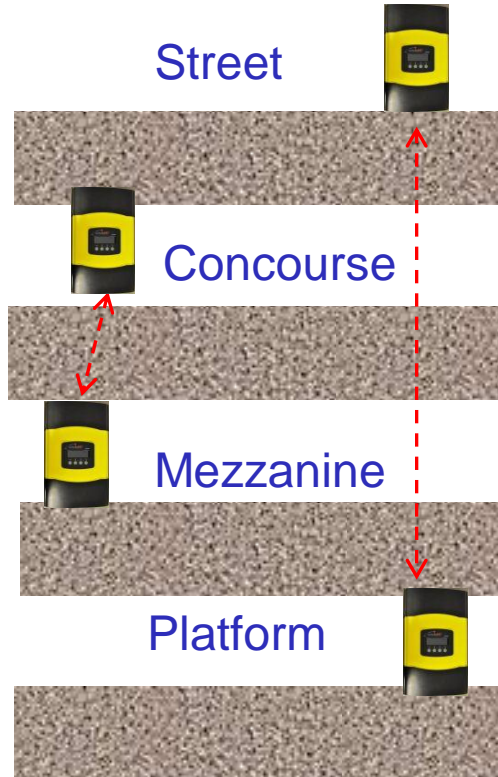
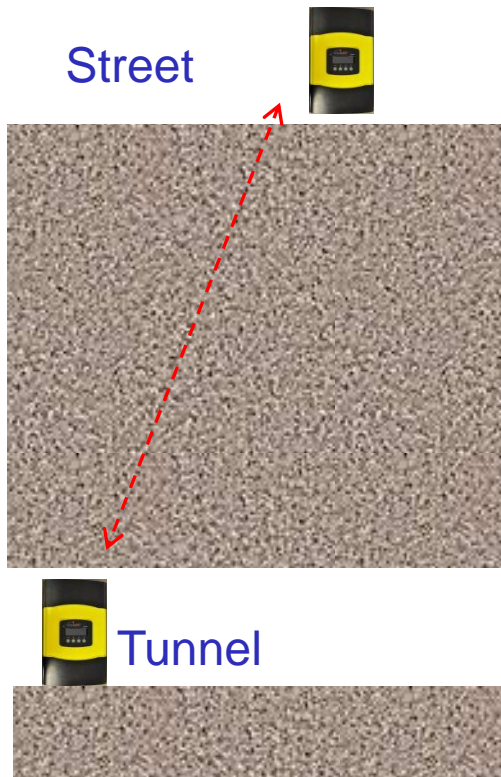
Platform



Tunnel



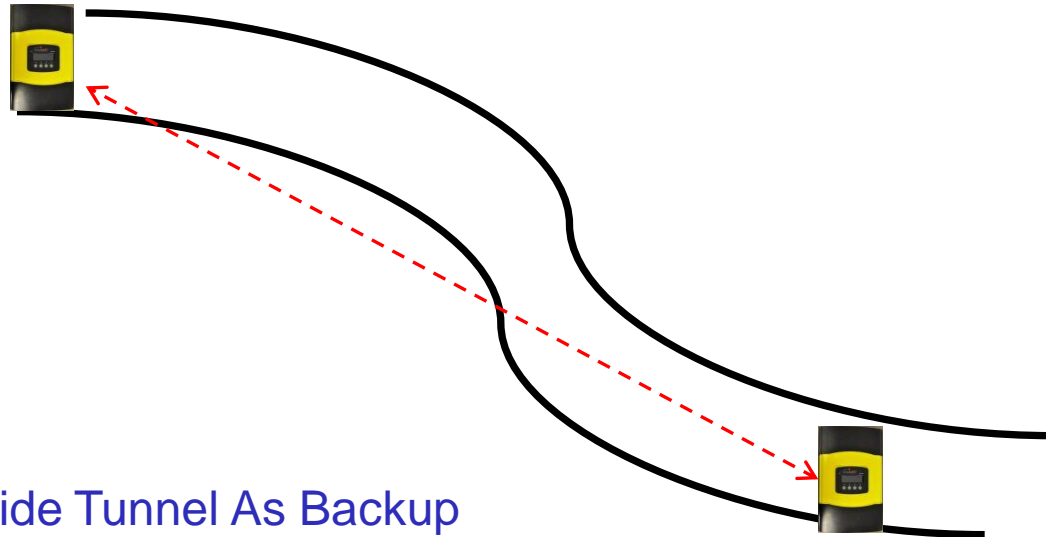
Vertical Scenarios



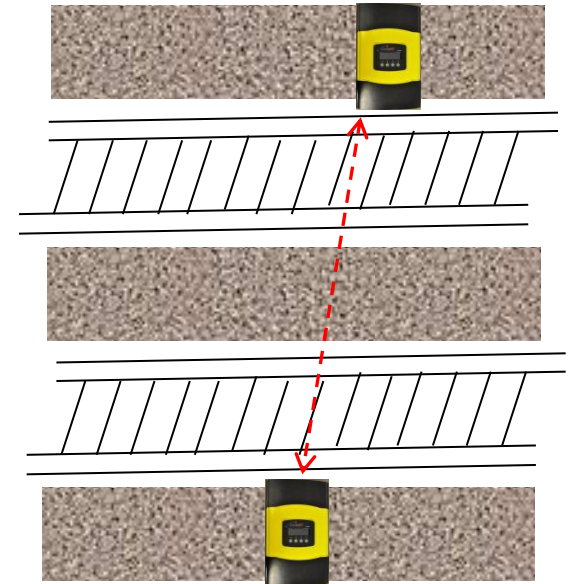


Horizontal Scenarios

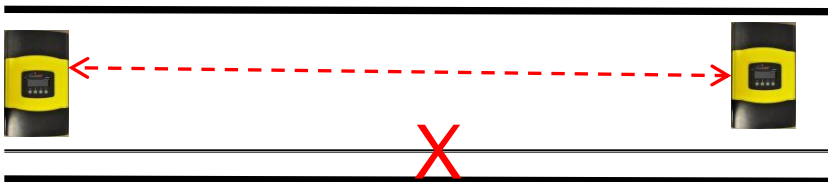
Inside Tunnel Through Turns



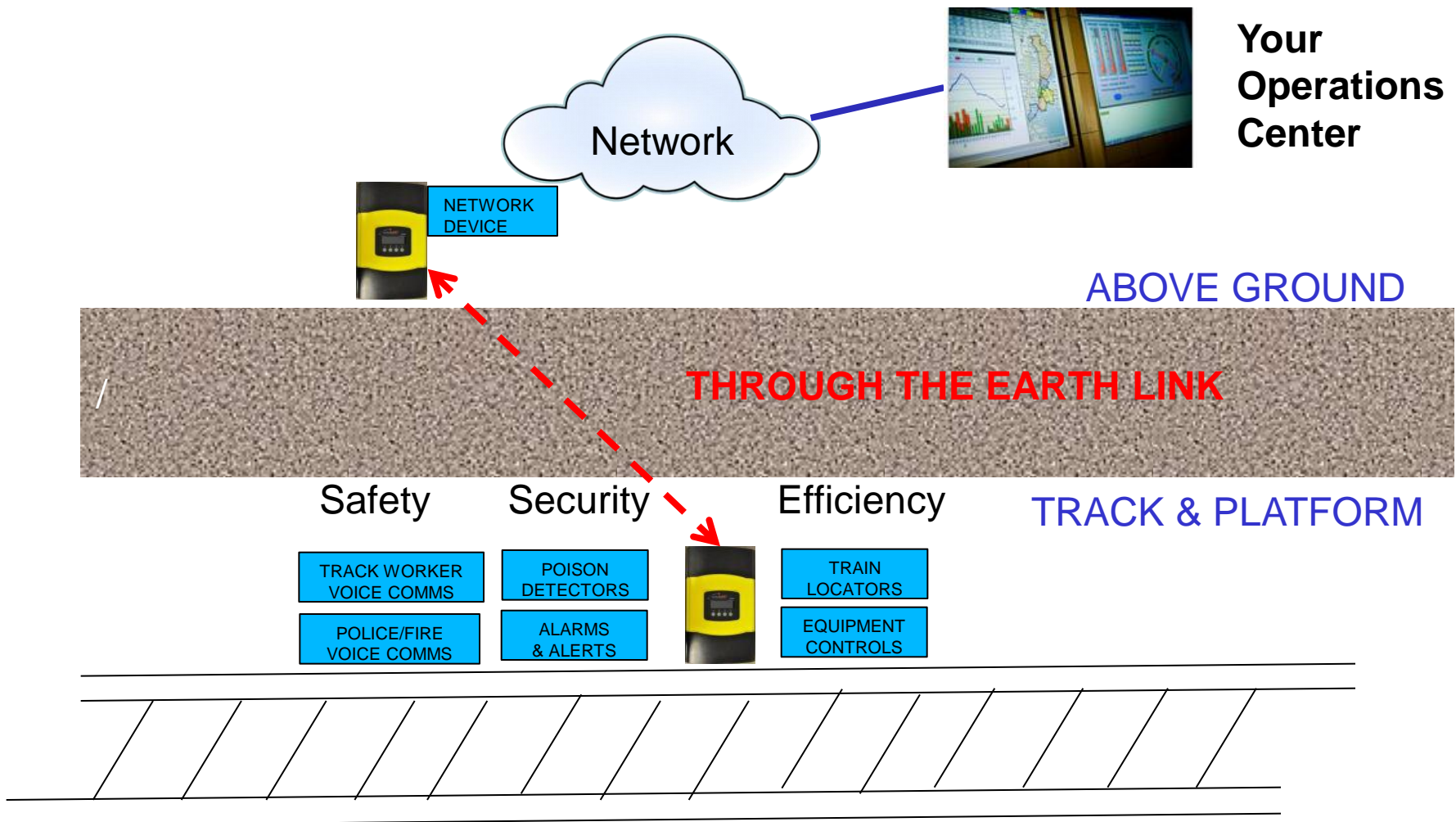
Tunnel to Tunnel



Inside Tunnel As Backup

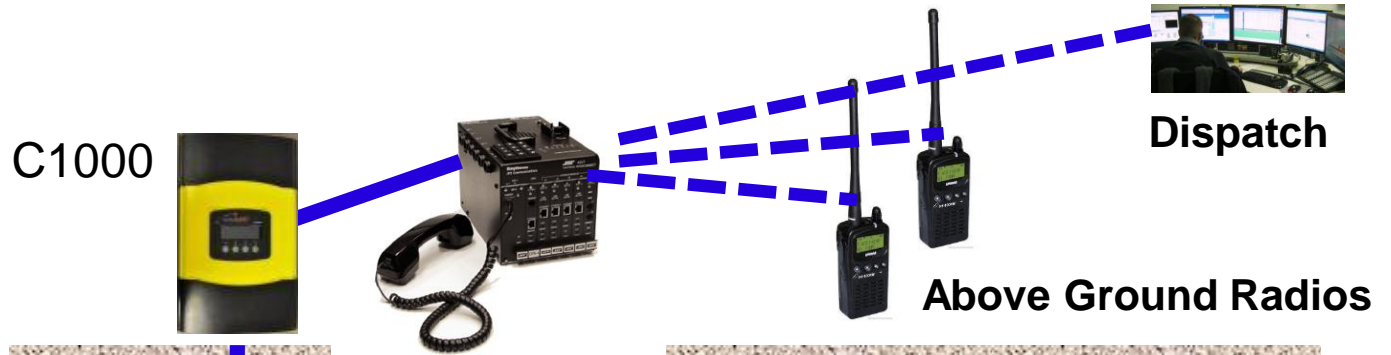


Subway to Surface Communication





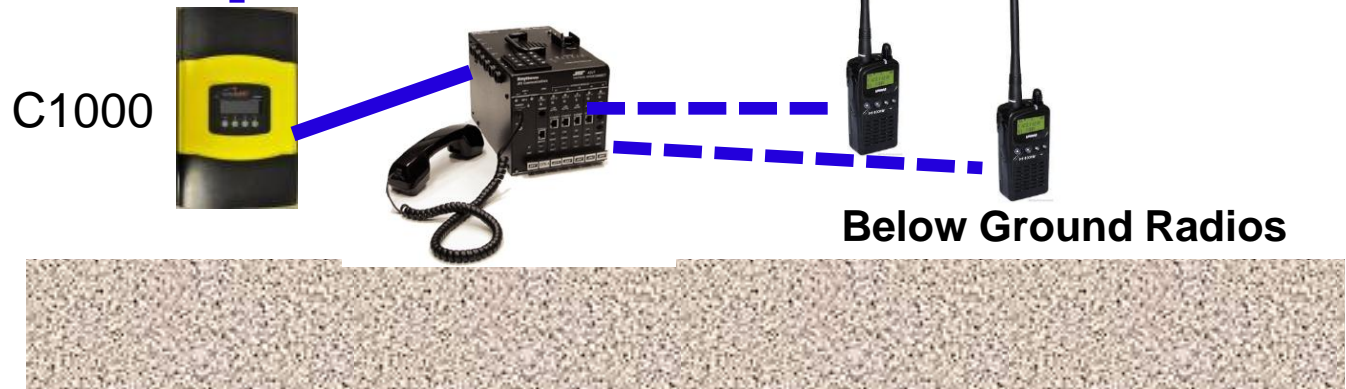
Emergency Responder Communication



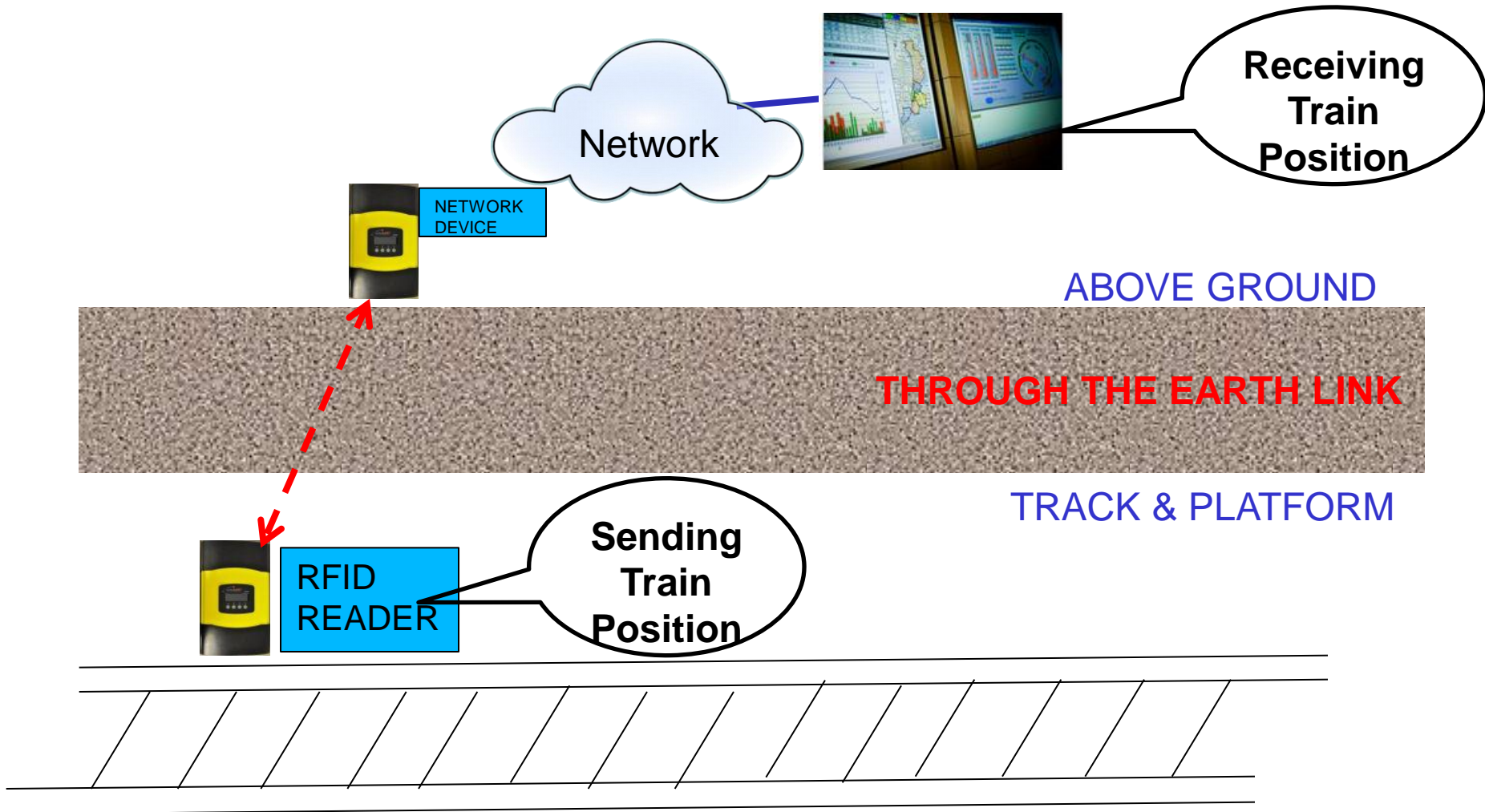
THROUGH
Overburden
Rock,
Concrete
etc.



TO
Mine
Subway
Tunnel
Parking Garage
etc.



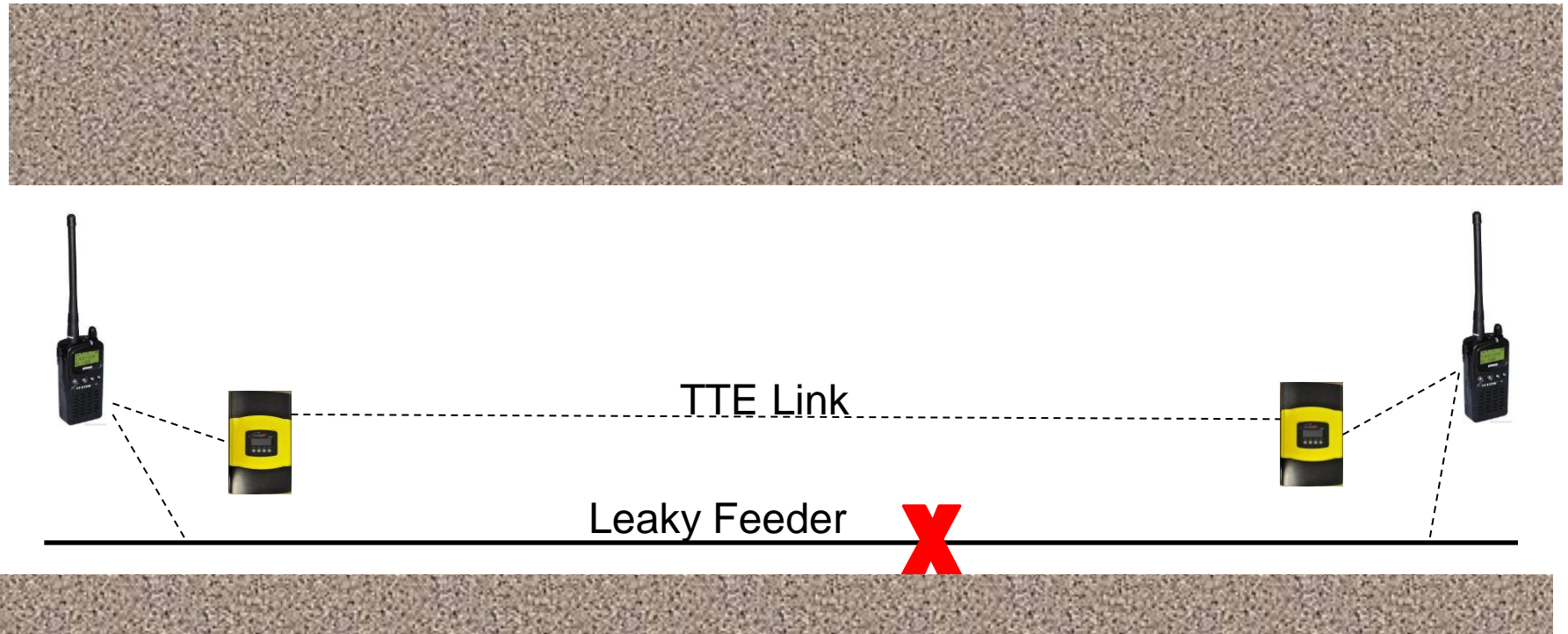
Train Dwell Time Reporting





Wireless Backup In the Tunnel

Wireless Backup: Stays up when Leaky Feeder Or Mesh Networks are damaged





Subway, New York, NY (2010-2011)



Multiple tests and demos in three different subway stations (Bowling Green, Whitehall, Rector Street).

Two applications:

- Emergency 2-way voice communications (transit staff and first responders)
- Real-time RFID train dwell time reporting



Successfully conducted voice conversations and exchanged 2-way text messages at Whitehall and Rector Street. 2-way text messaging successful at Bowling Green

Successfully transmitted RFID updates from Bowling Green Platform to Internet via above-ground 3G modem



Courthouse, Fort Worth, TX (2009)



Historic building where structure precluded running cables into basement

Tested emergency messaging between surface and mine

Transmitted vertically through 60 feet of steel-reinforced concrete floors (limestone walls)

Successfully conducted voice conversations and exchanged 2-way text messages.

Also controlled light and buzzer on RFID reader remotely.





For more information...

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