



# UrsaNav

Leaders in what's now. Innovators of what's next.



Blended AGNSS &  
eLoran for Trusted Time  
& Location  
Services

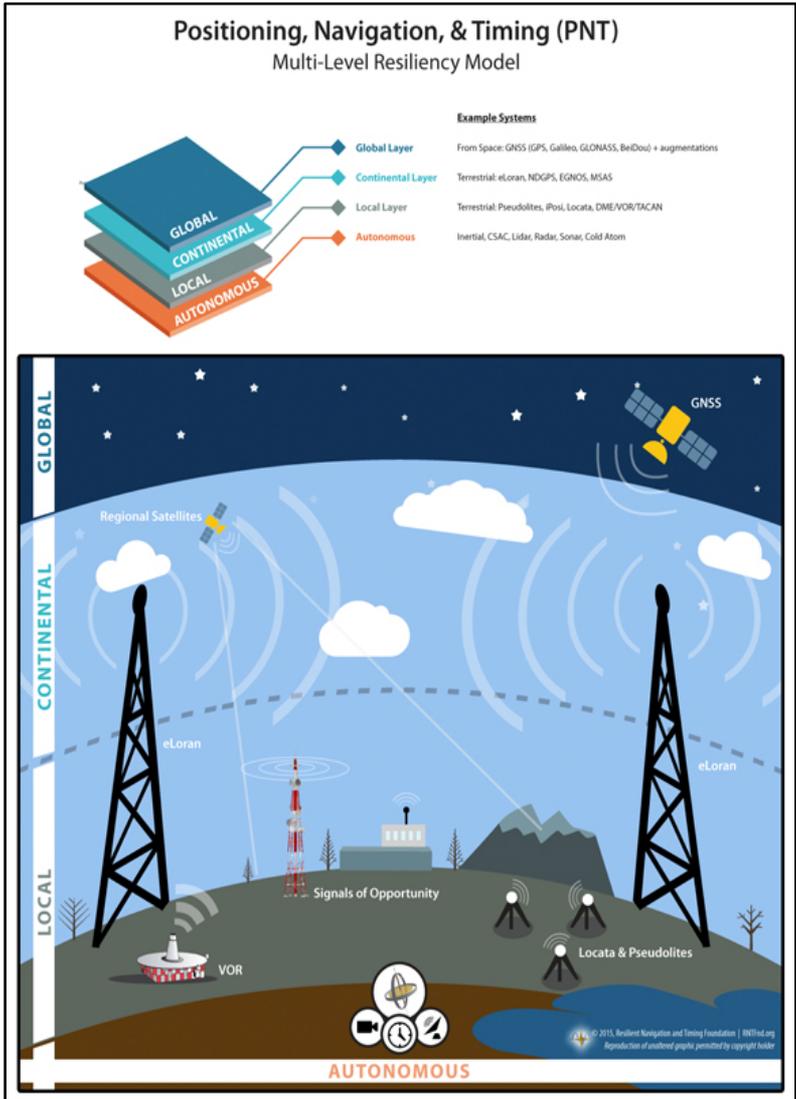
June 28<sup>th</sup>, 2017

# Problem: GNSS Vulnerabilities



- **Detailed Analysis of the impacts of a loss of GNSS in the UK**
- **Conservative Estimate of 1B£ per day cost due to the loss of GNSS in the UK for a 5 day period**

# Solution: PNT Ecosystem



- Robust
- Multisource
- GPS independent

Graphics Courtesy of the RNT Foundation

# How does eLoran fit into the Assured PNT ecosystem?

- ❑ Precise Wide Area (Continental coverage) UTC Synchronized Time and Frequency Independent of GPS
- ❑ Positioning and Navigation
- ❑ One way low bit rate data broadcast over wide areas and into challenging locations
- ❑ Heading/Azimuth
- ❑ Works in many indoor locations
- ❑ Works in heavy foliage cover and mountainous terrain
- ❑ Works some distance under water
- ❑ Encryption (Data and PNT Services)
- ❑ Deployable



Resilience Triad = Assured PNT

# The Need for Resilience

- ❑ Resilience prevents overreliance and cascading catastrophic failures
- ❑ No one solution meets all requirements for all applications
- ❑ Access to alternative/complementary solutions is better than sole-source reliance
  - ❑ Good individually but better together
  - ❑ Integration of solutions is the real enabler

