Protection

Enforcement of National Laws and Regulations

• Detection
• Geo-location and
• Detention
Enhanced signals L2C and L5.

- Manufacturers agreements
- for Smart and Interference
- Resistance Receivers
Augmenting and Backup

1- Accuracy and Integrity through;
   - Nationals DGPS,
   - SBAS by EGNOS augment GPS in Euro-Med countries and MSAS in Japan etc.

2- Backup GPS by eloran.
eloran requires:

1- Amending, Updating or modifying the existing traditional Loran-C stations

2- Build new e loran beacons
The Coverage of the Traditional LORAN-C

15th. PNTAB meeting Marriott Waterfront, Annapolis June 12, 2015
Recommendations

What we may do to implement the concept of PTA in the rest of the world

15th. PNTAB meeting Marriott Waterfront, Annapolis June 12, 2015
What if there are no PNT Assurance and no backup system for GPS Outside USA
Possible Jamming / Spoofing Attacks on GPS

Terrorism groups
Al Qaeda, ISIS, Boko Haram
No solution is. Viewed
but urge For more cooperation by

- Extensive Bilateral agreements,
- Comprehensive Multilateral agreements
- Enforcement of the International agreements to protect the GPS signals.

Encourage countries to establish eloran coverage

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Recovery Process

• **If** detection of the interference and spoofing, Geo-locating and remove the source of interference, detain the perpetrator, are considered difficult, costly, and required sophisticated technical support in the USA.

• **It Must be very difficult if not impossible** in many countries without International assistant
International Pressure is required for PNT Assurance

- ICAO, IMO, ITU, IALA, IHO, UNOOSA, ICG, etc.
- Other initiative to be made through Conferences and seminars Organized by ION, IAIN, RIN, AIN, and the Resilience foundation
- State initiatives for technical support from USA, EU, Japan and others countries are essential
It is not enough to assure PNT in US Boundaries. We should contact Partners, Friends for action for protection and backup.
GOD Bless You

Thank You!