# Meeting or Making the Market-2005

**Presented By**

Erik Johannessen

Megapulse
101 Billerica Avenue
4 Billerica Business Center
North Billerica, MA 01862
ph 978.670.9960   fax 978.670.3776
www.megapulse.com

International
Loran
Association

# Overview

- Observations on LORAN and the Future Information Infrastructure of PVT

- Candidate Market Segments

- Making the Market

- Meeting the Market

- Summary

# Observations

- **Loran is a Local to Wide Area Regional System**

- **Loran Does Not Meet the Criteria of World Wide Radio Navigation System (WWRNS)**

- **Loran Certainly, and GPS for the Most Part are Still Considered and Referred to as Navigation Systems especially by service providers**

- **Loran would be dead if GPS had merely supplanted the Loran user base with higher performance and lower cost.**

# Observations (cont'd)

- **GPS Policy has Always Been About Security**
- **Critical Infrastructure refers to both safety and economic vulnerabilities**
- **Safety-responsible administrations by nature are public and slow moving**
- **Economic responsibility is often shared with the private sector**
- **Which is Worse: Bad Policy or No Policy?**

# Candidate Market Segments

- The total market for GPS products worldwide is estimated at $16 Billion

- Growth  rate is about 20%

- Growth rates vary by application from near zero in aviation to high rates in personal communication devices

- To re-introduce Loran to the market, risk is reduced by initially addressing "friendly" segments

# Commercial GPS Markets Open to Integrated Receivers

|  | Annual units | addressable | $ range |
|---|---|---|---|
| timing | 50,000 | 20,000 | $2k-15k |
| aviation | 166,000 | 25,000 | $5k-15k |
| marine | 1,500,000 | 150,000 | $200-2k |
| fleet | 400,000 | 20,000 | $2k-5k |

Exclusions: In-vehicle NAV, Handset, Personal, Surveying

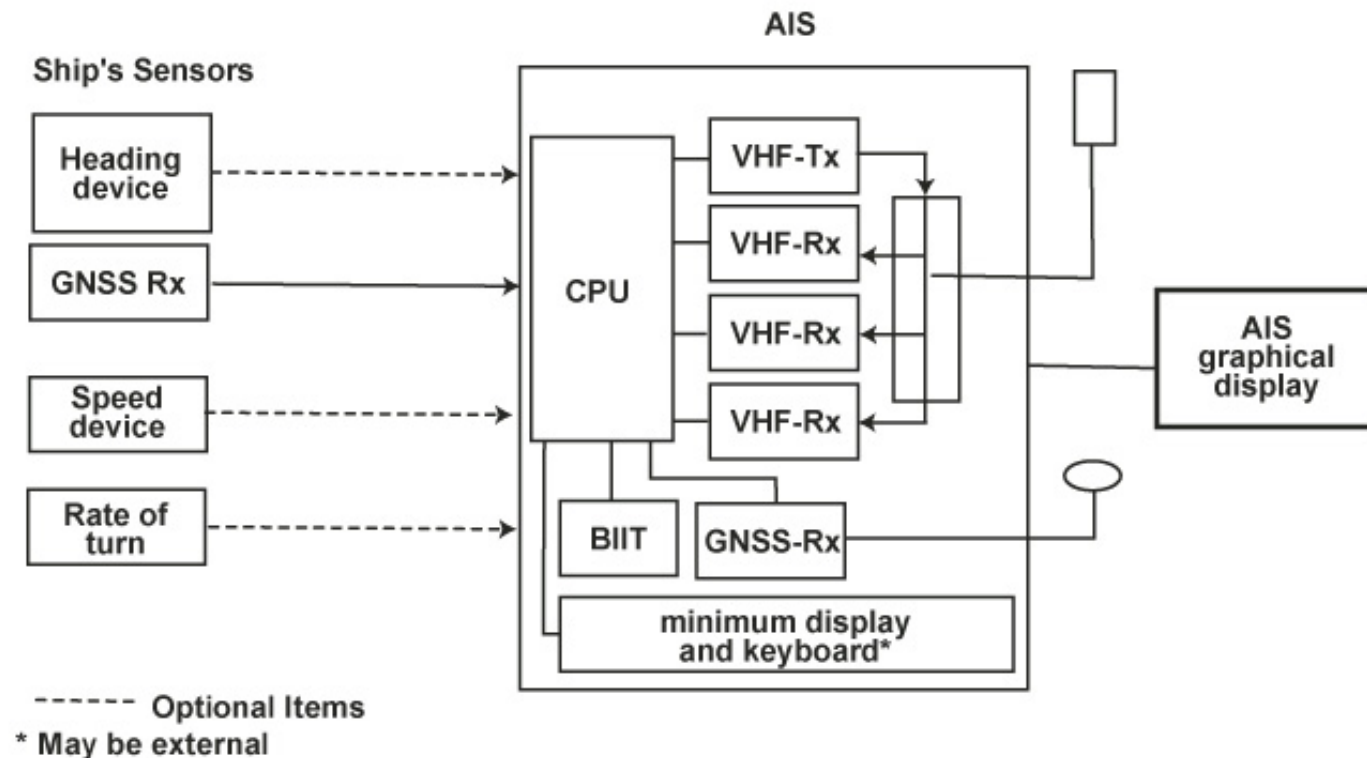**Total Addressable Market for the 4 Segments is ~$500M (just over 3% of the total market)**

# Non-Commercial Market Segments

**These market segments feature a higher service component and though they have value, are not considered herein**

- Military
- Security Critical
- Scientific + Research
- Safety Critical

# Market Trends-Dependant Surveillance
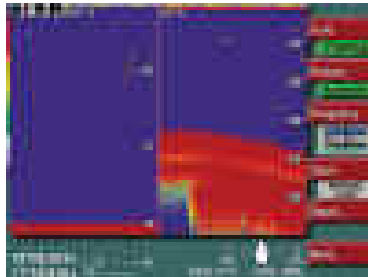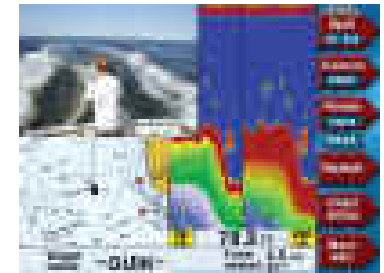
# Market Trends-Sensor Fusion

**Position**

**Highway**

**Radar**

**Sounder**

**Video**

# Making a Market

# Making a Market (cont'd)

- Requires high initial investment in technology to create demand and market for a new product
- Must focus on either niche applications not served by GNSS or in creating significant value added when integrating with GNSS
- Need to overcome image problem of Loran as an obsolete technology
- Risks could be mitigated by
  - Definitive Policies on Retention and Use
  - Mandatory Carriage Provisions
  - Favorable Regulatory Environment
  - Standardization

# Making a Market (cont'd)

Regulation and Standardization
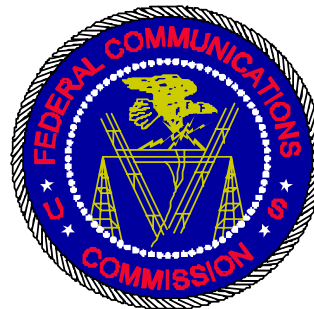
# Making a Market (cont'd)

- In General, new products accepted into new markets do offer potential for higher margins than existing markets where competition is high

- Examples include:

| GPS Substitute | Indoor or urban timing |
|----------------|------------------------|
| GPS Back Up | dLoran for HEA, certified NPA in aviation |
| GPS Extended | Locus Rockwell MMR, addition of SAG in antenna |
| New Alternate | Aftermarket vehicle location |

# Sample Project: eTaxi NY

- New York City Taxi and Limousine Commission is the lead agency
- Mandated Service Improvements Plan deadline is November 2005
- Requires Vehicle Locator Technology
  - Enhanced Comm. with Drivers
  - Collection of Data on Traffic
  - Riders Can Observe on In-Vehicle Screen
- GPS by Itself will Not Meet User Requirements
- Other Emergency Services are Looking at Project

# Sample Project:  eTaxi NY
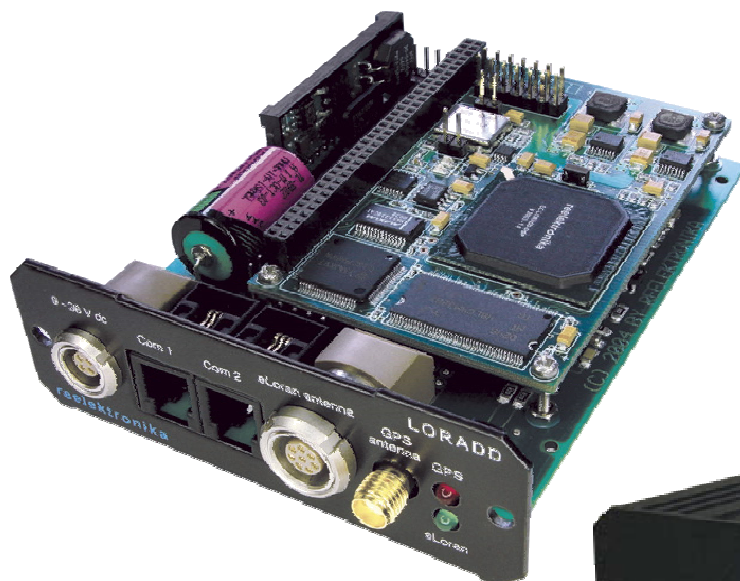
# Sample Project: eTaxi NY

- First data collection performed yesterday

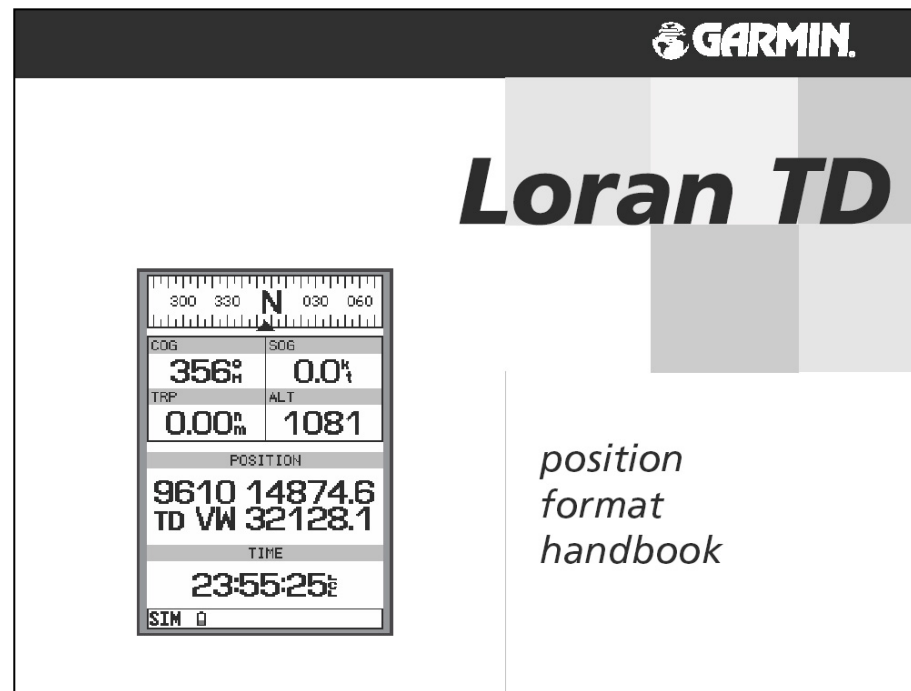- Additional evaluation support to this project will likely come from FAA Loran office.

# Meeting a Market

# Meeting a Market (cont'd)

In 1989 the GPS receiver company GARMIN was started. In 1999 they added Loran TD capability to their marine product line.

# Meeting a Market (cont'd)

- Particularly within the fishing community, both commercial and recreational, TD information seems to have grown in value
- Demand exists in "Loran-friendly" markets for integrated receiver capable of simultaneously providing both WAAS Level GPS and historical Loran
- Caveat,
  - Should be Seamless
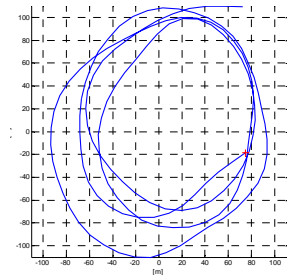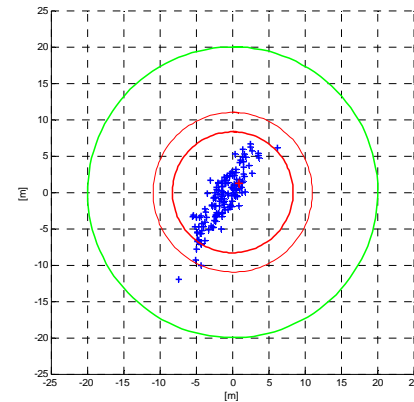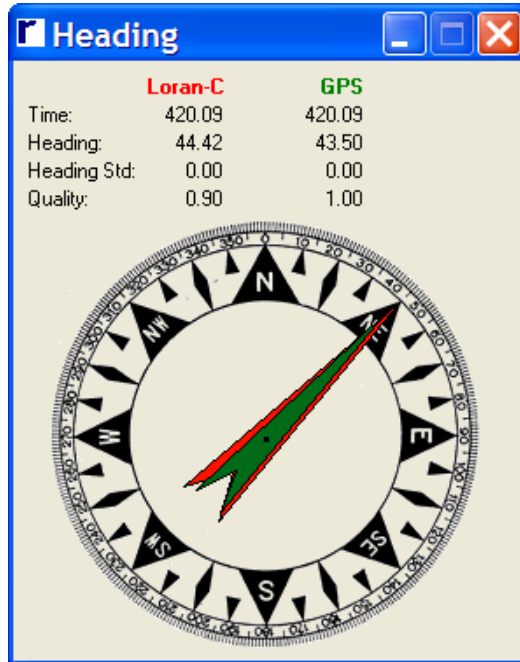  - Need Value for Incremental cost

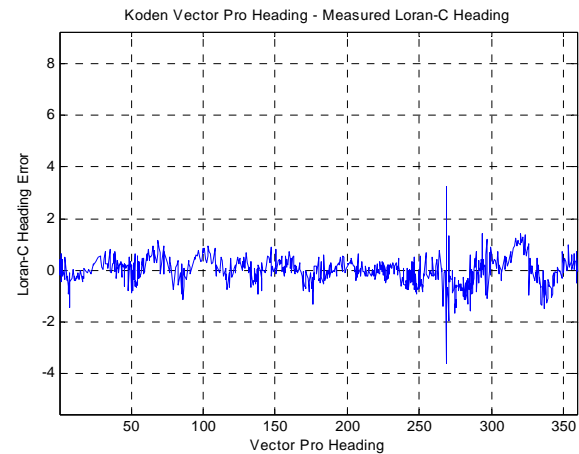# GPS Vector Pro Antenna (Compass)



This is one example of a relatively new product class: GPS Compass.  Significantly less expensive than FOG, better performance than magnetic compass, integrated with Nav functionality.

International
Loran
Association

# H-Field Compass



**Loran Compass within 1 degree of Vector Pro**

# Getting it Right

- **Product**
  - Given a market trend such as sensor fusion, we should not consider the product in terms of a piece of hardware, but rather, the product is information that can be used in multiple ways.

- **Pricing**
  - The value of information is an intangible and is often personal. However, when looking at an integrated receiver, the metric is incremental value.

# Getting it Right (cont'd)

- ■ Distribution
  - ■ The addressable markets feature distribution channels which are highly developed. A niche product (3-5% of the market) must rely on existing distribution arrangements.
- ■ Promotion
  - ■ Within the addressable segments, the GPS technology and market are boring. There is significant interest in a new product class. This is shared by consumers, dealers, and industry press.

# Coming soon…

- A commercial integrated GPS/WAAS/Loran receiver using H field antenna in a single housing  (power in, data out)

- The initial product is intended to serve legacy users

- It will be software upgradeable

- Publicly available in Mar-Apr 2005

- Manufacturing cost supports end-user pricing of less than $1,000

# Remember, It's Not About

# Summary

- A market exists today for Loran C receivers

- Two major barriers we have been facing are performance and price

- A positive policy decision will certainly help in making markets, but is not necessary in meeting the market.

- The key component in the policy decision is not the "if", but the "what for"