

Lessons Learned From Engaging International Markets ***Success with Satellite-Based Augmentation Systems***

Steve Moran

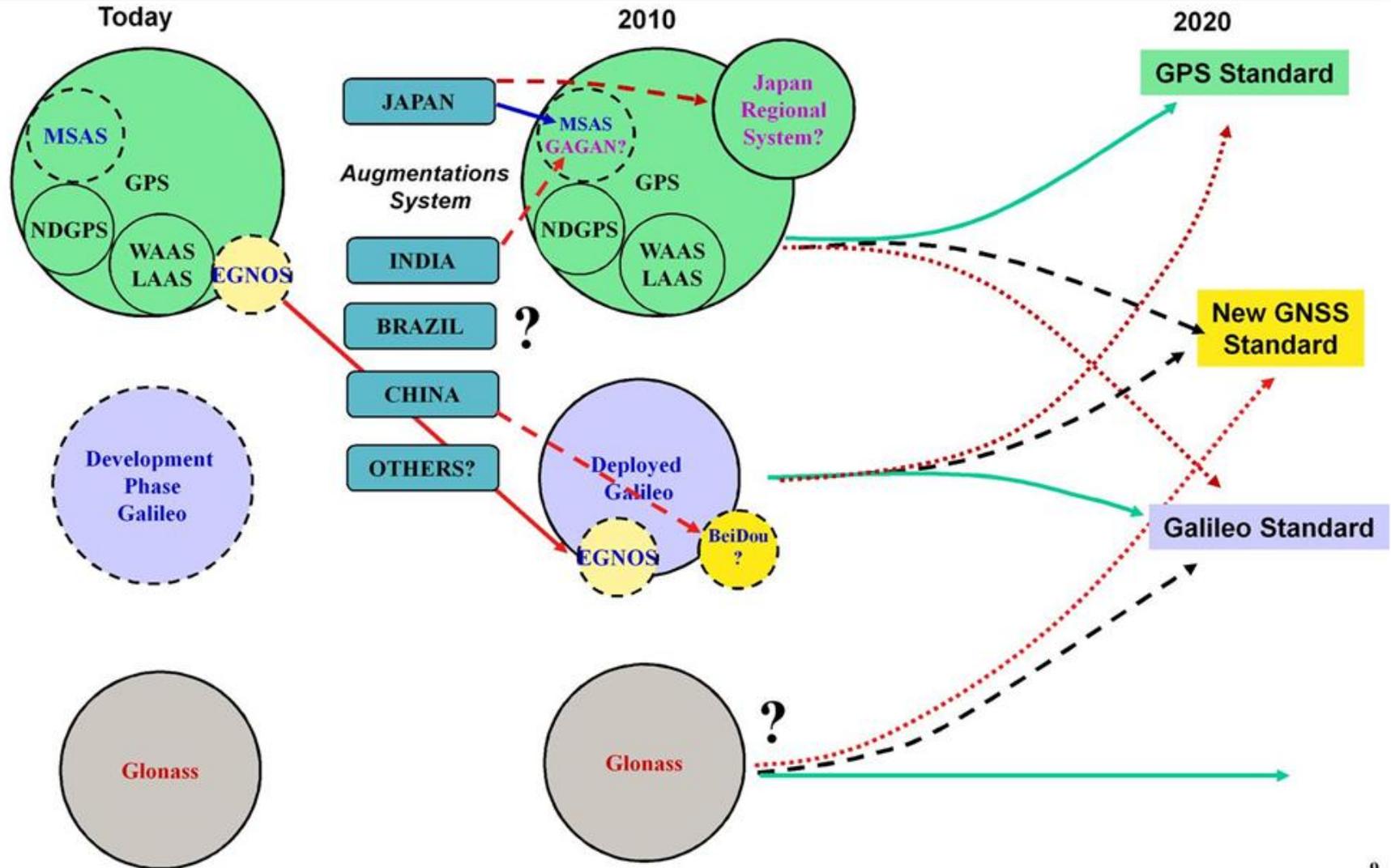
Director, Space & Environmental Mission Solutions

Raytheon Intelligence & Information Systems

October 14, 2010

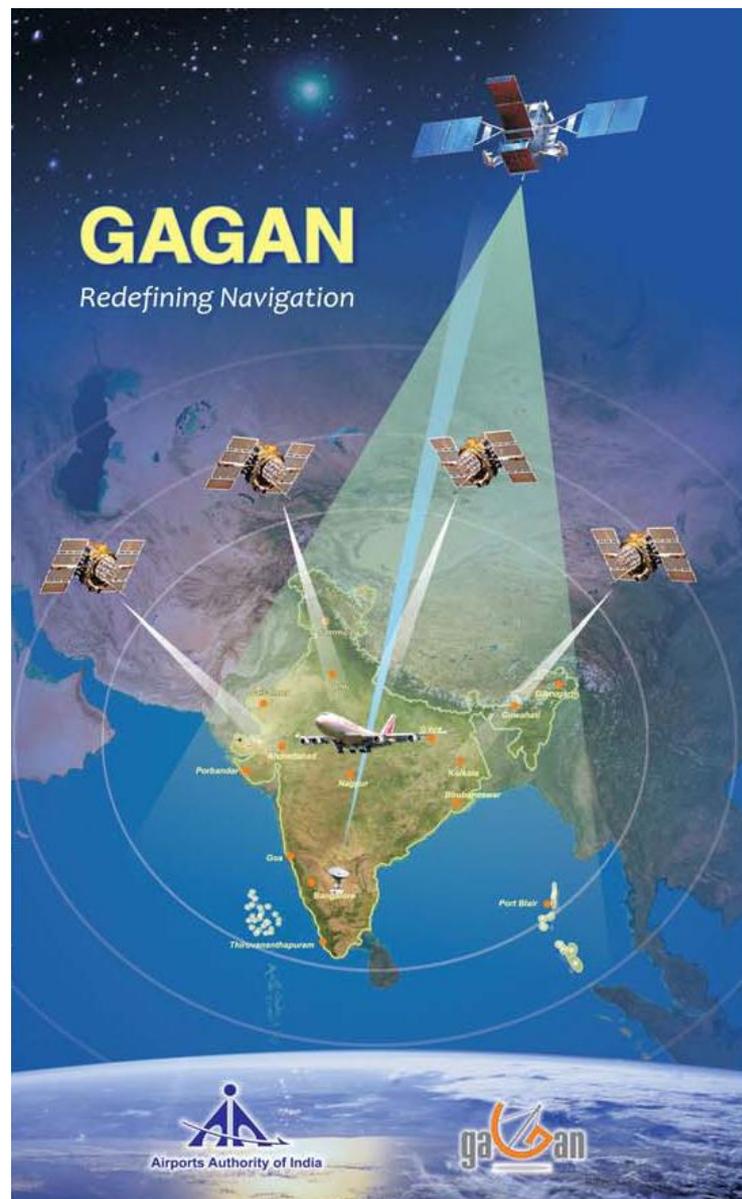
Possible civil GNSS futures

ASSUMES THAT USG WILL MAINTAIN A MILITARY CAPABILITY



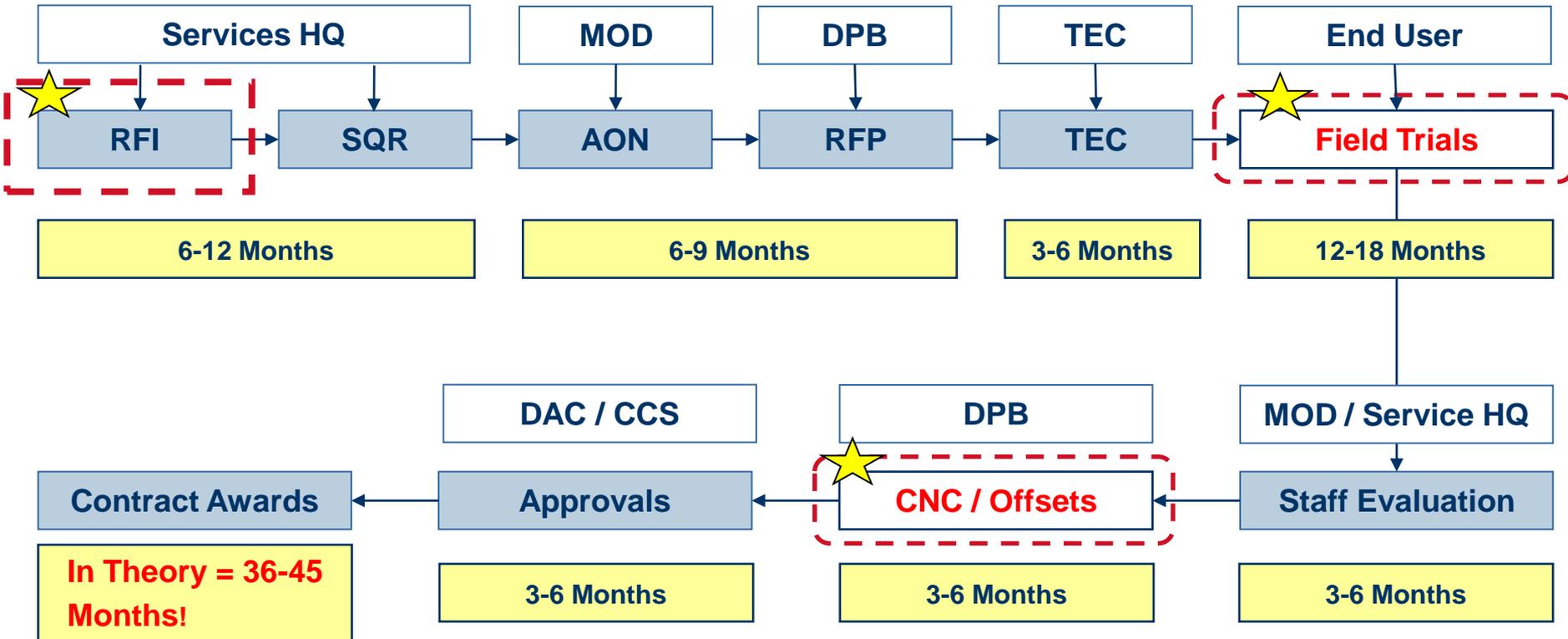
What will determine the future?

GPS Aided GEO Augmented Navigation System (GAGAN)



- Joint program with Indian Space Research Organization (ISRO) and Airports Authority of India (AAI)
 - 15 Reference Stations
 - 3 Uplink Stations
 - 3 Mission Control Centers
 - 3 GEO Navigation Payloads
- Competition: Thales/Alcatel
- GAGAN Technology Demonstration System (TDS) contract awarded to Raytheon April 2004
- GAGAN Final Operation Phase (FOP) contract awarded to Raytheon July 2009

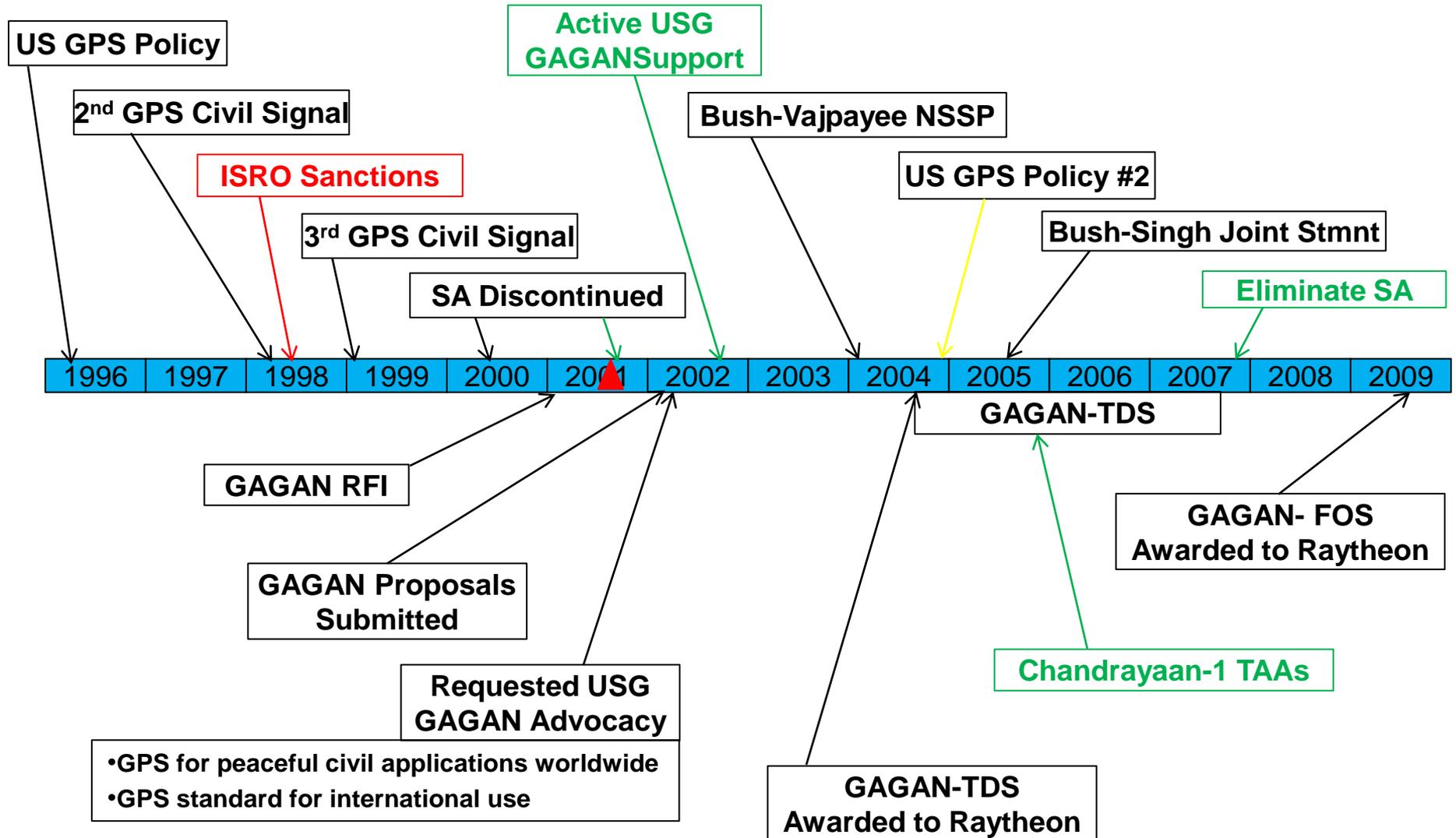
International Aerospace-Defense Procurement Process



- New procurement process offers a more consultative approach to industry
- Government to Government links still important!
- Procurement more focused on fulfilling equipment needs
- Still some work to do to make the process more agile

 *Key Areas to Influence*

US Policy and GAGAN Acquisition



Summary

- **India is seeking reliable and committed defense and security suppliers** – *There is currently a political incentive to work with U.S. firms, but India will not necessarily do so. Non-US competitors currently outperform U.S. companies in “early” demonstrated commitment and presence.*
- **Technology Transfer** – *India is very sensitive to developing in-country capabilities to sustain and maintain products. They want leapfrog technology at the lowest price and will use international competitions to get it.*
- **Technology Transfer** – *There is an ongoing shift toward development of a modern private aerospace-defense sector (e.g., ISRO-Antrix, DRDO-BEL)*
- **Relationship** – *India is very focused on long term presence and visible investment.*