

US – EU Cooperation

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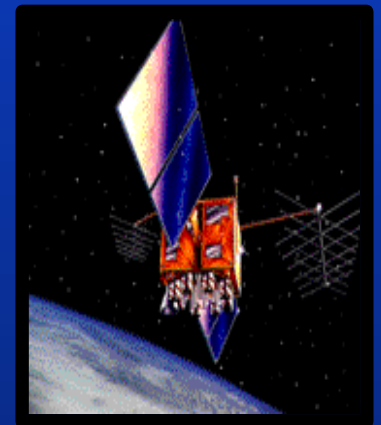
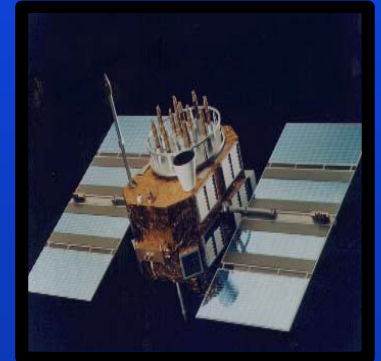
Agenda

- **GPS Services**
- **Galileo Services**
- **GPS-Galileo**
 - **Issues and Positions**

GPS Constellation Status

27 Operating Satellites
(to ensure 24)

- **2 Block II satellites**
- **16 Block IIA satellites**
- **9 Block IIR satellites operational**
 - Modernizing up to 8 Block IIR satellites
 - Last launch: December 21, 2003 (PRN 22)
 - Next Launch: March 20, 2004 (GPS IIR-11)
- **Continuously assessing constellation health to determine launch need**
- **Global civil service performance commitment has been met continuously since Dec 93**



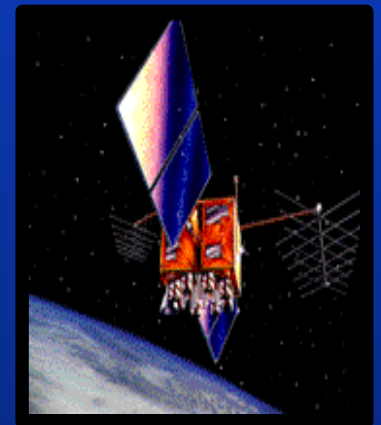
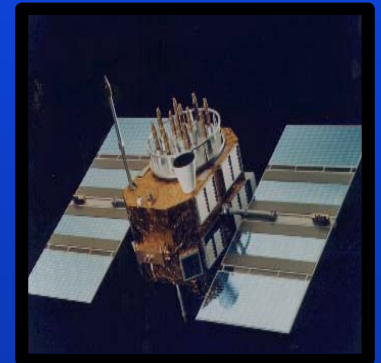
GPS Policy Summary

- **GPS plays a key role in the global information infrastructure and takes seriously the responsibility to provide the best possible service to civil and commercial users worldwide both in times of conflict as well as peace.**
- **Efforts will be made to prevent hostile use of GPS and its augmentations while retaining a military advantage in a theater of operations *without* disrupting or degrading civilian uses outside the theater of operations.**
- **GPS will continue to be available as an invaluable global utility at all times, while at the same time, protecting U.S. and coalition security requirements.**

Proposed Galileo Constellation

30 Operating Satellites

- **3 Circular Orbits**
- **56° Inclination**
- **23,600 km altitude (MEO)**
- **Development Period (2002-2005)**
- **Deployment (2006-2007)**
- **Operations (2008)**



Galileo Services (I)

- **Open Service**
 - Mass-market applications
- **Commercial Service**
 - Value added services for a fee (encrypted)
- **Safety-of-life Service**
 - Safety critical applications, high level of integrity (encrypted, fee [?])

Galileo Services (II)

- **Public Regulated Service**
 - **Governmental use (encrypted)**
- **Search and Rescue**
 - **COSPAS/SARSAT**

GPS SatNav Cooperation

- **U.S. supports Galileo and QZSS - recognizes benefits for civil users if systems are compatible and interoperable**
 - Wants cooperation to lead to best GNSS system of systems
- **U.S. and E.C. have been working towards a mutually acceptable framework agreement on cooperation**
 - Signal structures that satisfy security concerns and provide best possible service to civil users
 - Potential common open signal at L1
- **U.S. and Japan have held numerous technical meetings on GPS-QZSS**
 - Strong cooperation developing compatible/interoperable systems

GPS-Galileo Cooperation: US Position

- **The U.S. Government remains committed to achieving a successful and mutually beneficial outcome in ongoing discussions with the European Union and EU Member States regarding GPS-Galileo cooperation**
 - **A successful outcome requires resolving a number of issues, including security issues that are of common interest to the United States, NATO, and all members of the European Union**

Compatibility and Interoperability

- **GPS-Galileo compatibility**
 - not cause degradation for users
- **GPS-Galileo interoperability**
 - provide improved performance compared to stand alone system
- **Bring greatest benefit to users**
 - More satellites visible -- use any combination to derive a solution
 - Cheaper receivers
 - Receiver Autonomous Integrity Monitoring
- **Goal – Seamless worldwide service for all civil and commercial users**

Latest GPS-Galileo Cooperation Status

- Latest round of negotiations was held 24-25 FEB 04 in Brussels
- Delegations built upon the progress made earlier in January
- Agreement was reached on most of the principles of GPS/Galileo Cooperation
- Several issues still remaining to be resolved
- Next meeting will be end of March

Some Areas of Cooperation

- **GPS and Galileo intend to transmit a common open signal for civil users from both the Galileo satellites and the future generation of GPS satellites, known as GPS III**
- **Galileo's signal structure will not degrade the navigation warfare capabilities of U.S. and NATO military forces**
- **Reached a common understanding on the objective of nondiscrimination in trade in satellite navigation goods and services**

Summary

- **GPS is a key component of the global information infrastructure**
- **U.S. intends to continue to provide GPS service free of direct user fees to users worldwide**
- **Consistent U.S. principles has led to GPS standardization and market growth**
- **GPS modernization is under way**
- **Continuing international outreach to further understanding of GPS, its augmentations, and its applications**
- **Compatibility/Interoperability for the benefit of users worldwide**
- **Working to ensure cooperation for GNSS of the future**