



GSC – US Coast Guard Navigation Center (NAVCEN) Cooperation

Prague, November 2014

European GNSS Agency (GSA)
US Coast Guard Navigation Center (NAVCEN)





European
Global Navigation
Satellite Systems
Agency

The centres: GSC and NAVCEN



European GNSS Service Centre (GSC)

- The GSC is the single interface for users of the Galileo:
 - Open Service (**OS**) and Commercial Service (**CS**)
- GSC Nucleus (GSC-n) is the precursor of the fully fledged GSC, and it is conceived as an integral part of the European GNSS infrastructure
- GSC-n basic functionalities: dedicated **Helpdesk**, publication of Notice Advisory to Galileo Users and management of the GSC-n **web portal**
- **GSC v1** (first fully fledged version) is being developed in parallel to support, amongst other, the dissemination of commercial data through a real-time interface
 - The GSC is under GSA management.

<http://www.gsc-europa.eu>



US Coast Guard Navigation Center (NAVCEN)

- Primary support node to non-aviation and **non-military civil/commercial users** with GPS issues.
- Coordination with the GPSOC (2nd Space Operations Squadron's GPS Operations Center) for problem reports or inquiries analysis requiring in-depth or specific knowledge
- Service operation and information provision that enhances the **safety, security, and efficiency of U.S. waterways and civil GPS users.**
- Serves as the **U.S. focal point** for implementation of **e-Navigation.**

Sources: <http://www.navcen.uscg.gov/>
<http://www.insidegnss.com/node/802>



GSC-NAVCEN cooperation undertaken within an established frame

EU-US bilateral cooperation agreement:

Establishing the principles for the cooperation activities between the United States of America and the European Union in the field of satellite navigation.

The GPS-Galileo Agreement established 4 working groups for cooperation on:

- A. Radio frequency compatibility and interoperability;
- B. Trade and civil applications;
- C. Design and development of the next generation of systems; and**
- D. Security issues related to GPS and Galileo.

EC-GSA Exploitation Delegation Agreement:

EC delegates the Galileo Service Provision to the GSA as an initial step towards the full Galileo Exploitation Phase. The agreement provides a framework and budget for the development of services and operations.





GSC-n – NAVCEN cooperation



Cooperation Channel

Operational Points of Contact:

European GNSS Service Centre Nucleus (GSC-n)

OS Helpdesk

helpdesk@gsc-europa.eu

+34 91520 6568 / 6567

US Coast Navigation Center (NAVCEN)

Navigation Information Services

TIS-PF-NISWS@uscg.mil

+01 703 313 59305900

Operational cooperation:

- ✓ The GSC-n is collaborating with the US Coast Navigation Center (NAVCEN) to **report requests and incidents reported from users**
- ✓ GSC-n web portal will point to the US Coast Navigation Center site so that users interested in GPS may check the GPS system status
- ✓ NAVCEN website will point to GSC-n web portal so that GPS users may check the relevant Galileo information



User requests cooperation procedure

Nature of request	Request to GSC-n	Request to NAVCEN
Concerning Galileo	GSC-n internal	Forward to GSC-n for further treatment and notify user
Concerning GPS	Forward to NAVCEN for further treatment and notify user	NAVCEN internal
Concerning Galileo and GPS	Requiring input	Requiring input
	GSC-n to collect answer on GPS part from NAVCEN and reply in a consolidated manner	NAVCEN to collect answer on Galileo part from GSC-n and reply in a consolidated manner
	NOT Requiring input	NOT Requiring input
	GSC-n to reply to user and forward to NAVCEN for information	NAVCEN to reply to user and forward to GSC-n for information
Concerning joint services or compatibility issues between GPS and Galileo	GSC-n to consolidate proposed reply with NAVCEN and reply to user	NAVCEN to consolidate proposed reply with GSC-n and reply to user

Incidents reporting cooperation procedure

Two scenarios have been identified

GPS NAVCEN receives an incident report concerning the Galileo system

- GPS NAVCEN POC forwards the incident report to the GSC-n POC via email
- NAVCEN informs the user that the incident has been forwarded to GSC-n
- GSC-n registers and treats the incident internally following established procedures
- GSC-n replies to the user accordingly

GSC-n receives an incident report concerning GPS

- GSC-n PoC forwards the incident to GPS NAVCEN PoC via email
- GSC-n informs the user that the incident is forwarded to NAVCEN
- NAVCEN registers and treats the incident internally following established procedures
- NAVCEN replies to the user accordingly



Possible further operational interfaces with similar Service Centres already operational in other regions



BEIDOU

<http://en.beidou.gov.cn/index.html>



GLONASS

<http://glonass-iac.ru/en/>



QZSS

<http://www.qzs.jp/en/services/index.html>



IRNSS

<http://www.isro.org/satellites/irnss.aspx>

PNT Providers: Public Contact Information



Beidou



**China Satellite Navigation Office (CSNO)
Test and Assessment Research Center (TARC)**

BEIDOU
<http://en.beidou.gov.cn/index.html>

Location: Beijing, xxx, China
Phone:



PNT Providers: Public Contact Information



Galileo



European GNSS Agency - Galileo Service Center

GALILEO

<http://www.gsc-europa.eu/>

GALILEO CONSTELLATION STATUS

<http://www.gsc-europa.eu/system-status/Constellation-Information>

GALILEO HELP DESK

<http://www.gsc-europa.eu/helpdesk/contact-form>

Location: Madrid, xxx, Spain

Phone:



PNT Providers: Public Contact Information



GLONASS



Roscosmos GLONASS Analysis/Information Center

GLONASS

<http://glonass-iac.ru/en/>

GLONASS CONSTELLATION STATUS

<http://glonass-iac.ru/en/GLONASS/>

GLONASS REPORT A PROBLEM

<http://glonass-iac.ru/en/feedback/report3.php>

Location: Moscow, Russian Federation

Phone:



PNT Providers: Public Contact Information



GPS



GPS, U.S. Coast Guard Navigation Center

GPS

<http://www.navcen.uscg.gov/>

CONSTELLATION STATUS

<http://www.navcen.uscg.gov/?Do=constellationStatus>

INQUIRIES/PROBLEM REPORTS

<http://www.navcen.uscg.gov/?pageName=gpsUserInput>

Location: Alexandria, Virginia, USA

Phone: 1-703-313-5900



PNT Providers: Public Contact Information



IRNSS

The Indian Space Research Organization (ISRO) Navigation Centre

IRNSS

<http://www.isro.org/satellites/irnss.aspx>

Location: xxx, xxx, India

Phone:



PNT Providers: Public Contact Information



QZSS



QZSS

<http://www.qzs.jp/en/services/index.html>

QZSS INQUIRIES

<https://www.qzs.jp/en/inquiry/index.html>

Location: xxx, xxx, Japan

Phone:





THANK YOU

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NACVEN PoC:

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