



**Asia-Pacific
Economic Cooperation**

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**Draft Strategy for the Adoption of Measures to
Include Global Navigation Satellite Systems
Technologies in the Development of Seamless
Transportation Systems 2010 – 2015**

Purpose: Consideration

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APEC
PHILIPPINES
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**Global Navigation Satellite Systems
Implementation Team Meeting
Jeju, Korea
27-28 May 2015**

Asia Pacific Economic Cooperation Global Navigation Satellite System Implementation Team

Responding to the call of Ministers responsible for transportation in the APEC region, who recently met in Manila, the Philippines to continue the progress of work designed to achieve safe, secure and efficient transportation networks as well as realize the primary goals of free and open trade and liberalized investment in the region;

Interested in providing the APEC region with seamless and environmentally friendly transportation systems through innovation and use of advanced technology;

Desiring to reduce congestion, enhance transport safety and security and achieve effective sustainability;

Noting that the Ministers called for the enhancement of seamless interconnectivity of the different modes within the transportation system to ensure safe, secure and efficient movement of people and goods while improving the conservation of natural resources and reducing environmental impacts such as the effects of greenhouse gas emissions; and

Noting that satellite-based position, navigation, and timing services can serve as a critical infrastructure to enhance safety, security, sustainability and efficiency for all modes of transportation;

Emphasizing the belief that the development and implementation of selected integrated technologies are important to the successful management and operation of intermodal transportation, including Intelligent Transportation Systems (ITS) and Global Navigation Satellite Systems (GNSS);

Instructing the Working Groups to include activities addressing the ITS and the GNSS, encouraging international standards development through liaison with the ISO, workforce development training and improved supply chain management processes in an energy and environmentally sustainable way, while building upon the work of relevant regional and international multilateral organizations and minimizing duplication of efforts;

Building upon the GNSS Technological Innovation Summit held in Bangkok in May 2008; and

Drawing upon the revised Terms of Reference adopted at the 13th meeting of the GNSS Implementation Team

We, the APEC GNSS Implementation Team, do hereby adopt the following strategy and action program for the 2010 - 2015 timeframe.

Strategy for the Adoption of Measures to include GNSS Technologies in the development of Seamless Transportation Systems 2010 – 2015

1. Introduction

The leading APEC economies are aware that inefficient and congested traffic systems adversely affect economic development. They are also aware that APEC members can benefit from the exchange of experiences and a more effective collaboration on the application of GNSS technologies to the existing and divided modes of transportation. The APEC GNSS Implementation Team should, therefore work together on developing mechanisms to identify solutions and play a proactive role in highlighting technological advances that can reduce congestion and emissions from outdated transport systems.

2. Existing Regional Policies and Instruments Guiding and Complementing the Strategy

Following the principles established by the APEC in the definition of its actions, this strategy will be based on reinforcing alliances and partnerships and promoting joint actions with existing organizations.

2.1 Local Instruments (within each economy)

The APEC economies count on mechanisms established for application of advanced technology to traffic management. These mechanisms are extremely diverse among different economies, a factor to take permanently into account. The institutional responsibilities of the civil air, road, maritime and rail bodies and institutions are not the same.

The APEC GNSS Implementation Team is identified by this differentiated and complementary character to these mechanisms and establishes adaptability and flexibility as principles of its action.

2.2 Multilateral Organizations

- World Bank
- Inter-American Development Bank
- Asian Development Bank
- United Nations Development Program
- International Committee on Global Navigation Satellite Systems
- International Civil Aviation Organization
- International Maritime Organization
- International Standards Organization
- International Telecommunication Union

2.4. International non-government organizations

- International Association of the Institutes of Navigation
- International Symposium on Certification of GNSS Systems and Services

- International Federation of Surveyors
- International GNSS Service
- International Astronomical Union
- International Association of Geodesy
- World ITS Congress

3. Preliminary Strategic lines

The APEC structure for action is based on the promotion of three strategic lines which define its identity and distinguishes it from other regional initiatives:

- ❖ Technical and Economic Cooperation
- ❖ Trade and Investment Liberalization
- ❖ Trade Facilitation

The main objective focuses on the importance and need of cooperation to apply GNSS solutions through the exchange of information and the scaling up of capacities among APEC member economies.

The revised Terms of Reference for the APEC GNSS Implementation Team call for:

- 1) **Facilitate Global Navigation Satellite System (GNSS) applications to support seamless intermodal transportation** to enhance safety, security, and sustainability in line with the APEC Transportation Ministerial Directives
- 2) **Identify actions to facilitate and collaborate on implementations of GNSS applications for transportation in the APEC region**, complementing, but not duplicating, the work of the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO), and the International Committee on GNSS (ICG)
- 3) **Provide a public/industry forum** to address GNSS technologies related to transportation issues that will benefit the APEC region (including non-APEC economies and international organizations)

4. Strategic Initiatives

4.1 Facilitate Global Navigation Satellite System (GNSS) applications to support seamless intermodal transportation

In order to promote GNSS technologies, the GIT must identify users and providers; identify expert government and non-government actors in the field; use opportunities to advise users of GNSS capabilities; and share information on latest developments.

With this remark, the APEC GIT agrees on the following strategic initiatives:

Initiative 1: Identify GNSS points of contact along with experts from government and non-government organizations within each economy.

Initiative 2: Collaborate with Aviation, Maritime and Land Expert Groups on the applications of GNSS technologies for seamless intermodal transportation system, including the request of

Maritime Expert Group to explore the capability of Automatic Identification Systems (AIS) and the benefits for maritime situational awareness.

Initiative 3: Facilitate research and development to identify operational performance requirements (e.g. accuracy, integrity, availability and continuity) for applications in all modes of transport.

Initiative 4: Identify training needs and educational opportunities in the APEC region regarding GNSS technologies for all modes of transportation.

Initiative 5: Enhance the APEC GIT website, hosted by the Republic of Korea, to provide all APEC economies an opportunity to share developments on GNSS activities and share this information to the public to enhance visibility and educational outreach activities.

Initiative 6: Seek APEC funding to host a GNSS booth at future APEC Transportation Ministerial meetings and develop a documentary on the uses of GNSS in APEC economies.

4.2 Identify actions to facilitate and collaborate on implementations of GNSS applications for transportation in the APEC region

In order to identify actions to facilitate GNSS implementation in the APEC region within the framework of a regional approach, the APEC GIT, in line of the APEC Guiding Principle, seek to complement but not duplicate the work of the ICG, ICAO or the IMO.

With this remark, the APEC GIT agrees on the following strategic initiatives:

Initiative 1: Identify potential human capacity building projects regarding GNSS technologies and implementations to enhance technical capabilities of member economies.

Initiative 2: Collaborate with ICG, ICAO and IMO to explore possibilities of supporting their GNSS activities.

Initiative 3: Collaborate with ICAO, IMO and other international organizations to facilitate the establishment of regional RAIM prediction and GNSS signal monitoring service for the APEC region.

Initiative 4: Collaborate with ICAO, IMO and other international organizations to facilitate the establishment of regional augmentation systems capability to support ICAO Assembly Resolution on Approach with Vertical Guidance (APV), and possible expansion of the use of GNSS augmentation systems for all modes of transportation.

4.3 Public/Industry Forum

In order to promote GNSS technologies the APEC GIT should provide a public/industry forum to gather all stakeholders' input. This input has been considered a critical component to ensure successful operations and implementations of GNSS.

With this remark, the APEC GIT agrees on the following strategic initiatives:

Initiative 1: Enhance two-way communication channels among government, academics and industry to gather stakeholders' perspective and requirements and best practices for GNSS infrastructure and applications.

Initiative 2: Solicit industry input by developing a questionnaire to submit to the APEC Business Advisory Council to identify applications, users and impediments of GNSS technology in the Asia-Pacific region.

Initiative 3: Follow up to the success of the APEC GNSS Technological Innovation Summit, to seek funding and resources to conduct educational and industrial seminars/conferences on GNSS technologies.