



**Asia-Pacific  
Economic Cooperation**

---

**2015/TPTWG41/IEG-GIT/007**

## **Korea Satellite-Based Augmentation Systems Program**

Purpose: Information  
Submitted by: Korea



**APEC**  
PHILIPPINES  
2 0 1 5

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

# APEC TPT-WG41

TRANSPORTATION WORKING GROUP MEETING 41

26-29 MAY 2015



# Korea SBAS Program

GI WOOK NAM



## Contents

- Overview of KASS Program
- Overview of KASS Development

KASS : Korea Augmentation Satellite System



**APEC TPT-WG41**

TRANSPORTATION WORKING GROUP MEETING 41

26-29 MAY 2015

## Brief History of KASS Program

### History

2013.08

Government decision to undertake the Korean SBAS (K-SBAS) program

2013.12

Basic Research of K-SBAS (2013.12 ~ 2014.06)

- 2013.12 : Visit Foreign Major SBAS Company (TAS)
- 2014.04 : Visit Foreign Major SBAS Company (RTN)
- 2014.06 : The Research Report was submitted to Korean Government
- 2014.09 : RFP for K-SBAS announced

2014.10

Selection as General Manager for K-SBAS Program (Dr. Nam)

2014.12

K-SBAS Program Office (KPO) established and named as KASS



## Outline of KASS Program

### Goal

**Development of SBAS to meet ICAO Standard**

### 2 Main Project

1

KASS development for APV-I SoL service  
(2014~)

2

R&D for CAT-I Technology  
(2017~)

### Period

2014 ~ 2022 (8 years, 3 phases)

1<sup>st</sup> Phase (Oct. 2014 ~ Jun. 2017) : Design and Implement

2<sup>nd</sup> Phase (Jul. 2017 ~ Jun. 2019) : Integrate and Evaluate

3<sup>rd</sup> Phase (Jul. 2019 ~ Oct. 2022) : Preliminary Operation, Open Service, SoL Preparation

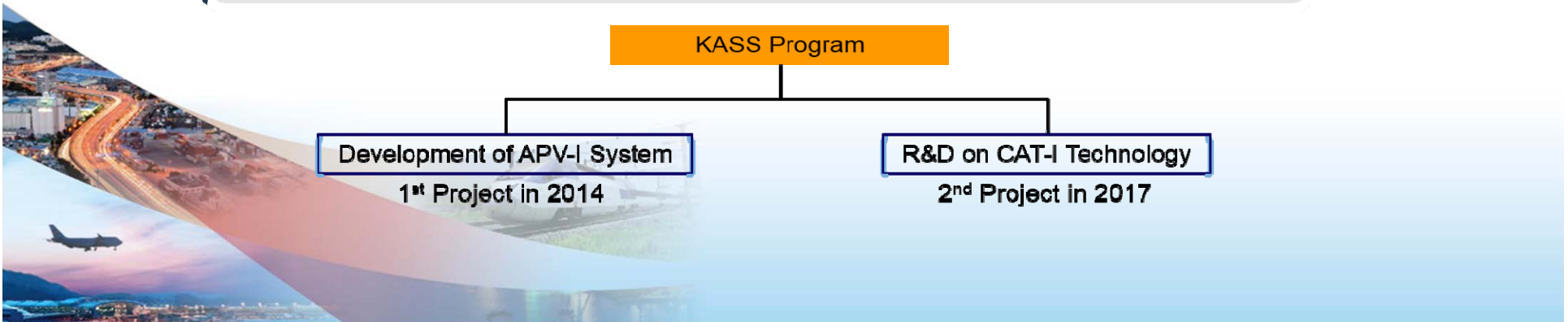
KASS Program

Development of APV-I System

1<sup>st</sup> Project in 2014

R&D on CAT-I Technology

2<sup>nd</sup> Project in 2017



## Performance Goal of KASS Program

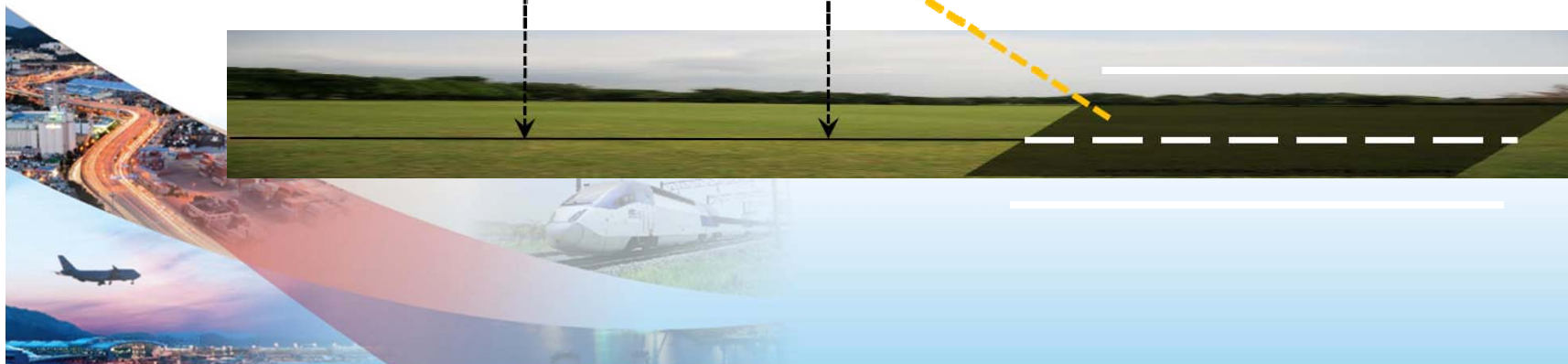


- **1<sup>st</sup> Project : KASS development for APV-I SoL service**

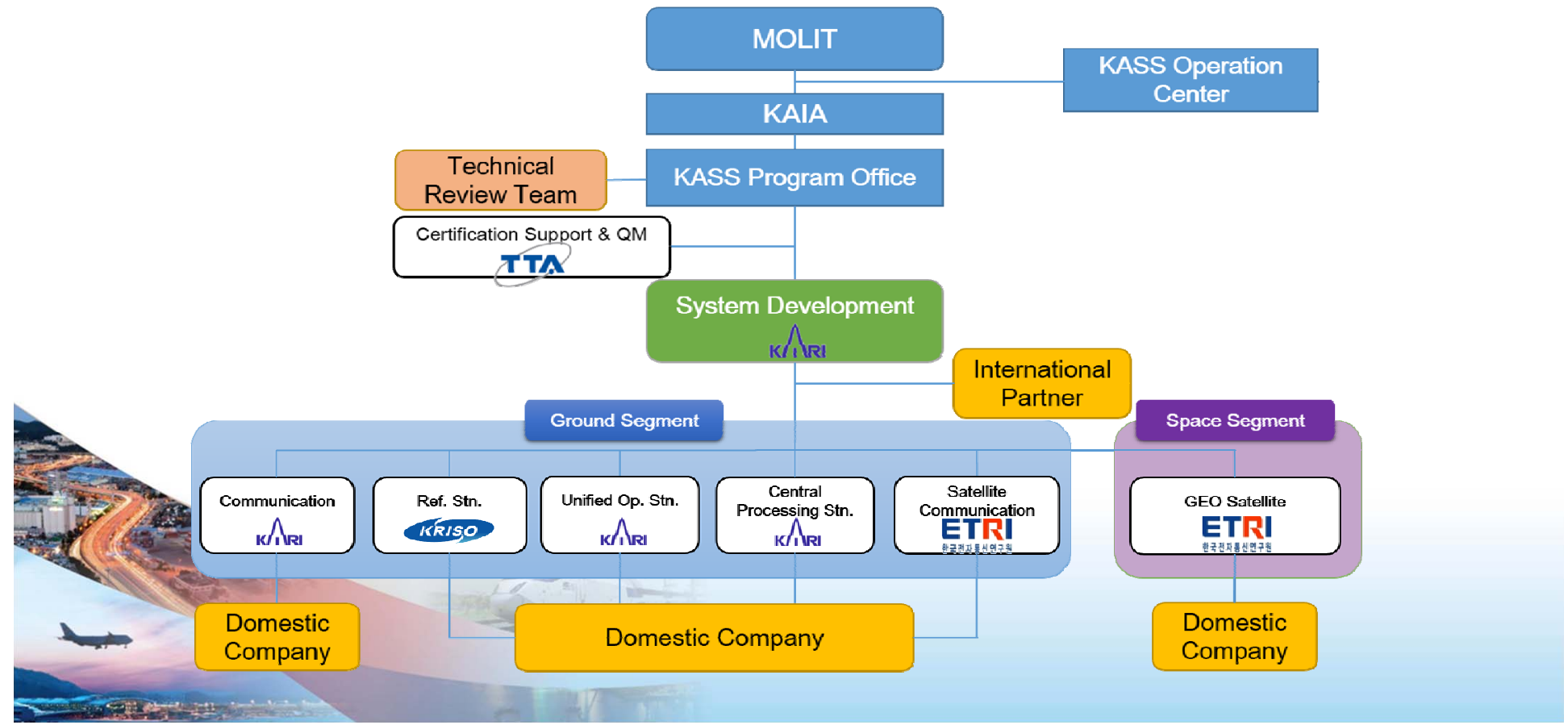
**APV-I** { Provide APV-I SoL Service in the Korean Peninsula area  
Meet ICAO Standard (Annex 10)

- **2<sup>nd</sup> Project : R&D for CAT-I Technology**

**CAT-I** { Research CAT-I Technology  
Multi Frequency and Multi Constellation



## KASS Program Organization Structure



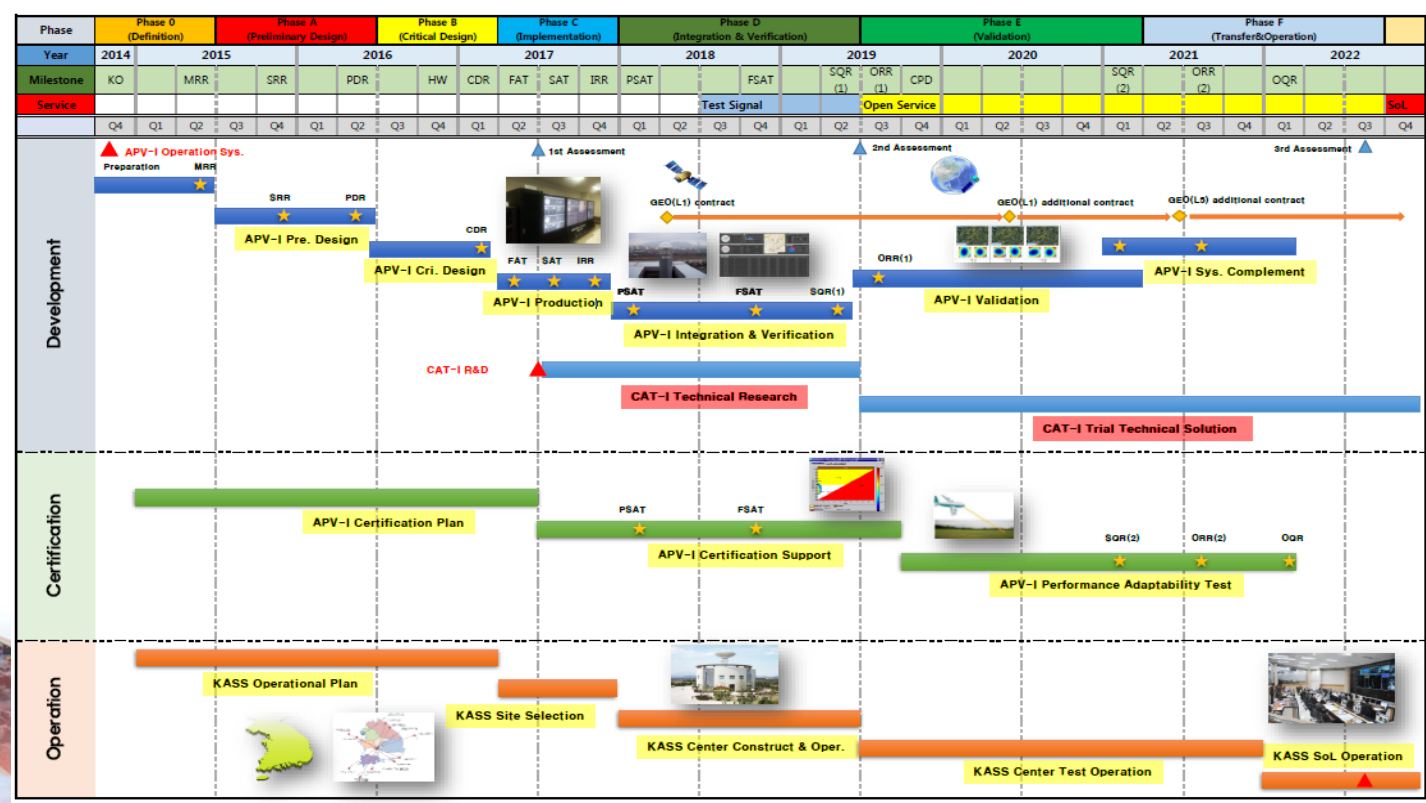
# APEC TPT-WG41

TRANSPORTATION WORKING GROUP MEETING 41

26-29 MAY 2015



## Total Road Map of KASS Program





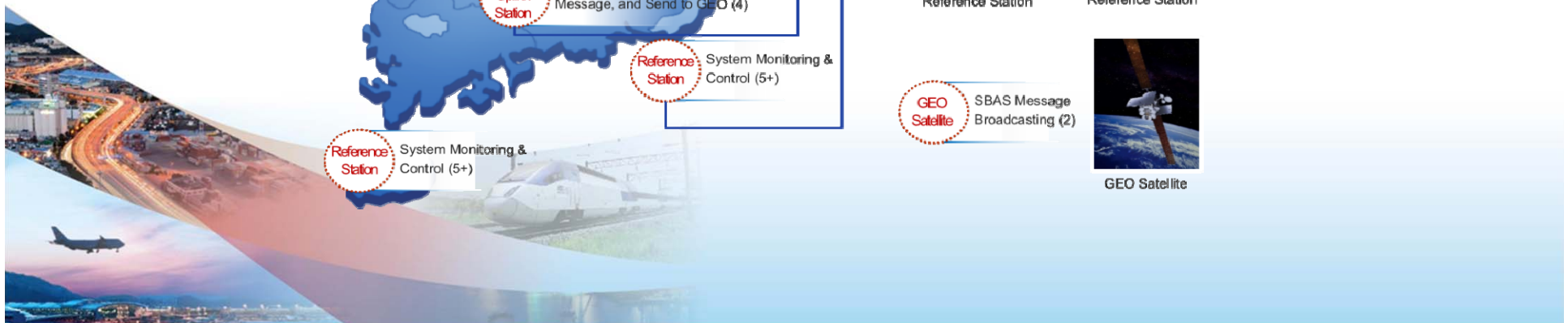
# APEC TPT-WG41

TRANSPORTATION WORKING GROUP MEETING 41

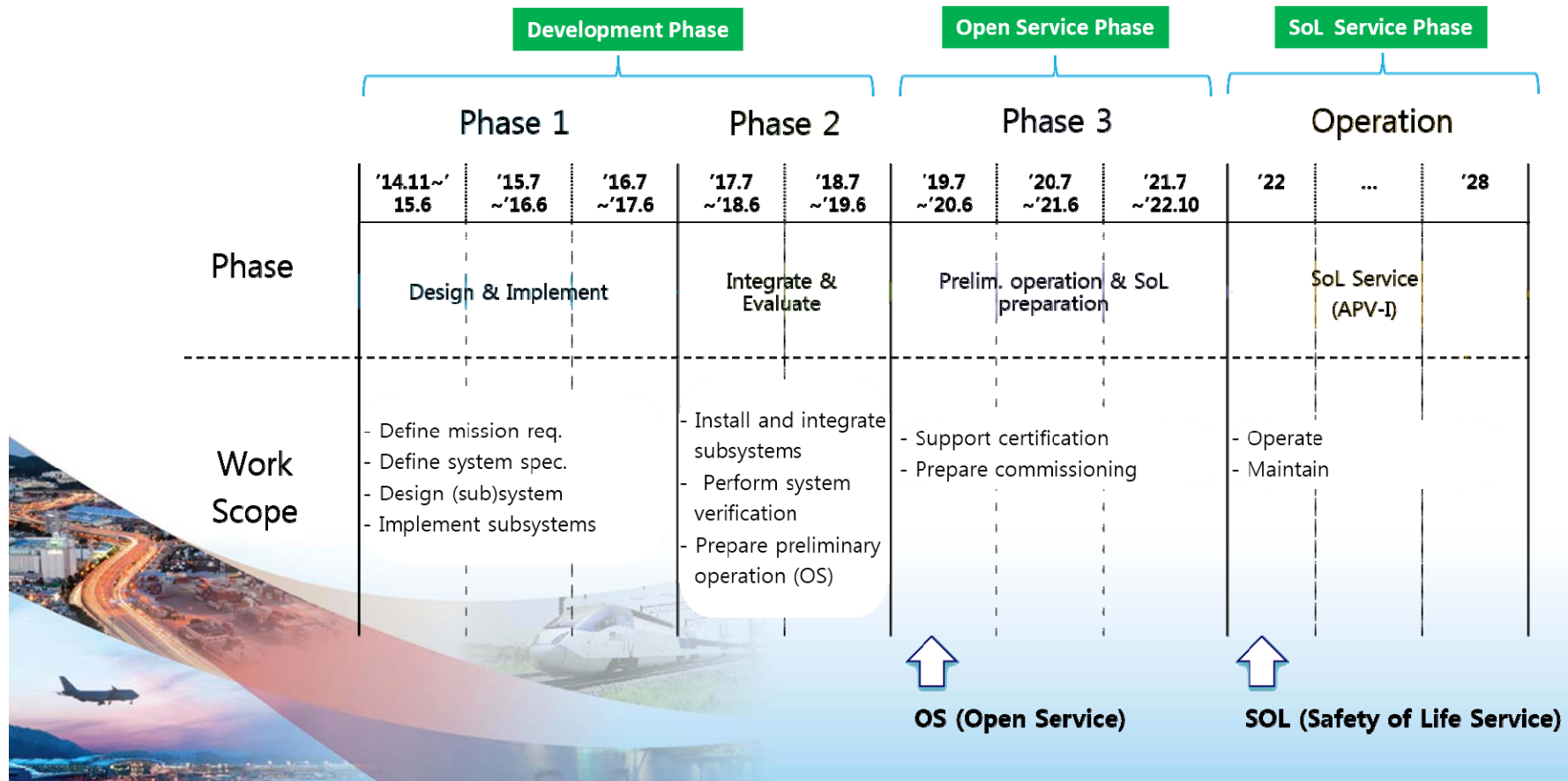
26-29 MAY 2015



## KASS APV-I System Architecture



## Total Plan of KASS Development

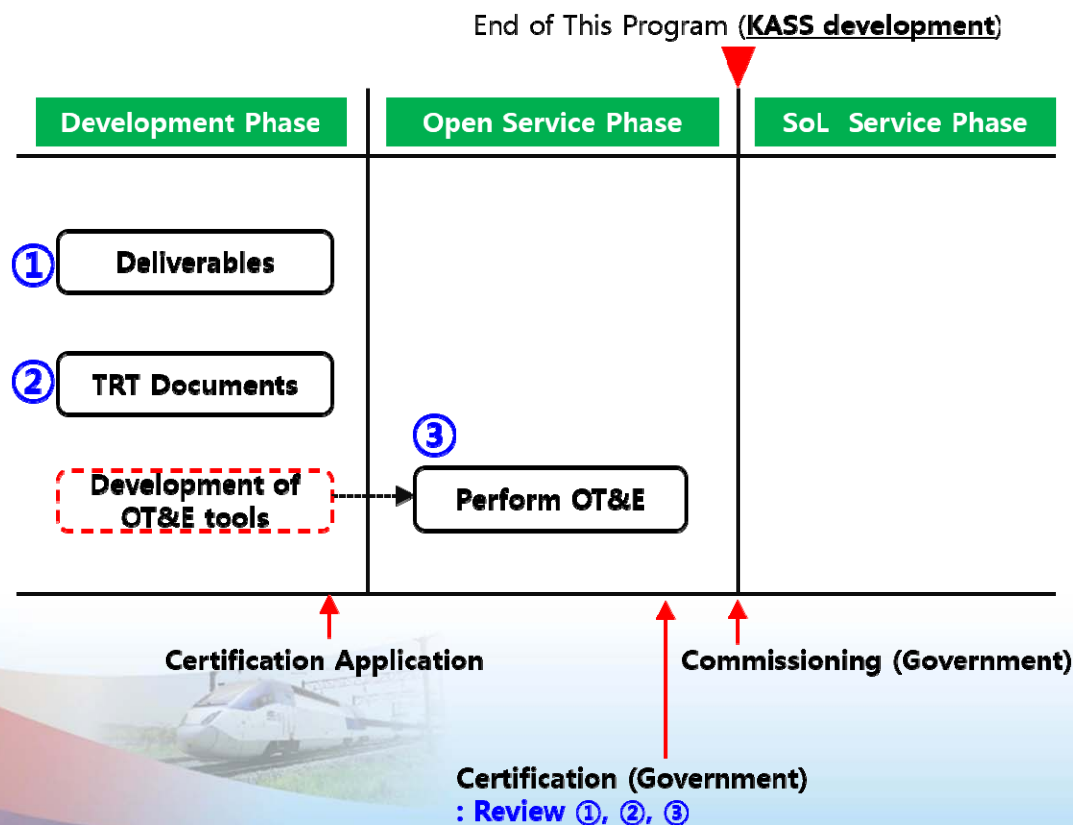


## Yearly Plan of KASS Development

Phase	Year	Period	Phase Objective	Year Objective	Project Product
1 <sup>st</sup>	1	'14.11. ~ '15.6.	Design & Implement	Produce Mission Requirement and Build Strategy for SBAS Development	System Performance Requirement, MRR
	2	'15.7. ~ '16.6.		System Requirement Review and System Preliminary Design	SRR, PDR, Selection of Domestic and International Collaboration
	3	'16.7. ~ '17.6.		System Critical Design and <b>Development</b>	CDR Sub-System Development
2 <sup>nd</sup>	4	'17.7. ~ '18.6.	Integrate & Evaluate	Install Sub-systems	TRR Install Sub-systems
	5	'18.7. ~ '19.6.		Integrate and Evaluate Total System	1 <sup>st</sup> SQR Integration and Test
3 <sup>rd</sup>	6	'19.7. ~ '20..	Prelim. operation & SoL preparation	<b>Start Open Service</b>	1 <sup>st</sup> ORR Open Service, Delivery (→ SBAS Center)
	7	'20.7. ~ '21.6.		Validate Open Service	2 <sup>nd</sup> SQR, 2 <sup>nd</sup> QRR
	8	'21.7. ~ '22.10.		<b>Support for SoL Commissioning, Support for SBAS Center</b>	OQR Commission Request

MRR (Mission Requirement Review) , SRR (System Requirement Review), PDR (Preliminary Design Review), CDR (Critical Design Review), TRR (Test Readiness Review) SQR (System Qualification Review), ORR (Operation Readiness Review), OQR (Operation Qualification Review), 1<sup>st</sup> : Open Service, 2<sup>nd</sup> : SoL (Safety of Life)

## Certification and Commission



## Near Term Plan of KASS Development

### International Collaboration

RFI

Negotiation with candidates (system specification & cost estimate)

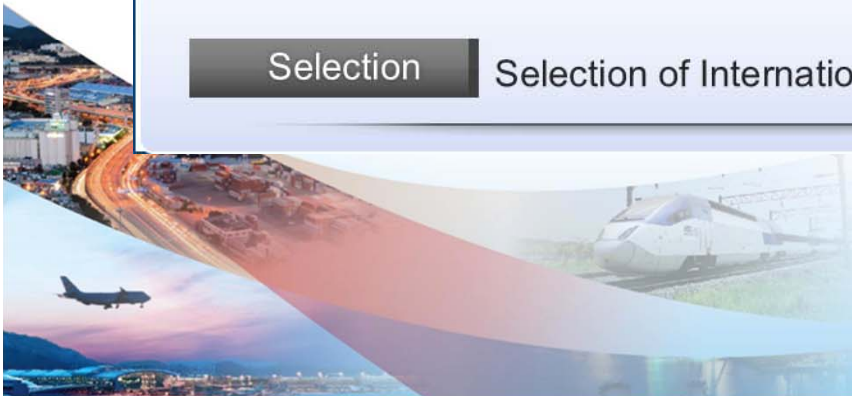
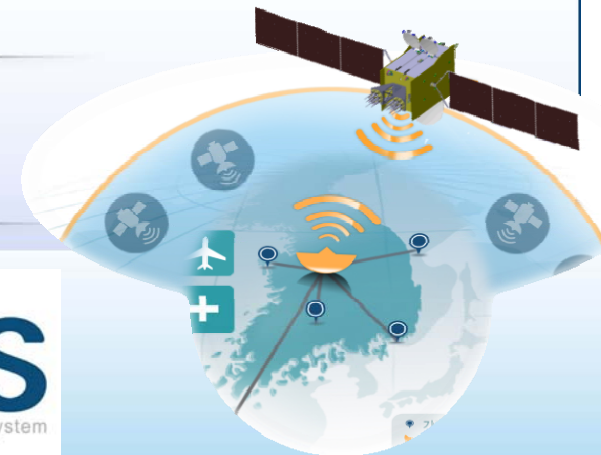
RFP

Final RFP August 2015

Selection

Selection of International System Vendor

  
Korea Augmentation Satellite System





# Thank you for your attention !



## APEC TPT-WG41

TRANSPORTATION WORKING GROUP MEETING 41

26-29 MAY 2015