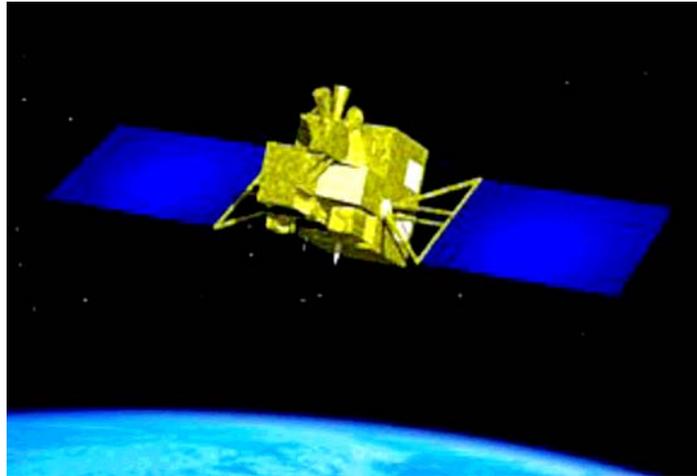


# Unique Potentiality of GOSAT ( **G**reenhouse Gas **O**bserving **S**atellite)



**October 23, 2006**

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**Chief Researcher, Japan Technology Information Center**



# GHG Observing Points



## Ground Stations (current)

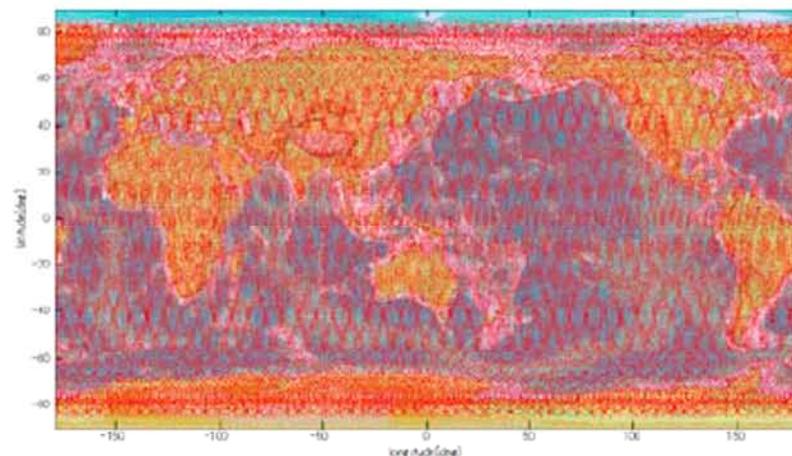


( By WMO WDCGG )

- 274 ground stations in the world.
- The observing data from these stations is distributed from WDCGG of WMO
- The number of stations is limited, and they exists unevenly in the world.

WDCGG: World Data Center for Greenhouse Gases  
WMO :World Meteorological Organization

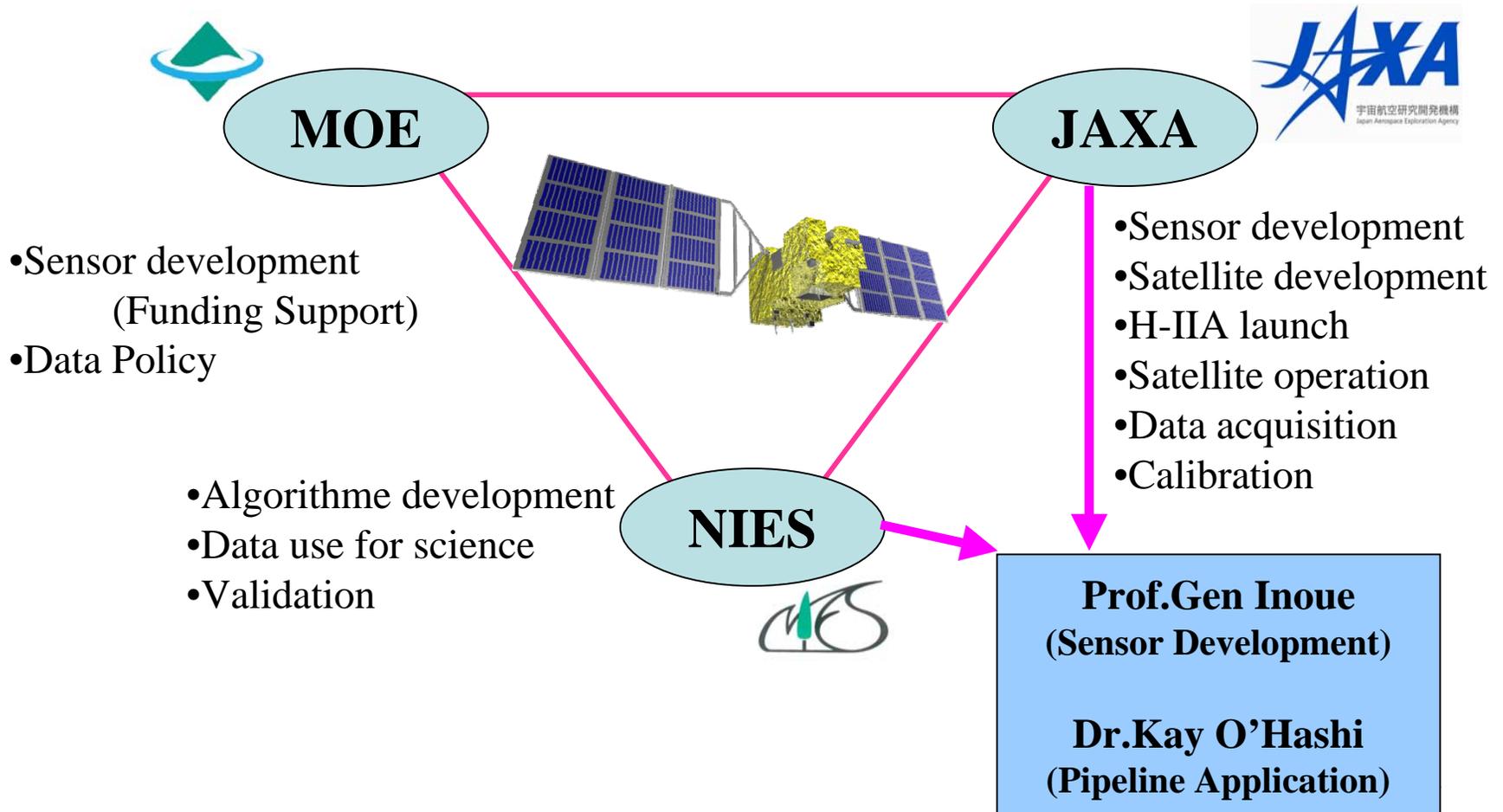
## From Space (GOSAT)



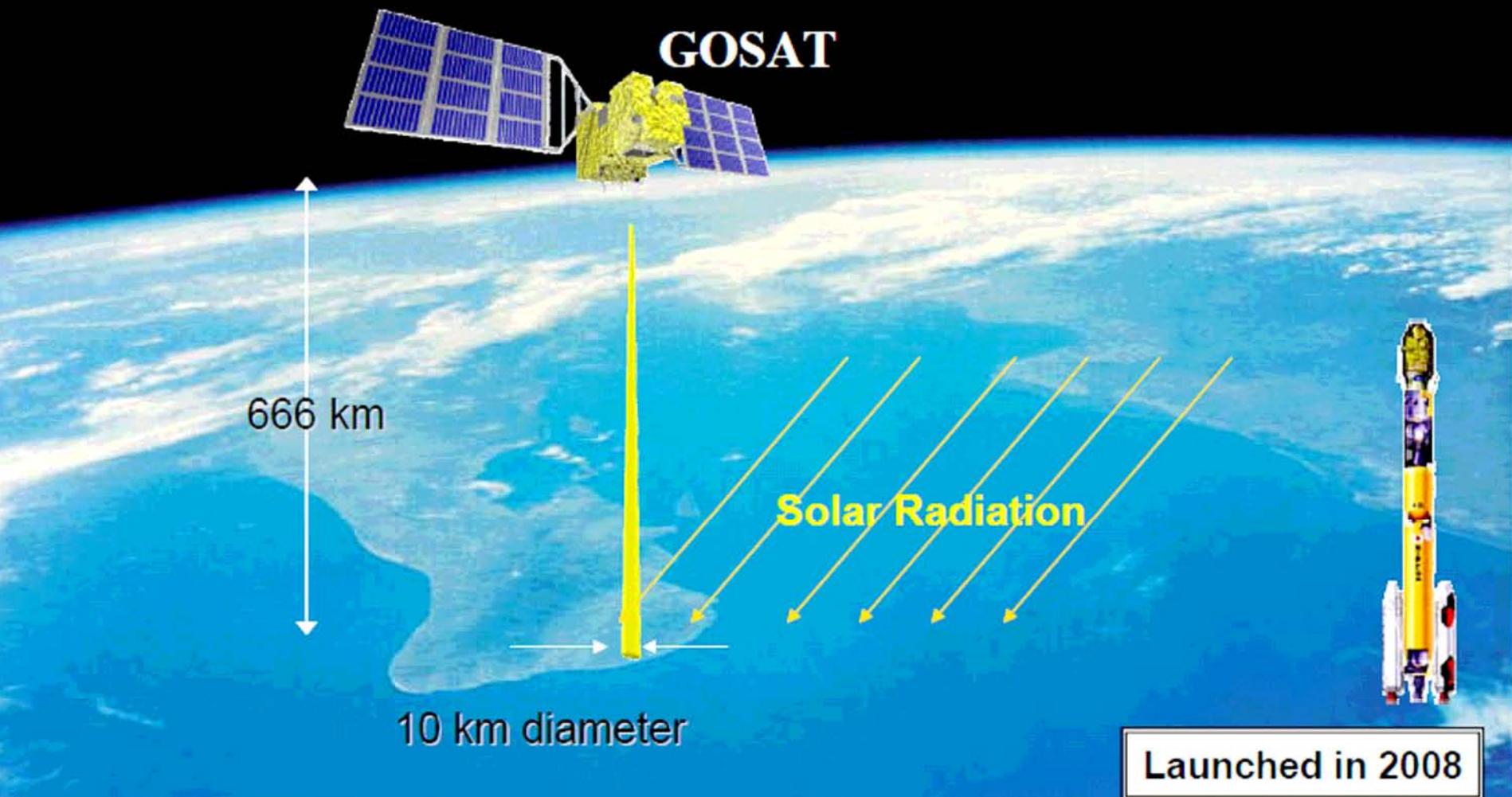
- Over 100,000 points per 3days
- Global and frequent observation with an single instrument

# Organization of GOSAT Project Promotion

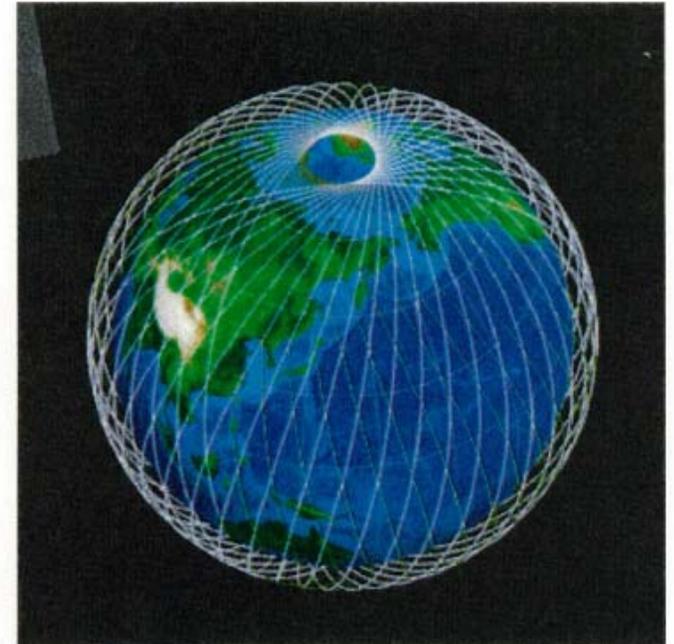
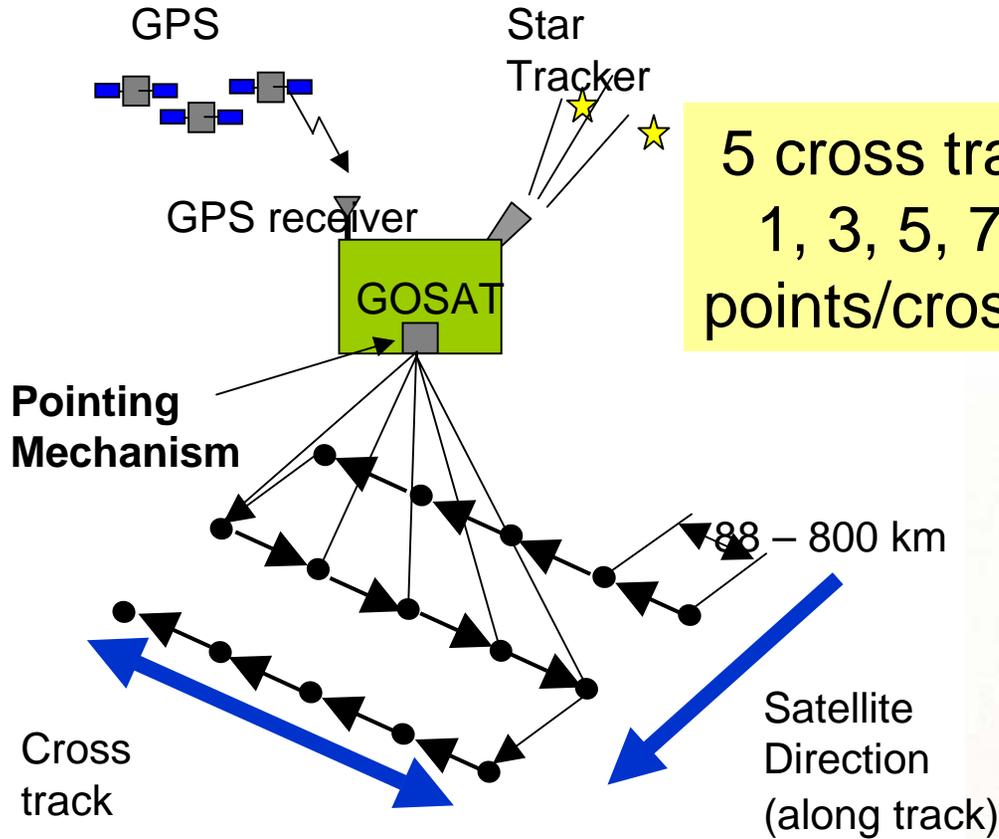
GOSAT is the joint project of **JAXA** (Japan Aerospace Exploration Agency), **MOE** (Ministry of the Environment) and **NIES** (National Institute for Environmental Studies).



# Image of GOSAT Observation



# The GOSAT Operation



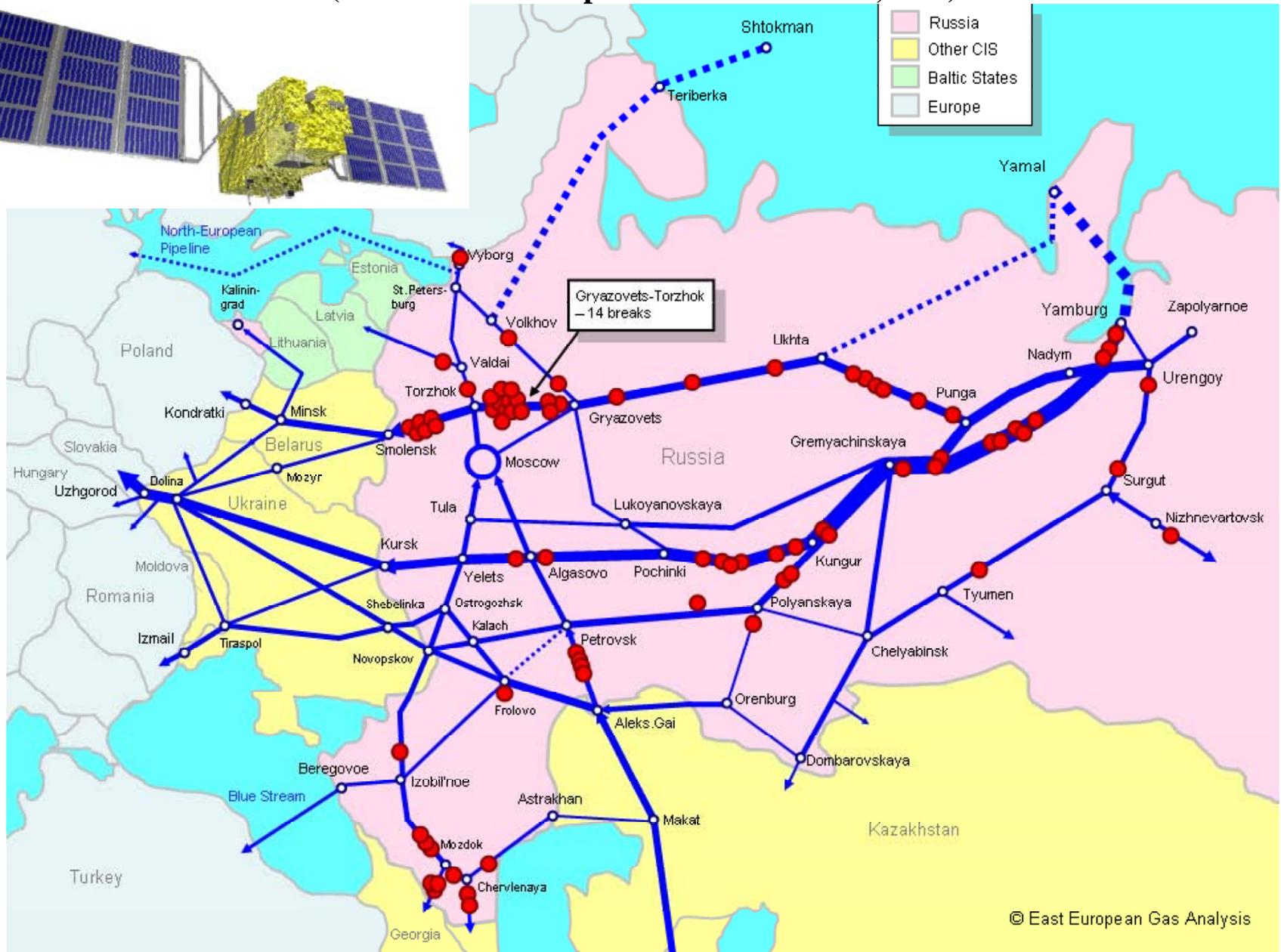
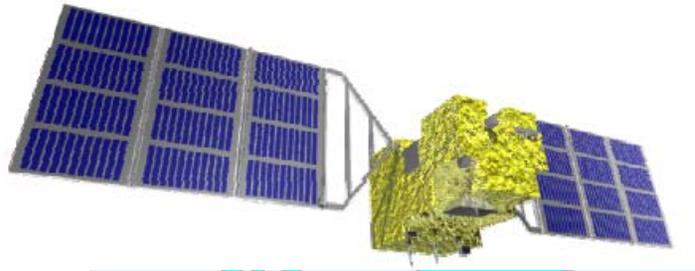
**Satellite orbit of GOSAT.**

The daytime active orbit is shown by white track.

# Future Potential Monitoring Target Area by GOSAT

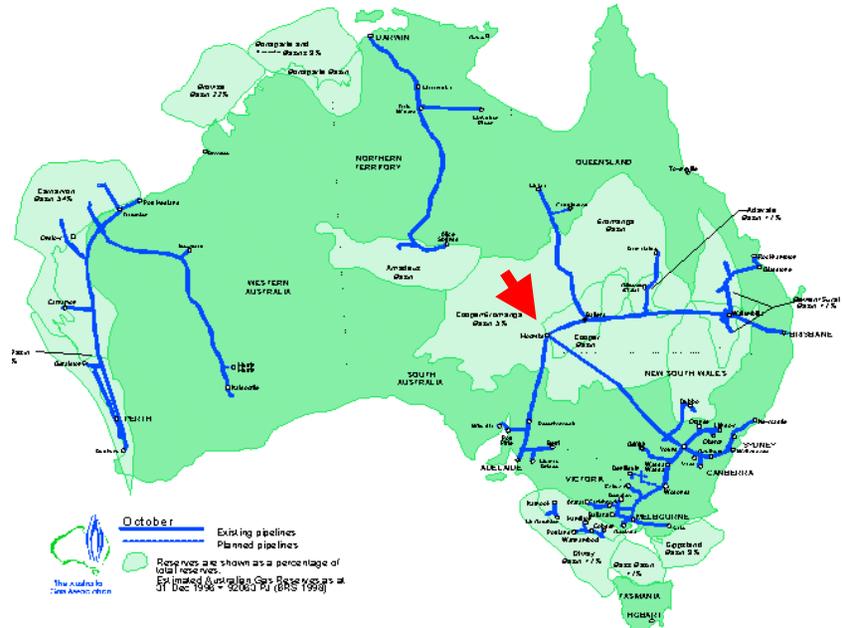
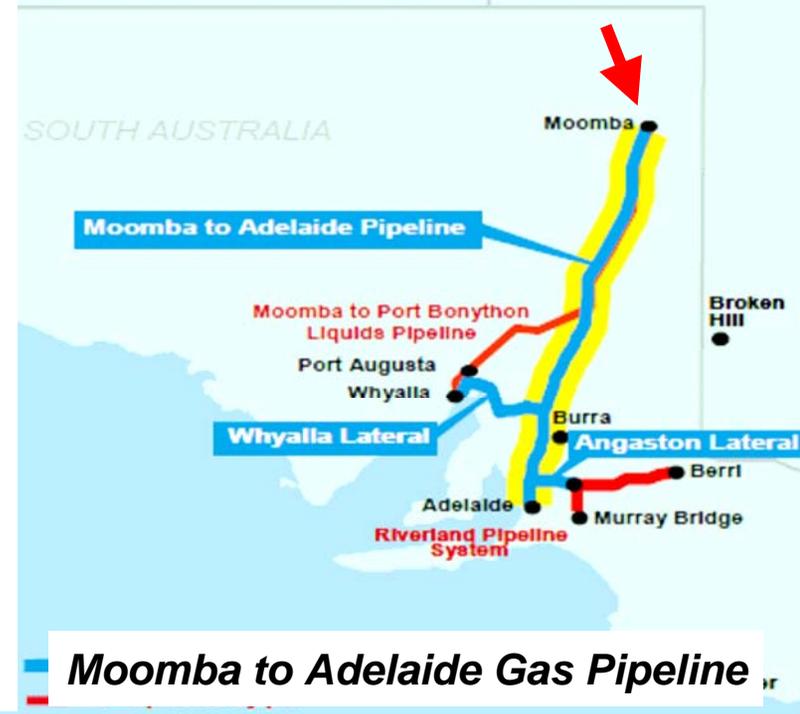
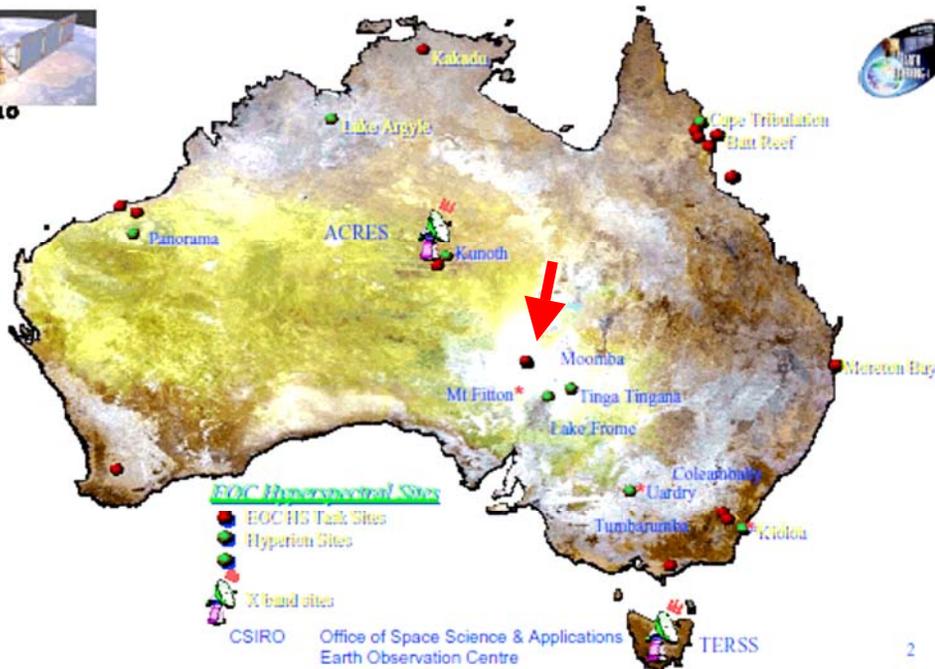
Burst place of Russian Natural Gas Pipeline Systems between 2000 and 2002

(Source:East European Gas Association,2004)



# 1st Sensor Calibration Test in Moomba, West Australia February ~ March, 2007

## CSIRO monitoring stations



# The concept of the natural gas pipeline leak detection system using GOSAT

Step-1: Pipeline leak observation

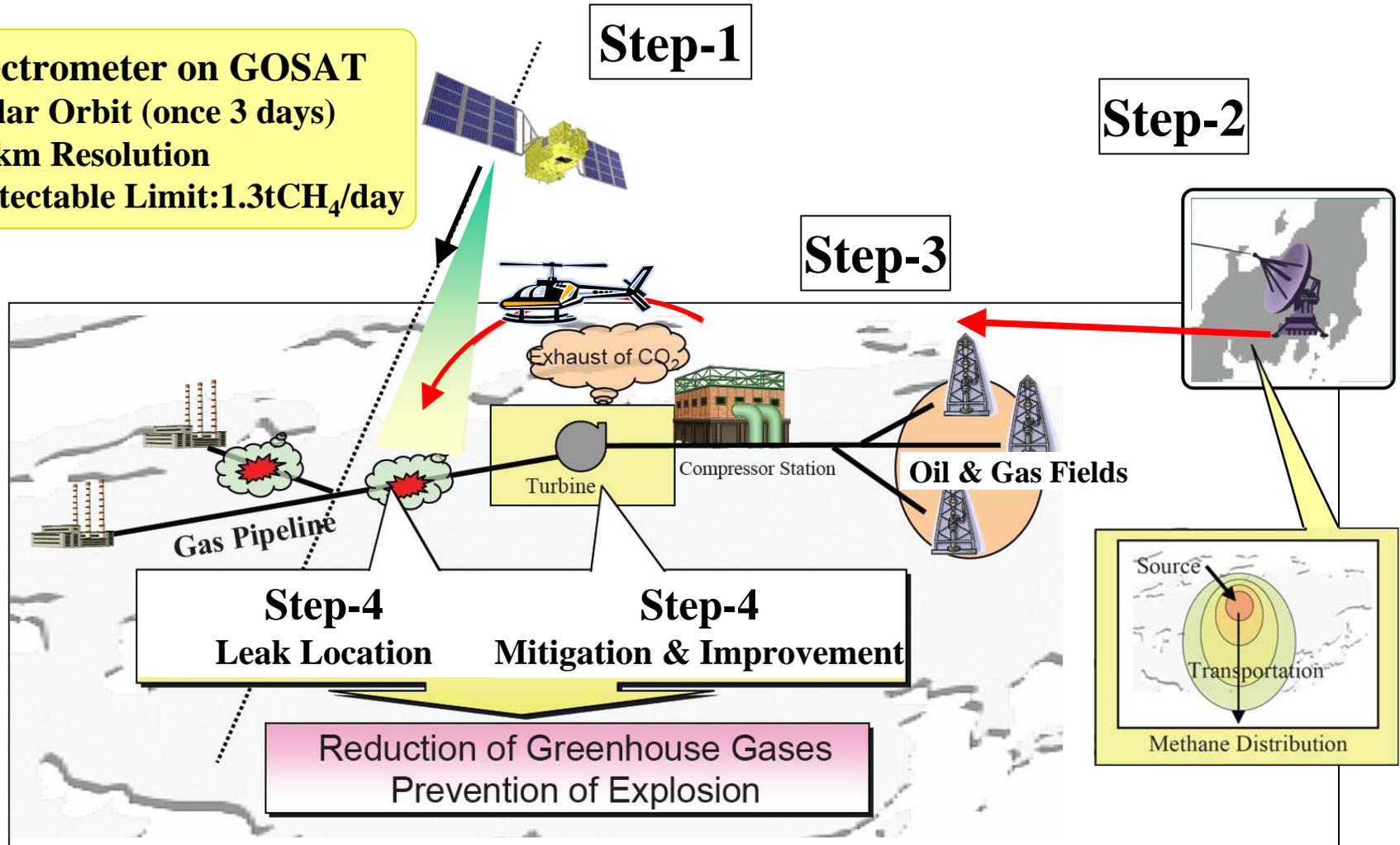
Step-2: Data transmission and analysis

Step-3: Ground exploration based on analysis results

Step-4: Mitigation & Improvement of problems

## Spectrometer on GOSAT

- Polar Orbit (once 3 days)
- 10km Resolution
- Detectable Limit: 1.3tCH<sub>4</sub>/day



# Contact Information

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