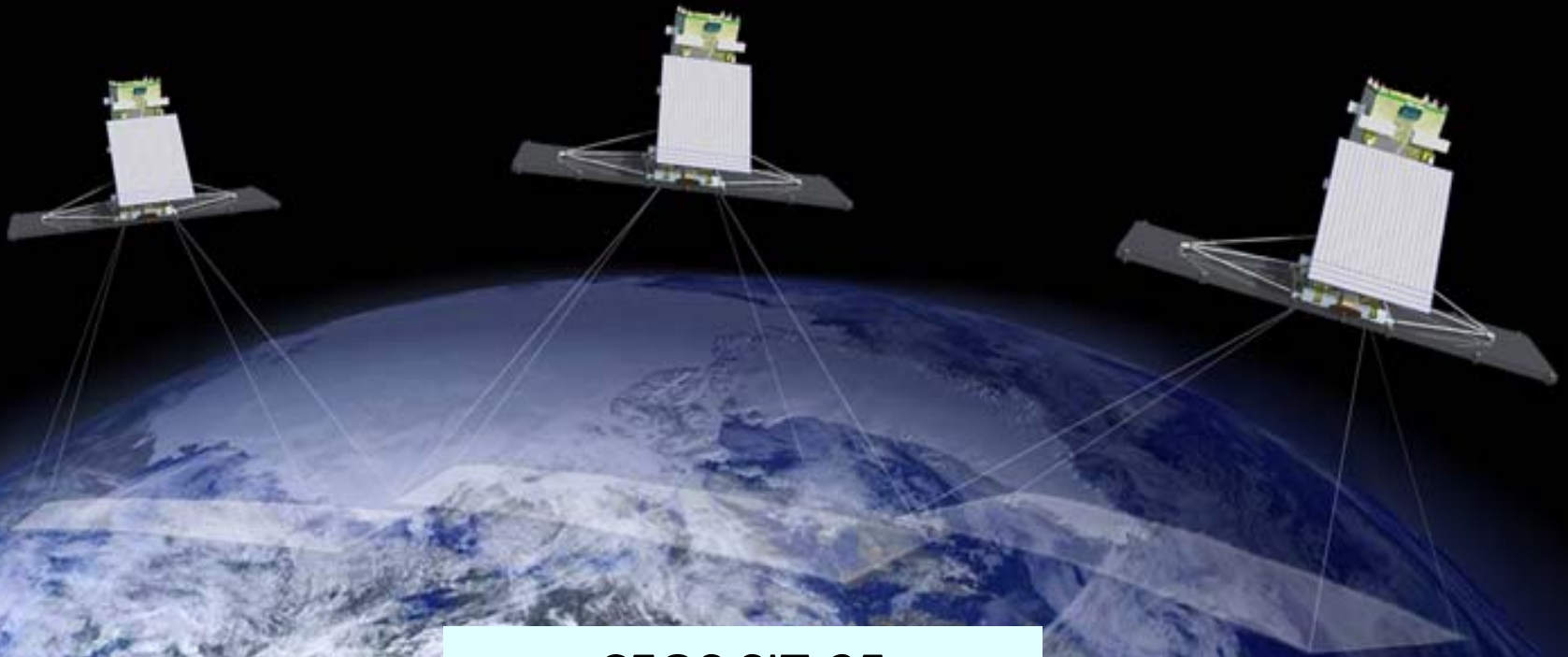


The RADARSAT Constellation Status



CEOS SIT-25
April 14, 2010
Guy Séguin for
Savi Sachdev
CSA

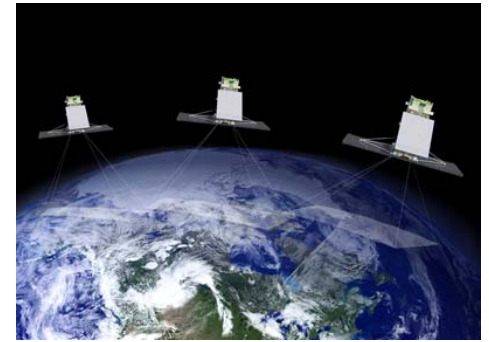


Canadian Space
Agency

Agence spatiale
canadienne

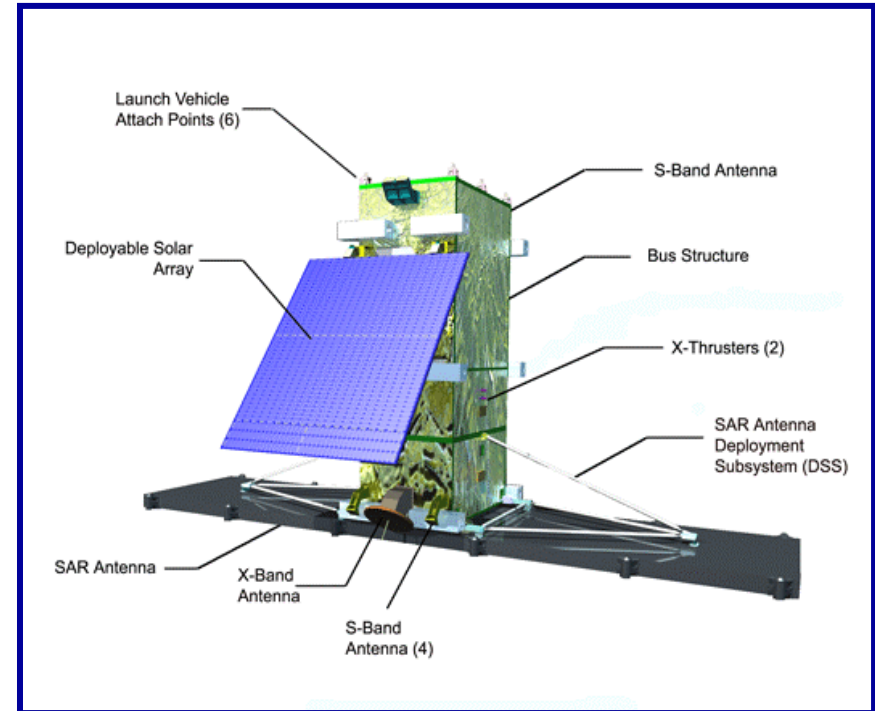
RADARSAT Constellation

- Three small-bus low cost SAR satellites to be launched from 2014 to 2016
- Owned and operated by the Canadian government
- Provide C-band data continuity to Government users
- Evolution of the RADARSAT Program:
 - Wider operational use
 - Six times increase in persistence of observations over Canada, compared to RADARSAT-1 and RADARSAT-2 missions
 - Wide coverage and daily revisit of Canada's land and waters and average daily global access
 - 4-day Coherent Change Detection using SAR Interferometry
- Major applications are Maritime Surveillance, Disaster Management and Ecosystem monitoring



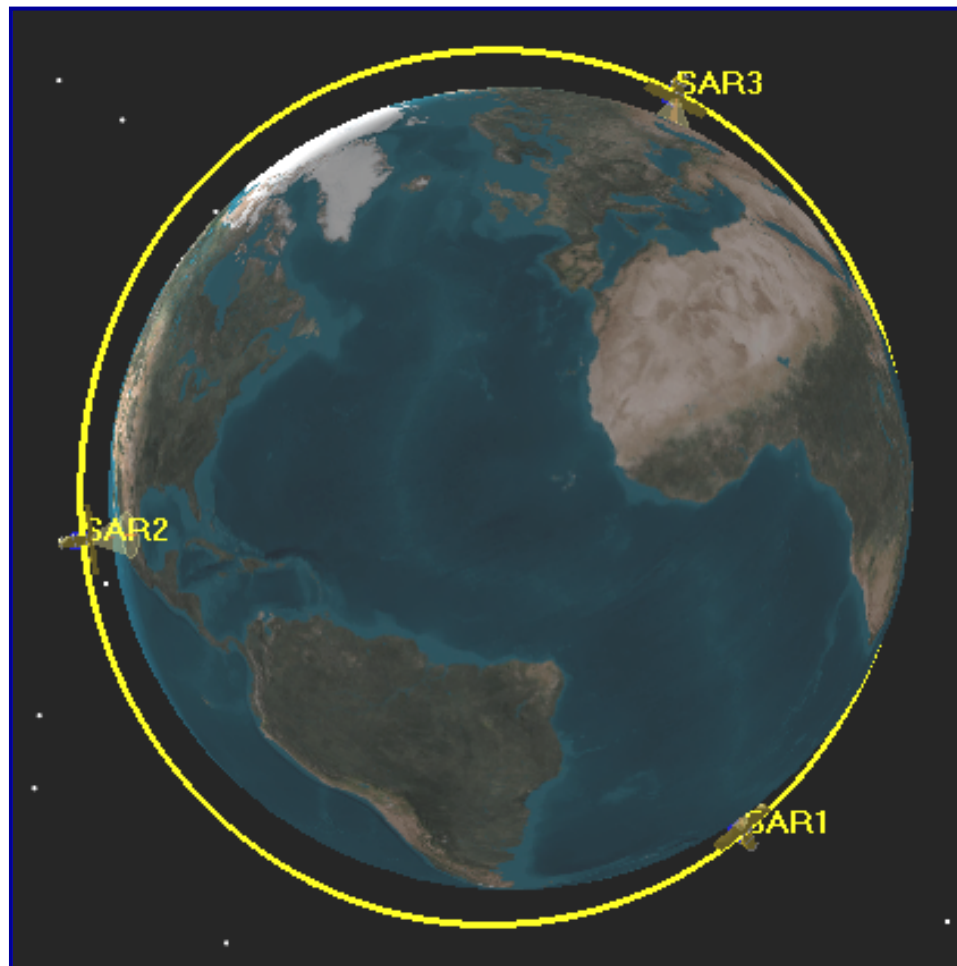
Spacecraft Concept

- Each of the Spacecraft in the constellation will consist of a Bus and two payloads:
- SAR payload will include a 9.45 m², 2-panel SAR antenna and will perform all imaging operations as well as store, encrypt and transmit the radar data.
- AIS (Automated Identification System) payload will gather information on ships in a wide swath larger than the accessible swath of the SAR.
- The Bus module will provide attitude and orbit control, power generation and storage, payload commands, telemetry, thermal control and the primary support structure.



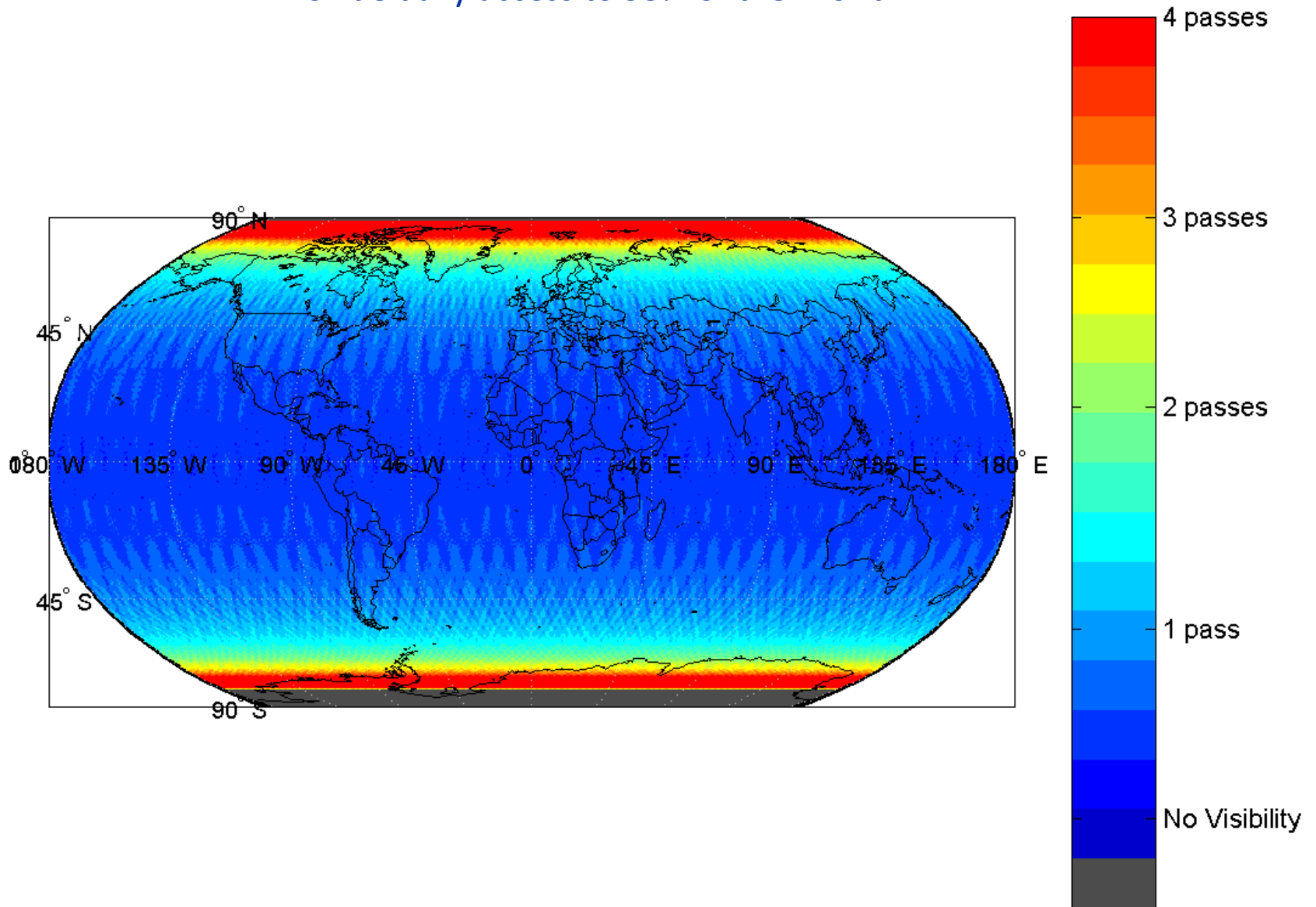
System Specifications

- Three SAR satellites with a potential of six
- Equally separated ~ 32 min. apart
- 12-day repeat orbit cycle for each satellite
- 600 km altitude
- Total mass of 1300 kg each
- Minimum lifetime of 7 years per satellite
- Gradual replacement of aging satellites
- Fully reconfigurable



SAR Constellation three satellites

Provide daily access to 95% of the World



Program Status

- The Mission PDR was completed in February 2010
- The Phase C was initiated in March 2010 with the objective to hold a Mission CDR in fall 2011
- The 2010 Canadian Federal budget awarded fund to the CSA over the next five years to manufacture the three satellites
- The first launch is planned in 2014 with subsequent launches in 2015

- The RADARSAT constellation will make a major contribution to disaster management and C-band interferometric applications