

DLR National Report

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Knowledge for Tomorrow



Earth Observation Missions (with German Contributions)

- **TerraSAR-X** *Radar*
 - Launch Date June 2007
- **TanDEM-X**
 - Launch Date June 2010

- **RapidEye** *Multi-/Hyperspectral*
 - Launch Date August 2008
- **EnMAP**
 - Launch Date in 2017
- **MetImage**
 - National Contribution to MetOP SG (2018)

- **GRACE / GRACE-FO (since 2002)** *Gravity*
- **SCIAMACHY** *Atmosphere*
 - On-board ENVISAT (2002-2012)
- **MERLIN (French / German Mission)**



Summary – Cal/Val/Mon/DataQC for EnMAP

▪ Calibration & monitoring

- On-board calibration sources & sun calibration
- Procedures taking into account life-limited items

▪ DataQC within pre-processing chain

- Integrated within L1 / L2geo / L2atm processors
- Generation of QC-related metadata, QC flags + reports
- Interactive procedures for additional parameters

▪ Independent validation

- Incl. ground-based CalVal activities

Details: <http://calvalportal.ceos.org/events/lpve>

**Presentation by M. Bachmann et al. and Presentation by E. Borg
@ LPVE Workshop in January 2014**



Staring Spotlight Mode

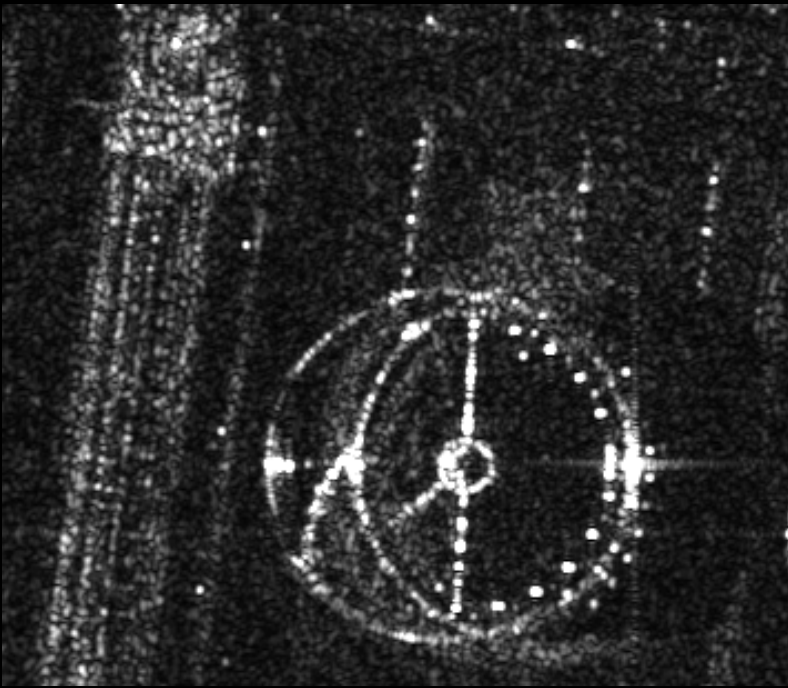
Rotterdam

- If processed to the same resolution, Staring Spotlight has better radiometric resolution than Sliding Spotlight – Multilooking.



Staring Spotlight Rotterdam

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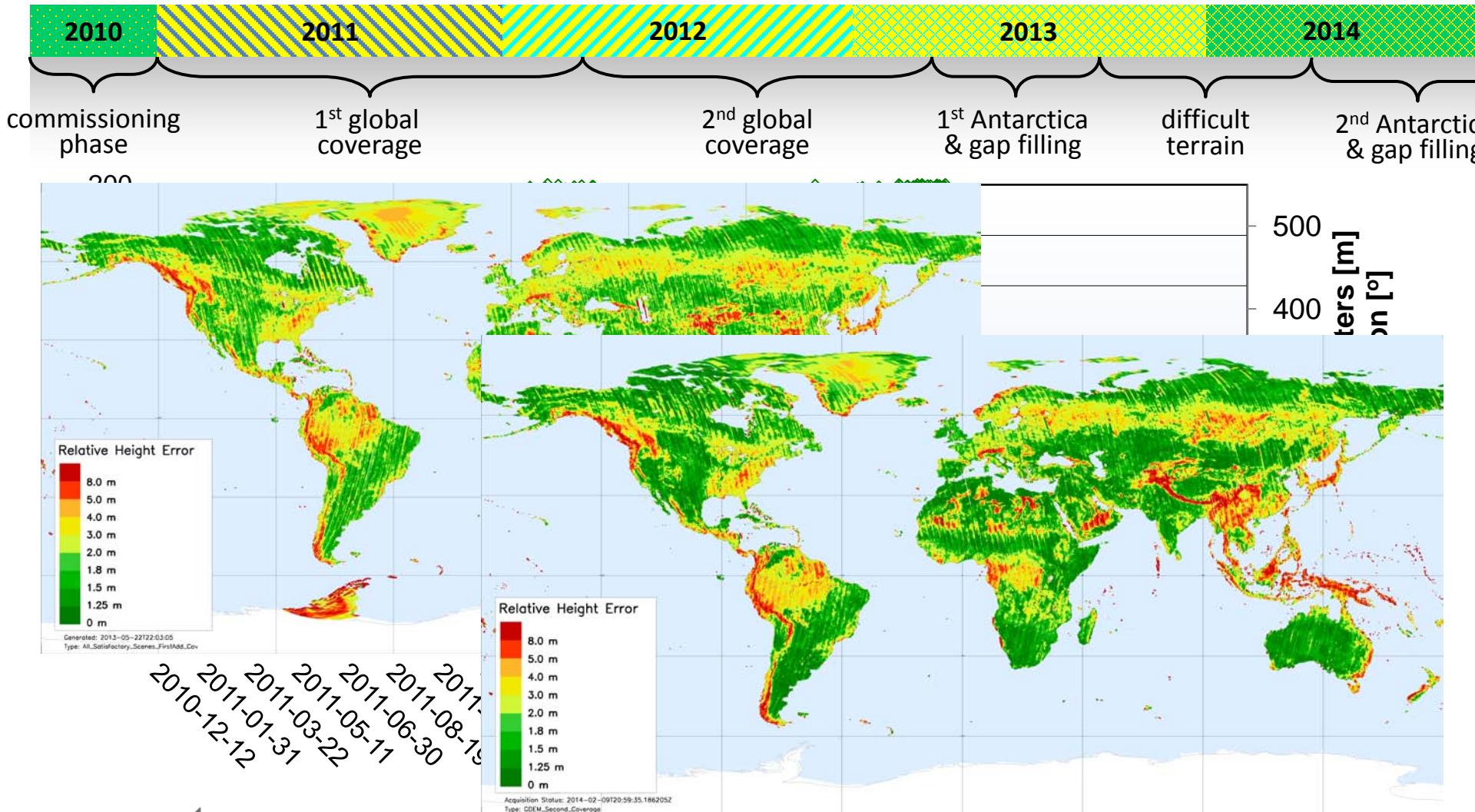


Wide Beam ScanSAR



Peleponnese, Greece

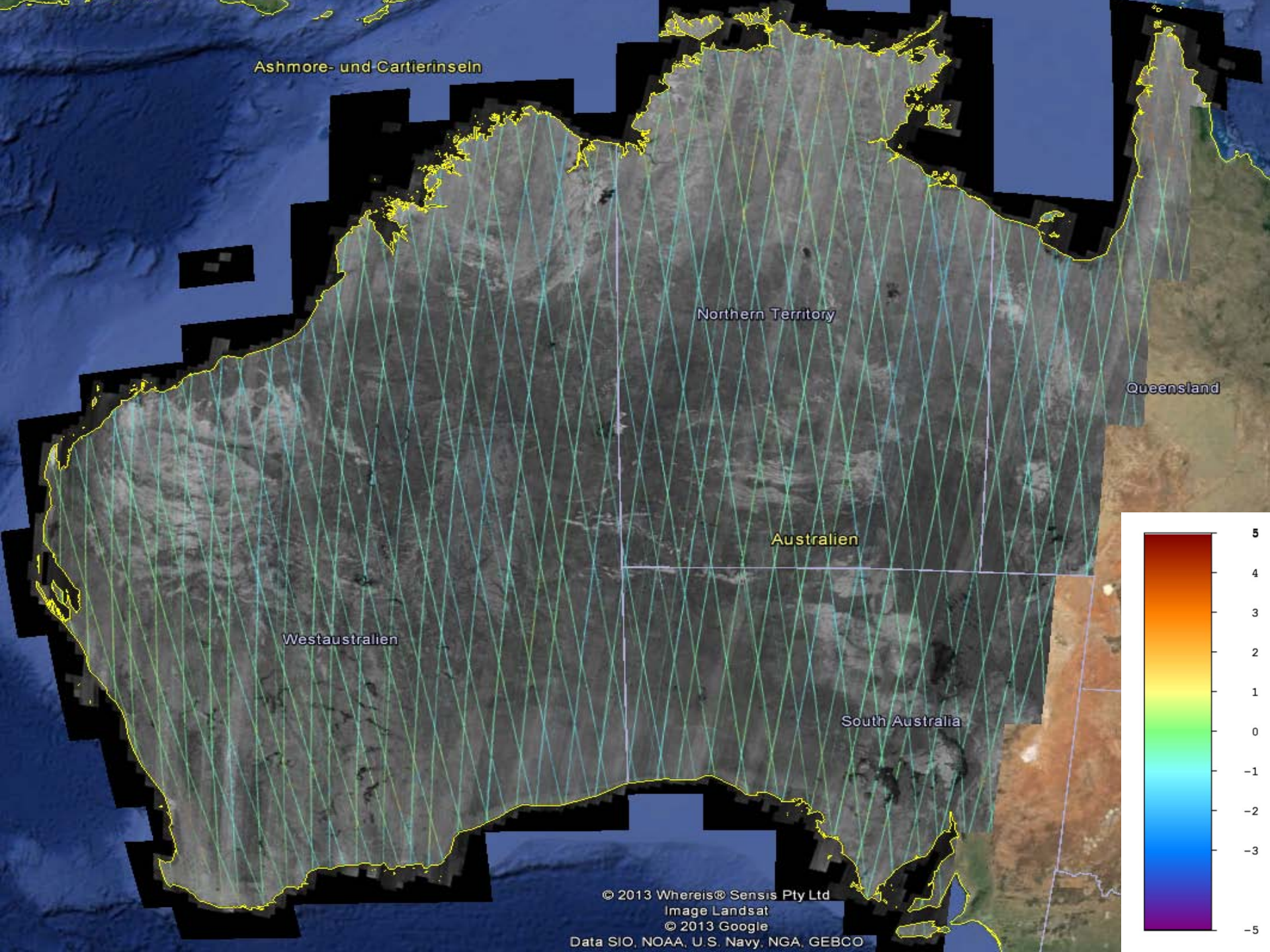
TanDEM-X Global DEM Acquisition Plan





Final TanDEM-X DEM:

Flinders Ranges
Australia



Ashmore- und Cartierinseln

Northern Territory

Queensland

Australien

Westaustralien

South Australia

Final DEM Production: Status Feb-2014



TanDEM-X Mission Status

- Stable operations in close formation
- Both satellites and the ground segment perform remarkable well
- first & second global (& first Antarctica) acquisition completed, third & fourth coverage in progress
- data acquisition for the global DEM to finish by the end of 2014
- Delivery of Global DEM commenced in January 2014
- Dedicated Science Phase in preparation



TanDEM-X Science Phase 2014 / 2015

Mode	Appli- cation	1 Oc	2 No	3 De	4 Ja	5 Fe	6 Ma	7 Ap	8 My	9 Ju	10 Jl	11 Au	12 Se	13 Oc	14 No	15 De
XTI		Pursuit Mo. Drifting, Non-DRA		Pursuit Monostatic Drifting, DRA			DRA Bi CP	3-4 km Bistatic					Drif ting	100-300 Bistatic		
Pol- InSAR DRA B	Agriculture															
	Forest															
	Cryo															
Spot	Urban															
	Vulcanos															
Strip	DEM & HDEM															
	Geology															
	Permafrost															
DRA-Bist.	MTI Land/ Ocean															
ATI & AIT Alt. B	Ocean currents															
HRWS- DRA	Enhance image rec.															

Pursuit Monostatic
Drift 104 days

Very Long Baseline
~ 3-4 km

DRA

