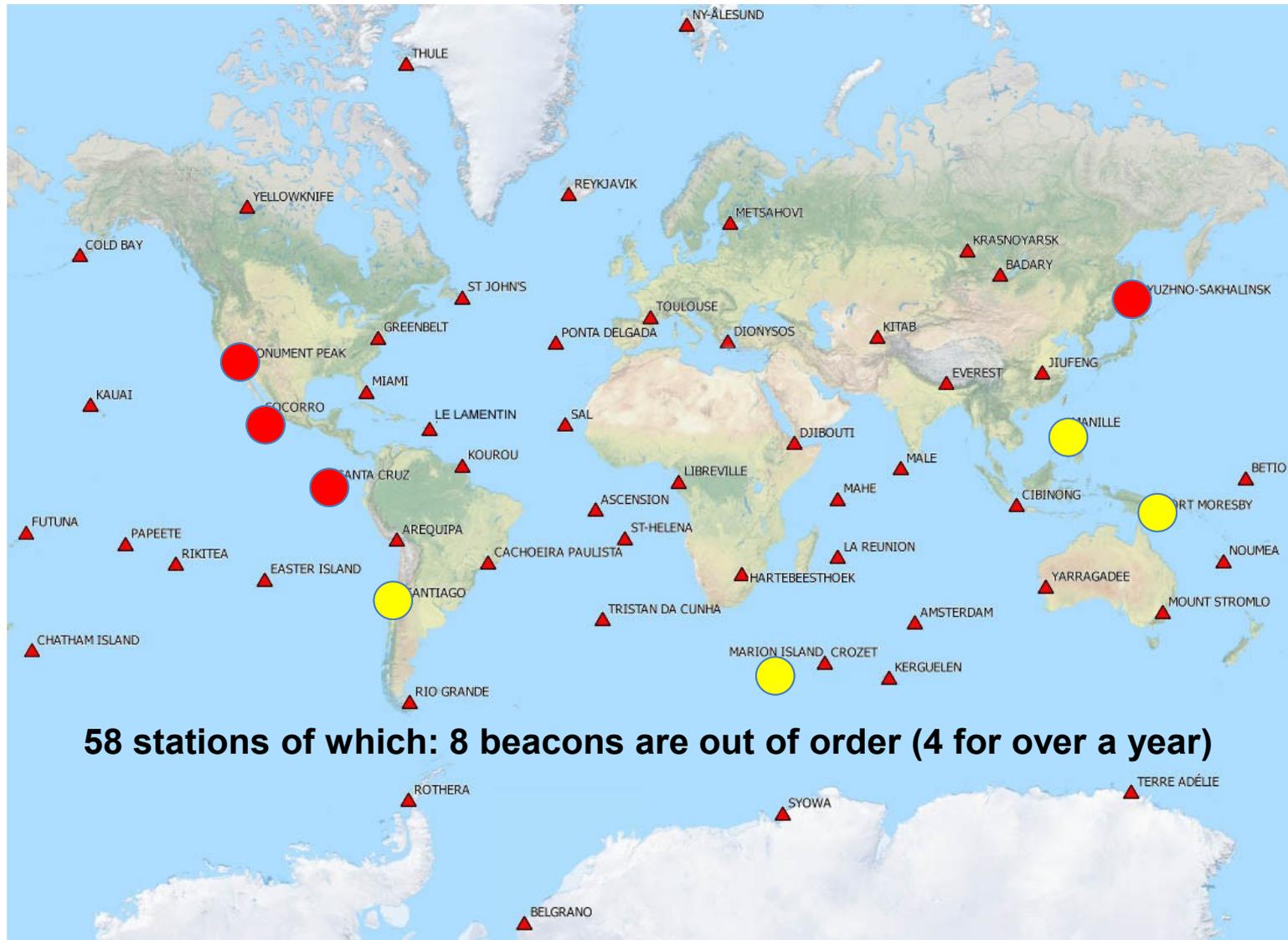


# DORIS NETWORK STATUS + IGN-SGN CONTRIBUTION TO ITRF

**MARCH 2014**



# OPERATIONNAL STATUS

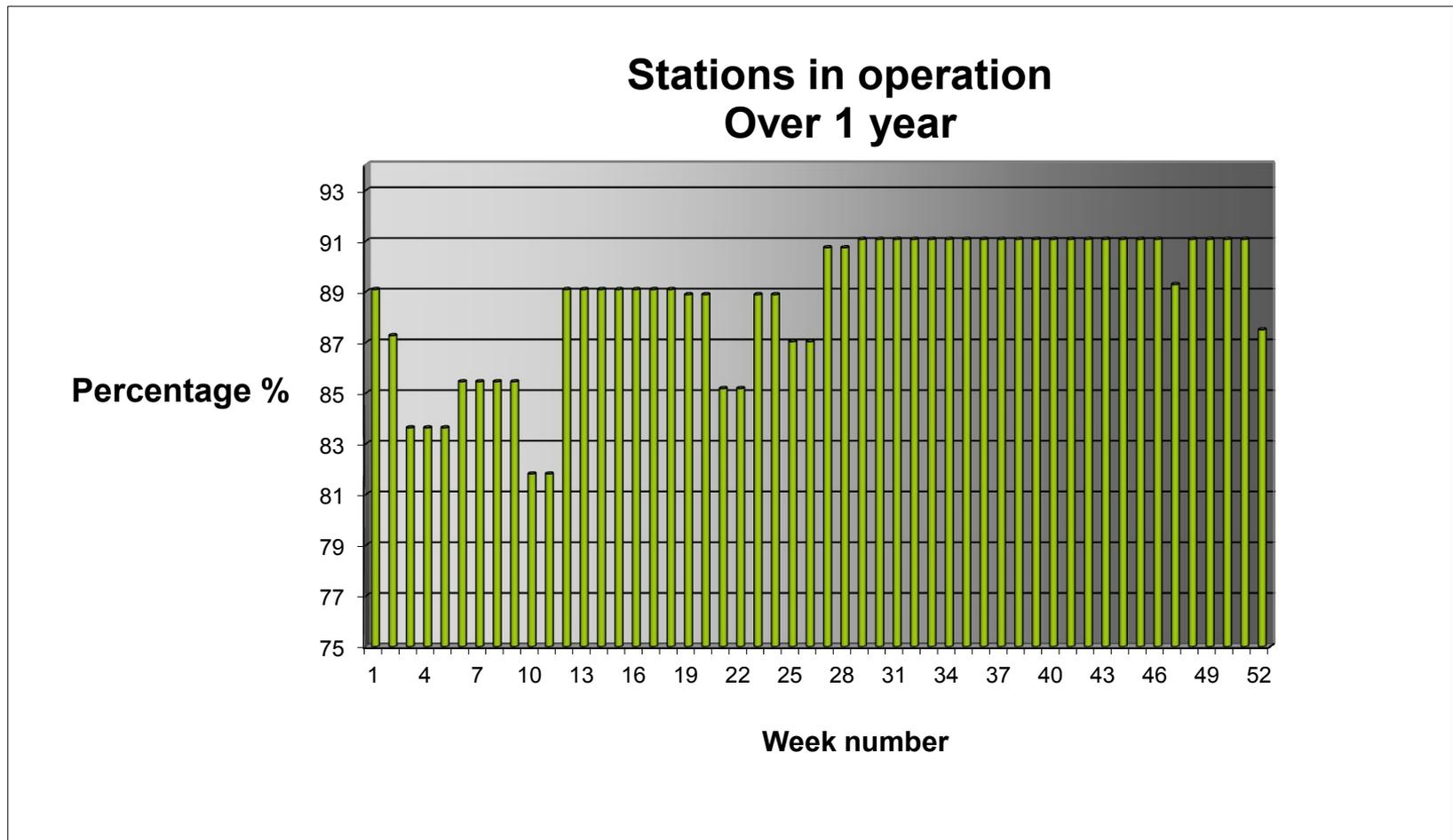


**58 stations of which: 8 beacons are out of order (4 for over a year)**

# NETWORK AVAILABILITY



- PRIORITY TO OPERATIONAL REQUIREMENTS



From CNES/SALP data

# NETWORK EVENTS



2013-2014	Station		Event
October	HBMB	<i>Hartebeesthoek</i>	<i>Beacon replacement</i>
December	DJIB	Djibouti	Local tie survey (new GNSS station 'DJIG')
	CRQB	<i>Crozet</i>	<i>Beacon replacement</i>
January	GR4B	<i>Grasse</i>	<i>Beacon replacement</i>
February	SYOB	<b>Syowa</b>	<b>Antenna replacement + local tie survey (performed by GSI)</b>
	EASB	<b>Easter Island</b>	<b>Reconnaissance with a view to move the station</b>
March	SANB	<b>Santiago</b>	<b>Reconnaissance with a view to move the station</b>
	HBMB	<b>Hartebeesthoek</b>	<b>Local tie survey</b>
	KETB	<i>Kerguelen</i>	<i>Beacon replacement</i>

# NETWORK EVOLUTION

## ■ SHORT RUN (NEXT 6 MONTHS)

- Socorro: major renovation (equipment, antenna moving...) planned in April
- Chatham: station re-location
- Kitab: major renovation (station moving 200 m)

## ■ LATER

- Goldstone: new station in place of Monument Peak
- Miami: definitive shutdown (interferences with TV-mobile)
- Easter Island: station re-location (close to IGS station "ISPA")
- Hokkaido: new station in place of Sakhalinsk; waiting for frequency clearance

## ■ UNDER CONSIDERATION

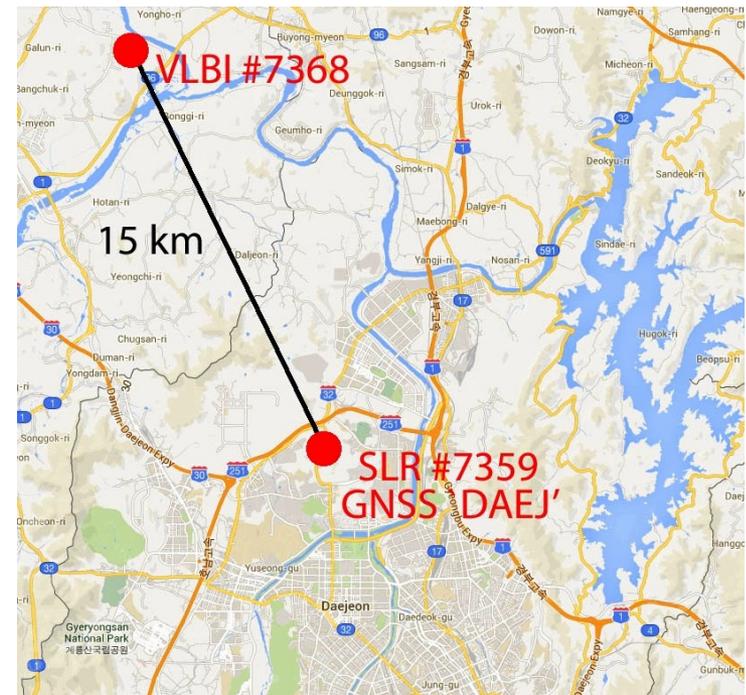
- Santiago: station re-location in Argentina, San Juan (co-location SLR+GNSS)
- Port-Moresby: station re-location in Australia (2 options: Weipa or Katherine)
- Gavdos: definitive shutdown (possible re-location will be decided by IDS GB)

# NETWORK DENSIFICATION



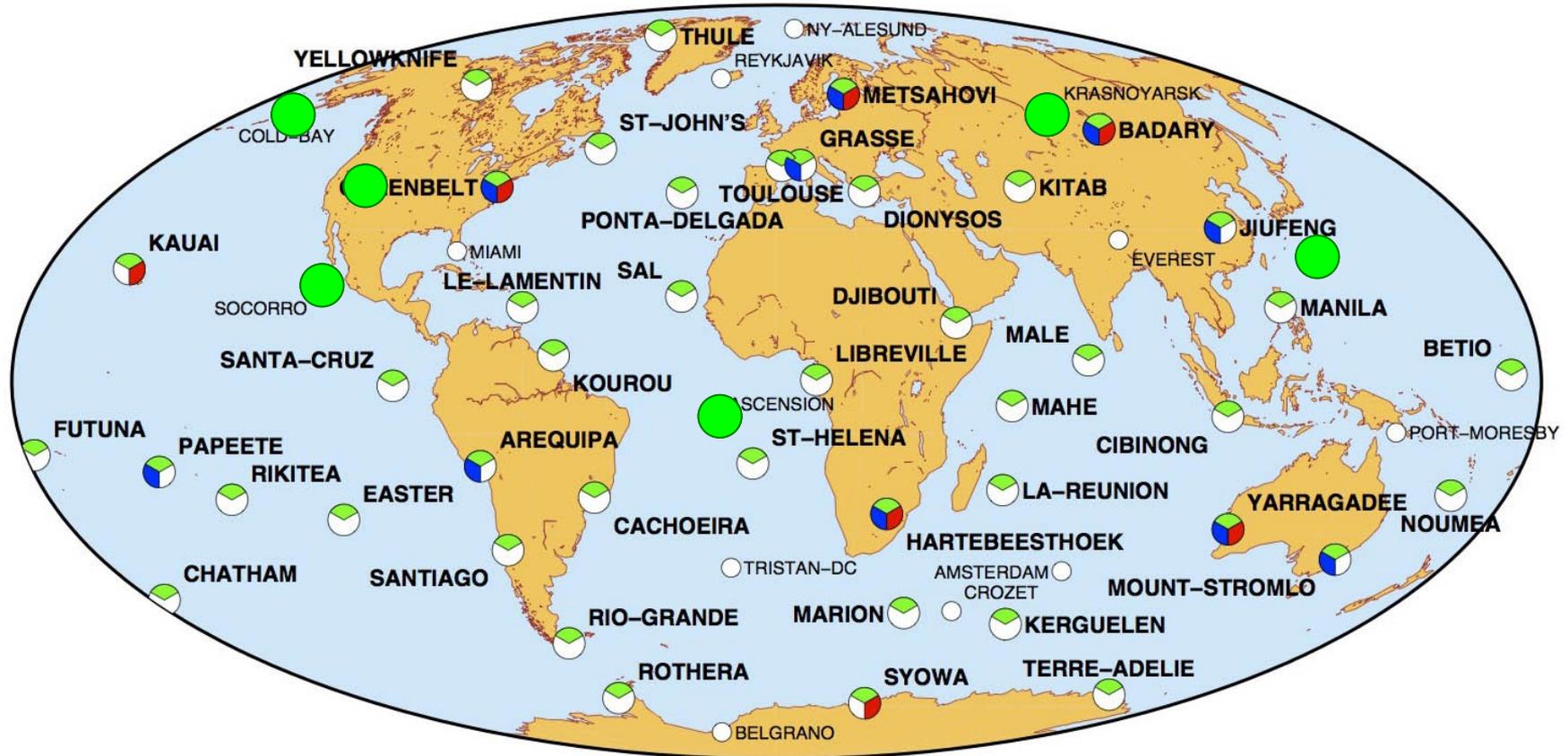
## ■ NEW STATIONS

- Managua: waiting for Ministry of Foreign Affairs agreement
- Korea: reconnaissance planned in the fall; 2 sites: Sejong & Daedeok
- Chichijima: waiting for frequency clearance
- Wake island (Marshall): failed attempts
- Tamanrasset: lying dormant



# CO-LOCATIONS

## ■ DORIS STATIONS CO-LOCATED WITH OTHER IERS TECHNIQUES



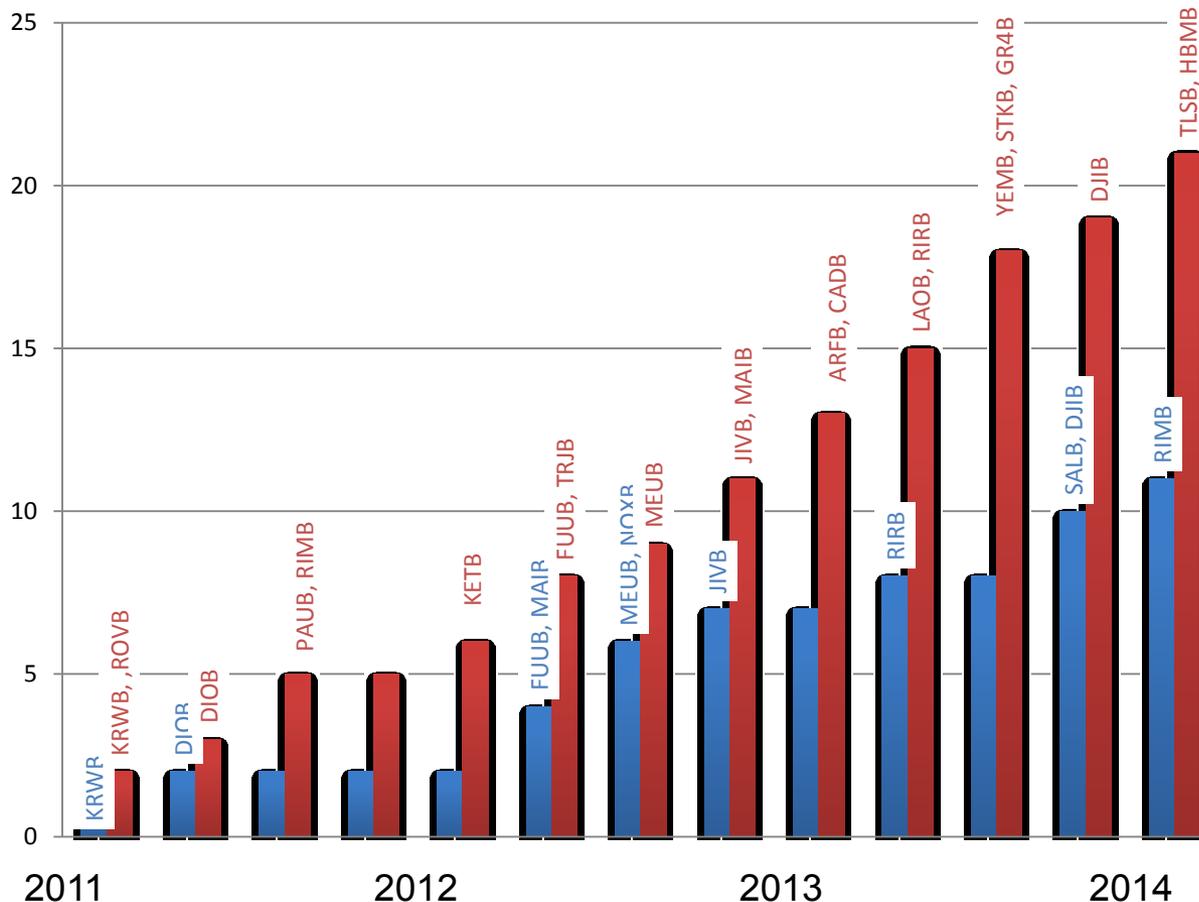
GNSS (IGS)    
 SLR    
 VLBI    
 No active co-location < 1 km

REGINA co-location to-be

# LOCAL SURVEYS AND CO-LOCATION



- 11 NEW CO-LOCATIONS WITH GNSS THANKS TO REGINA
- 21 HIGH PRECISION LOCAL TIE SURVEYS IN THE LAST 3 YEARS



## ■ CO-LOCATION SURVEY REPORTS AND SINEX FILES AVAILABLE ONLINE

- ROTHERA, February 2011
- KOUROU, February 2011
- DIONYSOS, May 2011
- RIKITEA, July 2011
- PAPEETE, July 2011

[http://itrf.ign.fr/local\\_surveys.php](http://itrf.ign.fr/local_surveys.php)

(link available on IDS website “Documents” page)

## ■ UPCOMING CO-LOCATION SURVEY REPORTS (DORIS + REGINA):

- FUTUNA, April 2012
- KERGUELEN, April 2012
- TRISTAN D. C., June 2012
- METSAHOVI, June 2012
- **\*JIUFENG, October 2012**
- MAHE, December 2012
- **\*AREQUIPA, January 2013**
- CACHOIERA, March 2013
- **\*LE LAMENTIN, June 2013**
- RIO GRANDE, June 2013
- ST JOHN'S, July 2013
- YELLOWKNIFE, July 2013
- **\*GRASSE, August 2013**
- DJIBOUTI, December 2013
- TOULOUSE, February 2014
- SYOWA, *February 2014*
- HBK, March 2014

**\*Coming soon!**

## ■ IERS LOCAL SURVEY GUIDELINES AND SPECIFICATION

- Completed during the local tie survey at Hartebeesthoek
- IGN Draft document in the internal review process

- **ADDITIONAL CO-LOCATION SURVEYS: RIYADH 2012, GRASSE 2013, HBK 2014**
- **RE-COMPUTING OF CO-LOCATION SURVEYS CARRIED OUT BY IGN IN THE PAST**
  - In order of priority: Nouméa / Easter / Male / Ponta Delgada / St-Helena / Kauai / HBK / Kitab / Terre Adélie / Reykjavik / Ascension / Thule...
  - Slow progress: shortage of manpower...
- **SINEX FILES CLEANING**
  - No tie vectors sums if the antenna base changed > several SINEX files on a single site
- **ITRF WEB SITE OVERHAUL**
  - Objective: first part into service in late 2014, full version in mid-2015
  - Status: the database is operational, web development will start from April
  - Portal for local tie surveys metadata and DOMES numbers administration
  - Teaching content
  - New web-services: Time series handling, Data downloading, Coordinates and velocities computing, Earthquakes impact...

## ■ REQUEST FOR DESIGNING A NEW GROUND ANTENNA MODEL

- IDS letter to CNES on August 5<sup>th</sup>, 2013
- CNES reply on November 20<sup>th</sup>: not foreseen in the specification of the 4G beacon
- Work with the manufacturer: improving the manufacturing process
- Work with IGN: thinking on devices facilitating the survey
- Work at CNES: consolidating the phase corrections to be applied

## ■ DEDICATED CNES-IGN MEETING LAST DECEMBER

- Definition of an instrument optical access point = intersection of the axis and the bottom of the antenna
- Using Up Eccentricity to determine the ARP position
- Making an adapter in order to put a miniprism
- Ensuring that each antenna meets its specification:
  - Perpendicularity antenna base/antenna axis
  - Alignment of the connector on the antenna axis



- **DORISMAILS FOLLOWING EVERY ANTENNA CHANGING OR MOVING**
  - Coordinates of the new reference point + installation characteristics
  
- **REGULARLY UPDATED SITE LOGS**
  - <http://ids-doris.org/network/sitelogs.html>
  
- **DORIS INTERNAL FILE (EVERY 6 MONTHS)**
  - Successive antenna positions on the same site
  - [ftp://doris.ign.fr/pub/doris/cb\\_mirror/stations/DORIS\\_int\\_ties.txt](ftp://doris.ign.fr/pub/doris/cb_mirror/stations/DORIS_int_ties.txt)
  
- **CO-LOCATION SURVEYS REPORTS AND SINEX FILES**
  - [http://itrf.ensg.ign.fr/local\\_surveys.php](http://itrf.ensg.ign.fr/local_surveys.php)