

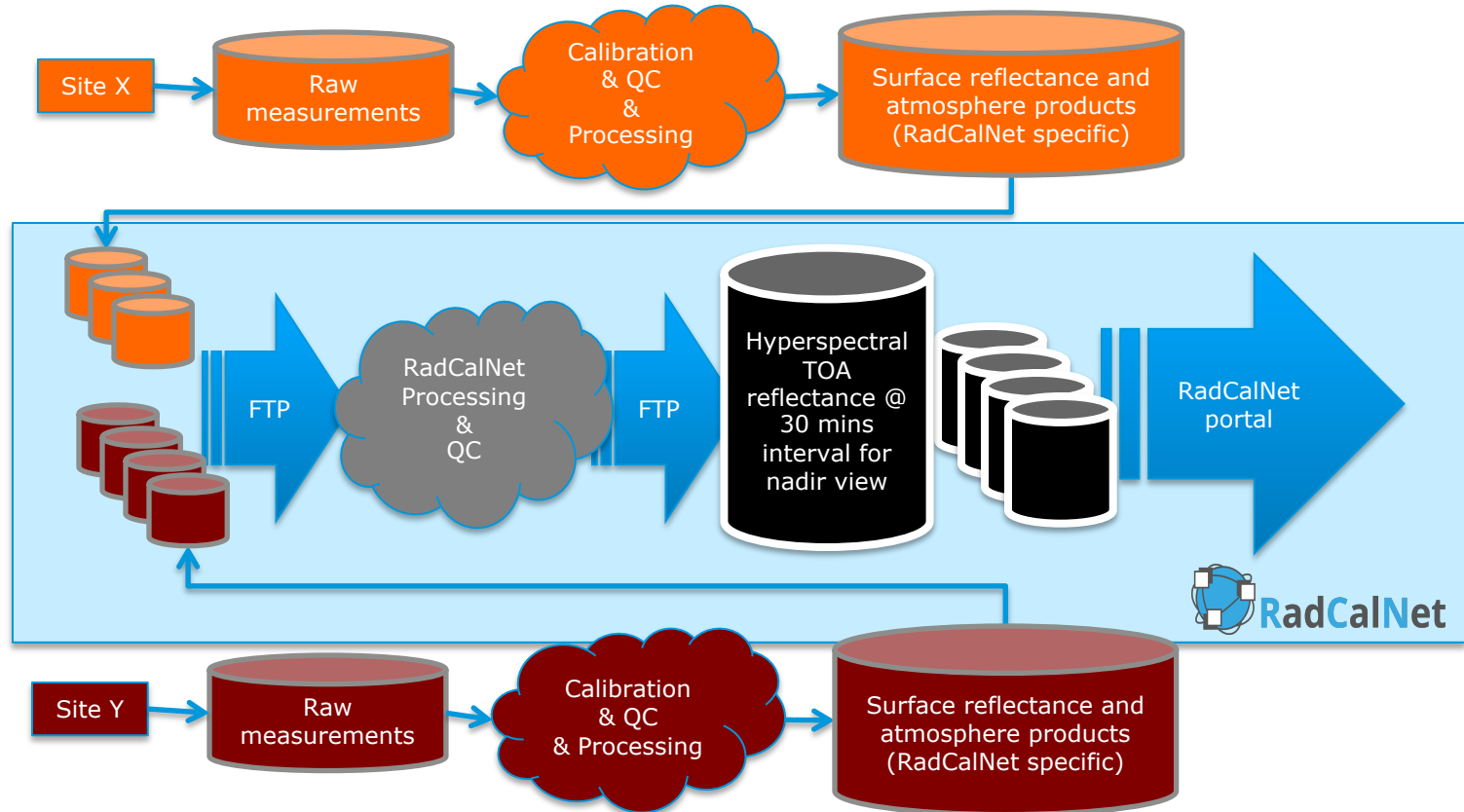


The Radiometric Calibration Network: RadCalNet

M. Bouvet on behalf of the RadCalNet WG (CEOS/WGCV/IVOS)



What is RadCalNet?



The RadCalNet sites



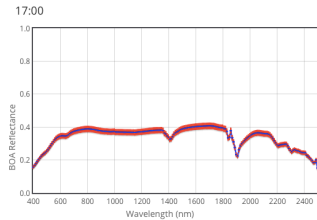
Today 5 sites (+ more in preparation)



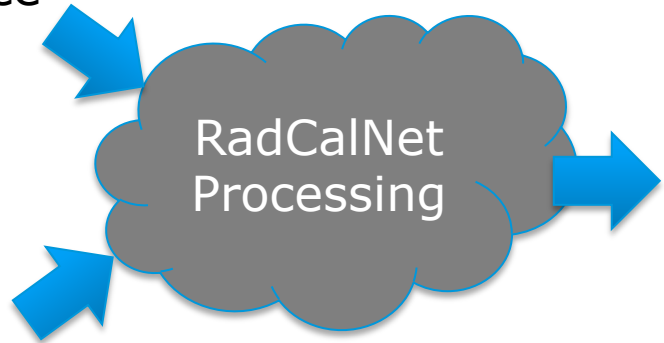
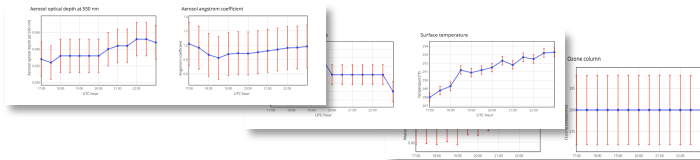
The RadCalNet processing

- MODTRAN 6
- TOA reflectance include propagation of the surface / atmosphere uncertainties to TOA uncertainties via pre-computed LUT from Montecarlo MODTRAN runs

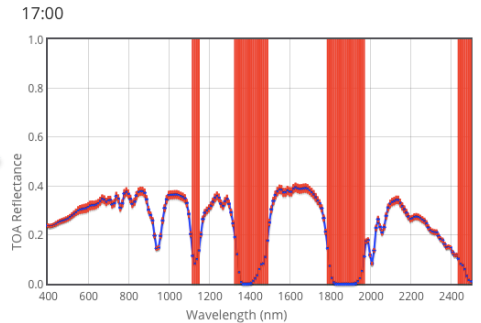
Surface reflectance



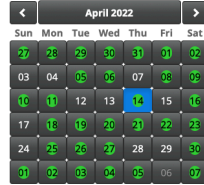
Atmospheric measurements



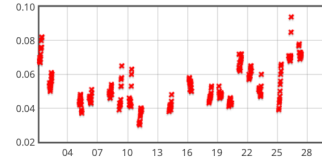
TOA reflectance



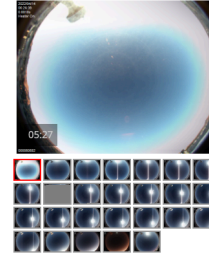
The portal



Monthly Aerosol Optical Depth at 550nm (Month 04)



Webcam views for the day



- All TOA simulations available for this day (every 30 mins between 9:00 and 15:00 Local Standard Time)
- TOA simulations only partially available for this day

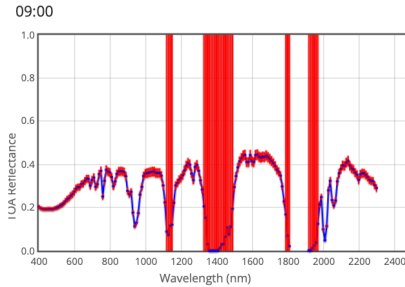
[Download daily data for all instruments](#)

Sensor : 01

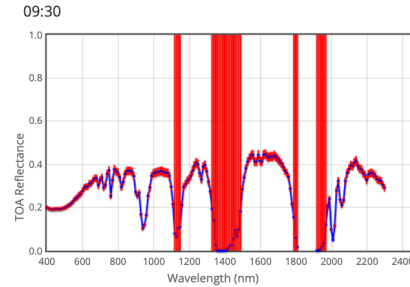
Input version : 07

Output version : 04

Atmospheric parameters



BOA Reflectance



The screenshot shows the RadCalNet forum interface. At the top, there is a search bar and navigation options. Below, a list of categories is shown on the left, and a list of recent topics is on the right.

Category	Topics	Latest
Announcements Announcements of general interest to the entire RadCalNet community will be posted under this section.	20	<ul style="list-style-type: none"> RadCalNet Portal on maintenance from February 10th to 13th, 2021 (Feb 10) Kmz for new sandy baotou site (Dec 19) La Crau Station in maintenance (Oct 19) New RadCalNet site: the Baotou SANDY site (Sep 19) BOA an Atmosphere for BSCN (Sep 19) Maintenance operation on the portal (10/06/2020) is now finished (Sep 19) RadCalNet Portal on maintenance from September 10th to 11th, 2020 (Sep 19) Data collection 2020 (Jul 19) Maintenance operation on the portal is now finished (Jul 19) Moving to collection 2020: RadCalNet data might be temporarily not available (Jun 19) Baotou site is now available to users (Apr 19) RadCalNet 2020 data collection available for testing purpose (Mar 19)
FAQ Description of the RadCalNet Forum and the various categories	1	
Documentation Topic related to RadCalNet documentation	4	
Data Discussion on RadCaNet data and Sites <ul style="list-style-type: none"> BCA and Atmosphere for BTGN BOA and Atmosphere for RVUS BOA and Atmosphere for LOFR BOA and Atmosphere for GOMA TOA for all sites 	15	
Site Review This category is created for discussion between the new site owner and the RadCalNet Working Group based on the review of the requested documentation and data. <ul style="list-style-type: none"> Baotou Sandy Site Review 	4	
Uncategorized Topics that don't need a category, or don't fit into any other existing category.	2	

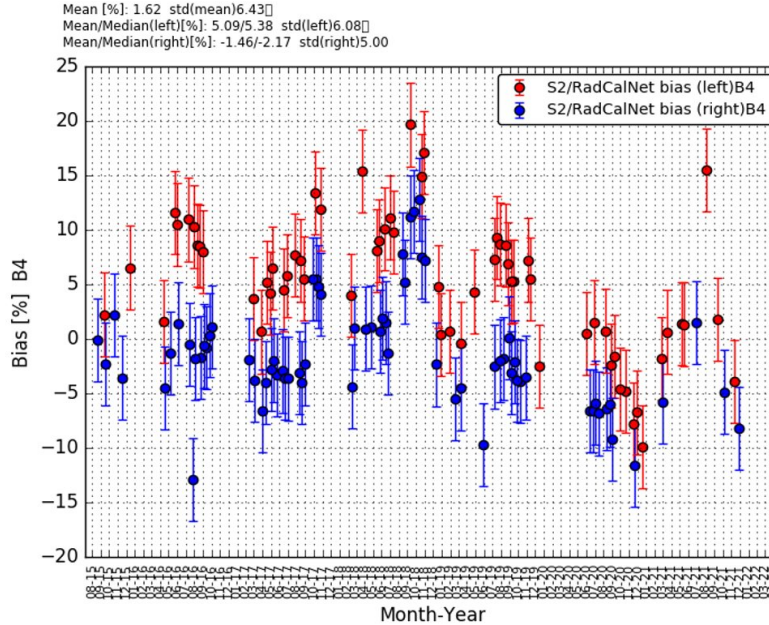
Collection 2022

- Collection 2022 released on 22 April 2022
- Improved surface/atmosphere data quality of historical data
- TOA propagation now done with MODTRAN 6 (minor impact)
- Data availability (July 2022):

Collection 2022

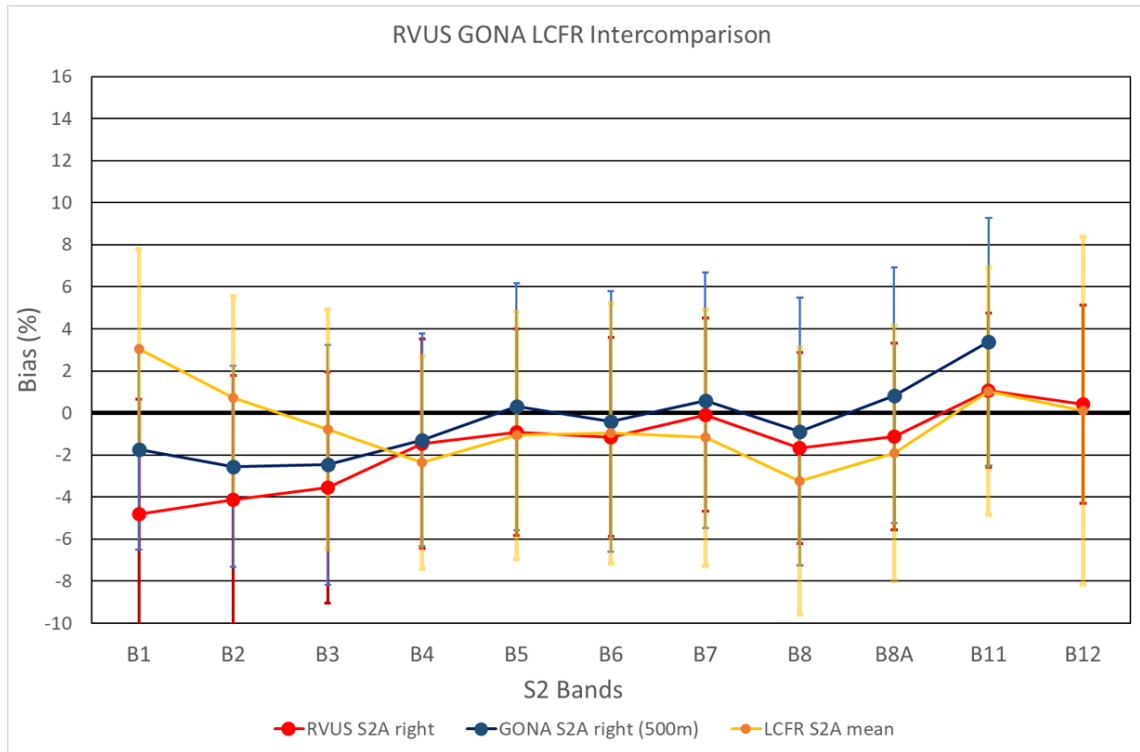
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
RVUS	193	237	225	222	264	246	246	263	250	137	2283
LCFR	0	0	117	139	151	114	155	115	98	17	906
BTCN	0	0	0	52	76	108	102	30	85	32	485
GONA	0	0	0	0	136	160	286	219	227	86	1114
BSCN	0	0	0	0	15	41	73	41	80	34	284
											5072

Site Intercomparison - S2A @ RVUS

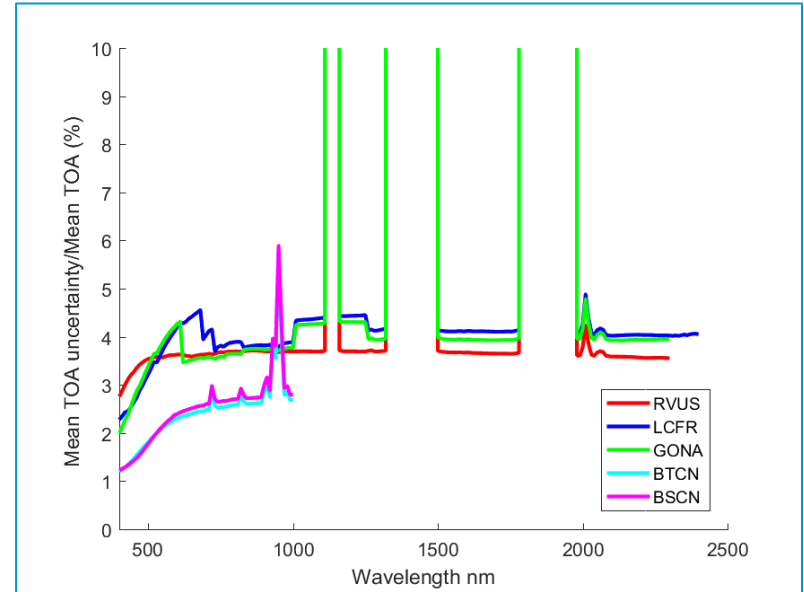
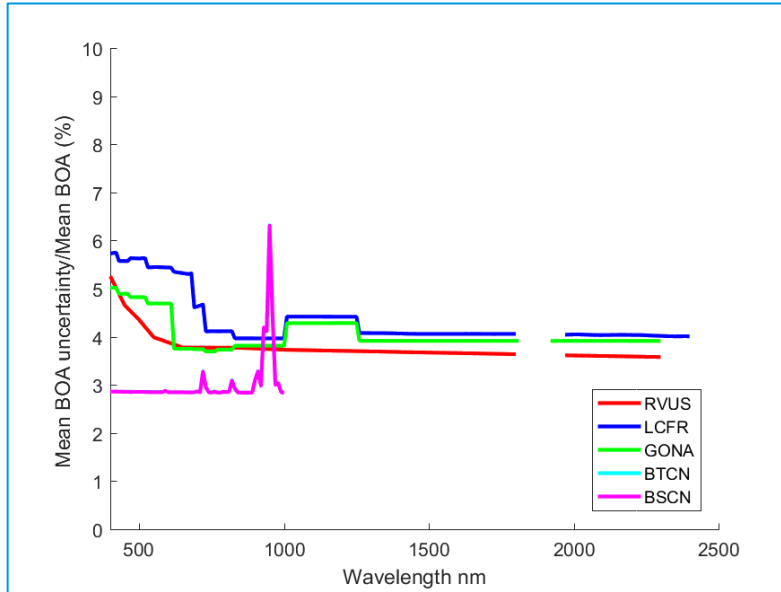


- RadCalNet TOA reflectance available every 30 mins
- Sampled at 10 nm spectral sampling interval
- S2A geometry is not exactly nadir
- BRDF effects not accounted for

Site Intercomparison S2A – 3 sites spectral synthesis

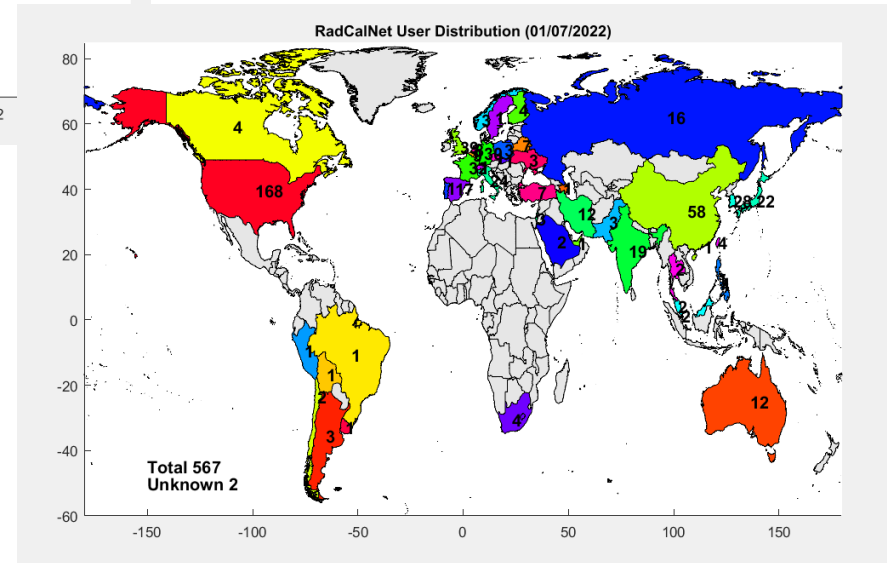
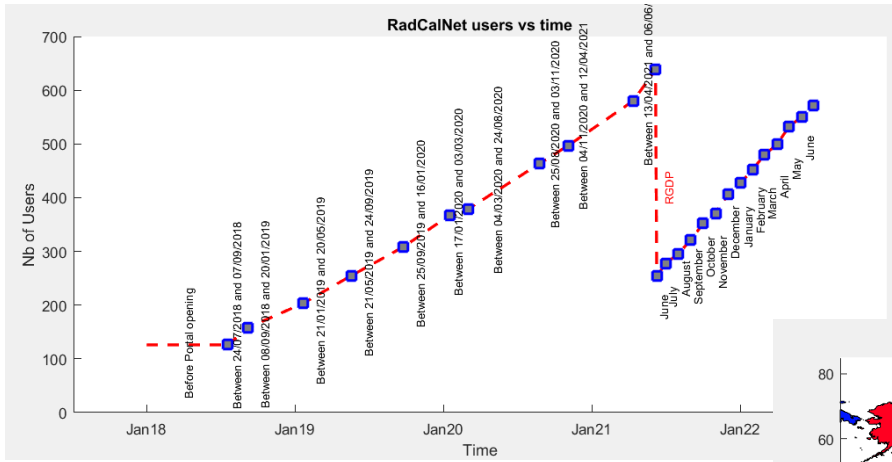


Mean relative uncertainties BOA/TOA at each sites





Users



First RadCalNet user workshop (9 – June 2021)

- About 100 online participants
- 25 presenters
- 3 sessions:
 - Multispectral instrument calibration/radiometric validation
 - Hyperspectral instrument calibration/radiometric validation
 - Exploitation of surface reflectance measurements

First RadCalNet user workshop (9 – June 2021)

- Exploited for validation/calibration of L1 products from:
 - New space missions: e.g, Maxar (Worldview, GeoEye), Planet (Skysat constellation), etc..
 - National space agencies missions: e.g., ARGANS (Sentinel-2, Landsat-8), ISRO (AWiFS), AIST (ASTER), NASA (OCO, GOSAT), DLR (DESIIS), etc...
- Presentations and programme available on <https://www.radcalnet.org>

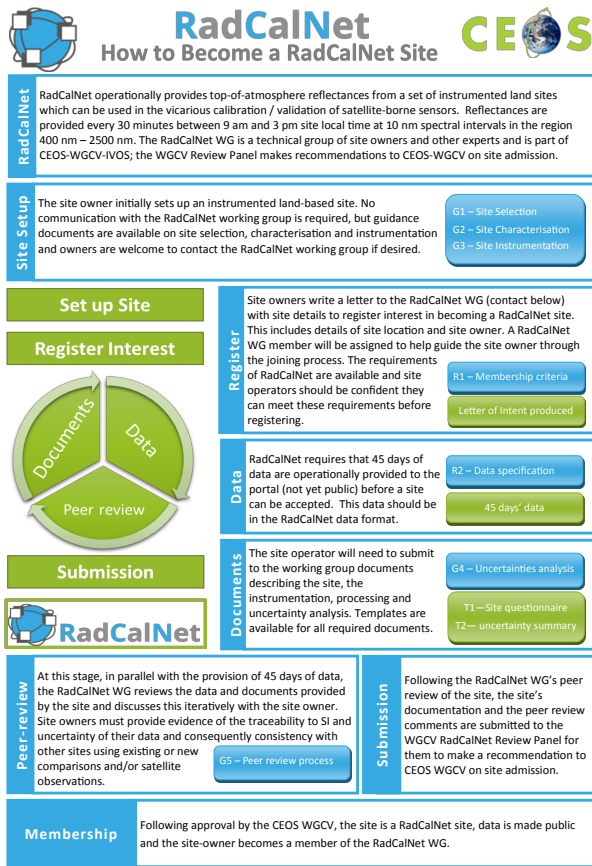




Acceptance process for new sites



Acceptance process for new sites

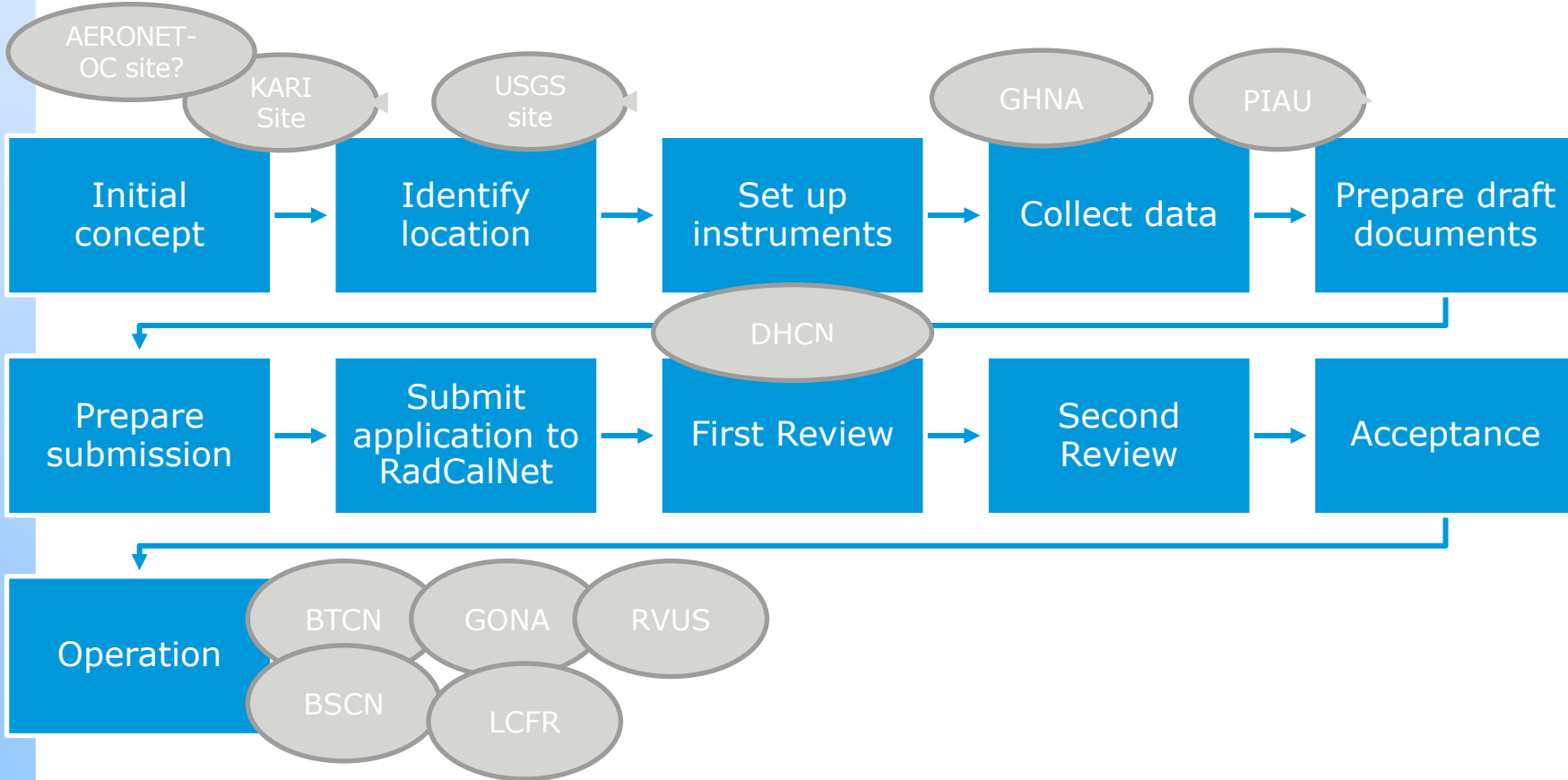


RadCalNet Helpdesk: admin-radcalnet@magellium.fr

Version 1.0—May 2017

- RadCalNet WG members contribute to the review
- Process overseen by WGCV
- Through an acceptance panel reporting to WGCV

New Sites Status





Conclusion

- Almost 5 years of successful RadCalNet operation
- Continuous efforts to improve data quality
- 5 sites currently providing data. New sites expected to join the network.
- Growing user base



Thank you

