STATS SA use of Satellite Imagery

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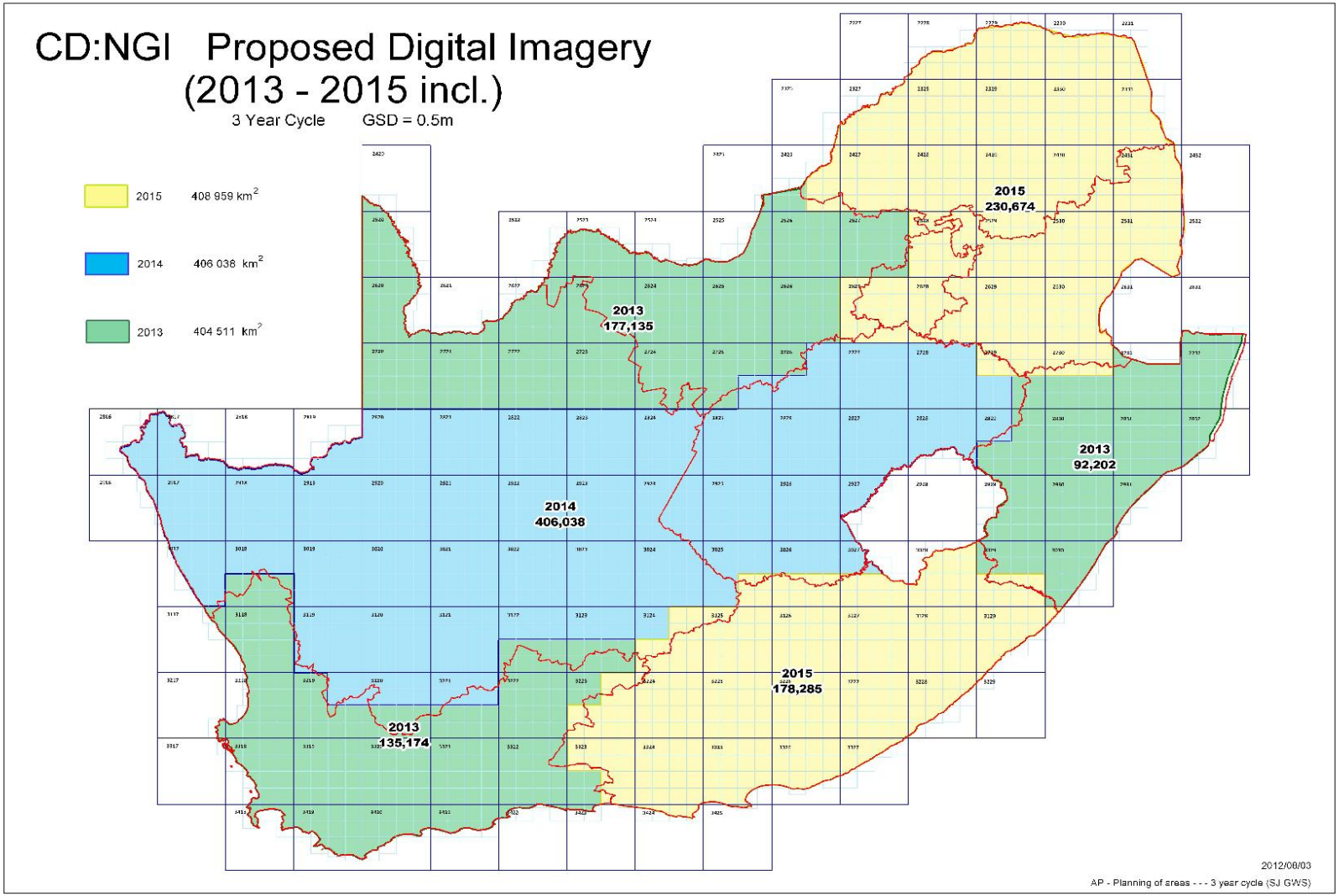
Use of Spot 5

- Change detection
- Updating and maintenance of the geo-frame
- Improve relevance of statistical information
- Enhance quality/completeness of products and services
- Address gaps in imagery coverage from other sources

Main Imagery Sources

Provider	Coverage	Cycle	Resolution	Feature identification
CDNGI	national	3 yearly	0.5cm	Multiple dwellings on site
Metro/municipal	municipality	1-3 yearly	0.25cm	Multiple dwellings on site
SANSA	national	yearly	2.5cm	Main dwelling only


CD:NGI Proposed Digital Imagery
(2013 - 2015 incl.)
3 Year Cycle GSD = 0.5m
2015 408 959 km²
2014 406 038 km²
2013 404 511 km²
2015
230,674
2013
177,135
2013
92,202
2014
406,038
2015
178,285
2013
135,174
2012/08/03
AP - Planning of areas - - - 3 year cycle (SJ GWS)

Spot 5 2012

Spot 5 2013

Dwelling Frame

- A register of all structures in the country
- A sampling framework for surveys
- An address database
- An indicator of the location of settlements
- An input into the demarcation process
- A provider of spatial position

Address assignment (Geo-referencing)

- Locate every dwelling spatially, giving a unique ID as an address, collection of associated attributes and maintenance . (SAPO as partner)

Demarcation: Place Names and Enumeration Areas

- Update and maintenance
  - Place name: Main Place (MP) & Sub-place (SP)
  - EA

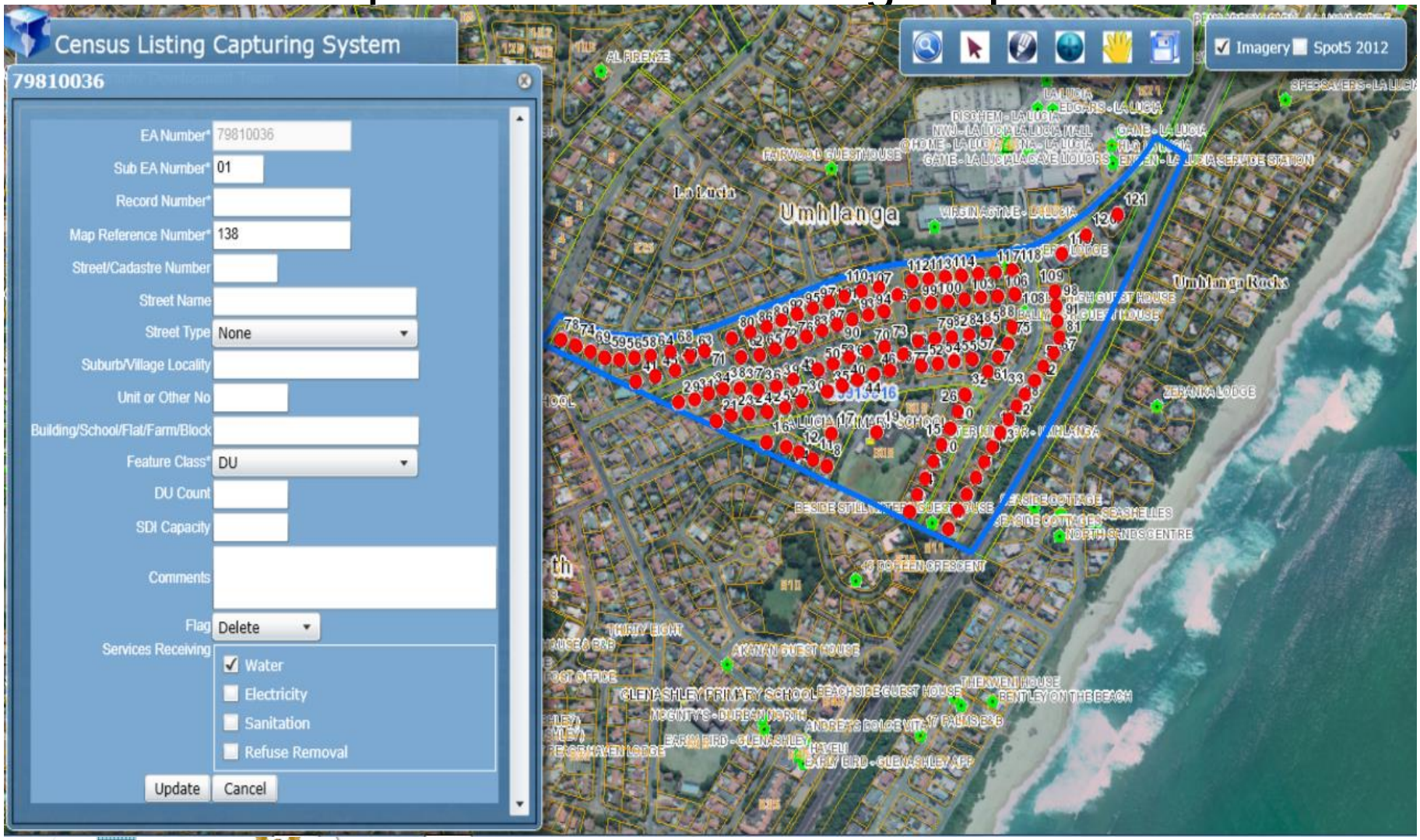
- Creation of spatial output geography
  - Small Areas (SAs);

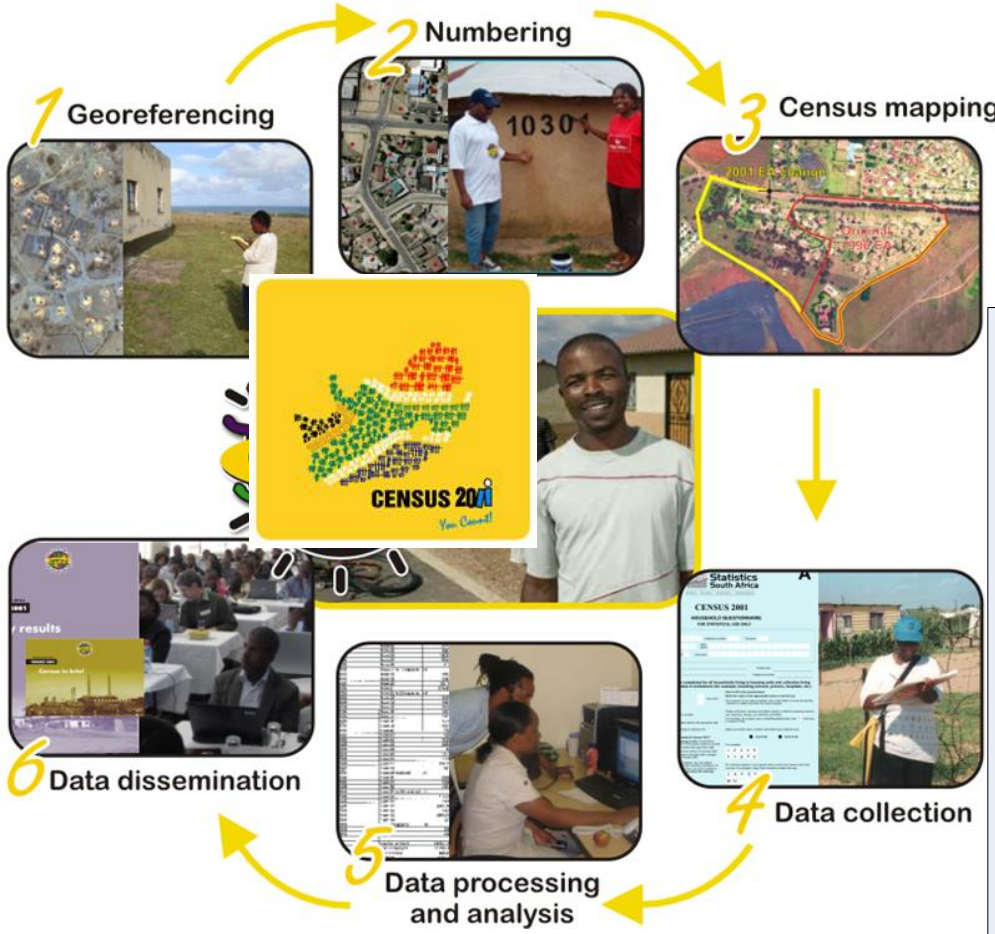
- Linking old geographies to new administrative boundaries;

Census Geo-Support

- Prepares all geographical aspects required to facilitate enumeration.
  - ensuring the EA sizes are optimal for enumeration
  - creation of maps and production of EA Summary books (creating a register for all the structures in the EA),
  - listing of all structures to facilitate the identification of dwellings where enumeration should be conducted and
  - mapping field help desk; field staff are assisted to resolve problems encountered during fieldwork

Example of EA in a Listing Capture tool





Dwelling Frame
- Image
- x, y coordinates
- Address
- Place Name

Place Name Demarcation
- Main place names
- Sub-place names

EA Demarcation
- Lines (Type)
- EA-type
- EA-size
- Polygons

Listing
- Verification / maintenance of dwelling frame data
- Collection of listing attributes)

Enumeration
- Census data collection (against households linked to dwellings within an EA)

Processing
- Census data capturing (against households linked to dwellings within an EA)

Dessimination
- Within Place Names
- Within South African administrative structures (Provinces, District Councils, Municipalities,, Communities)
- Any other geographies (e.g. health/school districts, traditional areas, etc.)

Stats SA Geography: Spatial Information frame

Geography … statistically speaking

Municipal demarcation board

Statistics SA

9	Province	
52	District municipality	
8	Metro	
226	Local municipality	
13 000	Main placename	**Placenames** specify location using a name
22 588	Sub-placename	
75 000	Small area	**Small Area Layer (SAL)** EAs aggregated to confidentiality levels for dissemination
103 576	Enumeration area	**Enumeration Area (EA)** a manageable workload for one enumerator
14 700 000	Dwelling unit	**Dwelling Frame** a register of the spatial location of each dwelling
4 500 000	Address	

Thank you!