

# SAGRIS ODC • Tracker Application

## Persistent Sentinel-1 change detection — pixel by pixel, reported per object

Watch thousands of forest compartments, fields or parcels for confirmed change through every radar pass — with a full, dated history of what happened.

Example project: LT Forest Test, Lithuania

36,355

forest compartments monitored

224

Sentinel-1 image pairs scanned

4.77 M

pixel change records

18,876

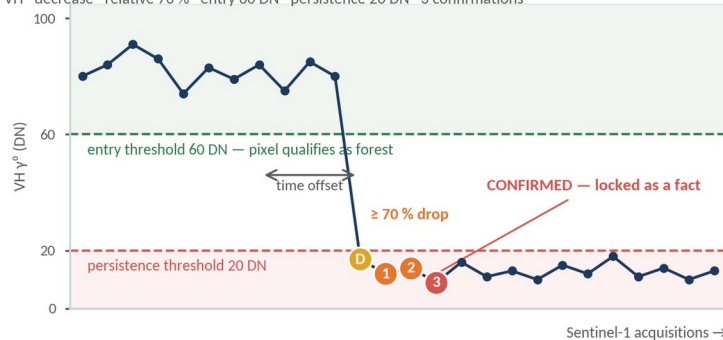
compartments with confirmed change

Tracker is a multi-purpose instrument that combines **pixel-based change detection** on dense Sentinel-1 polarimetry SAR time series with **polygon-based statistics**. Every pixel is followed through a persistent state machine, and a change becomes a fact only after it has repeated a set number of times — so speckle, rain and moisture swings do not raise alarms. It is ideal for **forest cover change**, and equally for **farming activity** such as harvesting, ploughing or grass mowing — any drastic change of vegetation or land surface. The dense time series reconstructs the sequence of events within any chosen interval.

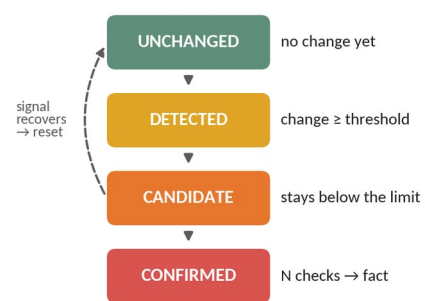
## How a change becomes a fact

### One forest pixel through a clear-cut

VH • decrease • relative 70 % • entry 60 DN • persistence 20 DN • 3 confirmations



### Pixel state machine



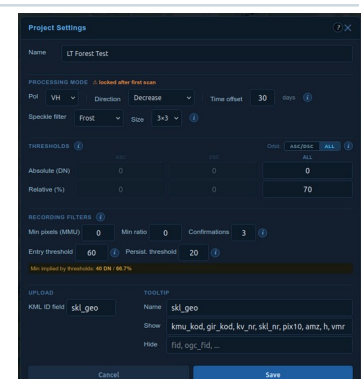
Confirmations: 0 = permanent monitoring (may revert) •  
1 = lock after one check • N ≥ 2 = N checks, then lock

## From pixels to polygons



## Configure every project — down to the last repetition

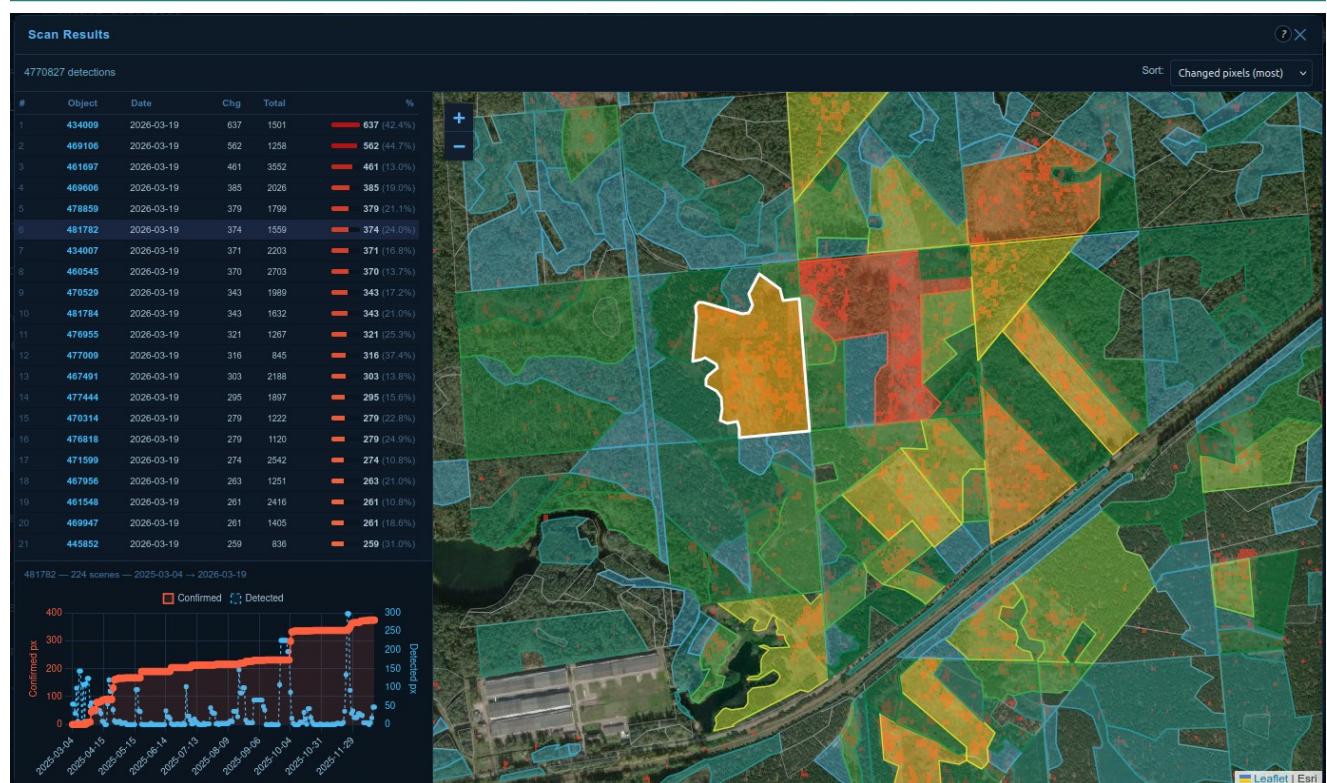
|                   |                                                                                                                                                                                            |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processing mode   | Polarisation VV or VH • direction: decrease, increase or both • time offset between compared images • speckle filter (Frost, Lee sigma or median, 3×3 – 7×7). Locked after the first scan. |
| Thresholds        | Absolute (DN) and relative (%) change — for ascending and descending orbits separately, or for all passes together.                                                                        |
| Recording filters | Minimum mapping unit • minimum ratio • number of confirmations • entry threshold (which pixels qualify) • persistence threshold (where the signal must stay).                              |
| Objects & display | KML ID field and the attributes shown in map tooltips.                                                                                                                                     |



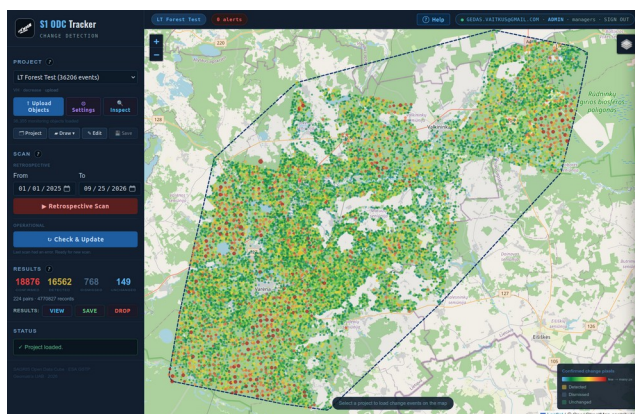
# SAGRIS ODC • Tracker in use

## From a national forest area down to a single compartment

Screenshots from [odcube.landimage.info/tracker](http://odcube.landimage.info/tracker) — project LT Forest Test, scan 2025–2026.



**Scan Results** — every object ranked by changed pixels, with its share of area and date. For the selected compartment, the chart traces confirmed and detected pixels through all 224 scenes, dating each step of the change; the map shows the changed pixels inside each polygon.



**Project overview** — 36,355 forest compartments coloured by confirmed change; retrospective scan or operational Check & Update, with object counts by status.



**Compartment level** — zoomed to individual forestry blocks over aerial imagery — colour grades the amount of confirmed change per object.