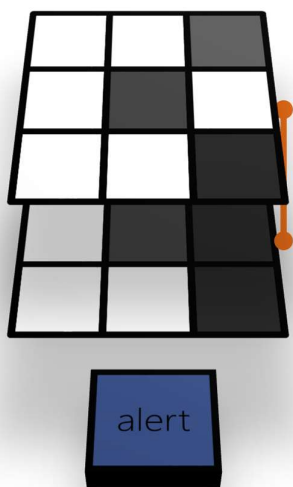


# Monitoring the Bunge palm oil supply chain

Since the end of 2017 we have actively monitored Peninsula and Sabah in Malaysia, using satellites. This practice is continued and expanded in 2019, as we increased our actively monitored area from 20 Million hectares to 27 Million hectares. An increase of 35% since 2019 Q2, with more focus on the BLC supply chain.



**27 Million hectares** of land are checked for land use change, by analyzing the difference between radar satellite images every two weeks. Together with **5.0 Million hectares of concession maps**, we monitor the entire Peninsula and Sabah landscape, and specific suppliers in Indonesia – regardless whether the landscape is related to oil palm or whether this is inside or outside our supply chain.

When a change is detected, it is verified against historic data (base-maps) to filter out false alarms such as change by replanting. Pixels that show land use change by deforestation are flagged as an **alert**.

All alerts are uploaded into our **GIS** platform. Here the alerts are prioritized and analyzed by multiple methods. One method is to check intersection of alerts with our mapped concessions, including a 2 kilometer buffer zone. Proximity is taken into account to monitor expansion.

Using our powerful GIS platform with forest maps, peat maps, and latest Sentinel-2 images we can be actionable on alerts that may link to the palm oil supply chain. Evidence and supporting information is stored in our continuously maintained database to be transparent.



**Highest priority alerts** fall within mapped concessions. During Q3 2019 a total area of 8 hectare of high priority alerts was detected. These alerts are all communicated with our partners and no non-compliance issues were discovered.