

# Zero Deforestation

**VerifAI** – Monitoring and verification of zero deforestation value chains through combining Artificial Intelligence and Earth Observation

- Soy, palm oil, cocoa, wood and paper products represent the agricultural commodities with the highest risk for forest ecosystems
- Unsustainable practices of food, feed and renewable energy production can cause massive deforestation
- More and more producers set zero deforestation commitments in place to improve the ecological impact of their value chains
- Also legislative measures such as the German supply chain law, or the farm-to-fork strategy of the European Commission are being implemented
- A verification of these measures requires a continuous monitoring and data-driven evidence
- The combination of AI and EO offers the best prerequisites for an operational monitoring system.

The Copernicus program with its free satellite data at high temporal and spatial resolutions as well as satellite operators that can provide daily imagery, offer completely new monitoring possibilities. These new earth observation (EO) capacities make it possible to continuously monitor plantations and their surrounding areas with a high level of spatial detail. An EO-based system for the monitoring of deforestation at the origin of global supply chains requires very high standards in regard to the processing of large amounts of satellite data, which must also be processed quickly. Previous data analysis methods cannot meet these high monitoring requirements. New AI methods are therefore developed by RSS with the aim of building a powerful monitoring and verification system for deforestation-free supply chains, which is based on methods of deep learning. The goal is to support producers of agricultural commodities in documenting their zero deforestation commitments as well as to implement the system in the procedures of the audit and certification authorities.