

SUMAL: DEVELOPING A NATIONAL TIMBER TRACKING SYSTEM

GENERAL INFORMATION

Geography:
Romania

Product/raw material:
Timber (forest supply chain – wood products)

Stakeholders involved:
Public authorities (MMAP, forest control structures), forest administrators (RNP–Romsilva, private entities), WWF-Romania (technical and policy expertise), economic operators within the timber supply chain (harvesting, transport, processing), digital solution providers (traceability, monitoring), local communities and forestry workers, international partners (within regional/EU initiatives)

CONTEXT

Romania is home to some of Europe's last remaining undisturbed forests and has a long tradition of closer-to-nature forestry, yet associated logging and illegal timber trade pose serious threats and continue to fuel public concern. Weak governance and institutional capacity, poorly coordinate land restitution alongside corruption and lack of transparency have compounded the problem, combined with unsustainable demand of timber, making stronger oversight of harvesting and trade a national priority.

Romania's forestry sector is aligning with European requirements concerning the sustainability and legality of timber harvesting, including preparations for the EUDR. This reinforces the importance of tracing timber throughout the value chain and providing credible evidence of its origin, legality and deforestation-free status. A central challenge has been to connect information from forest inventories, harvesting permits, transport records, processing activities and forest management plans, allowing authorities to cross-check records and identify potential irregularities.

DETAILS AND RESULTS

SUMAL is Romania's official information system for timber tracking and control. It enables real-time tracking of timber from harvesting through transport and processing. By digitizing forest management plans and harvesting permits and integrating GIS data with timber transport records in centralized databases, the system allows authorities to cross-check and analyse origin, volume and transport information, supporting enforcement and compliance with EU requirements.

The system includes applications such as SUMAL Marcare, which forestry engineers use to digitally register and mark trees authorized for harvesting before any cutting takes place, and SUMAL Control, which allows police officers and forest rangers to check the vehicle's registration number and instantly verify if a timber shipment is legal. GPS monitoring and linked records help detect unauthorized transport routes and the reuse of transport documents. Licence holders must register every timber shipment departing from a harvesting site, recording its volume, species, location, departure date and time, and permit number. Transporters must also upload photographs of the load and the vehicle's odometer reading at departure, which create an electronic seal for the shipment.

A defining feature of the system is the "Forest Inspector" web portal and mobile app, which strengthens transparency and public oversight by allowing citizens to verify timber transport against registered shipment information, identify potentially unregistered shipments, overloading or suspected misreporting of timber quantities, species or assortments. With forest protection recognized as a matter of national security, citizens can report suspected illegal timber transports through the national emergency hotline, triggering an immediate authority check.

In its first year of operation, the Forest Inspector app and web portal together recorded more than 150,000 users and 6.8 million queries. Public scrutiny connects digital transparency with reality on the ground, helping authorities identify and investigate irregularities. Through SUMAL, citizens become an extra set of eyes in the forest.

SOCIAL IMPACT

SUMAL generates significant benefits for various stakeholders. For local communities, it increases transparency and reduces risks associated with illegal logging, strengthening trust in forest governance. For forestry workers, it supports more predictable working conditions. For economic operators, it improves efficiency, facilitates access to international markets, through clearer digital procedures compliance with forest certification schemes and EUDR requirements, enhancing competitiveness and promoting fair competition. For the state, it strengthens monitoring and enforcement capacity, contributing to a significant reduction in illegal logging, a stronger rule of law, and a smaller shadow economy in the forest sector.

KEY CHALLENGES IN SCALING AND LESSONS LEARNED

- Further development requires stronger interoperability between public databases and operators' own data systems, bringing information together to improve risk identification, reduce administrative burdens and enable innovation.
- Initial reluctance among some stakeholders highlighted the importance of early engagement and ensuring solutions are simple and easy to use.
- Limited mobile connectivity has constrained field data collection, emphasizing the need to adapt solutions to local conditions. Continuous system updates are essential to close loopholes and respond to evolving patterns of non-compliance.
- Automated tools can estimate timber volumes on transport vehicles and generate alerts, but technology must be complemented by independent checks on the ground using a risk-based approach.

RECOMMENDATIONS FOR REPLICATION AND SCALING

Replication and scaling can be supported by standardizing methodologies and tools, integrating the solution with existing national systems, building public–private partnerships, and securing funding through EU and national programmes. Public access to traceability information, interoperability with other systems and proportionate requirements for smallholders should underpin this process. Controls should focus on timber's first placement on the market, combining automated checks of timber volumes and risk alerts with independent, risk-based field verification.

Expansion to other regions and supply chains, alongside a European system connecting national platforms, could strengthen its reach.

FURTHER INFORMATION

SUMAL 3.0 for simplicity, transparency and efficiency

National Forest Inventory

Digital fingerprint of wood transport

Monitoring report June 2026