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Introduction to Romania's WTS "SUMAL 2"

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Regional Workshop on Wood Tracking Systems (WTS) and EU Deforestation Regulation (EUDR)

Compliance:

Strengthening Forest Governance in Eastern Partnership countries

Yerevan, Armenia, 22-25 October 2025

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Introduction & Purpose of SUMAL 2.0

National digital system for tracking timber from forest to final product

Developed by the Government of Romania to strengthen forest governance

Ensures legality, transparency, and due diligence across the wood supply chain

Core objectives:

Prevent illegal logging

Support sustainable forest management

Build public trust through open data



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Background to Development & Implementation



- 2008
 - SUMAL 1.0 launched in 2008; limited coverage and paper-based gaps.
- 2014
 - EUTR and public demand for transparency prompted reform
- 2021
 - SUMAL 2.0 integrating GPS, mobile and online databases



Jointly developed by the Ministry of Environment, STS (IT division), and Forest Guard.

Implementation involved gradual onboarding of forestry operators, transporters, and processors.

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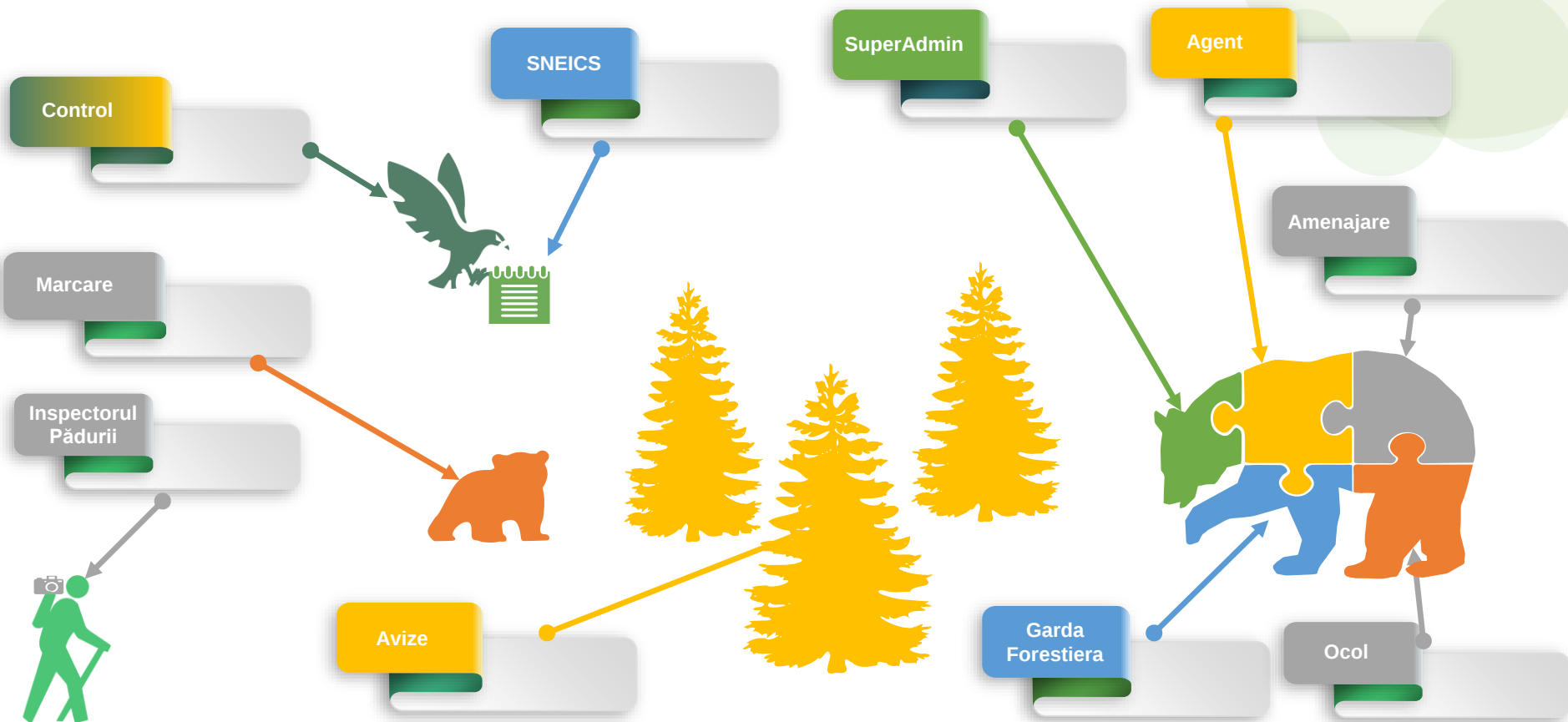
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SUMAL 2.0





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SUMAL – Amenajare Forest Management Plan Creator



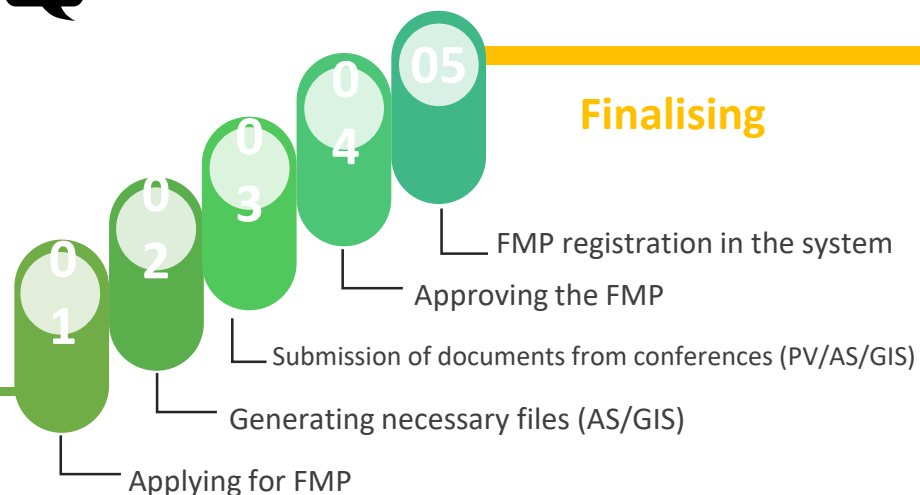
Project
Manager



Project
Manager



Forest Management Plan (FMP) creating



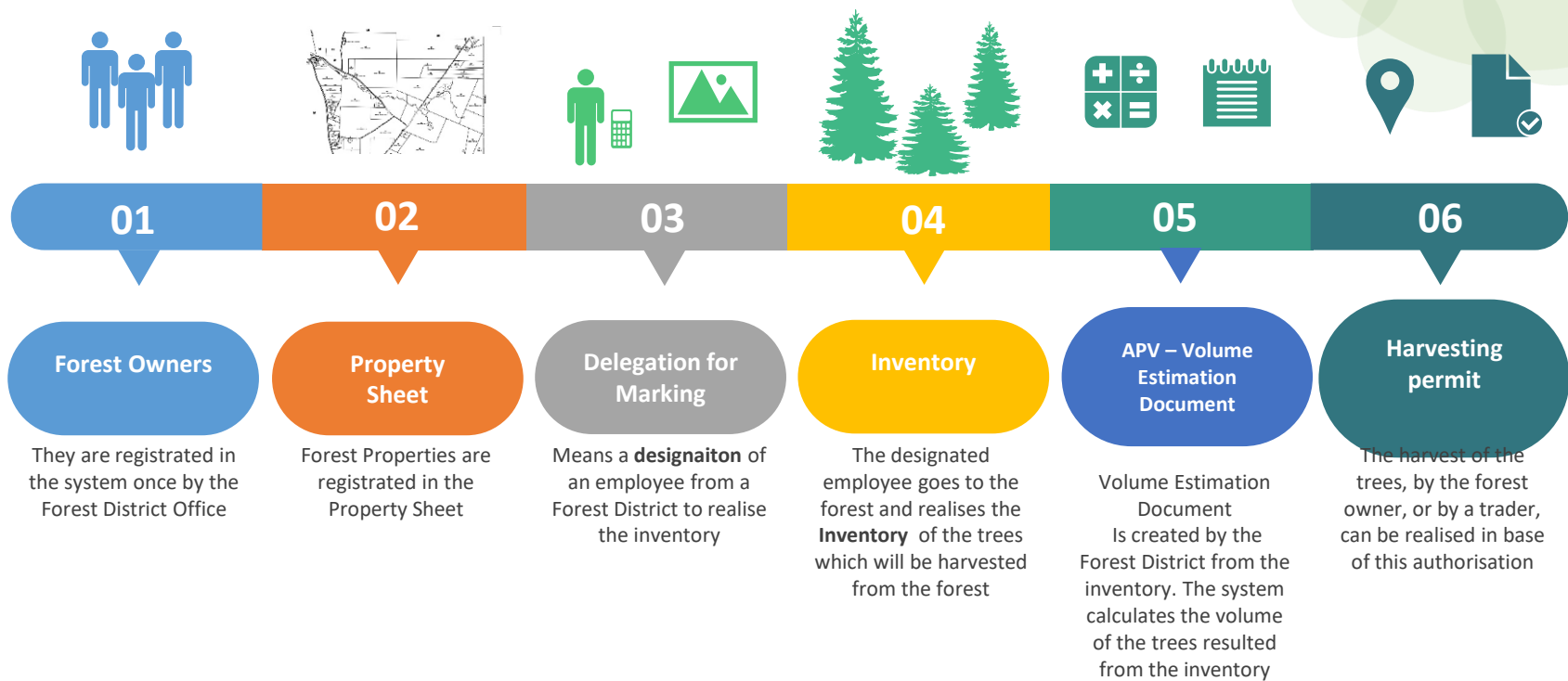
Finalising



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SUMAL – Ocol





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SUMAL – Ocol Marcare – Marking



Inventories

In base of a marking delegation an employee from the Forest District introduces the data necessary for volume calculating according to the calculation method



Localization

The Application locates the user while he is realising the inventory



Transfer

The transfer of the marked trees, logging areas and location registration of the Primary Platform



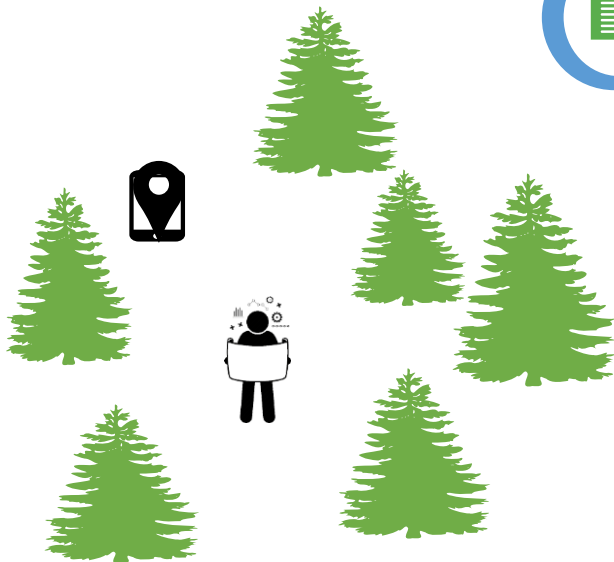
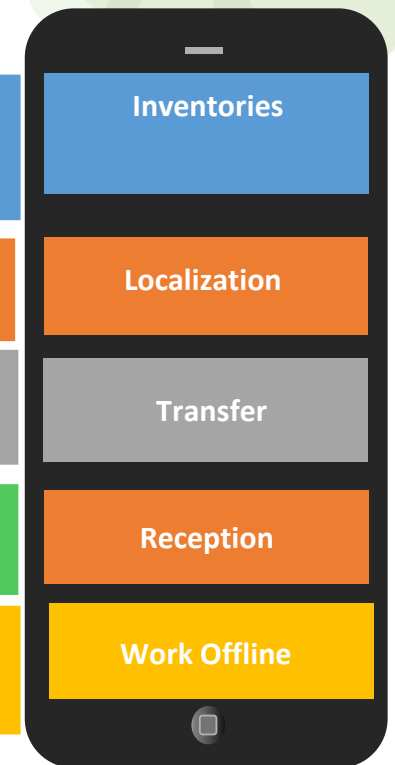
Reception

Stock management while the reception of the logging area is realised



Work Offline

The Application is projected to work offline too, with data stocking until the user goes online

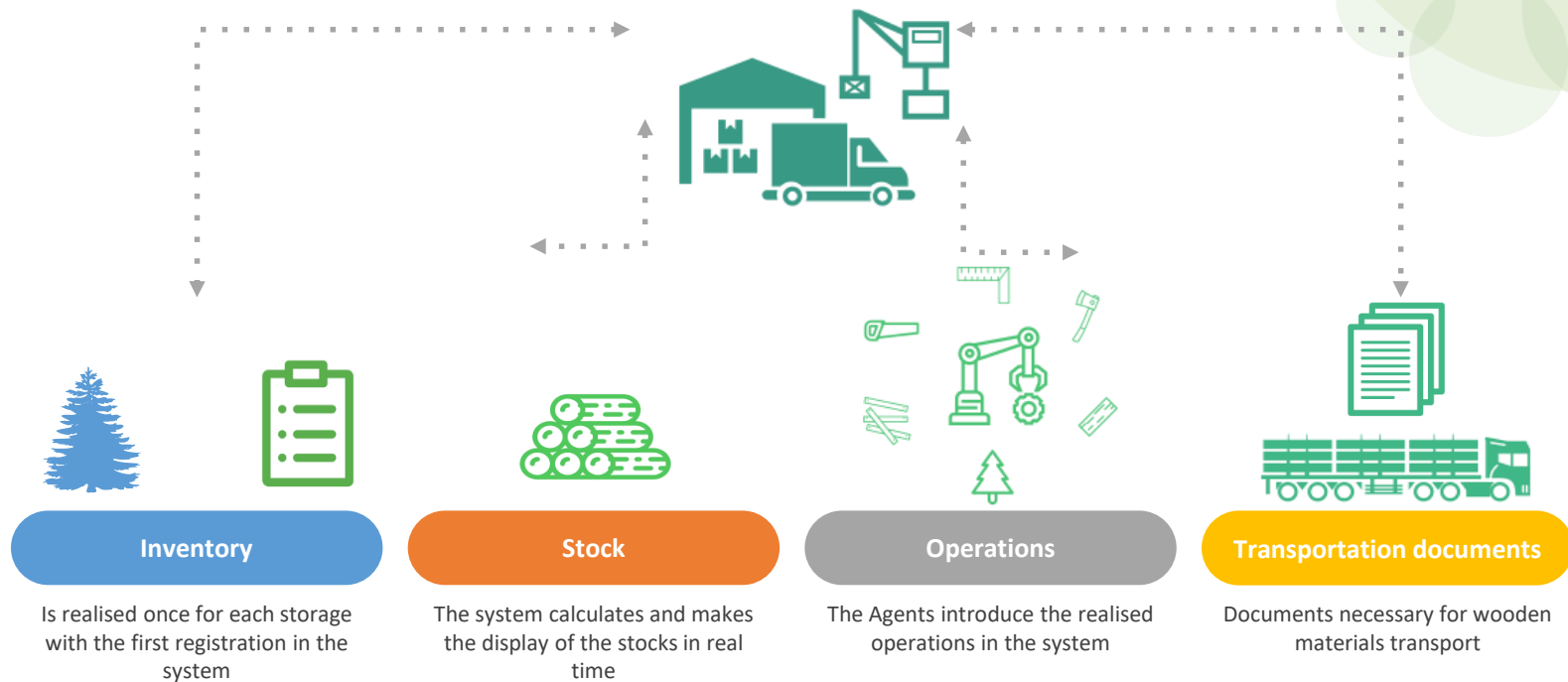




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SUMAL – Agent



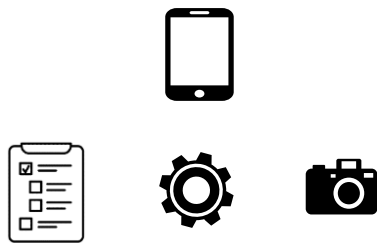


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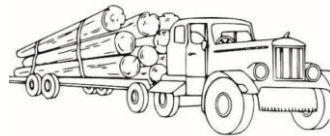
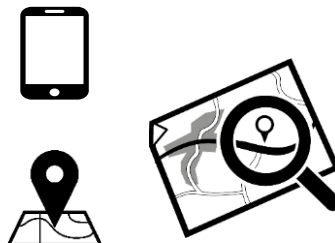


SUMAL – Avize



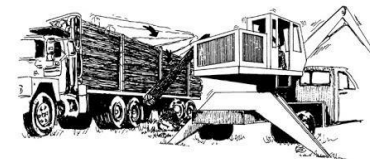
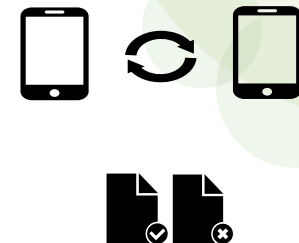
- Generating transportation documents
 - Goods verification
- transferring transportation documents to the transporter

Loading



- Transportation documents overtaking
 - Transport location
- Picture taking for the charge
- Caption of transport interruptions
 - Transport finalisation
- transportation documents transfer at destination

Transport



- Transportation documents verification
- Transportation documents Acceptance / Rejection
- Goods introduction in the storage stocks

Unloading



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SUMAL 2 – GardaForestiera – Forest Guard



Personal data and account
administration



Deposit and company data
administration



Forest District activity visualisation



Agents activity visualisation



Forest Management Plans
visualisation



Realises verification operations



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SUMAL 2 – Control



Application

A simple architecture in a portable device, which offers vital functionality for the entire system



Users

Only users with the control role have access to the application. It can be attributed to companies as: Control, MMAP, Garda Forestiera or Ocol



Control

The application allows the control of the goods from a transport / storage. This is done by communicating with the SUMAL server, or by communicating with WoodTracking application.

Transportation
documents
searching

APV searching

Deposit
searching

Tehnologies

The application is developed for the most used operating systems for mobile phones



Android

81.5% of Romanian users.



iOS

18% of Romanian users



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SUMAL 2 – Inspectorul Padurii – Forest Inspector



Web



Application Inspectorul Pădurii is intended to provide public information to the population under SUMAL 2, in accordance with the legislation in force, regarding wood harvesting and transport of wood materials

Mobile



Functionalities

- Transportation documents
- APV (Volume Estimation Documents)
- FMP maps
- Virgin/ Quasi-Virgin Forests Catalogue
- Protected Natural Areas

Functionalities

- Transportation documents
- APV (Volume Estimation Documents)



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SUMAL 2 – SuperAdmin





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Key features

- **Real-time traceability** – GPS + barcode/QR code tracking.
- **Public transparency portal** – accessible database for citizens.
- **Integration with enforcement** – automatic alerts for anomalies.
- **Mobile apps** for operators and inspectors.
- **Data interoperability** – cross-checks with other government databases (permits, tax, customs).

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Impact & benefits - (1) tangible results (2024)

Users - **104,367**

Control users - **10,594**

Volume monitored – **17,840,000 million cm**

Authorized transport means - **93,529**

Individual recordings - **4,000,000**

Companies - **17,241**

Interrogations - **421,841**

Active storing facilities - **18,265**

Calls to 112 - **987**

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Impact & benefits (2) – wood flow data

Diagram 1 – Allows visualization of wood flows by Transformation Stages

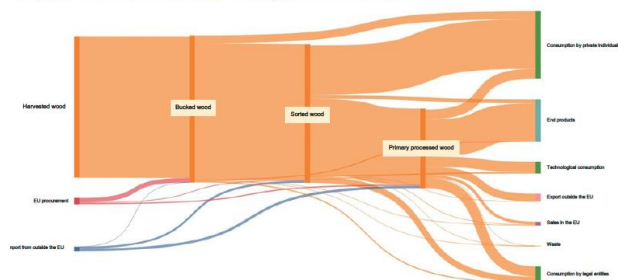
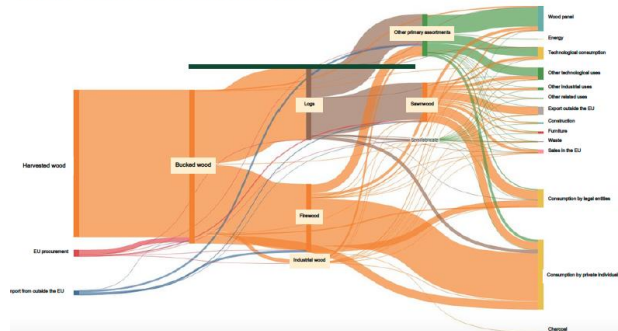


Diagram 2 – Allows visualization of wood flows by Assortments



<https://balantalemn.ro/>

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Challenges & criticisms

Implementation difficulties at the start – adapting to new digital procedures

Connectivity gaps in remote forest areas

Training needs for small operators and enforcement staff

Balancing control and efficiency – avoiding excessive bureaucracy

Data protection and cybersecurity concerns

Continuous improvement based on user feedback

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Case studies

- Rapid detection of illegal transporting using GPS alert and photos
- Integration of storage facilities management
- Use of public portal by NGO or journalists for oversight
- <https://inspectorulpadurii.ro/> - /

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Future developments

Planned integration with satellite imagery (Copernicus).

Enhanced AI-based risk analysis and predictive alerts.

Further expansion to forest management planning and carbon monitoring.

Potential for regional replication and open-source modules.

Opportunities for international cooperation.

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Lessons learned & recommendations

Political commitment is key to implementation.

Strong legal framework supports digital enforcement.

Public transparency increases accountability.

Gradual onboarding and user feedback are crucial.

Technology must serve governance, not replace it.

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Conclusions & take aways

SUMAL 2.0 = a proven digital ecosystem for wood traceability

Strengthens governance, legality, and public confidence

Offers a replicable model adaptable to national contexts

Demonstrates that technology + transparency = better forest protection

Romania is ready to share expertise and collaborate with other countries



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Thank you!

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