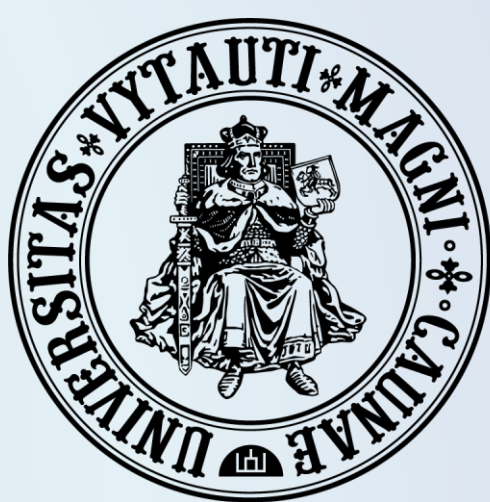


MOVING FORWARD SUSTAINABLE NATIONAL FOREST INVENTORY IN LITHUANIA WITH CUTTING EDGE TECHNOLOGIES - FROM PROTOTYPE TO WIDE SCALE ADOPTION



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National inventory of Lithuanian forests (NFI) has been carried out since 1998. It is a key source of information on the Lithuanian forests, covering the entire area through a reliable sampling method. This inventory is used for reporting and policy-making purposes. It employs a representative sampling method, that ensures every forest element has an equal chance of being included in the sample. Each measurement is verified at the sample unit level.

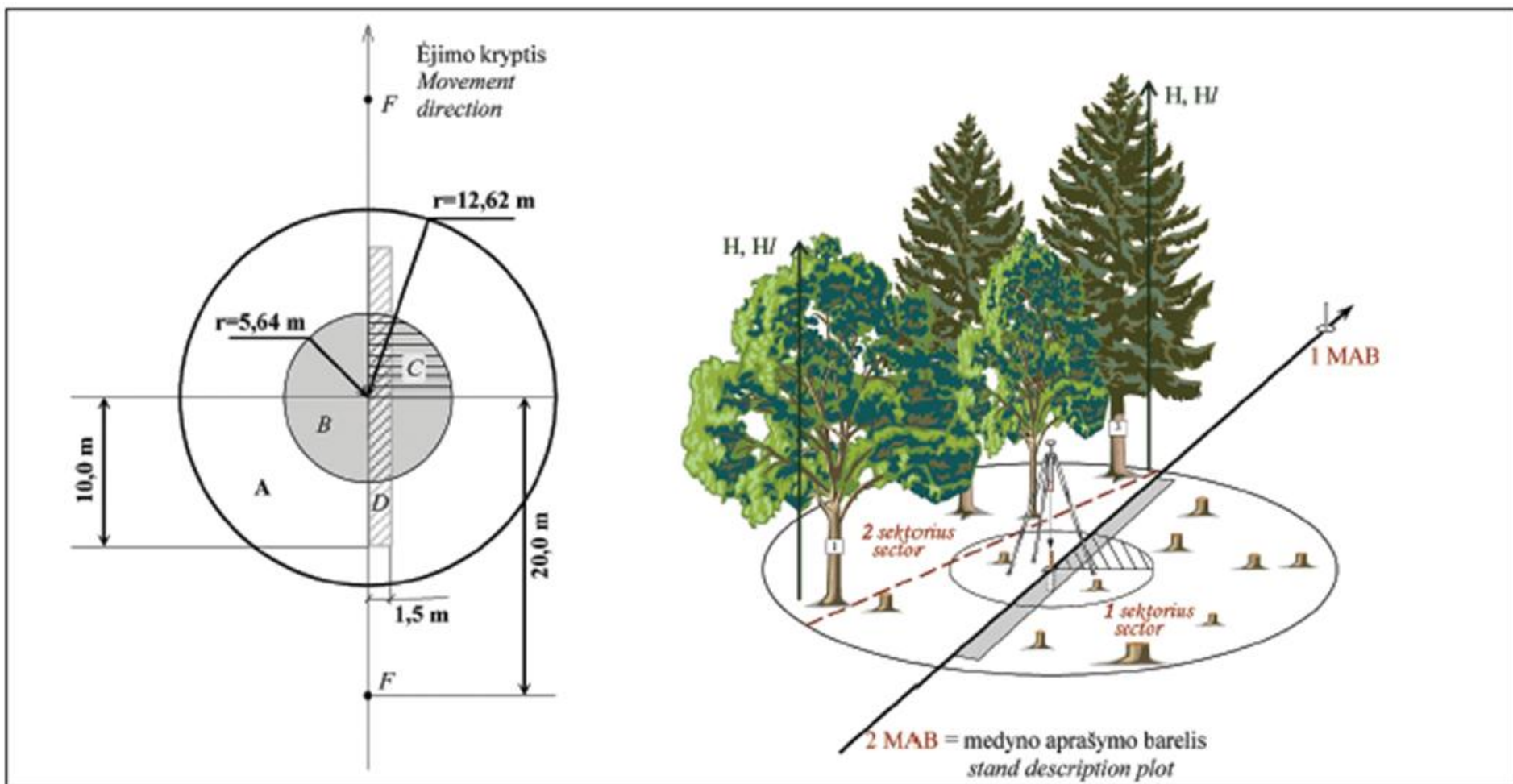
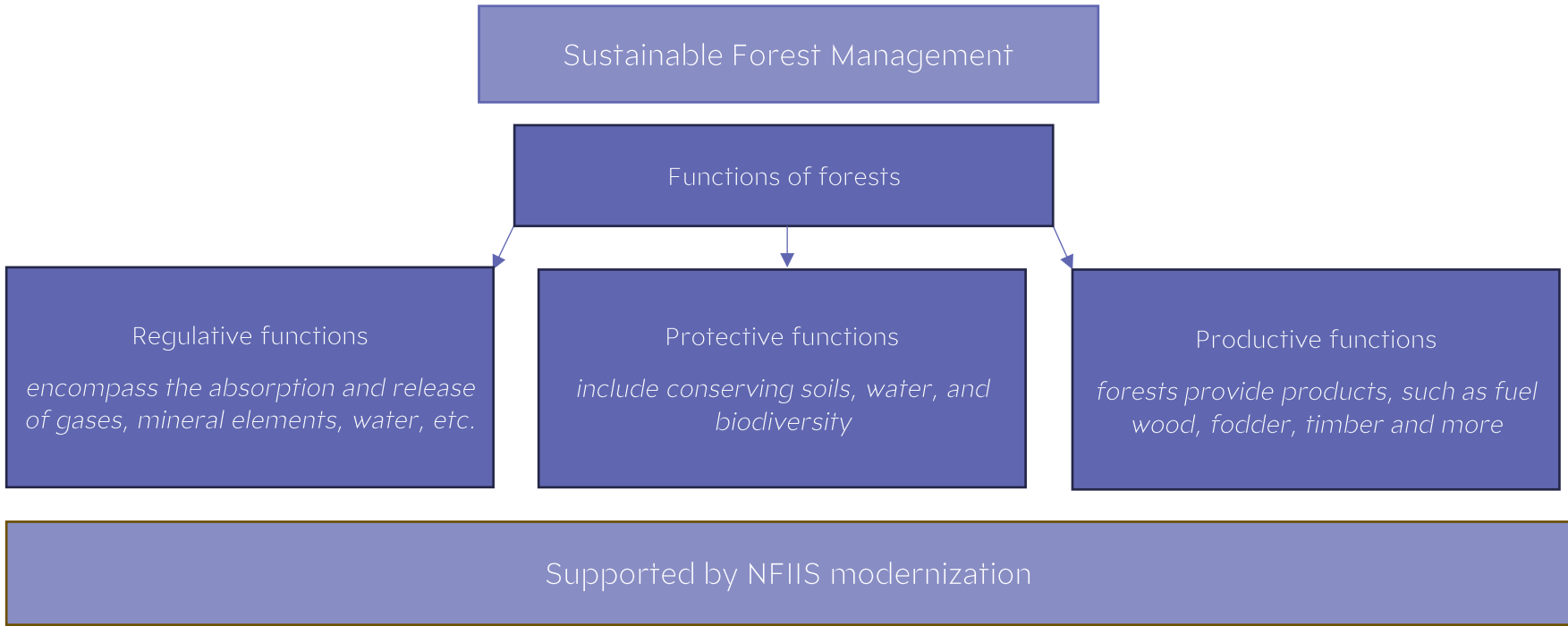


Fig. 1. Objective distribution of a sample plot: A, B, C – circular, respectively 500, 100 and 25 m² size plots, D – 30 m² strip and F – stand description plot.

1 AIM OF THE REASEARCH

NFI plays a pivotal role in advancing sustainable forest management, evidence-based policymaking, and climate action through systematic forest data collection and analysis. To ensure long-term national forest strategic goals and to meet evolving national (Forest Law, data lake and archival data orders) and EU legal requirements (LULUCF Regulation and the forthcoming EU Forest Monitoring, Regulation), the existing NFI information system needs to be modernized.



2 NFI INFORMATION SYSTEM

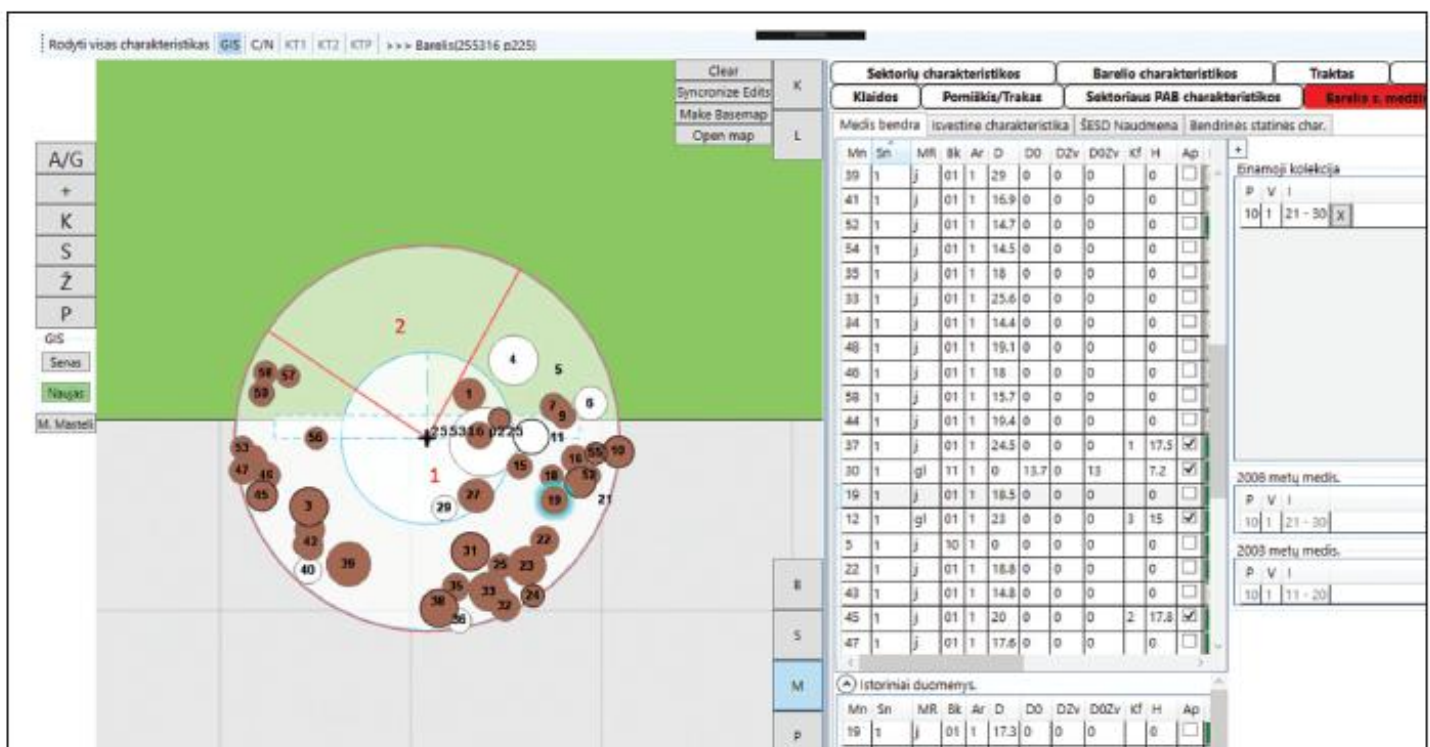


Fig. 2. The example of field computer screen for forest inventory by sampling method

NFI Information System uses a robust SQL database and client-server architecture to optimize data processing, inventory accuracy and strategic policy development.

It is needed to transfer the functions of calculating characteristics from the currently used file-based system to the NFIIS platform, as well as to update the data import module.

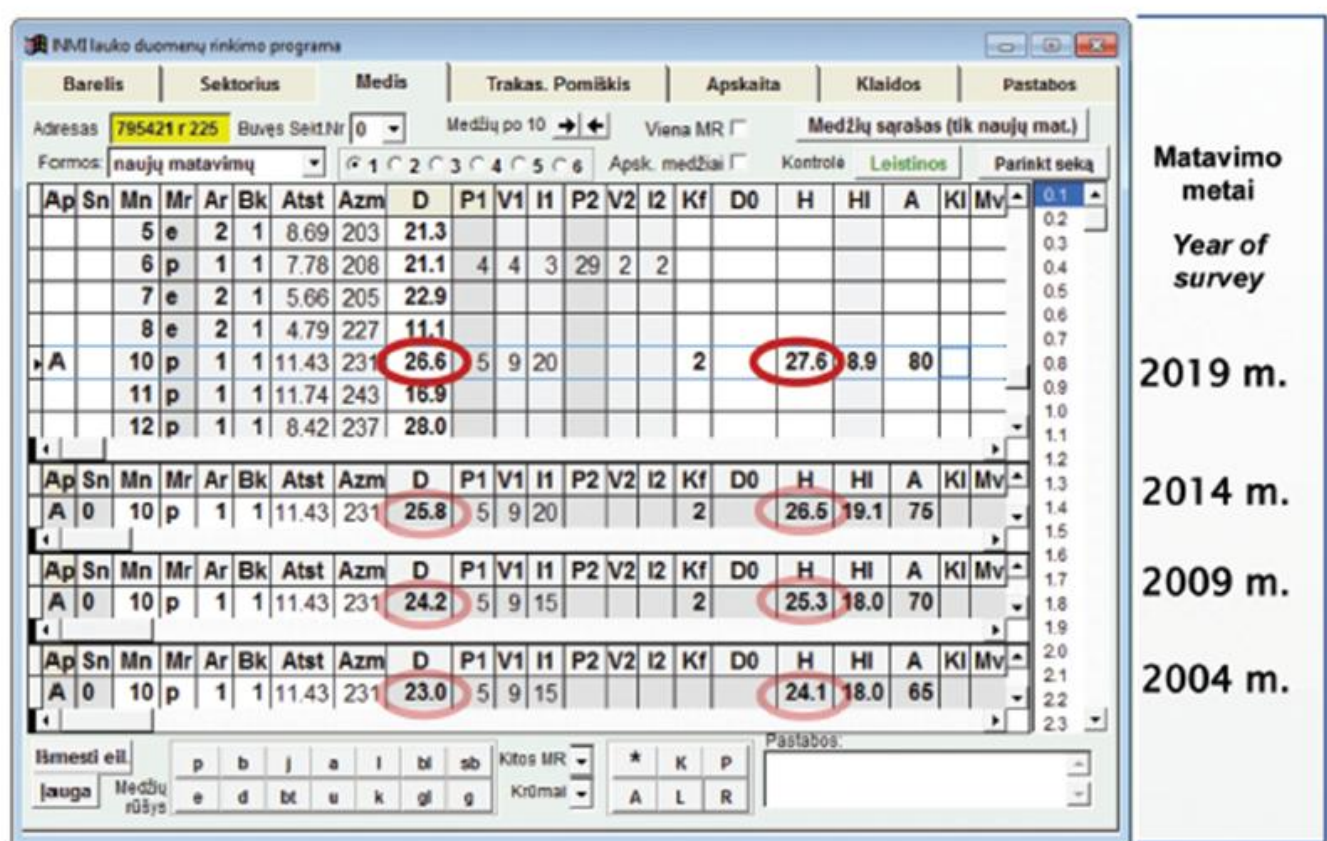
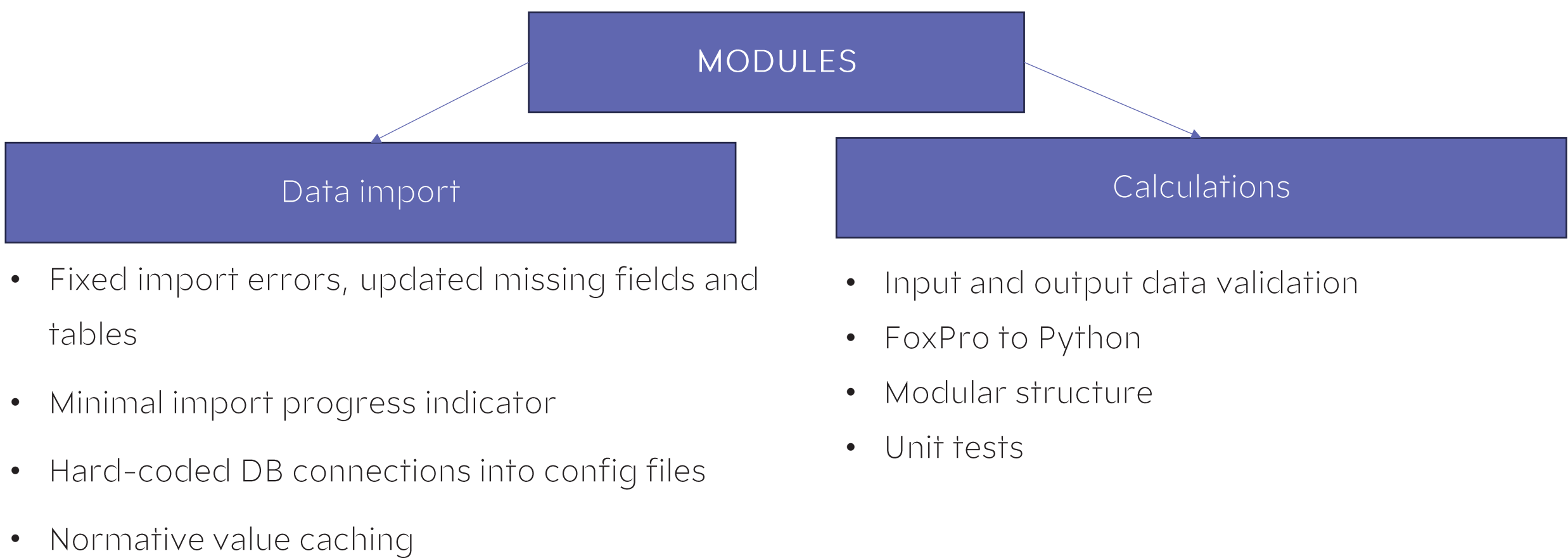


Fig. 3. Data collection and checking. Tree data table on the screen of field computer

3 NFI IS MODERNIZATION



6 FUTURE PLANS

- The new architecture will enable seamless integration with emerging technologies, including AI-driven analysis and remote sensing data sources.
- Beyond technological advancement, this modernization underscores Lithuania's commitment to innovation, efficiency, and digital resilience in sustainable forest governance.

7 FUNDING

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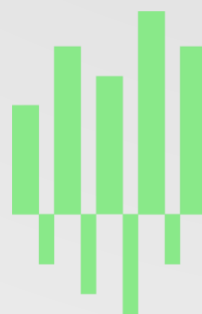
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