



ForSCOPE - Forest Supply Chain Optimization System

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2. Organization Information

Country Portugal

Region North

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3. Organisation in charge of the good practice

Is your organisation the main institution in charge of this good practice? Yes

If no, please tell us who is the main institution in charge

Name Organisation

Country

Region

City

4. General Information

Practice Image



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| Title of the practice | ForSCOPE - Forest Supply Chain Optimization System Provides relevant information to support decision making in the context of circular economy and forest value chains |
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| Geographical scope of the good practice* | National |
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5. Good Practice Detailed Information

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| Short summary of the practice | Currently, most of the management of forestry operations is done empirically and based on scarce information and rarely shared among the various stakeholders, resulting in a loss of efficiency and waste of resources. Consequently, it is necessary to optimise logistics and value chains by sharing information and matching available resources. |
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| Detailed information on the practice | <p>The ForSCOPE is a prototype of an advanced planning system for forest supply chain. It works as a digital marketplace for forest biomass, providing information on supply and demand for forest biomass for various types of users, biomass producers, biomass consumers and logistical suppliers of processing and transportation. It also allows the planning of the supply chain, i.e., it sequences the forest biomass splitting operations according to the available equipment fleet and their productivity, to minimize logistics costs and meet the supply contracts of the biomass plants. It can also provide the optimal transport routes and cost estimates with processing equipment, with transport equipment, thus allowing the management of an operations plan that can be monthly but also a daily management of operations.</p> <p>In this way, forestry companies and service providers can manage their workforces more appropriately and the entire logistics of wood and forest biomass can become more competitive. This contributes to increasing the use and valuation of biomass and woody forest resources, with impacts on reducing the risks of rural fires, which are key in the implementation of circular economy in Portugal.</p> <p>ForSCOPE is a research prototype developed by INESC TEC that is being adapted in the framework of the replant project (www.replant.pt) to cover a larger scope of forest-based value chains.</p> |
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| Resources needed | Project rePLANT - 5.6 million euros, being supported by 3.3 million euros by Compete/Portugal 2020, through the Competitiveness and Innovation |
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Operational Programme (POCI) and the Lisbon 2020 Operational Programme.

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| Timescale (start/end date) | 2020 - 2023 |
| Evidence of success (results achieved) | <p>The rePLANT version of the ForSCOPE prototype is under development and will allow monitoring the execution of operations in real time from sensor data.</p> <p>Use cases have been surveyed and IOT specifications, dashboards and maps required for the implementation of the platform in the market have been studied. More recently, an effort has been made to develop a web app, with intuitive interfaces adjusted to the needs of different target audiences - for example by producers, biomass consumers and logistics service providers. These interfaces allow the exchange of data between agents, joint planning, generation of alternative optimisation scenarios and the consultation, analysis and sharing of the resulting plans.</p> |
| Challenges encountered (optional) | |
| Potential for learning or transfer | <p>Some key factors of this initiative may contribute to easy replication across other regions:</p> <ul style="list-style-type: none"> - The prototype will be compatible with the use of any forestry company and service providers in the forestry area throughout the country. - Even small producers and associations, with little financial resources available for forest management, may benefit. |
| Further information | http://www.forscope.inesctec.pt/ |
| Keywords related to your practice | Forest management; Sustainable Forestry Logistics; Monitoring of forest production; |