Forest market data automation

Monitoring the development of the wood market is important for forest owners who make decisions on forest management and felling. Wood market information can be divided into end-product market and domestic wood market information. The end-use product market includes market monitoring related to the development of the world market for forest-based products. The development of the end-use product market has an impact on the development of the domestic wood market. Market information relevant for monitoring the domestic wood market includes wood trade, logging amounts, forest resources, and imports and exports of roundwood and wood chips. Wood supply and demand are freely determined by the market, where better monitoring and utilisation of this information will allow individual forest owners to influence the profitability of forestry. On the other hand, many other factors also influence on the wood market and the profitability of forestry. Reliable and accurate information is an important element in the functioning of the wood market.

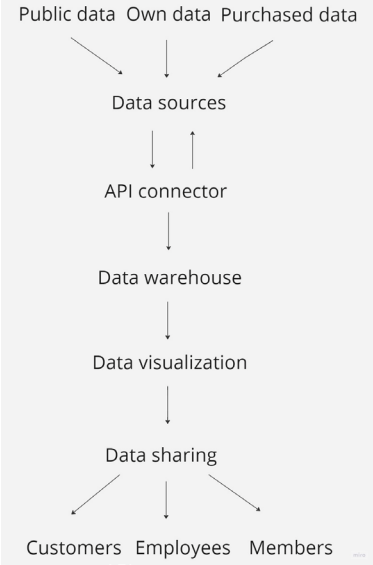
The Central Union of Agricultural Producers and Forest Owners (MTK) has implemented the automation of wood market information to improve the knowledge that supports members' decision-making and create value-added. Also, employees of MTK and Forestry Association are an important target group to support forest owners´ benefits and decision making. The service for other customers could be also supported by data sharing possibilities. The data automation uses API (Application Programming Interface) technology, which provides the way to extract data from information systems and store it at a data warehouse. API is a set of rules and protocols that allows different software applications to communicate and interact with each other. API uses connectors to take data from servers automatically. As the volume of data grows, it is essential to improve the automation. Data sharing may utilize internet, intranet and mobile applications where service design takes the needs of target groups into consideration. API technology enables a more accurate, faster and more reliable as well as secure way to share information across information channels. The following new data services have been developed for the main target groups by using API technology and data warehouse from alternative sources:

Public data: Weekly, monthly and quarterly statistics on timber trade from the open interface of the Natural Resources Institute Finland (Luke). Baltic sea region wood trade information from international trade statistics of Finland and other countries statistical services on wood market. Data include volumes of trade and wood prices indexes of alternative countries.

Own data: Statistics on wood trade tendered by the Forestry Association from the operating system. Information database is based enterprise resource planning system of Sitowise/Bitcomp ltd., which includes prices and volumes of tendered wood.

Purchased data: End-use product market data for the chemical, mechanical and biomass industries from the purchased interface service. Information services include international prices of paper, carton board, pulp and local prices of energy fragments (energy wood, bark, saw dust) and prices of lumber.

Service link: https://www.mtk.fi/puumarkkinat



KEY WORDS

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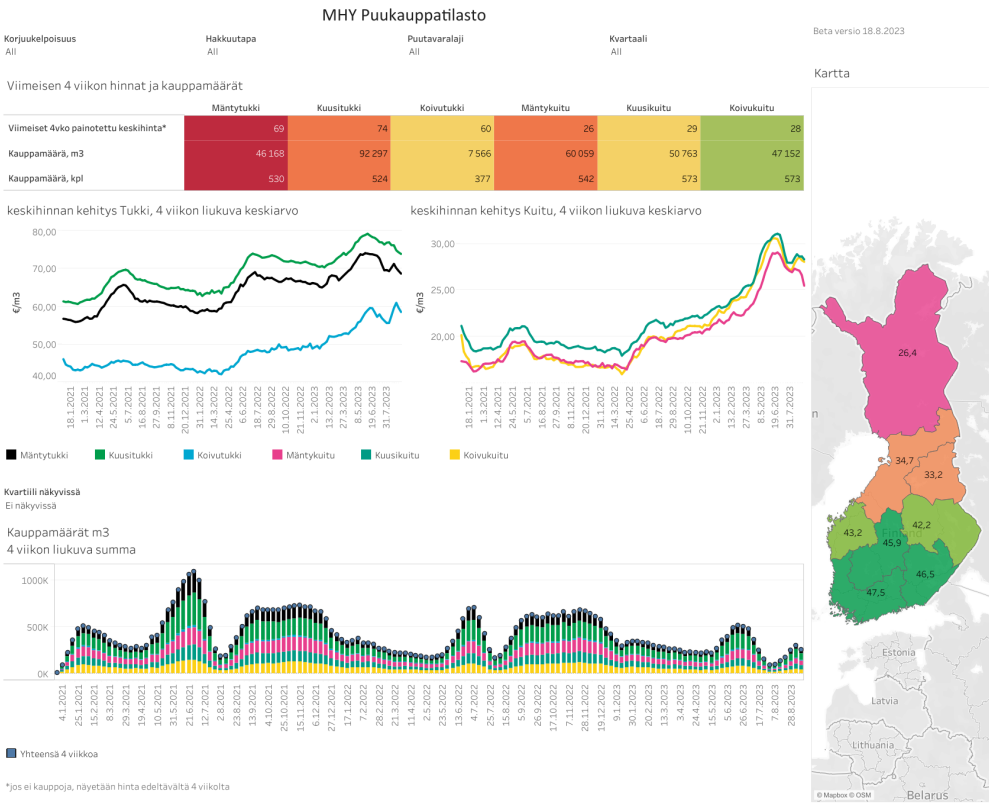

Figure: Front page of the statistics on wood trade tendered by the Forestry Associations (Information system made by Bitcomp ltd. and QuickBI ltd.)

BRANCHES project

BRANCHES is a H2020 "Coordinaton Support Action" project, that brings together 12 partners from 5 different countries. The overall objective of BRANCHES is to foster knowledge transfer and innovation in rural areas (agricolture and forestry), enhancing the viability and competitiveness of biomass supply chains and promoting innovative technologies, rural bioeconomy solutions and sustainable agricultural and forest management

Technology

The automated data gathering process involves data extraction from various sources such as APIs and spreadsheets or CSV files. Extracted data is stored in a data warehouse. The purpose of the transformation process in the warehouse is to make data more suitable for analysis and reporting purposes. Finally, transformed data can be seamlessly shared with various tools and for different purposes. Typically data visualizations are made within BI tools.

Data is gathered for example from the Natural Resources Institute Finland (Luke), Statistics Finland, Google Finance, Forestry Associations and Finnish Customs resources. Google BigQuery serves as the data warehouse, while interactive reports, allowing users to explore and interact with visualizations for insights, are created using Tableau.
Technology by: QuickBI ltd.
https://quickbi.io/en/

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