

BIOMASS SUPPLY MANAGEMENT



USING

ERP PLATFORM

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A case study of MHG systems

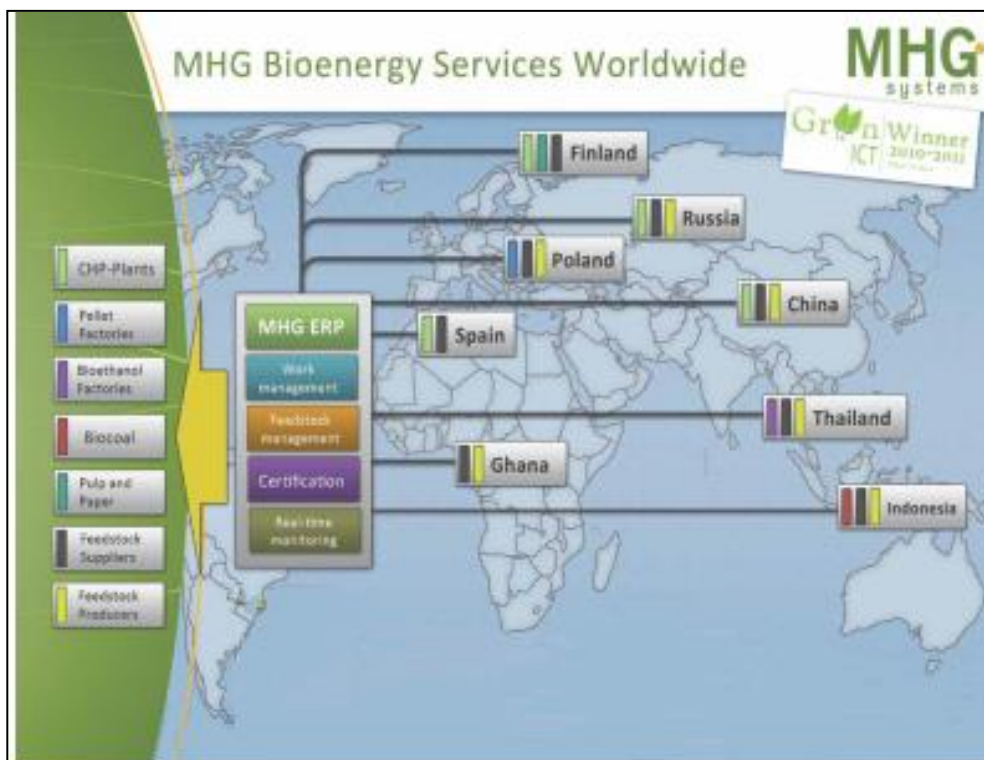
This case study presents a model of Supply Chain Management (SCM) of biomass using the Enterprise Resource Planning (ERP) platform. It tries to explore and assess the feasibility of employing ERP to practice a more sustainable logistics and supply chain of biomass, in the effort to reduce environmental impact, reduce logistics cost and overall operational cost of the biomass plant. The main driver behind such a system is the development of a highly integrated web-based communication system that allows a flawless exchange of information for better planning of procedure and implementation.

Enterprise Resource Planning

ERP is a platform which integrates the data and processes of an organization into one single system. The core of an ERP platform is a software application that is customized to fit specific needs depending on the type of business. The ERP managers can retrieve the data at any point and thus can maintain all the process of the business chain. The basic idea of ERP is to better manage the wide resources that an organization has by careful planning and execution in a smart and efficient manner, enhancing performance, speed and competence.

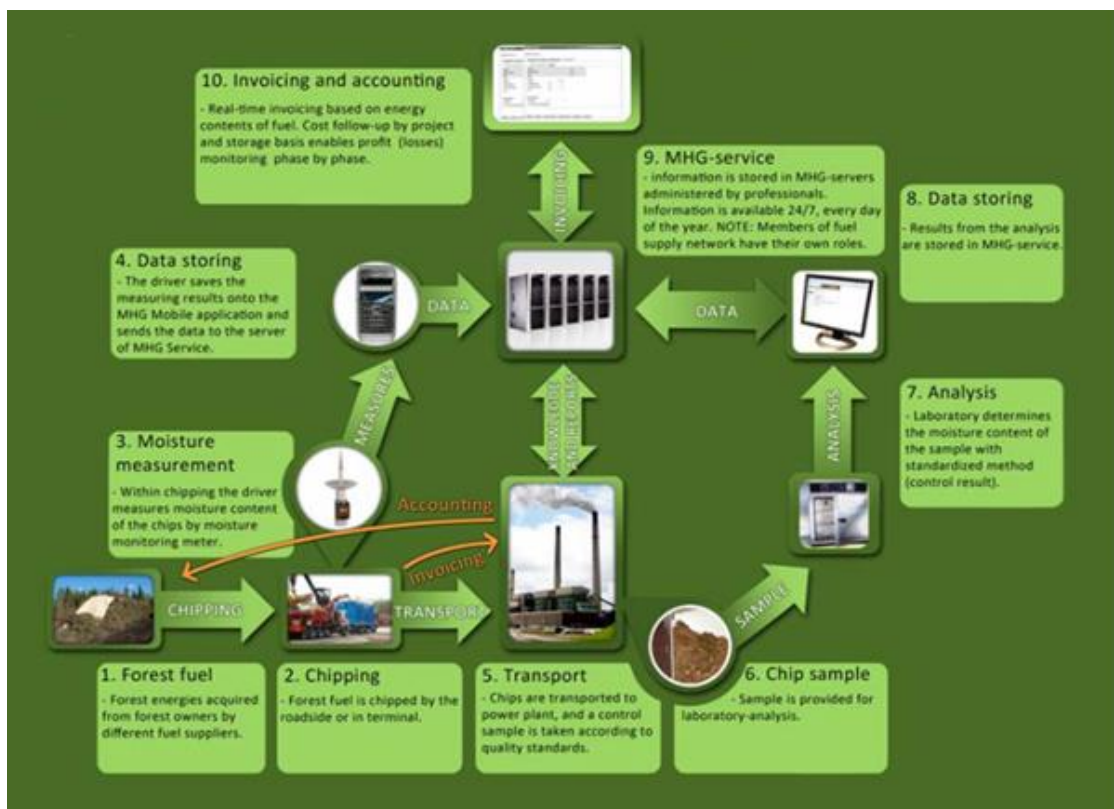
MHG systems ERP in Biomass Supply Chain Management

Biomass supply chain management using ERP platform streamlines various stakeholders of a supply chain and keeps track of activities at each level. It helps in operational cost reduction, forecasting of availability of raw material, improved customer service and satisfaction, etc.



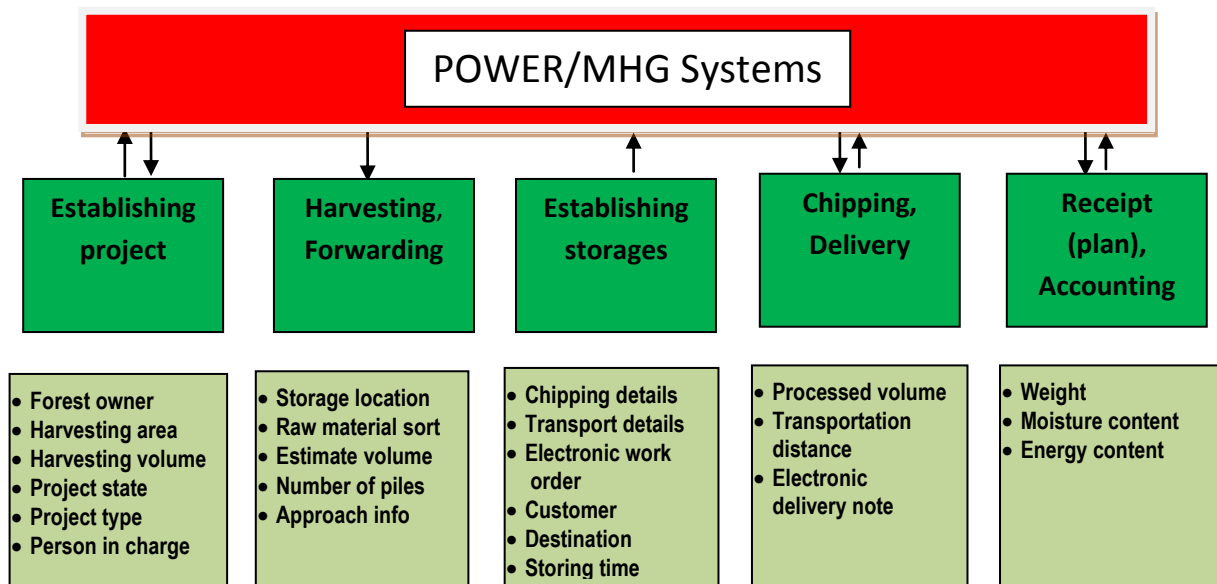
MHG systems, which is renowned for bioenergy ERP system worldwide, are functional in many countries and have provided their services in various sectors such as CHP plants, bioethanol factories, biocoal, pellet factories, feedstock suppliers and producers, pulp and paper, etc.

MHG Bioenergy ERP Service monitors the quality and characteristics of feedstock as part of an integrated end-to-end system for managing the biomass supply chain and procurement process. The biomass supply chain is maintained using mobile applications, satellite based locations, real time maps and internet. The schematic shown below shows the various linkages followed on an ERP platform.

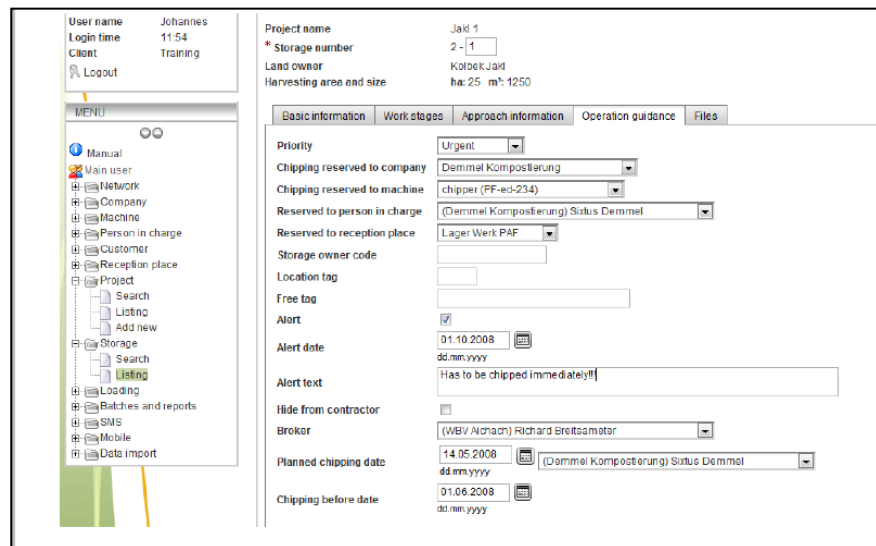


Source: MHG Systems. More information on MHG bioenergy ERP can be accessed at <http://www.mhgsystems.com/>

At the outset, the basic information about availability of biomass resource is collected. This includes information such as details of land owner, type of resource, harvesting area and volume, basic financial management, etc. this information is stored for the users. The other information collected and analysed is information on characteristics of biomass such as moisture and energy content. The information required, obtained and maintained at various levels of supply chain in an ERP system is given in the following figure.



The collected information of biomass resource is stored and properly documented in real time with location (GPS accuracy), date, energy value, volume and condition (quality) of feedstock reported, etc. Pictures are also taken and stored in the database. The digital maps are used to locate the storage places, harvesting sites, etc.



A central data management system as shown in figure distributes and forwards the available information to all the stakeholders. The user needs a mobile phone that has Java-support and a GPS-receiver.

Advantages of using ERP for biomass industry

The application of ERP techniques within the biomass industry has several important benefits throughout the biomass supply chain such as:

- ERP enables new business operating models which reduce inefficiencies and lead directly to improved profitability.
- More efficient business processes mean better use of time and increased production.
- Moisture monitoring and optimisation means biomass reaches optimum dryness levels, so the energy yield is in turn optimised: more energy from less biomass.
- Higher biomass quality means less waste and lower maintenance costs; and a better end-product.
- More efficient transportation reduces fuel consumption, emissions and expense.
- Accurate, real-time data supports better communication and operations