

DRONE AS DECISION SUPPORT

– *see the forest and measures from above*

Demand for timber raw materials is expected to continue to increase, and the group of forest owners continues to change. The forest owners' goals, values and knowledge of forestry have become increasingly diversified, and the group of distant forest owners is increasing.

To make it easier for forest owners and entrepreneurs to do forest service-related business, a need for more technical solutions in the forest service sector was identified in the beginning of the project Prosperous forest.

The "drone pilot" investigated the potential of a service concept that includes images taken with drones. The target groups were small and medium-sized enterprises (SMEs) as well as private forest owners who live far from their forest property. A delimitation was made to the measure precommercial thinning, in the Swedish part of the project area, which roughly includes Västerbotten and Västernorrland. Questions to answer during the pilot survey were:

- What support do forest owners believe that images collected with drones constitute for forest decision-making?
- To what extent can drone images in still and moving format bridge the physical and / or mental distance that the forest owner has to the forest?
- In what way should the stock be imaged to give the clearest picture of the condition there?
- What is the willingness to pay / added value for this type of drone imaging service?

- Can small and medium-sized enterprises, with the help of the drone as a communication tool, attract more forest owners and thereby achieve increased order intake?

Sixteen forest owners completed the entire survey by watching two short sample films on drone images and answering the questions in an accompanying questionnaire. Interviews were conducted with three smaller companies, to get to know their views on drones and what business opportunities they could see for drone images in their own business. After the survey was compiled, a webinar was held.

The results showed that the target group was reached to a great extent. The vast majority knew all or part of their forest and its development over time well. Half the group had at some point been contacted by a company which offered precommercial thinning and they all thought it was "very easy" or "quite easy" to communicate about the forest, its location and need for action with the forest service company.

On the question part about the drone material, the result show that it is important to have documentation both before and after the precommercial thinning and that traditionally measured stock data such as density and average height are also desired. The drone operator's manoeuvring is crucial for the material to be useful. *As expected, it is difficult to get a clear picture of the stock, seen on a computer*

screen, if the drone for example is flying too fast or swaying during filming.

The participant would be willing to pay for relevant drone services and it would be desirable to be able to adapt the content of the service to one's own needs and thus also be able to influence the price for it. A predominant part of the participants would rather buy the service from an independent company or another company than the one that sells the forestry service in question, but in free text it is also described that independence is not the most important thing if the data is available, clear and reliable.

To be able to compete with traditional field visits, a drone service must be of high quality. It needs to be easy to orientate oneself in and marked with for example GPS tracks. If easy to manoeuvre and possible to pause, zoom and shift focus in, another wish would be fulfilled. The combination of trust and that drone images can enrich the conversation is important.

The companies see potential in drone material both for their own account, for example to make price calculations, and to offer their customers drone services. The company's own fixed costs for collecting the pictures can be difficult to influence and to offer affordable drone services to owners of both large and small objects, they would sometimes need to make a smaller profit on an individual object or offer the service as a value-added service in combination with other forest related services to make a financial profit in each individual business. Even though the participants knew their forest well and found it easy

to communicate the forest and the need for action together with forest service providers, there was great interest in drone images as support, which indicates a wider and larger customer group than the pilots target group. Suggested here is an adaption of the design of drone services according to the needs of different customer groups and it can include at least three different types of services:

- A large proportion of forest owners who have not decided on a measure could be willing to buy a drone service from an independent company. or a company that offers the service independently.
- Another group can be offered the data as support in business conversations with the provider of the forestry service and are not uncomfortable with the idea that it is the same company, if the data is reliable, and the company has their trust.
- The group that was well aware of the development of their forest could be interested in a slightly simpler service, such as before- and after pictures in addition to the ordered forestry service, in order to follow up the measure.

Confidence in the company is basically the most important thing in a business context, and drone images are seen as a good basis for good dialogue between customers and service providers. In the dialogue, the company can certainly benefit from being sensitive to new ideas and wishes about different situations where drones can be used and several ways of designing attractive drone services.

PILOT SUMMARY



EUROPEAN UNION

Interreg
Botnia-Atlantica

European Regional Development Fund



Prosperous forest

Diversification through Inclusion and Specialisation