**Airborne laser scanning application in operational forestry in Poland**

LiDAR technology makes it possible to accurately determine the biometric characteristics of trees as well as many stand variables. Airborne laser scanning has been used for more than 20 years to determine forest characteristics, whether based on the detection of individual trees or an area-based approach.

In Poland, work has been ongoing for almost 20 years to integrate airborne laser scanning data into practical forest management, which is carried out every 10 years. In recent years, it has been possible to develop and practically test a method for estimating growing stock volume (GSV) at the stand level using ALS data and permanent sample plots. This method is currently being implemented in forestry practice and is to be approved as an alternative in the preparation of forest management plans in state forests.

The presentation, will demonstrate the process of implementing ALS solutions in forestry practice using a dedicated ALSgator application. The application consists of two modules - the control module and the stand variable prediction module. Within the control module it is possible to check many parameters of the ordered point cloud and the aerial orthophoto and to check whether the data meet the requirements. The stand characteristics estimation module allows the determination of the following stand level characteristics: GSV, basal area of all trees, DBH of all trees, DBH of the 100 thickest trees per hectare, the number of trees per hectare, the top height of the 100 thickest trees per hectare, the average height of all trees, the average height of the first layer trees.

Furthermore, we will present the experiences and challenges in the practical application of ALS from the perspective of the Polish forestry sector.