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| **Valuing Forests using MLS, VR and ALS for Assessment of Recoverable Log Volume.** |
| **Introduction/Aim:**  A practical look over 1700 forest inventory plots collected and processed using mobile LiDAR scanning (MLS) for the forest valuation and merchantable volume yield table development. Covering a mixture of pine and eucalyptus forests the plots, the dataset is likely one of the world’s largest ultra dense point cloud data collections for commercial (non-trial) forest yield, woodflow modelling, and subsequent forest valuation. The aim of the project was to replace manually measured forest inventory plots as part of the enhanced forest inventory (EFI) using airborne LiDAR (ALS), combined with single tree and area based yield imputations.  **Methods:**  Ground scanning using MLS LiDAR, in combination with 360-degree imagery, plot data was collected across approximately 1700 plots of both Eucalyptus and Pine. Plots were analysed in Interpine’s TreeTools software using a combination of 3D point cloud machine learning (ML), with virtual reality (VR) full tree cruising. Converted into full cruise tree measurement, data was passed through YTGEN to provide forest yield tables. These provided input into a random forests model for forest yield imputation when linked with airborne LiDAR (ALS).  **Results:**  Active ML, by providing a feedback loop back from the auditing and labelling of 3D point cloud datasets using visualisation and VR, enhanced the ML. This significantly increased the productivity of data analysis and review in preparing the forest yield table development. Benefits include reduces field time, and resources. Enhancing ML for tree stem, branching and understorey detection. Tree positional data out provides for direct from tree canopy to base matching with airborne LiDAR datasets.  **Conclusion:**  Collection of ultra-high dense point clouds, labelling and through active ML training loop enhancing detection and automated assessment for forest plot data collection is a way forward for forest valuation and development of forest yields. |