4 ROYELQUID FORESTRY

Bringing precision to mechanized planting operations and laying the foundation for autonomous operations

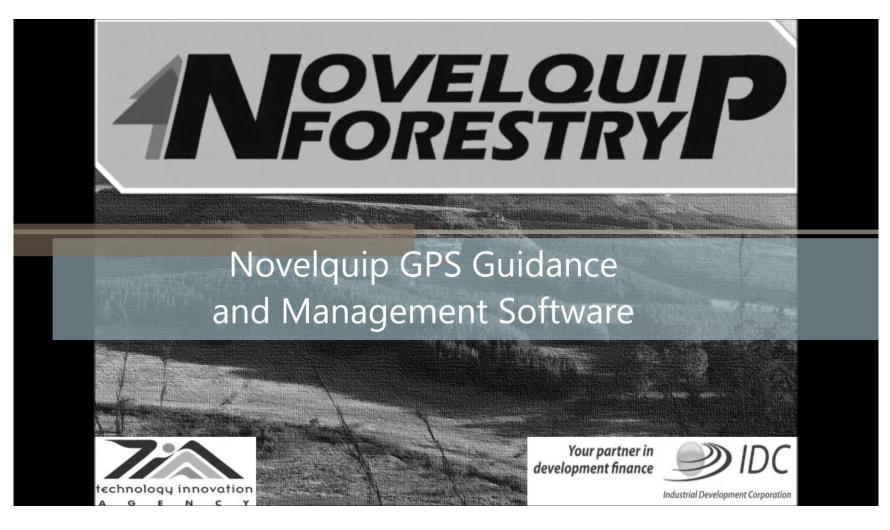
Key challenges in silviculture mechanisation

- Achieving consistent spacing accuracy, hectare after hectare, is difficult and stressful in manual or semi-mechanized operations, especially when running for long days and into the night and under challenging weather conditions.
- Inconsistent stocking is costly and difficult to optimise without the use of technology.
- Underutilisation of land.
- The need for manual marking of planting spots is time consuming and costly in terms of planning, operations and quality control for management.
- Manual recording of plantings completed for reporting and invoicing is inefficient, inaccurate, time consuming and costly.
- Skipping planned plantings increases costs, drop yields and productivity.



Precision by digital transformation and telematics

- ✓ **Planning:** Online platform for compartment and workflow planning and optimization. Easy to use website grid generator.
- ✓ **Operating:** GPS guidance of operator to planned planting location and recording of actual coordinate of planting.
- ✓ Reporting: Collects data in the mechanized operations which eliminates manual record keeping; On-demand production reporting of total plantings per compartment, shifts and total time worked in compartment, average plantings per hour, stems per hectare and actual GPS coordinates of each plant.
- ✓ Enables precision future innovations such as autonomous re-irrigation, fertilization, harvesting etc. Compatible with other mechanised forestry solutions including harvesting operations, can be fitted to any machine.



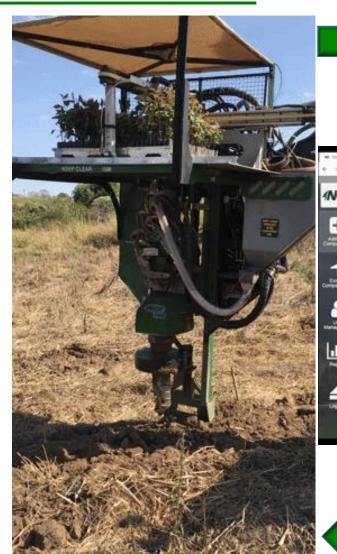


Precision by digital transformation and telematics

Platform technology Applications:

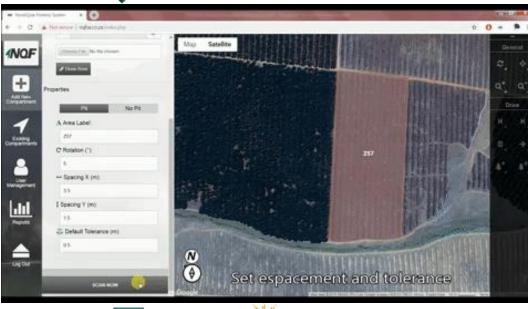
- Mechanized pitting
- Mechanized fertilization
- Irrigation
- Mechanized planting
- Thinning
- Harvesting

The first step to autonomous operations!

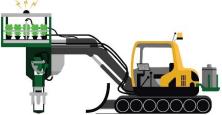


GPS capability & software:

- Planning
- Execution
- Reporting









Key Benefits

- Streamlines forestry-related business processes, reduces reliance on spreadsheets and handwritten reports and improves management's ability to access information and make decisions.
- Precision and quality is consistent.
- Due to the precision of stocking, no marking for planting is required and the need for supervision is reduced as these functions are accurately executed, controlled and reported by the system.
- Using the guidance system with signal correction, you can have more efficient utilisation of your land.
- Increase operating efficiency by making fewer manoeuvres with your base machine by snapping to the next GPS node.
- Makes working at night and double shifting possible.
- Seedlings and other inputs (fertilizer, irrigation) can be placed in the exact locations desired, saving on the costs of these inputs and increasing the productivity of the entire crop.
- Easy to use by foresters, contractors, managers or operators and helps them to efficiently and accurately complete their tasks.
- On-demand (automated) reporting of total activities per compartment, shifts and total time worked in compartment, average plants per hour, stems per hectare and actual GPS coordinates of each plant.
- Workflow planning and management of operations.
- Compartment planning and optimization.
- Can be adapted for any operation and base machine.



CONCLUSION

- Digitization and telematics enables precision silviculture and generates intelligence to optimize management.
- The Novelquip Machine Management System (MMS) accommodates all areas of forestry establishment management from planning to operations to reporting.
- Our unique, fully integrated technology is what foresters need from the office to the field and back again to get work done smarter, faster and more efficiently over the full rotation.

