

QUARTERLY PROGRESS SUMMARY: APR – JUN 2016

STEEPLAND HARVESTING PROGRAMME

This programme outlines a pathway for the New Zealand forest industry to develop innovative harvesting technologies for steep country forests that will reduce costs and make harvesting jobs safer for workers.

Summary of progress during this quarter

The main achievements in this programme during the period 1 April to 30 June 2016 have been:

- Successful installation and demonstration of teleoperation control system for a John Deere 909 feller buncher;
- Successful installation and demonstration of remote control unit for a Volvo 290 mobile tail hold anchor machine
- Completion of improvements to the alpha prototype tree-to-tree robotic felling machine;
- Production field trials of the alpha prototype remote controlled powered felling wedge commenced;
- Production field trials of the beta prototype Awdon Skyshifter twin winch tail hold carriage commenced;
- Construction of the Doherty automatic quick coupler attachment for processor head and grapple completed.

Key highlights and achievements

The Steep Land Harvesting programme, supported by innovative engineering firms and contractors throughout New Zealand, has catalysed the expansion of mechanisation in the New Zealand forest industry, whereby mechanised tree felling now comprises 57% of all harvesting operations compared to only 23% of all operations in 2009. The programme has developed a new generation of harvesting technologies, including the ClimbMAX harvester (ten units now sold, including six to Canada and one to the U.S.). In total 48 NZ-built winch-assist machines are now either operating throughout New Zealand or are in development. In addition a total of 12 winch-assist machines (including ClimbMAX sales) have been sold into North America. Other innovative steep country harvesting technologies arising from the programme include the first teleoperation control system for a John Deere 909 feller buncher, and a remote control unit for a Volvo 290 mobile tail hold anchor machine. The remote-controlled Alpine grapple carriage and the CutoverCam hauler vision system are in the early stages of commercialisation. Construction of both the Awdon Skyshifter, an innovative twin winch tail hold carriage for rapid shifting of the skyline, and the remote controlled powered felling wedge has been completed and both products are in production field trials. The Doherty automatic quick coupler is in final stages of development.

Sector wide benefits arising from the programme and related outputs to date total \$93.6 million from operational cost savings and machinery and equipment sales (\$48.6 million p.a. in 2015/16). The business plan envisaged cumulative direct economic benefits to date of \$168 million (\$66 million p.a. in 2015/16), as well as enhanced worker safety. These innovations are providing forest owners and contractors with solutions to improve productivity and reduce the exposure of workers to hazards on steep terrain.

Investment

<i>Investment period</i>	<i>Industry contribution</i>	<i>MPI contribution</i>	<i>Total investment</i>
<i>During this Quarter</i>	\$0.243m	\$0.229m	\$0.472m
<i>Programme To Date</i>	\$3.278m	\$3.262m	\$6.540m