



Ministry for Primary Industries
Manatū Ahu Matua



New Technology for the Small Forest Grower / Contractor

Forest Growers Conference
18 October 2017

supported by
forestgrowers
commodity levy

Primary Growth
PARTNERSHIP

Project Goal

- **Project Goal: Improve productivity and safety of harvesting on steep land and develop new forestry equipment for domestic and export sales**
- **Project commenced 2013 as part of Harvesting Technology Watch (Elmia Wood 2013)**
- **Vision: “To enable switching between a grapple processor head and a log loading grapple in 10 sec without leaving the operator cab, and with no contamination of the hydraulic system”**
- **Project budget = \$153,400 (\$125,900 spent to date)**



Primary Growth
PARTNERSHIP

Quick Coupler Project

- **Stage 1: Investigate FibreDrive, Sweden**
 - Adoption: Buy FibreDrive and implement
 - Adaptation: FibreDrive manufacture NZ model
 - Manufacture under license in NZ
- **Stage 2: Identify NZ manufacturing partner**
 - Satco Limited, SATCO® Logging Attachments, Tokoroa
 - Southstar Equipment NZ Ltd, Auckland
 - Doherty Engineered Attachments Ltd, Mount Maunganui



Quick Coupler Project

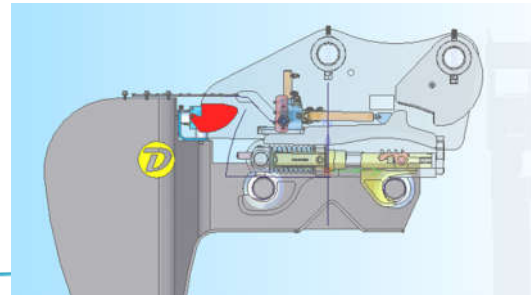
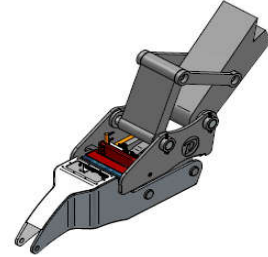
- **Stage 3: Design and build prototype in NZ**
 - Doherty Engineered Attachments Ltd, Mount Maunganui
- **Stage 4: Install and field test**
 - Forest Owner Marketing Services Ltd
 - Production field trials
 - Field Demonstration



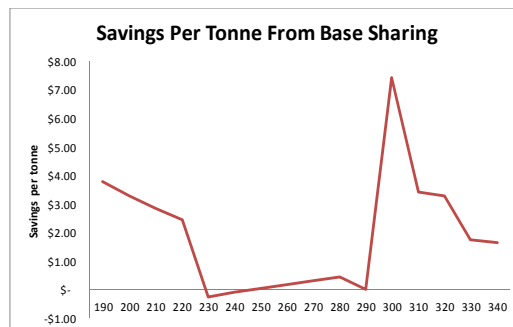
Quick Coupler Project



- Doherty automatic quick coupler
 - First unit designed, built and lab tested
 - Redesign to retrofit to first adopter machine
 - Marketed by Doherty Engineered Attachments Ltd
 - Target price \$45,000 (plus GST)



Project Benefits



- For crews producing <220 tonnes per day
- One less base machine and operator
- \$2.86/m³ lower harvesting costs
- Pay back in 4 months

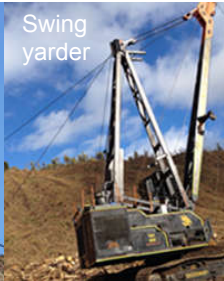


Innovative Yarding System for Woodlot Harvesting

Processor/loader using Doherty Quick Coupler



Swing yarder



CutoverCam hauler vision

Awdon Skyshifter tail hold carriage



Alpine Grapple extraction

Mechanised felling and HarvestNav navigation system



Technology Transfer

- **Developed for NZ conditions**
- **De-risked investment by woodlot logging contractors**
- **Assisted local engineering firm to design, build and commercialise**
- **Confirmed early adopter contractor for Quick Coupler**
- **Field demonstration to industry stakeholders**
- **Engage industry to support implementation**

