Introduction

• Elmia Wood 2013 the largest forestry machinery demonstration in the world: 5 – 8 June 2013
• A field trip to steep country harvesting operations in Germany and Austria: 9 – 13 June 2013
• A production study of the Valentini V1500 cable yarder in northern Italy: 13 – 14 June 2013
• What will work in NZ?
Elmia Wood – Sweden

- Worlds biggest forestry Expo
- 500 Exhibitors
- 50,000 visitors, ½ of them international
- Showcases the latest innovations and technology from around the globe
- Live demonstrations of exciting new developments
- Meet the innovators behind the developments
- International interchange of products and ideas

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DEWES contractors ltd
Yarder – Koller 507 - 40 ft with integrated harvester and MSP carriage on 8x4 500HP truck base
Yarder/Processor controls

Konrad Mouty 4000 – single drum Yarder with self propelled carriage
Woodliner 3000
• Twin winch skidder
Self – levelling seat
Radio remote controls

- Common place technology
- Extensive use in hauler operations
- Integrates really well with hydrostatic systems
On Route to Austria

Munich – the world’s oldest active brewery,
Established in 1046

• Why a hauler?
• Swamp, not permitted to GB
• 4month old yarder, with processor, carriage, remotes
Koller Factory

- Est 1961
- Have built 1700 Yards
- Also build carriages and harvesters
- Building a new yander every week to order
- Strong international sales
- All models are built tough and deliberately kept simple to reduce maintenance requirements
- Considering building a larger model for the USA and NZ markets

Tyrol – Austria logging site

- 800 tonne setting
- 26 Euro/tonne
- 120 Euro/hr – yander
- 30 Euro/hr – worker
- High stumps left for avalanche control
Sincrafalke 12m Yarder

- 700m 20mm skg
- 350m HD
- 2 interim support
- 8 hr setup, breaker out walked out strawline
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3.5t piece downhill
Typical setup

• Patch cut’ or thinning (with strict env. Standards)
• Roadside operation
  – 2-3 crew (high cost labour)
  – 2-3 log grades
  – Self loading trucks
  – Biomass collection
• Skyline systems with full or partial log suspension through intermediate supports
• 1 or 2 machine operations
• Automated hauler & carriage - estimated to increase system productivity by 10-15%
Final harvesting site
uphill yarding – tail tree

- Roadside logging
- Very steep
- 3 man crew
- 3 guys – 2.5hr setup

Original 25 year old machine

Not a bad office?
Some Euro facts

- Truckies can only do a 9 hour shift
- Forest employees train for 3 years before going in a crew
- There logs are worth the same as ours, but at least 3 times older
- 6 weeks annual leave, but you get double time when on leave
- Employer pays 60% tax on their employees earnings, the employee pays 30%
- Biomass industry is heavily subsidised

Italy

Valentini
1500
600m haul distance
2 intermediate supports
Tail tree
3 man crew
120 tonnes per day

Level wind rope spoolers
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• 600HP, 6 wheel drive truck
• 1000m 32mm skyline
Seik Carriage
Skybull 30 Fire
170metres of 12mm
European Haulers for NZ Logging?

• Advantages
  – Lower capital costs
  – Off the shelf Rexroth hydraulic componentry
  – High fuel efficiency through interlocked drums
  – Rope life extended through technology ie cannot overload working ropes
  – Low maintenance costs
  – Substantially reduced labour requirements
  – High drum capacities
  – Integrated units
  – Roadside logging
  – Reduced environmental footprint

• Obstacles
  – Perceptions that European technology is only suited to smaller trees
  – More complex planning required
  – Set up of intermediate supports is time consuming and new skill sets are required
  – Line pull – max 10t
  – Tougher NZ safety requirements
  – Fixed skyline - no grappling capability currently
  – Lower production in corridor logging
  – Managing high log sorts

What will work for NZ operations?

• Purpose NZ built yarder integrating the best of the European technologies
  – Key NZ requirements
    • Taller tower
    • Tracked based?
    • Increased line pull
    • Grapple capability

• Reduced sized landings or roadside harvesting
• Remotely operated winch technologies such as the EcoTwinch
• Interchangeable attachments to reduce number of machines
• Existing low cost haulers for production thinning or for smaller piece sized wood
• Tethered forwarders and harvesters