

Forest Research and Development

An update

Paul Adams - R&D Director, CEO Forest Growers Research Ltd

Key take-homes

- Science & Innovation - critical for improving and future-proofing
- Forest Growers Levy - funding successful, collaborative research
- FGR Ltd - experienced research company, good track record
- Challenges and opportunities ahead require proactive strategies and increased investment

Forest Research and Development

- Pre 1980's - research was state funded
- Mid 1980's - reforms and user pays (research cooperatives)
- 2007 - Future Forests Research Ltd (FFR)
- 2014 - Forest Growers Levy introduced
 - Forest Research Committee established
 - FFR renamed Forest Growers Research Ltd (FGR)

Forest Growers Research Ltd

- Industry owned
- Role:
 - Research Implementation
 - Compliance – Financial / H&S
 - Financial / Contract Management
 - Investor Communication



Forest Growers Research - Who we are

FGR Board

- Peter Berg (Chair)
- Ross Larcombe
- Dean Witehira
- Brendan Slui

FGR office

- Paul Adams - R&D Director
- Amanda Brake – Office Manager
- Keith Raymond – Programme Manager
- Marco Lausberg – Programme Manager
- Russell Burton – Programme Manager
- Brian Richardson – Programme Manager

Forest Growers Research - Who we are

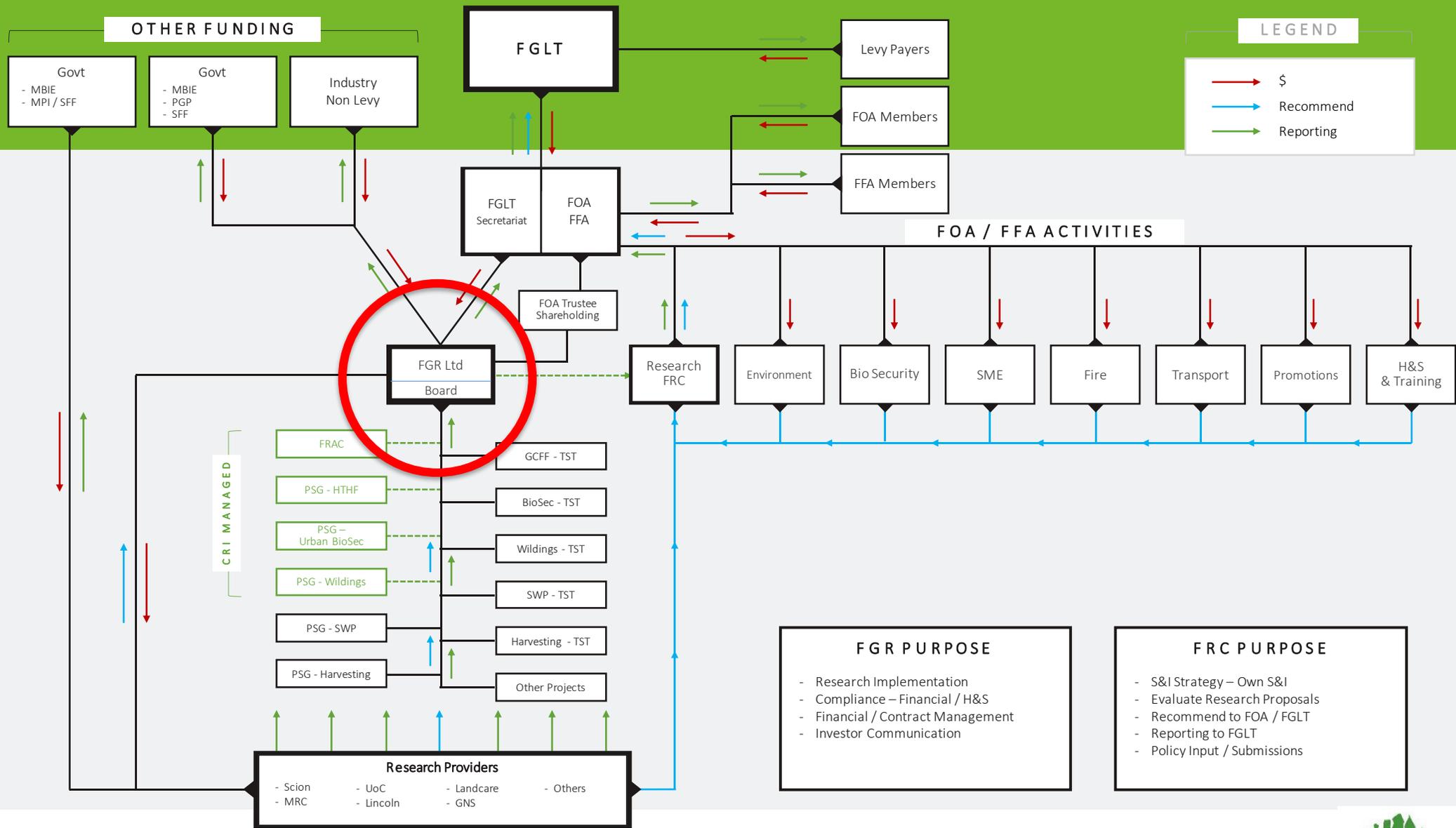
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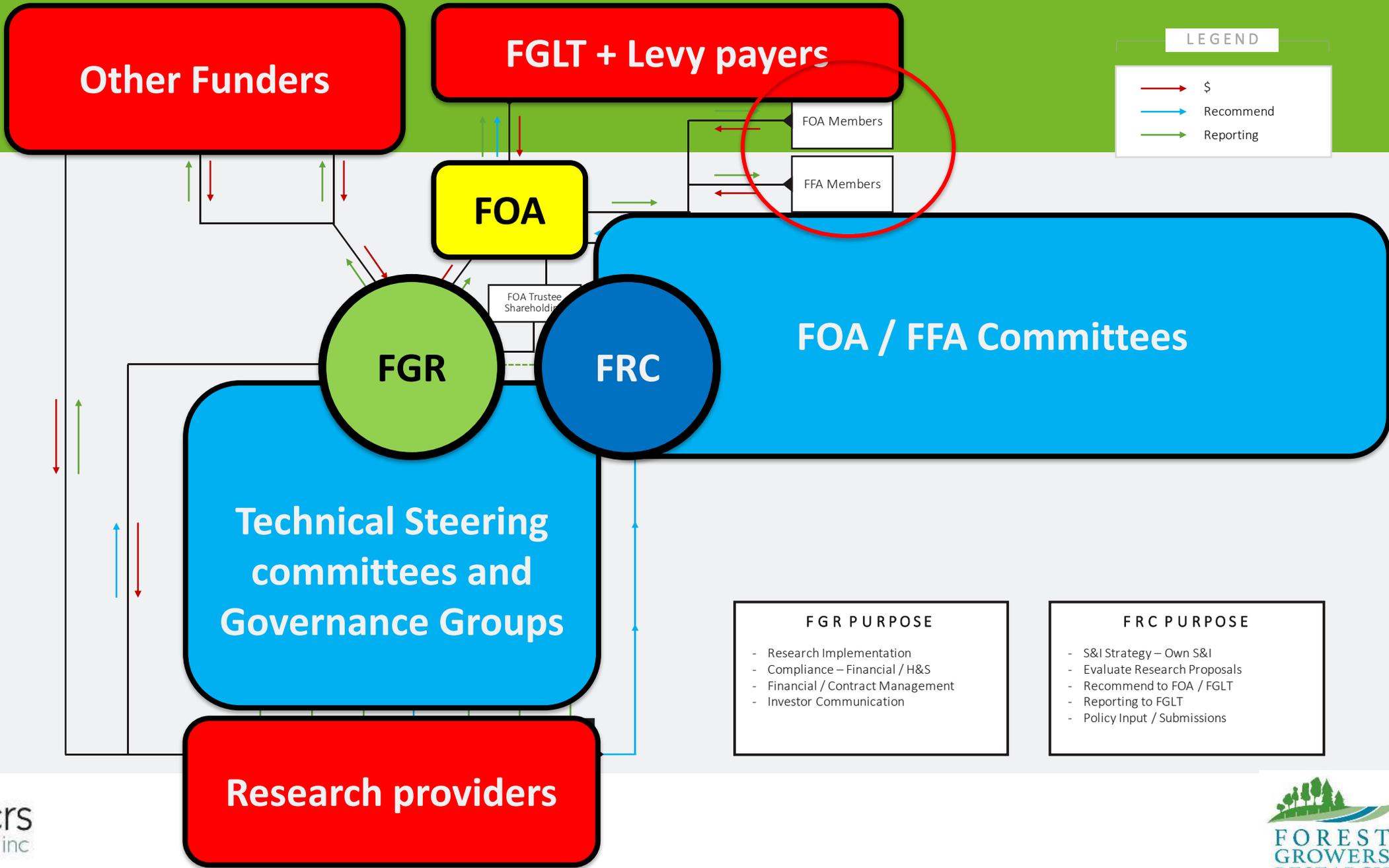
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Where FGR sits



Where FGR sits



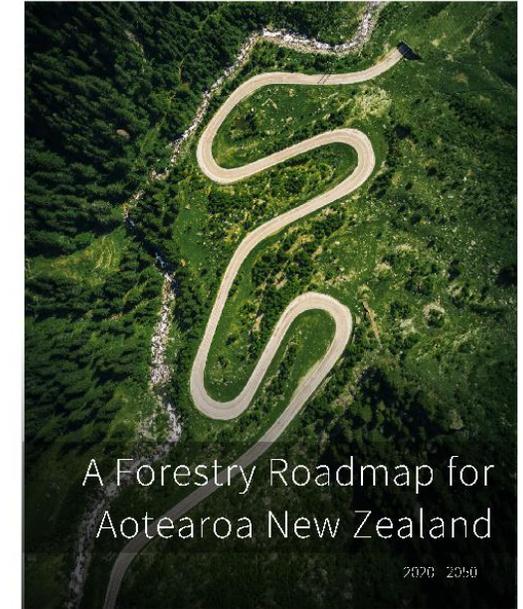
Forest Growers Vision for 2050

“Forestry will be New Zealand’s number one primary sector and will exemplify the best plantation forest management in the world”

Three key influences:

- Environmental changes inc. impact of pests and pathogens
- Societal expectations
- Technological changes

A strong science and innovation sector, well connected to the forest growing industry, will remain an integral part of the NZ forest industry



Drivers of the Science & Innovation Strategy

Composition of our forest ownership will evolve

- Non-financial benefits and different products
- Growing interest in forestry / green investments

Our markets will change

- Changing technology / consumer preferences
- Global population growth and demographics
- Global distribution of wealth changes
- Land use subject to different pressures and constraints
- People use and value trees differently

Increased resilience to new threats critical

- Pests and diseases increasing challenge as world “shrinks”
- Climate impacts will increase - requiring change and adaption



**1. Sustainable profitability radiata pine & Douglas fir
50% - 60% of FGLT investment**

Producing cost effective trees with properties perfectly matched to the needs of the customer

**2. Emerging tree species 10% - 20%
of FGLT investment**

Increase tree diversity & designing the future of forested landscapes

3. Defend and future proof 25% - 35% of FGLT investment

Eliminate risk to forests and the industry and grow community support



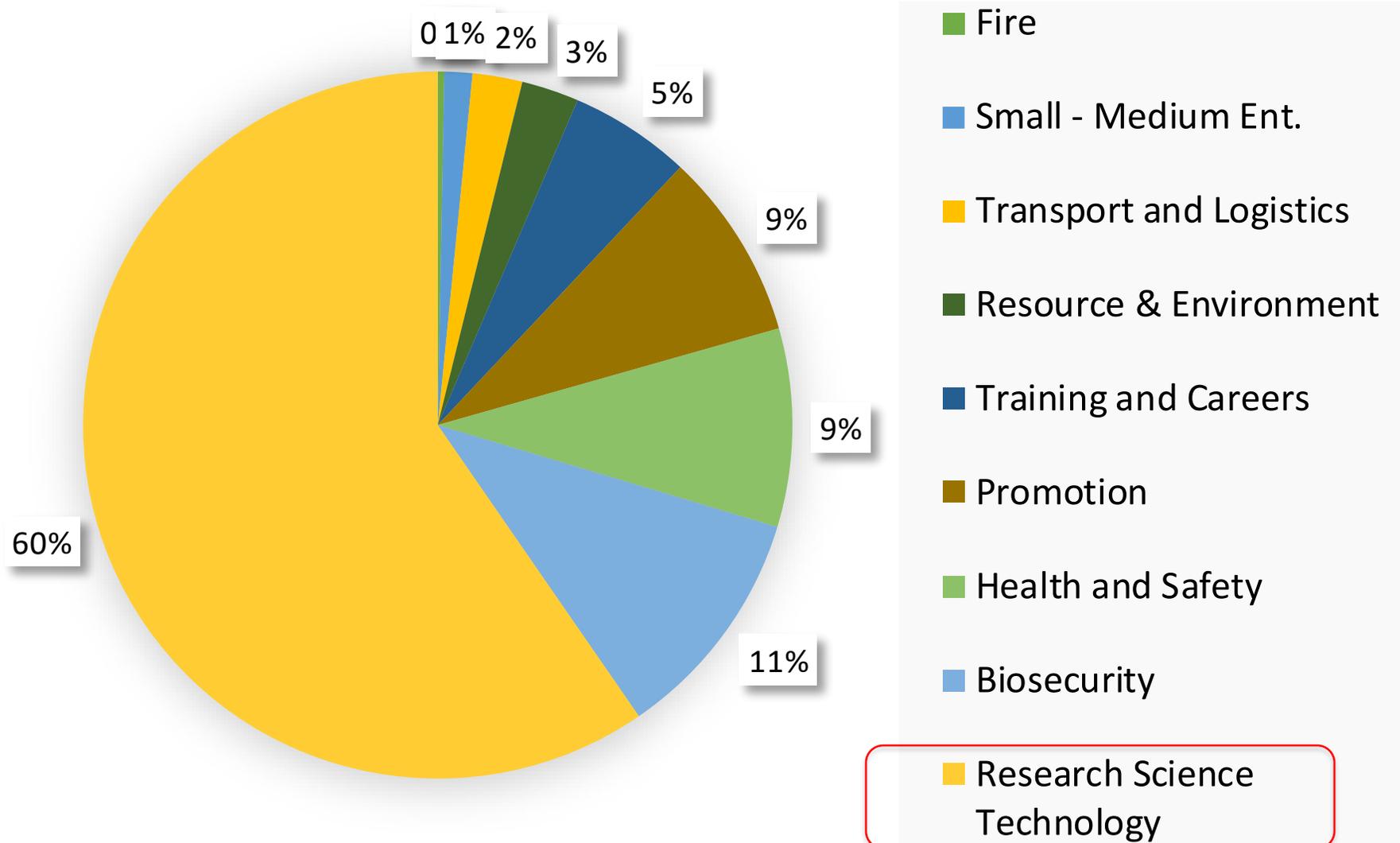
Collective investment

- Industry, Government (MPI, MBIE) and Scion
- Close to \$20 m / yr in forest growing leveraged research
- Forest Growers Levy Trust invests ~ 60% levy in R&D - \$5.4 m
- Five large multi-year programmes
- Fourteen large, medium, small projects

Forest Growers Levy – 2022 work programme

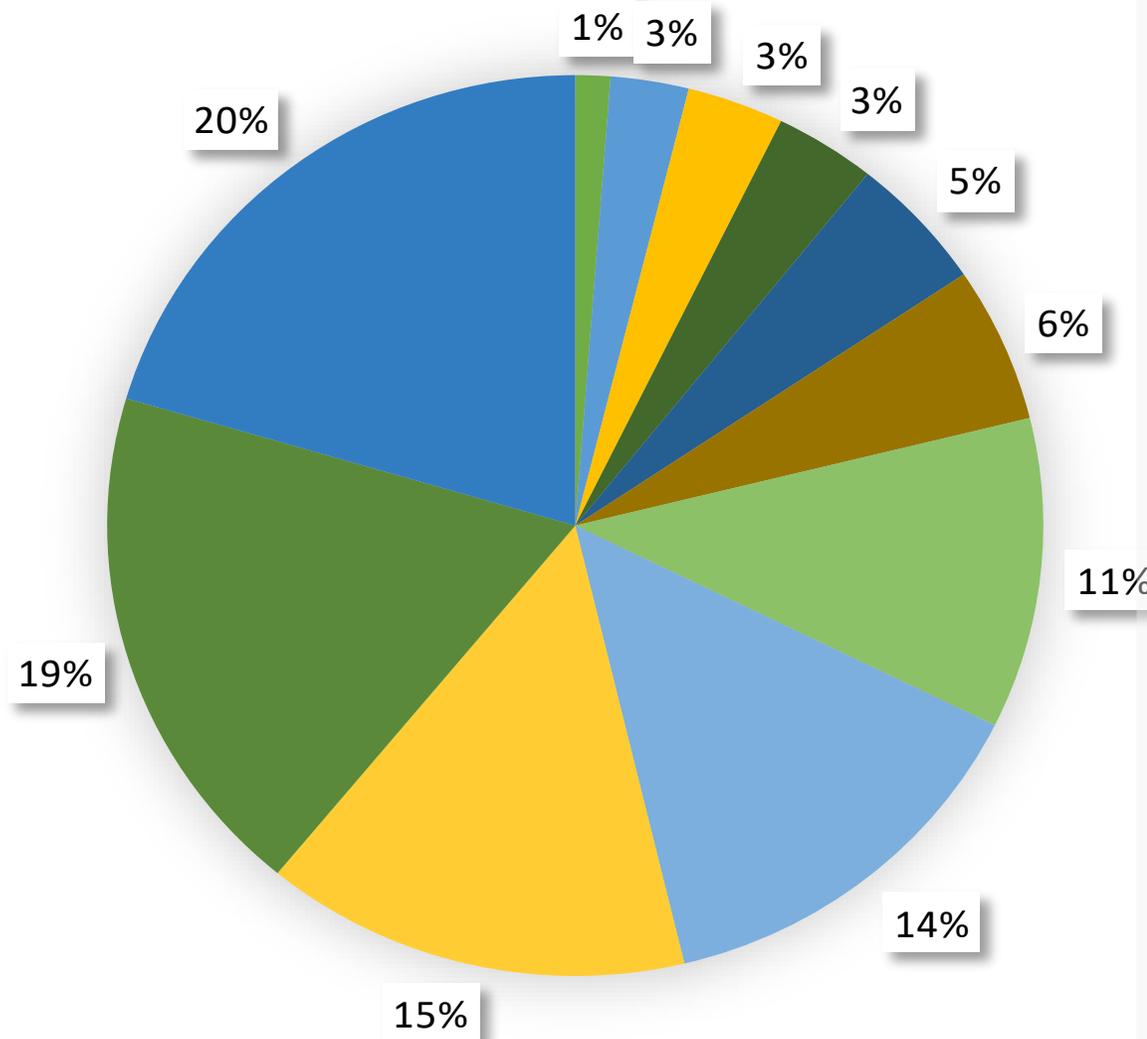
\$9.03 m across 9 programmes - based on budgeted levy collection of \$10.56 million

~ 60% on R&D \$5.38 million



Forest Growers Levy – Research programme

\$5.38 million across
~ 20 projects /
programmes



- Extreme Fire
- Next Gen Genetic Gain
- FGR (extension)
- Root endophytes / bacteria
- Biosecurity
- Tree Root Microbiome
- 21st Century Tissue Culture
- Precision Silviculture
- Specialty Wood Products
- Automation and Robotics
- Resilient forests

Five large programmes

Annual investment

- 21st Century Tissue Culture \$1.2 million
- Automation and Robotics (post harvest) \$3.2 million
- Speciality Wood Products \$2.2 million
- Resilient Forests Programme \$1.1 million
- Precision Silviculture Partnership \$2.7 million

Five large programmes

Annual investment

- 21st Century Tissue Culture \$1.2 million
- Automation and Robotics (post harvest) \$3.2 million
- Speciality Wood Products \$2.2 million
- Resilient Forests Programme \$1.1 million
- Precision Silviculture Partnership \$2.7 million

Automation and Robotics (Forestry Work in the Modern Age)

Optimising the forestry supply chain

- Create value
- Improve profitability
- Enhance sustainability across the forestry value chain through automation

New integrated forestry value chain from harvest to market, incorporating new technologies that promote both industry and Govt interests

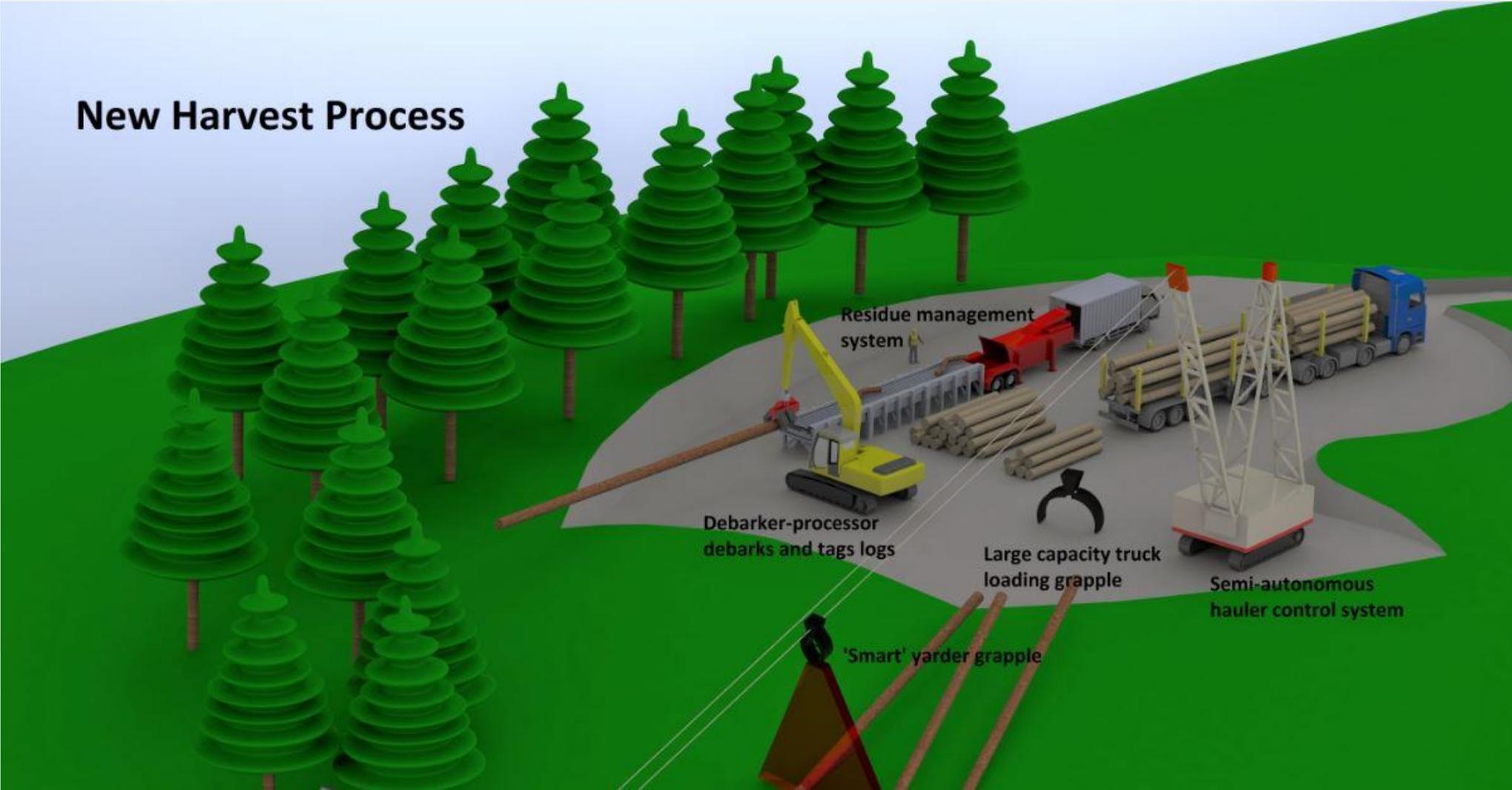
\$29 million over 7 years (2019 – 2025)

Programme Manager: Keith Raymond

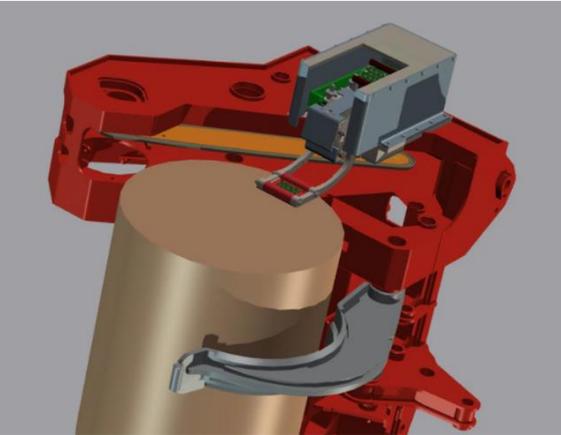
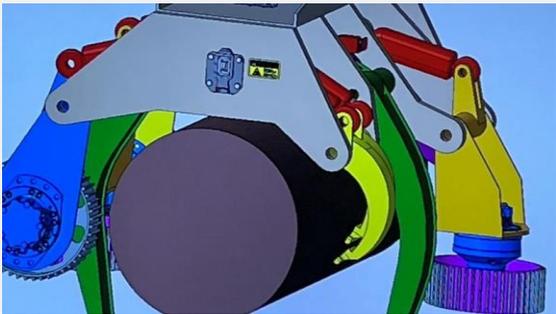
Automation and Robotics

Optimising the forestry supply chain

Harvesting automation at the log landing



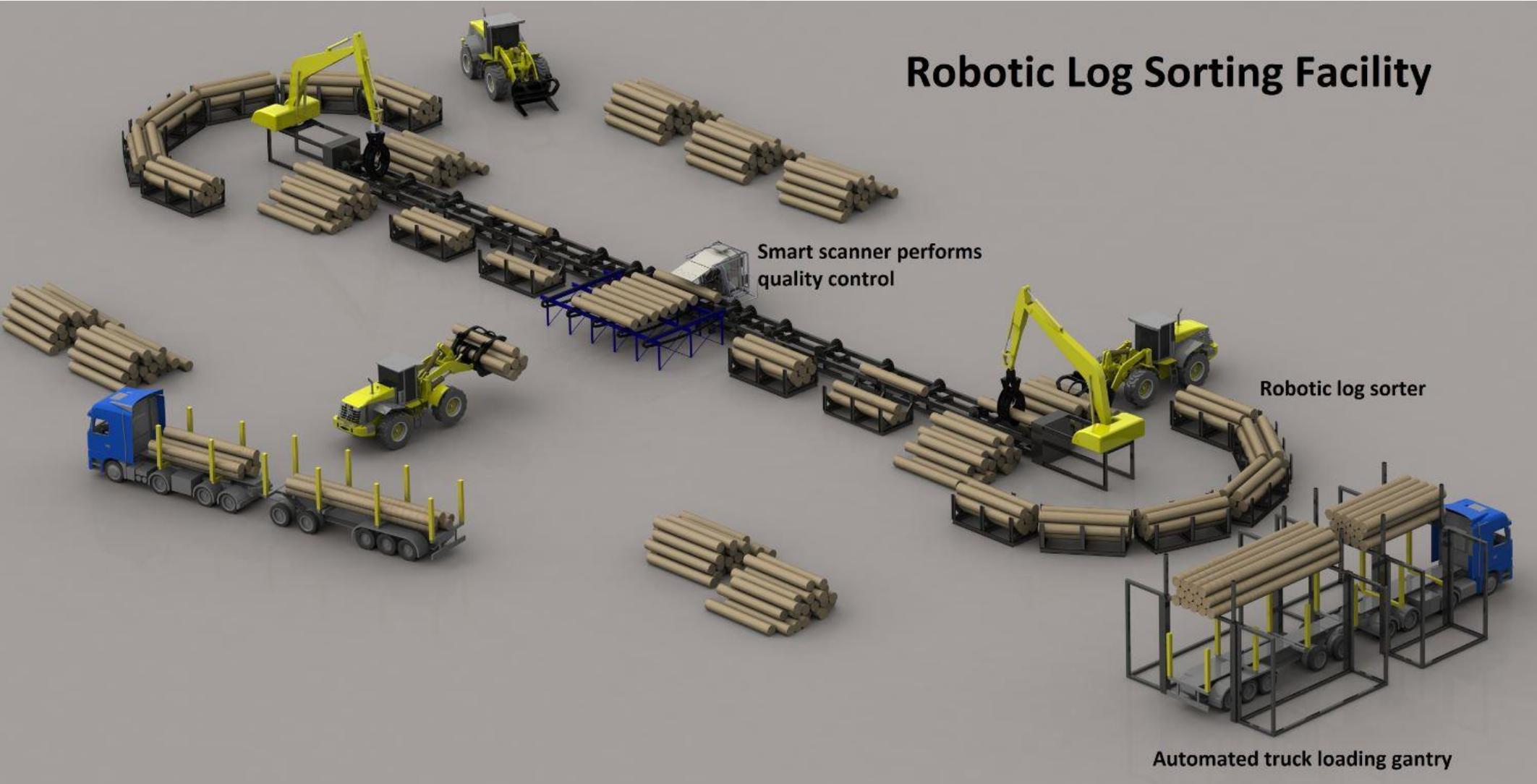
Automation and Robotics Optimising the forestry supply chain



Automation and Robotics

Optimising the forestry supply chain

Automated log sorting



Automated truck loading gantry

Specialty Wood Products Partnership



- Improve returns from the current value chain
- Create superior, more readily processed, consistent supplies
- Deliver higher value products (export and domestic markets)

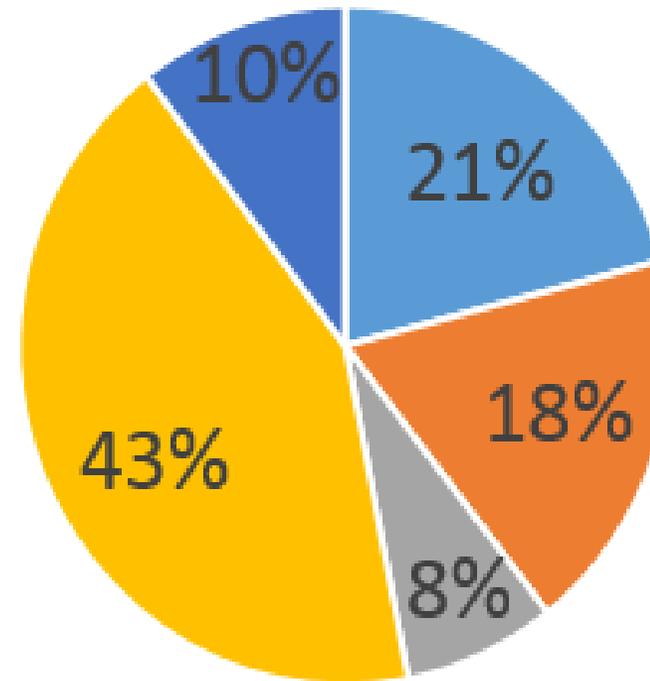
\$14 million over 7 years (2015 – 2022)

Programme Manager: Marco Lausberg

Specialty Wood Products Partnership



- Douglas-fir
- Cypresses
- Non-durable eucalypts
- Durable eucalypts



Key outcomes to 2022

SWP

- Breeding work in key SWP species
- Validation of new engineered wood products
- Processing advances - screening for processing, heartwood etc
- Long-running nationwide trials and permanent sample plots
- Regional business cases - pathways for investment & development
- NZ Cypress Strategy 2022-42

- **Work on new proposal for SWP 2**

Collaboration



MARLBOROUGH
RESEARCH
CENTRE
Te Rito Hiranga o Wairau



scion™
FORESTS ■ PRODUCTS ■ INNOVATION



UNIVERSITY OF
CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND



ERNSLAW ONE
LIMITED



TIMBERLANDS



PORT
BLAKELY



LAKE ROTOAIRA FOREST TRUST



VINEYARD TIMBERS LIMITED



Office of the Māori Trustee



PROSEED

Marlborough
Lines



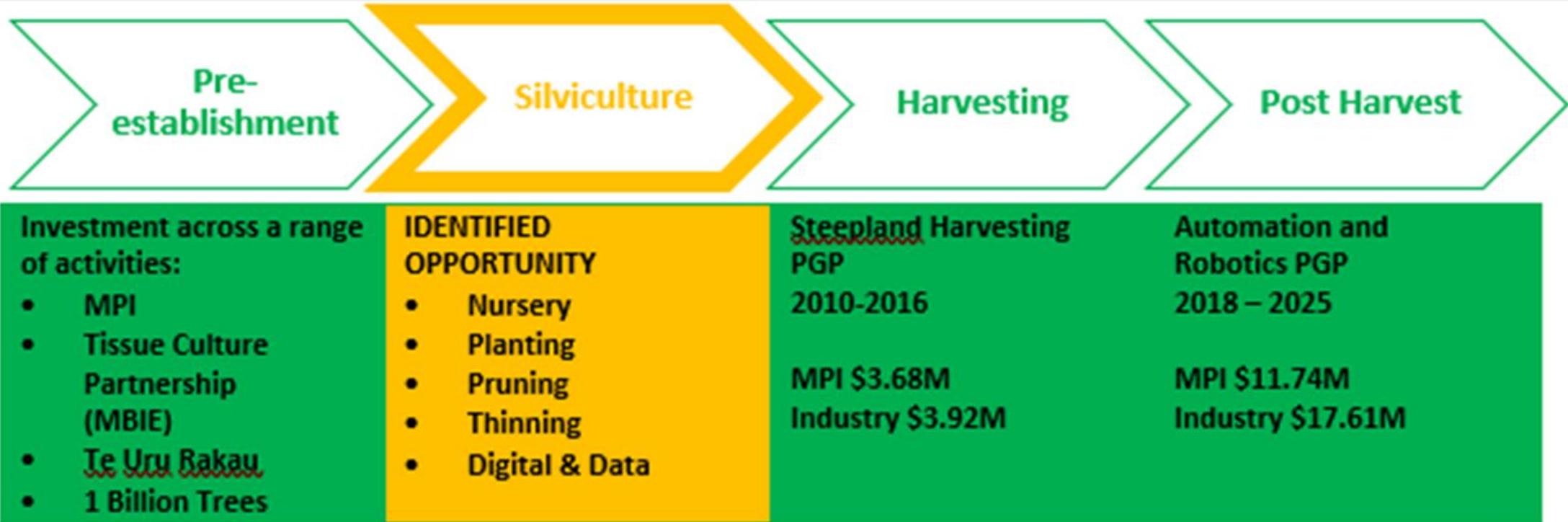
MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI



FARM FORESTRY NEW ZEALAND



Addresses Identified Investment Opportunity



Precision Silviculture - The Prize

- **Future-proofing New Zealand's forestry sector**
 - Mitigate labour risks, secure higher-value regional employment
 - Improve security of supply from high-value wood processing
 - Reduced potential for debris movement
- **Supporting New Zealand's climate change objectives**
 - Enabling innovation in afforestation, reducing seedling and planting costs
 - Delivering new feedstocks for bioenergy
- **Creating domestic innovation with associated export potential**
 - Locally developed technology for pruning, planting and thinning
 - Leverage existing New Zealand technology with sensing and digital systems etc

Precision Silviculture - Current activities

- Establishing project leadership across all five workstreams:
 - Nurseries, Planting, Pruning, Thinning, Digital and Data
- Establishing Technical Steering Team (meet in October)
- Activity commenced in all areas

Final comments

- Science system and funding challenges
- Key strategic issues
- Take-homes

Science system and funding challenges

- Science organisations - top heavy / high overheads
- Large proportion of funding is unstable with challenging processes
- Funding for high-quality applied research difficult to access
- Difficulty attracting and retaining staff
- Overall government / industry investment in R&D is small

Key strategic issues

- Forestry is well positioned to respond to many economic, environmental, social and cultural challenges
- But, not easy to get traction in major R&D decisions
- Climate Emergency Response Fund, Industry Transformation Plan
- Need forestry-aligned research providers, well connected to today's challenges and opportunities of the future

Take-homes

- Science & Innovation - critical for improving and future-proofing
- Forest Growers Levy - funding successful, collaborative research
- FGR Ltd - experienced research company, good track record
- Challenges and opportunities ahead
 - requires proactive strategies and much larger investment

One last thing..

FOREST GROWERS RESEARCH

ANNUAL CONFERENCE

Nelson - October 18 - 20, 2022

Six sessions

- Opportunities / challenges
- Climate change
- Forest Investment
- Forestry in Society
- The Bioeconomy
- Productivity

Field trip

Forestry for the Future

R&D addressing key challenges and opportunities



Forestry for the Future

18th - 20th October 2022
Rutherford Hotel
Nelson

NZIF Conference 2022

Thank you

