

Track #1 - Published Abstract

Presented at the 41st Annual Council on Forest Engineering Meeting, Williamsburg, Virginia, July 15-18, 2018. *Revolutionary Traditions, Innovative Industries.*

Forest Engineering Research and Innovations in New Zealand

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During the past decade the New Zealand forest industry has faced many challenges: a surge of available harvest volume on steep terrain from both woodlots and larger commercial forests, rising harvesting costs, a spell of fatalities sparking a health and safety reform and challenges from the public on our social license to operate. Despite the challenges faced, New Zealand has emerged as a forerunner in forest engineering innovations and developments. Classic Kiwi ingenuity combined with focused research and development funded by a collaboration between industry and government, along with a common goal of fully mechanized operations, fuelled the tides of change. The challenges are not over but some of the newly developed tools, techniques and machinery are being implemented not only in New Zealand, but around the world. For example: the use of LiDAR-based digital terrain models and UAV photogrammetry to design steep-terrain forest infrastructure, road design and harvest planning software, winch-assist and remote-controlled machines, integrated camera systems, new carriages and yarders, simple tools to make manual tasks safer and easier, improved trucking performance through dispatch and job scheduling assistance, and many more. This presentation describes some of these technologies that are being researched and trialled in New Zealand as well as some others that have been developed by innovative individuals like logging contractors.