

## **Task Force on Vehicle Weights and Dimensions Policy**

27 November 2019 Montréal



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# Agenda

- Overview of FPInnovations
- **O** Review of previous configuration research
- Review of current configuration and safety research
- ⑦ Discussion

### **FPINNOVATIONS**

FPInnovations is a not-for-profit private organization that specializes in the creation of solutions in support of the Canadian forest sector's global competitiveness.

Unique industry/government partnership model

fpinnovations.ca



## **OFFICES & LABORATORIES**

#### FPInnovations offices and laboratories

- Employees: +400
- Budget: \$76 million CDN
- Industry Members: 180

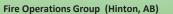
#### Industry, Universities, Provincial and Federal Governments

FPInnovations:

Wood Products, Forest Operations, Pulp & Paper, and Bioproducts (Québec, QC)

FPInnovations: Forest Operations, Wood Products, Pulp & Paper, and Bio-sourced

products (Vancouver, BC)



Bio-Economy Technology Centre (Thunder Bay, ON) FPInnovations Head Office: Forest Operations, Pulp & Paper, and Bio-sourced products, PIT Group (Pointe-Claire, QC)

## **OUR HISTORY**







1918

Forest Products Laboratories of Canada Later became Forintek Canada Corp.

### 1925

Pulp and Paper Research Institute of Canada A private, not-for-profit research and technology organization 1975

Forest Engineering Research Institute of Canada A private, not-for-profit R&D organization aimed at improving Canadian forest operations

### 1979

#### Forintek Canada Corp.

A private centre for the development of scientific and technical knowledge, applications and solutions to enhance the wood products sector



On April 1, FPInnovations was established as a result of the merger of the 3 institutes and created PIT Group

# FOCUS AREAS



Fibre costs and value

People and safety

Fibre supply

Sustainability

Forestry 4.0

6



- Offers research and technology implementation services to freight fleets
- Over 40 partner fleets and government entities
- Best known for Energotest but projects and contracts cover maintenance issues, testing of new technologies and more



### WESTERN LOG TRUCK CONFIGURATIONS STUDY (1991-95)

- Long log configurations
- Compensating reach
- Rotating log bunks
- Multiple axle combinations and articulation points
- Testing and measurement of vehicle properties
- Development of computer model







### TRIDEM DRIVE RESEARCH AND <sup>9</sup> DEVELOPMENT (1990-2005)

- Off-highway mobility and traction
- Improved gradeability
- Steering performance assessment
- Dynamic performance assessment
- Multiple configuration combinations
- Truck/tractor specification



### CONFIGURATION DEVELOPMENT AND TESTING

- FPInnovations has been instrumental in introducing many configurations in cooperation with industry and provincial regulators
- Potential payload gains while maintaining safety
- Not just logging: mining, heavy haul, agriculture, cranes
- Examples
  - Alberta Winter weights review
  - Saskatchewan partnership program
  - Tridem tractor/ quad-axle semi-trailer in Alberta
  - Quad axle semi-trailer in Atlantic provinces
  - Hinged trailer in Ontario
  - 9-axle B-train for veneer hauling in BC
  - 9-axle B-trains for log-hauling in BC, Alberta
  - 10-axle B-trains in Alberta
  - Beetle-wood configuration study in BC
  - Corridor evaluations in NS and NB
  - Roll-coupled hitch for pony and full-trailers







### **CURRENT CONFIGURATION INITIATIVES**

10-axle B-train for hauling Chips (BC and Alberta)

Current design > 27.5 m

2.9 m wide

Overlength in BC

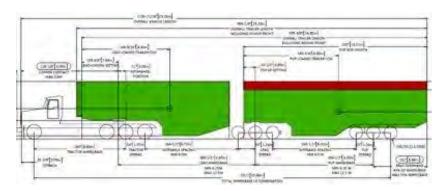
9-axle steep terrain configuration (BC)

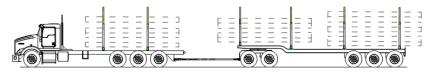
Access narrow steep roads where B-trains are unable to go

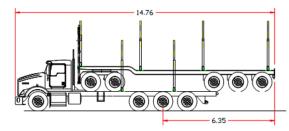
Quint-axle full-trailer (roll-coupled hitch)

Up to 30% gradeability empty

- 9-axle B-trains for finished products (BC)
- Corridor pilot project for Ontario, NS and Quebec Increased weight allowances







### **INTERNATIONAL CONFIGURATION RESEARCH**

- Keeping current with international developments in heavy truck technology development and policy
- Active participation in International Forum on Road Transport Technology (IFRTT) since 1988
- Performance Based Standards (PBS) evolution From Canada (RTAC Study) to Australia and Europe.
- Asian countries are now taking interest and adopting these standards











### SEAMUS IS RETIRING BUT SUCCESSION PLAN IN PLACE!

- Two transportation staff members have been mentored and trained by Seamus and have had training on vehicle dynamics and safety:
  - Adime Bonsi, Pointe Claire office
  - Jeff Meiklejohn, Vancouver office
- FPInnovations will continue to offer dynamic vehicle analysis to governments, fleets, and vehicle manufacturers



# Thank you

"To all the cooperators in these various projects especially the staff of the provincial ministries and departments without whose cooperation none of these initiatives could have happened." -Seamus Parker

