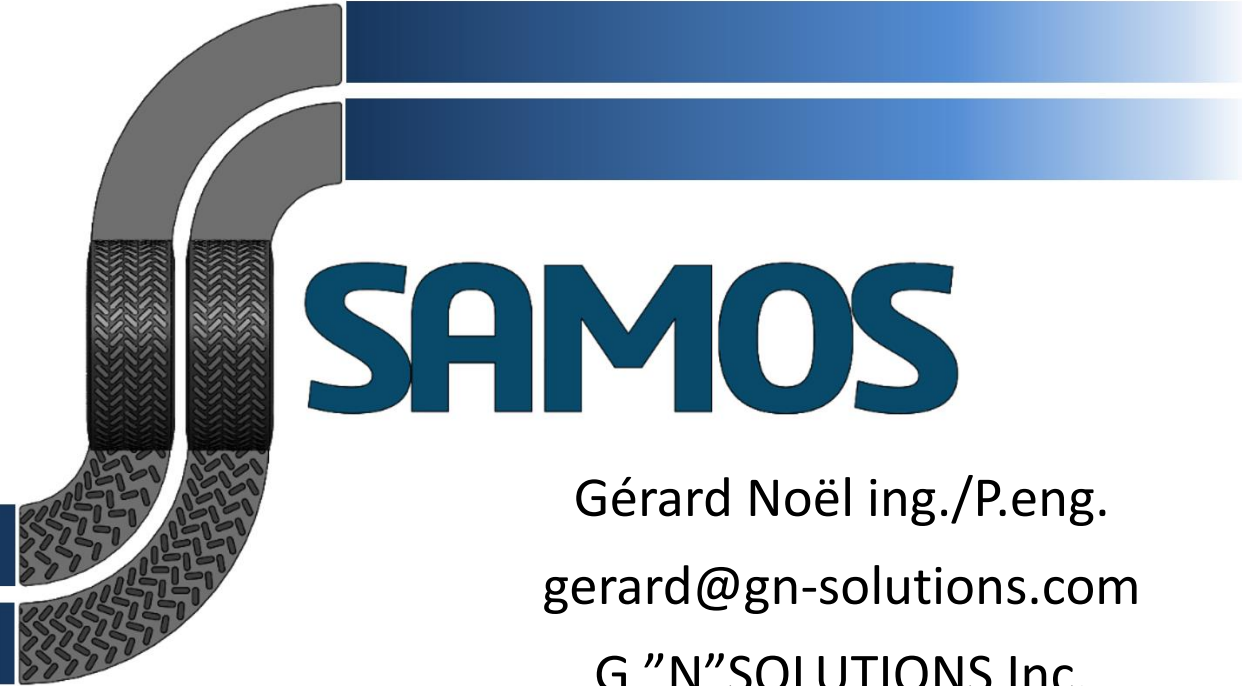




## Improvement of the sustainability of road transportation



# SAMOS

Gérard Noël ing./P.eng.  
gerard@gn-solutions.com

G "N" SOLUTIONS Inc.

Tél. 450-649-1130

1801-A, rue Lavoisier,

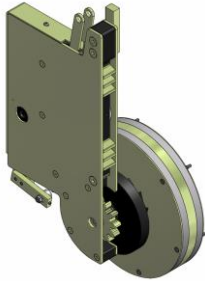
Ste-Julie Québec, Canada, J3E 1Y6

Task Force on Vehicle Weights and Dimensions Policy:  
Meeting of the December 7<sup>th</sup> 2022

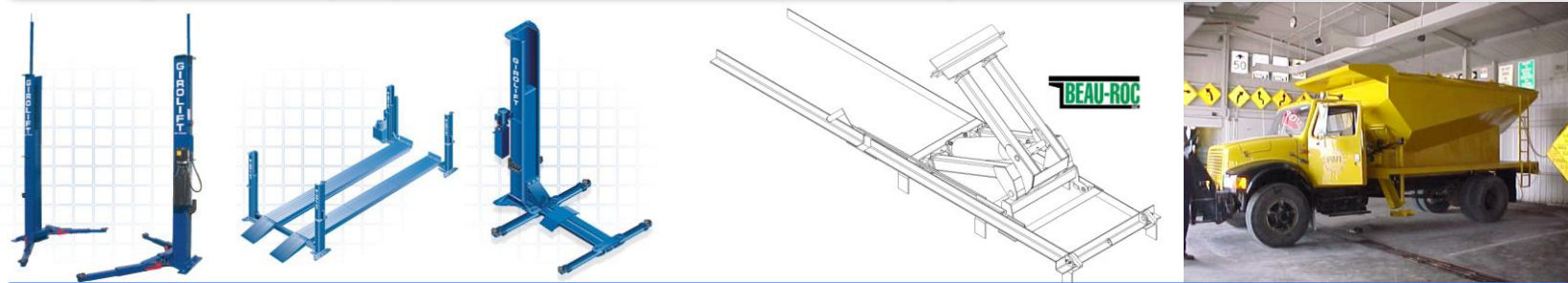
# GN Solutions Inc...25 years of innovation



## Mass Climbing work platforms



## Design of equipments for road transportation



## Other projects...

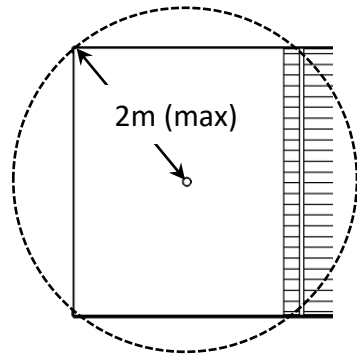
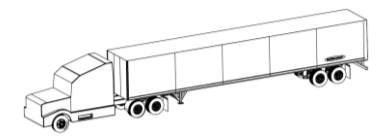


<https://www.hydro-mobile.com/>  
<http://www.girolift.com>  
<http://www.beauroc.com>  
<http://lekla.ca/en/pivo-autonomous-multipurpose-power-stations/>

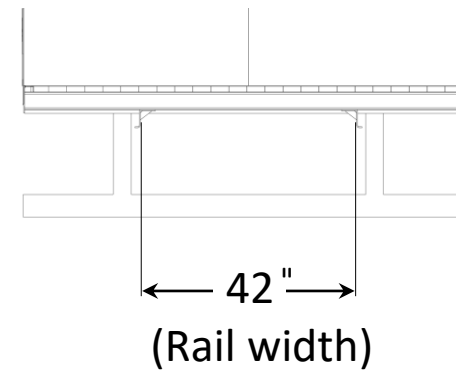
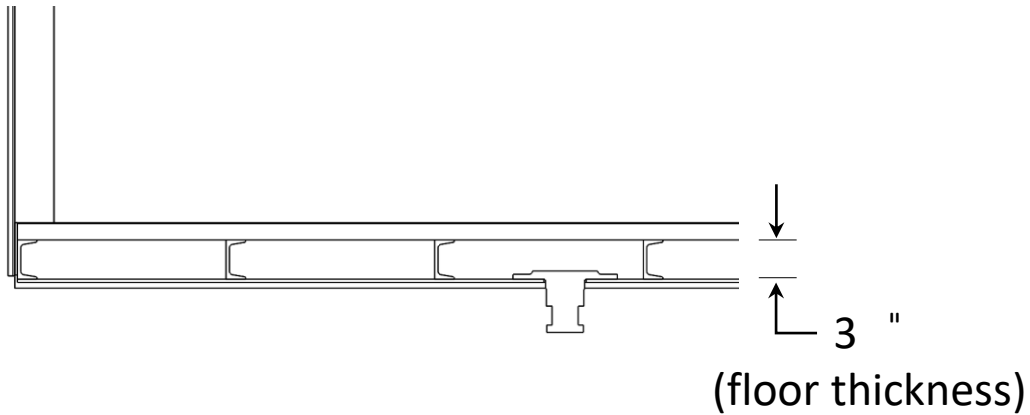
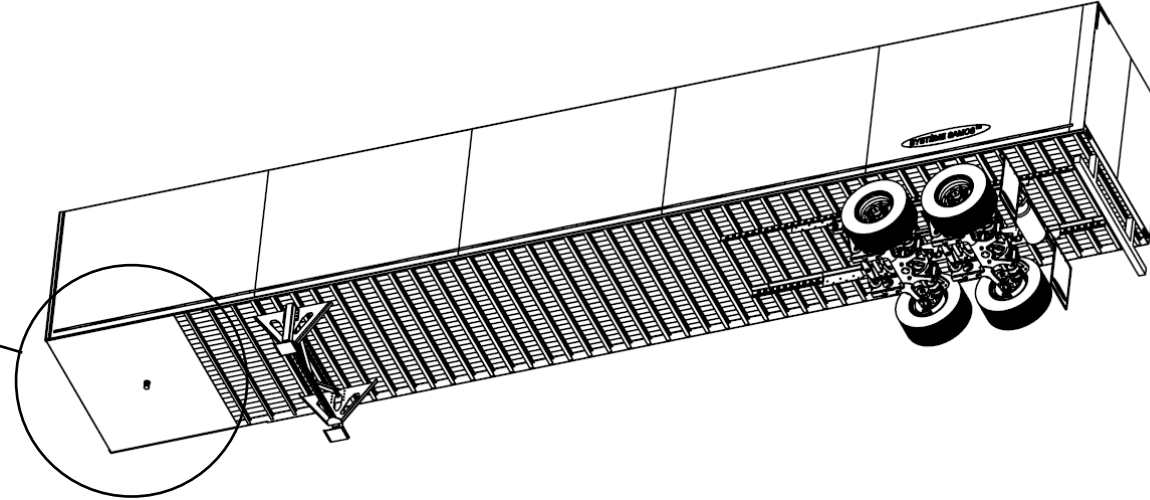
# SAMOS's forced axles systems ... 14 years of development



# Majors challenges

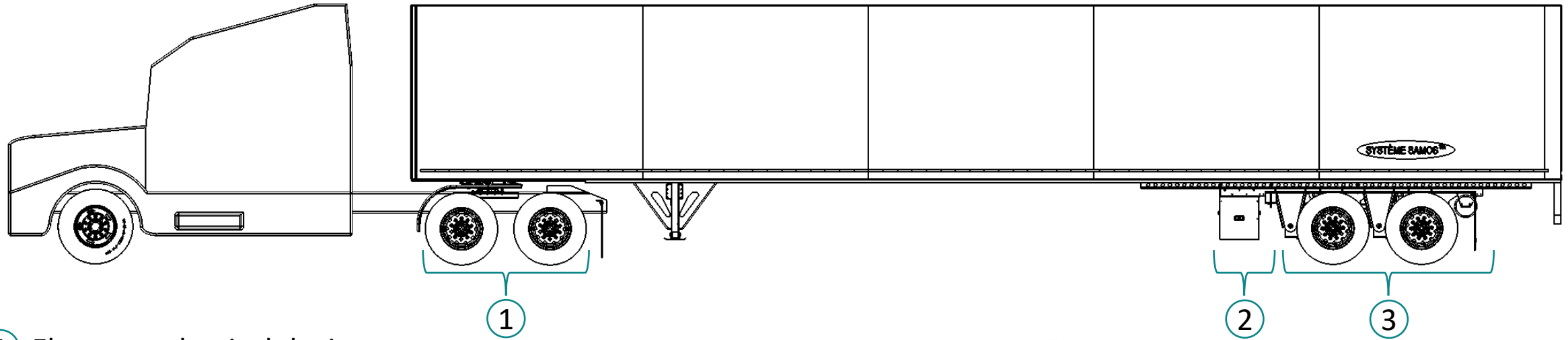


Positioning of the kingpin

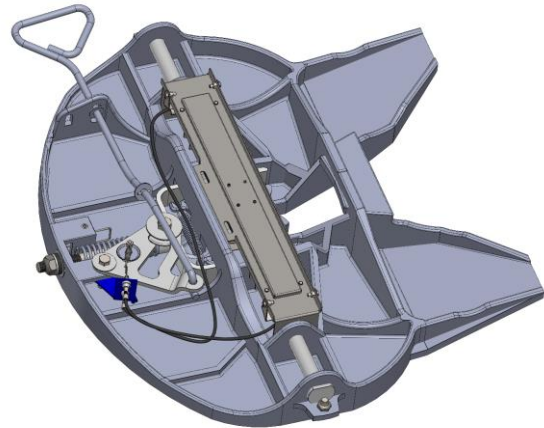




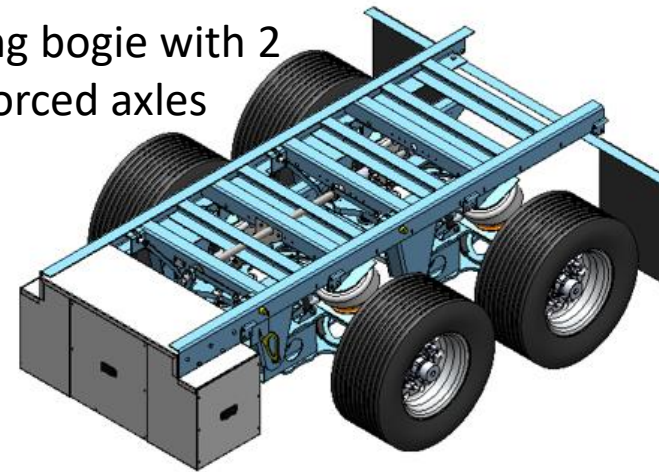
# HA20H : Hybrid axles with an electrohydraulic system



① Electromechanical device

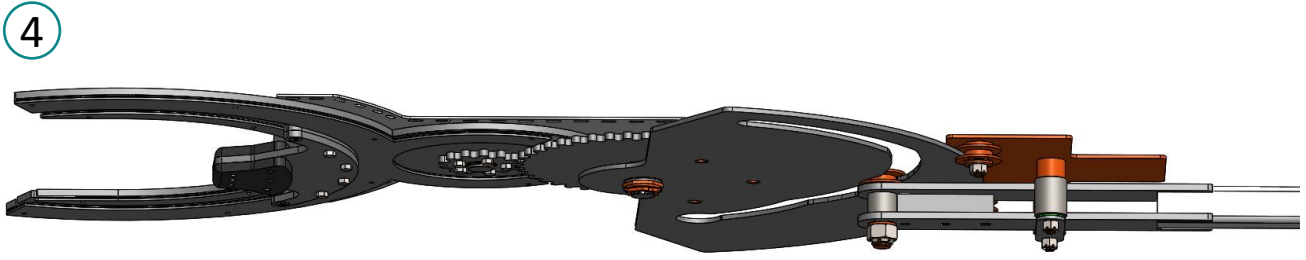
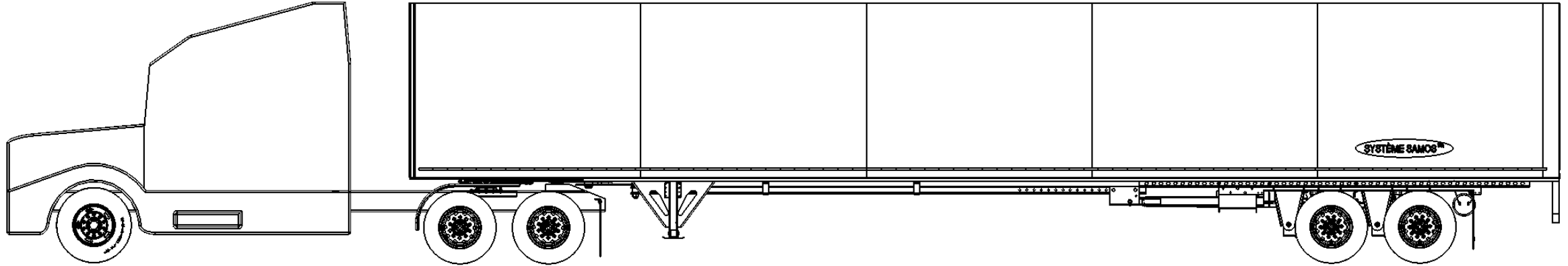


③ Sliding bogie with 2 forced axles



② Electrohydraulic cabinet

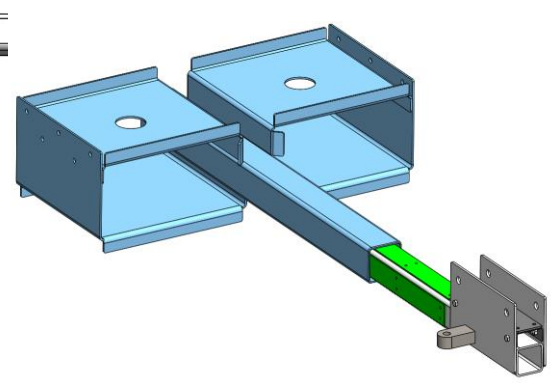
# HA20H : Hybrid axles with a mechanical system



**A** Angular measurement mechanism (1<sup>st</sup> stage of correction)

**B** Cam for the path (2<sup>nd</sup> stage of correction)

- 5** Power transmission arm from the angular corrector
- 6** Mechanisms for positioning adjustment



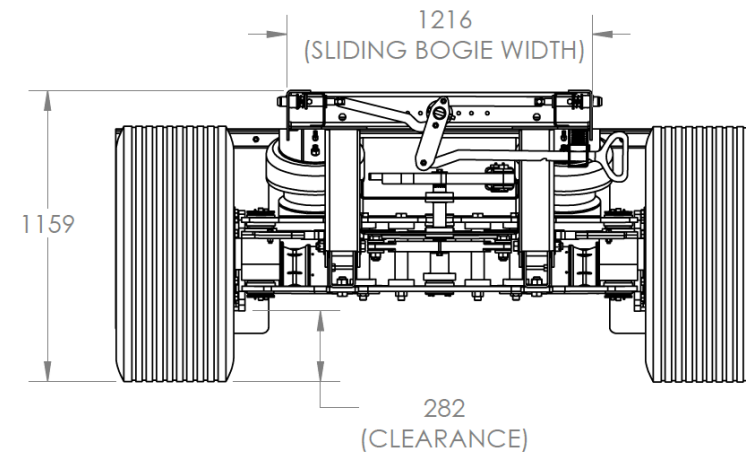
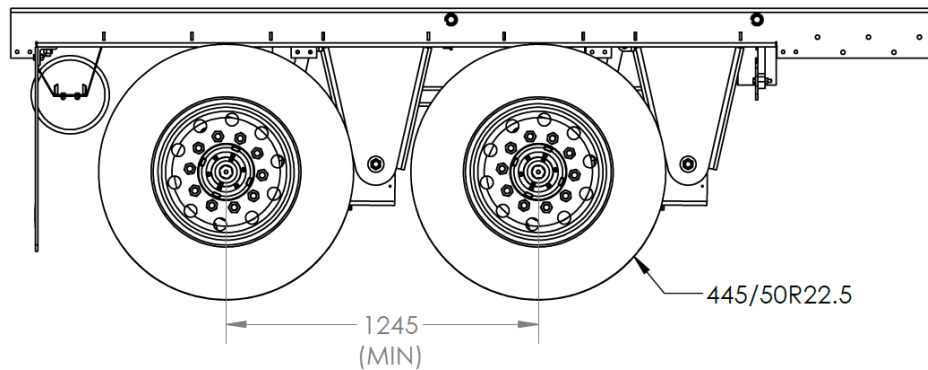
# Configuration of tandems suspensions



Tandem suspension with drum brakes



Tandem suspension with disc brakes





# Standard axles vs SAMOS's axle technology





# Standard axles vs SAMOS's axle technology



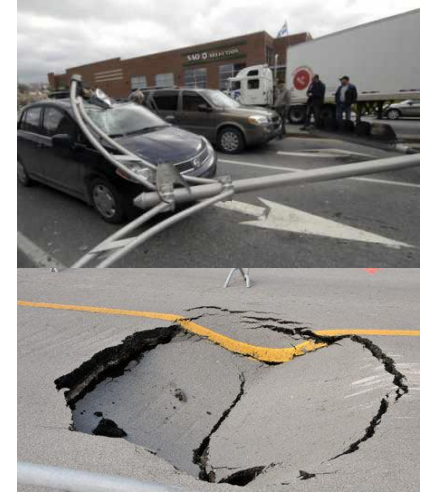


# Advantages of the SAMOS's Technology



... for governments

- ✓ Preserving road infrastructure and even extending its useful life
- ✓ Promote the flow of traffic on the road network
- ✓ Reduce accidents caused by heavy vehicles
- ✓ Decrease the ecological footprint and greenhouse gases



# Advantages of the SAMOS' Technology

... for carriers



- ✓ Reduce daily operation fees
- ✓ Reduce the effect of the truck driver shortage without to neglect the road safety.
- ✓ Improve the stability of the load in turns
- ✓ Technology adapted to the harsh climate of North America
- ✓ Short-term profitability for the purchase of the steering system
- ✓ Improve the maneuvering in restricted areas
- ✓ Ability to upgrade existing trailer fleets



# Conclusion and perspectives...

## Conclusion

Configurations evaluated :

- ✓ Single trailer equipped with mechanical forced axles
- ✓ One trailer equipped with forced axles + One standard trailer

## Perspectives

❖ Configurations to evaluate :

- Single trailer equipped with hydraulic forced axles
- One trailer equipped with forced axles + One standard trailer
- Two trailers equipped with forced axles (Hydraulic & Mechanical)

❖ Pilot projects (With Provinces & Territories)

- Two/Three semi-trailers of 16,15m (53 ft) or 18,3 m (60 ft) long (Road Train)