



# TASK FORCE ON VEHICLE WEIGHTS AND DIMENSIONS POLICY

GOVERNMENT / INDUSTRY MEETING

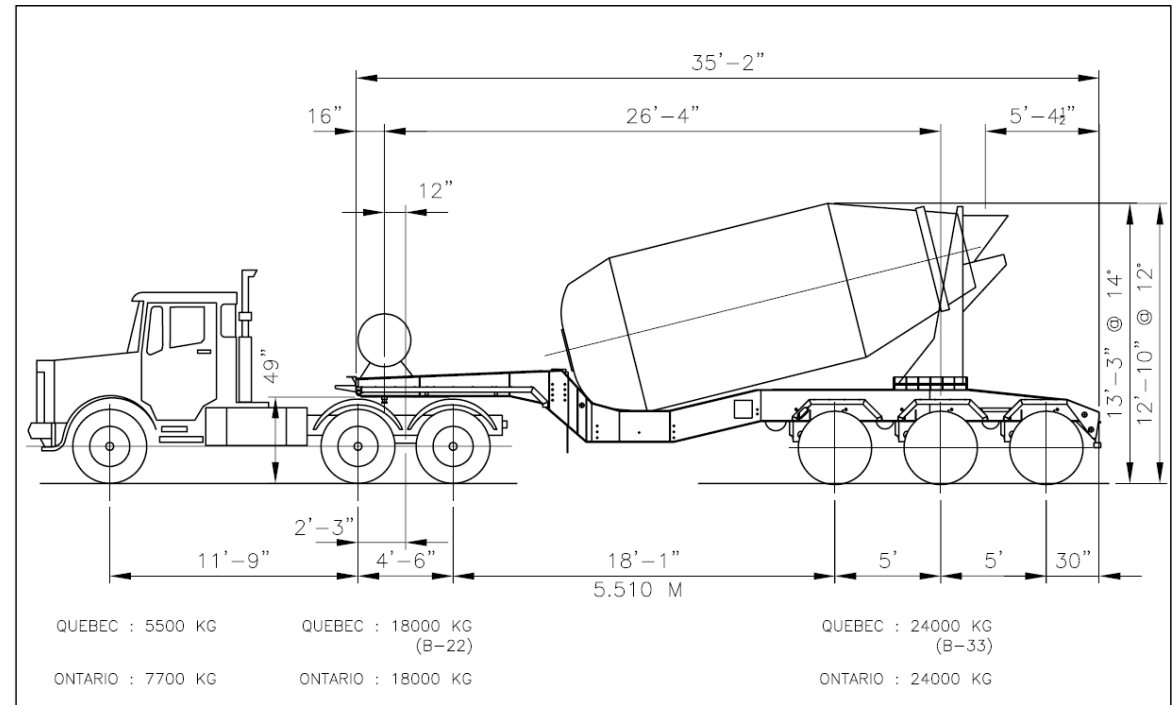
01-12-2020

## SIMARD SUSPENSIONS – INDUSTRY LEADER

- Service trucking industry since 1935
- Design and Manufacture Suspension systems offering proper load distribution extra payload capacities
- Build custom solutions for multi-purpose vocational applications
- Integrate steering solutions to optimize manoeuvrability and productivity
- Increase safety as well as protecting road infrastructure



# STEERABLE AXLES FOR TRAILER



- Introduced in Québec in 2012 Unibéton (MTQ A19)
  - Trailers : Manac – ABS – Loadstar - Nelson
  - Concrete pumps: Alliance – KCP – Putzmeister – Schwing
  - Aerial Lifts: Bronto Skylift – Time Manufacturing – Versalift – Altec - Ruthman



# ETS-3 STEERED AXLES – CANAM-MANAC



**manac**  
Extendable trailer  
with Electronic forced Steering System



# ELECTRO-HYDRAULIC STEERING SYSTEMS



8 AXLE CONCRETE PUMP SCHWING AMERICA  
Tri-Steer – Lift (1) – Drive (2) – Steer Non-Drive;  
Drive steer

Irizar Integral i8 ETS1



Irizar Integral i6 ETS1



Irizar Integral i3 ETS1



Irizar Integral i4 ETS1

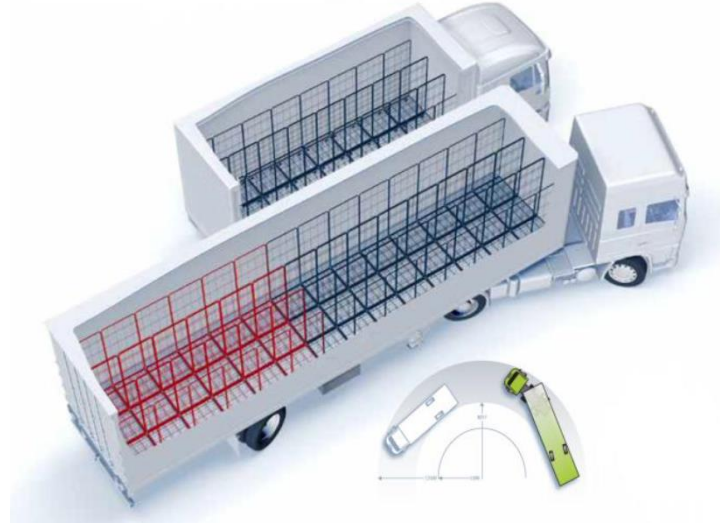


Bronto Skylift – Tri-Steer – Pusher – Drive –  
Drive Steer



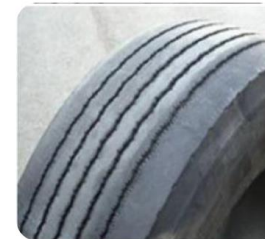
## ELECTRO-HYDRAULIC STEERING SYSTEM

- ❑ Microprocessor controlled technology providing exceptional manoeuvrability
- ❑ Optimal steering angles
- ❑ Reduces tire wear and tear
- ❑ Reduces scrubbing = Productive and Infrastructure freindly
- ❑ More than 70 000 units in service around the world (Source VSE)



135,000 km driven, 80% on local roads

Steered axles



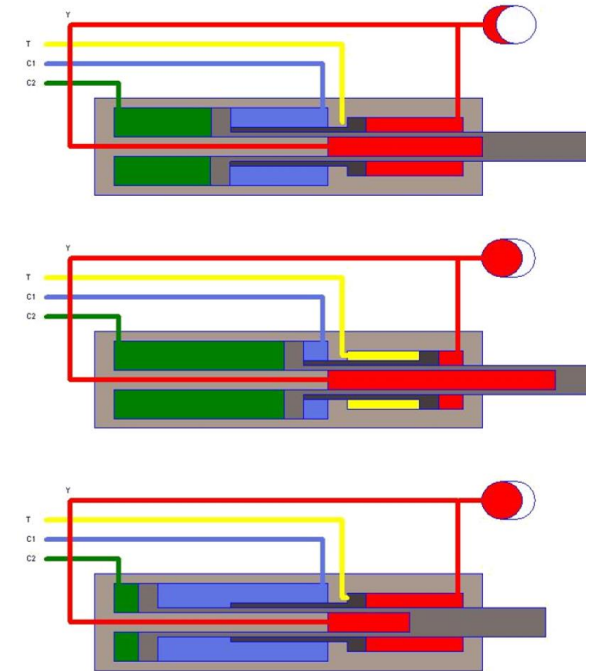
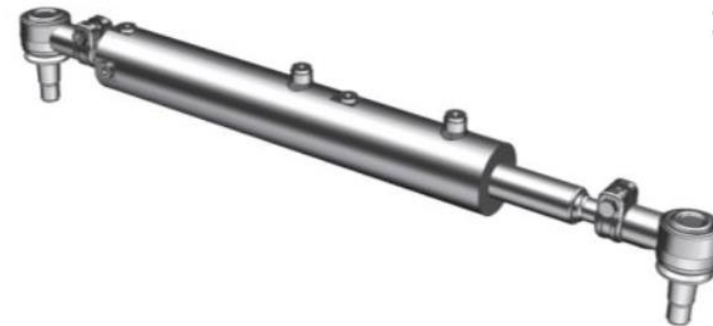
Rigid axles



## FEATURES

- Active Redundancy
  - ECU 2 processors
  - Steering and centering Cylinder
  - Double output signal on Sensors
  
- Hydraulic centering mechanism
  
- Self diagnostics system
  
- Self-lock system at speed 55km/h

## ELECTRONIC CONTROL UNIT

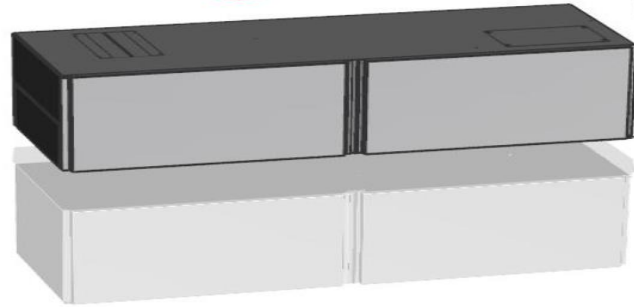


# STEERABLE TRAILER COMPONENTS

4. Kingpin



1. System locker



3. Cylinders



2. Angle sensor

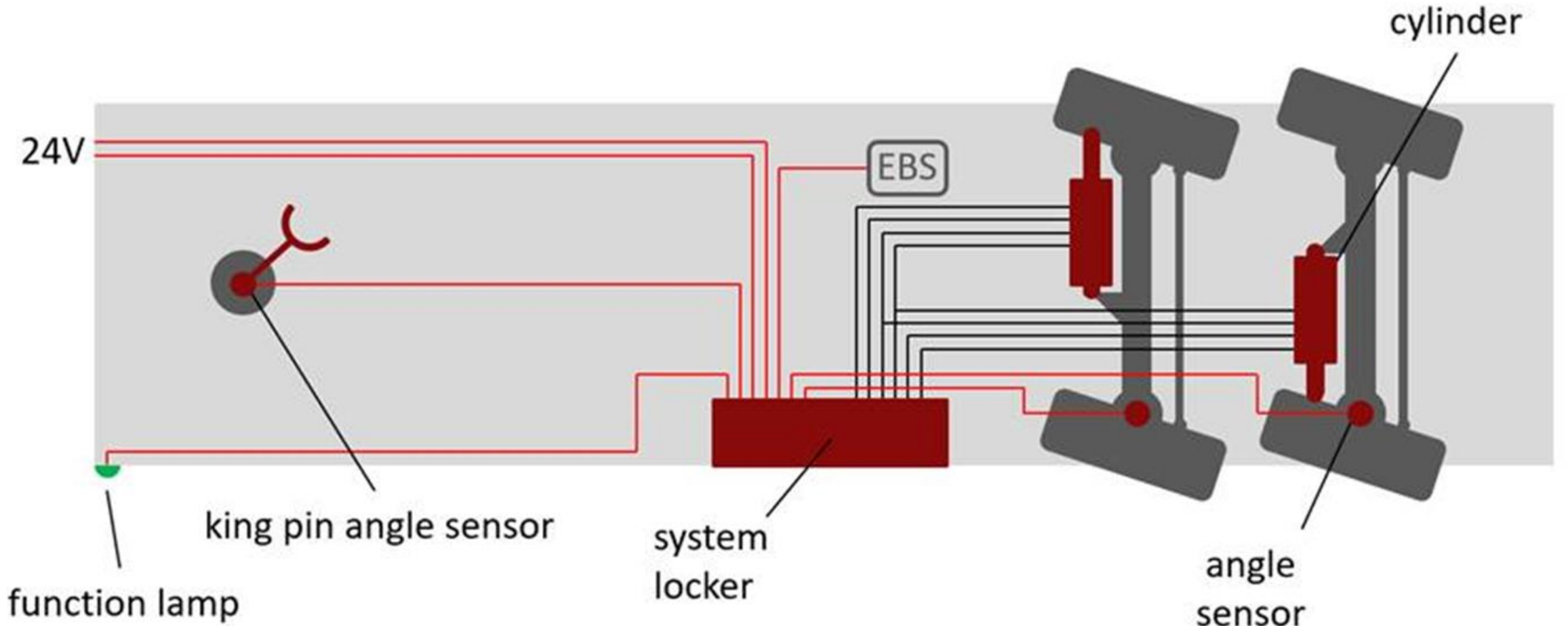


5. Manual operation



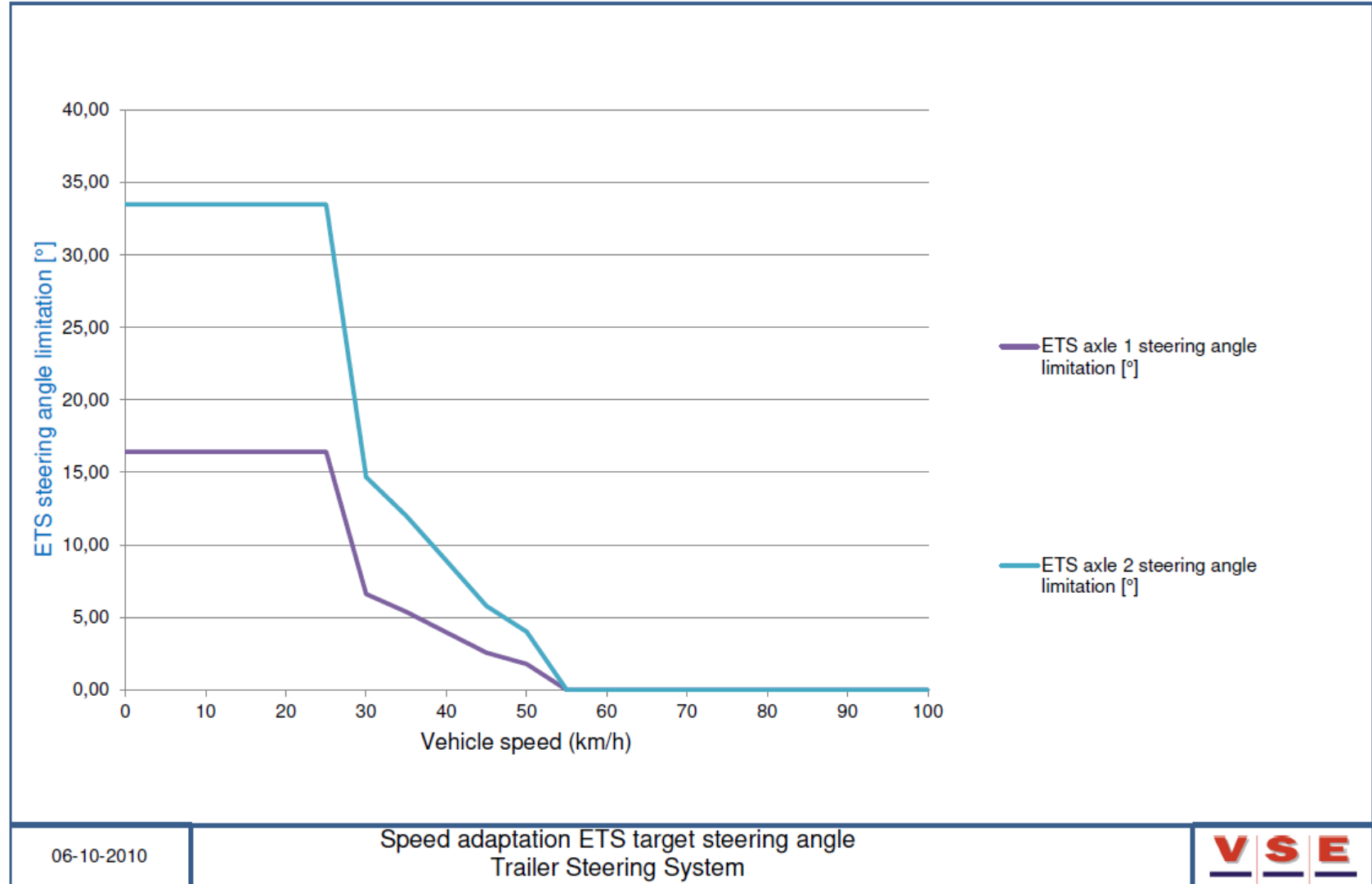


# ELECTRO-HYDRAULIC STEERING SYSTEMS - ETS

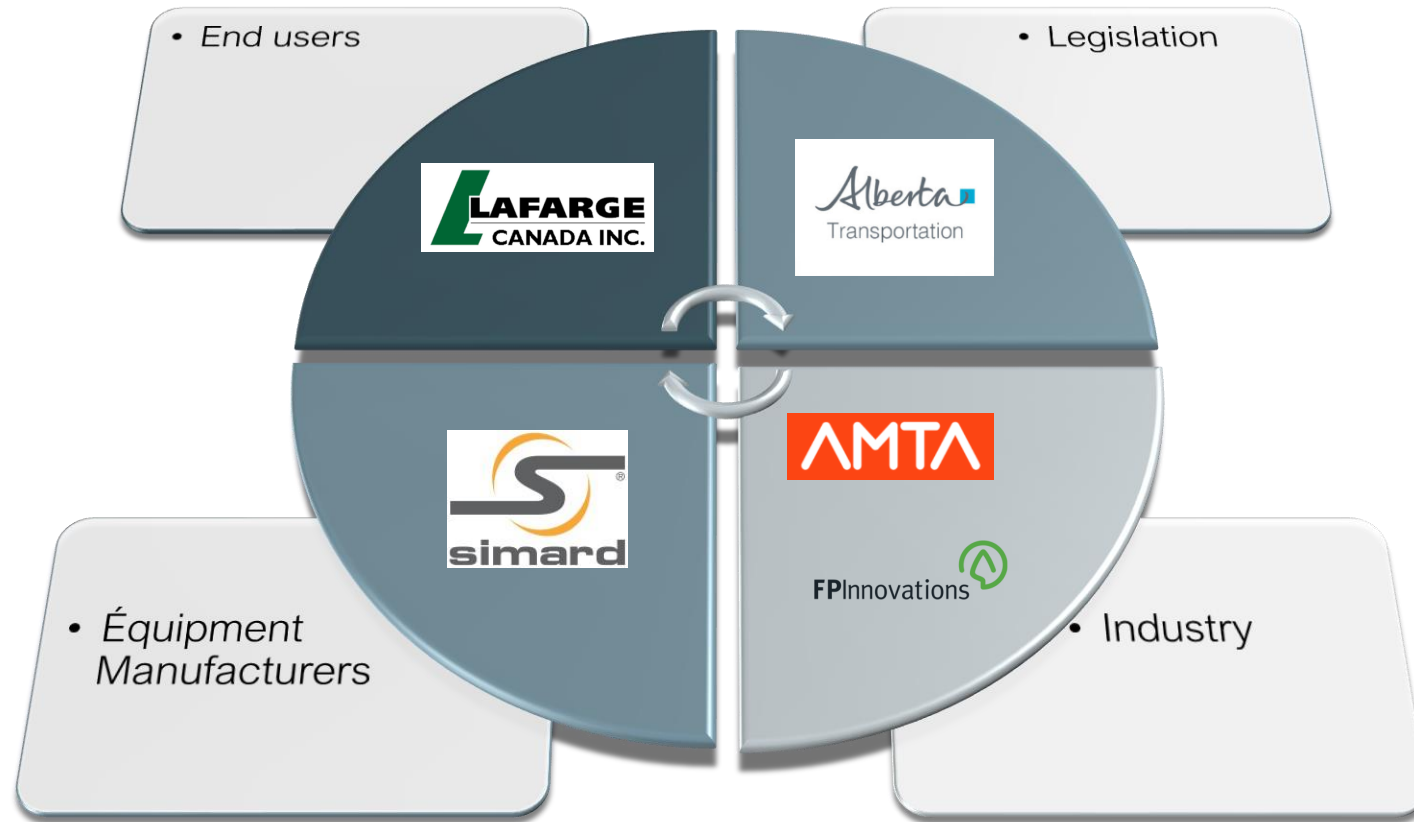


# ELECTRO-HYDRAULIC STEERING SYSTEMS - ETS

- Optimal stability at all times
- Steering gradually reduced above 25km/h, locked above 55km/h



# INNOVATION AND SUSTAINABILITY INDUSTRY LEADERS WORKING TOGETHER





# ETS - RTAC COMPLIANT

FPInnovations 

March 17, 2020

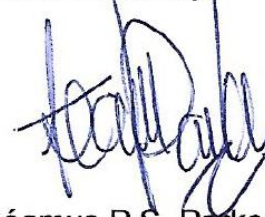
Kim Durdle, P.Eng.  
Director Permitting and Approvals  
Carrier and Vehicle Safety Branch  
Alberta Transportation

Re: Review of rear steering trailer – LaFarge Canada Inc.

‘ ... am satisfied that ALL RTAC performance requirements will be achieved. I am also satisfied that the system is robust and has been extensively tested with more than a decade of operational experience in Europe’

“.. The steering system is only active to 55km/h...”

Yours Sincerely

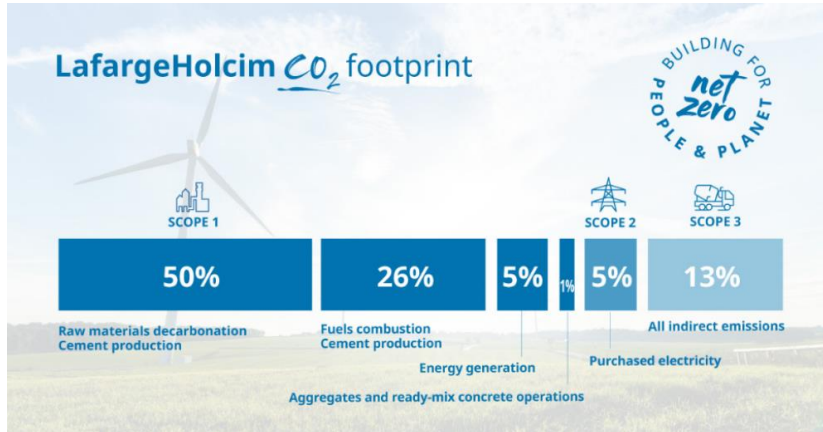


Séamus P.S. Parker RPF P.Eng.  
Principal Researcher  
FPInnovations





## HOW REAR STEER WILL SUPPORT OUR INDUSTRY



- Scope 3 - Transportation
  1. Network optimization
  2. Alternative fuels
  3. Load optimization
  4. Driver training

- Overcome maneuverability challenges
- Greater utilization of assets across all operations
- Increase payloads = up to 30% reduction in loads hauled
- Lower maintenance for tractor trailer combination (vs current fixed frame predominant in industry)
- Reduced fuel and emissions/unit of product (concrete-cubic meters)
- Less loads – better fuel consumption/unit = 30% or greater
- Tractors are a more flexible asset & trailers have a longer lifecycle
- Changes the LCA model for Lafarge

# Alberta Motor Transport Association (AMTA)

**The voice, the standard and the resource for  
commercial transportation**

- Safety and training
- Collaborating with industry associations and stakeholders
- Membership support services
- Government advocacy
- Research and innovation
- Industry advancement at every turn





# Steerable Tridem Axles – Canada Wide

## MOU / Canadian Benefits

- Standardization across Canada for proven technology
- Reduction of GHG 30 % / ↑ Industry recovery (COVID-19)
- Important infrastructure protection and improves safety for tridem configurations
- Maneuverability and urban access



# ETS STEERING SYSTEMS IN ACTION

Unibéton- Tri-Axle Trailer with ETS-2 Steerable Axles

<https://youtu.be/jc9g8z2uYnk>

- Short Version [Short Version](#)

ETS-2 - Lowbed Trailer ETS2 + ETS2

<https://youtu.be/BUyw-008y60>

MANAC – Extensible Trailer – ETS-3

<https://youtu.be/E4HGKmePqHc>

Mack MRU – 7 Axle Concrete Pump ETS-1

<https://youtu.be/jVq0zwea42l>



# THANK YOU

**Council of Deputy Ministers Responsible for  
Transportation and Highway Safety**

*Task Force on Vehicle Weights and Dimensions Policy*



*Presented by Simard  
Suspensions – Georges  
Cloutier, Special projects  
director  
([georges.cloutier@simard.com](mailto:georges.cloutier@simard.com))  
Collaborators: Ian  
Paine, Lafarge Canada;  
Andrew Barnes, AMTA  
01-12-2020*

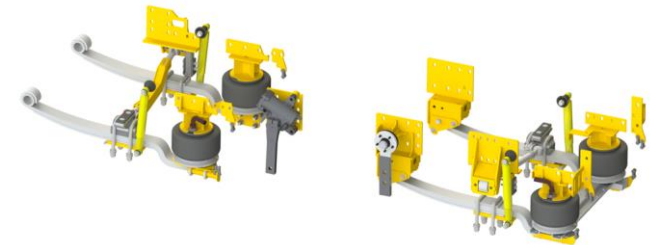
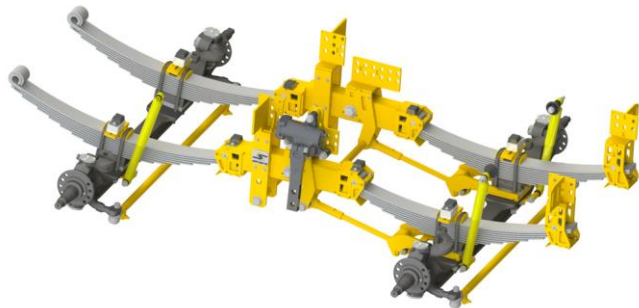
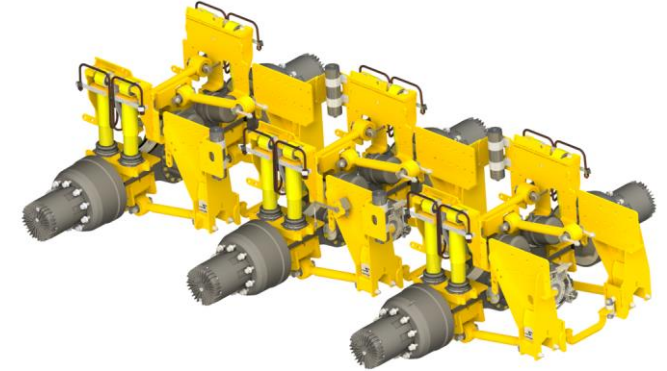
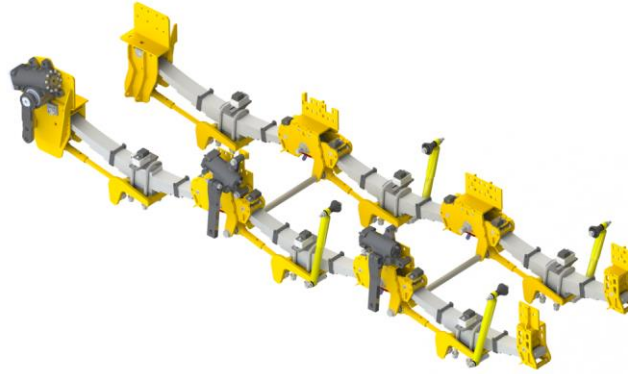
Proud member of:





## SIMARD SUSPENSIONS – OUR PRODUCT PORTFOLIO

- Twin Steer Suspensions
- Tri-Steer Suspensions
- Chassis Modifications
- Electro-Hydraulic Steering
- Dramis HD trucks



SEE MORE – [WWW.SIMARDSUSPENSIONS.COM](http://WWW.SIMARDSUSPENSIONS.COM)

FOLLOW US - <https://www.facebook.com/simardsuspensions/> -

<https://www.linkedin.com/company/simard-suspensions/>