




# Collision investigation at Volvo – Why, What and How




Peter Wells  
Volvo Group Trucks Technology

**VOLVO TRUCKS**  
**ACCIDENT**  
**RESEARCH TEAM**



**THERE IS ONLY ONE  
ACCEPTABLE NUMBER OF  
INJURIES AND DEATHS  
IN THE TRAFFIC**

**ZERO**



"The basic principle  
behind all design  
work is and always  
must be safety"

# Volvo Trucks Accident Research Team

Learning from Accidents since 1969

- ART is a Research Unit dedicated to Traffic Safety
- On scene and retrospective accident investigations
- Cross functional team – direct input to PD

## Focus Areas:

- In depth accident investigations (on or off-site)
- Traffic Safety & Accident statistics (world wide)
- Safety Evaluation



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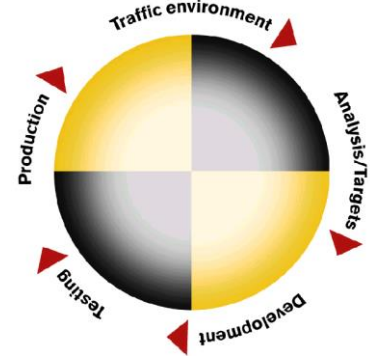


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Safety Impact Assessment

Forensic Engineering

**Normal  
Driving**

**Conflicts**

**Pre-Crash**

**Crash**

**Post-Crash  
on-site**

**Post-Crash  
off-site**



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Peter Wells, Accident Research Team, 2017-03-22

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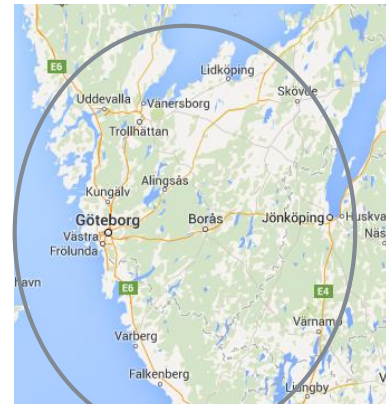
Learning from Accidents since 1969

## In depth accident investigations (on or off-site)

- Cross functional team
- On call duty
- Alerted by
  - SOS alarm
  - Rescue Services
  - Dealers
  - Media
  - ...
- Mainly off-site investigations

From: SOS Alarm  
Sent: 20 March 2017 14:07:26 (UTC+01:00) Amsterdam, Berlin, Bern, Rome  
To: Accident Alert  
Subject: Trafikolycka - singel Lastbil Övrigt

Ärendenr: 10:3255097:2  
SOS: Östersund  
2017-03-20 13:57:44  
Raddning  
Prio: 1  
Trafikolycka - singel  
Lastbil  
Övrigt  
1b kort av vägen och ut på åker, chaffören ur bilen och uppegående  
rv 26, nära infart lunden 1  
avfart lunden  
Gislaved SG  
Gislaved Syd  
Kommun: Gislaved  
PosRef: 0  
Pos: 6348961, 1358275  
  
SOS Alarm - För ett tryggare samhälle



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## Learning from Accidents since 1969

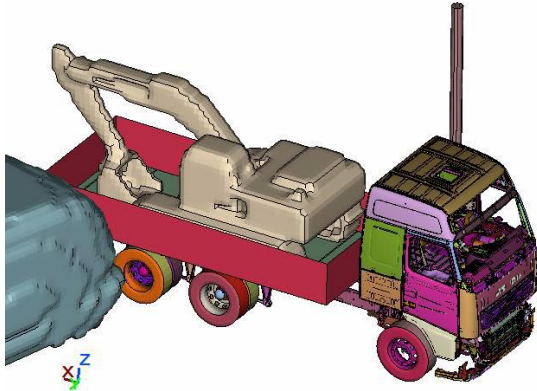


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## Learning from Accidents since 1969

### Accident reconstruction

0:train\_vs\_truck\_09A001 : ORIGINAL STATE





# Volvo Trucks Accident Research Team

## Learning from Accidents since 1969

- Accident & Traffic Safety Statistics
  - On a global level
  - Combine our own in-depth investigations with:
    - National data
    - Results from collaboration with research institutes / academia
    - Research projects
  - Provide internal reports and recommendations on safety measures
  - External public reports, like the European Accident Research and Safety Report

Volvo Trucks Type Accidents

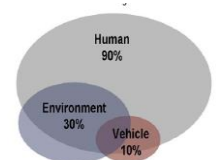
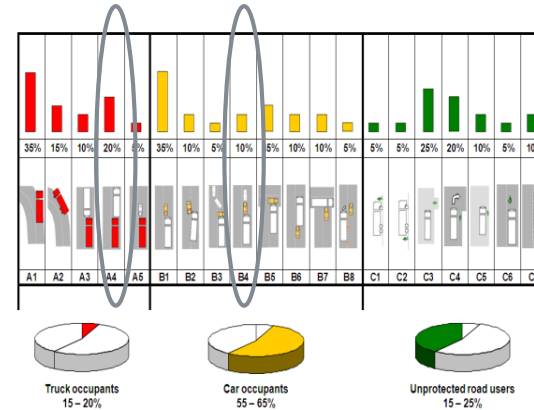


Figure 3: Frequency of contributing accident causes.



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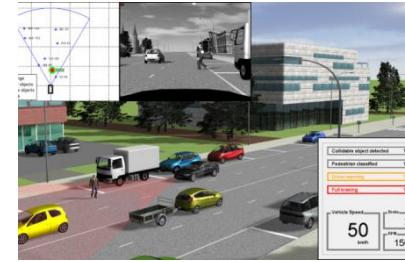




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## Learning from Accidents since 1969

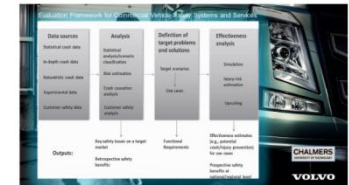
- Safety Evaluation
  - Evaluation of both current safety measures but also future ones.
  - Provide recommendations on new test methods based on how the traffic environment changes.
  - Naturalistic Driver Studies (NDS) and Field Operation Tests (FOTs) are growingly important areas of information
  - Research projects on how to evaluate Safety Systems and Services, e.g. EFrame



lytx.

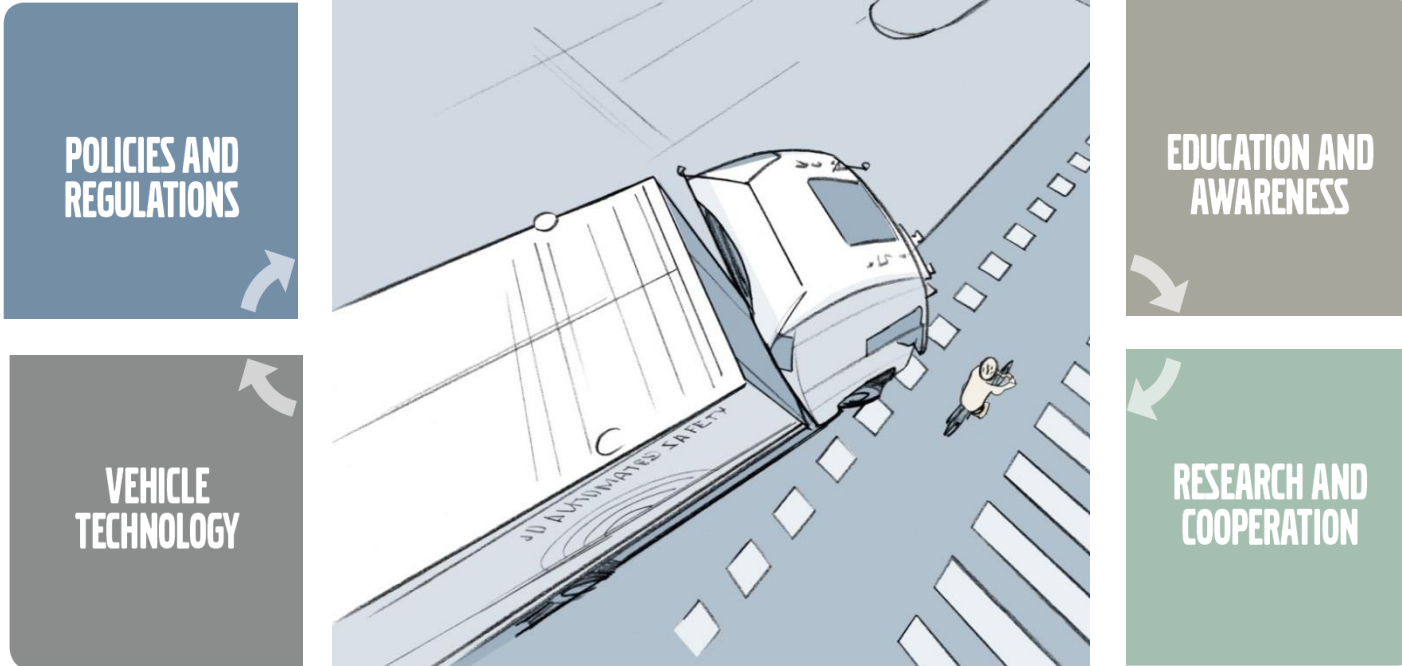


Evaluation Framework for Commercial Vehicle Safety Systems and Services (EFrame)



# Towards Zero by learning from Accidents

## Challenges





# Towards Zero by learning from Accidents

## Best practice

- Round table meetings with Trafikverket
  - 7-8 meetings annually
  - All fatal accidents, in-depth
  - Aim to improve infrastructure and share knowledge => Vision Zero
  - Participants include: Trafikverket, Police, Rescue Services, Coroner, City Planning, OEMs, Academia (SAFER, Chalmers, ...), VTI etc



**TRAFIKVERKET**  
SWEDISH TRANSPORT ADMINISTRATION



Vision Zero Conference 2017 - Welcome to Sweden 14 -15 June 2017

Vision Zero Conference 2017 - Welcome to Sweden 14 -15 June 2017 How do we reach Vision Zero in the light of UN's Sustainable Development Goals? The aim of the Vision Zero Conference is to provide new impetus to the promotion of road transport safety at the strategic level.

# Towards Zero by learning from Accidents

We can make a difference



- <http://www.volvotrucks.com/en-en/our-values/safety/see-and-be-seen.html>
- <http://www.volvogroup.com/en-en/about-us/traffic-safety/stop-look-wave.html>



# Towards Zero by learning from Accidents

We can make a difference

- Thank you very much for listening and I hope there are a few questions.

**VOLVO TRUCKS**  
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[peter.wells@volvo.com](mailto:peter.wells@volvo.com)