



Implementing a FOT Case study: SeMiFOT

First name: **Helena**
Last name: **Gellerman**
SAFER

SAFER

VEHICLE AND TRAFFIC SAFETY CENTRE AT CHALMERS

SeMiFOT

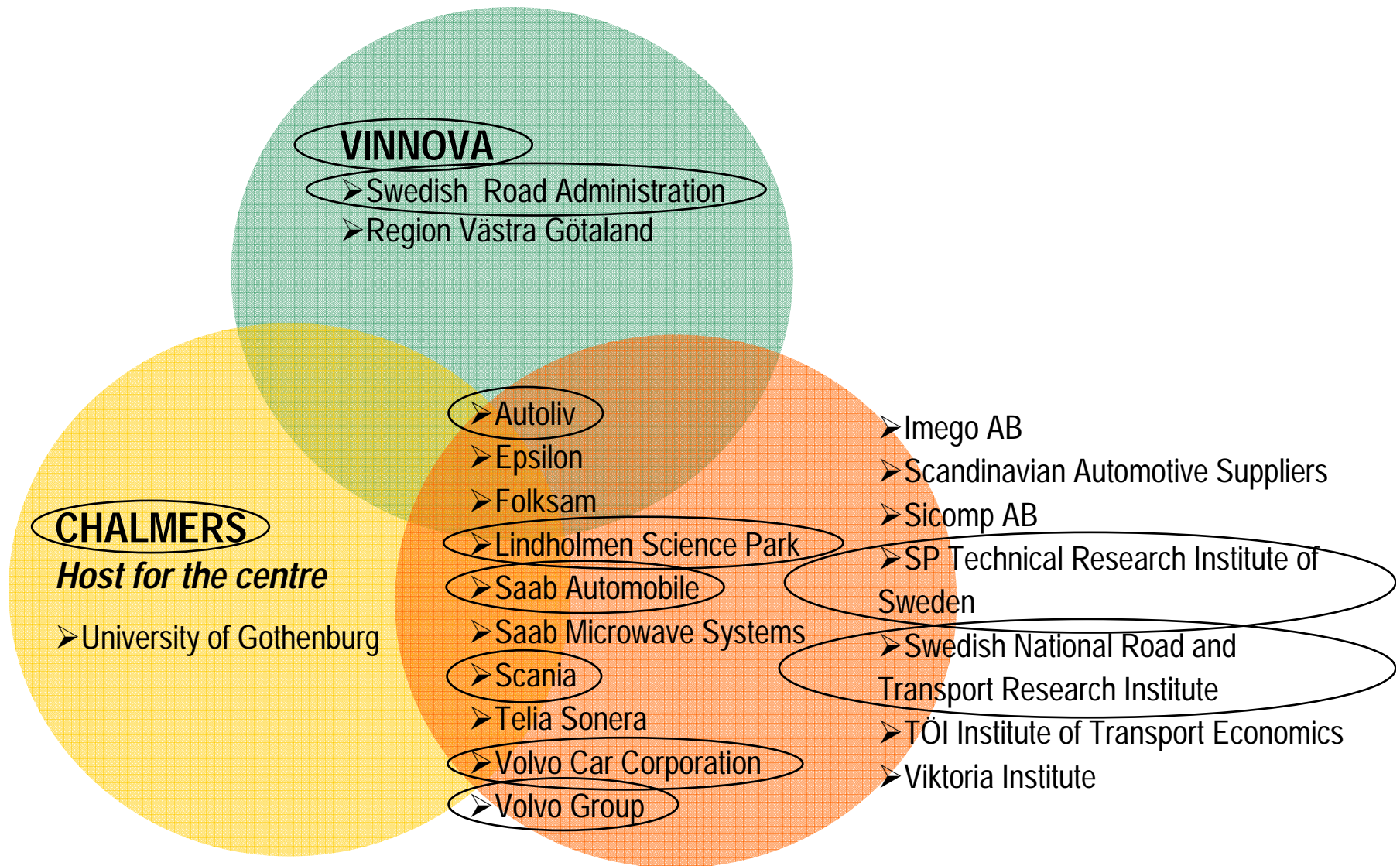
A **SAFER** PROJECT

24/10/08, Implementing a
FOT seminar, Brussels

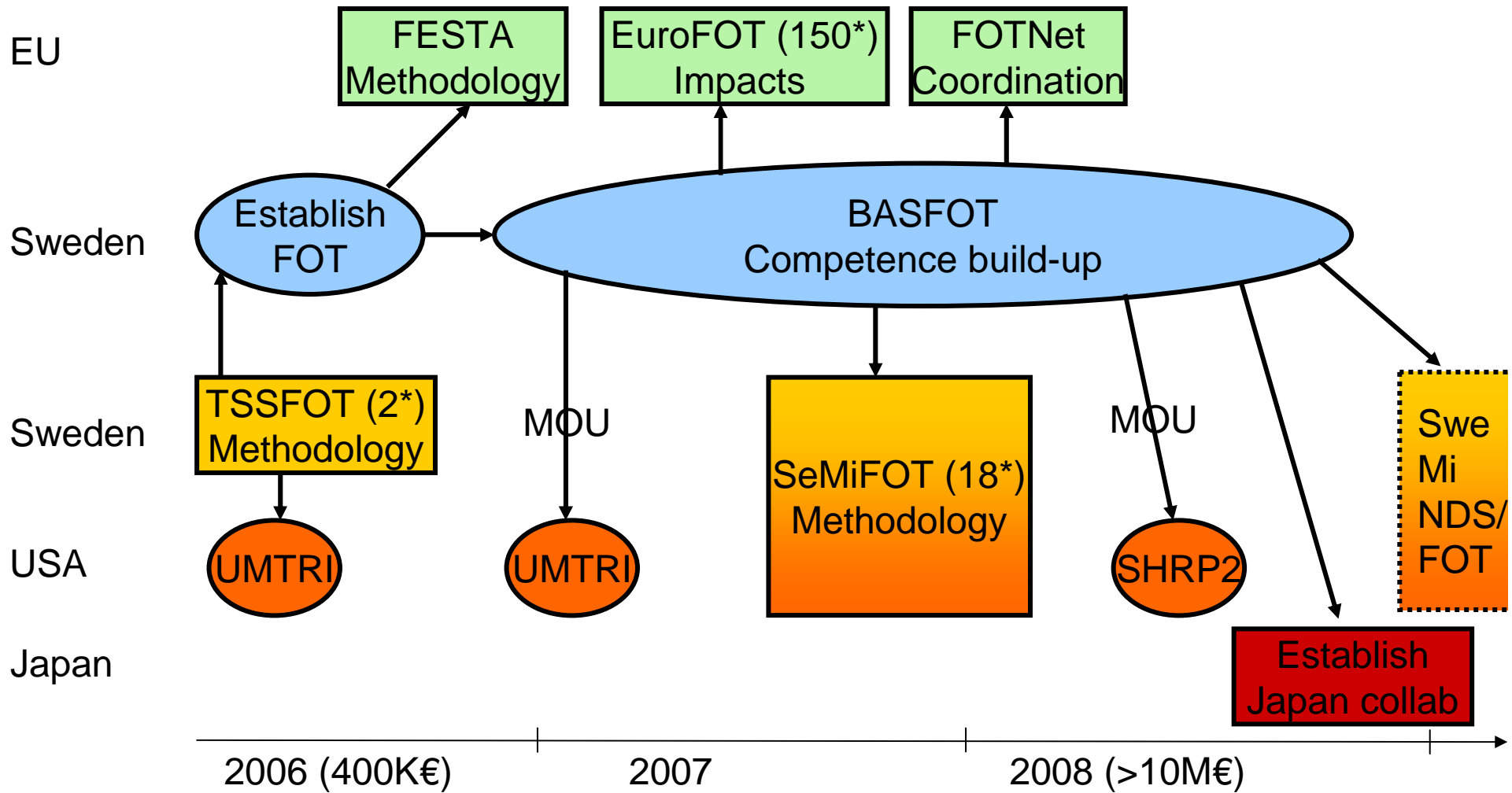
Outline

1. Background – SAFER
2. SeMiFOT – Description
3. SeMiFOT – IP based lessons learned

22 Partners - 10 year commitment (2006 – 2016)



FOT/NDS projects at SAFER



Competence
Project
Proposal
 * Swedish vehicles

SeMiFOT Overview

- Naturalistic FOT Methodology Project
- Duration Jan 2008 – June 2009
- Cooperation Sweden/Michigan (UMTRI) based on MoU
- 13 partners from industry, authority and academy
- 20 vehicles; 18 in Sweden and 2 in Michigan
 - VCC 8, Saab 3, AB Volvo 3 and Scania 4
- Main focus In-vehicle functions
- Continuous data acquisition including video
- Evaluation of
 - Tools, processes, legal and ethical constraints and data sharing
- OEMs responsible for acquiring vehicles, systems and drivers
- Current status:
 - Launching the vehicles for data acquisition

SAFER Data Acquisition System

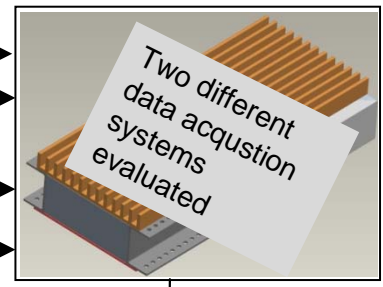


Extra "external" sensors
Accelerometers
Eyetrackers – SeeingMachines/SmartEye (13units total)
Lanetracker/ForwardDistVel – MobilEye

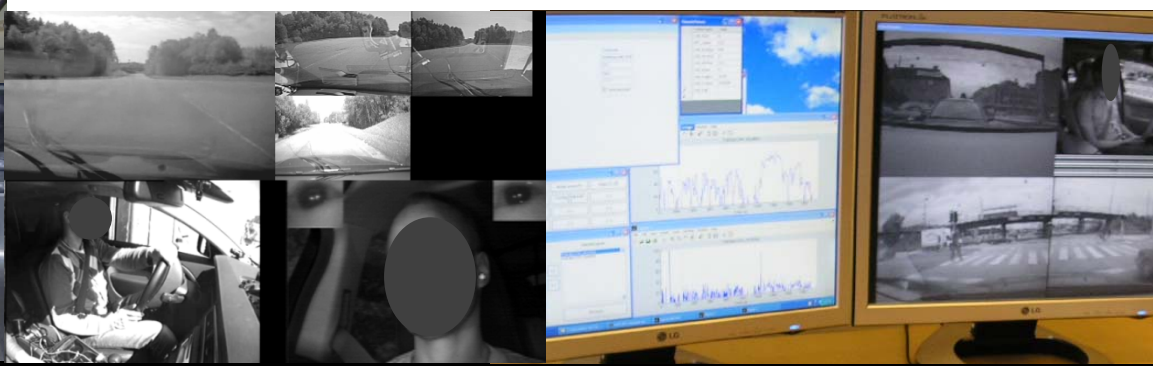
GPS (1 Hz)

CAN
Steering Wheel Angle
Turn Indicator
Gear Level Position
Accelerations
Etc

Video (Analogue)
6 Cameras in total



Hard drives



SeMiFOT according to FOTIP

General advice on FOT related items

1	Shared leadership recommended
2	Focus on agreeing on research questions and hypothesis early on in the project and keep the list short. Agree on list reduction strategies if many partners.
3	Plan for an iterative process between study design, support systems and analysis and allow sufficient time for installation in vehicles and piloting evaluation.
5	Video is essential for understanding road user behaviour. Agree on data sharing rules between partners in the project and what should happen to the data after the project.
6	Resolve legal and ethical issues early in the project, especially if video is involved. Develop procedures for data security

SeMiFOT according to FOTIP

General advice on FOT related items

7	If true customer vehicles are involved, start early with recruitment.
9	Start data acquisition system survey early, especially if video is involved.
18	Document the procedures for hotline and the support functions with designated names in case of problems in the field.
19	Start the analysis work package early, to be involved in requirements on data and analysis tool and to perform test of pilot data. Plan resources carefully, not to lack budget in the end.

Conclusions

- Use FOTIP as a checklist for your FOT set-up
 - Designed for persons new in the FOT field
 - Works as a reminder for experienced researchers
- As FOT is a new methodology, develop processes how to keep FOTIP updated with new experiences and how to exclude parts which have become standardized.
- Structure and advice of FOTIP well suited for in-vehicle functions FOT

SAFER

VEHICLE AND TRAFFIC SAFETY CENTRE AT CHALMERS

Borderless research to save lives

helena.gellerman@chalmers.se

Tel +46 31 764 7012

www.chalmers.se/safer

safer@chalmers.se

SeMiFOT

A SAFER PROJECT

Sweden Michigan Naturalistic Field Operational Test



Contact

Trent Victor
SAFER
trent.victor@chalmers.se
+46 31 322 66 51

Helena Gellerman
SAFER
helena.gellerman@chalmers.se
+46 31 772 10 95

Partners

Industry

AB Volvo
Autoliv
Länsförsäkringar
Saab Automobile
Scania
Test Site Sweden/
Lindholmen Science Park
Volvia
Volvo Car Corporation

Academy

Chalmers University of Technology
Swedish National Road and Transport Research
Institute (VTI)
Technical Research Institute of Sweden (SP)
University of Michigan Transportation Research
Institute (UMTRI)

Partly financed by

Michigan Department Of Transportation (MDOT)
Swedish Governmental Agency for Innovation
Systems (VINNOVA)

Authority

Swedish Road Administration

SAFER Vehicle and Traffic Safety Centre at Chalmers

SAFER is a joint research unit using competence from 20 partners from the academy, society and the industry.

Our vision is to enable Sweden to reach world leading competitiveness, and to provide new countermeasures to considerably reduce both the number of traffic accidents and the number of fatalities and serious injuries.

SAFER
VEHICLE AND TRAFFIC SAFETY CENTRE AT CHALMERS

SAFER
PO BOX 8077
SE-402 78 GÖTEBORG, SWEDEN
www.chalmers.se/safer

SeMiFOT
A SAFER PROJECT

SAFER

SeMiFOT

A SAFER PROJECT

Contact

Trent Victor
SAFER
trent.victor@chalmers.se
+46 31 322 66 51

Helena Gellerman
SAFER
helena.gellerman@chalmers.se
+46 31 772 10 95

Partners

Industry

AB Volvo
Autoliv
Länsförsäkringar
Saab Automobile
Scania
Test Site Sweden/
Lindholmen Science Park
Volvia
Volvo Car Corporation

Authority

Swedish Road Administration

Academy

Chalmers University of Technology
Swedish National Road and Transport Research
Institute (VTI)
Technical Research Institute of Sweden (SP)
University of Michigan Transportation Research
Institute (UMTRI)

Partly financed by

Michigan Department Of Transportation (MDOT)
Swedish Governmental Agency for Innovation
Systems (VINNOVA)

18 vehicles in Sweden and 2 vehicles in USA, ca 6 months data collection,
duration Jan 2008-March 2009

SeMiFOT WPs

WP1: Management

Examples of systems to be tested:

Impairment
Warning
IW

Forward
Collision
Warning &
Brake
Support
FCW

Adaptive
Cruise
Control
ACC

Lane
Departure
Warning
LDW

Intelligent
Speed
Adaptation
ISA

Electronic
Stability
Control
ESC

Cooperative
Systems/
VII

WP2: Experimental Design

WP3: Data Management

WP4: Vehicle and Test Management

WP5: Evaluation

Some SeMiFOT Goals

- To further develop the Naturalistic FOT method into a powerful tool for a) accident research, and b) evaluation of safety, efficiency, and usage & acceptance, and c) countermeasure innovation and development.
- To verify the Naturalistic FOT methodology at an intermediate scale, at a larger scale than TSS FOT, and a smaller scale than EuroFOT.
- To achieve a close cooperation between Swedish and Michigan partners