



Annual Report to Shareholders

Operative year # 1

SAFER LINDHOLMSPIREN 5
BOX 8077
402 78 GÖTEBORG
www.chalmers.se/safer

Formal issues

The SAFER agreement is running from 060401 which is the formal signing date. The first phase is covering three years and ends 090331. The centre was inaugurated on June 7 2006 by the Minister of Industry and Trade, Tomas Östros.

The shareholders are: AB Volvo, Autoliv Development, Chalmers, Epsilon High Tech, Folksam, Göteborgs universitet, Imego, Lindholmen Science Park, Region Västra Götaland, Saab Automobile, Saab Microwave Systems, Scandinavian Automotive Suppliers, Scania, Sicomp, SP Technical Research Institute of Sweden, Swedish Road Administration, Telia Sonera, VINNOVA, Volvo Car Corporation and VTI Swedish National Road and Transport Research Institute.

It was decided to name the centre SAFER which is a word and no acronym.

SAFER is renting an office in Lindholmen Science Park, Lindholmospiren 5, just outside the Chalmers Lindholmen Campus to be in an area equally open to all of the partners. Preparations were made during summer to be able to welcome researchers into the office beginning of September.

Board

The board of SAFER consists of seven members: Jan-Eric Sundgren (Chairman), AB Volvo, Ingrid Skogsmo, Volvo Cars, Per Lenhoff, Saab Automobile, Jan Olsson, Autoliv Development, Urban Karlström, VTI Swedish National Road and Transport Research Institute, Ove Pettersson and Lennart Josefson, Chalmers. The director of SAFER, Anna Nilsson-Ehle, is responsible for preparation of the meetings and secretary of the meetings has been Monica Vargman.

The board has had six meetings. Procedures and standard agenda have been decided upon.

Governance

SAFER has two management groups, one for the operation which consists of the director and the coordinators and one for working environment issues which consists of the two line-managers within SAFER. Meetings are held every other week in both groups and minutes are taken.

A project management model is established. It covers principles for proposals, decisions and follow-up of projects both regarding content, time and resources.

SAFER research environment

The office covers approximately 800 sqm and has 69 workplaces, three conference rooms and four small rooms for concentrated work, phone-calls or spontaneous discussions. 90 people are working in the area part or full time, 45 have this as their only work place. The definition of “belonging to SAFER” is to have your own key and your portrait in the hallway.

Staff

Each person belonging to SAFER is employed by a partner. 51 of the 90 “key-holders” are employed at Chalmers, the rest are from the other partners. 25 percent are women.

Of the “key-holders” 25 are academic PhD students and 9 are industrial PhD students thus making the PhD-students close to 40 percent of the total staff.

Reference groups

SAFER has four reference groups, one for each project portfolio. The portfolios are:

Pre-crash safety, coordinator Hans Norin

The aim is to prevent accidents: Encompasses situations encountered during normal driving, as well as risk situations up to the point when an accident may happen. In this area we study humans, vehicles, traffic environments and interactions between the three.

The reference group has 22 participants and has met 6 times.

Crash safety, coordinator Per Lövsund

The aim is to minimize personal injuries in different types of incidents: The study of injury mechanisms and tolerance levels for human beings in different kinds of traffic accident. Includes developing principles for safety systems through accident data collection, experimentation and simulation.

The reference group has 18 participants and has met 6 times

Post-crash safety, coordinator vacant

The aim is to minimize the consequences of an accident: This area covers that important period, the Golden Hour, from the end of the actual collision, that is, once the vehicle has stopped, until any casualties arrive at the hospital and traffic is once again flowing normally.

The reference group has 12 participants and has met 4 times

Integrated safety, coordinator Yngve Håland

Integrated Safety has been defined as active and passive safety measures to avoid accidents, or mitigate collision and accident severities, and to minimize injuries by using sensing information in real-time about own and other vehicles' motions and information about the road/infra-structure. The area of integrated safety starts just before a collision/accident is inevitable, and the driver no longer is in control.

The reference group has 16 participants and has met 7 times

Projects

The SAFER research environment contains both projects that had started before 060401 and projects that are initiated after SAFER was founded. In total, more than 30 research projects are connected to SAFER. Since the start of SAFER the board of SAFER has decided to approve 9 pre-studies and projects. One project, INTACT, was started after approval from IVSS during fall of 2006. SAFER-researchers are engaged in 26 applications for projects within EU 7th frame programme.

The on-going pre-studies decided during year #1 are:

- A1 Establishment of Field Operational Test (FOT) Activities at Safer
- A2 System safety through combination of HMI and dependable systems
- A3 TSS Naturalistic Field Operational Test (FOT) - Phase 1
- B1 Multiple events
- D1 Enhanced/Robust electronic stability control
- D2 Real-time wireless communications vehicle-vehicle and vehicle-infrastructure

Pre-studies decided at board meeting 070423:

- A4 Safety for an aging population.
- A5 Active safety test area. -
- A6 Positioning system for outdoor safety testing.

Project decided at board meeting 070423:

- B2 Common vehicle structure models for simulations

Other: Visiting professor in the area of human modelling, 3 years part time

Vision and values

In the agreement the vision for SAFER is formulated as:

- to provide new countermeasures to considerably reduce both the number of traffic accidents and the number of fatalities and serious injuries.
- to enable Sweden to reach world leading competitiveness, by using the multi-disciplinary scientific competence available within the Centre.
- SAFER is to become a hub of excellence in vehicle safety.

Based on this SAFER has formulated its core values and the essence of its existence. SAFER is to create an open, ambitious and team spirited research environment where world class expertise collaborate to save lives.

Strategy

The board has set up a strategy with the aim to define and build longterm competence platforms that together fulfil the vision of "enabling Sweden to reach world leading competitiveness". This is seen as the core of the vision which the other bullets support.

The platforms encompass Real traffic, Biomechanics, Driver behavior and safety system applications and technologies. The platforms develop through strong projects, international collaboration, visiting professors and researchers and the participation from all partners.

SAFER is putting its main focus on precompetitive research in the area of understanding injury and accident/incident mechanisms, designing models, principals and concepts. When projects move into the competitive phases of system solutions and products SAFER is not involved in projects but supplies good researchers to the industry. SAFER projects also adress evaluation of systems in real traffic and SAFER should develop high competence in the area of traffic systems and prediction of impact from different counter-measures.

Cooperation

SAFER is to find and encourage different ways of cooperation. One obvious is within the research projects which, according to guidelines from the SAFER board, always should involve at least one academic and one industrial part.

International cooperation shall be established and several initiatives are taking to become part of EU-concordia. SAFER is from 2007 member of EARPA, the European automotive research partner association. Several SAFER partners have well established European networks and the director of SAFER was thus invited to the yearly EUCAR conference.

VINNOVA has organized a study trip to research organisations in Japan to explore cooperation possibilities. Several research leaders connected to SAFER were participating in the tour and SAFER will evaluate and suggest follow-up activities.

VINNOVA and Vägverket have signed a cooperation agreement with Michigan Department of Transportation. SAFER will try to establish research cooperation within this.

Interdisciplinary cooperation is a key activity of SAFER. An application has been submitted to VINNOVA (VINNPRO) requesting funding for a Research School that connects four existing research schools within Chalmers within the theme of Traffic Safety.

Cooperation between institutes and universities can be enhanced. An application for support to such work was rejected but the actors within SAFER will still develop some activities.

Economy

The agreement clearly states each partners undertaking. The project model established for SAFER will monitor the resources used, both cash and in-kind. Each partner has to confirm resources used to avoid misinterpretations at the end of phase one. The first year has had some costs for establishing the office but little expenditure on projects. All in all SAFER has received 19 msek and used 13 msek of its estimated first year 22,5 msek. The total for Phase #1 is 82,5 msek.

Seminars and conferences

SAFER has established weekly lunch seminars for internal cross-fertilization of knowledge and ideas. 16 seminars with 30 speakers have been conducted so far. One lunch seminar was a visit to Volvo Car Safety Centre. Two half day workshops with all staff have been held. One in December was dedicated to SAFER vision and values – “the brand platform” and one in March was to discuss “What is needed to become world-class”. Workshops of this kind will be held regularly a couple of times a year.

SAFER also has the ambition to hold external seminars. In January two seminars were held, one with Dr Jac Wismans from TNO and one with Dr Herman Steffen from University of Graz. For the rest of 2007 six to eight external seminars are being planned.

The conference that is one of the tasks for SAFER according to the agreement, has not yet found its form. Discussions concern the possibility to host one of the coming ESV conferences (2011 or 2013) and the participation in The ITS conference in Sweden.

SAFER had a seminar at Transportforum in January, was present in the Swedish show room at the SAE 2007 world Congress in Detroit in April and will have a seminar at the yearly Tylösands meeting in August. SAFER also had a session at the conference “Elektronik i fordon” in April.

During the International Science Festival Göteborg, SAFER participated with three seminars about Child Safety in Cars, Whiplash research and accident and incidents analysis.

Communication

SAFER has since its start been written about in several partner magazines like VINNOVA Nytt, Vägverkstidningen, Chalmers magasin, Lindholmen Science Park newsletter, SP Provning & Forskning, Vehicle Component. Other papers in which SAFER has been mentioned are among others Teknik & Vetenskap, Göteborgs-Posten, Transportarbetaren, Älvstrand, Örnsköldsviks Allehanda.

SAFER has also been broadcasted on SVT's Västnytt. “Bilindustri i förvandling” is a 4 minutes long report which was shown 2007-02-01. A shorter version was broadcasted on the news program Rapport the same night. See link: www.svt.se/svt/play/video.jsp?a=750385

SAFER has an information folder, a presentation in PowerPoint and a roll-up which can be used by researchers and partners. More information material is on its way.

The SAFER web site is placed within Chalmers. The information on the site is limited but a thorough work reorganizing it is ongoing (www.chalmers.se/safer).

Research reports

During SAFER's operative year # 1, the following PhD Students working in the SAFER environment have written their licenciate thesis:

Jianfeng Yao, Dep. of Applied Mechanics, Chalmers: "Head injuries in car-to-child pedestrian accidents: investigation of head impact dynamics and injury mechanisms using accident reconstructions" (2006).

Jesper Sandin, Dep. of Applied Mechanics, Chalmers: "DREAM : a method for understanding the causation of single-vehicle crashes : a review of causation analysis methods and a suggested new approach" (2006).

Fredrik Pettersson, Dep. of Computer Science and Engineering, Chalmers: "On improvement of requirements engineering in the automotive domain" (2007).

Fredrik Törner, Dep. of Computer Science and Engineering, Chalmers: "On hazard identification in the automotive domain" (2006).

Daniel Larsson, Dep. of Computer Science and Engineering, Chalmers: "Formal specification and verification of safety-critical software" (2006).