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Adaptive seat to reduce neck injuries for female and male occupants

Fact Sheet

Project Information

ADSEAT

Grant agreement ID: 233904

Project closed

Start date

1 October 2009

End date

31 March 2013

Funded under

Specific Programme "Cooperation": Transport
(including Aeronautics)

Total cost

€ 3 471 397,40

EU contribution

€ 2 498 877,00

Coordinated by

STATENS VAG- OCH
TRANSPORTFORSKNINGSINSTITUT
 Sweden

This project is featured in...



Women in science — and research to improve women's lives

Objective

The development of adaptive safety systems addressing vehicle occupant protection requires the use of in depth knowledge of various occupant features, specifically those related to the risk of injury. All occupants in passenger vehicles are at risk of sustaining whiplash injuries in a low severity crash. Whiplash associated disorders (WAD), so called whiplash injuries, resulting from car crashes, are a serious traffic safety issue, resulting in over 4 billion € costs to European society. Yearly more than 300 000 European citizens suffer neck problems from these injuries and 15 000 result in long terms consequences. In the population, the females are at higher risk of these injuries than the males. The difference in risk between the robust, male, population and the vulnerable, female, part of the population is between 40-100%. This has been reported from epidemiological studies from all over the world since the end of the 1960s until today. Yet still, when assessing the vehicle safety the only available occupant model for these impact scenarios is an average male. Adaptive anti-whiplash systems need to be evaluated for their benefits both for males and females. If there are no improved protective systems, further rising costs for the European Society can be expected.

This project aims at establishing the properties for a model of an average female and to implement those in a computational model in order to provide an improved tool for the development and evaluation of adaptive systems with special focus on protection against whiplash injuries.

The project will result in a computational model of a female, in addition to the male model that already exists, for low severity testing. In addition, the computational models will be used in the design and evaluation of adaptive seat systems in order to provide enhanced neck injury protection from the seat.

Keywords

[Adaptive seat](#)

[Computational models](#)

[Neck injuries](#)

[Occupant models](#)

[Rear impacts](#)

[Traffic safety](#)

[Whiplash](#)

Programme(s)

[FP7-TRANSPORT - Specific Programme "Cooperation": Transport \(including Aeronautics\)](#)

Topic(s)

[SST.2008.4.1.1. - Safety and security by design](#)

Call for proposal

FP7-SST-2008-RTD-1

[See other projects for this call](#)

Funding Scheme

[CP-FP - Small or medium-scale focused research project](#)

Coordinator



STATENS VAG- OCH TRANSPORTFORSKNINGSINSTITUT

EU contribution

€ 558 164,00

Total cost

No data

Address

OLAUS MAGNUS VAG 35

58195 Linköping

 **Sweden** 

Region

Östra Sverige > Östra Mellansverige > Östergötlands län

Activity type

Research Organisations

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Participants (12)



CHALMERS TEKNISKA HOGSKOLA AB

 Sweden

EU contribution

€ 511 159,00

Address

-
412 96 Goteborg 

Region

Södra Sverige > Västsverige > Västra Götalands län

Activity type

Higher or Secondary Education Establishments

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

No data



LUDWIG-MAXIMILIANS-UNIVERSITAET MUENCHEN

 Germany

EU contribution

€ 247 852,00

Address

GESCHWISTER SCHOLL PLATZ 1
80539 MUNCHEN 

Region

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

No data



Folksam Ömsesidig Sakförsäkring

 Sweden

EU contribution

€ 74 350,00

Address

Bohusgatan 14
10660 Stockholm 

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

No data



TECHNISCHE UNIVERSITAET GRAZ

 Austria

EU contribution

€ 383 352,00

Address

RECHBAUERSTRASSE 12
8010 Graz 

Region

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

No data



UNIVERSITE DE STRASBOURG

France

EU contribution

€ 64 800,00

Address

RUE BLAISE PASCAL 4
67081 Strasbourg

Region

Grand Est > Alsace > Bas-Rhin

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

No data



Stiftung Arbeitsgruppe für Unfallmechanik

Switzerland

EU contribution

€ 238 500,00

Address

Winkelriedstrasse 27
8006 Zuerich 

Region
Schweiz/Suisse/Svizzera > Zürich > Zürich

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links
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[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost
No data



LOUGHBOROUGH UNIVERSITY

 United Kingdom

EU contribution
€ 61 447,00

Address
ASHBY ROAD
LE11 3TU Loughborough 

Region
East Midlands (England) > Leicestershire, Rutland and Northamptonshire > Leicestershire
CC and Rutland

Activity type
Higher or Secondary Education Establishments

Links
[Contact the organisation](#)  [Website](#) 
[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost
No data



FIRST TECHNOLOGY SAFETY SYSTEMS (EUROPE)

 Netherlands

EU contribution

€ 39 408,00

Address

Kleveringweg 6-8

2600JA DELFT 

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

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[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



FUNDACION CIDAUT

 Spain

EU contribution

€ 92 838,00

Address

PLAZA VICENTE ALEIXANDRE CAMPOS 2 PQ TECNOLOGICO DE BOECILLO 209

47151 Valladolid 

Region

Centro (ES) > Castilla y León > Valladolid

Activity type

Research Organisations

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



VOLVO PERSONVAGNAR AB

 Sweden

EU contribution

€ 33 174,00

Address

AVD 50090 HB3S
405 31 Goteborg 

Region

Södra Sverige > Västsverige > Västra Götalands län

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

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- [HORIZON collaboration network](#) 

Total cost

No data



Faurecia Sièges d'Automobile

 France

EU contribution

€ 83 440,00

Address

RUE HENNAPE 2
92000 Nanterre 

Region

Ile-de-France > Ile-de-France > Hauts-de-Seine

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

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- [HORIZON collaboration network](#) 

Total cost

No data



HUMANETICS EUROPE GMBH

 Germany

EU contribution

€ 110 393,00

Address

IM BREITSPIEL 6

69126 Heidelberg 

Region

Baden-Württemberg > Karlsruhe > Heidelberg, Stadtkreis

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

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[HORIZON collaboration network](#) 

Total cost

No data

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