The VERONICA Projects
UNECE GRSG WP 29
Geneva, 23-04-08
EC EDR Policy History

- SAMOVAR Drive Project, Safety assessment monitoring on-vehicle with automatic recording, 1995, EC co-funded
  "One of the means ... is a broader implementation of vehicle accident-event data technology".
- BIANCA-Project proposal and grant request, 2002 or 2003
  including journey and incident data recording
  Proposal drafted by a police consortium but not accepted by DG Tren
- Road Safety Action Programme, 2003
  "[devices] ... which help explain the causes of accidents, ...."
- Call for Proposals DG Tren /SUB/02-2004
  A.3 Action required to draft legislative proposals
  A.3.1 Accident Data Recorders
- VERONICA Project, 2005-2006, EC co-funded
  Drafting basic technical and legal requirements for accident data recording
- VERONICA II Project, 2007-2009, EC co-funded
  Drafting Technical and Legal Implementation Standards
15+ years of ADR experience in Europe – No law
15+ years of EDR experience in North America - No standard
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Budget:</strong> 1,1 Mio €; 47% EU-Com, 53% Partners</td>
</tr>
<tr>
<td><strong>Main Contractor:</strong> SIEMENS VDO Automotive AG</td>
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<td><strong>Partners:</strong> Aprox. 30</td>
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<td><strong>Categories:</strong></td>
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<tr>
<td>- Accident reconstruction &amp; medical experts</td>
</tr>
<tr>
<td>- Road Safety Experts</td>
</tr>
<tr>
<td>- Vehicle Manufacturers</td>
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<tr>
<td>- Telematic suppliers</td>
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<tr>
<td>- Insurance companies</td>
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<td>- Road authorities</td>
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<tr>
<td>- Law tuition and application</td>
</tr>
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<td><strong>From:</strong> A, AUS, B, CAN, CH, CZ, D, DK, E, F, GB, I, IRL, JAP, NL, PL, PRC, S, USA</td>
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<tr>
<td><strong>Objective:</strong> Recommendations for EDR Implementation in terms of Technical – Legal – Prevention aspects</td>
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<td><strong>Monitoring:</strong> DG Tren, Road Safety Unit</td>
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Results of VERONICA I:

- Agreed purposes of European EDRs
- Agreed legal and data privacy provisions
- Agreed general accident definition: See extra chart
- Agreed information principles
- Agreed target groups: See extra chart
- Identification of synergies

- Specification and Standardization required
- Data use provisions required

Follow-up project "VERONICA II"
Event Definition

Agreed accident definition

"Accident' means an unwanted or unintended sudden event or a specific chain of such events which have **harmful consequences**."

(Taken from the EC Railway Safety Directive)
Agreed Target Groups

I. TCO- and other professional vehicles
1. Hazardous goods transports, buses and coaches
2. Other Commercial vehicles > 3,5 t
3. Light transporters (vans)
4. Emergency service vehicles

II. Private vehicles
1. Motorcyclists
2. Young drivers
**VERONICA**

**EDR for Europe - EDR for the Future**

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<th>Budget:</th>
<th>2,1 Mio €; 50% EU-Com, 50% Partners</th>
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<td>VDO Automotive AG</td>
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<td>Partners:</td>
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</tbody>
</table>
| Categories: | - Accident reconstruction  
- Vehicle Manufacturer  
- Tachograph Manufacturers  
- Law enforcement consortium  
- Law firm  
- Insurance industry (assoc.) |
| 3 WGs: | Technical Specs. – Legal specs. - Data use |
| Monitoring: | DG Tren, Road Safety Unit |
| Steering Committee: | Member State DoT representatives |

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**24.04.2008**

RR Schmidt Cotta/H. Blackenborn
Event Definition
(Deliverable – Veronica II)

EU-15 fatalities all ages (2004)

- Car: 58%
- Other: 6%
- Pedestrians: 14%
- Two-wheelers: 22%
- Mopeds and motor cycles: 17%
- Pedal cyclists: 5%


⇒ Vulnerable road users are relevant for road safety!
⇒ Typical accidents are urban low •v collisions!
Results from US Research on EDR

Probability of Driver Air Bag Deployment by Delta-V

Source: Clay Gabler/John Hinch, SAE EDR Symposium, Sept. 05/06, 2007, Ashburn, VA, USA

⇒ Airbag triggers are unreliable in low \( \cdot v \) collisions!
Practical Experiences with European EDR

Crash between ambulance and bicycle

- Severe damages at vehicle
- Pedalist deadly injured
- No airbag-deployment: NHTSA-EDR would not have recorded
- Crash recorded by European state-of-the-art-type EDR
Memory areas: Would one be sufficient to record relevant events?

Scenarios

- 1 event + immediate download: No problem
- 1 + x events + no immediate download: Data loss
- Timely separate events (pile-up-collisions): Data loss
- Continued driving after accidents in police chases or rescue deployments: Data loss
- Long distance haulage without immediate download possibility: Data loss
- Hit&run collision + subsequent deliberate event: Data loss

⇒ EDR with only one memory area: Data loss in many typical accident scenarios!
Conclusions from event definition specification

⇒ Soft object collisions are road safety relevant

⇒ A simple delta-v trigger is not sufficient

⇒ Intelligent triggers and dual use sensors to be considered

⇒ More than one memory area necessary

⇒ More reqs. for reliable collision investigation identified
Thank you for your attention!

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www.vdo.com/aboutus/projects/veronica/