Swiss Heavy Vehicle Fee (LSVA) Electronic Fee Collection System

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LSVA objectives and principles

• Objectives
  Charge the true costs
  • Inclusion of external costs
  Protection of the Alpine Region
  • Compensation for the higher weight limit
  • Modal shift from road to rail
  • Financing the new railway tunnels

• Basic principles
  Non-discriminatory
  Driving more means paying more
  External costs occur on all roads → charge on all roads
  Empty vehicle costs as much as a fully loaded one
  Replace the previous flat HVF
Essentials of LSVA

• Subject
  Heavy Goods Vehicles > 3.5 tons

• Infrastructure
  All public roads

• Charging principle
  - per kilometre
  - per ton
  - emission-dependent

• Charge level
  Standard 40t truck: 0.6 €/km

• Operator
  Swiss Customs Administration

• Start date
  1 January 2001

Existing OBU Tripon
Basic functional requirements

- **Distance:** all distance in Switzerland (and Liechtenstein)
  - Measurement of total distance
  - Recognition of national borders

- **Weight:** maximum permissible weight of truck plus trailer
  - OBU needs to be bound to vehicle
  - Recognise trailers

- **Tariff:** emission dependent
  - Proof according to the information given by vehicle licence
LSVA system size (2009)

11,000 entries per day

85 with beacons & 65 with terminals equipped border stations

6,500 entries & exits of foreign vehicles (without OBU)

53,000 domestic vehicles (with OBU)

5,000 entries & exits of vehicles with OBU (domestic & foreign)

11,000 exits per day

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# LSVA recording tools

<table>
<thead>
<tr>
<th>Domestic vehicles</th>
<th>Foreign vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory equipped with:</td>
<td>Voluntarily equipped with:</td>
</tr>
<tr>
<td>On Board Unit</td>
<td>On Board Unit</td>
</tr>
<tr>
<td>In approved exceptional cases:</td>
<td>In principle using:</td>
</tr>
<tr>
<td>Log-Book &amp; TAG</td>
<td>ID-Card &amp; Self-service Machine</td>
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</tbody>
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Border Crossings Recorded with DSRC

• **5.8 GHz DSRC technology** according to European Standards (CEN TC278)

• Swiss vehicles with OBU: Switch from “km counting on” to “km counting off”

• Foreign vehicles with OBU: Read out of accumulated logfile data

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Declaration and billing process

- Monthly read-out of the recorded data
- Vehicle holder can check/use data at his premises
- Declare the data to CIS via mail or via internet
- The central system assesses the data and sends invoice
- Central system sends new parameters on the return path
Procedure for foreign vehicles without OBU

**FIRST ENTRY INTO SWITZERLAND:**
- registration of vehicle data
- ID-Card is issued

**ON ENTRY**
Self-service machine:
- identification with ID-Card
- declaration of kilometre reading and trailer status
- choice of payment means
- receipt with declaration

**ON EXIT**
- declaration of kilometre reading
- signature
- random check of declaration

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LSVA impacts

- Change of the trend in km travelled by lorries on the roads
- Renovation of the lorry fleet
- Concentration in the road hauler business (structure correction)
The next generation OBU: emotach®

October 2009
Operational field-test
with 800 vehicles

July 2010
Roll-out emotach
Continuous replacement
of Tripon

July 2012
End of Replacement
Next generation OBU: Changes

- Enhanced Chipcard data transfer medium
  - No case found for inclusion of GSM
  - GSM as an option for the hauliers (via Bluetooth)
  - Card has sufficient capacity to carry software updates

- Infrared interface replaced by Bluetooth
  - same functionality as today, mere technology update

- Enhanced interoperability
  - EETS DSRC Transaction according to EN15509 included
  - Italian Telepass-functionality included

→ Very small and evolutionary changes
Contact and further Information

www.lsva.ch

Information in English, German, French and Italian