



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Finance FDF
Federal Customs Administration FCA

Swiss Heavy Vehicle Fee (LSVA) Electronic Fee Collection System



Stephan Schibler
Directorate General of Customs

Lisboa, 2 October 2009



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

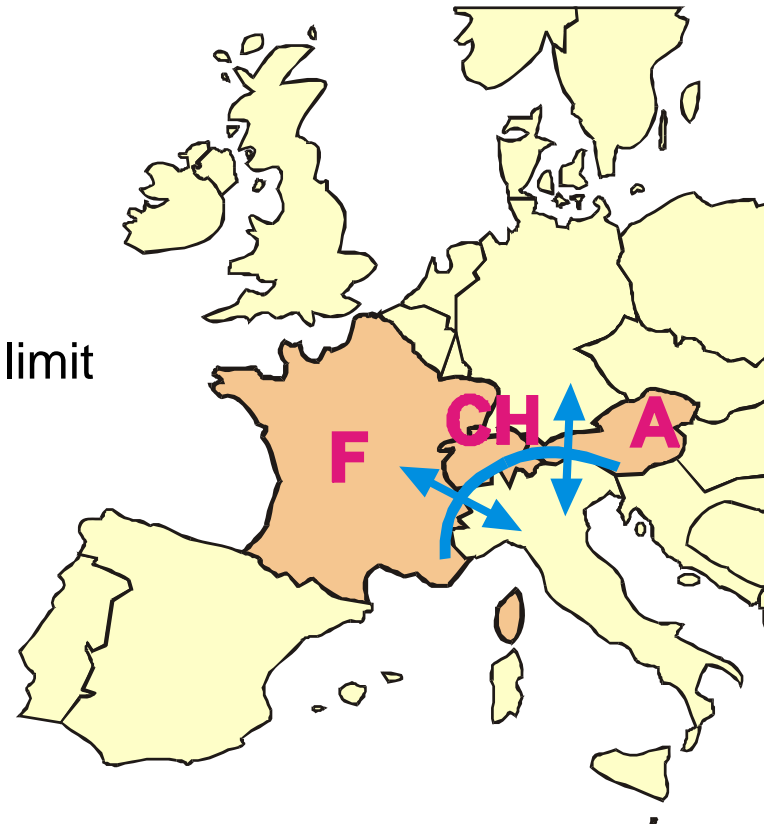
 - Non-discriminatory

 - 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 Tripod



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



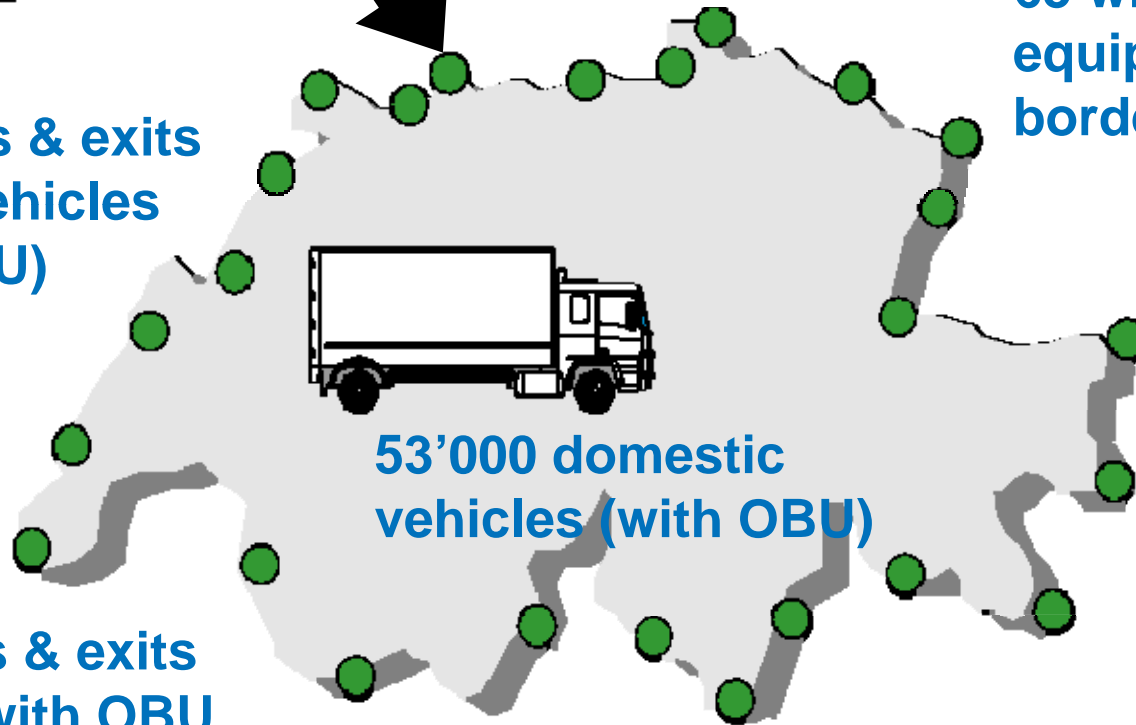
LSVA system size (2009)



11'000 entries
per day

85 with beacons &
65 with terminals
equipped
border stations

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



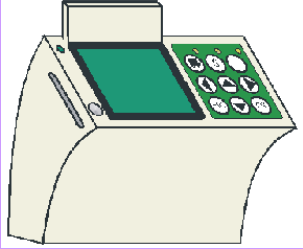
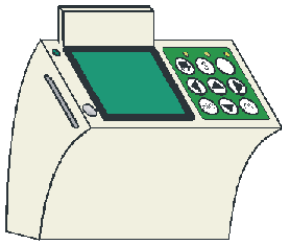
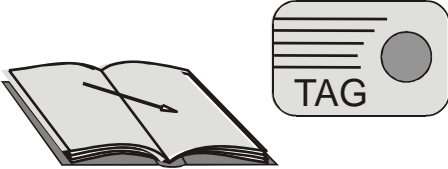

53'000 domestic
vehicles (with OBU)

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

11'000 exits per day

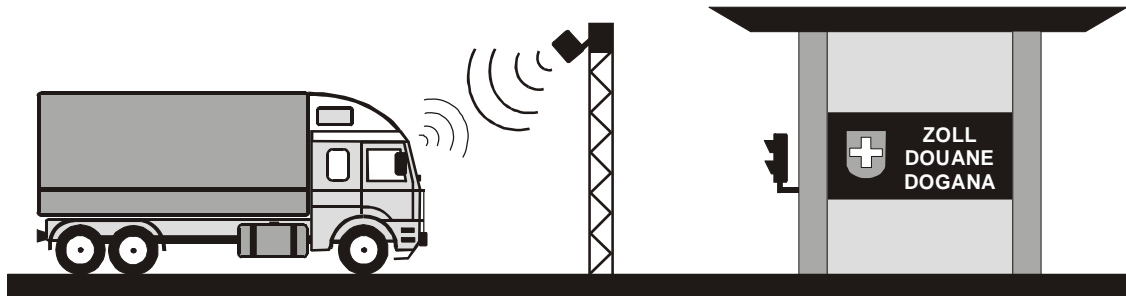


LSVA recording tools

Domestic vehicles	Foreign vehicles
<p data-bbox="562 516 1020 555">Mandatory equipped with:</p>  <p data-bbox="663 841 909 880">On Board Unit</p>	<p data-bbox="1087 516 1545 555">Voluntarily equipped with:</p>  <p data-bbox="1184 841 1430 880">On Board Unit</p>
<p data-bbox="537 954 1041 993">In approved exceptional cases:</p>  <p data-bbox="632 1260 930 1299">Log-Book & TAG</p>	<p data-bbox="1142 954 1461 993">In principle using:</p>  <p data-bbox="1150 1222 1520 1299">ID-Card & Self-service Machine</p>



Border Crossings Recorded with DSRC



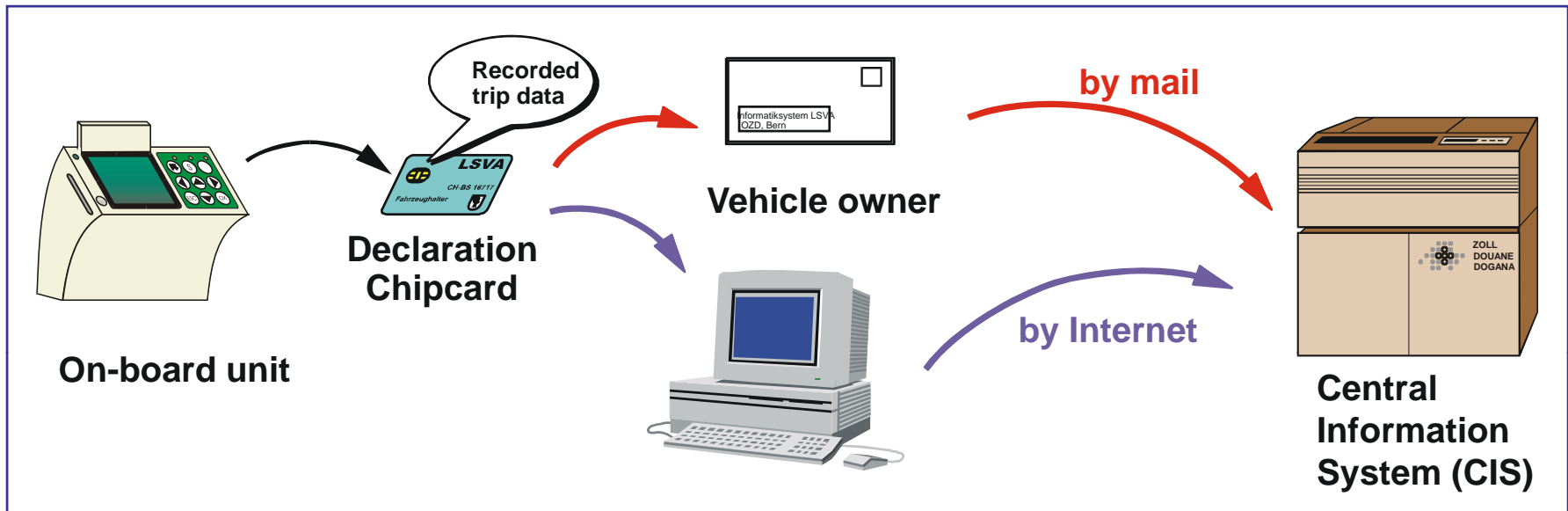
Dedicated
Short
Range
Communication

- **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





Declaration and billing process



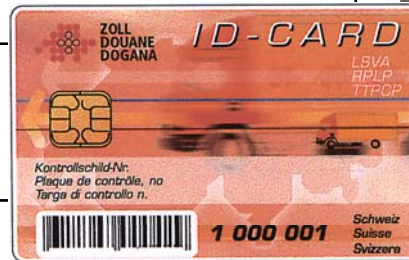
- Monthly read-out of the recorded data
- Vehicle holder can check/use data at his premises
- Declare the data to CIS **via mail** or **via internet**
- The central system assesses the data and sends invoice
- Central system sends new parameters on the return path



Procedure for foreign vehicles without OBU

FIRST ENTRY INTO SWITZERLAND:

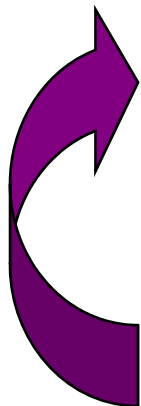
- registration of vehicle data
- ID-Card is issued



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



ZOLL DOUANE DOGANA LSV A
RPL RPLP
TTPCP TTPCP

62502-000093

Barikodeseq: 13:00 30.10.2000

MR 10 IRL Cash

01	12000 kg	06	paieament comptant
02		07	S.I.S.I.S.I.S.I.
03	26000 kg	08	ouvert
04	1	09	
05	000		
10			
11	124/ 1.66		Octiares par 1/100
12			
13	overwritten distance autorise - 0.0 km		

Mechtel Aufhängelabelleiten
 Occasioni di Chingament de rinoqua
 Occasioni de cambio di rinoqua
 in hantidatata Umgebung
 en environnement controlé
 in area controlata
 nella in kontrollatara Umgebung
 dans un environnement controlé
 nell'area controllata
 Denarngewicht Anhängen/Auffänger
 Poids total remorques/remorques
 Peso totale rimorchi/ remorchi

kg

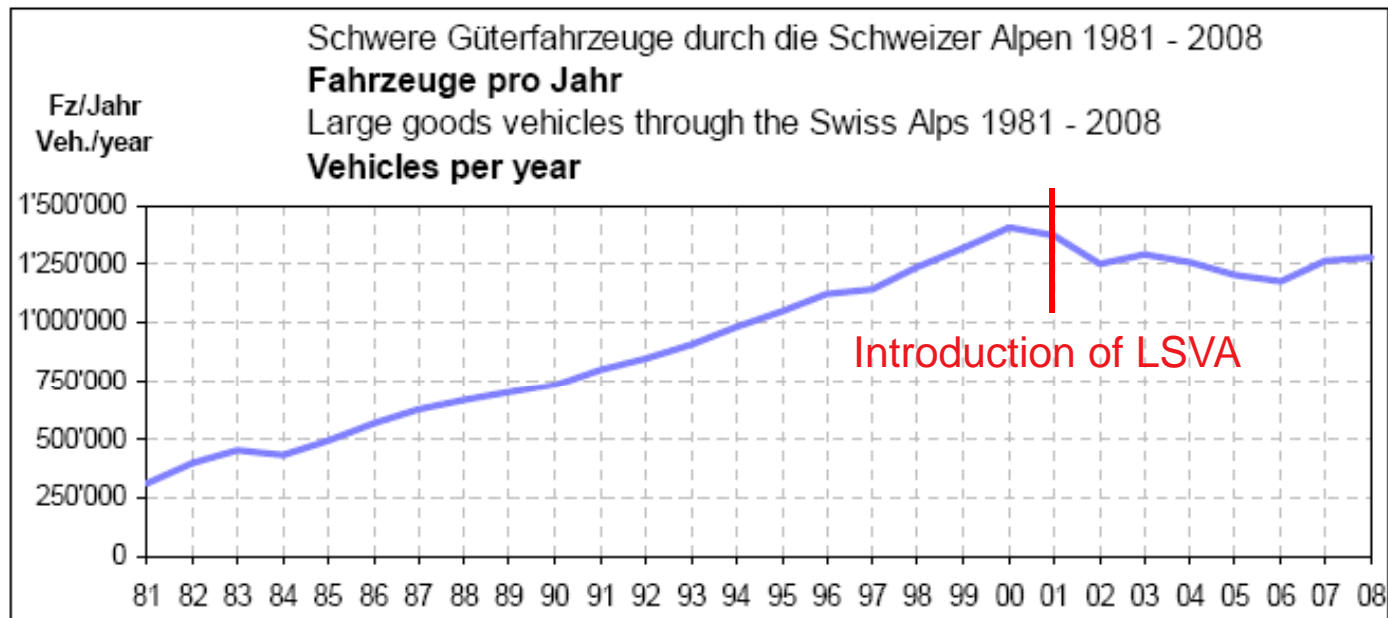
24798

Unterschrift
Signature
Firma
J. Doe



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

