Toll Collection in Austria
an electronic system on an existing network

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Austria located in central Europe
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Motorway-network and alpine toll-sections

ASFiNAG Streckennetz

new sections - design or construction

motorway- and expressway network 2080 km
alpine toll sections 142 km (7% of the entire network)

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Motorway tolling in Austria has tradition since more than 37 years

already 1968 start of the first toll motorway
A 13  Brenner Motorway connecting Austria and Italy via the Brenner pass - 1300 m above sea level
Financial background for toll roads

- traffic increased rapidly, but
- the common road budget was not sufficient to realise the expensive projects in time

=> decision for financing on credit base with state guarantee

=> 4 toll companies established by law within a 10 years period
Road financing by credits became attractive within 15 years another 520 km (75%) of new motorways and express roads could be realised on credit basis, but without collecting tolls for their usage.
Government decision

Due to increasing problems on road-financing the Austrian government decided mid of 90s to introduce

- a vignette-system for light vehicles (cars)
- an electronic, distance-related toll-system for vehicles with more than 3.5 tonnes gross weight on all motorways and express roads (existing and new network)

Parliament agreed a new law concerned in 1996
Responsibility on the tolled network

A stock company named ASFINAG existed since 1983, 100% state owned but only a financing company

1997 new definition of ASFINAG’s responsibilities for motorways and express roads by legal act

- design, construction, maintenance, operation, financing
- ownership on the existing toll companies
- transfer of states depths for motorways (7000 Mio.$)
- right by contract for toll collection on the entire network
- no financial support from budget
- order to prepare and to introduce an EFC-System
General requirements for the toll system

- No excessive formalities for access
- No obstacles at internal EU-borders
- No obstruction of traffic (multilane, free-flow)
- Target: Interoperability to systems of other states

→ fully electronically operated system!
the choice of the technology had been left to the competition
no technology was excluded in advance
Goals and expectations to the toll system

Main objective: Financing of the motorway-network additional revenue 600 Mil. € (750 mil $) in the first year

Hope on secondary effects:
- slowing down the growth of road freight-traffic
  Distance travelled becomes financially more important

Expected reactions of the transport sector:
- better logistic, reduction of empty trips
- better use of loading capacities
- use of alternative transport modes (rail, waterways)
Main steps towards implementation

- Call for interest
- Selection of suitable companies
  - Jury: 2 months
  - Final date for offers
- Negotiation
- Tender documents
- Preparing Competition materials
- Consortia develop their concepts

Timeline:
- 2001: Appr. 7 months
- 2002: Appr. 11 months
- 2003: Appr. 18 months

Total duration: 36 months = 3 years
The operator of the tolling system

the motorway company decided after an economic evaluation finally for a toll operator who planned to use a DSRC technology based on 5,8 GHz microwave.

a service contract for a periode of 10 years had been signed (option for extension on 5 years)

financial value about 750 mil. Euro (940 mil.$)
### Change of the charging system

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<th>≤ 3.5 t</th>
<th>≤ 12 t</th>
<th>&gt; 12 t</th>
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<tbody>
<tr>
<td>2003</td>
<td>Vignette</td>
<td>Vignette</td>
<td>User fee</td>
</tr>
<tr>
<td>2004</td>
<td>Vignette</td>
<td>Distance-based toll</td>
<td></td>
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</tbody>
</table>
Vehicle classes in the toll system depending on the number of axles determined by law

- Class 2
- Class 3
- Class 4

Axles of trailers of buses and motorhomes are not taken into account for calculating the toll rates
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**Toll rates by vehicle classes**
Based on an infrastructure cost calculation

2002 fixed in a decree by the minister of transport
liable to 20% VAT

<table>
<thead>
<tr>
<th>Vehicle class</th>
<th>Axles</th>
<th>Toll rates € ($) / km</th>
<th>Relation</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>0,163</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>0,228</td>
<td>1,4</td>
</tr>
<tr>
<td>4 + more</td>
<td>4</td>
<td>0,273</td>
<td>2,1</td>
</tr>
</tbody>
</table>

Based on an infrastructure cost calculation
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How the system works

Vending machine

Go-Box

Tolling gantry

Enforcement gantry

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Two modes of payment available

- **prepayment**: electronic money stored in the Go-Box
- **postpayment**: contract with fleet card or creditcard issuers

Share of distributed Go-Boxes:
- Postpayment: 60%
- Prepayment: 40%

Share of toll paid:
- Prepayment: 15%
- Postpayment: 85%
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Enforcement

**Automatic enforcement**

- 100 permanent Enforcement gantries

**Manual enforcement**

- 100 Enforcement officers

- 23 portable equipments

- 39 vehicles for free flow spot check enforcement

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Interoperability
in connection with the EU directive 2004/52/EU

Austria - Switzerland
first cross-border interoperability in Europe in practice
Swiss OBU can be used for toll payment in Austria

Under Establishment:
- interoperability with the Italian Telepass System
- interoperability with the new Slovenian ABC System
- Interoperability with the new French TIS System

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Experiences with the toll system after the first year of operation

- more than 480.000 Go-Boxes distributed
- 3.000 user-contracts with Swiss TRIPON-Box
- high performance rate (> 99,9 %) also in case of heavy winter conditions
- 1,8 mil. toll transactions (average) per workday
- 2 mil. transactions during peak hours
- revenue as expected (760 Mil.€ [950 m.$] 2004)
- costs of the system, approx. 10 % of revenue
- ~ 800 violators (daily average)
- less than 2% toll-dodgers
- user acceptance high (because user-friendly) although there is some local traffic diversion
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Traffic diversion due to tolling

Trunk road in parallel to A9 motorway

Traffic increased after start of tolling system but could be reduced to previous size by driving and weight restrictions
Traffic reactions on the tolling system

Although the exp. road is 30 km longer, the tolled tunnel had been bypassed. After the start of the tolling system, the traffic through the tunnel increased by 75%.

Trunk road shortens the distance by 1/3 and drivers save money in by passing the toll motorway.
Toll on the Brenner a certain problem

Switzerland raised heavy vehicles fee by 70%
Traffic on Brenner route increased by 20%
EC wants Austria to reduce Brenner toll

Toll on the Brenner route
110 km in Austria
1,8 million heavy trucks per year

Switzerland

Italy

France

Muniche

Innsbruck

Bolzono

Germany
Conclusions

Tolling brings closer to equitable share of cost

important in the Austrian view:

Clear definition of objectives and goals

Serious and detailed preparation of the system

Easy understandable and reliable system

Early information of upcomming users

Political support in all fases of the project

Realistic time scheme for design and implementation

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Find more information on the toll system in many languages

www.go-maut.at

thank you for your attention!

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