



Satellite and mobile communications HGV tolls in Germany: innovative, environmentally friendly and fair

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Building and Housing

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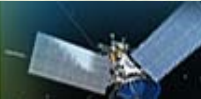
- Legal framework
- Facts and figures
- HGV tolls
 - innovativ
 - environmentally friendly
 - fair
- Interoperability
- Prospects and opportunities

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Legal framework



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- HGVs with a maximum permissible weight of at least 12 t on federal motorways
- Start on 1 January 2005
- Average toll rate: 12,4 cent/km
- Differentiation according to axles and emission classes
- Charging based on the exact number of kilometres driven
- Toll revenue: €3 bn (2005)
- Earmarking of revenue

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Facts and figures (1/9)



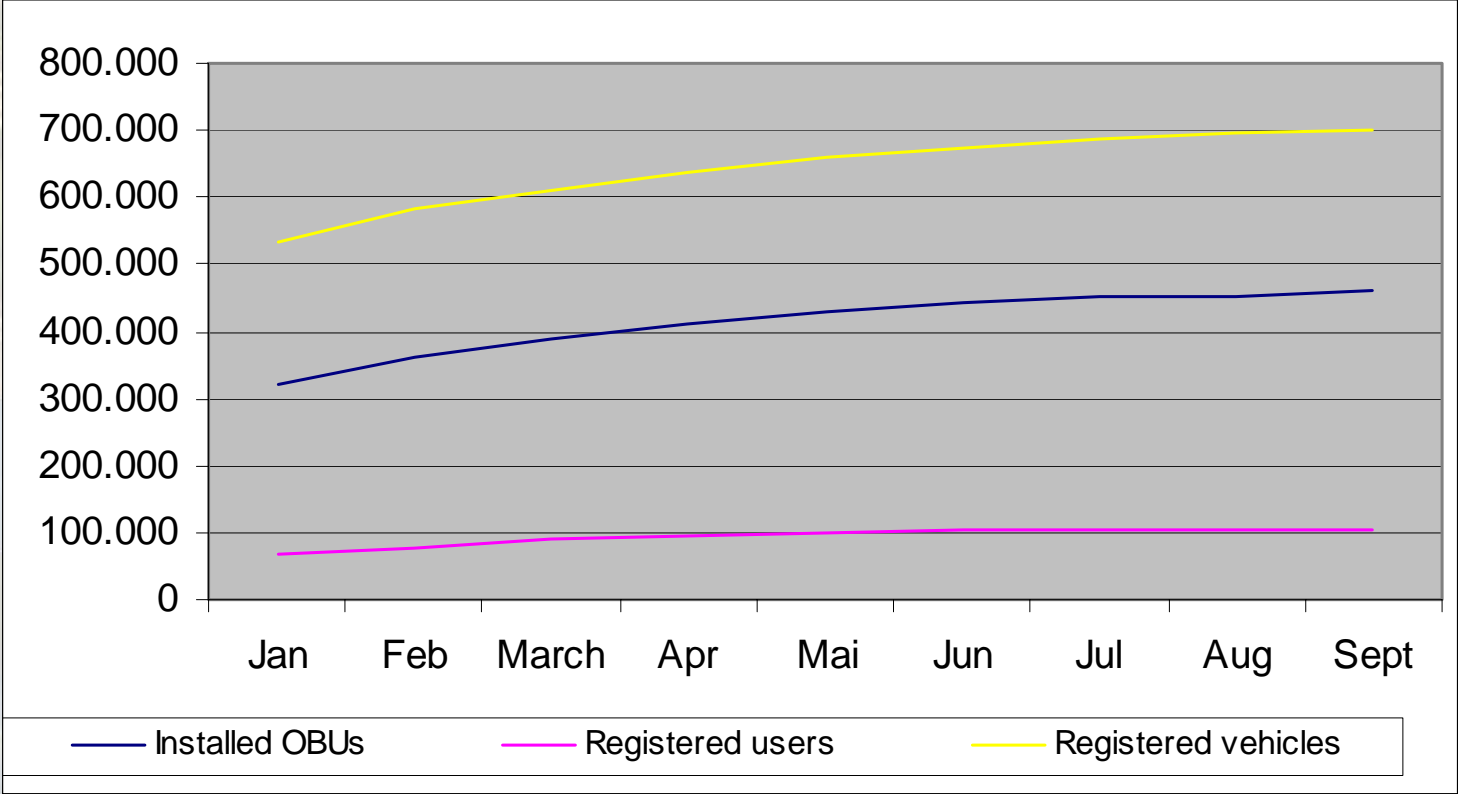
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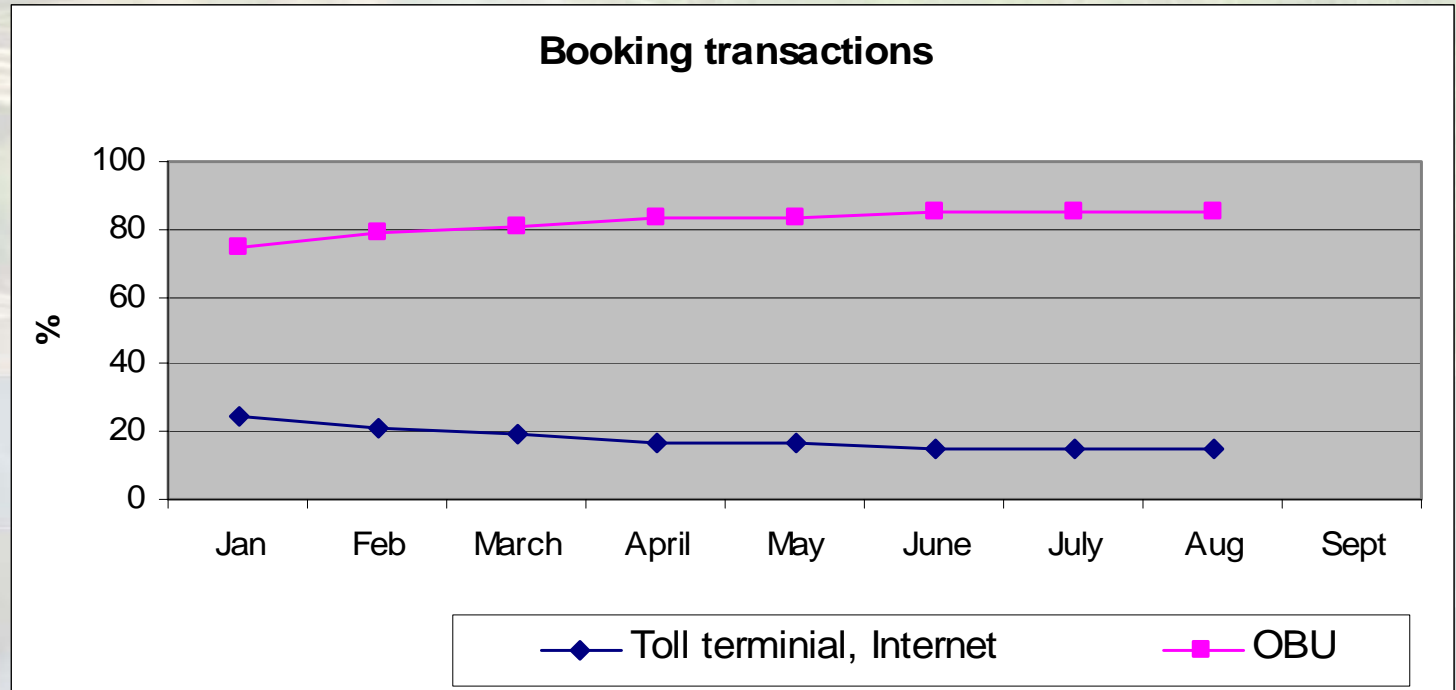
- Federal motorways
 - Length 12.000 km
 - Junctions 2.200
 - Interchanges 250
- HGV liable to pay tolls
 - approx. 800.000 p.a.
- Mileage subject to tolls
 - approx. 22,7 bn vehicle km p. a.
 - of which approx. 35 % foreign ones



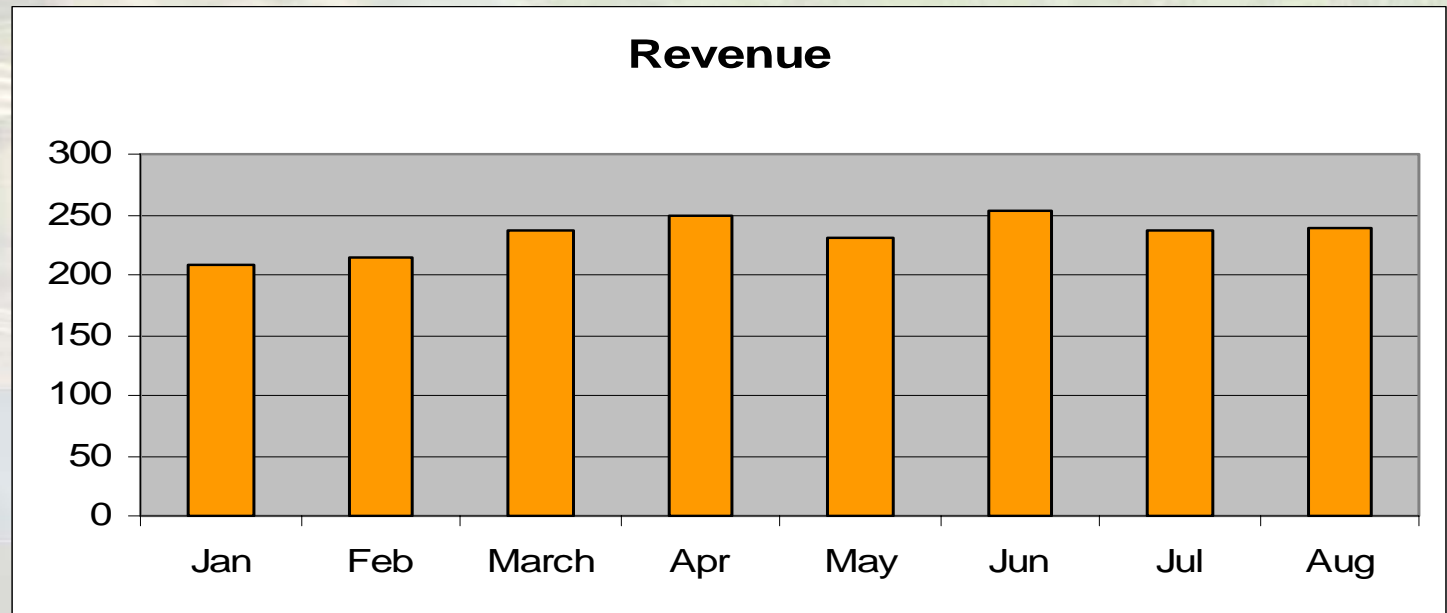
Facts and figures (2/9)



Facts and figures (3/9)

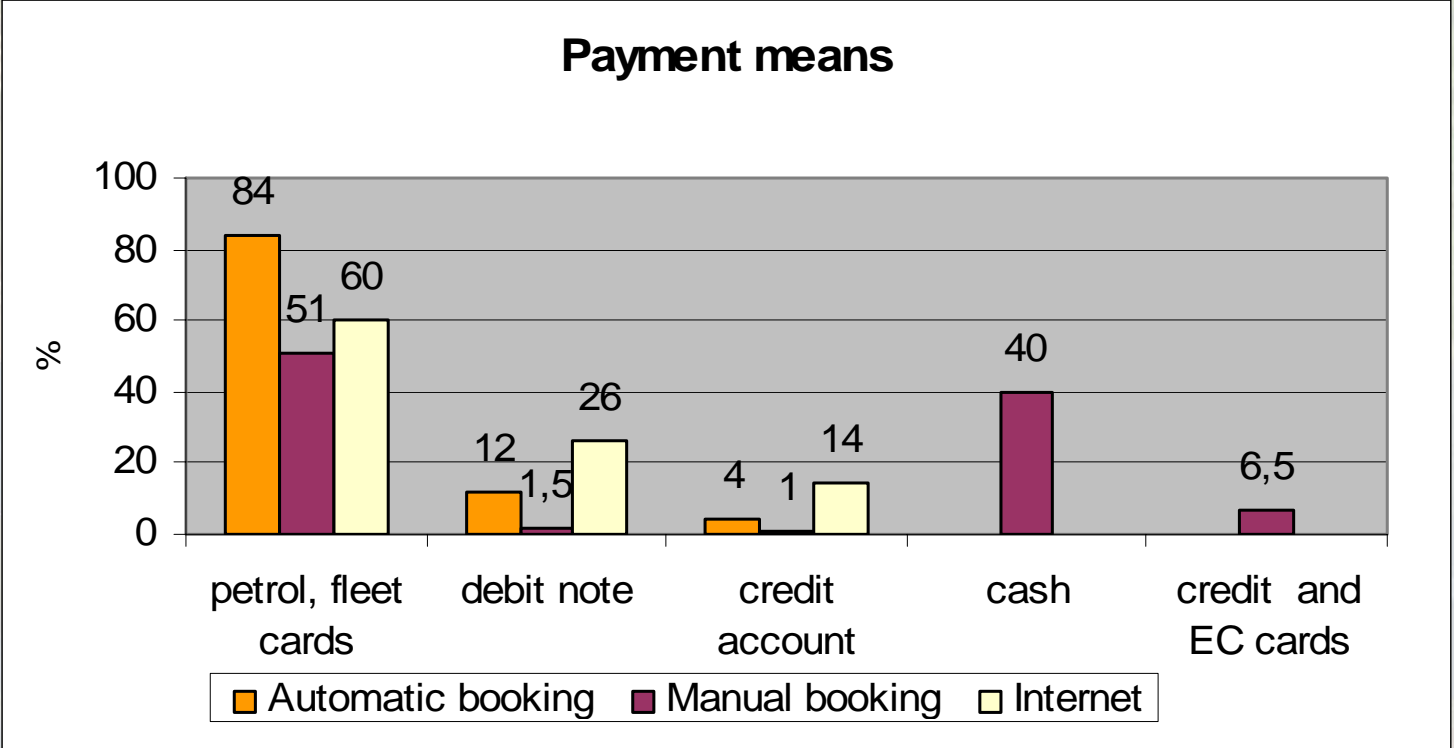


Facts and figures (4/9)

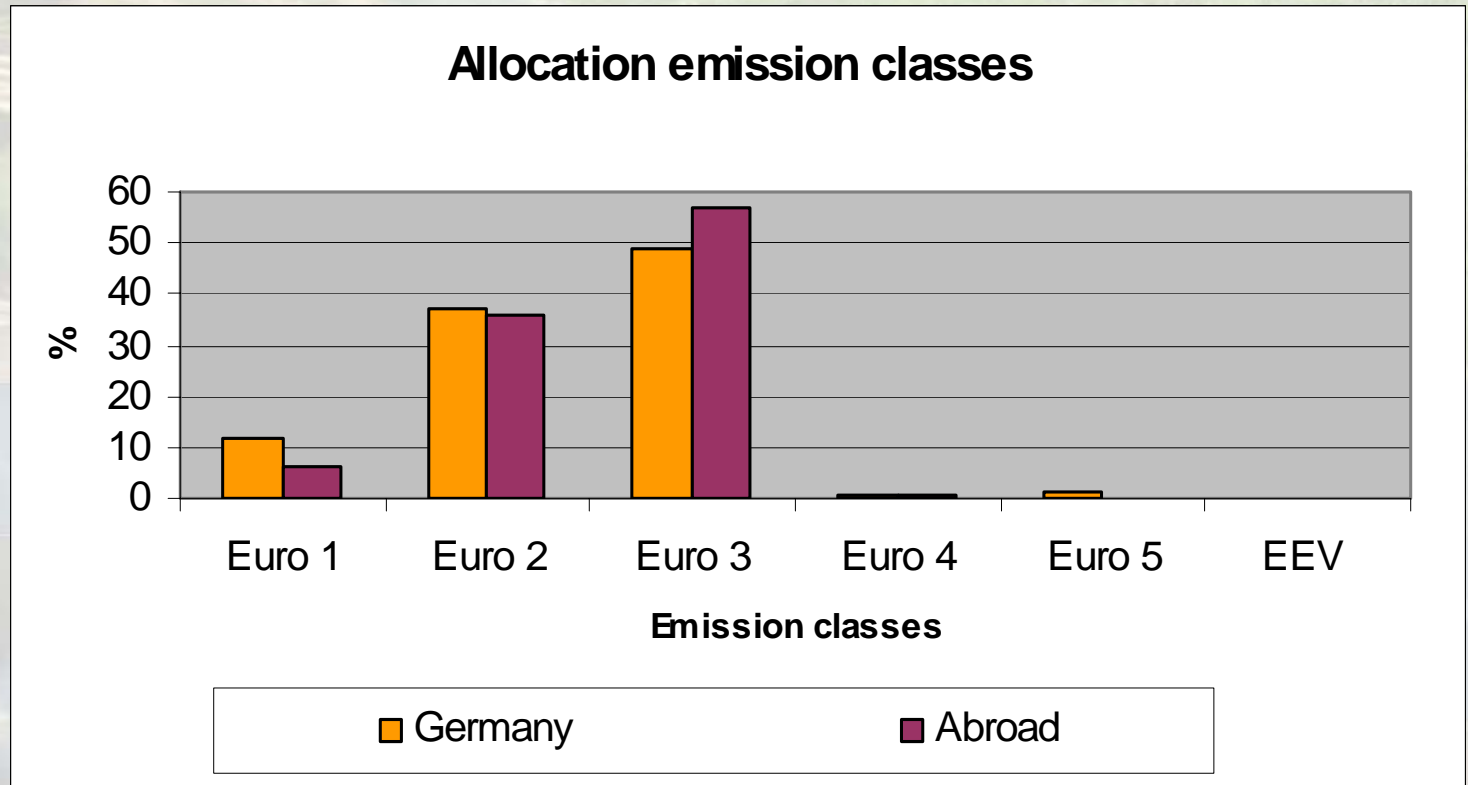


- End of August 2005: € 1,9 bn (gross)
- 2005: € 3 bn

Facts and figures (5/9)



Facts and figures (6/9)



Facts and figures (7/9)



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■ Average distance travelled (1 - 8/2005)

- | | |
|--|--------|
| ■ HGVs with OBU: | 165 km |
| ■ HGVs with manual booking
(toll terminal, internet): | 200 km |
| ■ domestic | 150 km |
| ■ abroad | 250 km |



Facts and figures (8/9)



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Enforcement

- Effective spot checks
- Four different types of checks
 - Automatic checks supported by video
 - Stationary checks following automatic checks
 - Mobile checks
 - Checks in German transport companies



Facts and figures (9/9)



Enforcement

■ Results of checks

- Spot checks: 10 %
- HGVs checked: 10,5 million
- Violations: below 2 %

■ Toll recovery and fines (1 - 8/2005)

- Toll recovery: 200,000
- Fines: 182,000



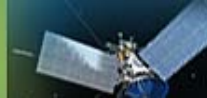
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HGV tolls: innovative



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- Unique combination of satellite and mobile communications technology
- Roadside infrastructure not normally required
- Tolls can be varied according to place and time of day
- Mileage-related system costs are thus comparatively low
- Interface for interoperability with microwave systems
- Basis for value-added services

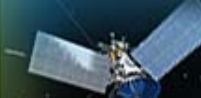
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HGV tolls: environmentally friendly



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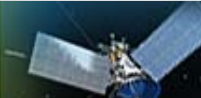
- Incentive to purchase cleaner vehicles
- Incentive to convert high-emission vehicles
- Incentive to transfer freight traffic from the roads to the railways
- Productivity incentives for the industry

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HGV tolls: fair



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- Charging based on the exact number of kilometres driven
- All heavy goods vehicles are subject to tolls
- Fair competition between roads and railways
- Earmarking of all revenues to improve transport infrastructure
- Predominately for federal motorway construction

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Interoperability in Europe



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- Directive 2004/52/EC on the interoperability of electronic road toll systems in the Community
- Philosophy
 - one single OBU
 - one single contract
- Technologies
 - Satellite positioning
 - Mobile communication using the GSM-GPRS standard
 - 5,8 GHz microwave technology
- Definition of the European electronic toll service (June 2006)



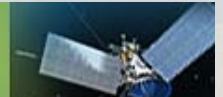
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Prospects and opportunities



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- The key component of Germany's transport policy has been implemented successfully
- Toll Collect is efficient and a world leader in tolling technology
- Opportunities for marketing abroad are available
- Toll Collect has set the stage for the future development of the mobility management technology