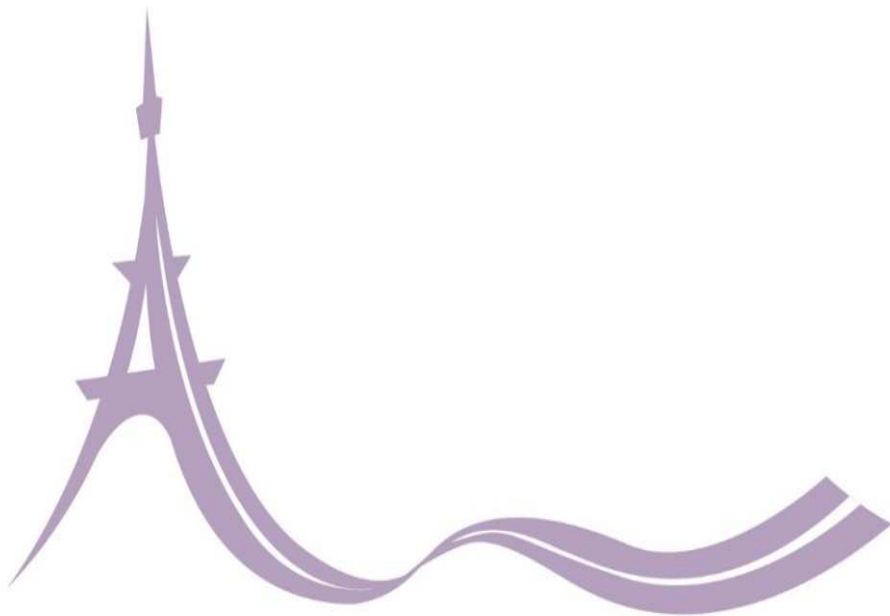


# Ten years truck toll in Germany



PAVEMENT PRESERVATION & RECYCLING SUMMIT

**PPRS** PARIS 2015  
FEBRUARY 22-25

Edith  
Buss  
Federal Ministry  
of Transport and  
Digital Infrastructure



Federal Ministry  
of Transport and  
Digital Infrastructure

# Regulatory framework

Coalition Agreement 1998

Replace of the HGV vignette

Bundesfernstraßenmautgesetz (BFStrMG)

HGV with a permissible weight of 12 t and more  
per-kilometer charging  
Automatic and manual logon  
Differentiation of the number of axles and the emission class  
Earmarking of revenue



## Dimension of the toll domain

### Tolled network

Approx. 13,000 km Federal Highways  
plus 40 km Federal roads since January 2007  
plus approx. 1.200 km Federal roads since August 2012  
2,355 motorway junctions  
251 motorway intersections

### Vehicles subject to tolls

Approx. 1,4 million  
Approx. 35 % foreign vehicles

### Mileage subject to tolls per year

For example approx. 28 bn km in 2014

Bestand von Bundesautobahnen - Stand: 1. Januar 2009



# System structure

## Nature of the toll

Distance and section based charge on virtual plazas  
 Functioning 24 hours 7 days a week  
 Dual system  
 Free flow system

| HGV-toll system                |                             |                |
|--------------------------------|-----------------------------|----------------|
| Dual Toll Charging system      |                             | Control system |
| Automatic Toll Charging System | Manual Toll Charging System |                |

## Technology

GNSS in combination with GSM-GPRS

Intelligent On-board-unit:

- Storage of geo-referenced data of toll roads

- Section-based detection

- Section-based toll calculation

- display indicator for the amount of the driven kilometer

Infrared DSRC for enforcement based on ISO/TC204 CALM

Microwave-DSRC based on CEN/TC278 for Toll2Go



## Booking systems

### Automatic log-on

#### GPS



On-board unit

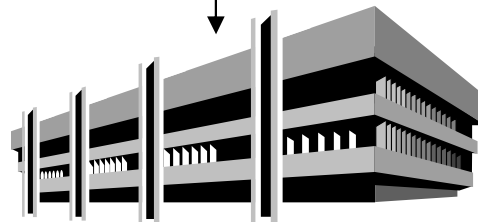


Satellite positioning via GPS and data transmission by mobile telephony

GSM



Toll Collect back office



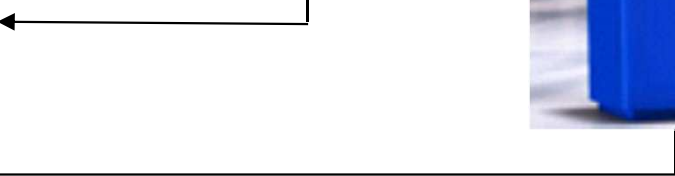
### Manual log-on



Internet



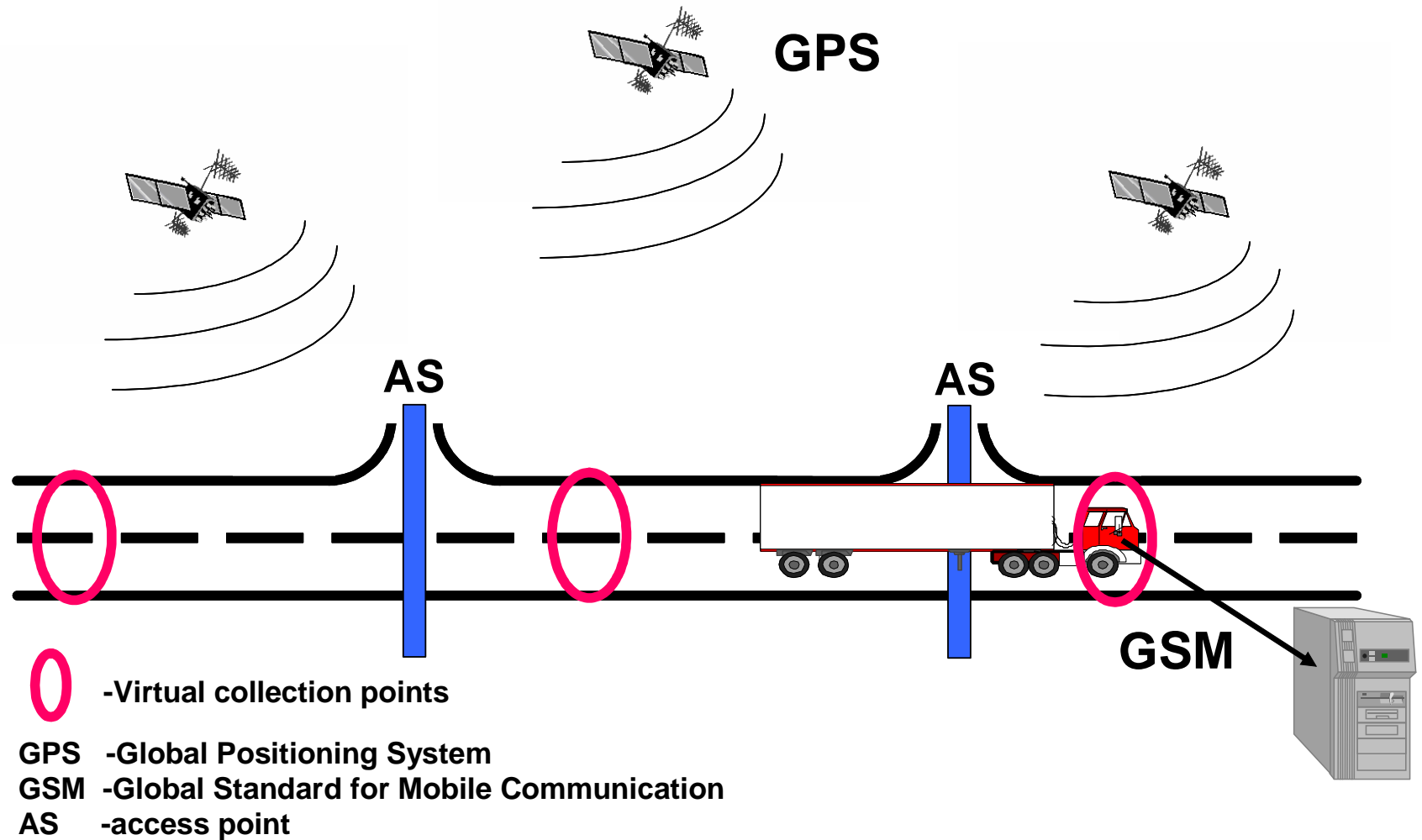
Terminal



Toll revenue accounting and remuneration, recovery of tolls and collection of fines

Federal Office for Goods Transport

### Automatic Toll Collection - Satellite-based positioning system (GPS) and virtual collection points



## Participating in automatic tolling January 2015

| Country     | Hauliers | Vehicles registered | On-board units installed |
|-------------|----------|---------------------|--------------------------|
| Germany     | 89,687   | 476,384             | 413,391                  |
| Poland      | 18,063   | 117,524             | 101,095                  |
| Netherlands | 10,617   | 61,841              | 49,133                   |
| Czech Rep.  | 4,803    | 41,442              | 33,935                   |
| Hungary     | 3,248    | 25,940              | 20,973                   |
| Romania     | 3,716    | 30,181              | 20,539                   |



# Enforcement

- › Effective enforcement by means of spot checks
- › Different types of enforcement measures
  - Automatic enforcement
  - Stationary enforcement following automatic checks
  - Mobile enforcement
  - Portable enforcement
    - Enforcement on the premises of German road haulage industry



## Enforcement – facts and figures

- Spot checks: 10 % of journeys
- Offender rate: Below 2 %
  
- Maximum fine: € 20,000
  
- Standard fines for first offenders:
  - Haulier (intent) € 400
  - Haulier (negligence) € 200
  - Drivers pay half this sum in both cases

# Toll rates

|                 |   | Aktuell geltende Gebührenstruktur<br>seit dem 01.01.2015               | Gebührenstruktur nach dem Entwurf eines „Dritten Gesetzes zur<br>Änderung des BFStrMG“ ab 01.10.2015                   |
|-----------------|---|--|--|
| Emissionsklasse |   | Mautkategorien   | Mautkategorien   |
| Euro VI         |   | Kategorie A<br>bis 3 Achsen: 12,5 Cent/km<br>ab 4 Achsen: 13,1 Cent/km | Kategorie A<br>2 Achsen: 8,1 Cent/km<br>3 Achsen: 11,3 Cent/km<br>4 Achsen: 11,7 Cent/km<br>ab 5 Achsen: 13,5 Cent/km  |
| Euro V / EEV    |   | Kategorie B<br>bis 3 Achsen: 14,6 Cent/km<br>ab 4 Achsen: 15,2 Cent/km | Kategorie B<br>2 Achsen: 10,2 Cent/km<br>3 Achsen: 13,4 Cent/km<br>4 Achsen: 13,8 Cent/km<br>ab 5 Achsen: 15,6 Cent/km |
| Euro IV         | Euro III mit Filter<br>PMK 2 oder höher | Kategorie C<br>bis 3 Achsen: 15,7 Cent/km<br>ab 4 Achsen: 16,3 Cent/km | Kategorie C<br>2 Achsen: 11,3 Cent/km<br>3 Achsen: 14,5 Cent/km<br>4 Achsen: 14,9 Cent/km<br>ab 5 Achsen: 16,7 Cent/km |
| Euro III        | Euro II mit Filter<br>PMK 1 oder höher  | Kategorie D<br>bis 3 Achsen: 18,8 Cent/km<br>ab 4 Achsen: 19,4 Cent/km | Kategorie D<br>2 Achsen: 14,4 Cent/km<br>3 Achsen: 17,6 Cent/km<br>4 Achsen: 18,0 Cent/km<br>ab 5 Achsen: 19,8 Cent/km |
| Euro II         |   | Kategorie E<br>bis 3 Achsen: 19,8 Cent/km<br>ab 4 Achsen: 20,4 Cent/km | Kategorie E<br>2 Achsen: 15,4 Cent/km<br>3 Achsen: 18,6 Cent/km<br>4 Achsen: 19,0 Cent/km<br>ab 5 Achsen: 20,8 Cent/km |
| Euro I / Euro 0 |   | Kategorie F<br>bis 3 Achsen: 20,8 Cent/km<br>ab 4 Achsen: 21,4 Cent/km | Kategorie F<br>2 Achsen: 16,4 Cent/km<br>3 Achsen: 19,6 Cent/km<br>4 Achsen: 20,0 Cent/km<br>ab 5 Achsen: 21,8 Cent/km |

# Axle and emission-related graduation



**since January 2015**

**from 1 October 2015**

12 tons

7.5 tons

**Principle of pricing**

Number of emission classes

6 (new emission class Euro VI)

6

Number of axles

2

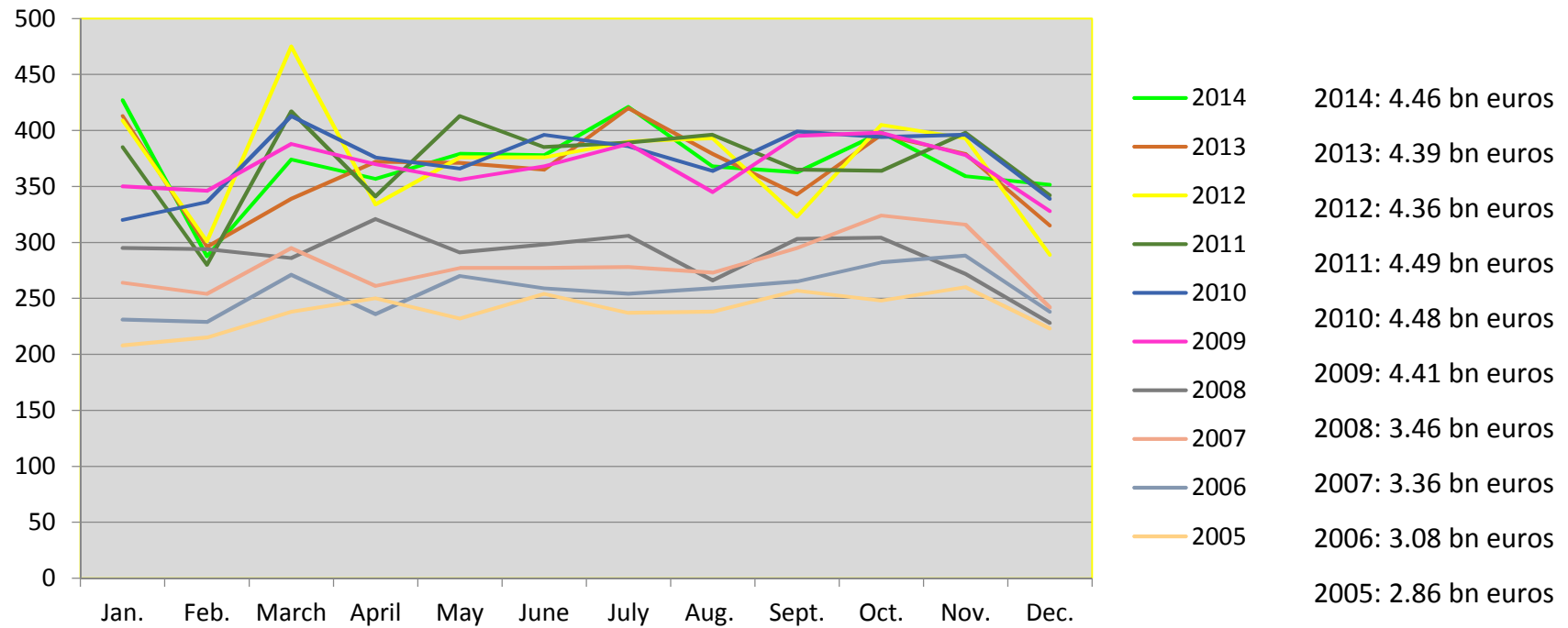
4

**Corridor of toll rate**  
(including external costs of air pollution)

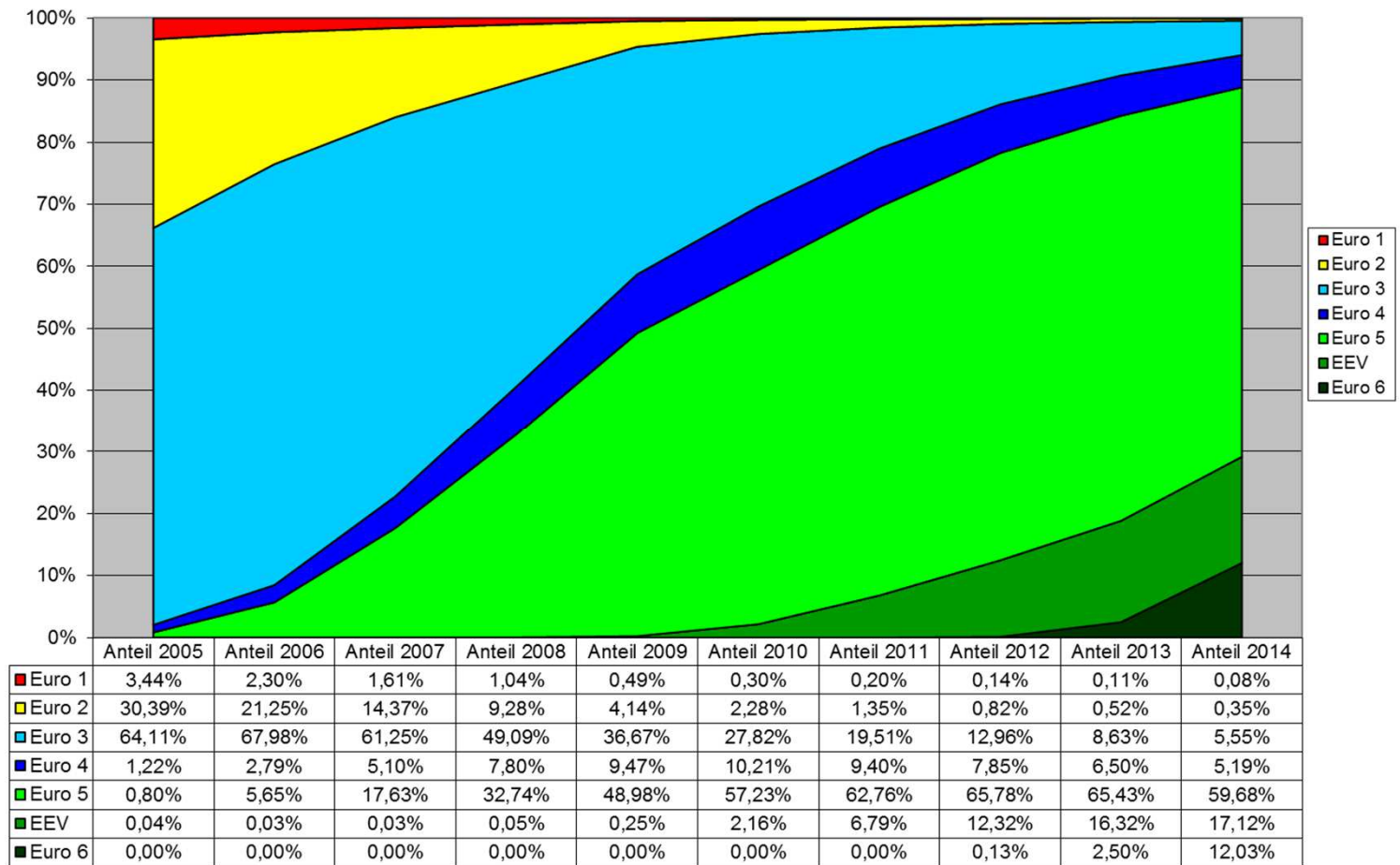
12.5 – 21.4 cents/km

8.1 – 21.8 cents/km

# Toll revenue



# Mileage by emission category



## Toll2Go

- Technical interoperability between German and Austrian HGV system
- Using the German OBU to levy the toll in Austria
- Start of Toll2Go: 1 September 2011

## Toll2Go – user perspective

- Users with a German OBU are able to use the Toll2Go service
- One contract with the German and one contract with the Austrian toll operator
- Online portal of the ASFANAG can be used for registration
- Application of the registration will be transmitted by ASFANAG to Toll Collect automatically
- Toll Collect activates the German OBU for toll charging in Austria via GSM
- Invoicing of trips:
  - Customer will be charged in Germany by the German operator
  - Customer will be charged in Austria by the Austrian operator



## Selected key figures

- Extension to 1.200 km federal roads: since 1 August 2012
- Length of network subject to tolling: about 13,000 km
- New tariffs and emission class (Euro 6): since 1 January 2015
- Number of installed OBUs: 818,049
- Mileage subject to toll 2014: 28 bn km
- Offender rate: below 2 %
- Collection rate: 99.9 %
- Number of OBUs using the Toll2Go service: 84,551
- Revenue between 2005 and 2014: about 40 bn Euros
- Extension to further 1.000 km federal roads: from 1 July 2015
- Expansion of tonnage to 7,5 tons: from 1 October 2015

**Thank you for your attention!**

**Federal Ministry of Transport  
and Digital Infrastructure**

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