We are on the right track!

Introduction of HU-GO, the Hungarian distance based electronic toll system
by Zoltán Varga, general manager of Toll Service PLC

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Hungary

- 35,919 mi²
- 9.9 million inhabitants
- Capital: Budapest

Road network:
- Highways: 704.55 mi
- Motorways: 127.13 mi
- First class roads: 1,347.95 mi
- Second class roads: 2,894.99 mi
- Other roads: 14,285.36 mi

All together: 20,602.73 mi
Tolling history of Hungary – 1999-2006

- Toll plazas
- Concessioners
- Demolish of toll plazas
- Standardized toll system for Hungary
- Time based vignette
Tolling history of Hungary – 2006-2013

• 2006 SMS purchase
• 2008 No physical vignette, only AET
• 2011 e-business
Tolling history of Hungary – 2013-2014

• 2013 HU-GO
• Distance based AET
Toll road network until 1st July 2013

• 1 039,55 mi long toll domain

• 9 highways

• 42 main road sections

• 5,37% of the Hungarian road network is tolled
- 4,039.53 mi long toll domain
- 2,243 tolled road sections
- 20.87% of the Hungarian road network is tolled
HU-GO toll declaration modes

- **Self-declaration!**
- **Route ticket:** recommended for ad-hoc users
- **No registration**
- **On board unit:** recommended to frequent users
  - 22 audited Toll Declaration Operators (TDO)
Nationality split of paid tolls

- H: 57%
- RO: 17%
- PL: 5%
- SK: 4%
- BG: 3%
- SRB: 2%
- UA: 2%
- CZ: 2%
- TR: 1%
- SLO: 1%
- HR: 1%
- OTHERS: 5%
Registered users, vehicles and OBUs

Vehicles: 147 436; OBUs: 80 262; Customers: 41 656

250 customers, 5 000 vehicles are in post-paid scheme
92% of the Hungarian users and 26% of the foreign user are using OBUs.

OBU vs. Route ticket: 25% - 75% at start, 60% - 40% now.
Enforcement

- Without stopping
- Continuous (0-24) inspection
- With the help of fixed gantries and mobile vehicles
- Supplying real-time data towards the central system
- Continuous online connection with the central system
Mobile enforcement support vehicles

• 45 mobile units (currently)
• Currently ~500 check points countrywide
• 7/24 inspection in 3 shifts
• Flexible, random appearance anywhere on the tolled sections
Fixed toll enforcement gantries

- 74 stationary cross sections (101 gantries)
- 47 along main routes
- 27 along expressways
- 24-hour operation
- License plate recognition on the front and the back, overview picture
- Side camera picture to determine the number of axles of the vehicle category (see photo)
Fixed toll enforcement gantries
Enforcement

- Commenced by the Hungarian Police
- Unauthorized road usage
- Administration of penalty
- On the spot activity, foreigners
- Without stopping, objective responsibility
- Range of penalties 140 000-165 000 HUF (600-700 USD)
• A short video will demonstrate the applied enforcement and data server technology
THE SYSTEM
HU-GO innovations

Route ticket
- Flexible purchase solutions
- Flexible route planning solutions
- No need for registration
- On-line access

On Boar Unit platform
- Already installed GPS trackers can be used
- No need to pre-finance the OBUs by the state
- Open platform for all GPS based fleet management providers

Enforcement with ANPR
- 98.5% on ANPR and category recognition
- Supporting road safety, traffic and transportation management, violation management, vehicle control and crime prevention
Facts & figures

• **100 million USD** one time investment – **14.3%** of the annual toll revenue

• **2.5 month** of implementation – **2.5 month** return of investment

• **45 million USD** annual operational cost – **6.5%** of the annual toll revenue

• Monthly average sales volume of route tickets: **645 500 pieces**

• Monthly average number toll declarations of route section (total): **31 500 000 pieces**

• Monthly average vehicle checks done by enforcement support: **2 600 000 cases**
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