

Smart Easy Reliable

The FlexToll™ solution
- The right choice for
Road User Charging



Introduction.....page 3

Easy solution.....page 4

Smart system.....page 5

Reliable concept.....page 6

The right choice for RUC...page 7

Introducing The FlexToll™ technology



Inspired by the Stockholm City Toll Trial the Swedish company FlexToll™ has developed a Road User Charging system (RUC) for City Tolling (CT) as well as Road Network Tolling (RNT).

The FlexToll™ system is based on developed Unique Cell Point Identification (UCPI™) technology. UCPI™ uses proven radio navigation and makes use of all available radio signals, including mobile phone networks (GSM/UMTS).

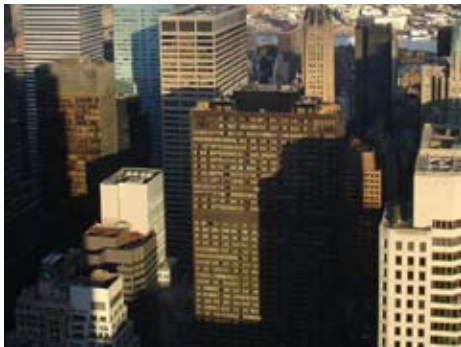
Vehicles equipped with a FlexToll™ On Board Unit (OBU) can be detected when entering a predefined area or road section. The detected vehicle's movement and average speed can also be measured.

The system is inexpensive and easy to start up and there is no need for additional road side infrastructure. The already present mobile phone network infrastructure is sufficient.

The FlexToll™ system offers smart solutions for tolling functions such as *time*, *distance*, *area* and *toll plaza* and additional solutions for *tracking*, *alarm* and *parking*. The system can also be integrated with other technologies.

Through tests in Sweden the system has proven to be reliable.

Easy solution using available infrastructure



Short installation time

No additional road side infrastructure is needed, The FlexToll™ system makes use of the already available mobile phone networks. This means that the system can be up and running in a very short time.

Flexible system design

New areas and sections can be implemented within days.

Interoperable

The FlexToll™ system is designed in accordance with the interoperability policy of the EU. The FlexToll™ system has big potential for interoperability - mobile phone networks exist in most countries and - they all use the same standard.

Fully GSM-based solution

Data can be transferred via all mobile phone networks (SMS, GPRS, UMTS) using all system generations (2G, 3G).

No map matching

The FlexToll™ system is an autonomous thin client system. No map matching is required.

Low energy consumption

The FlexToll™ OBU has a low energy consumption, and several energy supply alternatives are available.

Easy to install

The FlexToll™ OBU requires no installation in a workshop which makes it suitable for occasional users. If necessary it can be “installed” permanently.

Can be placed anywhere in the vehicle.

The FlexToll™ OBU also works with metallic wind-screens.

Smart system with boundless possibilities



Operator independent

The FlexToll™ system is mobile phone operator independent. Regarding the data transfer, the choice of selecting an operator is optional.

Works everywhere

The FlexToll™ OBU works everywhere where mobile phones networks are available.

Value added services

The FlexToll™ system also offers solutions for *statistics, driving behavior, car alarms, parking schemes, emergency calls* and *customs services*.

Interfaces

The FlexToll™ system provides clear interfaces - perfect for a modular toll system design. Thus it can easily be used for designing new systems. It is also capable of replacing or completing existing systems.

Precise

An excellent example is that the FlexToll™ system does not toll parallel roads which are not supposed to be tolled.

Flexible OBU design

The FlexToll™ OBU can be designed according to individual requirements - with or without a user interface.

Text or voice messages can be transferred via the FlexToll™ OBU to the driver.

Enforcement support

The FlexToll™ system supports enforcement functionalities as the OBU can be pinged locally and centrally.

Reliable concept using proven technology

Since 2006 FlexToll™ have verified the system using public buses.

Currently the trials have been extended and show that the FlexToll™ system also is suitable for Road Network Tolling.

Radio navigation has been approved for decades and the mobile phone industry already has a proven technology and a fully developed business process.

It's verified!



The right choice for RUC!



For all types of RUC:

- **Reliable and easy as DSRC**
- **Flexible as GNSS (GPS)**
- **Network operator independent vehicle localization**
- **Cost effective**
- **Functionality which allows innovative billing etc.**
- **A two way communication with the OBU is possible**



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