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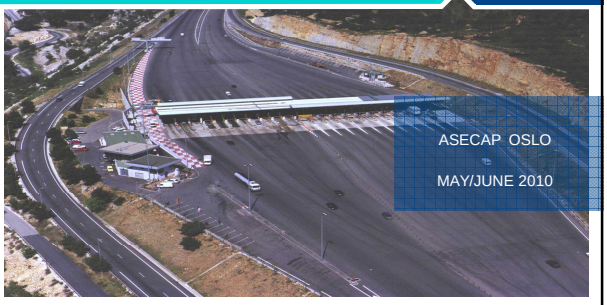
ESCOTA "Developments in toll collection"



VINCI AUTOROUTES

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TOLL COLLECTION: A SUCCESSFUL TRANSITION

- **Level of automation at the end of 2009:**
  - The **target for 2009** of 80% automatic transactions has been **achieved one year early: 88% at the end of October 2009 (72.3% at the end of 2006),**
  - **Fully-automated collection on 30% of toll stations** (15 interchanges),
  - **Automatic night time** collection on 96% of toll stations.
- **In corporate and organizational terms:**
  Effectiveness of **company agreements** and management planning for jobs and skills

Can the fully-automated system deployed at interchanges be adapted for application to tollgates?

A trial for fully-automated collection was conducted in the summer of 2009 at the **Bandol and La Ciotat tollgates (during a period of heavy traffic)**.

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Full-scale Observation Laboratory

The observation facility deployed at these tollgates allowed the following to be gauged:

- **The quality of service delivered to our clients** and potential areas for progress,
- **The relevance** of our organizational structures **for personnel**.

Client expectations recorded during the observation process:

- Improvements **in the comprehensibility of signage**.
  - **Easier use of multi-mode payment lanes**: signing, user-friendliness, functionalities.
  - **Responsive and helpful remote assistance** (response times and quality of responses).
  - **A proactive presence** for operations **on the highway.**
- **Guaranteed security.**

The trial for fully-automated toll charging at a tollgate is conclusive in its deployment of technical advances, the adaptation of functional conditions and the adoption of an attitude which is firmly committed to quality of service

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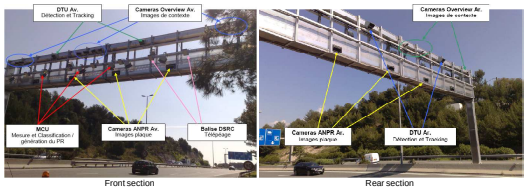
Experimentation in free-flow tolling : On-site installation

The gantry is installed on the A8 motorway at PR 171.466, direction 1.
It covers the 3 traffic lanes and the hard shoulder.

The proximity to the Antibes PV Sud toll station allows a comparison to be drawn between the free-flow system and the conventional channelled system.

Key dates:
- 15 04 2009: Site acceptance and start of operational acceptance testing
- 15 04 2010: Completion of operational acceptance testing and transition to operational qualification



Front section Rear section

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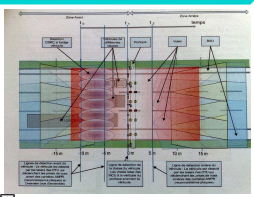
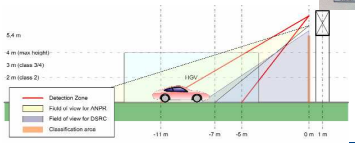
Experimentation in free-flow tolling : How does it work

The Thales system is based upon a single gantry, from which all the necessary controls are executed:

- Detection and tracking of the vehicle as it passes under the gantry
- Infrared photography of front AND rear plates.
- Overview photography, monochrome to the front and colour to the rear.
- DSRC transaction
- Classification





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Experimentation in free-flow tolling : System Performance

Estimation of the quality of passage reports obtained

Lost: approximately 1%
Suitable for automatic processing: approximately 85%
Including information requiring analysis by an operator: approximately 14%

Detailed PR analysis

The error rate indicated corresponds to a PR for a vehicle classified in the class indicated, in which the available images either confirm (no error) or invalidate (error) the class of vehicle concerned. PRs in which the absence of images or the presence of unusable images preclude the validation of the vehicle class will be logged as unusable.

Classe	Error rate after comparison with Antibes	Error rate after visual analysis	% unusable PRs	Comments
C1	Better than 1 %	Better than 0.1 %	0.5% - 0.9%	Very few class errors
C2	5 - 10%	3.50%	1%	80% of errors involve C3 vehicles with roof loads
C3	~ 15%	2 - 3 %	0.5% - 1%	Errors: C2 or C4 classed as 3
C4	5 - 10%	4 - 5 %	0.5% - 1%	Axle detection error on C3 vehicles classed as 4
C5	~ 15%	3 - 4%	20%	Unusable PRs: no badge, no rear OCR.

To a margin of 0.2%, all vehicles are logged in a Passage Report.
Approximately 1% of PRs are unusable (20% in the case of Class 5), and the accuracy of classification is superior to 0.1% for light vehicles, and superior to 5% for other classes.

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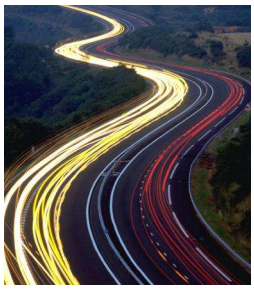
Background to non-stop remote toll collection



Compliance with the guiding principles of the Grenelle Environment forum and the achievement of a more environment-friendly motorway system – these are the key objectives of the "Paquet Vert Autoroutier" (PVA) or "Green Motorway Package".

Non-stop remote toll collection is an element of the PVA in the field of tolling, and will contribute specifically to the reduction of CO^2 emissions, thereby improving the eco-friendliness of remote toll collection.

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Siting of non-stop remote toll collection lanes

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Technical & functional aspects of non-stop remote toll collection for all classes