

egis projects **IBTTA**
International Bridge, Tunnel and Turnpike Association

**The Information Exchange Agent project:
A Clearinghouse to Manage ETC Interoperability
between Toll Operators in Ireland**

IBTTA Technology Workshop, Santiago de Chile
12-14 November 2006

IEA presentation_IBTTA last 09Nov06

Main Egis activities in 2005 **egis projects**

Egis turnover (2005): €375 million
Total Staff: 3800

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Egis Organisation **egis projects**

UNE FILIALE

Caisse des Dépôts et Consignations Total consolidated balance: €173 billion
Staff Number: 35 900
AAA rated financial organization

100%

EGIS SA

- Scetauroute
- Semaly
- ISIS
- BCEOM
- Other engineering subsidiaries
- Engineering**

- Egis Projects
 - EPAP Australia
 - EPSYS Philippines
 - Concession Investments
 - PPP Contracts
 - Turnkey Contracts
- Transroute International
 - 15 Operating Subsidiaries Worldwide
 - Operation**

100%

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Operations and ETC Services **egis projects**

- Egis Projects has extensive experience in the field of tolling and customer relationship management for ETC services
- 14 motorway projects currently in operation (+ 1 project awarded)
- Operation – key figures
 - Length of motorways: 900 km
 - Total staff: 2 850
 - Toll revenue collected: €57 million
 - Number of daily toll transactions: 2.98 million
 - Number of toll plazas (including ETC gantries): 102

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Operations and ETC Services **egis projects**

Key references

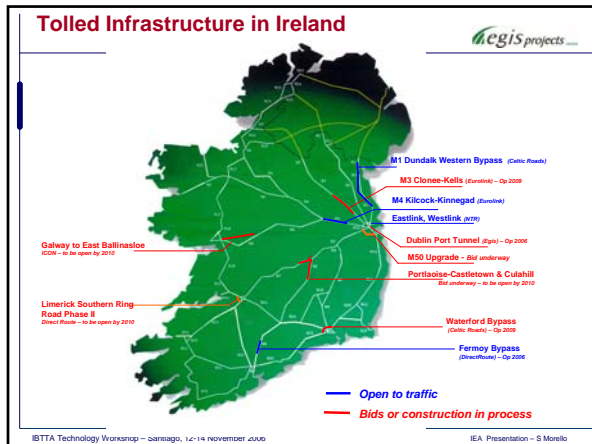
- France – A28 motorway**
125 km toll motorway in Normandy
- Australia – Sydney M2 motorway**
22 km urban toll motorway with 72 000 AADT, 78 000 transactions/day, 76,000 ETC tags issued – scope includes customer services and full front end back-office management
- Athens Ring Road, Greece – Motorway of the Olympics**
65 km urban toll motorway with high AADT, 248 000 transactions/day, 90 000 accounts, 142 600 tags issued
- Philippines – North Luzon Expressway**
84 km urban and inter-urban toll motorway

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Outline **egis projects**

- Current situation of tolled infrastructure in Ireland
- IEA Functional Requirements
- IEA Contract & Organisation
- Egis' Technical Solution

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- ### Tolled Infrastructure in Ireland
- Toll projects fall under the National Roads Authority (NRA) responsibility
 - 4 toll projects open to traffic as of mid-2006
 - 2 additional toll projects to be by 2007: N8-Fermoy bypass and Dublin Port Tunnel (operated by Egis)
 - At least 6 additional toll roads to be open by 2010 (on-going PPP programme)
- ⇒ 12 projects with toll activity in 2010
- ⇒ Potentially 12 different concessionaires (and operators)
- ⇒ Projects are spread out across the country
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NRA Objectives and Activities

The National Roads Authority (NRA) is actively promoting Interoperable ETC in Ireland

Aim: Offer the possibility to cross any tolled facility in the country on dedicated ETC lanes with one tag per vehicle and one national toll account

- Defining basic interoperable rules in adherence to the EC Directive 2004/52/EC on interoperable road toll systems across Europe including the EETS (European Electronic Toll Service)
- Setting contractual obligations in concession contracts, requirement for interoperable ETC facilities among toll operators
- Providing a clearinghouse facility to the toll operators: the Information Exchange Agent (IEA)

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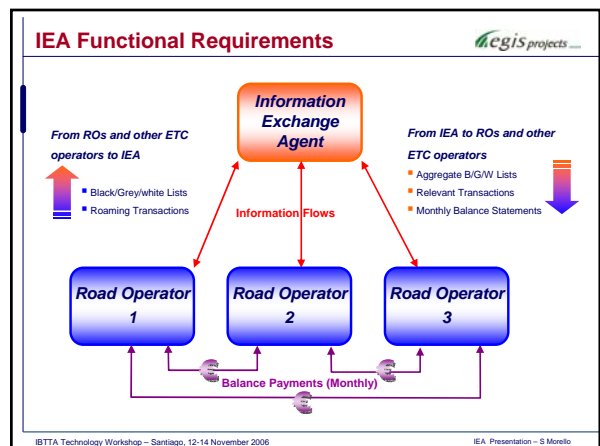
- ### Tolled Infrastructure in Ireland
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IEA Functional Requirements

The Information Exchange Agent (IEA): a clearinghouse to manage ETC interoperability between toll operators

- Information Exchange Agent (IEA) services required:
 - Collation, processing and distribution of data (customer and charging information) related to ETC operations
 - provided by all subscribing operators (transactions, enforcement information, subscribers' black, white and grey lists)
 - Preparation of monthly statements for the settlement of interoperable revenue between operators

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IEA Functional Requirements

- Scale: 1 million OBUs considered for the scalability of the system
- Security constraints related to data exchange (authentication, integrity, confidentiality)
- Time constraints (time of data exchange, duration of exchange)
- Information on acknowledgement and 'freshness' of the data exchanged

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Current situation of tolled infrastructure in Ireland

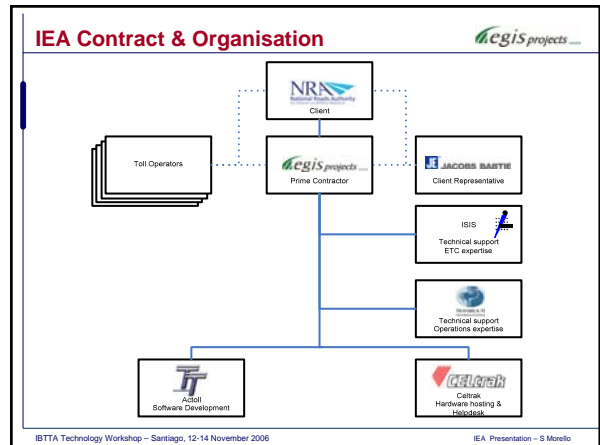
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IEA Contract & Organisation

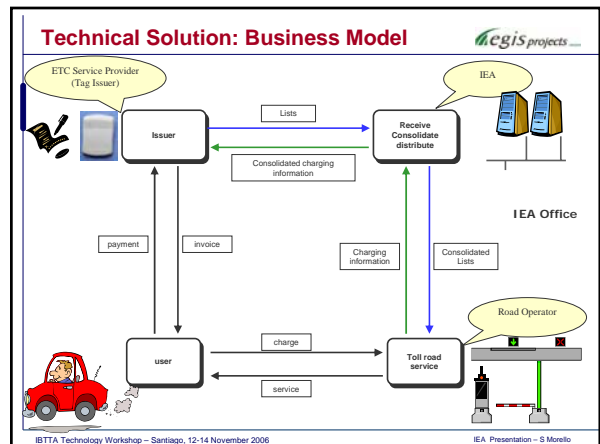
- Information Exchange Services Agreement: dual parties (NRA/Egis) contract for the delivery of IEA services**
 - Contract duration: 6 months implementation, daily operations and progressive connection of new operators for 5 + 2 years
 - Performance-based payments
- Information Exchange Agreement: multiple parties (NRA, IEA, Road Operators) interface agreement**
 - Defines rights and obligations between the parties
- Netting Agreement: among operators**
 - Defines commercial rules in relation to interoperability (accounts settlements, roaming fees, etc)

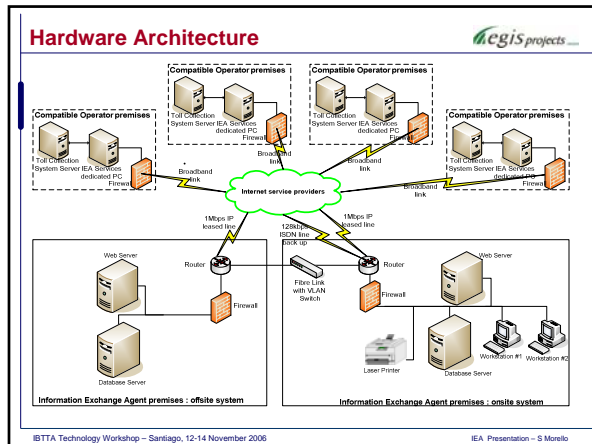
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- ### Technical Solution – Operators' Interface
- Files format: exchange based on XML files following an NRA specified format
 - Interface requirements at operator site:
 - Communication on VPN over standard internet leased line connection
 - IEA software module hosted on standard PC
 - File exchange: over specific directories on the main PC
 - Security: transfer management relies on XFB monitor®
 - software package widely used for financial exchanges in the bank industry (confidentiality, integrity, authentication)
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- ### Status of the IEA project
- It works properly!
 - System successfully delivered in November 2005
 - NRA statement: "It's a great technical and operational success"
 - Key facts:
 - 3 Road Operators signed up and connected to IEA (M1 CRG, M4-M6 Eurolink, M8 Fermoy - DirectRoute)
 - 1 Road Operator in process of joining (Dublin Port Tunnel)
 - 1 Independent Service Provider in process of joining
 - NRA is in discussion with the M50 Westlink and Eastlink (both NTR) to join the service by end 2006
- ➔ Up to 7 operators connected to the IEA service by end 2006
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- ### IEA – Summary of its success
- As a result, Irish road users will be offered the long anticipated "one account – one tag – one bill" service package*
- IEA – in terms of technology, innovation, business model and foremost, convenience for road users – is:
 - A simple interface for road operators and tag issuers, both on technical and commercial levels
 - ➔ An easy set-up of interoperability in Ireland
 - A centralised architecture for data exchange for all Irish toll operators and tag issuers
 - ➔ Means a reduced number of data links and data exchanges (N operators to one IEA, instead of N-to-N operators)
 - A solution enabling separation of the road operator from the tag issuer (pure service provider)
 - ➔ Establishes basis for the emergence of independent tag operators and/or road operators
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Thank you for your attention

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