



EasyWay



InIR implementations

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InIR, IP - PT

DATEX II Forum Berlin
March 16/17 2010

ESTRADAS DE PORTUGAL

a reference in the Portuguese road sector for the past 80 years

Brief History

JAE was created in 1927, as the first public institution in charge of coordination and integration of road administration.



JAE is especially recognized throughout the 60's and mid 70's when at the level of Human Resources, reforms were made, in a way more comprehensive and specialized, which enabled the services decentralization.

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Brief History

In 1999 **JAE** was divided in three Institutes



IEP - with powers to promote and coordinate the development of the National Road Plan, while assuring the duties of the State in areas, such as, strategic planning or the promotion and management of Road Operators.

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Brief History

In 1999 **JAE** was divided in three Institutes



ICOR – dedicated to the the construction of new roads and tunnels, major repairs or correction of existing roads and bridges, while supervising and assisting the deployment of road projects.

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Brief History

In 1999 **JAE** was divided in three Institutes



ICERR – mainly directed to the promotion of the national Road Maintenance and Operation, while monitoring and evaluating overall quality indicators.

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Brief History

In 2002 **IEP** assumed cumulative functions



In order to strengthen and consolidate its entire core business, leading to a resource's rationalization, IEP assumed a larger role, while maintaining the nature of a public institution, endowed with an administrative and financial autonomy.

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Brief History

In 2004 **IEP** becomes **EP**



This step redefined the Portuguese administration on a all new road operational level, in order to relaunch its activities in a new operational framework and ensure better results and greater stability of its resources, through the conversion to a business entity.

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Brief History

In 2007 **EP** becomes a Road Operator



This was a profound change in the relationship between the State and the Road Sector, endowed EP, SA with grant financing, for the construction and design, maintenance and operation, with a contract to upgrade and extend the National Road Network, for the next 75 years.

With this major change, EP, SA while road operator, could, no longer assume the quality of the state in any jurisdiction or representation, even in existing contracts.

In this situation, it was desirable to define the entity that could represent the state in awarding or granting contracts in the future, and exercise the powers and faculties previously granted to EP, EPE, under contract.

so then there was...



The Institute for the Road Infrastructure, is a public institution endowed with administrative autonomy.

It's activity is supported by the Ministry of Public Works, Transport and Communications, under supervision and tutelage of the Ministry.





InIR's main task is to supervise and oversee the management and operation of the road network, monitoring compliance with laws and regulations and concession agreements, to ensure the completion of the National Road Plan and ensure the efficiency, equity, quality and safety of infrastructure as well as users' rights.

- a) **Contribute to the definition of sector policies and advise the Government;**
- b) **To propose legislative measures or regulations relating to the management of road network;**
- c) **Support the planning of road network nationally as part of policies on transport planning;**
- d) **To oversee the safety and quality of road infrastructure;**



- e) **Promote and deploy standards for quality and safety;**
- f) **Establish the regulatory standards applicable to the sector;**
- g) **Supervise compliance with the obligations of the operators;**
- h) **Ensure and monitor the rights and interests of users;**
- i) **Promote competition in the road sector.**



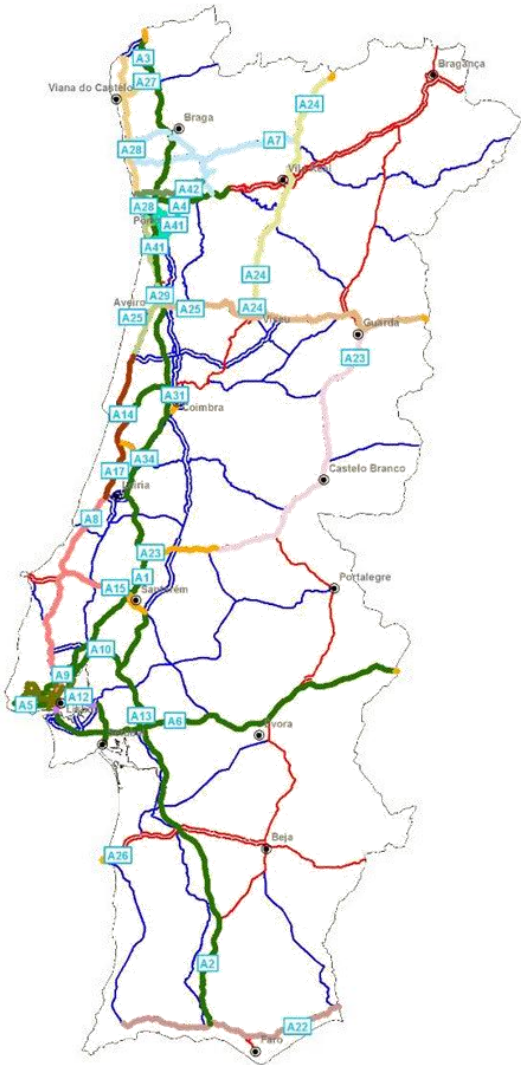
- a) **Oversee the development and the use of road network;**
- b) **Exercise authority on the definition of road standards;**
- c) **Oversee the management of road operators and enforce rules and obligations applicable to them under the law and their contracts;**



- d) Officially represent the national road sector, in the international community;
- e) Promote research and scientific and technical disseminating, at national and international activities;
- f) Generate and provide information.



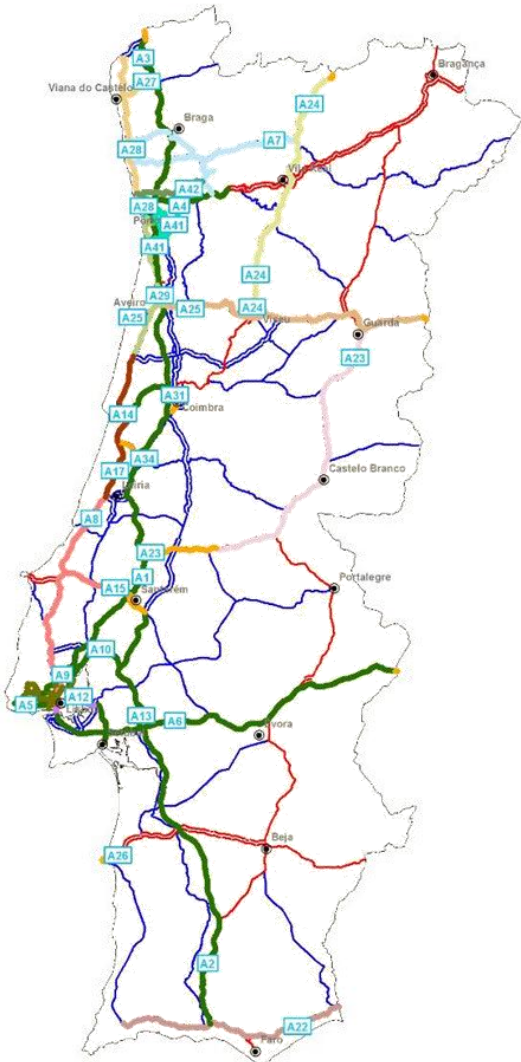
Today's Portuguese map of Road Operators



- Brisa
- Douro Litoral
- Grande Lisboa
- Litoral Centro
- Lusoponte
- Norte
- Oeste
- Scut do Algarve
- Scut da Beira Interior
- Scut das Beiras Litoral e Alta
- Scut da Costa de Prata
- Scut do Interior Norte
- Scut do Norte Litoral
- Scut do Grande Porto
- EP



Our partners



To achieve InIR's mission, we have to:

- 1. Gather and analyse huge amounts of information**
- 2. Set a standard format for that information**
- 3. Act promptly!**



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1. Gather and analyse huge amounts of information

TRAFFIC
QUALITY PARAMETERS AND INDICATORS
LEVEL OF OPERATION PERFORMANCE
LEVEL OF MAINTENANCE PERFORMANCE
FINANCIAL INFORMATION
ACCIDENTS AND COMPLAINTS MANAGEMENT

ACCIDENTS AND COMPLAINTS MANAGEMENT
FINANCIAL INFORMATION



To achieve InIR's mission, we have to:

2. Set a standard format for that information

DATEX II, AS A COMMON GROUND FOR EXCHANGING INFORMATION

DATEX II, BECAUSE IT GOES BEYOND BORDERS AND CONTRACTS

DATEX II, ALLOWS A FULL PERSPECTIVE OF THE ROAD NETWORK AS A WHOLE.

DATEX II, ALLOWS A FULL PERSPECTIVE OF THE ROAD NETWORK AS A WHOLE.



To achieve InIR's mission, we have to:

3. Act promptly!

DATEX II

ALLOWS COLLECTING INFORMATION ON A REAL TIME BASIS, WITH ASSURANCE AND RELIABILITY.

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ITS can help, because:

1. Provides new and powerful management tools;
2. Promotes and supports the deployment of new systems and services based on principles of interoperability and continuity;
3. It's in line with the expectations of the end user.

ITS will be **the nearby revolution** of the Road Sector.



EasyWay can help, because:

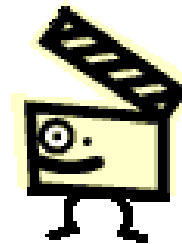
1. Sets out goals;
2. Proposes clear fields of activity;
3. Allows public/private partnerships;
4. Subsidizes up to 20% all these actions until 2020.



EasyWay ensures the continuity of implementation



How do we pull this off?



How do we pull this off?

With a **strong** point of view, we can, among the road operators!

1. Define the type of information which to request, the format and it's periodicity.
2. Enlighten the purpose of this need and help clarify the role of the regulator, within the operators.
3. Therefore, achieve the goals of our mission, more efficiently.



How do we pull this off?

We need to systemize the way information is going to be gathered **accordingly to the type of road** we're dealing with.



Let's look at the trailer!



How can ITS and EasyWay help InIR?



STAGE 1



Gather information

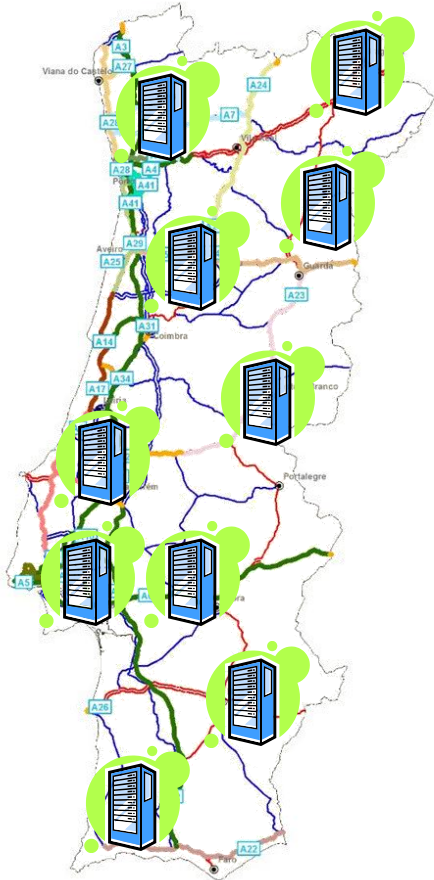
TRAFFIC
QUALITY PARAMETERS AND INDICATORS
LEVEL OF OPERATION PERFORMANCE
LEVEL OF MAINTENANCE PERFORMANCE
FINANCIAL INFORMATION
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How can ITS and EasyWay help InIR?



STAGE 2



Processing ...

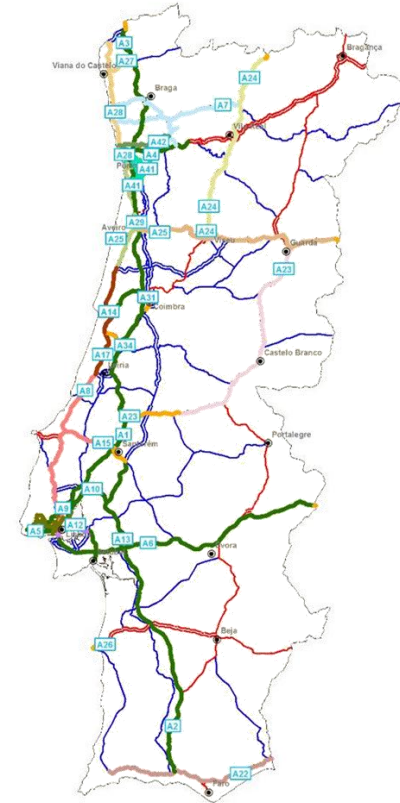


How can ITS and EasyWay help InIR?



STAGE 3

Report



InIR WILL INFORM THE OPERATOR ABOUT ANY NECESSARY IMPROVEMENTS TO THE ROAD NETWORK



Some times I fell like Mr. Calvino?

“High from the top floors, someone throws out the window Mr. Calvino’s shoes and his tie (who?).

Mr. Calvino has no time to think, he is late, so he throws himself out the window, in pursuit.

In mid air, he reaches out the shoes. First, the right one, then the left. Has he drops through the air he tries to find the best position to tighten the shoe laces. Misses the left shoe once, but tries again and succeeds.

Looking down, he sees the ground. “



Some times I fell like Mr. Calvino?

“Before, however, the tie; Mr. Calvino is upside down but with a sudden twitch from his right hand, he catches it in the air, then with rushed fingers, flickers the tie, surely, giving it the required turns for the knot: the tie is set.

The shoes! A final glance: the laces are tightened. He gives way a final twist on the tie knot. There is no more time:

Finally he reaches the floor, impeccable.”

Excerpt from “First dream of Mr. Calvino” d 'Mr. Calvino by Gonçalo Tavares, Editorial Caminho 2005.



How did we began?

1. By setting out partnerships for **designing new systems** that added value to the current model;
2. By setting out partnerships with those who **were already using the model**, for sustainability and consolidation;
3. And by setting out **new partnerships** with those outside the model, for leadership and statement.



What have we done so far?



We've realized the importance of being involved



What have we done so far, for real?

1. Set DATEX II as **official language** amongst Portuguese Road Operators, for exchanging information;
2. Set out **new partnerships** with City Authorities, mainly Lisbon and Oporto, and National Transport and Emergency Authorities, focusing on the best public service for the end user, in a ITS perspective.
3. Harmonized all 16 contracts in terms of quality parameters for the infrastructure and *Maintenance & Operation* indicators, on a prototype basis;



3.1 Harmonizing Quality Parameters for the Infrastructure

1. Pavements
2. Structures
3. Tunnels
4. Road Markings
5. Road Signs
6. Rails
7. Telematics
8. Road Lightning
9. Communications Systems
10. Drainage
11. Vegetation and Green Structure
12. Environmental Protection
13. Fences and Buildings



3.1 Harmonizing Quality Parameters for the Infrastructure

Pavements, an exemple...

		EP	AEDL	ascendi AENOR	Atlantic	Marão	BRISA	BRISAL	Euro Scut Algarve	Euro Scut Norte	Luso Lisboa	Luso Ponte	Luso Scut GP	Luso Scut CP	Luso Scut BLA	ScutVias	NorScut
Pavimentos	CA (%)	>=0,40(1) >=0,40(2) >=0,35(3)	>= 0,30	>= 0,45		>=0,43	>=0,35	> 0,50	> 0,60	> 0,40	> 0,55		> 0,55	> 0,55	> 0,55	> 0,40	> 0,40
	PT (mm)	>= 0,6(1) >= 0,5(2) >= 0,4(3)	>= 0,40	>= 0,45		> 0,60	>=0,40	> 0,60	> 0,90	>=1,00	> 0,60		> 0,60	> 0,60	> 0,60	> 0,50	> 0,60
	IRI (m/km)	<=3,0(1) <=2,5(2) <=2,0(3)	<= 4,50	<= 4,50		<=2,50	<=4,00	<=2,50	<=3,50	<=2,50	< 4,50		< 4,50	< 4,50	< 4,50	5 mm	< 3,00
	CR (cm)	<=1,5(1) <=2,0(2) <=3,0(3)	<=2,00	<=2,00		<=1,00	<=2,00	<=2,00	< 2,00		< 2,00		< 2,00	< 2,00	< 2,00	< 2,00	<=1,00
	FS (%)	<=5%(1) <=7%(2) <=10%(3)	< 20%	Classe II		Severidade Baixa ou Moderada em 50%	< 20%	<=15%	< 15%		Classe II		Classe II	Classe II	Classe II	Não	<=15%
	AS	Média	<=2,5 cm	<=2,0 cm			<=2,5 cm	Média	Média	<=2,0 cm	<=2,0 cm		<=2,0 cm	<=2,0 cm	<=2,0 cm	Não	<=2,0 cm

3.2 Harmonizing Maintenance & Operation Indicators

1. Traffic Management supervision
2. CCTV supervision
3. Tolling systems
4. Surveillance and help response supervision
5. Safety procedures for road users and facilities
6. Statistics
7. Gas Stations
8. TMP for road constrains
9. Information towards the Road User
10. Environmental control supervision
11. Tunnels



3.2 Harmonizing Maintenance & Operation Indicators

Statistics, an example...

3.2.2.3.1.1 Indicadores de Sinistralidade

<i>Número</i>	<i>Designação</i>	<i>Fórmula de Cálculo</i>
IS-1.	Extensão da rede (Km)	N/A
IS-2.	Percursos efectuados (10 ⁸ x Veic x Km) volume de circulação	$\frac{TMD \times n.^{\circ} Km \times n.^{\circ} dias (mês/ano)}{10^8}$
IS-3.	Total de Acidentes (n.º)	N/A
IS-4.	Acidentes com Mortos (n.º)	N/A
IS-5.	Acidentes com Feridos (n.º)	N/A
IS-6.	Acidentes com Feridos Graves (n.º)	N/A
IS-7.	Acidentes com Feridos Ligeiros (n.º)	N/A
IS-8.	Acidentes com Vítimas (n.º)	N/A
IS-9.	Acidentes Materiais (n.º)	N/A
IS-10.	Mortos (n.º)	N/A
IS-11.	Feridos (n.º)	N/A
IS-12.	Feridos Graves (n.º)	N/A
IS-13.	Feridos Ligeiros (n.º)	N/A
IS-14.	Taxa de Sinistralidade	$\frac{IS-3}{IS-2} = \frac{\text{Total de Acidentes}}{\text{Percursos efectuados}}$
IS-15.	Taxa de Acidentes com Mortos	$\frac{IS-4}{IS-2} = \frac{\text{Acidentes com Mortos (n.º)}}{\text{Percursos efectuados}}$
IS-16.	Taxa de Acidentes com Feridos	$\frac{IS-5}{IS-2} = \frac{\text{Acidentes com Feridos (n.º)}}{\text{Percursos efectuados}}$
IS-17.	Taxa de Acidentes com Feridos Graves	$\frac{IS-6}{IS-2} = \frac{\text{Acidentes com Feridos Graves (n.º)}}{\text{Percursos efectuados}}$
IS-18.	Taxa de Acidentes com Feridos Ligeiros	$\frac{IS-7}{IS-2} = \frac{\text{Acidentes com Feridos Ligeiros (n.º)}}{\text{Percursos efectuados}}$



The ITS InIR's Prototype



Prototype – ITS Portal

ITS InIR Bem-vindo(a) Bárbara Mendes

Pesquisar Todos os Sites Pesquisa Avançada

[Início](#)
[Processos](#)
[Avaliação MOM's / PCQ's](#)
[Normalização](#)
[Administração](#)

Início »

PERÍODO 11 DEZ 2008 12 DEZ 2008 13 DEZ 2008 14 DEZ 2008 15 DEZ 2009 16 DEZ 2009 17 DEZ 2009 18 DEZ 2009 19 DEZ 2009

Cumprimento Níveis de Serviço

Concessões	EP	AERL	ASCENDI	AELÁBRICO	AE MARÇO	Brisa	Bisal	EROSOUT	EROSOUT NORTE	LUSOLISBOA	LUSOPONTE	LUSOSOUT G. PORTO	LUSOSOUT COSTA PRATA	LUSOSOUT BEIRAS LITORAL E ALTA	SCUTIVAS	MOBOSOUT
MOM's																
Incidências	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Sinistralidade	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Assistência	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Rede de Operação	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Equipamentos	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Dados de Tráfego	○	●	○	●	●	○	○	○	○	○	○	○	○	○	○	○
Meteorologia	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
PCQ's																
Pavimentos	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Obras de Arte	○	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○
Túneis	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Marcas Rodoviárias	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Sinalização Vertical	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Guardas de Segurança	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Delineadores	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Telemática	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Iluminação	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Telecomunicações	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Drenagem	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Int. Paisag./Vegetação	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Protecção Ambiental	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Vedações e Património	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Processos

Descrição	Data Criação	Estado
Execução de Obras A28	26-11-2009	Aguarda Autorização
Alteração Sinalização A17	24-11-2009	Rejeitado
Recuperação Pavimento A3	23-11-2009	Aguarda Aprovação
Execução Obras A29	11-11-2009	Rejeitado
Alteração Sinalização A1	25-10-2009	Aguarda Aprovação
Execução Obras A29	12-10-2009	Aguarda Aprovação
Alteração Sinalização A1	06-10-2009	Aguarda Aprovação

Tarefas

13 As tarefas com fundo colorido estão dependentes do utilizador, as restantes estão dependentes da acção de outras entidades.

- Aprovação Pedido Execução Obras A28
- Aprovação Pedido Recuperação Pavimento A3
- Aprovação Pedido Execução Obras A28
- Resposta email Bárbara Mendes 24-11-2009
- Aprovação Pedido Recuperação Pavimento A3
- Aprovação Pedido Execução Obras A28

✓ Test M&O indicators and Quality Parameters;

- ✓ Based on Traffic Incidents:
 - ✓ Accidents and Injuries Statistics
 - ✓ Help procedures
 - ✓ Road constrains
- ✓ Based on Traffic Data
 - ✓ TMD - Daily Average Traffic
- ✓ Based on Infraestructure
 - ✓ Pavements
 - ✓ Structures, bridges...

✓ The Prototype has shown that it can help monitor and validate information from Road Operators by the use of Datex II;

✓ It can help InIR plan and assing tasks daily (Sharepoint);

How can ITS and EasyWay help InIR?



Some times I fell like Mr. Calvino?

I truly hope so!



terça-feira, 10 de Fevereiro de 2009



Somos o elo que faltava na sua relação com as estradas e auto-estradas do País.
Asseguramos os seus direitos, regulando e supervisionando o cumprimento dos deveres das operadoras deste sector.

Missão

O InIR, I. P. tem como principal missão fiscalizar e supervisionar a gestão e exploração da rede rodoviária, controlando o cumprimento das leis e regulamentos e dos contratos de concessão e subconcessão, de modo a assegurar a realização do Plano Rodoviário Nacional e a garantir a eficiência, equidade, qualidade e a segurança das infra-estruturas, bem como os direitos dos utentes.

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