



COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E  
NEGÓCIO



## ANEXOS



COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E  
NEGÓCIO



## **ANEXO I**

### **Características Técnicas do Material**



COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E  
NEGÓCIO



## Regional and Suburban Transport

### AGC dual-mode dual-voltage

France



The dual-mode dual-voltage AGC is a multi-purpose train serving the French Regions. The dual-mode version allows operation on non-electrified lines using a diesel engine as well as under the catenary using electrical traction. The dual-mode, dual-voltage AGC can also run on networks with different voltages (1500 V DC or 25 kV AC).

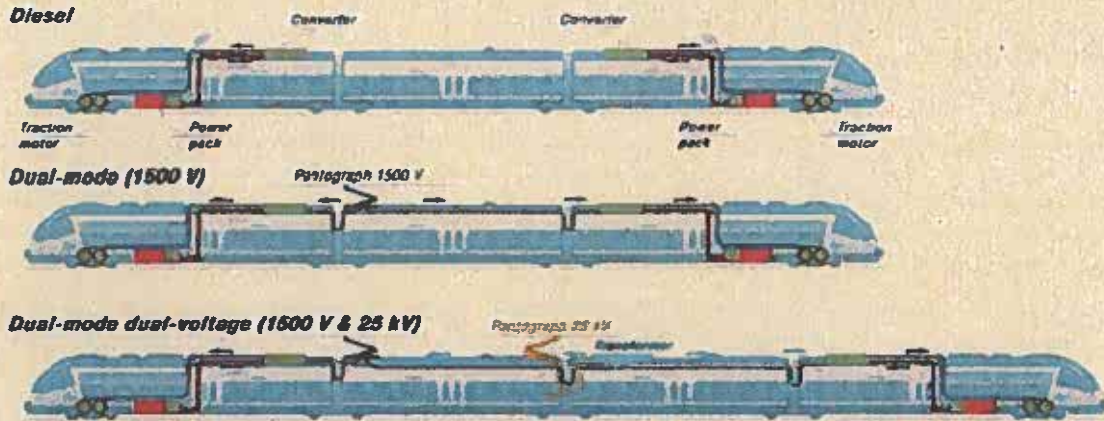
The dual-mode, dual-voltage AGC is environmentally friendly allowing the suppression of air and noise pollution in stations. It gives the operator great flexibility and makes it possible to reduce the fleet size by having a single reserve for both diesel and electric applications. The existing infrastructure can be used in an optimal way, the lines can be electrified progressively as the AGC uses diesel propulsion on non-electrified sections and electric propulsion on the electrified parts. It also offers the possibility to create new commercial links without train changes for the passengers.

The dual-mode dual-voltage AGC is a 4-car diesel AGC equipped with a transformer on the roof of the second car and with a second pantograph on the first car.

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**AGC dual-mode dual-voltage**



**GENERAL DATA**

Type of vehicle **Autorail X4 dual-mode dual-voltage**  
 Vehicle configuration **4-car**

**PERFORMANCE AND CAPACITY**

Number of passengers  
 - Number of seats **197**  
 - Number of tip-up seats **17**  
**Total number of seats 214**  
 Standing passengers (4 p/m) **227**  
 Maximum speed **160 km/h**  
 Acceleration rate (normal load) **0 - 50 km/h**  
**Diesel Mode 0.47 m/s<sup>2</sup>**  
 Acceleration rate (normal load) **0 - 50 km/h**  
**DC mode 1,5 kV 0.66 m/s<sup>2</sup>**  
 Acceleration rate (normal load) **0 - 50 km/h**  
**AC mode 25 kV 0.67 m/s<sup>2</sup>**

**DIMENSIONS AND WEIGHT**

Length over couplers **72.8 m**  
 Width **2.95 m**  
 Maximum height without equipment **4.02 m**  
 Number of doors per side of each car **1**  
 Number of doors per side of the train **4**  
 Door clearance height **2.05 m**  
 Door clearance width **1.30 m**  
 Entrance height **0.59 m**  
 Floor height high compartment **1.26 m**  
 Floor height low compartment **0.59 m**  
 Train weight (loaded) **170 t**

**TECHNICAL CHARACTERISTICS**

Installed power  
 Diesel mode **2 x 662 kW**  
 Electrical mode **1300 kW**

**REFERENCES IN FRANCE**

Customer **Conseil Régional de Champagne-Ardenne**  
 Operator **SNCF**  
 First delivery **February 2007**  
 Number of vehicles **8**

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COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E  
NEGÓCIO



## *Regional and Suburban Transport*

### ***Autorail Grande Capacité***

*France*



On behalf of the French Regions, the SNCF ordered 500 Autorails Grande Capacité (AGC) for suburban, regional or interregional services.

The AGC is the new generation of regional trains for both the French and the European market. It features a complete range of vehicles based on a fully modular concept meeting the different needs of customers in terms of diversity and flexibility of the interior arrangement, passenger capacity, number of cars and propulsion mode.

The AGC is also available in bi-mode versions; these revolutionary versions combine both diesel and electric propulsion (1500 V or 1500 V and 25 kV) on the same train and turn the AGC into the most multi-purpose train ever put on the market.

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The AGC is designed to meet passengers' current and future, but steadily increasing expectations of comfort and open space. Wide doors and entrances at platform height allow an easy access to the vehicle for all passengers. A car equipped with a horizontal ramp provides easy access for wheelchair users. This car is also equipped with a toilet for disabled people and space for two wheelchairs.

The AGC offers various areas in order to meet the very different requirements of passengers as well as space for heavy luggage, bicycles and prams.

The width of the car, the panoramic windows, the large gangways and the low-floor area allow for a smooth passenger flow and increase the feeling of safety on the train.

The extended front of the train has especially been developed to resist crashes, and, at the same time gives the AGC a fluent and modern look while making it one of the safest trains in the world.



COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E NEGÓCIO



Diesel

	2 car	3-car	4 car	2-car
Axle arrangement	B'0 2'2'	B'0 2'2'B'0	B'0 2'2'2'B'0	B'0 2'B'0
Gauge	UIC 505 1	UIC 505-1	UIC 505-1	UIC 505 1
Minimum curve radius	80 m	80 m	80 m	80 m
Length over couplers	42 m	57.4 m	72.8 m	42 m
Width	2.95 m	2.95 m	2.95 m	2.95 m
Height	4.02 m	4.02 m	4.02 m	4.02 m
Motor power	1 x 662 kW	2 x 662 kW	2 x 662 kW	1300 kW
Maximum speed	140 km/h	160 km/h	160 km/h	160 km/h
Acceleration (0 - 50 km/h)	0.45 m/s <sup>2</sup>	0.68 m/s <sup>2</sup>	0.52 m/s <sup>2</sup>	1 m/s <sup>2</sup>
Service braking rate	1.04 m/s <sup>2</sup>	1.05 m/s <sup>2</sup>	1.1 m/s <sup>2</sup>	1.09 m/s <sup>2</sup>
Entrance height	590 mm	590 mm	590 mm	590 mm
Numbers of doors per side	2	3	4	2
Door width	1.3 m	1.3 m	1.3 m	1.3 m
Total number of seats (grand confort version)	120	160	220	120
2nd class	108	138	198	108
including tip-up seats	16	22	28	16
1st class	12	22	22	12
Maximum number of seats	144	208	272	144
Standing passengers (4p/m <sup>2</sup> )	130	200	251	130
Toilets (grand confort version)	1	2	2	1
Weight (normal load)	95.3 t	133.3 t	161.2 t	97.9 t
Axle load	17 t	17 t	17 t	< 17 t
Wheel diameter new/worn	840 / 770 mm	840 / 770 mm	840 / 770 mm	840 / 770 mm
Buffer load	2000 kN	2000 kN	2000 kN	2000 kN
Bogies				
primary suspension	spring	spring	spring	spring
secondary suspension	pneumatic	pneumatic	pneumatic	pneumatic
Brakes				
electrical service brake	regenerating motor brake	regenerating motor brake	regenerating motor brake	regenerating motor brake
mechanical service brake	disc brake	disc brake	disc brake	disc brake
parking brake	disc brake	disc brake	disc brake	disc brake
electro magnetic (emergency)	on motor bogie	on motor bogie	sur bogie moteur	on motor bogie
rail brake				

also available as triple voltage version 15 kV 16 Hz 50 or 3 kV



COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E NEGÓCIO



Electric 25 kV and 1.5 kV		BI-mode diesel 1.5 kV		BI-mode diesel 1.5 kV and 25 kV	
3-car	4-car	3-car	4-car	4-car	
B'0 2'2'B'0	B'0 2'2'2'B'0	B'0 2'2'B'0	B'0 2'2'2'B'0	B'0 2'2'2'B'0	
UIC 505-1	UIC 505-1	UIC 505-1	UIC 505-1	UIC 505-1	
80 m	80 m	80 m	80 m	80 m	
57.4 m	72.8 m	57.4 m	72.8 m	72.8 m	
2.95 m	2.95 m	2.95 m	2.95 m	2.95 m	
4.02 m	4.02 m	4.02 m	4.02 m	4.02 m	
1300 kW	1300 kW	2 x 662 kW (in diesel mode) 1300 kW (in electric mode)	2 x 662 kW (in diesel mode) 1300 kW (in electric mode)	2 x 662 kW (in diesel mode) 1300 kW (in electric mode)	
160 km/h	160 km/h	160 km/h	160 km/h	160 km/h	
0.82 m/s <sup>2</sup> (in 25 kV mode)	0.67 m/s <sup>2</sup> (in 25 kV mode)	0.81 m/s <sup>2</sup> (in electric mode)	0.66 m/s <sup>2</sup> (in electric mode)	0.66 m/s <sup>2</sup> (in 25 kV mode)	
1.06 m/s <sup>2</sup>	1.1 m/s <sup>2</sup>	1.05 m/s <sup>2</sup>	1.1 m/s <sup>2</sup>	1.1 m/s <sup>2</sup>	
590 mm	590 mm	590 mm	590 mm	590 mm	
3	4	3	4	4	
1.3 m	1.3 m	1.3 m	1.3 m	1.3 m	
160	220	160	220	200	
138	198	138	198	162	
22	26	22	26	16	
22	22	22	22	22	
208	272	208	272	245	
200	251	200	251	251	
2	2	2	2	2	
124.9 t	152.8 t	134.9 t	163.2 t	168 t	
< 17 t	< 17 t	17 t	17 t	17 t	
840 / 770 mm	840 / 770 mm	840 / 770 mm	840 / 770 mm	840 / 770 mm	
2000 kN	2000 kN	2000 kN	2000 kN	2000 kN	
spring pneumatic	spring pneumatic	spring pneumatic	spring pneumatic	spring pneumatic	
regenerating motor brake	regenerating motor brake	regenerating motor brake	regenerating motor brake	regenerating motor brake	
disc brake	disc brake	disc brake	disc brake	disc brake	
disc brake	disc brake	disc brake	disc brake	disc brake	
on motor bogie	on motor bogie	on motor bogie	on motor bogie	on motor bogie	





COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E  
NEGÓCIO



The complete AGC portfolio is based on a fully modular concept offering an adapted solution for the various operational requirements of each Region. The AGC configuration can be varied along three dimensions: number of cars, type of interior arrangement, and propulsion mode. For suburban services, a four-car configuration with two doors per intermediate car allows for a maximum passenger capacity and passenger flow.

For regional services, a two-, three- or four-car configuration makes it possible to adapt the offered capacity to the various transportation requirements. In that case, the intermediate cars are equipped with one door only.

Finally, for interregional services it is also possible to omit the door on the intermediate car.





COMBOIOS DE PORTUGAL

DIREÇÃO GERAL DE PRODUÇÃO E  
NEGÓCIO



## Autorail Grande Capacité



The product family AGC offers numerous trainset configurations from two to four cars, a seating capacity from 120 seats up to 240 and a maximum speed from 140 to 160 km/h. As far as the power transmission is concerned, three options are available: electric, diesel or bi-mode (diesel and electric). In bi-mode traction, the AGC uses the electrical traction on electrified lines, while using its diesel engine on non-electrified ones. In this

way, using diesel traction in stations or in high-density areas can be avoided, which considerably reduces air and noise-pollution. In case of a network consisting of both electrified and non-electrified lines, the AGC bi-mode version allows operation on the entire network with only one type of vehicle, thus giving the operator greater flexibility and reducing its fleet to a single type of vehicle. The electric trainsets are also avail-

able as multi-voltage vehicles, allowing service into the neighbouring countries of Belgium, Luxembourg, Germany, Switzerland and Italy.

The AGC is designed for easy maintenance in order to keep stays in the depot to a minimum, thus providing high availability. For example, an on-board diagnostic system transmits failures by radio connection to the depot in order to timely prepare and thus expedite the repair.

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# Talgo 250 Dual – Referência Renfe S730

### Every Line

Talgo 250 Dual is a product without peers on the market. It is the only train that enables operators to overcome all barriers to seamless operation, potentially saving millions in costly electrification work.



Designing a high-speed train capable of offering a high-range of features on any railway network, even those with different track gauges, electrification and signalling systems, and long sections of non-electrified line, was often viewed as an impossible feat. It wasn't.

Talgo 250 Dual is unique in its versatility. A Talgo 250 spin-off, this high-speed all-rounder can, just like its forerunner, operate without having to halt when changing gauge and use any power supply from the overhead line. Add to this the technology to make operating services on non-electrified lines possible, as well as optimised accessibility, low energy consumption and the lowest operating costs, then you have a train that can meet any requirement.

### Rolling Stock

Intercity	Talgo XXI Passenger Cars
Very High Speed	Avril 350



### Versatility and flexibility

Talgo 250 Dual is the first high-speed train in the world to offer a hybrid solution for long-distance services. Operators can now extend their services to destinations not on the electrified railway network, making it possible for them to cover greater distances and in some cases, say goodbye to the cumbersome process of switching track-gauge when crossing borders.

- Maximum speeds of up to 250km/h on high-speed lines and 200km/h on conventional tracks
- Up to 180km/h and hundreds of kilometres of range on non-electrified tracks.
- Variable gauge system that works while the train is moving
- Maximum versatility for commercial purposes
- Flexible operations. can manoeuvre in non-electrified yards and operate if there is an electrical power supply failure



### Maximum operability

By taking advantage of natural tilting in curves, and with the capability to use on-board auxiliary generators, Talgo can offer railway operators a wide range of options to supply a train that will meet their specific requirements.

- Natural tilting to increase speeds in curves and improve passenger comfort
- Maximum speeds of up to 220km/h - and up to 250km/h with certain upgrades - on any track gauge
- Designed to operate in temperatures ranging from -50°C to 50°C
- Fire detection and extinction systems, geolocation (GPS, GLONASS) and closed circuit television (CCTV)
- Electric range of up to 12 hours without a locomotive, thanks to the auxiliary generators passengers do not perceive the change in traction and on-board services are guaranteed in the event of a fire





### With or without electricity

Talgo 250 Dual can operate using **any electrification system** currently available worldwide, **and even on tracks without an overhead line** because it is equipped with electric generators. Operators can therefore expand their service options while taxpayers are not forced to bear the cost of expensive electrification works.

- Dual voltage 25kV ac and 3kV dc.
- Fully adaptable to 15kV ac and 750/1500V dc.
- 3.6kW of power supply in generator mode.



### Light and efficient, with shorter travel times

Talgo's articulated vehicles and the use of its independent rodal (Talgo truck) technology reduces the number of wheels and therefore the train's curb weight. Natural tilting technology also **reduces travel times on old, winding routes** without sacrificing reliability.

- **Lightweight trains**, manufactured from welded extruded aluminium.
- **Improved features** with minimum environmental impact.
- **Lower maintenance costs** on wheels and infrastructure.
- **Faster journeys** on old tracks, with enhanced comfort.
- **Automatic and seamless switching** between traction modes.





### Accessibility and comfort

As is the case with all of our products, Talgo 250 Dual offers features not available anywhere else on the market. Among them is the platform height entry on the single deck train, which offers straightforward entry and exit, and a level floor throughout to improve movement when onboard the train

In addition, our distinct on-board features offer passengers the opportunity to make the most of their journey, while railway operators have the opportunity to increase the range of services available

- Easily accessible to passengers, especially those with reduced mobility
- Stop times at stations are significantly reduced.
- Five panoramic view windows on either side
- Ergonomic seats facing the direction of travel, with footrests and reclining chairs.
- Plug sockets in every seat and individual reading lights.
- Infotainment services at-seat and on all cars on the train
- Fully equipped bar-buffet car



### Self-guiding wheel system

The Talgo self-guiding rodals (Talgo trucks) not only reduce the number of axles on a train - most cars only have one - but they follow the movement of the lead bogie's axle box due to the use of self-guiding technology, allowing the train to smoothly follow the path of the tracks. This technology reduces wheel and infrastructure wear, which in turn leads to maintenance cost savings

- Less stress in vehicle and track interaction
- Improved safety: no flange climbing tendencies
- Lower maintenance costs and increased reliability
- Less track wear guaranteed
- Makes the most of structure gauge
- Lower aerodynamic losses, and
- More comfort: less noise and vibrations





### Automatic Gauge Changeover

Talgo trains can be fitted with a unique variable gauge system that allows them to run on different networks without losing significant time at gauge-changing stations. Talgo's system can adjust to any type of track and is suitable for any type of axle.

- Gauge change without having to stop the train.
- All kinds of track gauge: standard, broad and narrow.
- System adaptable to all types of axles: *Rodals* (Talgo truck) with independent wheels, non-driving and driving bogies.
- Proven efficiency: tens of thousands of operations each year.



### The most accessible long-distance train

Talgo's self-guiding axles aren't just lighter and more efficient, they're also the reason why Talgo can build trains with lower floors and without any internal barriers through the entire train. This means that passengers can board and disembark the train without having to go up and down stairs.

- Optimal passenger mobility within the train.
- Platform-level access along the entire train.
- Passengers board and disembark without having to use stairs.
- Reduces stop times by 50% at stations.
- Passengers with reduced mobility can access train unaided.





## The best on-board experience

Talgo cars are designed with the client in mind, and are fully adaptable to the specific demands of each operator. After all, only the best features can guarantee the best experience for passengers

- **Wi-Fi access on every car.**
- **At-seat infotainment services**
- **Individual lights and plug socket in every seat**
- **High-range air conditioning.**
- **Fully equipped for passengers with reduced mobility.**
- **Large luggage compartments with sufficient room for large items such as skis and bicycles**
- **Modern and spacious WC, designed for easy maintenance**
- **At-seat catering service.**







## A range with dozens of possibilities

The aforementioned features allow Talgo to offer the **most versatile range of cars available on the market today**, for **day** as well as for **overnight** services. The railway operator can customise the configuration of its fleet by choosing from dozens of options, and even modify them according to seasonal requirements

Here are just a few of the configuration options available.

### Cars for day-time services:

- Standard (economy class)
- Standard with WC
- Standard end car
- Standard with bicycle area
- Standard adapted to passengers with reduced mobility
- Standard 3+2 (five seats per row)
- Standard 3+2 with WC
- First class car
- First class with WC
- First class adapted for passengers with reduced mobility
- Club Car
- Car with super-reclining seats (ASPR)
- Bar-Buffer car
- Bar-Buffer with WC
- Bar-Buffer adapted for passengers with reduced mobility
- Restaurant car



- Restaurant car adapted for passengers with reduced mobility
- Converter power-car (adapts electric power from the power head for internal use)
- Converter power-car + freight
- Diesel generator power-car (independent electrical power supply)

#### Cars for **night-time services**

- Car with super-reclining seats (ASPR)
- Standard Sleeping car: four berths per cabin
- Single Sleeping car: two berths per cabin
- Grand Class Car: two berths and WC per cabin
- Freight car
- Freight car + luggage area
- Converter power-car (adapts electric power from the power head for internal use)
- Converter power-car + freight
- Diesel generator power-car (independent electrical power supply)
- Bar-buffet with night-time service
- Restaurant car

The flexibility of Talgo's offer also enables us to custom-design cars for clients and adapt them to their every need.



### Technical features

• Maximum speed	275 Km/h
• Operating speed	250km/h on HS lines, 220km/h on conventional and 180km/h with diesel traction
• Capacity	Approx. 260
• Configuration	2 power heads, 2 power cars and 9 coaches (PH-PC-9C-PC-PH) At client's request
• Track gauge (mm)	1435-1668
• Floor height (mm)	760 from rail head
• Length (m)	185.6
• Bodyshell width (mm)	2942
• Unladen weight (tonnes)	381 T
• Number of axles	22
• Passengers/ WC	40
• Power supply	25kV 50hz ac / 3kV dc alternative power supplies available at client's request
• Power	4800 kW = 12 47kW/t (15 38kW/t in 130) (25kV, 50hz) / 4000kW (3kV dc) /2400kW/ (diesel)
• Brakes	POWER HEAD Regenerative, rheostatic and air brakes CARS Air brakes
• Standard	UIC/ETI



COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E  
NEGÓCIO



## ANEXO II

### Marchas Horárias



## Linha do Douro

## Comboio Ascendente (Porto-Campanhã A Pocinho)

Linha do Douro	Comboio utilizado: IR 861				Tracção	Diferença de tempos
	UTD592		AGC			
Porto Campanhã	7:15		7:15		E l e c t	
Ermesinde	7:22:30	7:24:30	7:22	7:24		-00:30
Paredes	7:42:30	7:43:30	7:41	7:42		-01:00
Penafiel	7:46:30	7:47:30	7:45	7:46		-
Caíde	7:54:30	7:55:30	7:52	7:53		-01:00
Livração	8:03	8:04	8:00:30	8:01:30		-
Marco de Canaveses	8:08:30	8:09:30	8:06:30	8:07:30	D i e s e l	00:30
Mosteirô	8:22:30	8:23:30	8:20	8:21		-00:30
Aregos	8:29	8:30	8:26:30	8:27:30		-
Ermida	8:36	8:37	8:33	8:34		-00:30
Rede	8:46	8:47	8:43	8:44		-
Régua	8:56	8:57	8:53	8:54		-
Covelinhas	9:06	9:07	9:03	9:04		-
Ferrão	9:13:30	9:14:30	9:10:30	9:11:30		-
Pinhão	9:22:30	9:23:30	9:19:30	9:20:30		-
Tua	9:37:30	9:38:30	9:34:30	9:35:30		-
Alegria	9:46	9:46:30	9:43:30	9:44		00:30
Ferradosa	9:55:30	9:56	9:53	9:53:30		-
Vargelas	9:58:30	9:59:30	9:56	9:57	-	
Vesúvio	10:04:30	10:05	10:02	10:02:30	-	
Freixo do Numão	10:11	10:11:30	10:08	10:08:30	-00:30	
Pocinho	10:20		10:17		-00:00	
Total:						<b>-03:00</b>



## Comboio Descendente (Pocinho A Porto-Campanhã)

Linha do Douro	Comboio utilizado: IR 861				Tracção	Diferença de tempos
	UTD592		AGC			
Pocinho	11:19		11:19		D i e s e l  E l e c t r i c a	
Freixo do Numão	11:29	11:29:30	11:28:30	11:29		-00:30
Vesúvio	11:34:30	11:35	11:34	11:34:30		-
Vargelas	11:40	11:41	11:39:30	11:40:30		-
Ferradosa	11:43:30	11:44	11:43	11:43:30		-
Alegria	11:53	11:53:30	11:52:30	11:53		-
Tua	12:01:30	12:03:30	12:01	12:03		-
Pinhão	12:17:30	12:18:30	12:17	12:18		-
Ferrão	12:27	12:27:30	12:26:30	12:27		-
Covelinhas	12:34	12:35	12:33:30	12:34:30		-
Régua	12:44:30	12:49	12:44	12:48:30		-
Rede	12:57	12:59	12:56:30	12:58:30		-
Ermida	13:08	13:09	13:07:30	13:08:30		-
Aregos	13:15	13:16	13:14:30	13:15:30		-
Mosteirô	13:21:30	13:22:30	13:21	13:22		-
Marco de Canaveses	13:35	13:36	13:33:30	13:34:30		-01:00
Livração	13:40:30	13:42	13:39	13:40:30		-
Caíde	13:51	13:52	13:51	13:52		01:30
Penafiel	13:58	13:59	13:58:30	13:59:30	00:30	
Paredes	14:02	14:03	14:02:30	14:03:30	-	
Ermesinde	14:20:30	14:21:30	14:20:30	14:21:30	-00:30	
S2-Porto Campanha	14:28	14:28	14:28	14:28	-	
Porto Campanhã	14:29:30		14:29:30		-	
Total:						<b>00:00</b>



### Linha do Oeste

#### Oferta Rápida – Caldas/Torres Vedras/Lisboa

Linha do Oeste	Comboio utilizado: NOVO				Tracção	Diferença de tempos entre AGC e UDD450
	UDD450		AGC			
Lisboa Santa Apolónia	0:00		0:00		E l e c t r i c i d a d e	
Entrecampos	0:09:30	0:10	0:09	0:09:30		-00:30
Sete Rios	0:12:30	0:13	0:12	0:12:30		00:00
Agualva-Cacém	0:27:30	0:28:30	0:24:30	0:25:30		-02:30
Mira Sintra - Meleças	0:32:30	0:33:30	0:29	0:30		-00:30
Sabugo	0:39	0:39:30	0:34:30	0:35		-01:00
Mafra	0:46:30	0:47	0:40:30	0:41		-01:30
Malveira	0:53:30	0:54:30	0:47	0:48		-00:30
Pero Negro	1:03	1:03:30	0:55:30	0:56		-01:00
Dois Portos	1:09:30	1:10	1:01:30	1:02		-00:30
Torres Vedras	1:17	1:18	1:08:30	1:09:30		-00:30
Bombarral	1:37:30	1:38:30	1:26:30	1:27:30		-02:30
Óbidos	1:48	1:48:30	1:36	1:36:30		-01:00
Caldas da Rainha	1:54		1:40:30			-01:30
						-13:30

Linha do Oeste	Comboio utilizado: REG 6402				Tracção	Diferença de tempos entre AGC e UDD450
	UDD450		AGC			
Caldas da Rainha	0:00		0:00		E l e c t r i c i d a d e	
Óbidos	0:04:30	0:05	0:04	0:04:30		-00:30
Bombarral	0:14:30	0:15:30	0:12:30	0:13:30		-01:30
Torres Vedras	0:32:30	0:33:30	0:28:30	0:29:30		-02:00
Dois Portos	0:41	0:41:30	0:36	0:36:30		-01:00
Pero Negro	0:48:30	0:49	0:42	0:42:30		-01:30
Malveira	0:59	1:00	0:50	0:51		-02:30
Mafra	1:04:30	1:05	0:55:30	0:56		00:00
Sabugo	1:12	1:12:30	1:01:30	1:02		-01:30
Mira Sintra - Meleças	1:17:30	1:18:30	1:06	1:07		-01:00
Agualva-Cacém	1:22	1:23	1:10	1:11		-00:30
Sete Rios	1:37:30	1:38:30	1:23	1:24		-02:30
Entrecampos	1:41	1:42	1:26:30	1:27:30		00:00
Lisboa Santa Apolónia	1:51:30		1:36:30			-00:30
						-15:00

**Comboio Ascendente (Caldas da Rainha a Coimbra-B)**

Linha do Oeste	Comboio utilizado: IR 801				Tracção	Diferença de tempos
	UDD450		AGC			
Caldas da Rainha	4:00		4:00		D i e s e l	
São Martinho do Porto	4:08	4:08:30	4:07:30	4:08		-00:30
Valado	4:19	4:19:30	4:17	4:17:30		-01:30
Martingança	4:31:30	4:32	4:27	4:27:30		-02:30
Marinha Grande	4:37	4:37:30	4:32	4:32:30		-00:30
Leiria	4:45	4:46	4:39	4:40		-01:00
Monte Real	4:55	4:56	4:48:30	4:49:30		-00:30
Monte Redondo	5:01:30	5:02	4:53:30	4:54		-01:30
Guia	5:08	5:08:30	4:58:30	4:59		-01:30
Louriçal	5:14:30	5:15	5:04	5:04:30		-01:00
Verride	5:32:30	5:35:30	5:21	5:24	E l e c t	-01:00
Alfarelos	5:43	5:43:30	5:31	5:31:30		-00:30
Coimbra-B	5:57:30		5:44			-01:30
						<b>-13:30</b>





## Comboio Descendente (Coimbra-B a Caldas da Rainha)

Linha do Oeste	Comboio utilizado: IR 802				Tracção	Diferença de tempos
	UDD450		AGC			
Coimbra-B	4:00		4:00		E l e c t r i c i z a ç ã o	
Alfarelos	4:13	4:13:30	4:11	4:11:30		-02:00
Vermde	4:21	4:28:30	4:18:30	4:26		-00:30
Louçal	4:47	4:47:30	4:42:30	4:43		-02:00
Guia	4:54	4:54:30	4:48:30	4:49		-01:00
Monte Redondo	4:59:30	5:00	4:53:30	4:54		-00:30
Monte Real	5:04:30	5:05	4:58	4:58:30		-00:30
Leiria	5:14	5:15	5:06:30	5:07:30		-01:00
Marinha Grande	5:24	5:24:30	5:14	5:14:30		-02:30
Martingança	5:30:30	5:31:30	5:19	5:20		-01:30
Valado	5:41:30	5:42	5:29:30	5:30		-00:30
São Martinho do Porto	5:52	5:52:30	5:39	5:39:30		-01:00
Caldas da Rainha	6:01:30		5:48			-00:30
						<b>-13:30</b>



## Comboio Ascendente (Lisboa-SA a Caldas da Rainha)

Linha do Oeste	Comboio utilizado: REG 6403						Tracção	Diferença de tempos entre AGC e UDD450	Diferença de tempos entre AGC e ALL350
	UDD450		ALL350		AGC				
Lisboa Santa Apolónia	4:00		4:00		4:00				
S6 - Chelas	4:05:30	4:06:30	4:05:30	4:06:30	4:05:30	4:06:30	E l e c t r i c i z a ç ã o	-	-
Entrecampos	4:11	4:11:30	4:11	4:11:30	4:10:30	4:11		-00:30	-00:30
Sete Rios	4:14	4:14:30	4:14	4:14:30	4:13:30	4:14		-	-
Agualva-Cacém	4:29	4:29:30	4:29	4:29:30	4:26	4:26:30		-02:30	-02:30
Mira Sintra - Meleças	4:33:30	4:34:30	4:33:30	4:34:30	4:30	4:31		-00:30	-00:30
Telhal	4:38	4:38:30	4:38	4:38:30	4:34	4:34:30		-00:30	-00:30
Sabugo	4:41:30	4:42	4:41:30	4:42	4:37	4:37:30		-00:30	-00:30
Pedra Furada	4:46:30	4:47	4:46:30	4:47	4:41	4:41:30		-01:00	-01:00
Mafra	4:50:30	4:51	4:50:30	4:51	4:44:30	4:45		-00:30	-00:30
Malveira	4:57:30	4:58:30	4:57	4:58	4:49:30	4:50:30		-02:00	-01:30
Jerumelo	5:03	5:03:30	5:02	5:02:30	4:53:30	4:54		-01:30	-01:00
Sapataria	5:07:30	5:08	5:06:30	5:07	4:57:30	4:58		-00:30	-00:30
Pero Negro	5:11	5:11:30	5:10	5:10:30	5:00:30	5:01		-00:30	-00:30
Zibreira	5:14:30	5:15	5:13:30	5:14	5:03:30	5:04	D i e s e l	-00:30	-00:30
Feliteira	5:17:30	5:18	5:16:30	5:17	5:06:30	5:07		-	-
Dois Portos	5:21	5:22	5:20	5:21	5:09:30	5:10:30		-00:30	-00:30
Runa	5:26	5:26:30	5:25	5:25:30	5:14	5:14:30		-00:30	-00:30
Torres Vedras	5:31	5:32	5:30	5:31	5:18:30	5:19:30		-00:30	-00:30
Rahal	5:38:30	5:39	5:37	5:37:30	5:25	5:25:30		-01:00	-00:30
Outeiro	5:46	5:46:30	5:44:30	5:45	5:31:30	5:32		-01:00	-01:00
Bombarral	5:54	5:57	5:53	5:56	5:39	5:42		-00:30	-01:00
Paúl	6:01	6:01:30	6:00	6:00:30	5:45:30	5:46		-00:30	-00:30
São Mamede	6:05	6:05:30	6:04	6:04:30	5:49	5:49:30		-00:30	-00:30
Dagorda - Peniche	6:09	6:09:30	6:08	6:08:30	5:52	5:52:30	-01:00	-01:00	
Óbidos	6:12:30	6:13	6:11:30	6:12	5:55	5:55:30	-00:30	-00:30	
Caldas da Rainha	6:18:30		6:17:30		5:59:30		-01:30	-01:30	
							<b>-19:00</b>	<b>-18:00</b>	



## Comboio Descendente (Caldas da Rainha a Lisboa-SA)

Linha do Oeste	Comboio utilizado: REG 6402						Diferença de tempos entre AGC e UDD450	Diferença de tempos entre AGC e ALL350
	UDD450	ALL350	AGC	Tracção				
Caldas da Rainha	4:00	4:00	4:00					
Óbidos	4:04:30	4:05	4:05	4:05:30	4:04	4:04:30	-00:30	-01:00
Dagorda - Peniche	4:08	4:08:30	4:08:30	4:09	4:07	4:07:30	-00:30	-00:30
São Mamede	4:11:30	4:12	4:12	4:12:30	4:10	4:10:30	-00:30	-00:30
Paúl	4:16	4:16:30	4:16	4:16:30	4:13:30	4:14	-01:00	-00:30
Bombarral	4:20:30	4:21:30	4:20:30	4:21:30	4:17	4:18	-01:00	-01:00
Outeiro	4:29	4:30	4:29	4:30	4:24	4:25	-01:30	-01:30
R. hal	4:35:30	4:36	4:36	4:36:30	4:30:30	4:31	-00:00	-00:30
Torres Vedras	4:42	4:43	4:42:30	4:43:30	4:36	4:37	-01:00	-01:00
Runa	4:48	4:48:30	4:48	4:48:30	4:41	4:41:30	-01:00	-00:30
Dois Portos	4:53	4:56	4:53	4:56	4:45	4:48	-01:00	-01:00
Feliteira	4:59:30	5:00	4:59:30	5:00	4:50:30	4:51	-01:00	-01:00
Zibreira	5:03	5:03:30	5:03	5:03:30	4:53:30	4:54	-00:30	-00:30
Pero Negro	5:06:30	5:07	5:06:30	5:07	4:56:30	4:57	-00:30	-00:30
Sapataria	5:10:30	5:11	5:10:30	5:11	4:59:30	5:00	-01:00	-01:00
Jerumelo	5:16	5:16:30	5:15:30	5:16	5:03:30	5:04	-01:30	-01:00
Malveira	5:20:30	5:21:30	5:20	5:21	5:07	5:08	-01:00	-01:00
Mafra	5:26	5:27	5:25:30	5:26:30	5:12:30	5:13:30	-	-
Pedra Furada	5:31	5:31:30	5:30:30	5:31	5:17	5:17:30	-00:30	-00:30
Sabugo	5:36	5:37	5:35:30	5:36:30	5:21	5:22	-01:00	-01:00
Telhal	5:40:30	5:41	5:40	5:40:30	5:24:30	5:25	-01:00	-01:00
Mira Sintra - Meleças	5:44	5:44:30	5:43:30	5:44	5:27:30	5:28	-00:30	-00:30
Águaiva-Cacém	5:48	5:48:30	5:47:30	5:48	5:31	5:31:30	-00:30	-00:30
Sete Rios	6:03	6:03:30	6:02:30	6:03	5:43:30	5:44	-02:30	-02:30
Entrecampos	6:06	6:06:30	6:05:30	6:06	5:46:30	5:47	-	-
S25-Chelas	6:10	6:10	6:09:30	6:09:30	5:50	5:50	-00:30	-00:30
S2 - Bif. de Xabregas	6:13	6:14	6:12:30	6:13:30	5:53	5:54	-	-
Lisboa Santa Apolónia	6:18		6:17:30		5:58		-	-
							<b>-20:00</b>	<b>-19:30</b>



COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E  
NEGÓCIO



## ANEXO III

### Horários



## Linha do Oeste – Horário Futuro

Lisboa-SA	07:24		09:24		13:24		15:24		17:24		19:24													
Lisboa-R	07:01		09:01		11:01		13:01		15:01		17:01	18:01	19:01	21:01										
Sete Rios		07:37		09:37		13:37		15:37		17:37		19:37												
Meleças	06:33	07:26	07:57	08:33	09:26	09:57	10:33	11:26	12:33	13:26	13:57	14:33	15:26	15:57	16:33	17:26	17:57	18:26	18:45	19:26	19:57	20:33	21:26	
Torres Vedras		07:32	08:15	08:36	09:32	10:15	10:36	11:32	12:15	13:32	14:15	14:36	15:32	16:15	16:36	17:32	18:15	18:36	19:15	19:47	20:15	20:36	21:32	22:15
Caldas da Rainha	06:23	08:11		09:13	10:10		11:23	12:11		14:10		15:23	16:11		17:13	18:11		19:13		20:33		21:13	21:18	22:10
Leiria	07:03	08:55				12:03	12:55					16:03	16:55			18:55								22:03
Coimbra-B	08:08				13:08						17:08													

Coimbra-B							08:53				13:53				18:53									
Leiria	05:49				08:37		10:03		12:37		15:03		16:37		18:37		20:03							
Caldas da Rainha	05:30	06:41	06:46	07:30	08:46	09:30	10:46	11:30	12:46	13:30	15:46	16:30	17:30	18:46	19:30	20:46								
Torres Vedras	06:16	06:49	07:15	07:49	08:16	08:49	09:15	10:16	10:49	11:15	12:16	12:49	13:15	14:16	14:49	16:15	17:15	17:49	18:16	18:49	19:15	19:49	20:16	
Meleças	07:15	07:30	07:55	08:30	09:15	09:30	09:55	11:15	11:30	11:55	13:15	13:30	13:55	15:15	15:30	16:55	18:15	18:30	19:15	19:30	19:55	20:30	21:15	
Sete Rios		08:12			10:12		12:12		14:12		17:12													
Lisboa-R	07:56	08:56	09:56		11:56		13:56		15:56		18:56	19:56	20:56											
Lisboa-SA	08:33				10:33		12:33		14:33		17:33				20:33									



## Linha do Douro – Horário Futuro

	URB/REG	URB/IR	URB/IR	URB/REG	URB/IR	URB/IR	URB/REG	URB/IR	URB/IR	URB/REG	URB/IR	URB/IR
Porto SB	06:30	07:30	09:30	10:30	11:30	13:30	14:30	15:30	17:30	18:30	19:30	22:30
Marco	07:41	08:40	10:40	11:41	12:40	14:40	15:41	16:40	18:40	19:41	20:40	23:41
Régua	08:41	09:29	11:29	12:41	13:25	15:29	16:40	17:29	19:29	20:41	21:25	0:41
Pocinho		10:48	12:48			16:48		18:48	20:48			

TT	02:11	03:18	03:18	02:11	01:55	03:18	02:10	03:18	03:18	02:11	01:55	02:11
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	REG/URB	IR/URB	IR/URB	IR/URB	REG/URB	IR/URB	REG/URB	IR/URB	IR/URB	REG/URB	IR/URB	IR/URB (IR+REG)
Pocinho			07:12			11:12		13:12			19:12	21:12
Regua	05:40	06:34	08:28	09:34	11:14	12:28	13:14	14:28	17:34	18:15	20:28	22:28
Marco	06:12	07:14	09:11	10:14	12:12	13:11	14:12	15:11	18:14	19:14	21:11	23:32
Porto SB	07:30	08:30	10:30	11:30	13:30	14:30	15:30	16:30	19:30	20:30	22:30	00:50

TT	01:50	01:56	03:18	01:56	02:16	03:18	02:16	03:18	01:56	02:15	03:18	03:38
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COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E  
NEGÓCIO



## ANEXO IV

# Rotações do Material



COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E NEGÓCIO



# Linha do Oeste – Rotação do Material

CP Comboios de Portugal		Entrada em vigor: 2018/03/01 - Alteração: Comba-B																									
		Anual Rotação de: 2017/03/05 - Paralelo: 450FIG																									
		Regime de Frequência: SEGUNDA A SEXTA QUE NAO COMEÇA COM FERIADO																									
Dia	Regime	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Km		
1	LRO							5	TVE	14	LRO	27	TVE	26	LRO	29	TVE	38	43								TVE
2	TVE						6	LRO	31	TVE	26	LRO	33	TVE	32	LRO	35	TVE	47	LRO	51						TVE
3	TVE							10						LRO					50	TVE	48					LRO	
4	LSA							7				CRA	28	LSA	27											CRA	
5	CRA						2	MEL	9	CRA	24	MEL	27	LEI	41											MEL	
6	MEL							3				LEI	39	MEL	33											LEI	
7	LEI						8	18	LSA	13	COB	34	LSA	45	47											LEI	
8	LEI								19	MEL	25	CRA	36	MEL	41											CRA	
9	CRA								12	MEL	15	LEI	44	MEL	45											CRA	
10	CRA							1	COB	22	LSA	25	COB	56												CRA	
11	CRA								16	LSA	31	CRA	34													LSA	
																									Total de km:	3925	
Mod. IG-051																									Total de Km Acumulado:	3925	
																									1 de 1		







COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E  
NEGÓCIO



# ANEXO V

## Quadros Detalhados do Estudo de Viabilidade Económica



COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E  
NEGÓCIO



Comparação dos dois Cenários (entre 2017 - a 2025 - e 2041)

DIFERENÇA ENTRE CENÁRIOS "COM AQUISIÇÃO" - "SEM AQUISIÇÃO"	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2041
RENDIMENTOS S/ SUBSÍDIOS	0	0	0	0	22.209.387	24.997.692	26.378.366	26.532.424	26.684.088	26.751.444	26.818.126	26.818.126
GASTOS OPERACIONAIS	0	0	-350.000	4.930.500	7.241.375	9.563.185	9.096.617	8.980.049	8.863.480	8.746.312	8.630.344	8.968.072
EBIT (RENDIMENTOS - GASTOS)	0	0	350.000	-4.930.500	14.968.012	15.434.507	17.281.749	17.552.375	17.820.608	18.004.532	18.187.782	16.850.055
EBITDA (CASH-FLOW OPERACIONAL)	0	0	0	0	18.956.867	21.745.372	23.125.846	23.379.904	23.431.568	23.498.924	23.565.606	23.565.606
VALORES DE INVESTIMENTO	0	-3.500.000	165.805.000	86.455.000	74.534.319	-4.665.681	-1.165.681	-1.165.681	-1.165.681	-1.165.681	-1.165.681	-1.165.681
CASH-FLOW OPERACIONAL + VALORES DE INVESTIMENTO	0	3.500.000	-165.805.000	-86.455.000	-55.577.451	26.410.854	24.291.527	24.445.586	24.597.250	24.664.606	24.731.288	24.731.288
VAL EM 2017 (TAXA DE 3%)	44.866.951											
TIR	4,5%											



COMBOIOS DE PORTUGAL

DIRECÇÃO GERAL DE PRODUÇÃO E  
NEGÓCIO

## Conta de Resultados – Cenário “Sem Aquisição de Automotoras”

CENÁRIO "SEM AQUISIÇÃO DE MC"	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2041
<b>RENDIMENTOS</b>												
TOTAL DE RENDIMENTOS S/ SUBSÍDIOS	245.503.425	245.503.425	245.503.425	245.503.425	245.412.759	245.323.906	245.167.412	245.013.354	244.861.690	244.794.334	244.727.651	244.727.651
<b>GASTOS</b>												
PESSOAL	80.056.164	80.056.164	80.056.164	80.056.164	80.056.164	80.056.164	80.056.164	80.056.164	80.056.164	80.056.164	80.056.164	80.056.164
TAXA UTILIZAÇÃO DA INFRA-ESTRUTURA	56.285.179	56.285.179	56.285.179	56.285.179	56.285.179	56.285.179	56.285.179	56.285.179	56.285.179	56.285.179	56.285.179	56.285.179
OUTROS CUSTOS DE INFRA-ESTRUTURA	1.575.167	1.575.167	1.575.167	1.575.167	1.575.167	1.575.167	1.575.167	1.575.167	1.575.167	1.575.167	1.575.167	1.575.167
COMBUSTÍVEL PARA TRACÇÃO	1.947.259	3.918.524	3.918.524	3.918.524	3.918.524	3.918.524	3.918.524	3.918.524	3.918.524	3.918.524	3.918.524	3.918.524
ELECTRICIDADE PARA TRACÇÃO	22.006.271	22.006.271	22.006.271	22.006.271	22.006.271	22.006.271	22.006.271	22.006.271	22.006.271	22.006.271	22.006.271	22.006.271
MATERIAL ORÇULANTE	96.459.970	96.608.348	97.106.726	97.639.605	98.172.481	98.705.357	99.238.233	99.771.109	100.303.985	100.836.861	101.369.737	101.902.613
LIMPEZA DE MATERIAL ORÇULANTE	2.327.624	2.327.624	2.327.624	2.327.624	2.327.624	2.327.624	2.327.624	2.327.624	2.327.624	2.327.624	2.327.624	2.327.624
VIGILÂNCIA DE INSTALAÇÕES	2.147.049	2.147.049	2.147.049	2.147.049	2.147.049	2.147.049	2.147.049	2.147.049	2.147.049	2.147.049	2.147.049	2.147.049
RESTAURAÇÃO	2.506.098	2.506.098	2.506.098	2.506.098	2.506.098	2.506.098	2.506.098	2.506.098	2.506.098	2.506.098	2.506.098	2.506.098
ACORDO CP / RENFE (SUD + LCH)	4.348.823	4.348.823	4.348.823	4.348.823	4.348.823	4.348.823	4.348.823	4.348.823	4.348.823	4.348.823	4.348.823	4.348.823
DEPRECIACÕES RESTANTES	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461
OUTROS CUSTOS OPERACIONAIS	22.402.108	22.402.108	22.402.108	22.402.108	22.402.108	22.402.108	22.402.108	22.402.108	22.402.108	22.402.108	22.402.108	22.402.108
TOTAL DE GASTOS	298.897.172	299.016.816	299.515.195	300.048.073	300.580.951	301.079.329	301.577.707	301.726.086	301.874.464	302.022.842	302.171.220	300.352.220
EBIT (RENDIMENTOS - GASTOS)	-53.393.747	-53.513.391	-54.011.769	-54.544.647	-55.168.192	-55.755.424	-56.410.296	-56.712.732	-57.015.774	-57.228.508	-57.443.569	-55.624.569
EBITDA (CASH-FLOW OPERACIONAL)	746.651	775.385	775.385	775.385	684.719	595.865	439.372	285.314	133.649	66.294	-389	-389

## Conta de Resultados – Cenário “Com Aquisição de Automotoras”

CENÁRIO "COM AQUISIÇÃO DE MC"	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2041
<b>RENDIMENTOS</b>												
TOTAL DE RENDIMENTOS S/ SUBSÍDIOS	245.503.425	245.503.425	245.503.425	245.503.425	267.622.145	270.321.598	271.545.777	271.545.777	271.545.777	271.545.777	271.545.777	271.545.777
<b>GASTOS</b>												
PESSOAL	80.056.164	80.056.164	80.056.164	80.056.164	81.095.126	83.095.126	83.095.126	83.095.126	83.095.126	83.095.126	83.095.126	83.095.126
TAXA UTILIZAÇÃO DA INFRA-ESTRUTURA	56.285.179	56.285.179	56.285.179	56.285.179	59.294.400	59.294.400	59.294.400	59.294.400	59.294.400	59.294.400	59.294.400	59.294.400
OUTROS CUSTOS DE INFRA-ESTRUTURA	1.575.167	1,575.167	1,575.167	1,575.167	1,651.725	1,651.725	1,651.725	1,651.725	1,651.725	1,651.725	1,651.725	1,651.725
COMBUSTÍVEL PARA TRACÇÃO	1.947.259	3.918.524	3.918.524	3.918.524	1.869.263	1.869.263	1.869.263	1.869.263	1.869.263	1.869.263	1.869.263	1.869.263
ELECTRICIDADE PARA TRACÇÃO	22.006.271	22.006.271	22.006.271	22.006.271	26.555.275	26.555.275	26.555.275	26.555.275	26.555.275	26.555.275	26.555.275	26.555.275
MATERIAL ORÇULANTE	96.459.970	96.608.348	96.756.726	102.107.105	103.553.100	106.173.408	106.405.288	106.417.108	106.448.918	106.500.729	106.552.539	106.061.166
LIMPEZA DE MATERIAL ORÇULANTE	2.327.624	2.327.624	2.327.624	2.327.624	2.448.830	2.448.830	2.448.830	2.448.830	2.448.830	2.448.830	2.448.830	2.448.830
VIGILÂNCIA DE INSTALAÇÕES	2.147.049	2.147.049	2.147.049	2.147.049	2.164.095	2.164.095	2.164.095	2.164.095	2.164.095	2.164.095	2.164.095	2.164.095
RESTAURAÇÃO	2.506.098	2.506.098	2.506.098	2.506.098	2.557.957	2.557.957	2.557.957	2.557.957	2.557.957	2.557.957	2.557.957	2.557.957
ACORDO CP / RENFE (SUD + LCH)	4.348.823	4.348.823	4.348.823	4.348.823	3.583.480	3.583.480	3.583.480	3.583.480	3.583.480	3.583.480	3.583.480	3.583.480
DEPRECIACÕES RESTANTES	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461	4.835.461
OUTROS CUSTOS OPERACIONAIS	22.402.108	22.402.108	22.402.108	22.402.108	23.379.374	23.379.374	23.379.374	23.379.374	23.379.374	23.379.374	23.379.374	23.379.374
TOTAL DE GASTOS	298.897.172	299.016.816	299.165.195	304.978.573	307.822.326	310.642.514	310.674.324	310.706.134	310.737.944	310.769.754	310.801.564	310.320.292
EBIT (RENDIMENTOS - GASTOS)	-53.393.747	-53.513.391	-53.661.769	-59.475.147	-40.200.180	-40.320.916	-39.128.547	-39.160.357	-39.192.167	-39.223.977	-39.255.787	-38.774.514
EBITDA (CASH-FLOW OPERACIONAL)	746.651	775.385	775.385	775.385	19.641.586	22.341.038	23.565.218	23.565.218	23.565.218	23.565.218	23.565.218	23.565.218



Impacto na Conta de Resultados – Cenário “Com Aquisição de Automotoras” vs Cenário “Sem Aquisição de Automotoras”

DIFERENÇA ENTRE CENÁRIOS (COM AQUISIÇÃO MC - SEM AQUISIÇÃO MC)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2041
<b>RENDIMENTOS</b>												
<b>TOTAL DE RENDIMENTOS S/ SUBSÍDIOS</b>					22.209.387	24.997.692	26.378.366	26.532.424	26.684.088	26.751.444	26.818.126	26.818.126
<b>GASTOS</b>												
PESSOAL					3.038.963	3.038.963	3.038.963	3.038.963	3.038.963	3.038.963	3.038.963	3.038.963
TAXA UTILIZAÇÃO DA INFRA-ESTRUTURA					3.009.221	3.009.221	3.009.221	3.009.221	3.009.221	3.009.221	3.009.221	3.009.221
OUTROS CUSTOS DE INFRA-ESTRUTURA					77.558	77.558	77.558	77.558	77.558	77.558	77.558	77.558
COMBUSTÍVEL PARA TRACÇÃO					-2.049.262	-2.049.262	-2.049.262	-2.049.262	-2.049.262	-2.049.262	-2.049.262	-2.049.262
ELECTRICIDADE PARA TRACÇÃO					4.549.004	4.549.004	4.549.004	4.549.004	4.549.004	4.549.004	4.549.004	4.549.004
MATERIAL CIRCULANTE			-350.000	4.930.500	5.380.817	7.702.627	7.238.099	7.119.491	7.002.923	6.886.355	6.789.786	8.107.514
LIMPEZA DE MATERIAL CIRCULANTE					121.206	121.206	121.206	121.206	121.206	121.206	121.206	121.206
VIGILÂNCIA DE INSTALAÇÕES					17.045	17.045	17.045	17.045	17.045	17.045	17.045	17.045
RESTAURAÇÃO					51.859	51.859	51.859	51.859	51.859	51.859	51.859	51.859
ACORDO CP / RENFE (SUD - LCH)					-7.932.303	-7.932.303	-7.932.303	-7.932.303	-7.932.303	-7.932.303	-7.932.303	-7.932.303
DÉPRECIACÕES RESTANTES												
OUTROS CUSTOS OPERACIONAIS						977.266	977.266	977.266	977.266	977.266	977.266	977.266
<b>TOTAL DE GASTOS</b>			-350.000	4.930.500	7.241.375	9.563.185	9.096.617	8.980.049	8.863.480	8.746.912	8.630.344	9.968.072
<b>EBIT (RENDIMENTOS - GASTOS)</b>			350.000	-4.930.500	14.968.012	15.434.507	17.281.749	17.552.375	17.820.608	18.004.532	18.187.782	16.850.055
<b>EBITDA (CASH-FLOW OPERACIONAL)</b>					18.956.867	21.745.172	23.125.846	23.279.904	23.431.568	23.498.924	23.565.606	23.565.606