

Consulting Labs S1 18/19
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Innovation in the Portuguese truck park segment

Consulting Project for Brisa Auto-Estradas de Portugal

Consulting lab carried out under the supervision of Professor Constança Casquinho

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We would like to start by expressing our appreciation for **Professor Constança Monteiro Casquinho**, for always supporting us and sharing her vast expertise and sense of care on a daily basis.

We are specially thankful to **Mr. José Ventura**, who always guided us throughout our work, both inside and outside Brisa's facilities, by actively participating in field research, by constantly mentoring and engaging with us, and by making his best effort to provide us with all the necessary support and guidance to complete this project in the most successful way. We are proud to say that for us he was both a mentor and a friend.

A warm thank you as well to **Dr. José Lima and Mr. Nuno Martins**, for taking part in our Steering meetings and always being available to assist us, provide useful information, fruitful exchange of ideas and constructive feedback on work delivered.

Proceeding with this project would not have been possible without the help from **Mr. Agostinho Neves, Mr. José Lima, Mr. Luís Ribeiro, and all other truck drivers** who along this investigation shared their time to participate in qualitative interviews, and provide useful insights to the development of our project.

We must also thank **Mr. Carlos Oliveira of ANTRAM, Mr. Tiago Pedro of Alenquer's City Hall and Mr. José Alberto Gonçalves of Guarda's City Hall**, for sharing their precious time and all their market knowledge, that allowed us to understand the industry context as a whole.

The same honest thank you goes to **Prof. José Crespo de Carvalho** and **Prof. Jorge Velosa**, who took their time to guide us and share their expertise and knowledge in critical issues.

Finally, we would like to thank all **Brisa's staff** for making this work possible, as well as our **family and friends** for their constant support.

The main goal of this field labs is to challenge Master's students to develop a consulting project in a real life environment, providing them the opportunity to enhance their lack of experience in the job market

CONSULTING LABS

OVERVIEW

- Consulting Labs offer master students the opportunity to **embrace a real life consulting project**. Our team was allocated to a project with **Brisa Auto-estradas de Portugal**, the largest motorway concessionaire in Portugal. Together, Nova SBE team and the client, analysed and developed a strategic plan for Brisa to **offer its heavy vehicles segment a new type of service: a secure truck park**. The project was supervised by **Professor Constança Casquinho**, a remarkable expert in consulting projects;
- During the **four months the project took to be finished**, the team had the opportunity to **work in Brisa's headquarters**, which contributed to a **stronger relationship with the client**. Moreover, the **syndication** driven by this relationship was essential to guarantee the feasibility and optimization of the project;
- We sincerely believe this **project achieved the expected results, therefore adding value to the company**.

OBJECTIVES

- Engaging with the client's corporate environment by working on a daily basis at client's facilities, in order to simulate a real-life consulting challenge, as a way to enhance students' lack of experience in the job market;
- Applying theoretical and practical concepts studied throughout students' academic record, to a real-life consulting project;
- Syndicating with the client and attempting to match its expectations, in order to add short and long-term value to the company;
- Learning new work methodologies – field research, brainstorming, Big data analysis – and soft skills – teamwork, empathy, syndication – that will be valuable assets throughout the students' professional careers.

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ANTRAM (Associação Nacional de Transportes Públicos Rodoviários de Mercadorias)	Patronal association that represents around 2.000 national transportation companies, with a presence in Lisbon, Porto, Coimbra, Évora and Faro.	International driver	The one who carries out regular trips beyond the Iberian Peninsula.
Autonomous Vehicle	Vehicle capable of sensing its environment and circulate without human input.	MaaS – Mobility as a Service	Response to the urban mobility challenges of today, creating solutions that fit the needs of both customers and cities.
Cabotage	Road transport by a motor vehicle registered in a country performed on the national territory of another country.	National driver	The one who only travels in Portuguese territory, as well as those who make day-to-day trips to Spain that do not require daily rest in that country.
Cross-trade	International road transport between two different countries performed by a road motor vehicle registered in a third country.	Road freight transportation vehicle	Light goods vehicle for the carriage of goods, with gross weight < 3.500 kg, or heavy goods vehicle with a gross weight >3.500 kg, including the lorry and the road tractor.
Electric Vehicle	Vehicle that uses batteries or electric motors for propulsion instead of a combustion engine.	Syndication	Concept used in the consulting world that means to work with the client, instead of working for the client.
FECTRANS (Federação dos Sindicatos de Transportes e Comunicações)	The biggest truck drivers' association in Portugal, constituted by 6 labour unions that act at national level fighting for the needs of truck drivers.	TIR Park	Area that provides parking services to heavy vehicles responsible for the international transport of goods.
Hard shoulders	Sides/edges of roads, both national roads or motorways.	Tonne-kilometre (tkm)	The transport of one tonne of goods over a distance of one kilometre.
Iberian driver	The one that makes regular trips to Spain that include overnight stay in that territory.	Truck Platooning	IoT application into autonomous trucks, allowing second and third trucks in the line to mimic each of the first truck's actions without driver intervention.

Company – Brisa Autoestradas de Portugal

Consulting Labs offer Master students the opportunity to embrace a real life consulting project. The client for whom the project is developed is **Brisa, the largest highway concessionaire in Portugal**. The company operates in Portugal since 1972, and currently holds concessions of 17 highways and 6 road concessions spread across the country. Its market share of more than 50%, with 37,2% of tolled network and 50,1% of travelled km as of 2016, is sustained by combining a focus on technology innovations and efficient mobility, critical factors which differentiate the company from competitors.

About the project

Together with three advisors from Brisa, Nova SBE team analysed and developed a **strategic plan for the company to offer a new service to its heavy vehicles' client segment**, which although representing **only 3% of client base is responsible for 18% of tolls' total revenues**. Plus, **this client segment sustains a negative perception of Brisa's brand**, due to the price charged on tolls and restaurant' meals in service areas, **these ideas which Brisa wants to demystify**. As such, the project's objective was to understand **the viability of building a secure truck park in Portugal**, in order to **please its profitable customer segment of heavy goods vehicles**, and thereby increase brand awareness and tolls' profits among them.

- *Is there enough demand for secure truck parks in Portugal, that justifies the necessary initial investment?*
- *Which are truck drivers' major needs and desires?*
- *What type of services should the truck park include in order to attract them?*
- *What is the best location to accommodate the truck park?*
- *What is the pricing that should be practiced to assure demand and to demystify drivers' ideas of Brisa charging extremely high prices on its highway services?*
- *Even if drivers are interested on using Brisa's secure truck park, will they use more Brisa's highways because of it? Is it possible to increase heavy vehicles traffic in Brisa's highways by building a secure truck park along its roads?*

For the purpose of our study, Brisa suggested that CapEx was not a significant concern. The only restriction they presented was having operating revenues covering monthly OpEx.

Methodology

1. Diagnosis

- Brisa's assets & resources
- Definition of the truck park concept
- Institutions and criteria for security and service-level certification
- Benchmark of the truck park industry

2. Analysis

- Target's definition
- Study of road freight transportation companies
- Study of truck drivers

3. Recommendations

- Definition of Location, Services and Pricing
- Viability analysis of suggested locations
- Marketing actions, loyalty programs, partnerships, future challenges
- Final recommendation

Qualitative and Quantitative research methods

- In-depth Interviews to industry experts
- Field Research & On-site visits
- Metaplan Brainstorming Sessions
- Questionnaires & In-depth interviews to truck drivers
- Big Data Analysis & Web Research

Key Take-Aways

Internal Analysis

- Currently, Brisa manages the concession of 17 highways and 6 road concessions in Portugal, holding therefore significant **operational and technological know-how in road management**, from which some insights can be used to accomplish a successful management of truck parking services.
- It holds a significant **market share of more than 50%**, with 37.2% of tolled network and 50.1% of travelled km as of 2016, **securing a strong client base** that has conveyed its credibility throughout the years and that **works as a positive point in securing demand for the truck park project**.
- In recent years, the corporate strategy has been focused in the development and marketing of **innovative mobility solutions** that differentiate the company against competition, the **inclusion of truck parking services in its portfolio can be another one of these innovative solutions**.
- Although the **heavy vehicles' segment represents only 3% of Brisa's client base**, it **generates 18% of tolls' revenues**, making it an attractive segment for Brisa to invest in and satisfy the best as it can.
- Moreover, one of Brisa's strongest assets is its solid national and international highway coverage, holding concession of the most important highways at national level (A1, A4 and A5), but also at international level, since A1 and A6 belong to the Atlantic corridor of the Trans-European Transport Network (TENT-T). This is an advantage for the truck park project, since **high levels of road freight transport are common in these highways**;
- Furthermore, **along A1, the most used highway by road freight transportation companies in the country**, Brisa has **several service areas** already installed, the ones which it plans to manage vertically in concept known as Colibri, eliminating outsourcing services in these areas. This could be a positive point for reducing the initial investment related to the restaurant of the truck park. Finally, Brisa holds **ownership of two land fields available for construction**, one next to the service area of Antuã, and another in Carregado, potential locations to build the truck park.

External Analysis

- **A secure truck park** is a surveilled parking facility used by drivers to stop their trucks on their resting or waiting moments. **The concept is very common in the EU** due to the high level of robberies.
- The two main stakeholders for the purpose of the project are the **transportation company and the driver**, who are connected. However, there are **other stakeholders**, not directly interested in the service, but still **holding a significant level of power among the business success, a situation known by Political Trap**. The last, must be kept satisfied to assure demand.
- In Europe, **ESPOG's certification platform is the best benchmark** to analyse, because it is the one that most truck park operators use to security and service certifications. The certified truck parks belonging to the network, offer a wide variety of services, such as **surveillance, restaurants, showers, coffee bar and free Wi-Fi**. The price charged is, on average, **15€ per night**.
- In Portugal, **the supply of secure truck parks is scarce**, with only three secure truck parks in the entire country. However, **there are other substitute services** that can be considered as competition, such as: **clayed lands and restaurants with parking spots for trucks**.
- In Portugal, the road freight transportation industry has particular characteristics when compared to other European countries. **Portugal is situated far away from the centre of Europe, which makes it a point of either origin or destination of goods**. Moreover, the industry is **extremely fragmented and concentrated**, with most players working under low margins and with **SMEs (16% of total players) producing the biggest slice of business volume (60%)**. Recently, the problem of **shortage of drivers**, more evident in the last years, led to the establishment of a new Collective Agreement between drivers and transportation companies.
- The results of the in-depth interviews with industry players and several road freight transportation companies revealed **important insights**. In the rest of EU, truck park's customers are the transportation companies, that pay secure parking services to prevent cargo robberies, which are frequent in those countries. In **Portugal**, robberies are not common and therefore, since security is not a major concern for transportation companies, they are not willing to pay for it. However, there's still demand for a **different business approach**. The truck driver is the **decision maker** who decides where to stop to rest or have a meal, so Brisa can build a truck park directed towards their needs and interests: 24/7 security, a restaurant with good traditional food and clean hygiene facilities.

Key Take-Aways

Viability Analysis

The viability analysis was divided in two steps, **location analysis** and **financial sustainability** of the project.

The **location** analysis was based on three key properties:

- **Truck driver's preferences**

The interviews made highlighted three main regions: **Maia, Albergaria and Carregado**, the ones in which they feel the need of good park infrastructures is more important and would be helpful to the sector.

- **Brisa's available resources**

Brisa holds ownership of **two land fields** in the country that currently have no use, and could be used for the construction of the truck park, being one of them in Antuã and the other in Carregado.

- **Brisa's preferences**

Brisa prefers to locate the **truck park inside its highways to attract more traffic** of heavy vehicles and, consequently, increase the volume of tolls' payments.



Combining these three factors, **Antuã and Carregado** were chosen as possible options, considering that Antuã is only 15 min away from Albergaria.

Regarding the financial health of the project, **Brisa's only restriction was OpEx to be covered by the generated revenue.**

The **demand and pricing computations** were based on **Brisa's know-how, insights from interviews, field research and internal analysis.**

For both locations, the **present value of operational cash-flows is positive**, meaning that Brisa's ambition is fulfilled. The project will require a **large initial investment**. However, as mentioned before, the **CapEx is not a concern to Brisa.**

Antuã

- PV of Op. CF – 49.796 €
- CapEx – 634.525 €

Carregado

- PV of Op. CF – 117.072 €
- CapEx – 1.039.525 €

Recommendation

Truck park is a new service on Brisa's portfolio, **therefore clients are still in an early phase of the McKinsey's customer decision-journey**, which means they need to be persuaded to get to know the service and to evaluate it positively in relation to competition. Therefore, there are some **marketing strategies** that can be implemented such as **sampling, anchoring, internet reviews and radio marketing.**

Once the client is captured there should be **three programs to promote their loyalty. Quality of the food and familiar restaurant' layout, Mobile app** with consumption incentives and a **B2B plan** associated with a grading method accordingly to kms driven in the highways, in order to move the companies towards this project.

In order to improve the project's sustainability, three **key partnerships** can be taken into consideration: **City Halls**, by helping to guide the trucks out of hard shoulders into the truck parks; **truck parking apps**, to help locating Brisa's facilities; and **transportation companies**, so Brisa can keep up with their needs and improve the clients' relationship.

The final recommendation is centred on the two analysed locations. Both **Carregado and Antuã have sufficient demand from truck drivers** that justifies Brisa to support the cost of building a truck park.

Both qualitative and quantitative analysis display positive outcomes:

- **Positive present value of operational cash-flows**
- **Proximity to areas with high traffic volume**
- **Proximity to Brisa's highway A1**

Although both locations present profitable businesses in which operating revenues cover OpEx, **if Brisa has a special interest on pushing more traffic to its highways** and creating stronger brand awareness among the truck drivers' community, **Antuã is the best option to pursue since it offers the possibility of having the truck park built on Brisa's highway.**

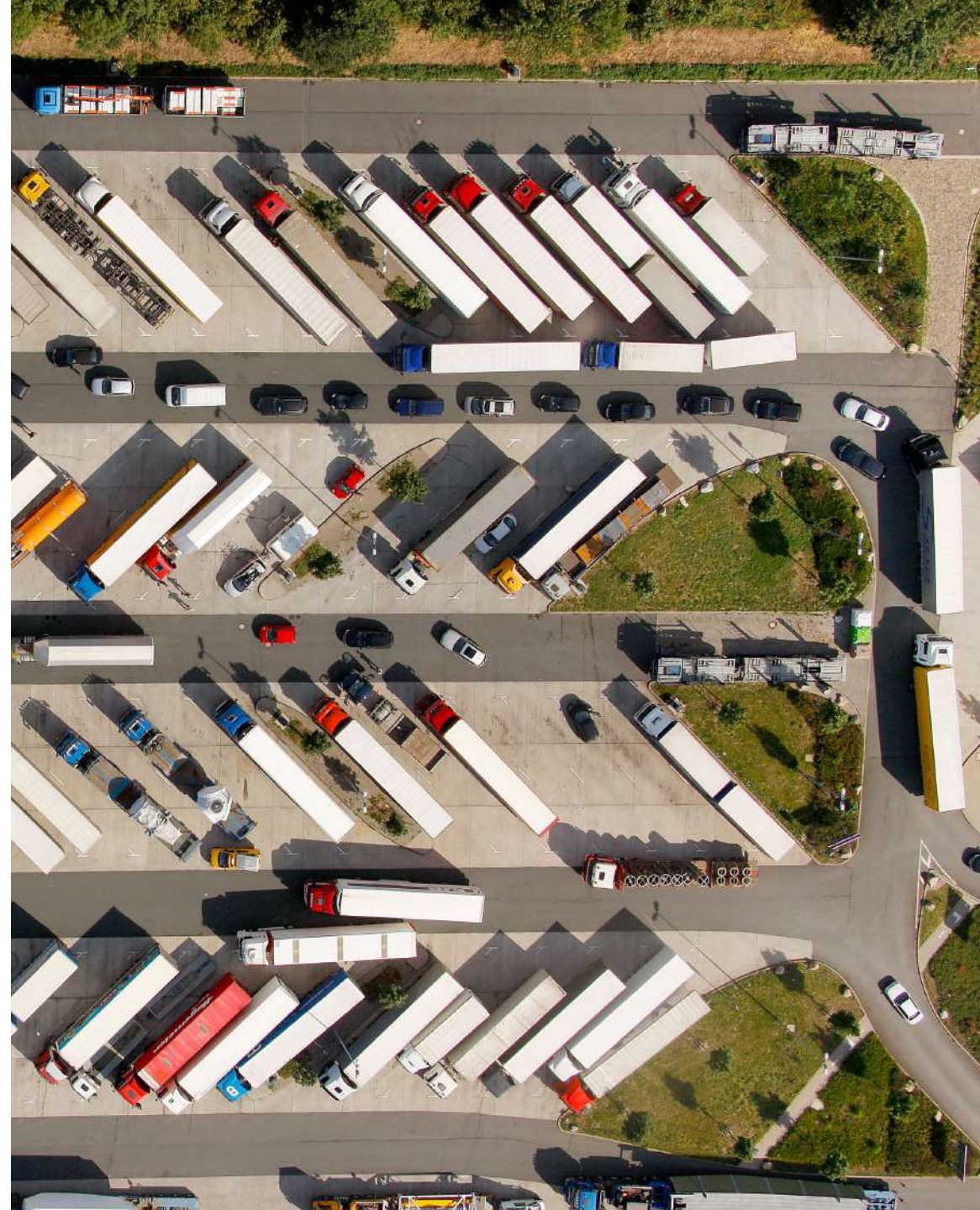
Limitations

During the research and investigation of this project, is important to mention some limitations that were part of the study. The **information available is short**, which made the information collected from meetings with industry stakeholders and on-site visits. In a considerable sizing industry, the number of questionnaire's answers can be interpreted as reduced.

Moreover, due to the low academic records and **tight work schedule of drivers** there were difficulties in the execution of some interviews. Many **transportation companies were not willing to collaborate**, but most of them didn't respond to our calls and emails, and the ones who did, delayed it for days. A lot of effort was put in these calls and the return was not as expected. **Regarding the demand, it is not possible to predict the exact number of customers**, therefore, Brisa's assumptions were used: annual average traffic, capture rate and consumption rate to better quantify the demand.

AGENDA

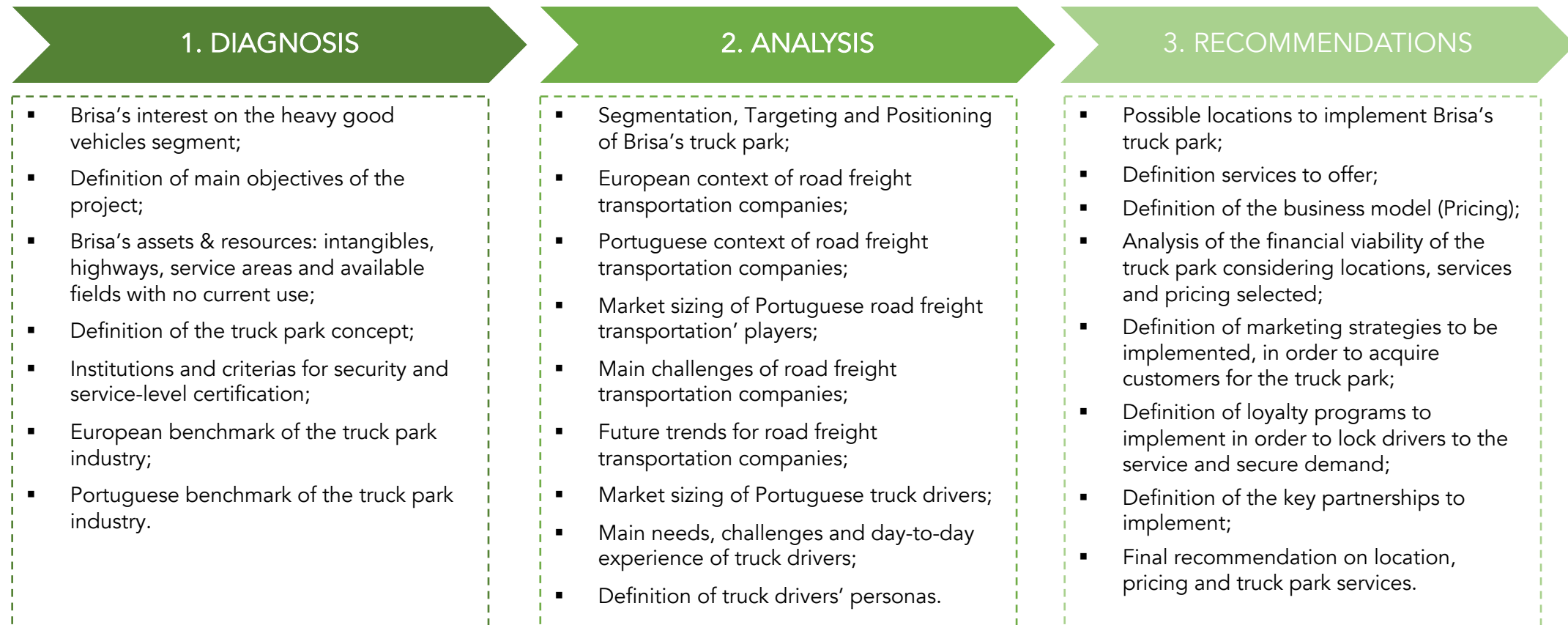
1. *Methodology*
2. *Background*
3. *Internal Analysis*
4. *External Analysis*
5. *Viability Analysis*
6. *Recommendations*
7. *Limitations*
8. *References*





1. Methodology

METHODOLOGY



The investigation about the possibility of having Brisa building a truck park in Portugal, was supported by several research methods, most of them empirical but also analytical

QUALITATIVE AND QUANTITATIVE RESEARCH METHODS

Industry Experts' In-depth Interviews



- Ex-President of Paulo Duarte
- Executive Director of ANTRAM
- President of Fuel Save
- President of Bip&Drive
- President of ESPORG
- Repsol's Truck Park managers
- Member of Alenquer's City Hall
- Member of Guarda's City Hall
- (see Appendix 1)

Field Research & On-site visits



- Visit to Carregado
- Visit to Setúbal
- Visit to Guarda
- Visit to Badajoz and Arraiolos
- Visit to Service Areas of Aveiras, Santarém, Mealhada, Antuã and Vendas Novas
- Visit to Condeixa and Albergaria
- Visit to Matosinhos and Maia
- Visit to Benavente

Metaplan Brainstorming Sessions



- 4 Questions
- Pros & Cons of each question
- Client engagement
- Definition of priorities with the client
- (see Appendix 2)

Stakeholders' Questionnaires & In-depth interviews



- 110 transporters contacted by phone and email, 27 answered
- 101 truck drivers answered the questionnaire
- 12 truck drivers took in-depth interviews
- Portuguese & Spanish drivers
- 3 restaurant owners took in-depth interviews

Big Data Analysis & Web Research



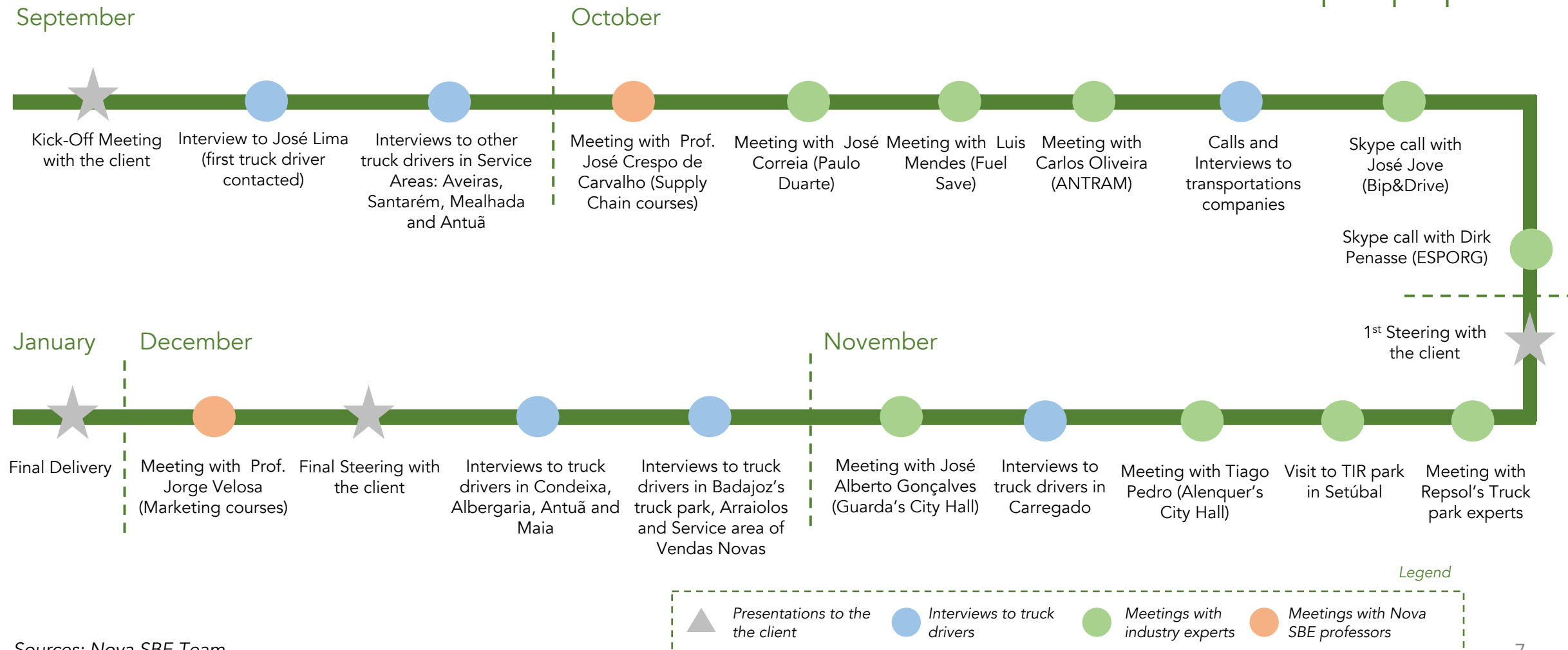
- Transporters' P&L
- Restaurants' P&L
- EU studies & Publications
- INE studies & Publications
- Studies from Consulting firms
- Media articles
- Legal Documents (e.g. New Collective Agreement)

Sources: Nova SBE Team

The investigation about the possibility of having Brisa building a truck park in Portugal, was supported by several research methods, most of them empirical but also analytical

QUALITATIVE AND QUANTITATIVE RESEARCH METHODS

From a temporal perspective



Sources: Nova SBE Team

2. Background



The aim of this business project is to help Brisa investigate the opportunity of building a secure truck park in Portugal that adds value to the heavy vehicle segment, which currently represents 18% of total toll profit

ONE-MILLION DOLLAR QUESTION

To address properly the problem proposed by Brisa to Nova SBE team, the last was structured in a **SCQA Technique** (Situation, Complication, Question and Answer), to realize how to solve it.

Situation

Most European countries have already installed a network of secure truck parking areas along their highways and national roads, that provide truck drivers high quality conditions during their rest moments. **However, this is not the case of Portugal**, where most of truck drivers stop in service areas of highways, hard shoulders or restaurant parks existing along national roads.

Complication

Since the heavy vehicle segment represents 18% of Brisa's toll profit, the company is interested in adding value to these clients by offering them secure truck parking services. However, the risks of entering this business are significant. **Portugal has a peripheral geographical location** in relation to the rest of Europe; security is not a major concern, which decreases the necessity to stop in secure areas; and the sector operates with low margins and low salaries.

Question that Brisa wants to address

Is there enough demand for a truck parking area in Portugal, that justifies the costs that Brisa needs to incur in order to offer this type of service?

WHY?

Questionnaires and in-depth interviews done to industry stakeholders indicate that there is a need to create a secure truck parking area in Portugal, since **drivers are unhappy with the ones that currently exist**, which are in very bad conditions. Plus, they see potential in offering this type of services in several regions of the country.

Answer: YES

HOW?

By focusing on three key aspects: quality of services offered, pricing and location. Truck drivers demand a truck parking area that is located close to a logistic or industrial centre, and that includes **24/7 surveillance, tarred floor, a restaurant with traditional food and a good quality-price ratio, and clean hygiene facilities.**

An aerial photograph of a multi-lane highway. The road is divided by a grassy median with a low hedge. Several cars are visible traveling in both directions. The highway is flanked by dense green trees and foliage. In the distance, a small town or city is visible on the horizon under a blue sky with scattered clouds.

3. Internal Analysis

The client interested in the truck park project is Brisa, the largest private transport infrastructure company in Portugal, for which the B2B heavy vehicle segment is a significant contributor to tolls's revenues (18%)

IMPORTANT HEAVY VEHICLE SEGMENT

Brisa Auto-Estradas de Portugal



Brisa Auto-Estradas de Portugal was established in 1972 and is currently the largest private transport infrastructure company in Portugal.

The company is recognised for holding considerable operational and technological know-how, for the efficient management of its road concessions and for the development and marketing of innovative mobility solutions.

Facts & Figures as of 2017

2.344 Employees

17 Highways

6 Road
concessions

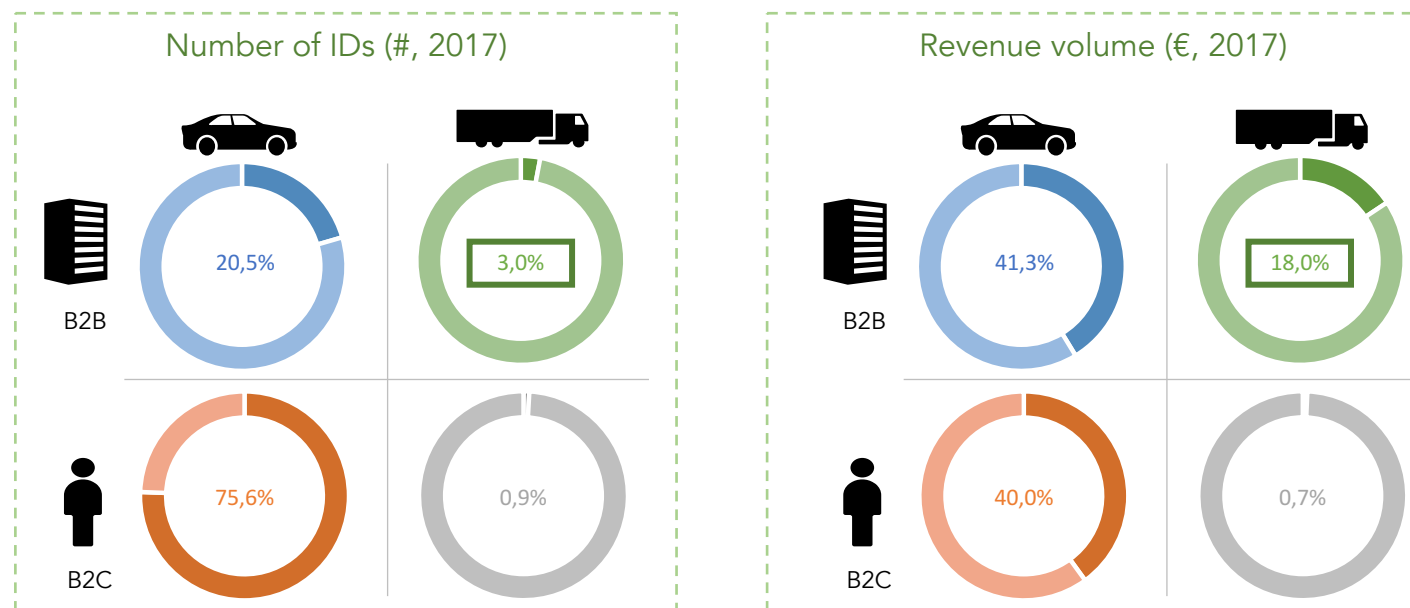
+3.5 M Via Verde
On-Board-Units

55.8 M€ CapEx

506 M€ EBITDA

B2B Heavy vehicles segment

- Light vehicles segment clearly dominate the number of vehicles IDs paying tolls through the Via Verde system, with B2B heavy vehicle segment representing only 3,0% of IDs registered;
- However, in terms of revenue volume, this 3% of B2B heavy vehicles IDs represent 18% of Brisa's tolls revenue, being 3x times more profitable than the B2B light vehicle segment;
- As such, it is on the best interest of Brisa to add-value to the B2B heavy vehicle segment, aiming at improving the number of IDs and revenue share correspondent to this profitable segment.



Sources: Brisa

Brisa has several valuable assets that could use, being them traffic know-how, focus on innovation and mobility, strong market share and a network of important highways at national and international level

AVAILABLE RESOURCES & ASSETS

INTANGIBLE

Know-How	Brisa assures the operation of 1.628km of concessions in Portugal, with a network of 17 highways and 6 road concessions. The company is recognised for holding considerable operational and technological know-how and for the efficient management of its road concessions.
Focus on Innovation	Brisa promotes its business development according to the highest standards of technology and innovation as a critical success factor that differentiates the company's business from its competitors.
Focus on Mobility	The main mission of Brisa is to provide an efficient mobility for their clients. The company plans to build an ecosystem of mobility services, focused on delivering a quick and effective service that may satisfy the necessities of their clients.
Strong market share	Above 50% market share, with 37.2% of tolled network and 50.1% of travelled km, according to APCAP figures for FY2015. Consequently, this translates into a strong client base.

HIGHWAYS

Backbone of the Portuguese road network: Includes the main road corridors with the highest importance in Portugal

Largest concession in Portugal

- 1.628 km Total concessions;
- 17 highways, 6 road concessions;
- Strong national coverage since includes the road corridors with the highest importance in the Portuguese motorway network: A1, A4 and A5 (see Appendix 3).

Trans-European network corridors

- Strong international coverage since Brisa has the concession of two highways belonging to the Atlantic corridor of the Trans-European Transport Network (TENT-T): A1 (Lisbon-Porto) and A6 (Lisbon-Badajoz);
- TENT-T corridors aim at removing bottlenecks, build missing cross-border connections and promote modal integration between EU countries (see Appendix 4).

Note: After A1, A25 (Aveiro-Vilar Formoso) and A23 (Torres-Novas- Guarda), are the two most used highways by road freight transportation companies. However, both of them are not part of Brisa's network, a weakness that must be considered when choosing the best location for the truck park



Sources: Nova SBE Team, European Commission, APCAP

Another valuable assets that Brisa could take advantage of in this truck park project, are the 7 existent service areas along A1 and the two available lands it owns in Antuã and Carregado, not currently in use

AVAILABLE RESOURCES & ASSETS

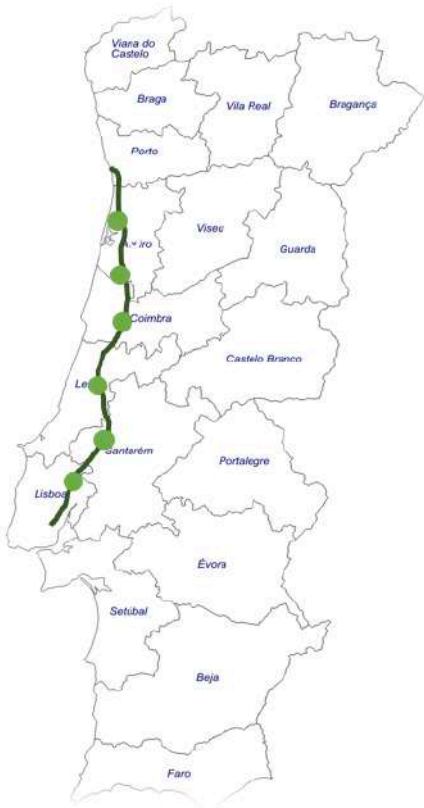
SERVICE AREAS

In 2017, Brisa started an implementation plan to **convert all of its service areas in Colibri areas, vertically integrated services** that eliminate outsourcing players and allow Brisa to manage the business of service areas by itself, thereby assuring **provision of higher quality services**. This can be an **strong advantage for the truck park project, creating potential synergies** that may decrease the necessary initial investment and some operating expenses.

In order to better investigate the potential of Brisa's service areas for the truck park project, the team investigated **the ones belonging to the highway that registers more traffic of Class 3 and Class 4 vehicles (trucks)- A1 Auto-estrada do Norte, which connects** the two largest cities in Portugal, Lisbon and Porto.

Below is the list of service areas existing from Lisbon to Porto:

Service Area	# Spots for heavy vehicles	Potential to expand?
Aveiras	17	No
Santarém	15	No
Leiria	22	No
Pombal	23	No
Mealhada	25	No
Antuã	22	Yes, Brisa has an available field close by
Gaia	0	No



Legend:

— A1

● Service Areas of A1

Sources: Brisa

LAND FIELDS FOR EXPLOITATION

Antuã: ~18.000 m²



Brisa holds ownership of two land fields in the country that could be used to the construction of a truck park.

One is located next to the service area of Antuã.

Carregado: ~17.000 m²



The other is located in Carregado, next to Brisa's facilities used by GNR and Via Verde for the management of A1 traffic.



4. External Analysis



4. External Analysis

4.1. Truck Park concept

The truck park is a parking area designed for trucks and drivers that offers mixed services such as security, hygiene facilities, restaurant services and free Wi-Fi

SECURE TRUCK PARK CONCEPT

Truck drivers in Europe are often confronted with insufficient number of parking facilities and therefore often park in non-secure zones or unsafe locations like hard shoulders, exposing themselves and other road users to potential thefts and high risk of accidents.

Plus, circulation of heavy vehicles within cities brings problems to City Hall leaders due to high traffic congestion, residents' complains about noise and dust created by trucks, and risk of severe accidents inside the cities.

In this context, many countries, together with private investors started to build proper truck stops along highways and national roads to accommodate trucks and their drivers during their resting moments, which are necessary on a daily basis.

DEFINITION: Secure truck park is a parking facility used by drivers to stop their trucks on their resting or waiting moments. The area is secure, meaning that has its perimeter protected by a security fence, entrance and exits controlled by guards, surveillance cameras spread through the place and a 24/4 surveillance system. Plus, usually it includes also a **gas station**, **hygiene facilities**, **restaurant services** and **free Wi-Fi** on site. Usually, these stops are located on or near a busy road.



Sources: Media, in-depth interviews to industry experts

The truck park business is represented by several internal and external stakeholders, which after disposed in a Power/Interest matrix revealed a Political Trap, since many have high power but low interest in the park

STAKEHOLDERS

Stakeholder Theory

Stakeholder theory, by opposition to the orthodox shareholder theory that defends the maximization of profit, **deals with the strategic view that an organization cannot continue to be successful without its groups of stakeholders, a wide range of actors in society upon which firms depend.**

Long-run profitability is achieved not by pursuing profit, but by pursuing the factors that create profit.

For the case of **Brisa's truck park business**, several stakeholders can be pointed out, both internally and externally to the organization:

Internal Stakeholders

1. **Employees** (maintenance, cleaning, restaurant, security)
2. **Shareholders** (Brisa and José de Mello Group)

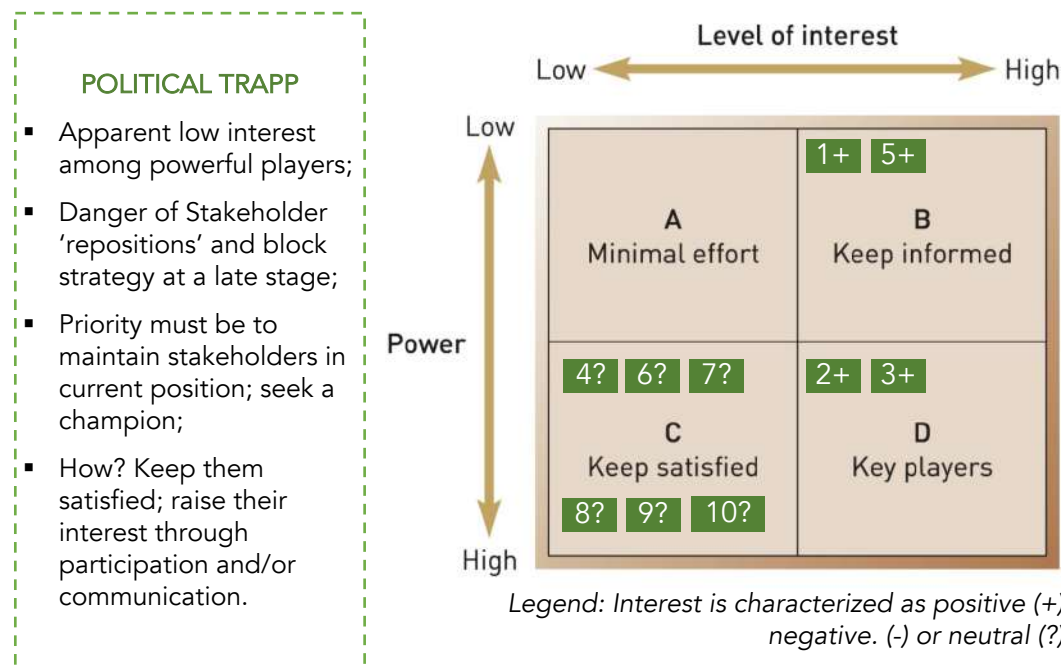
External Stakeholders

3. **Customers** (truck drivers and road freight transportation companies)
4. **Unions** (ANTRAM, FECTRANS)
5. **Suppliers** (Oil&Gas companies, vehicle-washing companies, mechanical companies, electricity companies, payment companies, security companies)
6. **Distributors** (ESPORG, truck-parking apps)
7. **Government** (City Halls, Ports, Legislators, Police, Traffic authorities)
8. **Communities** (families and friends of truck drivers)
9. **Clients of the transportation companies** (e.g. FMCG Chains)
10. **Others** (truck manufacturers, technology & information companies)

Power/ Interest Matrix

Stakeholder's demands need to be prioritize, and often this requires a detailed understanding of who they are, the context under which they act, their demands, and the relationship with firms' success.

This can be achieved by computing a **Power/Interest Matrix**, which for the context of Brisa's truck park presents as follows (see Appendix 5):



Sources: Managing Stakeholder Expectations by Emanuel Gomes



4. External Analysis

4.2. European Benchmark

European MARKET OF TRUCK PARKS

The concept of truck park exists worldwide, however is **impossible to quantify their exact number**. The existent truck parks in **Europe perform as a solid proxy** since there are several examples of successful cases. In this case, only the **ESPORG organization** truck parks were considered since they represent a **viable and trustable sample**. Nevertheless, it must be stated that there are more truck parks in Europe than the ones represented by ESPORG, most of them with similar/same services.

ESPORG (European Secure Parking Organization)



- **ESPORG is the European Secure Parking Organization.** Is an international organization with secure trucking park areas on the European motorways as their members;
- Therefore, ESPORG is the partner of truck parking areas to ensure the highest level of **effectiveness, efficiency** and **quality** in this field (see Appendix 6);
- Currently it is composed by **37 Truck Parks**. **France, Spain and Belgium** have the highest number of parks, with 10, 9 and 5 respectively;
- EU legislation calls for secure truck parking areas every 100km at maximum on European motorways and for a full ITS (Intelligent transport Systems) connectivity of truck parking areas by 2020.

ESPORG's Certification



- In order for the truck area to be certified, it must be a ESPORG member;
- The Certification is **divided in Security and Service Level**, and is evaluated from **1-5 levels**;
- The auditing is performed by the company Dekra, and consists in the valuation of certain standards such as: toilet conditions, external fencing or alarm response procedures;
- The Membership of ESPORG for 1 calendar year, starting January first till December 31, **costs 2.500€**.

The benchmark was developed around 9 truck parks to facilitate the perception of the truck park concept, their services, prices and business models

European MARKET OF TRUCK PARKS

- The analysis of **37 truck parks from ESPORG** community **would not be viable due to the lack of information**. After analysing all the truck parks with the information provided, we understood that there was a similarity between them. Thus, in order to create a more clear analysis, **9 truck parks were selected** to develop the benchmark analysis;
- Our team also took into account that the benchmark should be made with truck parks that may be similar to the future one created by Brisa. Therefore, the **truck parks selected present different sizes, and conditions in order to explore all the possibilities that Brisa may consider for the truck park development**;
- The benchmark analysis will consist in a comparison of number of spots available, daily menu prices, parking prices and services offered between truck parks.

ESPORG's parks map



**EUROPEAN SECURE
PARKING ORGANISATION**



9 Truck Parks Benchmark

Truck Park	Country
Abertis Barcelona	Spain
Repsol Badajoz	Spain
Andamur Gerona	Spain
Services Narbonne	France
Securite Niort	France
Etape Beziers	France
Bruno Parking	Belgium
Truck Stop	Belgium
Ashford Stop	England

Sources: ESPORG Website

The number of existent spots in each park varies substantially, mainly driven by the expected demand, and the same goes for prices practiced per daily menu, higher in Belgium and lower in Spain

European MARKET OF TRUCK PARKS

Spots Available

Truck Park	Number of Spots available
Abertis Barcelona	56
Repsol Badajoz	40
Andamur Gerona	100
Services Narbonne	100
Securite Niort	40
Etape Beziers	350
Bruno Parking	170
Truck Stop	90
Ashford Stop	350

- The **minimum** number of spots available is **40** and the **maximum** is **350**;
- Truck parks are built taking into account the **expected demand**, therefore there is a big dispersion between them;
- In areas with low traffic the parks are lower, such as Repsol park;
- The largest truck parks are in **France and England**. France is one of the most central countries in Europe, leading to higher traffic. Ashford stop (England) is close to the English Channel, which justifies the high density of traffic.

Daily Menu price

Truck Park	Price of daily menu
Abertis Barcelona	8,5€
Repsol Badajoz	9€
Andamur Gerona	11€
Services Narbonne	9,90€
Securite Niort	12,5€
Etape Beziers	11€
Bruno Parking	14€
Truck Stop	14€
Ashford Stop	10€

- Truck drivers **value immensely the food prices**, since they always seek for the biggest portions at cheap prices;
- Overall, the daily menu in truck parks consists in a **first dish, drink and dessert**;
- The prices vary from **8,5€ to 14€**;
- The lowest prices are in Spain, and the highest in Belgium. It is expectable due to the **purchasing power** of each country;
- Brisa should take into consideration this prices in order to follow **clients expectations**.

Sources: ESPORG Website, Parks website

The prices depend on their business models and the services offered. They never exceed 1,8€ per hour, 19,5€ per night and 39€ per 24h

European MARKET OF TRUCK PARKS

Park Prices

Truck Park	Price per hour	Price per night	Price 24h	Price per month
Abertis Barcelona	1,2€	17€	29€	Not available
Repsol Badajoz	1,8€	18€	18€	Not available
Andamur Gerona	1,4€	17€	27€	Not available
Services Narbonne	1,2€	14€	22€	250€
Securite Niort	1,3€	13€	25€	Not available
Etape Beziers	1,6€	19,5€	39€	Not available
Bruno Parking	1€	10€	18€	Not available
Truck Stop	1,5€	15€	25€	Not available
Ashford Stop	1,7€	17€	34€	Not available

- The prices per hour are similar between truck parks. They vary **between 1€-1,8€ per hour**. This type of payment is normally used by drivers that **stay less than 12 hours**;
- The price per night stands for the price charged from 7pm-8am, **12 hours in total**. Drivers have the option to choose between paying by hour or pay the night package;
- The prices per night vary, with the maximum being in Etape **Beziers with 19,5€**. This price is **only for the secure parking spot**, all the other services are paid individually;
- In the case of Repsol's park in Badajoz, the **price charged by night is equal to the price charged for 24h**, all the other parks behave differently;
- The price for 24h differ between countries, **vary from 18€-39€**. It is normally used by truck drivers that need **to wait for a longer period for certain load**;
- The monthly package gives the option to the truck drivers to **park every day**. Normally it is used by local companies, and the park function as a hub;
- As we may observe, only Services Narbonne have the monthly package available;
- Truck parks are **more profitable** with a rotation of trucks, and with this, is easier to guarantee daily available spots.

Sources: ESPORG Website, Parks website

European MARKET OF TRUCK PARKS

Most common services

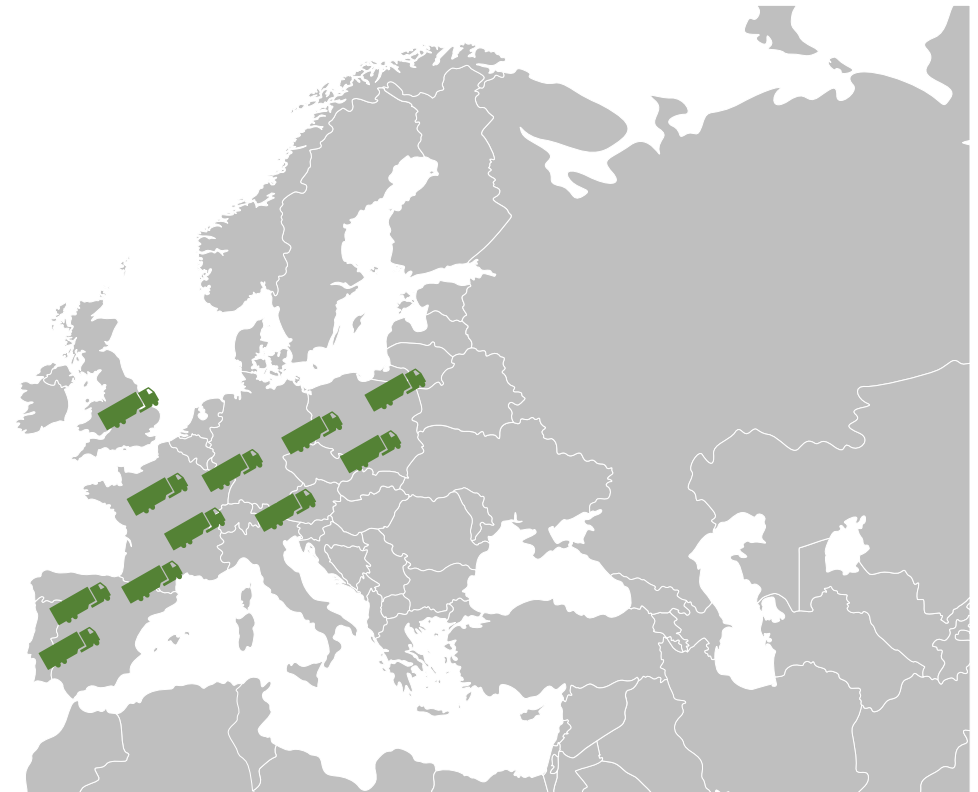


- The services offered depend on the business model of each truck park. The **services may be offered individually or by package** (see Appendix 7);
- The main services offered are: closed park, surveilled area, restaurants, showers, free Wi-Fi and coffee bar. **All truck parks contain these services;**
- The laundry room services **is common** in the truck parks, 7 out of 9 proxy contain it. International drivers value this service since they can be 1 month away from home, forcing them to **wash their clothes during the route;**
- The lounge area with TV is not so common, 5 out of 9 proxy contain it;
- Hotel is **not commonly used** in the truck parks since the drivers sleep in their trucks
- Truck maintenance and cleaning **is not commonly used** since usually companies already have contracts for this type of service.
- In all parks, truck drivers pay the entrance fee that gives the right to a surveilled parking spot, shower and bathrooms, Wi-Fi and lounge area. The truck drivers may also have a discount percentage in the restaurant depending on the amount of hours they stay in the park

KEY TAKE-AWAYS FROM THE TRUCK PARK MARKET

European truck parks

- The network of truck parks in Europe is very evolved, specially in Spain, France and Germany;
- **Night robberies are common when parking in the road side or in non-secure parks, so safety is a major concern among truck drivers**, driving them to pay for using secure truck parking services. Most robberies concern oil and cargo, the last may lead to significant losses of thousands euros.
- The size truck parks analysed vary according to the expected demand in the area, but **number of parking spots vary between 40-350**;
- **Price can get quite expensive, between 10-19,5 € per night package**;
- These type of parks registers high levels of security and service, being the most common ones: **video-surveillance, control of entrances and exists, restaurant, showers, coffee bar and free Wi-Fi**, varying then in terms of individual or package payment;
- Meals at restaurants normally are paid individually but most truck parks offer drivers a percentage discount for parking there.



Sources: ESPORG website, Truck parks' website



4. External Analysis

4.3. Portuguese Competition

Currently there are three different types of competitors to Brisa's truck park business - non paid, paid and restaurants- with prospects of another two parks coming in the near future

OVERALL COMPETITION

Paid Parks

- TIR Park Guarda;
- TIR Park Setúbal;
- TIR Park Perafita;
- Repsol Badajoz;
- Repsol Salamanca;

The paid parks existent in Portugal are located in Setúbal, Guarda and Perafita. However, we should also consider Repsol's parks in Spain, which for its proximity to the Portuguese border represent also a source of direct competition.

Current

Restaurants

- Okapi (Albergaria);
- Restinova (Condeixa);
- O Conquistador (Benedita);

There are numerous restaurants spreaded across the national road that serve as truck parks. From Lisbon to Porto there are 10 restaurants, only 3 were selected to develop the analysis.

Current

Non-Paid Parks

- Carregado Park;
- Vilar Formoso Park;
- Fátima Park;

The non paid truck parks are very rare, but exist. We analysed 3 distinct non paid parks in Portugal.

Current

Future projects

- Alenquer project;
- Torres Novas project;

To understand the future competition, we analysed future projects of truck parks. The one in Alenquer is already being developed by the City Hall, and Torres Novas although is a possible project, there are no certainties about it.

Future



Sources: Field research, Meetings with industry experts

PAID-PARKS

Disclaimer: Due to the lack of resources, satellite photos for the truck parks were considered in order to maintain a balanced presentation. There are real photos in the Appendix section

TIR Park Guarda



- Number of spots available: 111
- Number of squared meters: 32.000
- Parking price per hour: 0,15€
- Parking price per day: 3,14€
- Parking price per month: 74,28€

By paying the entrance, drivers have the right for a parking spot surveilled 24h, bathrooms and lounge area. It was an investment made by the town hall to prevent the entrance of trucks in the urban area. Most of the truck drivers use the monthly package, and it works as a hub for the trucks. The truck park has an annual deficit (see Appendices 8 and 9).

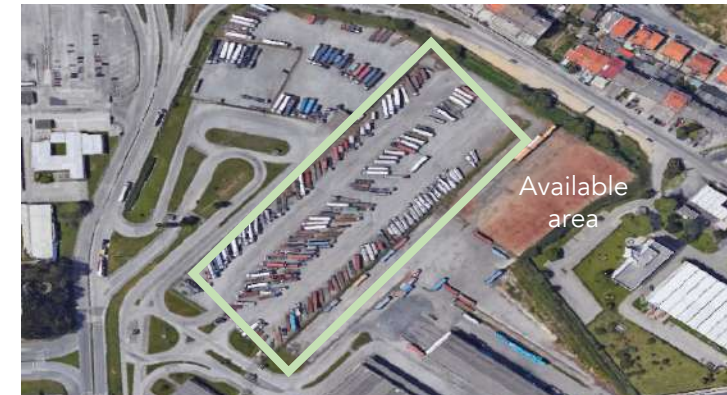
TIR Park Setúbal



- Number of spots available: 43
- Number of squared meters: 5.570
- Parking price per hour: 0,12€
- Parking price per day: 2,60€
- Parking price per month: 51,25€

The services offered are the parking spot surveilled 24h and bathrooms. It was an investment made by the town hall and is barely used. Drivers were supposed to start paying for entering the park in 2017, but until now, the entrance remains free of charge, due to a significant lack of demand. The demand for this truck park is scarce.

TIR Park Perafita



- Number of spots available: 100
- Number of squared meters: 33.200
- Parking price per hour: Inexistent
- Parking price per day: 8,5€
- Parking price per month: 110€

The services offered by the truck park is only a parking spot surveilled 24h. It is mainly used by locals that have the monthly package since the daily price is high. The conditions are very poor but it is close to the industrial area which increases the demand for this park (see Appendix 8).

Sources: Field research, Meetings with industry experts

PAID-PARKS

Repsol Truck Park Network



- Repsol is the biggest truck park chain in Europe counting with 9 truck parks;
- The truck parks have the same business models but differ in terms of sizing;
- Due to the proximity to the boarder, Badajoz and Salamanca parks are considered competitors;
- Nevertheless, they shouldn't be considered strong competitors since both are the less used parks in the entire network.

Salamanca Repsol Park



- Number of spots available: 25
- Parking price per hour: 1,80€
- Parking price per day: 18€
- Parking price per month: Not available

The services offered by the truck park is a parking spot surveilled 24h, bathrooms and shower, and a restaurant opened 24h. This truck park is not commonly used, and represent an expense for Repsol. However, they strive for a strong network with the profitable parks compensating the non profitable.

Badajoz Repsol Park



- Number of spots available: 40
- Parking price per hour: 1,80€
- Parking price per day: 18€
- Parking price per month: Not available

The services offered by the truck park is a parking spot surveilled 24h, bathrooms and shower, and a restaurant opened 24h. This truck park is not commonly used, and represents an expense for Repsol. It has a free parking area right in front of the truck park, in which, the truck drivers prefer to park (see Appendix 10).

The non paid parks are rare but they still exist. The 2 most known are Carregado and Vilar Formoso Park, they are particullary known for their lack of conditions and do not offer any complementing services

NON-PAID PARKS

Carregado Park



- Number of spots available: 60
- Number of squared meters: 8.200
- Parking price: free

The truck park is free, and placed in an important logistical and industrial area. It doesn't have bathrooms and the land is not tarred, which is a problem in the summer because of the dust, and in the winter due to the clay. Drivers seek this park during the day breaks and by night to sleep. There is a restaurant across the road with cheap prices and available paid shower (see Appendix 11).

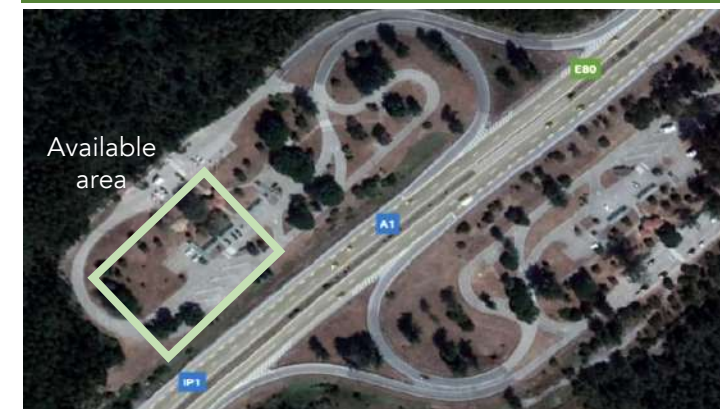
Vilar Formoso Park



- Number of spots available: 100
- Number of squared meters: 23.000
- Parking price: free

The truck park was an investment made by the City Hall and is barely abandoned. The lack of conditions is brutal, there is no bathrooms and no proximate restaurants. The truck drivers used to stop in this park before entering to Spain, but recently is rare the truck driver that stops there (see Appendix 10).

Fátima Park



- Number of spots available: 8
- Number of squared meters: 1.000
- Parking price: free

Fatima park is located in the A1 highway. The park is a free resting area and have bathrooms available. It is more used by non truck drivers, since it is not positioned in an attractive area. Truck drivers prefer to stop closer to the charge/discharge points.

Sources: Field research, Meetings with industry experts

The main competitors of Brisa's truck park are the restaurants existent in the national road, which usually include a piece of land where trucks can park

RESTAURANTS' PARKS

Restinova (Condeixa)



- Number of spots available: 60
- Number of squared meters: 7.000
- Parking price: free when consuming on the restaurant
- Meal price: 7,5€

The restaurant is located in Condeixa in the national road. Is one of the most selected restaurants since it is very central. It is surveilled 24h with cameras and the field is tarred. The shower costs 1,5€ (see Appendix 12)

Albergaria (Okapi)



- Number of spots available: 80
- Number of squared meters: 12.000
- Parking price: free when consuming on the restaurant
- Meal price: 8,5€

The restaurant is located in Albergaria and is the most know restaurant in the national road. The park is surveilled by cameras and during the weekends a fee of 25€ must be paid. The field is partially clayed. The shower costs 2€ (see Appendix 12)

Benedita (O Conquistador)



- Number of spots available: 25
- Number of squared meters: 3.000
- Parking price: free when consuming on the restaurant
- Meal price: 8,5€

The restaurant is located in Benedita in the national road. The park is not surveilled and the field is completely clayed. The shower costs 1,5€ (see Appendix 12)

Sources: Field research, Meetings with industry experts

There are already future projects ongoing, specially the park that Alenquer's City Hall is planning to build, that can be a direct competitor since it will be based in Carregado, a strategic point of the country

FUTURE PROJECTS

Alenquer City Hall's Park



- Number of spots available: 100
- Number of squared meters: 35.000
- Parking price: Not defined yet

The truck park being built in Alenquer is expected to fulfil the large existent demand in Carregado and Azambuja (industrial and logistical area). As a result of the lack of services provided, and the complaint of the residents towards the abundance of trucks in the urban area, the town hall decided to create a truck park. The town hall already bought the land and the project is already in the project brief phase (see Appendix 13).

Repsol's Park in Torres Novas



- Number of spots available: 30 (estimation)
- Number of squared meters: 13.600
- Price: Not defined yet

Repsol is building a gas station in Torres Novas close to the highway, that may result in a truck park. It is a very good spot because is the intersection between the national road and the A23 highway. The reason we believe it will be a truck park is relative to the interview we had with Repsol's team, and the large size of the land (see Appendix 14).

Sources: Field research, Meetings with industry experts

In Portugal, although there are 3 TIR Parks in operation, most drivers choose to stop in non-paid parks such as abandoned land fields or parks of restaurants in national roads, which are the main competitors

KEY-TAKE AWAYS FROM COMPETITION

€ Paid parks

- In Portugal there are 3 paid truck parks: Guarda, Perafita and Setúbal;
- Paid parks in Portugal are not frequently used since truck drivers prefer to stop in restaurants, abandoned land or hard shoulders;
- Two Spanish truck parks were also considered as competitors: Badajoz and Salamanca. These truck parks don't show a fierce competition since they are small and the utilization rate is short.

Hand Non-paid parks

- There are few non-paid truck parks available throughout the country. Most drivers park their trucks in abandoned lands or at hard shoulders, as it is common in Carregado;
- It can be abandoned projects, as Vilar Formoso park;
- It can be highway parks, which are smaller and not so used, as Fatima park;
- In general these truck parks don't offer a wide range of services and the existent conditions are poor.

Fork and Knife Restaurants

- Restaurants are the main competitors for truck Parks. The Portuguese driver is used to have his meals in a restaurant that has also a truck park available;
- There is a large competition in the national road. The information collected from field research, shows that there are 10 across the national road from Lisbon to Porto;
- It is difficult to offer the same conditions, a full meal for 8€ with the right to park the truck;
- The shower is paid in separate, and on average is 1,5€.

Lightbulb Future projects

- There isn't a particular interest from private companies to invest in truck parks;
- From our observations we stated that there are 2 projects going on, Alenquer park and Torres Novas park;
- Alenquer can be a huge player, since there is a high demand for truck Parks in this area. Moreover, is an investment made by the town hall, which will most certainly count with the police support;
- Torres Novas Repsol park is a project that is already ongoing. The main idea is to be a service area. Nevertheless we believe it will have space for truck parking.

Sources: Field research, Meetings with industry experts



4. External Analysis

4.3. Demand: Transportation companies

The Truck Park is a service used by the truck driver for his well-being and for the safety of the cargo, but paid by the transportation company

TRANSPORTATION COMPANY AS THE CLIENT

Initial qualitative research through in-depth interviews with industry experts suggested that the **buying decision about whether to use or not to use Truck Park services was dependent on the transportation company**, the one who supposedly used to pay for these services in order to assure secure of the cargo transported.

Josep Jové
Founder of Abertis' Truck Parks



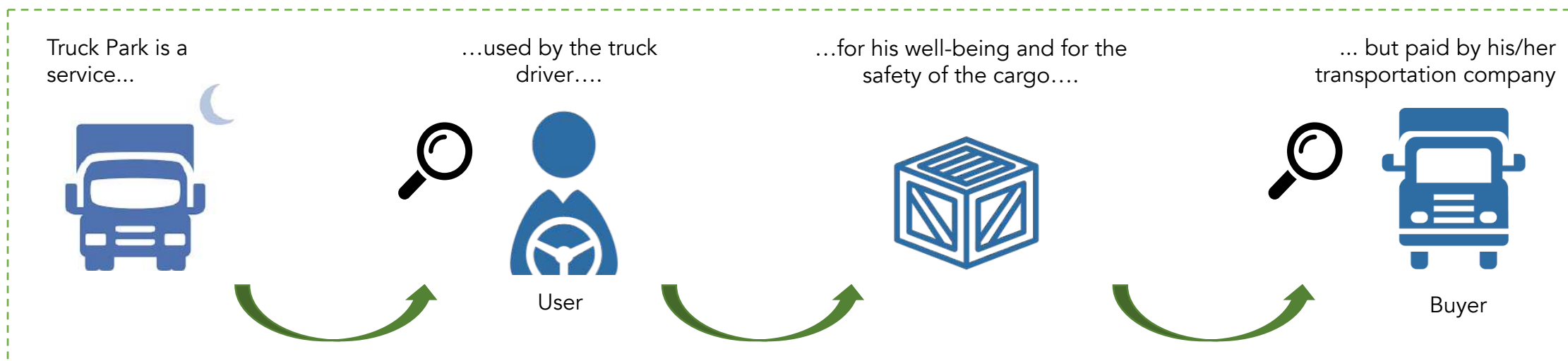
- In the Abertis' Truck Parks in Barcelona, there is **no specific client**, although there are **specific rules for trucks carrying hazardous goods**, which states that it is mandatory for them to park at a secure facility;
- The driver is the user of the park, therefore, he is the main focus when thinking about the types of services provided, however **the payer is the transportation company** as they refund the driver afterwards.

Dirk Penasse
General Manager at ESPORG



- The type of **client** that seeks for the truck parks within the ESPORG's platform are the **transportation companies**;
- The routes managers build the whole **itinerary accordingly to the locations of the truck parks**. Not only it allows to control better the mandatory schedules but most importantly, it **guarantees the trucks' security**, driver and cargo.

As such, as a first approach to the problem, the team supposed the **purchasing decision to be dependent not on the user of the service, the driver, but instead on the buyer, his boss (transportation company)**, as the following illustrative scheme suggests:



Sources: Nova SBE team, in-depth interviews



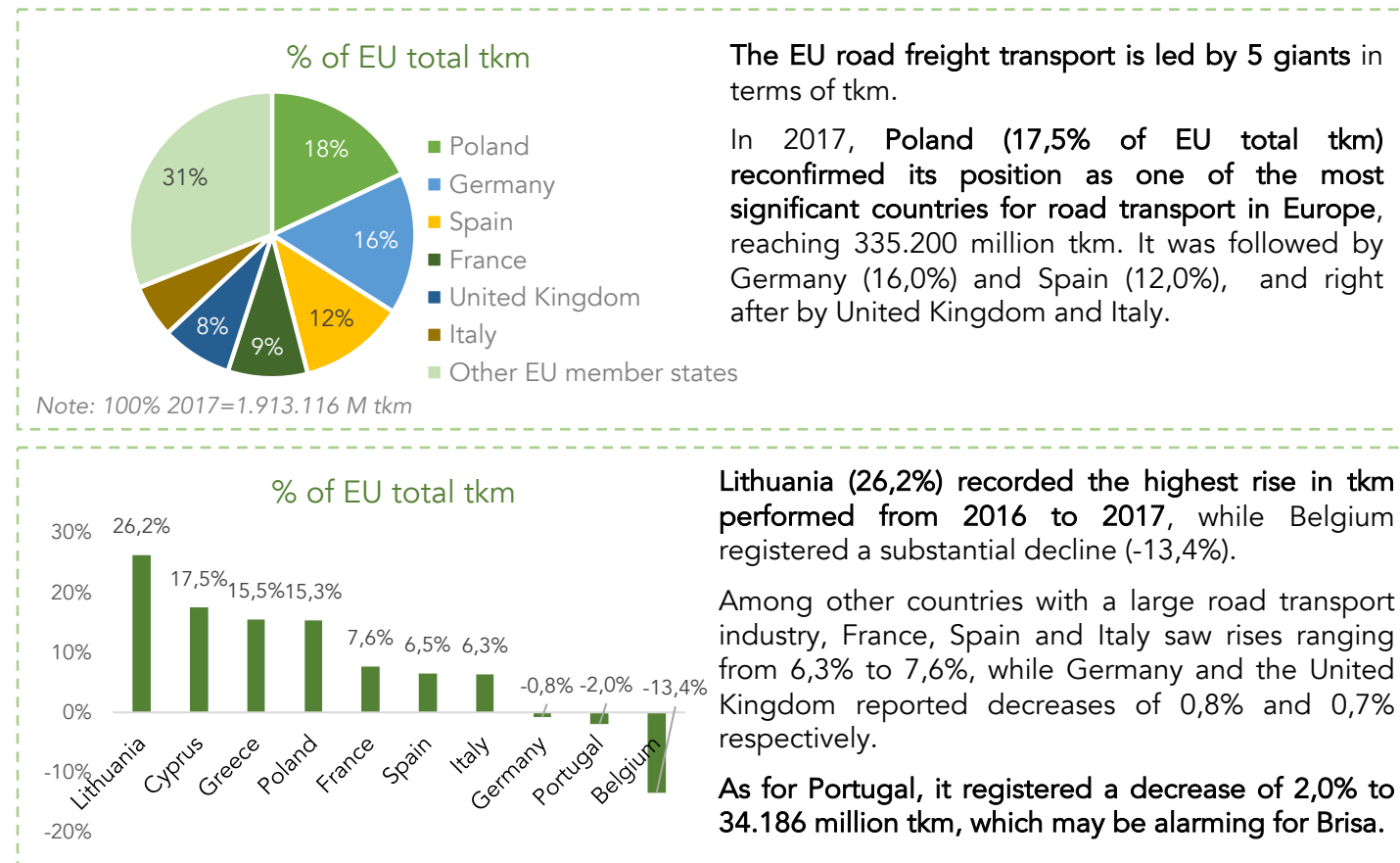
4. External Analysis

4.3. Demand: Transportation companies

European Context

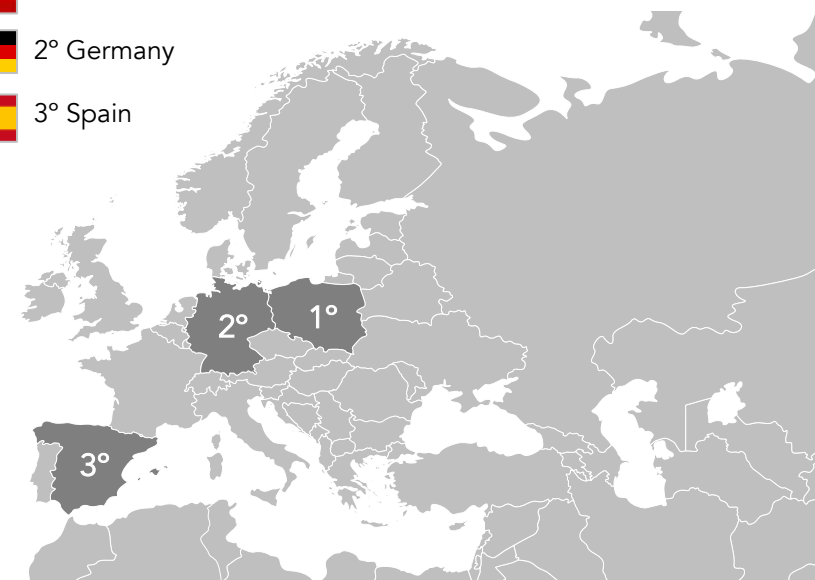
THE European MARKET OF ROAD FREIGHT TRANSPORT

In order to better understand the supposed target of the project at the time, transportation company, the European and Portuguese context of road freight transport have been analysed



In terms of tkm, total European road freight transport increased by 4,5 % from 2016 to 2017. In 2017, it was the highest recorded over the last 5 years, increasing by 11,8 % from 2013 to 2017. However, this is not the case for Portugal, which can influence negatively the demand of Brisa's truck park.

- 1° Poland
- 2° Germany
- 3° Spain



Sources: Eurostat



4. External Analysis

4.3. Demand: Transportation companies

Portuguese Context

Portugal's geographical position in the corner of Europe is not favourable in terms of intensity of road freight traffic, since it becomes an origin and/or destination point, rather than a passage point

PORTUGAL IN THE SOUTHWEST CORNER OF EUROPE

Peripheral countries like Portugal, in the western part of the European continent, may be significantly harmed by geographical position in terms of road freight transportation.

Our peripheral localization brings attractive strategies related to maritime transportation along Atlantic ocean, by making the country a border between three continents : Europe, Africa and America.

However, in terms of road transportation, the fact that Portugal is situated far away from the centre of Europe, makes it a point of either origin or destination of goods. This implies less international flow of road freight transport inside Portuguese borders when compared to other EU countries like Spain, France or Germany, because is not taken as a "passage point".

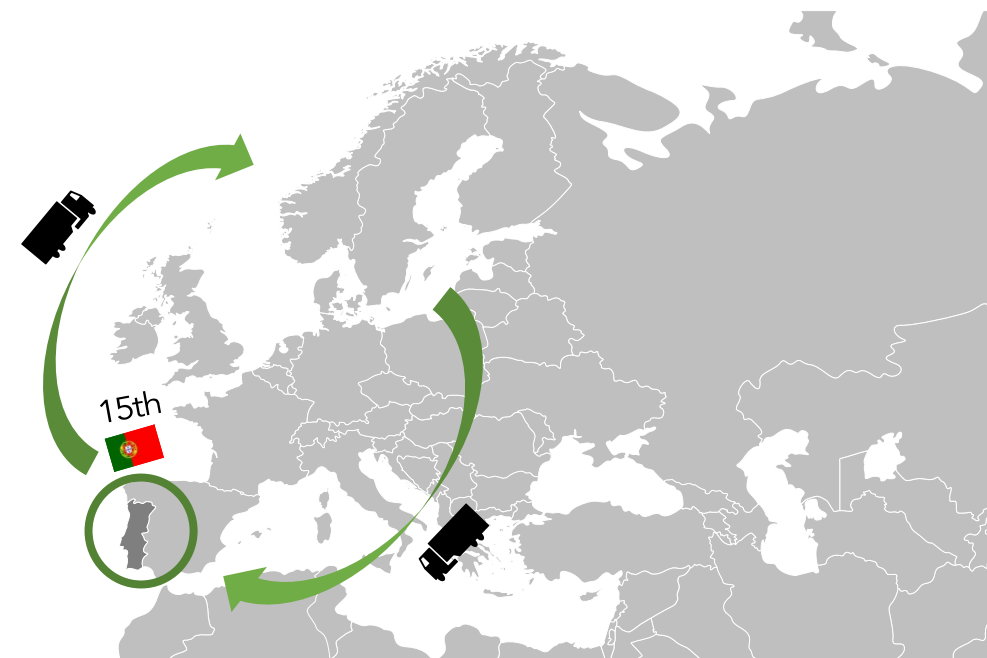
In 2017, Portugal ranked 15th in terms of total tkm at the list of EU countries, registering 34 186 tkm, distributed as follows:

	National	International	Cross-trade	Cabotage	TOTAL Portugal
Million tkm in 2017	10.854	15.579	6.412	1.341	34.186
Growth rate 16/17 (%)	4,5	-6,7	-1,2	2,5	-2,0

In 2017, 46% of Portuguese road freight transport (tkm) came from international transport, followed by national transport (32%), in line with previous years.

By comparison with 2016, the country registered a decrease of -2,0% in total tkm, motivated by a decrease in international transport (6,7%).

In 2017, Portugal ranked 15th in tkm of road freight transport among EU countries

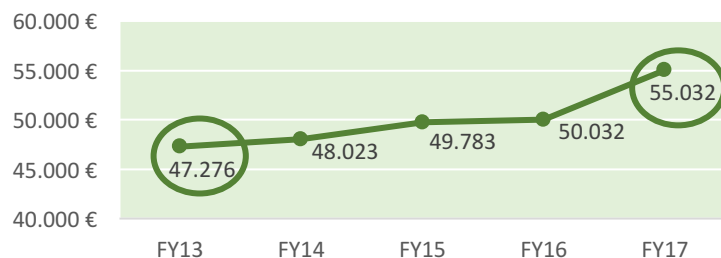


Sources: Eurostat

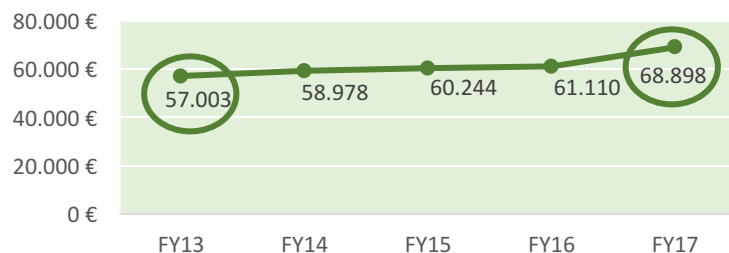
Portugal imports have been increasing in the last years, with Spain ranking as its main trade partner, as the destination of 25,2% of total exports and the origin of 32,0% of total imports

SPAIN IS PORTUGAL'S MAIN TRADE PARTNER

Portuguese Exported Value 2013-2017 (Million €)

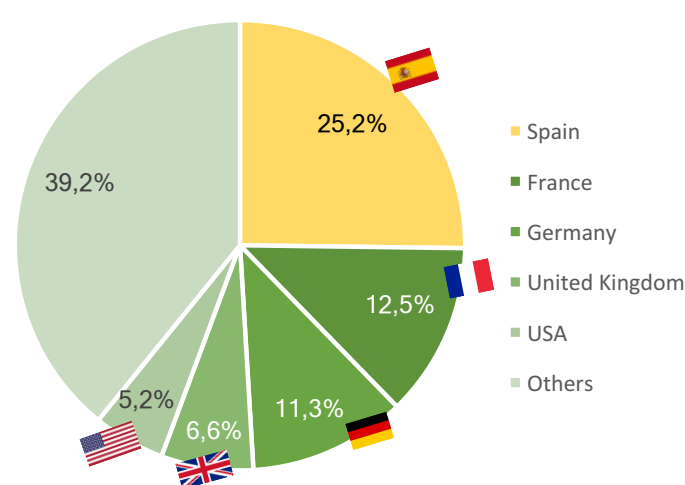


Portuguese Imported Value 2013-2017 (Million €)



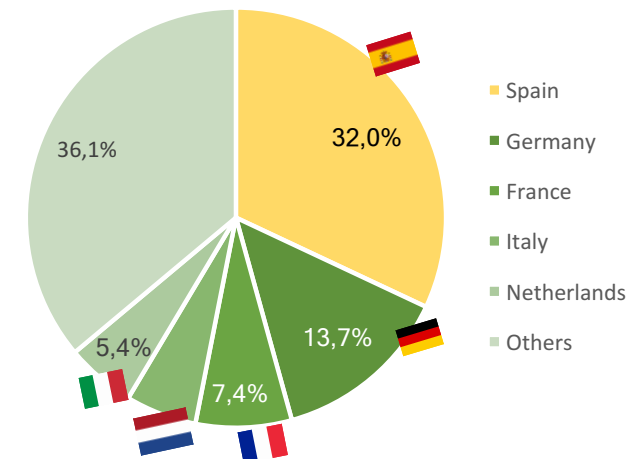
- Portugal is a country with a trade deficit, since it imports more than exports. Exports and imports have grown every year since 2013, specially from 2016 onwards;
- In 2017, Portugal's exports reached **55,0 B €** and imported products were valued at **68,9 B €** (12,7% uptick from 2016).

List of importing markets for a product exported by Portugal (2017)



Note: 100% 2017=68.897.822 th €

List of supplying markets for a product imported by Portugal (2017)



Note: 100% 2017=55.032.276 th €

- In line with previous years, in 2017 Spain was Portugal's main trade partner, both in terms of exports and imports;
- In that year, Spain was the destiny for 25,2% of Portuguese exports, followed by France (12,5%) and Germany (11,3%);
- Additionally, it was responsible for the purchase of **32,0% of Portugal's total imports**, followed by Germany with 13,7%. Smaller percentages came from France, Netherlands and Italy.

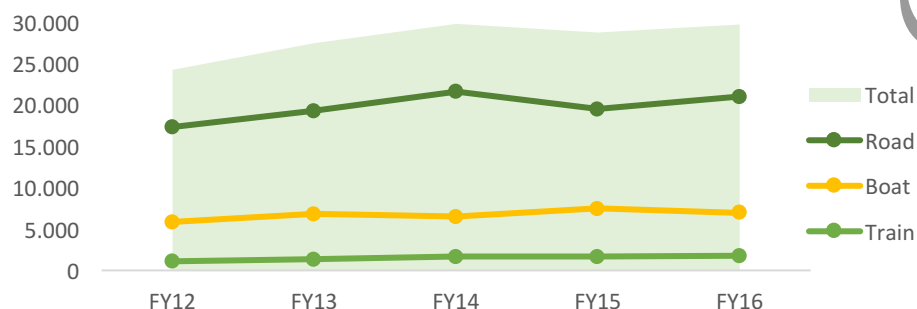
Sources: Trademap, OTEP

The international trade between Portugal and Spain is showing a positive trend, reaching his peak in 2017.
Vilar Formoso, Badajoz and Valença are the preferred gates for trucks' entrance and exit

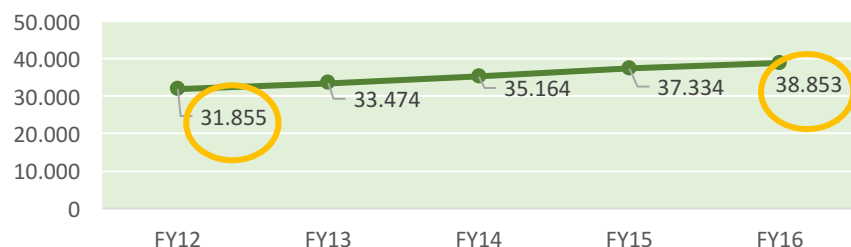
SPAIN IS PORTUGAL'S MAIN TRADE PARTNER

Growing international trade between Spain and Portugal in the last years

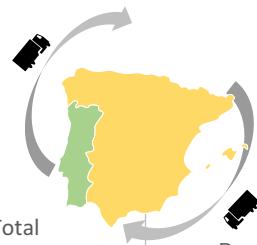
Flows and structure of freight transport between Spain and Portugal by mode (Million ton)



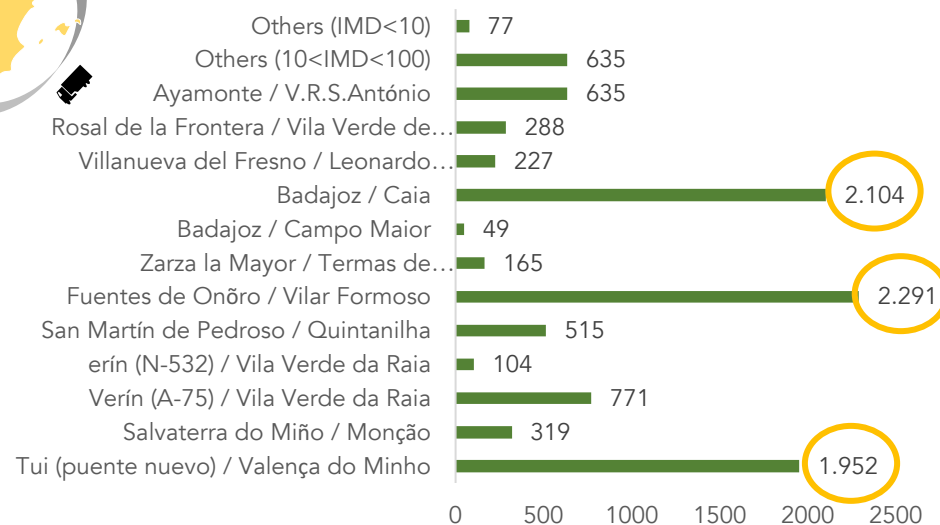
International Trade of goods and services between Spain and Portugal, in both directions (Million €)



$\Delta 12/16 = 22,0\%$; $CAGR\ 12/16 = 5,1\%$; $\Delta 15/16 = 4,1\%$



Average Daily Intensity (ADI) of heavy vehicles in the main Spanish-Portuguese borders (2016)



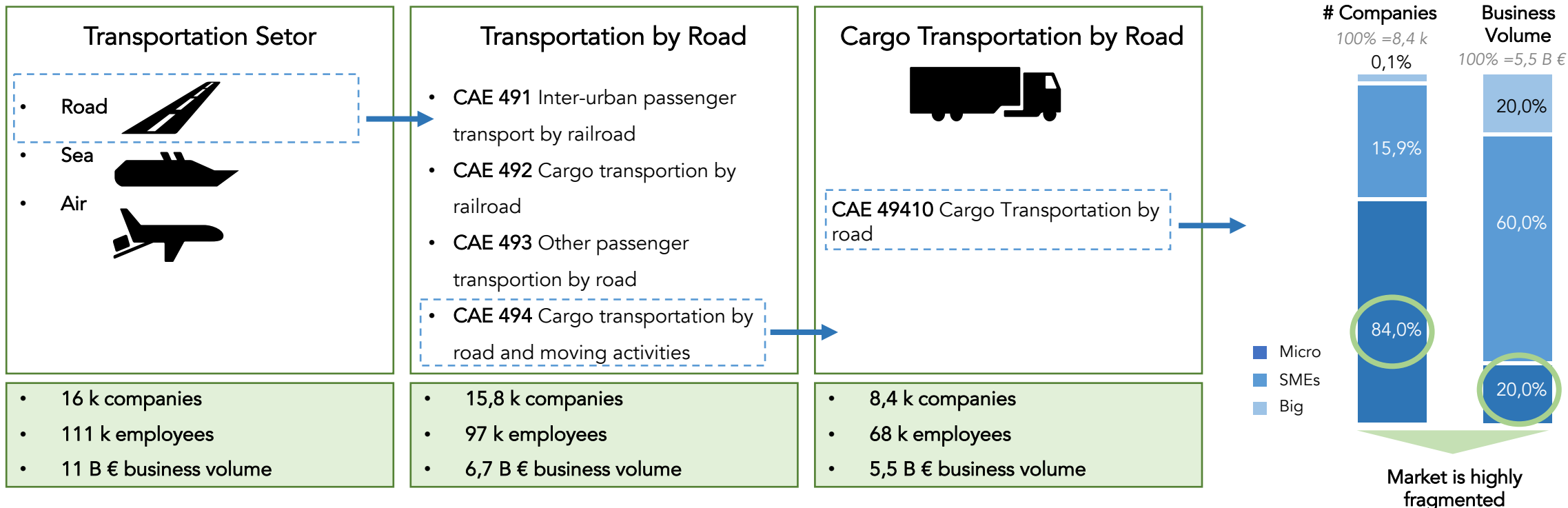
- In 2016, about 10.100 heavy vehicles circulated on average every day along the roads of the Portuguese-Spanish border (in both directions), with an increase of + 1,4% between 2015 and 2016;
- In the period 2012-2016 the average annual variation of traffic on these roads was + 3,0% for heavy vehicles;
- The crossing borders with the highest traffic of heavy vehicles in 2016 were those of Fuentes de Oñoro-Vilar Formoso, Badajoz-Caia and Tui-Valença do Minho.

Sources: OTEP

The Portuguese freight transportation sector is characterized by a high fragmentation of the market, composed by a dominant 84% of micro-companies

FRAGMENTED MARKET OF TRANSPORTATION COMPANIES

Among Portuguese territory, as of 2016...



Key Findings

The Portuguese road freight transportation sector is highly fragmented and concentrated, composed in **84,0% of micro-companies** and having **SMEs (20,0%) producing 60,0% of the business volume**. The big companies working in the industry collect only 20% of industry revenues, being the most important **Luís Simões, Paulo Duarte, Patinter, Torrestir, Sotrapex, TJA - Transportes J.Amaral, XPO, Doctrans and Transportes Florêncio & Silva**.

Sources: Banco de Portugal, Orbis

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MARKET SIZING

Freight Road Transportation Industry in Portugal

As mentioned before, the industry is characterized by its **high fragmentation** and **low margins**, due to its **significant capital requirements**

KEY TAKE-AWAYS

5.5 B € Mkt. Volume in 2017

Average EBIT Margin of 2,78%

In 2017, there were more than 8.000 players

MARKET CATEGORIZATION (€)

< 100K

Category defined by a **single truck driven by the owner of the company**. Works most of the times as an **outsourcing for the biggest players**.

100K to 500K

Companies in this segment have **2/3 trucks**. Although they have bigger fleets, they still have a **strong dependence** on top companies.

500K to 1M

This segment expresses the companies **with 10 trucks** on average. The fleet allows more independence in terms of services provided.

1M to 10M

With a fleet of almost 30 trucks, these companies can arrange contracts as an exclusive outsourcing for smaller retail companies.

10M to 50M

Companies in this category **can provide multiple and bigger clients**. They also have more than one logistic centre across the country.

>50M

Top 10 players in the market, supply the biggest retail companies.

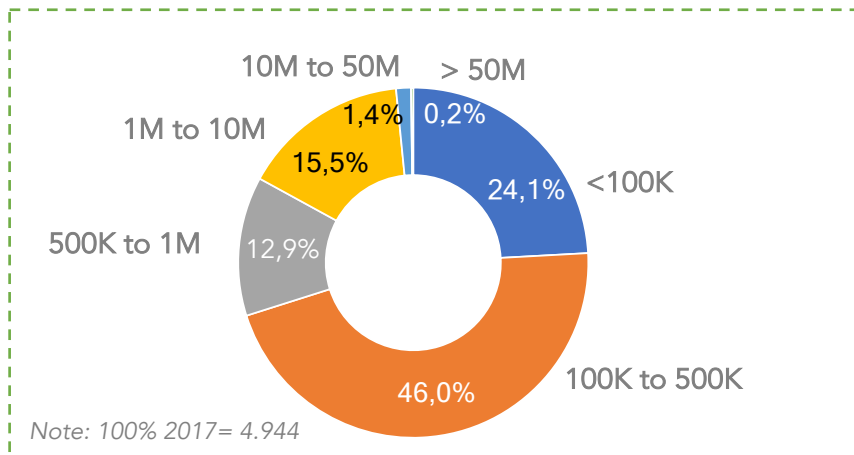
Explore the smaller competitors and have multiple logistic centres.

Under a competitive landscape of low margins, the industry is dominated by the SMEs. However, the middle-high segments together have over 60% of the total market volume

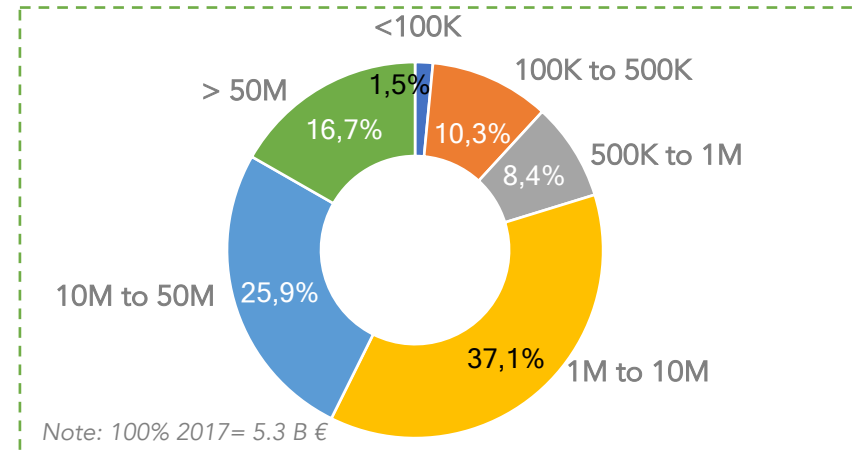
MARKET SIZING

Number of players (#, 2017)

Note: It was only considered players with more than 11 k € of annual revenue and with data updated since 2015



Business Volume (€, 2017)



Key Findings

- The road freight transportation industry in Portugal is **dominated by small and medium players**, companies with less than 500 K € of revenue **representing 70,1% of the total number**.
- However who has the biggest share of the **market volume** is the **mid-high level companies**. **16,9% of the total players represent 63,0% of the total business volume**.

Sources: Orbis; Nova SBE team

By analysing the market, we concluded that not only the SMEs segments represent most of the market, but financially they are the healthier within the sector, having a higher willingness to pay for the service

MARKET SIZING

Note: It was only considered players with more than 11 k € of annual revenue and with data updated since 2015

	< 100K	100K to 500K	500K to 1M	1M to 10M	10M to 50M	>50M
Market Volume	80,4 M €	543,4 M €	443,7 M €	1.956,4 M €	1.367 M €	882,2 M €
EBIT Margin	-1,39%	4,41%	3,40%	3,89%	3,15%	0,74%
Avg. # of Employers	1,62	4,12	10,11	28,97	200,99	697,70
# of Players	1.193	2.273	636	764	68	10

Key Findings

- The **top and bottom categories are not potential clients**, although for different reasons. The latter one don't have the financial capability to use these services. The top two have a considerable fleet which could be out of our expected supply;
- It is also interesting to analyse that the **industry doesn't show any signs of economies of scale**, as the top players have lower margins;
- Analysing the market, we concluded that **not only the SMEs segments represent most of the market, but financially they are the healthier within the sector** and therefore have more willingness to pay for the service.

Sources: Orbis; Nova SBE team

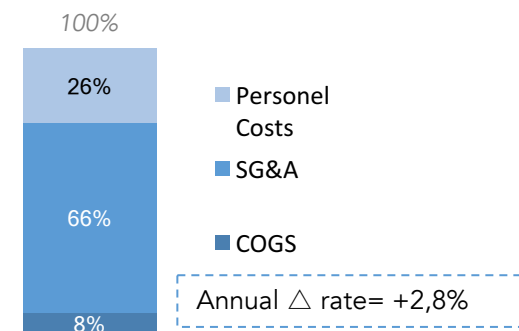
CAPITAL-INTENSIVE INDUSTRY

José Correia
Former President of Paulo Duarte

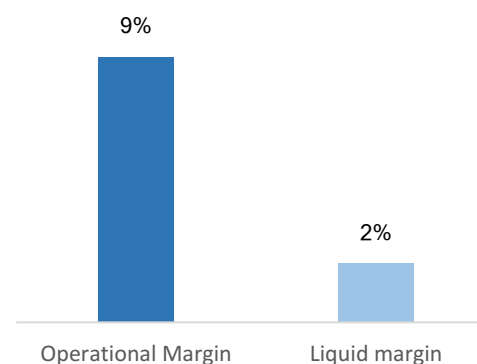


- 75%-80% **Average Payment Periods are 30 days**, implying heavy efforts of Net Working Capital;
- **Fuel Costs=30% of Total costs**, and are dependent on the market price of oil;
- **Personnel Costs=30% of Total costs**, and are dependent on collective labour contracts, plus associative and union pressures;
- **Investment in fleet renewal may ascend to large millions. Trucks are assets depreciable in 8 years** (12.5% per annum). Most of **fleet costs are associated with the tractor**, the trailer has a longer service life;
- Due to high operational costs and high CapEx necessities, **EFFICIENCY IS KEY**;
- Efficiency is measured in terms of **adequacy of the machine to the load and to the routes practiced**;
- **Route optimization implies the computation of a model which takes into consideration several variables**: point of origin/destination, road availability, type of product handled, vehicle conditions, skilled personnel needed, and time pressures related to legal driving limits and customers' demands.

Costs Structure of
Operational Activity



Operational &
Liquid Margins



- As a capital-intensive business, the road freight transportation industry exists in a world of "painfull" low margins. The **pressure to realize profits is typically so intense that many management teams struggle to keep return on invested capital (ROIC) above the cost of capital (WACC)**;
- The annual investment required to renew the fleet and other assets to operate the network often exceeds cash flow;
- Not investing is often not an option, since the efficiency gains coming from new generations of assets are critical for defending and strengthening competitiveness.

IN-DEPTH INTERVIEWS TO TRANSPORTATION COMPANIES

Qualitative and Quantitative methods

1. Convenience Sample
2. Pre-recruiting questionnaire
3. Direct Method – individual interviews to differentiated and relevant sample
4. Industry challenges and necessities questionnaire
5. Customer profile questionnaire

27 transportation companies
National (SME & Hazardous Goods) and International companies



Industry main challenges

- Strong dependence on non-controlling events
- Shortage of drivers
- Strong union power
- Adaptation to sustainable & tech innovations

Truck Park concept in Portugal

The concept is not very familiar within the Portuguese market. The top preferences to park the truck or to spend the night are the service areas, own facilities or roadsides, this choice relies on to spend the least money as possible when parking.

Qualitative methods

1. Pre-recruiting questionnaire
2. Direct Method – individual interviews to differentiated and relevant sample
3. Indirect Method – Projective technique

José Correia
Former President of Paulo Duarte



Industry main challenges

- Strong dependence on non-controlling events
- Shortage of drivers
- Strong union power
- Adaptation to sustainable & tech innovations

Truck Park concept in Portugal

In opposite to the rest of EU, Portuguese companies does not take much into account the mandatory stops when defining the routes. A truck can easily upload and download in the same day, since Portugal is a very small country. When the day ends the truck is most of the times empty, therefore the security is not an issue and there's no need to spend money on that.

Key Findings

- The main takeaway from the interviews is clearly the lack of thefts in Portugal, making it a **very secure country**. Contrary to the rest of EU, the main concern is the fastest and most efficient way to get to the destination. The locations were the truck parks and “sleeps” are a secondary matter;
- The only **theft problem** is regarding **gas**, and it is **not** even **an issue**, which **does not alarm the companies in order for them to pay for security**;
- The **small margins** of the industry and **security** of the country, makes the traditional **Truck Park concept** practiced in EU a **challenging product** in Portugal

MAIN CHALLENGES OF TRANSPORTATION COMPANIES

? Strong dependence on non-controlling events

- Labour and fuel are the main source of costs, but both have prices tied to economic market dynamics, non-controlled by the company and with direct influence on its bottom-line;
- The price and availability of labour is dependent on collective bargaining agreements and union pressures;
- The cost of fuel is dependent on global market price and amount of national taxes;

Strong union power

- FECTRANS is the biggest truck drivers' association in Portugal, constituted by 6 trade unions that act at national level, from North to South, to the islands;
- Throughout the years, they have been fighting for collective regulation that follows the concrete needs of truck drivers, whose performance influences directly the competitiveness of the Portuguese business fabric and without which all retail centres would be empty.

Shortage of drivers

- Transportation companies have been facing an aging problem of available drivers, which has been confirmed by several industry experts and truck drivers. They believe that the phenomena is going to become even more significant in the years to come if major changes don't take place in the work conditions offered;
- Possible reasons behind this are the expensive price of the driving license and further mandatory training programs (+3.000€), physical and psychological distress caused by work, distance from family and friends, and perceived-low salaries for the 15 hours of daily work (base salary of 600€, plus subsidies reaches on average ,1.200€ per month).

Adaptation to sustainable & technological innovations

- Tight gas emissions standards imposed by Government demand more sustainable vehicles;
- Efficiency demands investment on software to work under a system of economic driving, to control drivers' performance and communication, and to assure security of the cargo.

Electric and autonomous vehicles represent the future for the road freight transportation, however the full network implementation may take more time than expected since there is a large investment attached

FUTURE TRENDS FOR TRANSPORTATION COMPANIES

Two major trends are expected to conquer the road freight transportation industry in the next years with significant potential for cost reduction and efficiency gains, Electric and Autonomous trucks

Electric Vehicles

- **Electric trucks will be on European roads by 2019. Around the world, truck manufacturers are already producing these type of vehicles**, like the case of Tesla, Einride, StreetScooter and Europe's Big 7 (DAF, Daimler, Iveco, Renault, MAN, Scania, Volvo). According to a McKinsey study, by 2028 electric long-haul trucks will be cost equivalent to diesel trucks and **by 2030 these type of vehicles will account for up to 15% of global sales**;
- **Currently, 97% of trucks used by road freight transportation companies move under internal combustion engine. However, the cost reduction potential for transportation companies coming from the elimination of fuel costs and dependence on oil prices, will bring major profitability improvements that could not be ignored for much longer**;
- **In Portugal, most transportation companies still not make use of these electric vehicles**, operating most of them with diesel trucks. According to insights collected from calls with some Portuguese transportation companies, the biggest reasons behind this fact are the **high acquisition cost of electric vehicles, which are still largely more expensive than diesel trucks**, and the **lack of a electrical network infrastructure** (charging stations, batteries' selling stores) in the country, to make the investment feasible;
- **Although transportation companies are still reluctant to these innovations, manufacturers don't. The Mitsubishi Fuso factory in Tramagal will start a series production of eCanter, first all-electric production truck, by the end of 2019.**

Autonomous Vehicles

- **Within a few short years, trucking and logistics will be an ecosystem of autonomous vehicles directed by a digitized supply chain**, combining driverless, cabless trucks and delivery hubs staffed by robots. These new technologies will create a more cost-efficient logistics supply chain;
- According to the PwC study "Era of Digitalized Trucking", by 2020 the transportation market can already expect logistics done by MaaS, drone-automated inventory taking, trucks linked together in convoys in a concept known as "platooning" and **a significant share of electric vans. Together, these innovations which are expected to bring a cost reductions of -5% to transportation companies**;
- **Fully-autonomy is expected to be reached by 2030, bringing cost reductions of -47%.** Delivery will be carried out by a fully automated, driverless, cabless truck. Plus, the trucks will move under platooning systems and remote diagnostics will identify and address problems before they become serious and costly;
- Since a fully automated truck does not need a driver or a cab, **labour cost are expected to be reduced by 46% and the cost of a truck by 33%.** Long-distance truck drivers and freight-forwarding companies, will disappear;
- Furthermore, **delivery lead times are expected to fall by 40%** due to an extension of the amount of time in a vehicle's daily life that it is actually in use. **Trucks will be in use on the road for 78% of the time**, rather than the current industry average in Europe of 29%. **Non-productive time, taken up with drivers' rest time, loading, traffic congestion, and Sunday lorry ban will be reduced.**

Sources: Media, McKinsey&Company, PwC

Currently companies are facing a dilemma since they don't know exactly which strategic path to follow. It would be wise for the truck parks to develop a model that would satisfy all the different customers

FUTURE TRENDS FOR TRANSPORTATION COMPANIES

The arrival of Electric and Autonomous trucks at the road freight transportation industry influences directly truck park businesses like the one Brisa pretends to enter

Industry expert opinion

Carlos Oliveira
Executive director of ANTRAM



- Transportation companies need to make **huge strategic bets** on its investments, running the risk that if the consequent ROI is negative, they can incur into even greater misallocations;
- Today, the Portuguese economy is recovering from the crisis but the Portuguese road freight transportation sector is at a dead-lock;
- The Portuguese carriers want to expand, but they don't know which investment they should pursue, because this will be a "one-shot game" with impact in the next 15-20 years;
- Investment possibilities: cars powered by electricity, hydrogen, natural gas, mega-trucks, platooning (train of trucks);
- The Portuguese market is waiting, and the answer is in the hands of the truck manufacturers and other stakeholders of the road freight transportation industry. Taking the case of electric trucks, these will only be a reality for the Portuguese companies if sale prices get more affordable, and if the market of charging stations and battery sales gets developed across the country, which will take some time. Portugal is not the United States, Portuguese transporters are traditional and reluctant to change.

Implications for the truck park business

- Since a fully automated truck does not need a driver or a cab, the **arrival of autonomous trucks to the road freight transportation industry poses serious threats to truck park businesses**, which business model is 100% directed to the fulfilment of truck drivers' needs. **Although PwC predictions point 2030 where fully autonomy is reached, the case of Portugal is expected to take longer time** due to the Portuguese reluctance to change and lower purchase power comparing to other European countries;
- The arrival of electric trucks is a closer reality, and therefore Brisa must consider it when designing its truck park. It would be a wise strategy to **build Brisa's truck park with electric charging points** and also to **include battery-selling stores**. The stores would bring a new source of revenues and would enjoy the benefits of being the first implemented along Portuguese highways;
- Plus, since the Portuguese road freight transportation sector is currently at a dead-lock in terms of future innovations, it would be advisable that Brisa's truck park be **built little by little, meaning by modules and leaving room to grow according to market needs** and changing environment.



Sources: Interviews with industry experts



4. External Analysis

4.4. Demand: Drivers

THE DRIVER



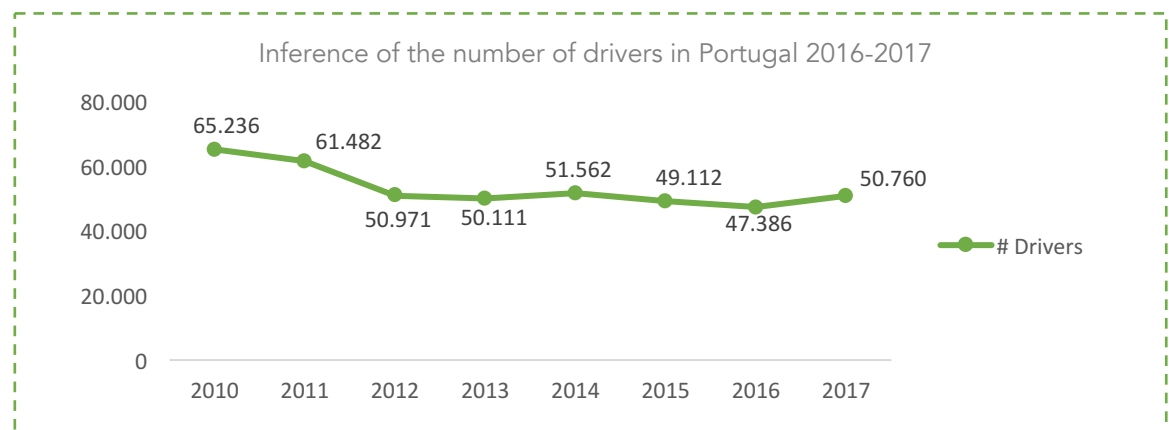
The truck driver is the main character of the road freight transportation industry. He is the one who transports ordered cargo between clients' facilities, spending most of his day alone driving among highways and national roads.

In Portugal, the job was perceived as valuable 30 years ago when many men used to enter the profession through relatives or friends and then drove all Europe for weeks to put together enough money to support their families. Nowadays the profession socially perceived as an "under-dog" job, although critical for the day-to-day operations of national retail chains and the competitiveness of the Portuguese business fabric.

The day-to-day job happens under tight legislation and regulation, mainly concerning the number of hours driving, pauses and compensation schemes, which is controlled by competent authorities on highways and national roads and subject to fine in case of non-compliance.

In Portugal, the profession is going through a **severe aging problem** coming from **shortage of new and younger drivers** entering the profession, due to expensive driving licenses and bad work conditions, that don't justify anymore the compensation received.

There is no exact number of the available quantity of Portuguese truck drivers. As approximation, assuming a relation 1:1 with the number of trucks registered in the last years, the table below picks up the evolution of number of drivers in the last years:



- The number of drivers was computed by inference, from a **relation of 1:1 from the number of registered Portuguese heavy road freight transportation vehicles** presented in PORDATA platform;
- The team assumed a 1:1 truck/driver ratio because a non-operating truck leads to significant losses for the transportation company. A such, the team believes that the number of operating trucks is a good proxy of the number of drivers;
- During the financial crisis, **from 2010 to 2013, the industry suffered a substantial decrease of -23,2%** in the number of drivers, mainly due to the increasing weight of driving licenses cost (average of 3.000€ plus additional training programs) when making a cost-benefit analysis about entering the job;
- Considering the **8.400 companies** mentioned by Banco de Portugal's report for 2016, and the **47.386 truck drivers** assumed in the graph for that same year, we can assume approximately an average of **5,6 truck drivers per company**.

Sources: PORDATA

JOB SUBJECTIVE TO STRONG REGULATION

Legal driving-hour limits

Resume Table	Legal hours
Maximum time of continuous driving	4h30 m
Minimum interruption of continuous driving (pause)	45m or a break of at least 15m followed by another of at least 30m
Maximum time of daily driving	9h with possibility of 10h, 2 times per week
Maximum time of weekly consecutive driving	56h
Maximum consecutive driving time in 2 weeks	90h
Daily rest in each 24-hour period	11h consecutive with possibility of reduction to 9h three times between 2 weekly homes
Minimum weekly rest	45 consecutive hours, with possibility of reduction for 24h in certain cases

The non-compliance with the established limits is punishable by law, through fines whose amount will depend on the level of gravity of the infringement. The inspection is done daily across national roads and highways by the competent authorities: ACT, GNR, IP, PSP.

Sources: ANTRAM, Media, Boletim do Trabalho e Emprego (BTE)

New Collective Agreement



More than 20 years after the last document was signed, the **New Collective labour Agreement** was published on **15.09.2018** between ANTRAM and FECTRANS.

Major Changes

- Salary- Monthly base compensation updated to **630€** and an increase in the daily rate to **16€**
- Meal Allowance:
 - Breakfast and supper: **2,75€**
 - Lunch and Dinner: **8-12,5€**
- Daily subsistence allowances for mobile workers- When displaced on-the-job, mobile workers are entitled to an allowance to cover meals, bedtime and other expenses. It guarantees a **Minimum Daily Value** for:
 - National driver: **21,5€**
 - Iberian driver: **25,00€**
 - International driver: **35,00€**

The pricing considered for Brisa's truck park should not overcome these values, in order to assure demand from drivers

Collective regulation of the road freight transportation sector demanded a renewal to follow the concrete needs of its players, whose performance influences directly the competitiveness of the Portuguese business fabric.

IN-DEPTH INTERVIEWS TO TRUCK DRIVERS

From in-depth interviews took together with 8 truck drivers in Carregado, it was possible to collect new insights about their day-to-day job experience



Carregado is a Portuguese village with significant economical and commercial relevance due to the **high concentration of logistic and industrial companies settled in the area.**

Consequently, this is the **area of the country with highest daily volume of trucks going through the surroundings.**

The characteristics and importance of Carregado led us to investigate better this area, in particular, the open field existing at the entrance of the village and which is used as "truck park" for drivers who need to stop in the surroundings.

Carregado was the ideal location to perform the in-depth interviews.



Land field characteristics

- Clay land
- No infrastructures
- No conditions
- No security
- Irregular terrain

Daily utilization

Although the bad conditions, it was **COMPLETELY FULL**

Three questions arise:

- Why is the truck park packed?
- Is there a demand for the concept explored in the rest of UE?
- What about security of the truck and cargo? Is that the core focus of our value proposition?

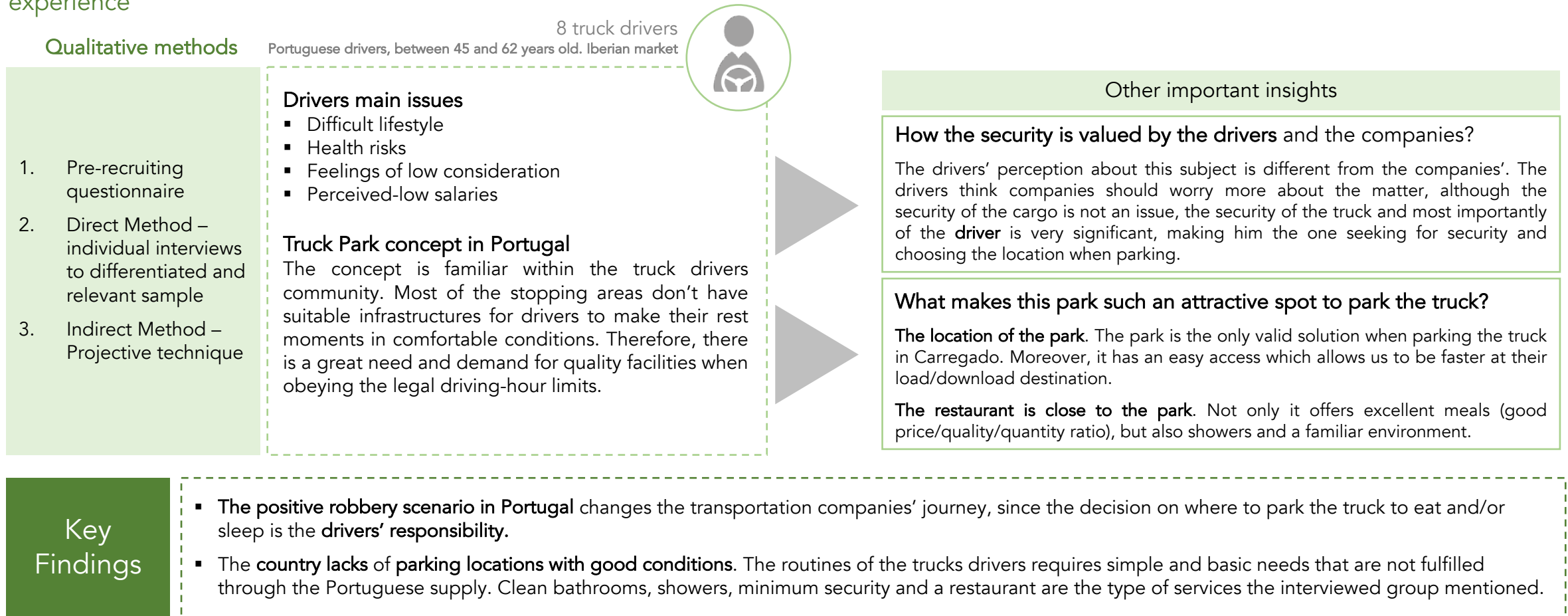


Sources: Interviews with drivers and industry experts

The decision on where to park the truck to eat and/or sleep is the drivers' responsibility, which makes them the stakeholder to focus on

IN-DEPTH INTERVIEWS TO TRUCK DRIVERS

From in-depth interviews took together with 8 truck drivers in Carregado, it was possible to collect new insights about their day-to-day job experience



Sources: Interviews with drivers and industry experts

In general truck drivers are not satisfied with their job conditions, they consider that they face a hard lifestyle with health risks, that is not compensated by the current low salaries

IN-DEPTH INTERVIEWS TO TRUCK DRIVERS

From in-depth interviews done to 12 truck drivers around the country, it was possible to collect useful insights about the major challenges of their profession and day-to-day activities



DIFFICULT LIFESTYLE

- The basic skills needed to do the job, **"close quarters manoeuvring"**, are difficult to learn and the job is **physically demanding** taking into account all the loading and unloading activities;
- From a personal standpoint, getting accustomed to the crazy hours and time away from family & friends. Driving a truck is definitely not **"9 to 5"**, some days drivers will start at 6am, other days may start at 10pm.



HEALTH RISKS

- Several disease risk factors associated with job, such as **obesity, smoking, drinking, diabetes and stress**. Stress mainly due to arrival times at loading or unloading points, reckless driving and completion of the breaks imposed by law;
- **High work injury fatality rate**, associated with traffic accidents;
- **Poor hygiene conditions** in terms of showers and sanitary infrastructures.



FEELINGS OF LOW CONSIDERATION

- **Long waiting times and bad treatment received when loading or unloading the merchandise** on the clients' premises;
- **Lack of proper place to stay while waiting**, so most of them end it up staying inside the truck. On average, **waiting times can go from 1h-4h**;
- **Both Government and population don't give them fair recognition** for assuring everyday the fulfilment of supermarkets and for contributing at large scale to the country's GDP.



PERCEIVED-LOW SALARIES

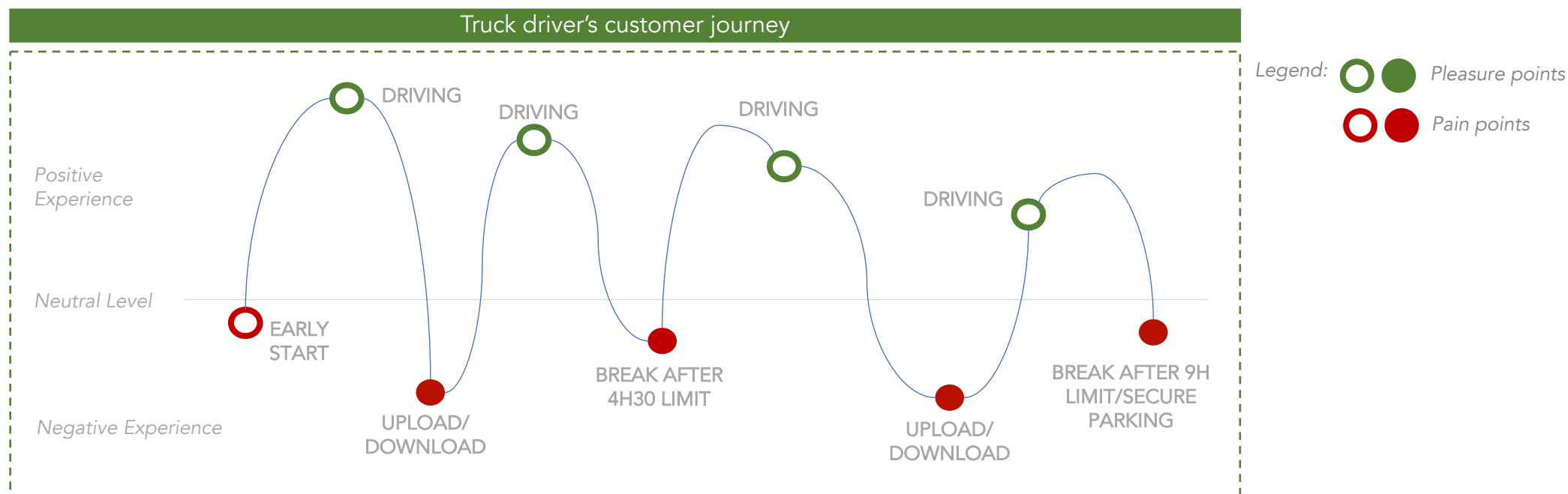
- **The salaries are not high enough to justify the conditions this work imposes**: expensive driving license and further training programs (+3000€), high number of hours worked (until 15h p/day), along with the health, family, and social daily conditions.

Sources: Interviews with drivers and industry experts; Business Insider

The truck driver's customer journey is composed by several pain points, mainly, the upload and download of the cargo and the lack of existent infrastructures to enjoy their breaks

IN-DEPTH INTERVIEWS TO TRUCK DRIVERS

From in-depth interviews done to 12 truck drivers around the country, it was possible to collect useful insights about the major challenges of their profession and day-to-day activities



- The truck driver is unhappy when **up-loading and un-loading cargo in client's facilities**, due to the **bad treatment he receives from client's staff** when arriving at the warehouses, e.g. lack of respect, long hours of wait, humiliation;
- He is also unhappy during his **rest moments mandatory by Law**, due to the **lack of infrastructures where he can stop in good conditions** in terms of tarred floor, hygiene and food options.

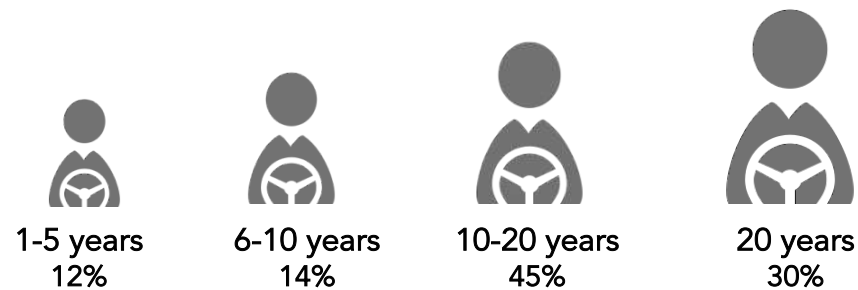
Sources: Interviews with drivers and industry experts

The sample of 101 truck drivers that answers questionnaires, was characterized mainly by Portuguese drivers between 10-20 years old (45%) and working in the national market (49%), revealing an aging sector

QUESTIONNAIRES TO TRUCK DRIVERS

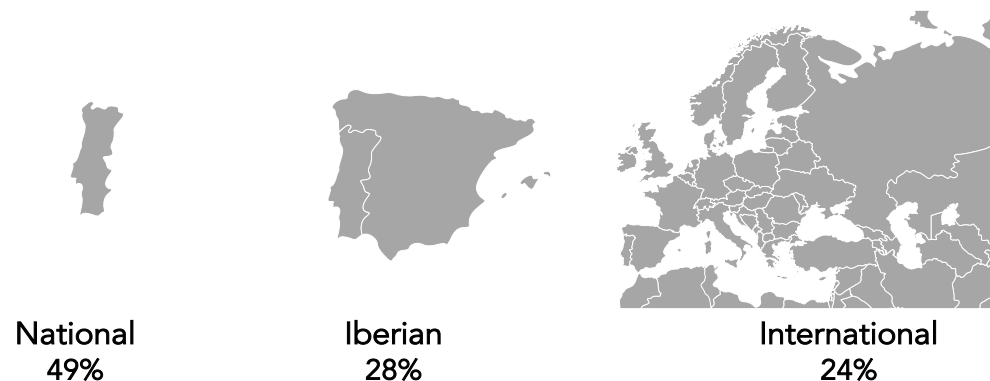
From questionnaires done to 101 truck drivers across the country, it was possible to collect new insights about their day-to-day job experience. The characterization of the sample used follows below.

How many years of experience do you have?

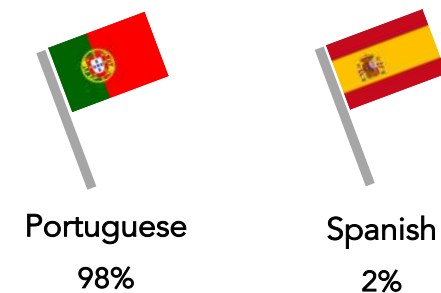


- "We have experienced a **particularly complicated situation in the sector, which is aging day by day**. It has been **difficult to attract new generations to work in this sector and there is a very serious lack of manpower**" Gustavo Duarte, President of ANTRAM;
- The **reasons behind this phenomena** are many: high costs of driving licenses (3.000€), low salaries (600€ base), large working schedules (15h p/day), health problems associated to the profession (obesity, diabetes, stress, physical wear and low social status).

In which market do you usually work?



What is your nationality?



Note: Drivers with other nationalities than Portuguese and Spanish were found, but since they weren't capable of speaking English it was impossible to get them to answer the questionnaire.

Sources: Questionnaires to truck drivers

During the day or night, most drivers prefer to stop in service areas or restaurants' parks, the first due to a higher perception of security and the second due to the good price-quality of the food

QUESTIONNAIRES TO TRUCK DRIVERS

From questionnaires done to 101 truck drivers across the country, it was possible to collect new insights about their day-to-day job experience. The most important questions and respective results are highlighted below, with further details in Appendices 15-33.

Note: Only 15 out of 24 questions were selected to analyse in this report, so questions' number presented below don't correspond to the questions' number existing in Appendices 15-33, which contains all questions.

1 How many years of experience do you have?

45% of responders had 10-20 years of experience, and 30% more than 20 years. This highlights the aging problem the sector is experience nowadays, with strong difficulties in attracting new generations and a very serious lack of manpower.

2 Where do you usually stop during the day?

93% of responders say they stop in restaurants' parks, 50% in service areas along the highway and 36% on hard shoulders during the day. This preference for restaurants' parks comes from the large parking areas surrounding the restaurant and from good price-quality meals offered. Drivers who stop in service areas do it mainly to have a coffee, eat a sandwich or something brought from home.

3 Where do you usually stop during the night?

During the night, 80% of responders say they stop in restaurants' parks, 60% in service areas along the highway and only 26% on sidewalks. Compared to the answers collected about stops done during the day, during the night the preference for service areas increases due to a perceived-higher level of security in these places by truck drivers.

Observations in Service Areas

- These results collected from questionnaires go in line with the results collected from observations in the service areas of Antuã and Santarém (see Appendix 34), showing a strong preference of truck drivers for service areas as a place to make their stops.
- In order to better understand the demand for parking services existing in service areas along A1, staff from the service areas of Antuã and Santarém apointed, during 15 and 19 days respectively, the number of trucks stopping there during the night and their nationality. Antuã (direction South/North) has 22 truck spots, Antuã (direction North/South) 13 spots, Santarém (direction South/North) 15 spots and Santarém (direction North/South) 15 spots.
- It was possible to conclude that, during the night, the service area of Antuã (direction South/North) attracts intense truck traffic from Monday to Friday, registering a utilization rate of 91% compared to 38% on weekends. Plus, the area receives many international drivers, specially on weekends (83%).
- The service area of Santarém (direction North/South) registers strong truck traffic during all week, with high utilization rates on working days and on weekends, respectively 80% and 62%.

Sources: Questionnaires to truck drivers, Service areas' observations

Truck drivers are the ones who decide where to stop, paying from their pocket all services except for entrance in high-level security truck parks, so they are the ones that Brisa's must attract and please

QUESTIONNAIRES TO TRUCK DRIVERS

From questionnaires done to 101 truck drivers across the country, it was possible to collect new insights about their day-to-day job experience. The most important questions and respective results are highlighted below, with further details in Appendices 15-33.

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4 Who takes the decision about where to stop?

92% of responders say they are the ones who decide in which place to stop during their resting moments. Although the routes are previously defined by the company, drivers are the ones who decide where to stop and therefore they are the ones who need to be persuaded to use Brisa's truck parking areas.

5 Who pays for services consumed during your stops?

Drivers say they pay their daily expenses related to food and hygiene, but not entrance in certified secure truck parks. 30% of responders don't use secure truck parking areas, and the ones who used it before, 68% say to be their boss who pays for it when it's necessary to stop in this type of infrastructures.

Why did you stop here?

6 **Type of food offered is a key-factor when choosing where to stop. Most stop in parks of restaurants because they like the good quality-price meals offered and can still have an average level of security since many restaurants start to have security cameras. As for the case of service areas, they stop there mainly because of its suitable location, close to the highways and therefore to the client in the next day, and also because of its good perceived-level of security for being inside the highways and having several police patrols during the night. In the case of the land field in Carregado, used by drivers to park, they stop there mainly because there are no other options in the close surroundings.**

7 At what time of the day do you stop here?

Besides the restaurant in Condeixa (Restinova), which registers strong truck traffic during the day due to its "passage" location in the centre of the country, all the other places analysed have higher truck occupation during the night.

Service areas register high utilization during the night, for the reasons mentioned before. The land field in Carregado and the restaurant in Albergaria (Okapi) are places that have been used at least one time by all responders to spend the night, for different reasons. In Albergaria, the restaurant and the reasonable parking lot are the facts that encourage most drivers to stop there. As for Carregado, the main reason is that there is any other alternative in close surroundings.

8 How do you classify this park?

The land field in Carregado used by drivers to park is clearly the place which rates worst in terms of quality due to the bad conditions of the floor, lack of hygiene facilities and illumination, and any type of security control. Parks of restaurants register a medium classification, coming from the plus of good meals but lack of good floor and proper hygiene facilities. Service areas are the places with better classification due to free shower and good levels of perceived security. Despite these positive points, the extremely high prices of meals practiced in service areas are still a major downturn for drivers.

Sources: Questionnaires to truck drivers

Most drivers say to prefer Model II of truck park (Middle Level Case), offering security through cameras and fence, good price-quality restaurant, shower, WC, and are willing to pay 10 € -11 € for it

QUESTIONNAIRES TO TRUCK DRIVERS

From questionnaires done to 101 truck drivers across the country, it was possible to collect new insights about their day-to-day job experience. The most important questions and respective results are highlighted below, with further details in Appendices 15-33.

Note: Only 15 out of 24 questions were selected to analyse in this report, so questions' number presented below don't correspond to the questions' number existing in Appendices 15-33, which contains all questions.

9 Which truck park model better fits your needs?

In order to get a perception of which type of truck park drivers are looking for according to their needs, 3 truck park models were developed based on increasing levels of services and security (see Appendix 35).

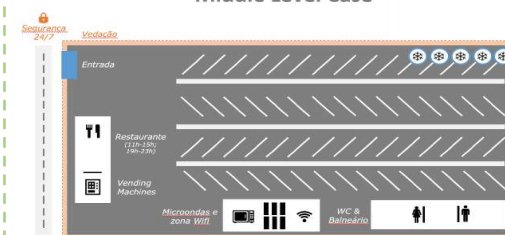
95% of drivers say to prefer the Mid-level park since the benefit offered by this option compensates for their current costs.

Currently, they pay an average of 8€ per meal and 2€ per shower, in non-secure parks. As such, if they can pay a package of 10-11€ including "meal + shower + secure parking" it compensates for them. Although biased by a psychological misperception, they believe that security is offered as an extra mile at no cost, since their mind is only focused on the meal and shower prices.

10 How much are you willing to pay for...

63% say not to be willing to pay to spend a just a few hours during the day, they prefer the first-hour free and **65% say to be willing to pay only 1-3€ to park the truck during the night**. Plus, **75% are willing to pay 7,5-8,5€ per meal and 1,5-2,0€ to have a hot-water shower**. These price ranges go in line with the daily subsistence allowances for mobile workers defined in the New Collective Agreement between ANTRAM and FECTRANS, which range between 21,5-35€ per day to This is the pricing **Brisa should implement in its truck park in order to assure a sustainable demand**.

Middle Level Case



- **24/7 Security**, provided by video-surveillance and police guards securing entrance and exists
- **Security fence** covering the perimeter of the park
- **24/7 Restaurant and vending machines**
- Lounge area with **Wi-Fi and microwaves**
- Clean WC and showers
- Spots for **refrigerated vehicles**

11 Would you prefer services to be offered individually or in package?

92% of responders say to prefer services to be offered in a package of Secure Parking+ Meal + Shower, but believe that an individual offer should also exist for others who prefer to cook their own food instead of going to the restaurant. Plus, 60% of responders say to be willing to pay between 10-11€ for this package, since this pricing compensates for their current costs in places with no formal security, considering an average of 8€ per meal and 2€ per shower.

QUESTIONNAIRES TO TRUCK DRIVERS

From questionnaires done to 101 truck drivers across the country, it was possible to collect new insights about their day-to-day job experience. The most important questions and respective results are highlighted below, with further details in Appendices 15-33.

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12

How many times do you get out off highways to have a meal?

When deciding to have lunch or dinner at a restaurant, most drivers choose to leave the highways and enter national roads to look for a restaurant that offer a good quality-price meal. They find the restaurants of service areas to be extremely expensive for the bad-quality food they offer. As such, 45% say to do it a lot of times and 36% say to do it every time they want to have a meal out.

13

If the selected model was applied to a Service Area, would you use more highways?

If the Mid-level truck park model was implemented by Brisa in one of its service areas existing along its highways, including a restaurant that offers good price-quality meals between 7,5-8,5€, **74% say they would prefer to go to Brisa's truck park restaurant than leaving the highway to go to a restaurant in the national road.** The convenient location of the service areas in highways is extremely appreciated by drivers, so **if a restaurant with affordable prices and traditional food was implemented in service areas**, drivers will have a **much higher motivation to use the highways**, even if their boss don't allows them to use it.

Although security is not a major concern, it compensates to have trucks parked in secure areas. Taking into account an average of 5€ per night for parking in a secure area, the cost of having a deposit of 1.200L stolen gets around **1.400€, which is bigger than the cost of 1.200€ (5€*5 days*4 weeks*12months) plus the cost of having the truck inoperative for repair.**

Sources: Questionnaires to truck drivers

14

Which areas of the country do you think a truck park would be more profitable?

After questioning drivers about in which places of the country would make more sense to build a truck park, most common answers are Maia, Albergaria and Carregado.

Maia	Albergaria	Carregado
At the centre of Porto's industrial area, daily traffic is intensive due to the Leixões's Port and Retail companies operating their, such as: SONAE, IKEA, Petrolgal. Plus, there is no park of this type in the area.	Close to the road junction of A25 with A1, national roads and close to Porto, creating an intense traffic area of both international and national cargo. The only parks that exist in the area are restaurants, but they are not 100% safe.	Close to a major logistic and industrial centre, where leading retail and transportation companies have their logistic infrastructures. The intensity of truck traffic in the area is high, with an average of 300 trucks daily loading and uploading. However, the land field that exists nowadays for parking is in really bad conditions.

15

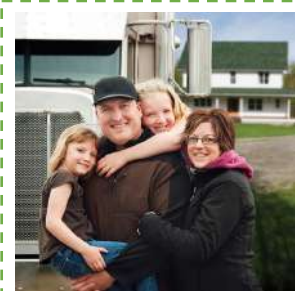
In the last 5 years, how many times were you robbed?

In the last 5 years, **most of truck drivers interviewed have never been robbed in national territory (59% never, 38% only 1-2x).** Most of them reported episodes of robberies outside Portugal, specially in Spain and France, but believe that **in Portugal security of the cargo is not a major concern because the country is safe.** Most assaults that happen are either oil robberies or the result from fights between colleagues from the same company.

By analysing the insights collected from in-depth interviews and questionnaires done to truck drivers, it was possible to define five personas, which will serve as references to estimate demand in the P&L model

CREATION OF PERSONAS

By analysing the insights collected from in-depth interviews and questionnaires done to truck drivers, it was possible to define five personas, representative of possible users of Brisa's truck park. These are the personas who will be considered in the P&L model of Brisa's truck park, with influence on the demand and pricing considered.



Locals

1

Drivers who live in the residential area around the truck park. They park the truck at night and then go home. As such, they pay a monthly fee to the truck park's owner to have their truck parked during the night. They value commodity.



Eaters

2

Drivers who want to make a quick stop to have lunch. They look for a place with enough space to park the truck and that offer good quality-price meals that make them satisfied for the rest of the afternoon. For them, security and shower are not priorities, food is the key to attract them.



Sleepers

3

Clients who look for a secure place where to sleep and park the truck in good conditions. Additionally, they look for clean WC and shower facilities, where they can use the toilet, take a hot-water shower, shave, brush their teeth and have all of their hygiene care.



Eaters & Sleepers

4

Drivers who seek the package offer (dinner + shower + secure parking) since they want to enjoy all the services provided. They like the simplicity of the payment scheme, since frees them from worrying about cooking or to have coins to pay for shower.



Weekenders

5

Drivers who stop during the weekend due to legal hour limits or due to waiting restrictions to upload or unload at the client. As such, they look for a restaurant to have some meals, hygiene facilities and transportation to explore the city near by.

Sources: Interviews with drivers and industry experts



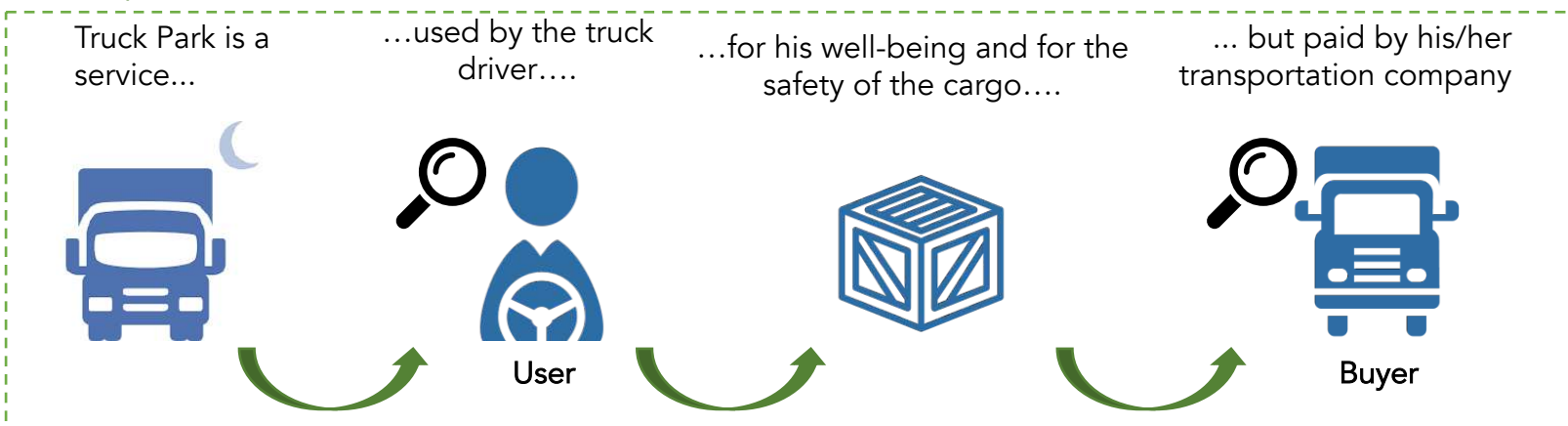
4. External Analysis

4.5. Demand: New target

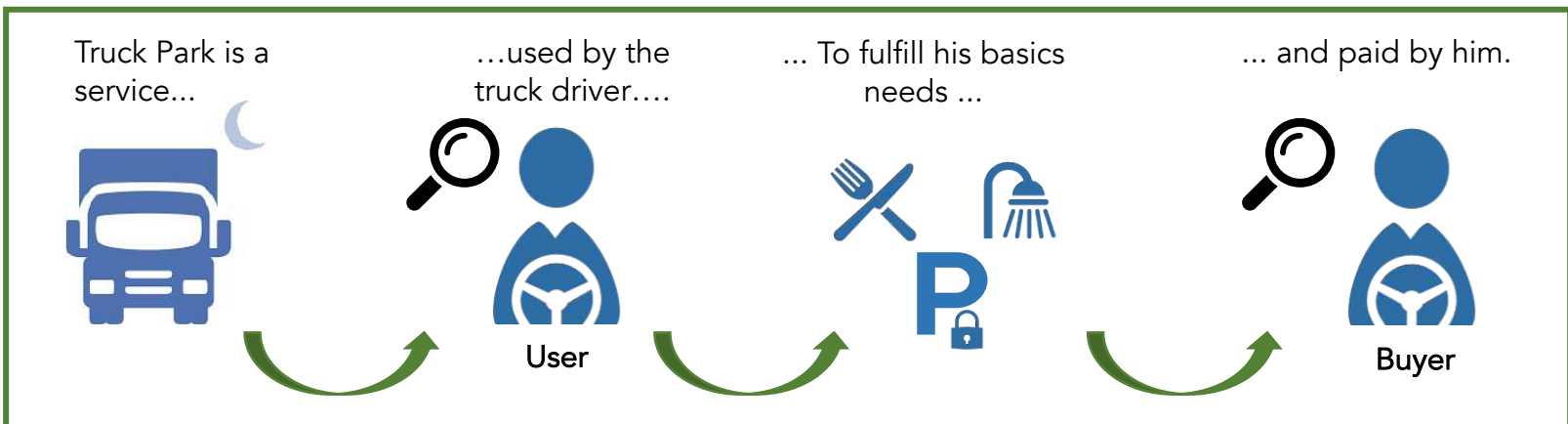
The decision-maker in Portugal is the driver, meaning he is both user and client, and therefore the focus of services provided must rely on the benefit of him

REDEFINING THE TARGET OF BRISA'S TRUCK PARK

In Europe ...



In Portugal ...



Sources: Interviews with drivers and industry experts

The transportation company is the decider when it comes to the parking location

The **buying decision** of a Truck Park service, is **dependent not just on the user but also on the buyer**. In this case, the **user is the truck driver**, the **buyer is the transportation company**.

The **decision is based** on the **routes** defined and the **robbery problem** throughout the countries. Moreover, there are **strict laws** around some countries in Europe that **forces the drivers to park at a Truck Park**.

The **ESPORG community** defines the **security and services level** of the truck parks to help the companies make their decision.

The Truck Driver is both the user and the payer of the service



The **driver is the one who chooses where to stop the truck**.

In Portugal, **thefts are not a main concern** for companies, therefore they are **not willing to pay for security**. However this opinion is not the same for the **drivers**, which **worry about their safety** and the truck's.

He often **parks in areas with a restaurant close by**: "We need to eat"; Usually, restaurants **with a parking area for trucks**.

5. Viability Analysis



5. Viability Analysis

5.1. Location

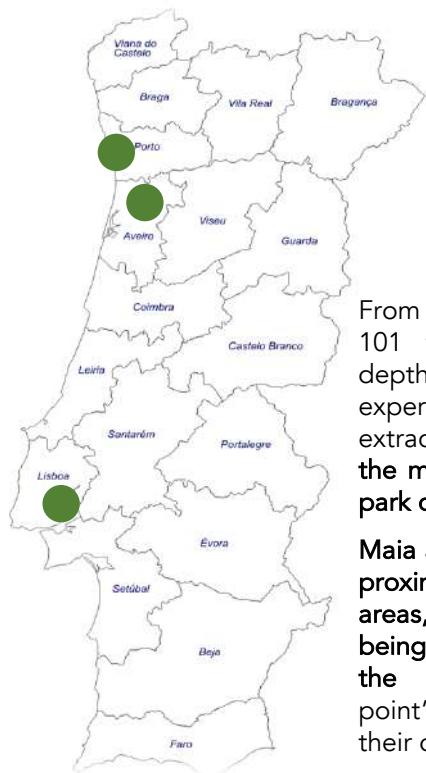


Putting together insights collected throughout the analysis and Brisa's resources and preferences, 2 possible locations for the truck park were considered, Antuã and Carregado

CONVENIENT LOCATION FOR ALL

Several factors were taken into account when deciding possible locations where to build Brisa's Truck Park

Results from questionnaires and in-depth interviews to stakeholders



- Maia
- Albergaria
- Carregado

From questionnaires done to 101 truck drivers and in-depth interviews to industry experts, it was possible to extract these **3 locations** as the most suitable for a truck park construction.

Maia and Carregado for their proximity to strong industrial areas, and Albergaria for being right at the centre of the country, a "passage point" for most drivers in their daily routes.

Factors to take into consideration

Truck driver's preferences

Most truck drivers say to prefer truck parks in the regions of Maia, Albergaria and Carregado, the ones in which they feel the lack of these infrastructures is more worrying and would be helpful to the sector.

Brisa's available resources

Brisa's holds ownership of two land fields in the country that currently have no use, and could be used for the construction of the truck park, being one of them next to the service area of Antuã and the other in Carregado, close to Campera but with no direct access to A1.

Brisa's Preferences

Brisa would prefer its truck park to be located inside its highways, in order to strengthen brand awareness among the truck drivers community and to attract more traffic of heavy vehicles to the highways, thereby generating higher volume of tolls payments.

Final location decision (two options)

In order to put together truck drivers suggestions, make use of available Brisa's resources and please the desires of the client, Antuã and Carregado were chosen as possible options, since Antuã is only 15 min away from Albergaria.

Antuã



Carregado



Sources: Nova SBE Team

The two possible locations, Carregado and Antuã present more positive points over negative, therefore they are considered as viable solutions for Brisa

PROS & CONS OF SUGGESTED LOCATIONS

Antuã

- Brisa already has a disposable land to build the park;
- Currently the available spots are occupied everyday (21 spots);
- The truck park would be inside the highway, therefore, it may push traffic to the A1 highway and improve Brisas' brand awareness;
- It's close to Porto and all the industrial area in the north (Perafita and Maia) leading to a higher demand.



- It can be hard to change drivers perspective regarding the prices of service areas;
- There is a hard competition nearby, the restaurants in the national road.

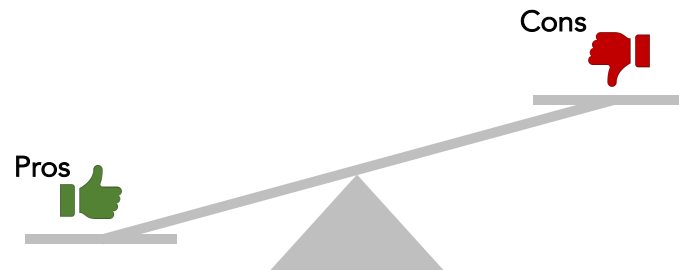


Carregado

- Brisa already has an available land to build the park;
- Carregado is an industrial and logistic area demanding a large amount of trucks per day;
- Carregado would most certainly benefit from the 3 different personas: sleepers, eaters and locals;
- Brisa may benefit from a partnership with the town hall to control the drivers that are illegally parked in the region.



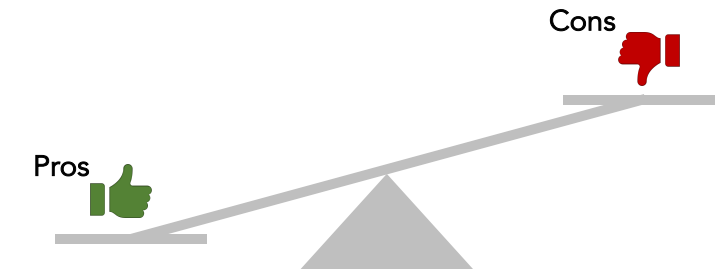
- Carregado may attract drivers that are using the national highway, leading to a lack of privileges for the Brisas' highway users;
- 64 spots in the truck park may not be enough to fulfill the entire demand of the area;
- If the town hall proceeds with the truck park it may be a main competitor that would question the viability of our project.



Final Remark

Both locations **represent a viable solution for Brisa** as the pros outstands the cons. Both locations **fulfil the main criteria according to Carlos Oliveira** (ANTRAM's Director – Lisbon Region):

- Close to main road networks
- Close to upload and download areas



Sources: Nova SBE Team

5. Viability Analysis

5.2. P&L Model



Both Carregado and Antuã report a positive present value of future operational cash flows, once the initial investment is not considered relevant for the client

FINAL RESULTS

Useful Notes

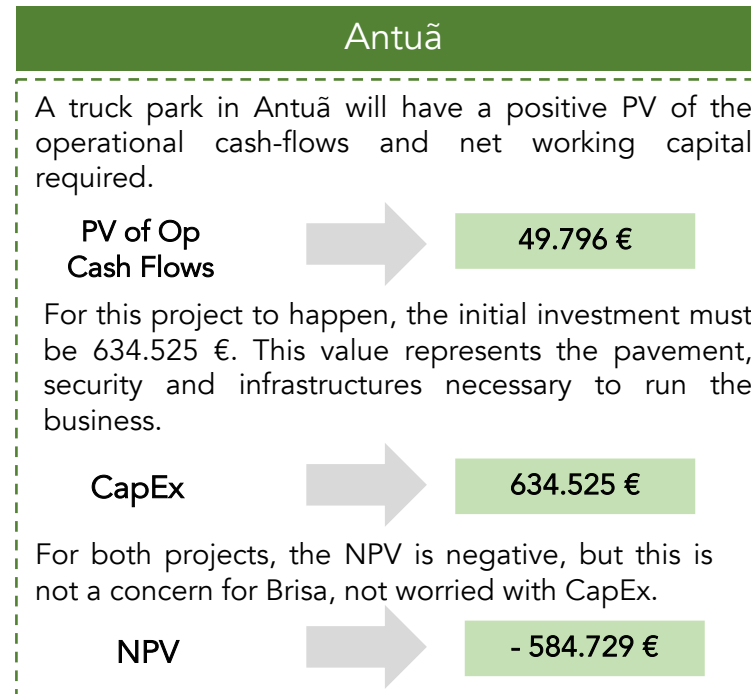
PV

The present value is the current value of a future amount of money or cash-flow. The current value is calculated by discounting it to a specific discount rate.

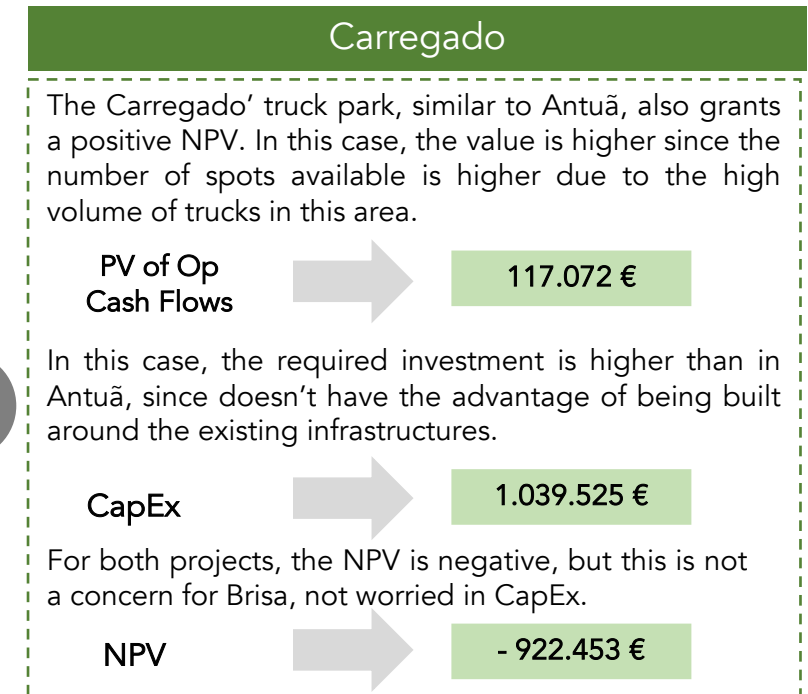
It was assumed a 8,5% WACC according to Brisa's business valuation cost of capital. As net working capital it was considered 5k € according to Brisa's insights.

CapEx

Capital expenditure are funds used by a company to acquire, upgrade, and maintain physical assets (tangible and intangible assets). A firm often uses CapEx to undertake new projects or investments or to grow its current business operations. The values were given by Brisa's Team according to its experience and know-how.



VS



Important Remark

The present value of operational cash-flows and the CapEx are displayed separately because **Brisa is only concerned about the OpEx being covered by the revenue**. The client will is to improve the **brand awareness** within the stakeholders of the freight road transportation industry and to **enhance the truck traffic in the motorways**.

CapEx

Antuã



Carregado



For both locations...

- Land preparation: 175.000 €
- Tarred land: 233.100 €
- Fences and boundaries: 10.000 €
- Illumination: 71.000 €
- Billboard: 12.925 €
- Entries and exits control: 22.500 €
- Architecture / Studies / Engineering: 50.000 €
- Locker rooms and lounge area: 60.000 €

Carregado's initial investment

- Restaurant building (300 sqm): 405.000 €

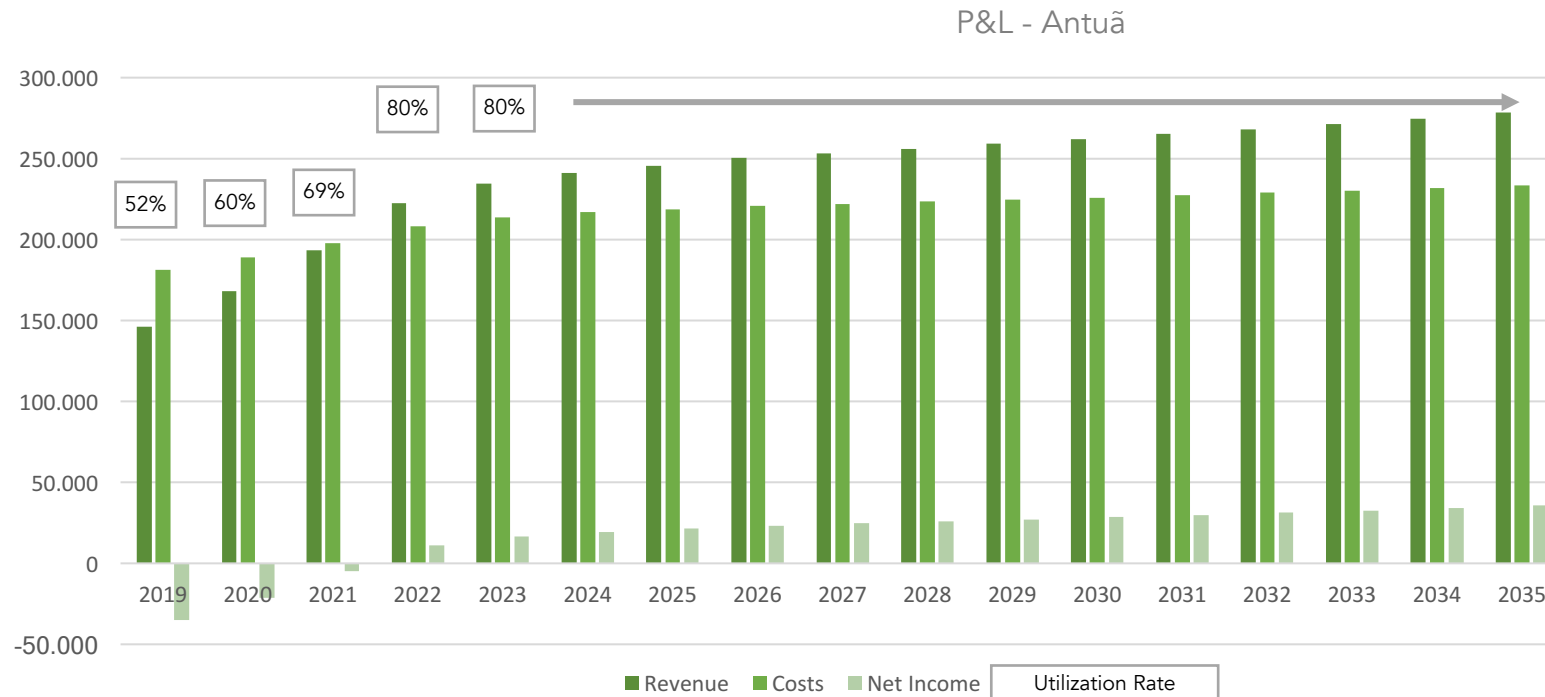
Antuã: CapEx of 634.525 €

The team considered the same 14.000 sqm for both parks, representing 64 parking spots. The difference between the two CapEx values comes from the restaurant cost, as the Antuã's truck park could benefit from the existing restaurant in the service area, reducing its CapEx amount. In either case, although **the truck park requires a significant initial investment**, it does not represent an issue to Brisa, since its main goal is that **operating revenues cover OpEx** (see Appendix 36)

Carregado: CapEx of 1.039.525 €

From the forth year onwards, Brisa's goal is achieved. The truck park in Antuã will generate profit reaching a net income of 36K € in 2035

REVENUES AND COSTS OF ANTUÃ



Key Findings

- In the first three years of operations, the truck park will have a **negative Net Income** of - 35K €, - 21K € and - 5K €, respectively. In 2022 onwards, when reaching a 80% utilization rate, **the net income will be positive with a growing trend** – 21K € in 2025 and 36K € in 2035.
- Although the business will have a less positive start, from the 4th year onwards, Brisa's goal is achieved.

Sources: Field Research, Nova SBE Team, Brisa

Revenue

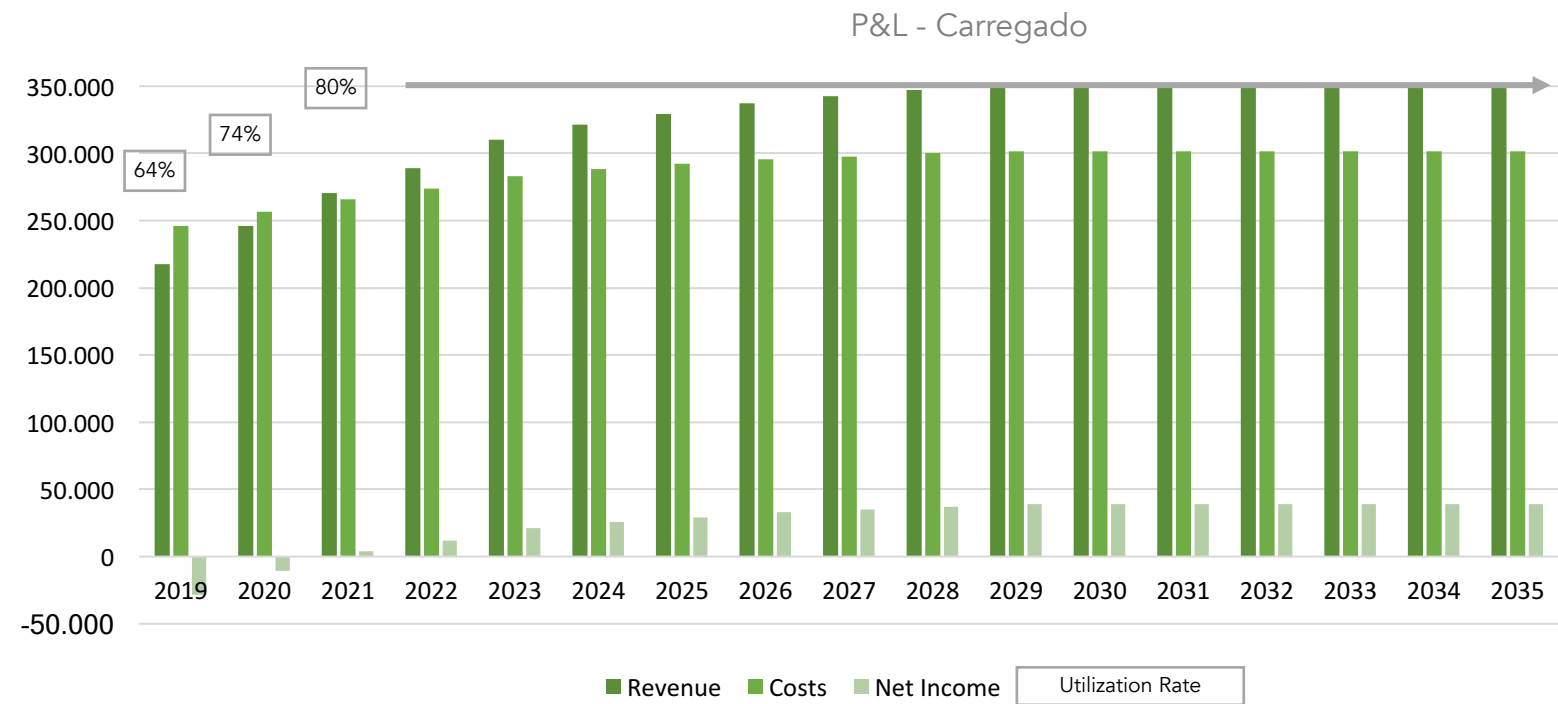
- The revenue is composed by four revenue streams:
- Weekends:** The value is driven from the weekenders and the one day full package (24h parking + 1 meal)
- Dinner Package:** The dinner package is looked by eaters and sleepers, this includes a 9h parking and meal.
- Meals:** The meals represent the lunches served. It is expected a lot of traffic during the day at lunch time.
- Parking:** This revenue stream stands for the customers *sleepers*. A price per night was define to fulfil this need.
- These services include the shower. The details and assumptions are displayed in Appendices 37-42.

Costs

- The costs are divided within 3 categories, the restaurant costs, truck park costs and common:
- Restaurant costs:** These costs are composed by personnel costs and cost per meal.
- Truck Park costs:** The security, insurance and maintenance define this fragment.
- Restaurant + Truck Park:** Electricity, Water & Gas, Telecoms, Marketing and Software are all allocated to both.
- The details and assumptions are displayed in Appendix 44.

The Carregado project will also fulfill the client's will. From its third year of operations, the revenue obtained will cover the OpEx, achieving a net income of 39K €

REVENUES AND COSTS OF CARREGADO



Key Findings

- Compared to Antuã, Carregado will have a stronger start in terms of utilization rate due to the high traffic volume generated in that area.
- The truck park will reach the 80% in the third year with a net income of 4K €. In 2025 the net income will be 29K € and in 2035 39K €.
- The client's "go or no go" criteria is also accomplish, as the revenue overcome the costs.

Revenue

- The revenue is composed by five revenue streams, four derive from the same ones as Antuã. However, in Carregado, since it is also a residential area, is important to quantify the percentage of locals parked at night:
 - Weekends
 - Dinner Package
 - Meals
 - Parking
 - Monthly Fee: Locals have the possibility to park the truck at a secure and authorised location everyday.
- All this service offers include the shower. The details and assumptions are displayed in Appendices 37-41 and 43.

Costs

- The costs follow the same line as in Antuã's truck park. The only difference is regarding the personnel costs. Since Antuã is splitting the kitchen with the service area, there is a costs saving regarding this input. Carregado will operate the entire restaurant, therefore, the number of employees is more os less double of Antuã, consequently so are the costs.
- The details and assumptions are displayed in Appendix 44.

Sources: Field Research, Nova SBE Team, Brisa

SUMMARY OF ASSUMPTIONS

For more detail see Appendices 36-41 and 44

CapEx	Revenue
- Land area: 14.000 square meters - Total Land depth: 8.400 cubic meters - Tout Venant depth: 5.600 cubic meters - Perimeter: 400 meters # lamp posts: 25 - Billboard size: 55 square meters - Restaurant building (300 sqm)	Demand Utilization Rate. - Daily traffic from 7pm to 10pm with a 2,5% annual growth (Antuã – 559 & Carregado – 686 in 2019); - Capture rate – 10% in 2019 with a 2% growth until 2022, and steady from that point onwards; - Consumption rate – 60% in 2019 with a 10% growth until it reaches 90%. % Locals was based on the interview insights, a 20% assumption was made. % Eaters and Sleepers was based on the interview results and insights (Antuã – 90% & Carregado – 75% in 2019) % Sleepers was based on the last two assumptions and from the interview results (Antuã – 10% & Carregado – 5% in 2019) Meals - Daily traffic from 12am to 3pm with a 2,5% annual growth (Antuã – 826 & Carregado – 1457 in 2019); - Capture rate – 5% in 2019 with a 2% growth until 2022, and steady from that point onwards; - Consumption rate – 60% in 2019 with a 10% growth until it reaches 90%. Weekenders. The assumptions made differ from Antuã and Carregado. In Antuã was used the results from the observations' analysis made in the service areas. In Carregado, we collected insights from the restaurant owners and from our own observations. (Antuã – 20% of the occupied spots & Carregado – 22 customers in 2019 onwards). Pricing - Locals – 150 € per month. This value is lower than the one they would pay 30 daily prices. - Eaters & Sleepers – 10 € for the package (dinner + shower + park). Value given by the interview results. - Sleepers – 5 € to spend the night (9h). The price was computed accordingly to the opportunity cost of a client not consuming the dinner package. - Lunches – 8 € for the meal. Value given by the interview results. - Weekenders – 15 € for in entire day (includes one meal). The amount charged was based on the average European price practiced, however, we included a meal.
Costs	
- Security – 2.000 € per month - Telecoms – 312 € per month - Electricity (Park) – 300 € per month - Software – 115 € per month - Marketing – 96 € per month - Insurance – 185 € per month - Personnel costs (Restaurant) – 13.495 € per employee per year # employees Antuã considered – 3,6 # employees Carregado considered – 7 - Electricity (Restaurant) – 1.874 € per month - Water (Restaurant) – 125 € per month - Gas (Restaurant) – 91 € per month - Maintenance (Ground / WC / Lounge) – 1.624 € per month - Meal costs – 3,57 € per meal	

Sources: Nova SBE Team

The sensitivity analysis highlights how much the model rely on the utilization rate and the number of meals served, showing that in Carregado it depends more on the # of meals and in Antuã in the utilization rate

SENSITIVITY ANALYSIS

Profit		Utilization Rate										
Antuã		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Meals	100	-€ 2.830	€ 6.156	€ 14.548	€ 22.940	€ 31.331	€ 39.723	€ 48.115	€ 56.507	€ 64.899	€ 73.290	€ 81.682
	90	-€ 14.525	-€ 3.903	€ 5.309	€ 13.700	€ 22.092	€ 30.484	€ 38.876	€ 47.268	€ 55.659	€ 64.051	€ 72.443
	80	-€ 26.220	-€ 15.598	-€ 4.975	€ 4.461	€ 12.853	€ 21.245	€ 29.637	€ 38.028	€ 46.420	€ 54.812	€ 63.204
	70	-€ 37.916	-€ 27.293	-€ 16.671	-€ 6.048	€ 3.614	€ 12.006	€ 20.397	€ 28.789	€ 37.181	€ 45.573	€ 53.964
	60	-€ 49.611	-€ 38.988	-€ 28.366	-€ 17.743	-€ 7.121	€ 2.766	€ 11.158	€ 19.550	€ 27.942	€ 36.333	€ 44.725
	50	-€ 61.306	-€ 50.684	-€ 40.061	-€ 29.439	-€ 18.816	-€ 8.194	€ 1.919	€ 10.311	€ 18.702	€ 27.094	€ 35.486
	40	-€ 73.001	-€ 62.379	-€ 51.756	-€ 41.134	-€ 30.511	-€ 19.889	-€ 9.266	€ 1.071	€ 9.463	€ 17.855	€ 26.247
	30	-€ 84.696	-€ 74.074	-€ 63.451	-€ 52.829	-€ 42.206	-€ 31.584	-€ 20.961	-€ 10.339	€ 224	€ 8.616	€ 17.008
	20	-€ 96.392	-€ 85.769	-€ 75.147	-€ 64.524	-€ 53.902	-€ 43.279	-€ 32.657	-€ 22.034	-€ 11.412	-€ 789	€ 7.768
	10	-€ 108.087	-€ 97.464	-€ 86.842	-€ 76.219	-€ 65.597	-€ 54.974	-€ 44.352	-€ 33.729	-€ 23.107	-€ 12.484	-€ 1.862
	0	-€ 119.782	-€ 109.160	-€ 98.537	-€ 87.915	-€ 77.292	-€ 66.670	-€ 56.047	-€ 45.424	-€ 34.802	-€ 24.179	-€ 13.557

Profit		Utilization Rate										
Carregado		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Meals	100	-€ 15.834	-€ 7.534	€ 605	€ 7.162	€ 13.719	€ 20.276	€ 26.833	€ 33.389	€ 39.946	€ 46.503	€ 53.060
	90	-€ 27.529	-€ 19.229	-€ 10.929	-€ 2.629	€ 4.480	€ 11.037	€ 17.593	€ 24.150	€ 30.707	€ 37.264	€ 43.821
	80	-€ 39.224	-€ 30.924	-€ 22.624	-€ 14.325	-€ 6.025	€ 1.797	€ 8.354	€ 14.911	€ 21.468	€ 28.025	€ 34.582
	70	-€ 50.919	-€ 42.620	-€ 34.320	-€ 26.020	-€ 17.720	-€ 9.420	-€ 1.120	€ 5.672	€ 12.229	€ 18.786	€ 25.343
	60	-€ 62.615	-€ 54.315	-€ 46.015	-€ 37.715	-€ 29.415	-€ 21.115	-€ 12.815	-€ 4.516	€ 2.990	€ 9.546	€ 16.103
	50	-€ 74.310	-€ 66.010	-€ 57.710	-€ 49.410	-€ 41.110	-€ 32.811	-€ 24.511	-€ 16.211	-€ 7.911	€ 307	€ 6.864
	40	-€ 86.005	-€ 77.705	-€ 69.405	-€ 61.105	-€ 52.806	-€ 44.506	-€ 36.206	-€ 27.906	-€ 19.606	-€ 11.306	-€ 3.006
	30	-€ 97.700	-€ 89.400	-€ 81.100	-€ 72.801	-€ 64.501	-€ 56.201	-€ 47.901	-€ 39.601	-€ 31.301	-€ 23.002	-€ 14.702
	20	-€ 109.395	-€ 101.096	-€ 92.796	-€ 84.496	-€ 76.196	-€ 67.896	-€ 59.596	-€ 51.296	-€ 42.997	-€ 34.697	-€ 26.397
	10	-€ 121.091	-€ 112.791	-€ 104.491	-€ 96.191	-€ 87.891	-€ 79.591	-€ 71.291	-€ 62.992	-€ 54.692	-€ 46.392	-€ 38.092
	0	-€ 132.786	-€ 124.486	-€ 116.186	-€ 107.886	-€ 99.586	-€ 91.287	-€ 82.987	-€ 74.687	-€ 66.387	-€ 58.087	-€ 49.787

- A key aspect the P&L model computed along this investigation, is the **sensibility analysis** done to **certain variables over the net income**. The two variables selected were **utilization rate**, that affects the number of – locals, eaters and sleepers, sleepers, and **number of meals served during the day**;
- These two variables were chosen because they strongly affect **revenue streams**;
- The tables show different conclusions for the two locations. **Antuã is less dependent** on the number of **meals** and shows a **higher flexibility of the utilization rate**, compared to Carregado. This is **justified by the weight that locals have in Carregado**, which monthly fee generates lower profitability in comparison to the dinner package.

Sources: Nova SBE Team

6. Recommendations





6. Recommendations

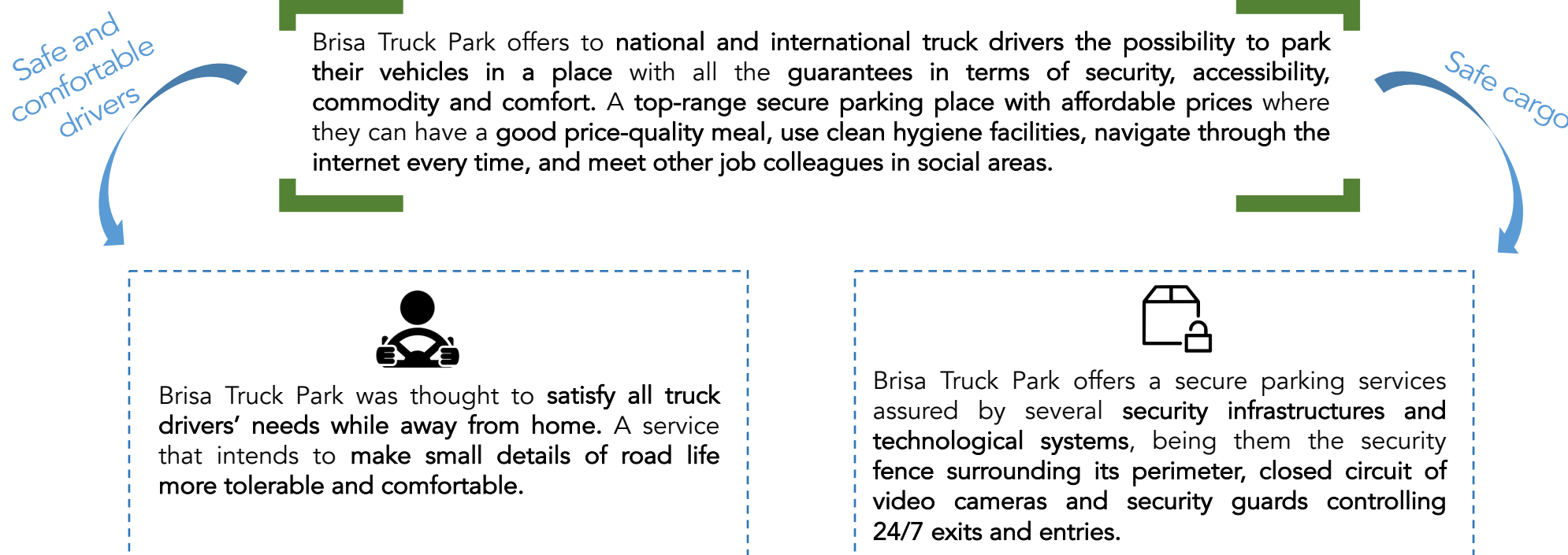
6.1. Value Proposition

Having in consideration the insights collected along the investigation, the value proposition of Brisa's truck park must focus on secure parking, and with good and affordable conditions of food and hygiene

WHAT BRISA'S TRUCK PARK HAS TO OFFER

Having in mind all the insights collected through quantitative and qualitative research with the different industry stakeholders, it is recommendable that Brisa offers truck parking services to its Class 3 and Class 4's clients (trucks), under the following value proposition:

Brisa Truck Park's Value Proposition



Sources: Nova SBE Team



6. Recommendations

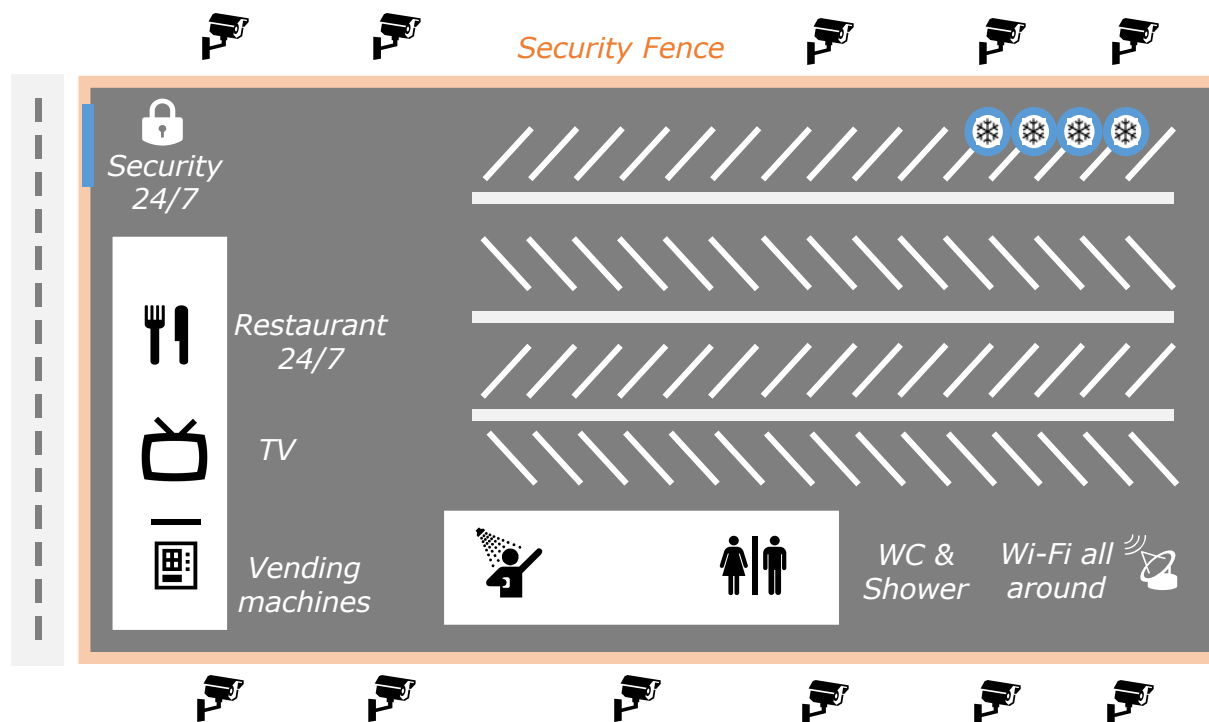
6.2. Services to offer

Having in consideration the insights collected along the investigation, the value proposition of Brisa's truck park must focus on secure parking, and with good and affordable conditions of food and hygiene

DESIGNING BRISA'S TRUCK PARK

Having in mind all the insights collected through quantitative and qualitative research with the different industry stakeholders, it is recommendable that Brisa builds a truck park with the services and facilities presented below

Main services



- Direct access through highway
- Open all days of the week, 24h
- Security 24/7 through video-cameras spread all over the park and guards controlling entrances and exits of vehicles
- Restaurant 24/7 servicing Portuguese traditional food, in reasonable quantities, with good quality and at affordable prices, ranging between 7,5-8,5 €. Plus, it will also have a TV inside it, providing opportunities for drivers to watch news and football games
- Vending machines
- Clean WC and showers, in line with the number of parking spots available
- 64 parking spots
- 5 places for spots for refrigerated trucks
- Several illuminations posts throughout the park
- Tarred floor
- Free Wi-Fi all over the park
- Meal package for 10€, which includes secure parking + meal at the restaurant + possibility to use WC and showers
- Possibility of paying also services individually

Sources: Nova SBE Team



6. Recommendations

6.3. Marketing Strategies

When the truck park project gets implemented, clients will enter the Phase 1 and Phase 2 of Mckinsey's Customer decision-journey, meaning that they need to be persuaded to get to know the service

STRATEGIC MARKETING MOVES

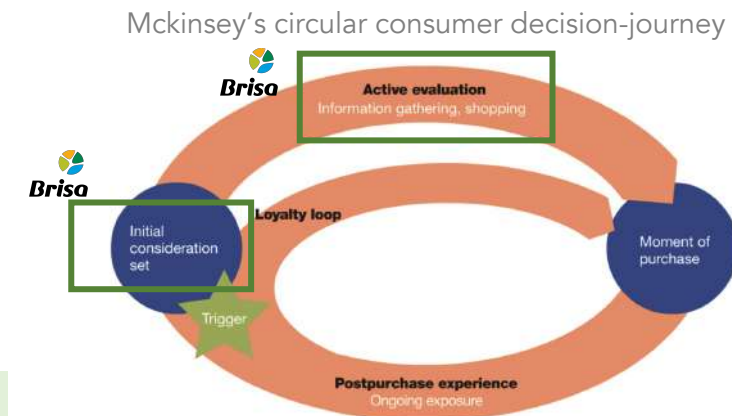
Mckinsey&Company suggests an alternative framework to overcome scepticism surrounding the linear marketing funnel: the consumer decision journey.

- According to this model, the **consumer decision-making process is a circular journey with four primary phases**, where marketing can play a role: 1. Initial consideration (Think about); 2. Active evaluation (Pros & Cons), 3. Closure (Buy) and 4. Post-purchase (Experience).
- If the post purchase experience is positive, the brand has done its job, so it's probable that the consumer will enter the so **desired loyalty loop**, through which the brand can create lifetime value from a specific consumer. **Once loyalty is achieved it sends back the consumer to Step 3 (moment of purchase)**, in a continuous process around the circular model.

The case of Brisa's truck park

- Brisa is entering a new market segment by offering truck parking services to drivers of heavy vehicles, meaning that these clients will look at its truck park offer as something new, which they don't know what to expect;
- In this context, **Brisa's clients are still in Phase 1 and Phase 2 of the customer decision-journey, meaning that they need to be persuaded to get to know the service and to evaluate Brisa's service positively in relation to competition;**
- **How?** According to Mckinsey, *"In today's decision journey, consumer-driven marketing is increasingly important as customers seize control of the process and actively "pull" information helpful to them. Touch points during active-evaluation phase involve consumer-driven marketing activities, such as Internet reviews and word-of-mouth recommendations from friends and family, as well as in-store interactions and recollections of past experiences."*

Sources: Meeting with Prof. Jorge Velosa, Mckinsey&Company



Possible marketing strategies to be implemented

- **Sampling:** Drivers can get the first meal free;
- **Anchoring:** Truck park's restaurant is an extension of a traditional restaurant well-know among truck drivers for its quality food, affordable price or food specialities;
- **Internet reviews:** Youtube videos made by a known driver in the sector, telling others his positive experience at Brisa's truck park;
- **Radio marketing:** radio commercials playing on local radios during the dawn, between 5-8h a.m., when they start working



6. Recommendations

6.4. Loyalty Programs

To hold and increase demand is also necessary to create a loyalty plan, relying on three important pillars. The food, a mobile app and by increasing the alliance between the companies and the drivers

SUSTAINING THE LOYALTY LOOP

Although Brisa's truck park is still in the Consideration and Evaluation phases of the Customer-decision Journey, some loyalty programs should be implemented in the Closure Phase (moment of purchase), in order to lead customers to the loyalty loop

Quality of the food

- Throughout our field search, one of the main take-away was that the quality/quantity and price of the food is very important for the drivers.
- Although there are a few restaurants that they can go, in the end, the decision will rely essentially on 3 to 4 restaurants. With this in mind, the type of food and the restaurant's layout will have to be well thought.
- For the food we purpose typical Portuguese food, big and simple portions. Regarding the layout of the restaurant, simple and less gourmet as possible. We believe that too much fanciness will "scare" the truck drivers.

Simple and familiar restaurant's layout + Typical Portuguese Food, mostly grilled food

QR code – mobile app

- We're facing a technology dominance, therefore is important to implement this tool into our project.
- The team advises a simple tactic: with 10 meals or 10 dinner packages, the client will get 1 free. The process will be conducted by a mobile app with a QR code. The identification will be made by reading the QR code on the phone or simply by giving the phone number (which is associated to the clients' log in).
- There are two ways of having access to the truck park, either by the Via Verde equipment on the truck, or by having the company's Via Verde ID attached to the personal log in. By having the company's Via Verde ID, the driver will also benefit from the company's level discount in all Colibri Stations.

Mobile App: 10 meals, 1 Free

B2B Plan

Although the target of our product are the drivers, there is a small percentage that Brisa can capture through the companies. We purpose two ways of doing that:

The first one is to give a certain level accordingly to the highway usage per week. The levels are going to be bronze, silver, gold and platinum. Only silver, gold and platinum will be given discounts (5%, 10%, 15% for example).

The other method is to let the company give to its drivers a dinner package or a meal. This will be possible by having a platform associated to its drivers' account. The meal or package will be automatically billed in the Via Verde account and the driver will only have show the QR code.

Grading method: association with the driver's account

Sources: Nova SBE Team



6. Recommendations

6.5. Partnerships

There are three main groups of partnerships to establish in this project to assure its success in the long-term, namely, City Halls, truck-parking apps and road freight transportation companies

STRATEGIC PARTNERSHIPS

In order to assure the viability and sustainability of the truck park project, it is suggested that Brisa enters a partnership with 3 stakeholders

City Halls



Alenquer

The possibility of building a truck park in Carregado is only suitable if Brisa enters a partnership with Alenquer's City Hall, in order to avoid direct competition with the municipal truck park the city Hall is planning to build too, and also to facilitate action from GNR and other responsible authorities on prohibiting drivers to stop trucks in places other than proper truck parks.

Furthermore, it is recommendable that this type of partnerships should be settled between Brisa and other City Halls when considering expanding the truck park pilot to other locations besides Antuã or Carregado, specially, the ones close to residential areas. City Halls work for the well-being of the community, and therefore there is interest from their part in taking truck traffic out of cities and residential areas, due to the risk of dangerous accidents and traffic congestion they bring.

Truck-parking Apps

Truck Fly
(France)



Parkimeter
(Spain)



Truck Parking Europe
(Netherlands)



My Truck Parking
(United Kingdom)



It would be advisable for Brisa to adhere to some of the truck-parking apps existing in the market, and which are daily used by national and international drivers to find a spot to park their trucks when they don't know well the surroundings where they are passing by. Signaling Brisa's truck park in these apps seems critical for the success of the project (see Appendix 45)

Transportation companies



Although indirectly, having truck drivers stopping in secure locations like Brisa's truck park works in favour of their respective transportation companies, who get the security of the cargo assured. As such, it would be interesting for Brisa to settle partnerships with road freight transportation companies as mean of securing a fixed demand for the truck park, and therefore lower business risk through stable cash flows.

This partnership could take many forms, like special payment schemes, discounts in services consumed, prizes after certain consumption levels, control registers of entrance and exits of drivers, etc.

Although the transportation company is not the final user of truck parking services, it cannot be neglected and forgotten since it is a stakeholder with major impact in the business.

Sources: Alenquer's City Hall, media, Nova SBE team



6. Recommendations

6.6. How to deal with future trends

FUTURE CHALLENGES

Future trends

- As explained above, in the analysis of future trends on road freight transportation companies, everything points out that **electric trucks and autonomous driving are going to be a reality, the first in the next 5 years and the second in 2030**. This presents as a huge threat to Brisa's truck park business since autonomous trucks are cabless and driveless, eliminating the need for a truck driver, the main client of the truck park business.
- However, as pointed out by the industry expert, Carlos Oliveira from ANTRAM, in Portugal, it will take much more years than the mentioned previously to shift the entire road freight transportation system and allow the industry to embrace a full electric and autonomous network in the entire country. **Portuguese companies have less purchasing power than the Europeans, and are reluctant to change**, which adding to the **slow political system that would need to adapt sector's legislation**, will probably delay the arriving of these technology innovations to our country.
- Therefore, this drastic changes in the truck park segments were not considered into the P&L.

Strategic location of Brisa's available land fields

- In the future, both **Antuã and Carregado are expected to remain strategic areas in Portugal** for the road freight transportation industry. The service area of **Antuã will still continue to enjoy the benefits of being inside A1 highway**, the most expected road to be used by autonomous trucks, and close to both **Porto and Maia' industrial areas**.
- **Carregado will most certainly prevail as the most important logistical area in the country**, since it is close to **Lisbon**, the country's capital, implying an high supply of goods to fulfil the high number of companies settled there.
- Therefore, **both locations will continue to be a valuable asset for Brisa in the short and long term future**, even with the arriving of electric vehicles and autonomous trucks, which could provide opportunities to use the areas for other type of services in the case the truck park loses its main clients and business purpose.

How can Brisa's truck park be adapted to these innovations

- The truck parks may need to adapt their business model in the future to an electric and autonomous truck network. **The restaurant and gas station will no longer be a competitive advantage from the moment the electric and autonomous road freight transportation network is implemented.**
- For the case of electric vehicles, Brisa may adapt their park to implement **points of battery charging and stores to sell new batteries.**
- To face the arriving of autonomous trucks, Brisa may adapt its truck park to become a **cross-docking platform of cargo**, to take advantage of the strategic locations of both Antuã and Carregado.



6. Recommendations

6.7. Final Outline

Although both Antuã and Carregado present profitable businesses in which demand is secure and revenues cover OpEx, if Brisa is interested in brand awareness and higher toll revenue, must choose Antuã

FINAL RECOMMENDATION

In these two locations there is sufficient demand from truck drivers that justifies Brisa to support the cost of building a truck park

CARREGADO

- PV of Op Cash Flows= 49.796 €
- CapEx= 634.525 €
- Available Brisa's land field in the area, reducing project's CapEx, although still need to build a restaurant
- Proximity to Lisbon and to a highly concentrated logistic centre, securing a high demand
- Close to 300 trucks loading and uploading in Carregado everyday
- Currently, 60 trucks stopping in the open land to pass the night
- **Competing with the truck park that City Hall of Alenquer is planning to build is not an option for Brisa**, since the number of spots in its land field cannot increase much more. As such, the only options would be become the concessionaire of City Hall's truck park or entering in partnership with the City Hall to coordinate demand in both truck parks
- **In the short-term, the City Hall and public police are going to prohibit truck circulation inside the town**, securing a high demand for Brisa's truck park

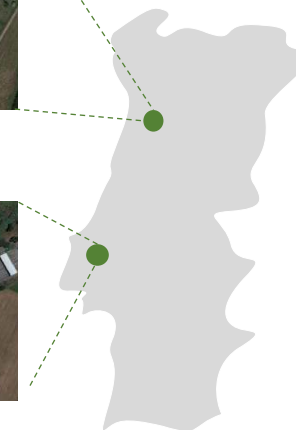
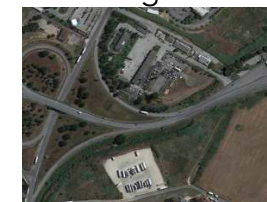
ANTUÃ

- PV of Op Cash Flows= 117.072 €
- CapEx= 1.039.525 €
- Available Brisa's land field close to the service area, reducing project's CapEx in both land and restaurant' costs. Plus, the company plans to convert all its service areas into Colibri areas, managing all the business internally, thereby creating synergies with the truck park
- Proximity to A25, Porto and Maia, securing a high demand
- **Along A1, pushing the increase of the number of toll passages**
- **Increased brand awareness** for including the truck park inside Brisa's highway
- Currently, 27 trucks stopping in the Service Area to pass the night, more than current capacity of 21 spots
- Truck drivers say that they would use more highways if the entrance of the truck park was offered in a package, costing on average 10€

Antuã



Carregado



Although both locations present profitable businesses in which operating revenues cover OpEx, if Brisa has a special interest on pushing more traffic to its highways and creating stronger brand awareness among the truck drivers' community, Antuã is the best option to pursue since offers the possibility of having the truck park built on Brisa's highway.

Sources: Field Research, Meetings with City Halls, In-depth Interviews, Brisa

7. Limitations



LIMITATIONS

- **Lack of available market information-** most of information was collected from meetings with industry stakeholders and on-site visits to existent truck parking areas, there is few available literature regarding truck parking services in Europe, and specially in Portugal.
- **Available time of interviewees-** Dependence on the availability of the stakeholders, specially industry experts and truck drivers. Industry experts, typically were business people manage their own business, work in foreign countries or work for Governmental entities, and therefore most of them had a really busy job that made difficult to have time for scheduling interviews with them. Truck drivers were specially difficult to interview due their low academic records, that sometimes made more difficult for them to understand the team's questions, due to their tight work schedule that didn't let much free time to talk to the team and due to the fact that they are constantly moving from one place to another with routes that change every day.
- **Reduced number of questionnaire's answers-** the team computed a questionnaire that was answered only by 101 truck drivers, which can be considered a small sample in a universe of 8,400 transportation companies as of 2016. However, answers to the questionnaire could not be sent via email to truck drivers since this is a segment of population not easy to track or obtain personal information. As such, all questionnaires were answered in person, where the team got together with these truck drivers and ask them the questions face to face in conversations that last for 10 mins on average.
- **Reluctance from transportation companies-** many transportation companies were not willing to collaborate. The team spent one entire week calling both Portuguese and Spanish road freight transportation companies trying to make some questions and obtain insights of their possible interest in truck park services in Portugal, but most of them didn't respond to our calls and emails, and the ones who did, many times delayed it for days or were answered by employees and not someone with decision-power inside the company.
- **Biased results in in-depth interviews and questionnaires-** Some visits to truck parking areas were done during the day and others during the night, which may bias the observations and insights collected in interviews at that places. The ideal situation would have been to do interviews during the day and during the night for every place visited, but that demanded time and resources, since most of this places were in the north of the country, far away from Lisbon.
- **Assumptions-** Due to difficulties in quantifying the demand for Brisa truck park, since we cannot know how many truck drivers would actually leave national roads to use the truck park or how many truck drivers using Brisa's highways would actually stop in the truck park, some data was assumed relatively to the capture and consumption rate of highway traffic passing close by to locations selected for the truck park. However, most of it is in line with insights from questionnaires and in-depth interviews. Additionally, some costs related to the construction of the truck park were also assumed, based on information provided by the client. Furthermore, some assumptions were also made concerning the total number of truck drivers existing in Portugal, since this information is not available on the market or at the internet.



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An aerial photograph of a large, paved truck parking lot. Numerous semi-trucks are parked in neat, diagonal rows across the lot. The trucks vary in color, including white, blue, red, yellow, and green. Some trucks have their trailers detached. The lot is bordered by green grass and trees on the left and right sides. A road with a few cars is visible on the right. A semi-transparent white banner with the word "Appendices" in green script font is overlaid on the left side of the image.

Appendices

A list of 45 appendices is present in the following slides, as a means of providing more detailed information about the topics covered before in this report

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APPENDIX 1- In-depth interviews with industry experts



José Correia
Ex- President of Paulo Duarte

02/10/18

- Fuel Costs=30% of Total costs, dependent on the price of oil
- Personnel Costs=30% of Total costs, dependent on collective labour contracts, associative and union pressures
- Investment in fleet renewal may ascend to large millions, since trucks depreciate in 8 years
- Due to high operational costs and high CapEx necessities, efficiency is key, in terms of adequacy of the machine to the load and routes



Carlos Oliveira
Executive Director of
ANTRAM

10/10/18

- Several other truck park projects have tried to be implemented in Portugal, but reached a dead-end for lack of private investment
- During the crisis many transportation companies from the East started to make distribution of goods in Portugal at extremely low prices, stealing market to Portuguese companies
- Today, the Portuguese road freight transportation sector is at a dead-lock, waiting to see what are the next innovations entering the industry and deciding whether to invest or not



Luís Mendes
President of Fuel Save

08/10/18

- Get data by talking to companies companies. Use a sample of 15 companies and call them, do a market study, and try to talk Traffic Manager or Fleet operator
- Build a value proposition based in three pillars: better conditions for drivers, reduced risk of theft and lower insurance costs
- Electric and Hydrogen combustion engines will enter the truck industry in 5 years. Next will come the autonomous trucks, but the perspective is still in 15 years due to unions power and new legislation



José Jove
President of Bip&Drive

23/10/18

- Best locations are the ones 50km away from city centre and next to service areas
- Number of spots in Barcelona's truck park was defined according to the land field, they were cautious and are not working already at full capacity, they left some potential to expand
- Be part of ESPORG, for fleet manager know the facilities you have to make their trucks park there.
- Do benchmark and inquiries
- 2.000.000 € CAPEX invest in the truck park of Barcelona

APPENDIX 1- In-depth interviews with industry experts



Dirk Penasse
President of ESPORG

24/10/18

- I do believe ESPORG is a fundamental partner to guarantee the best operational results for the truck parks.
- By entering ESPORG's membership, Brisa will save a tremendous amount of money and time due to the market insights and networking given by experts in these type of businesses.
- The membership fee costs 1.500 € annually and includes access to international conferences organized by ESPORG, such the one taking place next week in Brussels in partnership with the EU



José Alberto Gonçalves
Transportation Manager at
Alenquer's City Hall

22/11/18

- More than 300 circulate and park everyday around Carregado. The roadside is always fully crowded as well its residential areas, which brings dangerous risks to populations.
- The only truck parking area existing is terrible, with a land field where the floor is entirely clay in the winter and in the summer is full of dust. Drivers only stop there because there is no other option.
- City Halls has plans to built a secure truck park.



José Martinez
Truck Park Manager at Repsol

16/11/18

- We are interested in improving our truck park network from 9 to 12 in Spain. Portugal is also an option to build a truck park.
- However, Portugal has some negative aspects: its peripheral position and the habit that drivers have on sleeping in the parks of the restaurants where they eat.
- We will schedule a visit to our truck park in Badajoz with someone from Repsol's so that you can take a look at its operations"



José Alberto Gonçalves
Transportation Manager at
Guarda's City Hall

29/11/18

- An investment of 150.000 € was made in order to build the park, including spots for trucks, spots for passenger cars, seal, locker rooms, lounge area, entrance automation and surveillance.
- This truck park lacks a restaurant, all the drivers complain about this issue.
- A strong campaign with the municipal police was made in order to expel the truck drivers from the urban area and lead them to the truck park

The Metaplan brainstorming technique was used by Nova SBE team together with the client, to develop opinions and formulate an action plan to focus on Brisa's problem and its possible solutions

APPENDIX 2- Metaplan's brainstorming technique

Metaplan Method

- ✓ Metaplan is a **German consulting firm** that gives advice to companies on how to develop business strategies. The company got **known for developing a brainstorming technique called Metaplan.**
- ✓ Participants write **ideas about a certain topic in post-its**, then **group the post-its** according to common characteristics, and finally use a **voting system to classify the ideas** or groups of ideas previously created .
- ✓ The method usually involves the **intervention of a discussion moderator**, who structures and guides group thinking.



Key Questions & Answers

1

Is there demand for the construction of a Truck Park in in Portugal?

“

Drivers want better conditions at low prices”

The parks existing in Portugal are in bad conditions

City Halls want it

Security is not a concern

Past attempts of implementation of truck parks

Road Freight transport is really strong in PT

Fragmented market and low margins

PT is a peripheral country

We export more than we import

”

2

Should the truck park be built in Carregado?

“

Truck parking in villages and town causes disturbances

Proximity to a logistic centre and to Lisbon

Possible partnership with City Hall, cannot be competitors

60 trucks p/night in the land field currently used

Close to the highway

Brisa has an available land field in the area

Is already a local commonly used for stops

Brand awareness and integration in Brisa's network

There is demand, land field currently used is in bad conditions

There were 4 main conclusions of the Metaplan, being them the evident demand from truck drivers, the constrain of building the truck park in Brisa's highways, having basic services and loyalty programs

APPENDIX 2- Metaplan's brainstorming technique

Key Questions & Answers

3 What type of services should be offered?

“ Night services
Lounge Area (TV and internet)
Security fence
Large parking area
WC and shower facilities
Wi-Fi inside all park
Restaurant selling traditional food ”

4 What type of commercial model should be implemented?

“ Monthly fee for drivers leaving in the neighbourhood
Package (Parking + meal + Shower)
First hour free
Loyalty programs to access the park
Drivers are not willing to pay only for the secure parking ”

Main Conclusions

1 There is demand from truck drivers to use the services offered by a secure truck park.

2 Brisa wants the truck park to be built on its highway to integrate the concept in the network.

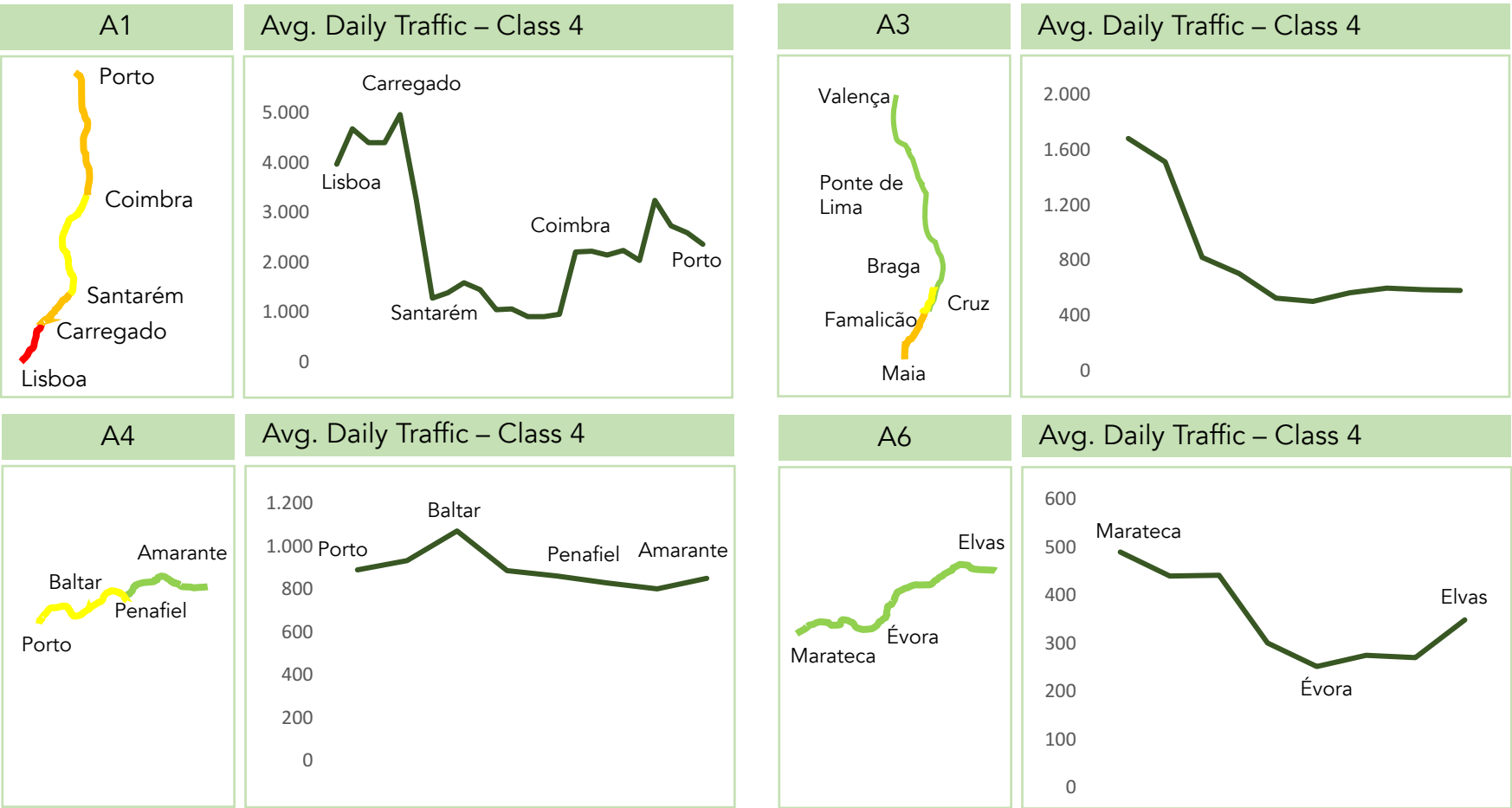
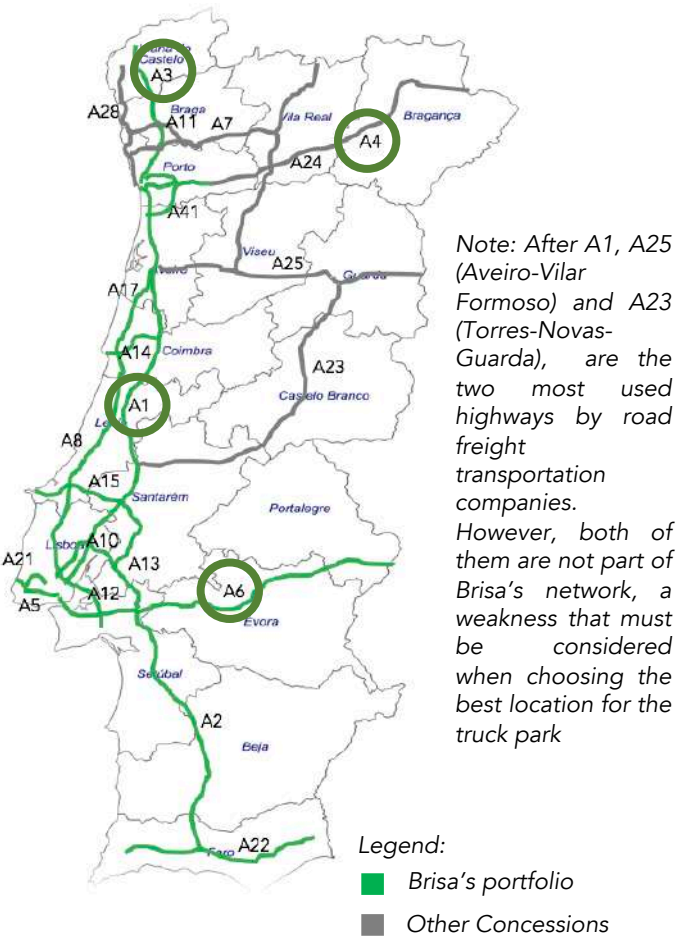
- Build the truck park in a **Service Area in the highway before Carregado**.
- Build the truck park in **Brisa's land field in Carregado**, next to the highway. Alenquer's city hall could use the fields of Quinta da Mendanha to other uses.
- Build the truck park in the **Service Area of Antuã**.
- If not possible, how could **Brisa benefits truck drivers who use its highways** and service areas? Loyalty programs.

3 The truck park must offer **basic services**, such as: security fence, WC and shower, Restaurant and Lounge Area. **There is no need to build a truck park like the ones certified by ESPORG**.

4 Brisa could use **loyalty programs directed to truck drivers**, in order to provide access and discounts in the park, or benefit all of them who use Brisa's highways and service areas.

APPENDIX 3- Brisa's highway network

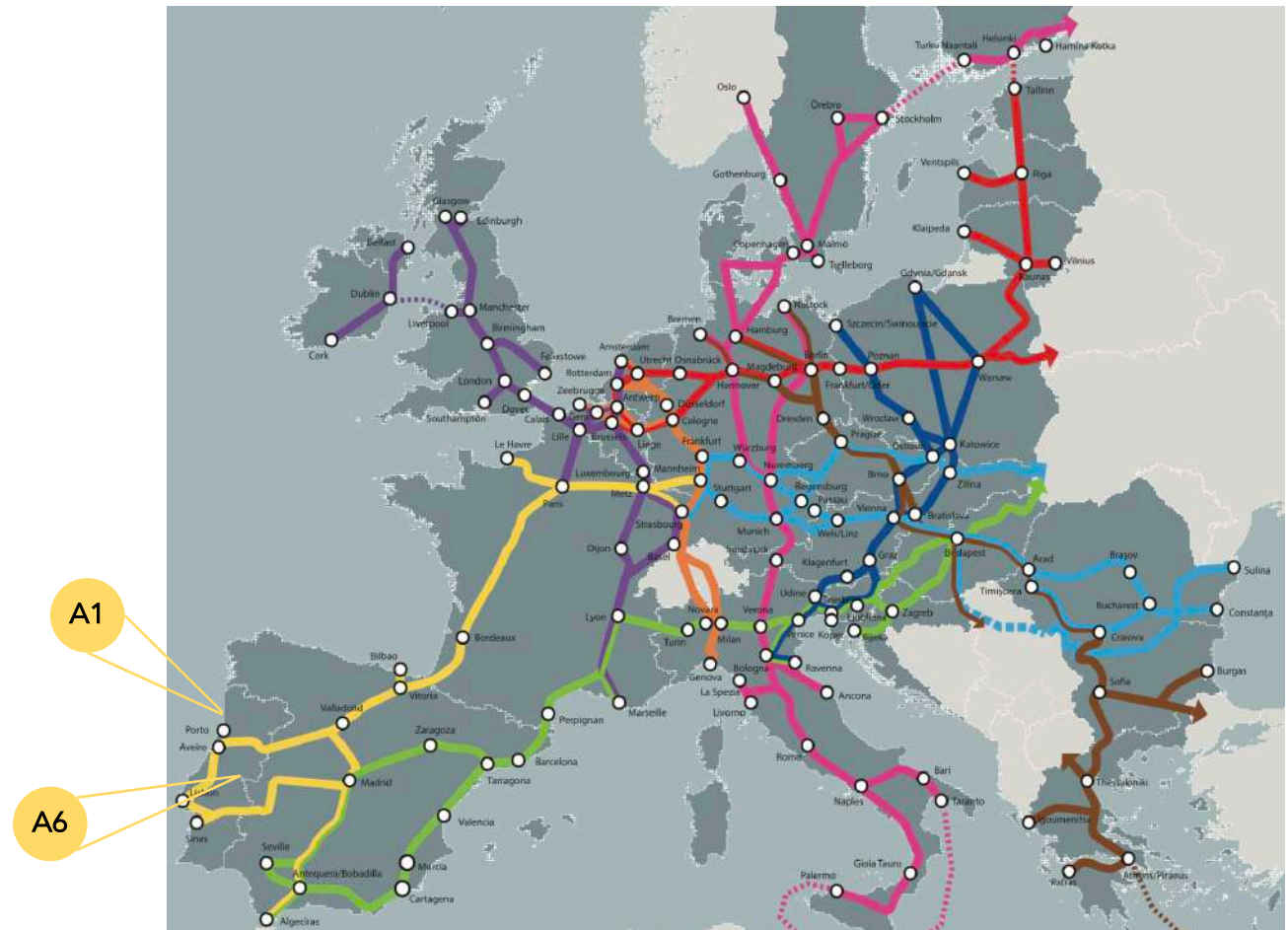
Among the most important national corridors of Class 4 (truck) traffic Brisa has...



APPENDIX 4- Trans- European Network corridors

Competitive Advantage over international traffic

- Brisa has the concession of two highways belonging to the Atlantic corridor of the Trans-European Transport Network (TENT-T): A1 (Lisbon-Porto) and A6 (Lisbon-Badajoz)
- Core Network Corridors bring together public, private and EU funds to remove bottlenecks, build missing cross-border connections and promote modal integration and interoperability in the period 2014-2020.
- The Atlantic Corridor links the Western part of the Iberian Peninsula and the ports of Le Havre and Rouen to Paris and further to Mannheim/Strasbourg, with high speed and conventional rail lines, roads and the Seine as inland waterway.
- Brisa can take advantage of the higher international traffic circulating in A1 and A6, due to good road conditions coming from infrastructural investments among the TENT-T program



Brisa's truck park business is affected by several stakeholders, which if organized in a Power/Interest Matrix reveal a Political Trapp, since most of them have high power over the business but low interest on it

APPENDIX 5- Stakeholders of the truck park business

1. Employees	Maintenance, cleaning, restaurant and security staff. These people are the ones who assure quality of service offered to clients, and therefore influence directly clients' satisfaction.	7. Government	City Halls, Ports, Legislators, Police and Traffic authorities. These entities are responsible for traffic control and application of fines, incentivizing drivers to stop according to the legal limits established, which in turn can favour the utilisation of truck parking services like the one of Brisa.
2. Shareholders	Brisa and Group José de Mello. These entities hold ownership over the truck park and are the who will manage it, so the park will only be operating if they consent in it.	8. Communities	Families, friends and colleagues of truck drivers. These people is responsible for supporting and counselling, or not, the truck driver to stop in Brisa's truck park, taking into account the conditions it offers. They are key to a positive marketing through Word-of-Mouth (WOM).
3. Customers	Truck drivers and respective road freight transportation companies. They are the target of the truck park business, without them the business cannot succeed.	9. Clients of transportation companies	Clients of transportation companies (e.g. FMCG Chains). These retail companies are the ones who are waiting for the upload and download of the cargo, which means security of the cargo is key for them. This influences directly the responsibility of the cargo from the part of the transportation company, and ultimately, from the truck driver.
4. Unions	PECTRANS and ANTRAM, the two labour unions that influence the truck park demand, since they represent the drivers and the transportation companies, respectively.	10. Others	Truck manufacturers, technology and information companies. These players influence how the trucks are prepared to assure in terms of comfort and commodity, drivers' economical way of driving, and control from transportation companies over drivers. This may lead them to stop more times, because need to comply with legal limits, but can also lead them to not use so much truck park services because maybe they can cook easily inside.
5. Suppliers	Oil & Gas companies, vehicle-washing companies, mechanical companies, electricity companies, payment companies, security companies. They affect directly the normal functioning of the truck operations, without their supply of services the truck park reduces service-quality.		
6. Distributors	ESPORG and truck-parking apps. These are responsible for marketing of the truck park, by making truck drivers and fleet managers of transportation companies get to know it exists and what are the services it provides. They are key to secure demand and reach international clients.		

Sources: In-depth interviews with industry experts, in-depth interviews with truck drivers

The yearly ESPORG membership costs 2.500 €, and provides access to industry' expertise, experience, networking and valuable resources to help truck park business define strategies and control operations

APPENDIX 6 - ESPORG's benefits

Benefits of membership

- **Network with other key secure parking area players** and win over new clients and business partners
- Stay ahead of new developments and **anticipate key market trends**
- Be part of campaigns and policy work that ensure your goal are provided to legislators when important European decisions are to be made
- Obtain **daily support** to achieve more easily tasks and strategies
- Benefit from services offered by or via ESPORG and various discounts programs

ESPORG Certification

- In order for the truck area to be certified, it must be a ESPORG member
- The Certification is **divided in Security and Service Level**, and is evaluated from **1-5 levels**
- The auditing is performed by the company Dekra, and consists in the valuation of certain standards such as: toilet conditions, external fencing or alarm response procedures
- The Membership of ESPORG for 1 calendar year, starting January first till December 31, **costs 2500€**



In order to do a benchmark analysis to services offered in truck parks spread across Europe, 9 parks were selected and revealed as common services the 24h surveillance, Wi-Fi, restaurant, cafeteria and showers

APPENDIX 7- Truck park services

		P											
	Truck Park Barcelona	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
	Repsol Badajoz	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗
	Andamur Gerona	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗
	Truck Services Narbonne	✓	✓	✓	✗	✓	✓	✓	✓	✗	✗	✗	✗
	Securit Park Niort	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗
	Truck Etape Beziers	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗
	Bruno Safe Parking	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
	Secure truck Stop	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗
	Ashford Truck Stop	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Overall	9	9	9	8	9	9	9	7	5	4	2	2

Sources: Truck Park websites and mobile apps

The team visited the three TIR Parks existing in Portugal, located in Setúbal, Guarda and Perafita, the ones which offer good conditions in terms of floor, hygiene facilities and security, for a really symbolic amount

APPENDIX 8- Images of Guarda and Perafita TIR Parks

Guarda TIR Park



Perafita TIR Park



APPENDIX 9- Interview with fleet manager of Guarda's City hall

Main insights collected

José Gonçalves
Transports and Fleet Management of Guarda's City Hall



- "An **investment of 150.000 €** was made in order to build the park for the cars, seal, locker rooms, lounge area, entrance automation, surveillance needs."
- "In my point of view the park **wasn't the best spot** since it's a little bit **far from the highway**. A park must be built right across the highway."
- "The utilization of the park is mainly **by night** and on the **weekend**. There are a lot of drivers using the monthly package, leaving the truck in the end of the day at the park."
- " A **main necessity that is lacking in this park is a restaurant**, all the drivers complain about this issue since they give extreme importance to this service."
- " A **strong campaign with the municipal police** was made in order to expel the truck drivers from the urban area and lead them to the truck park."
- "The park sustains an average **30K € deficit per year**, which was expectable due to the practiced prices. This value is gladly supported by the town hall since they have the guarantee that there are no trucks in the city."

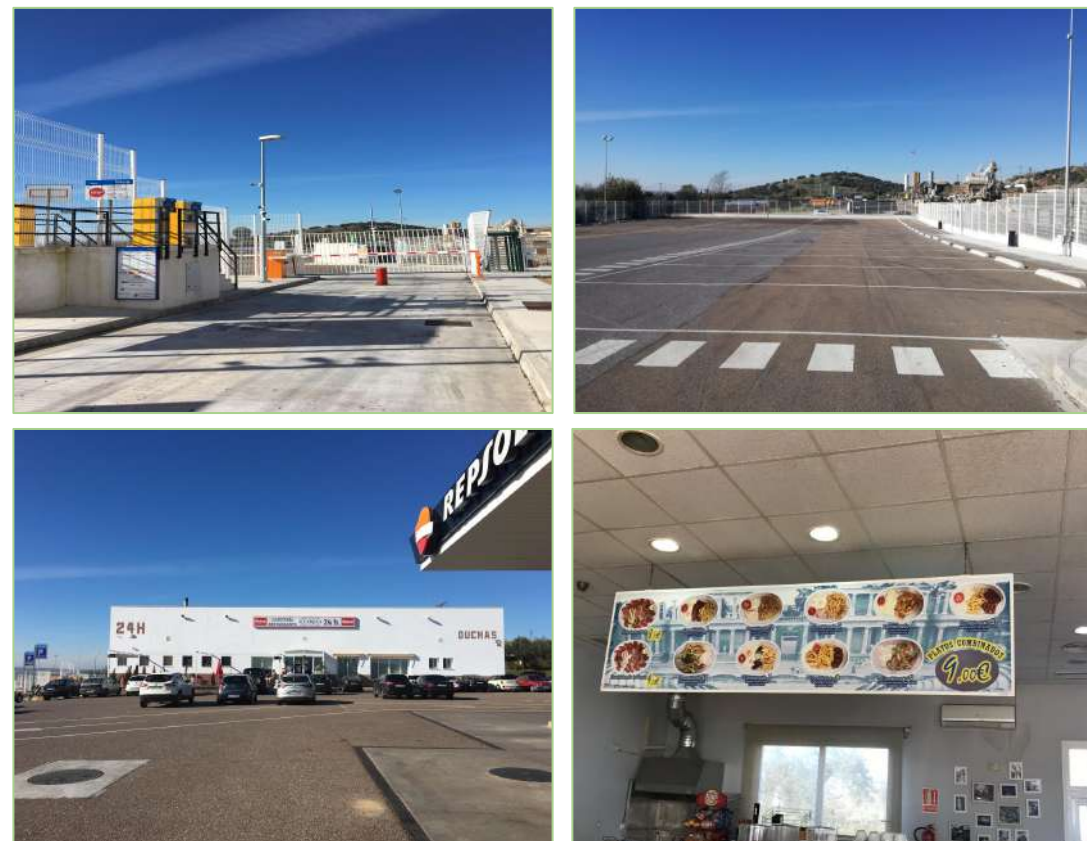
For investigation purposes, the two trucks parks existing near the spanish border were analysed in detail, being the most known among drivers the one in Vilar Formoso, currently in a degradable state

APPENDIX 10- Images of Vilar Formoso and Badajoz Truck Parks

Close to the Spanish border: Vilar Formoso's Truck Park



Close to the Spanish border: Repsol's Truck Park in Badajoz



Sources: Field Research, In-depth Interviews

In order to collect insights on whether Carregado could be a suitable option for the construction of Brisa's truck park, it was done field research and a focus group with 8 drivers at dinner night in a restaurant

APPENDIX 11- In-depth interviews and images of Carregado

Focus group in a restaurant close to the land field used by drivers to park the trucks



The higher competition for Brisa's truck park are restaurants existing along national roads which offer drivers good and affordable meals, together with the possibility of parking trucks in its backyards

APPENDIX 12- Restaurants' parks

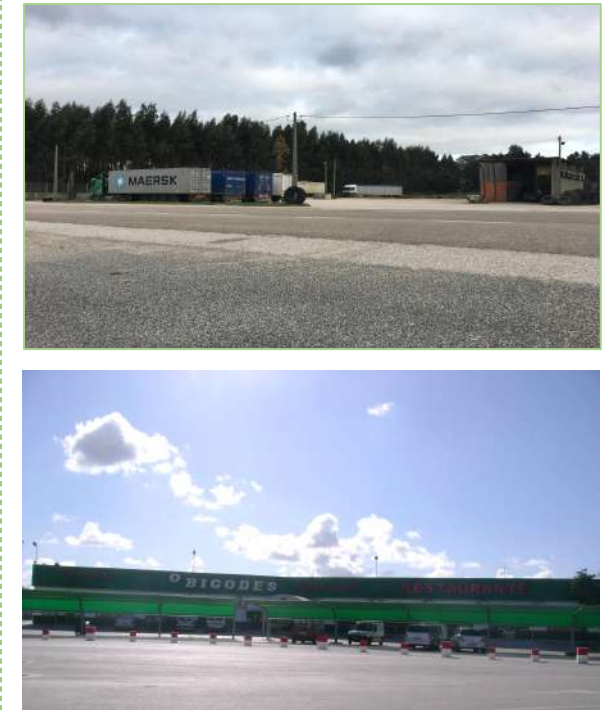
*Restinova's Restaurant
(Condeixa)*



*Okapi's Restaurant
(Albergaria)*



*O Conquistador's Restaurant
(Benedita)*



The meeting with the responsible for Transports Management of Alenquer's City Hall revealed the bad conditions in which drivers currently park in the city and that the City Halls has plans to change it

APPENDIX 13 - Interview with fleet manager of Alenquer's City hall

Main insights collected

Tiago Pedro
Transports and Fleet Management of Alenquer's City Hall



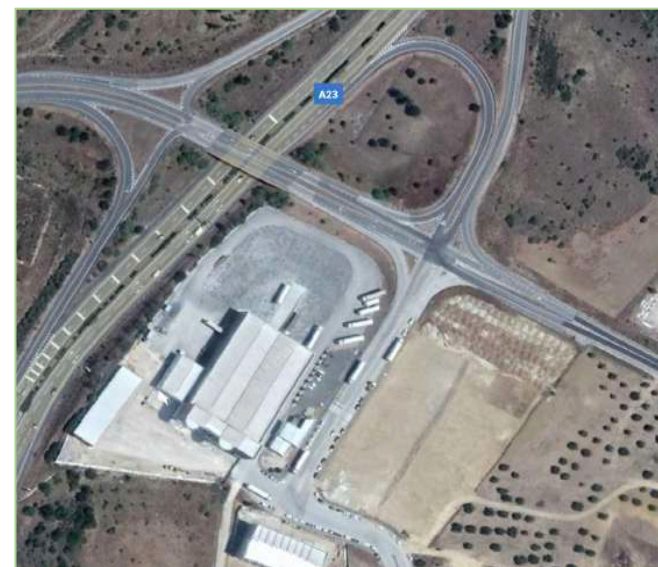
- "The truck park **conditions existent in Carregado area are terrible**. The only reason why they stop in the the Park of Carregado is because **there is no other option available**. The floor is entirely clay in the winter and in the summer is full of dust."
- "The estimation for the daily trucks stopping in this area, is about **300 drivers**. The roadside is always fully crowded as well as the urban area of Carregado"
- "There is a lack of efficiency in the load and discharge of products, which contributes to a longstanding process. The drivers are usually **forced to wait several hours** to know where they should go next."
- "Carregado is the biggest road transport point in Portugal. There is a large number of automobile and consumer goods industries, making itself a huge industrial area. It's a strategic point since it is close to the A1 highway passage as well as the nationaly road."
- "The town hall is thinking about building one secure truck park in Carregado (Quinta da Mendanha). The land was bought for 1,2 M € and the project is already in the project breaf phase. The project may take time to begin due to politics bureaucracy."
- "Our idea is to have a truck park concession delivered to an oil company or any other that would fit in our requirements."
- " The truck park will have 35.000m2 and 100 spots approximately. We are also thinking about building a restaurant, mechanical workshop, gas station"

Sources: Field Research, In-depth Interviews

Repsol is building an oil station in Benavente in a land field with 13.600m², that may include a truck park to capture the intense traffic coming from the intersection of A1 with A23 and to the proximity of DIA logistics

APPENDIX 14- Future Repsol project in Torres Novas

Future Repsol Service Area in Torres Novas



Land field with 13.600 m²
Close to the intersection of A1 and A23
Close to logistic centre of Group DIA

Questionnaires done to 101 truck drivers across the country followed a template of 24 questions and several possible answers for each

APPENDIX 15- Questionnaires to truck drivers

Template of the questionnaire

Truck driver's Questionnaire

1 In which park are we?
Your answer: _____

2 How many years of experience do you have?
☐ 1 - 5
☐ 6 - 10
☐ 10 - 20
☐ > 20

3 In which market do you work?
☐ Nacional
☐ Iberian
☐ International

4 What is your nationality?
☐ Portuguese
☐ Internacional

5 Where do you usually stop during the day?
☐ Service areas
☐ Truck park
☐ Roadside
☐ Own company
☐ Home
☐ Client
☐ Restaurant's park
☐ Other: _____

6 Where do you usually stop during the night?
☐ Service areas
☐ Truck park
☐ Roadside
☐ Own company
☐ Home
☐ Client
☐ Restaurant's park
☐ Other: _____

7 Who takes the decision about where to stop?
☐ Truck driver
☐ Boss

8 Who pays for services consumed during your stops?

	Boss	Truck driver	Not consumed
Lunch	☐	☐	☐
Dinner	☐	☐	☐
Shower	☐	☐	☐
WC	☐	☐	☐
Secure night parking	☐	☐	☐

9 Why did you stop here?
☐ Free shower
☐ Live by
☐ There are no other options
☐ Proximity to upload/download area
☐ Restaurant- coffe
☐ Restaurant- full meal
☐ Security

10 How frequently do you stop here?
☐ Every day
☐ 1 - 3x per week
☐ 4-5x per week
☐ Once a month
☐ Rarely

Sources: Questionnaires

Questionnaires done to 101 truck drivers across the country followed a template of 24 questions and several possible answers for each

APPENDIX 16- Questionnaires to truck drivers

Template of the questionnaire

11

At what time of the day do you stop here?

- ☐ In the morning
- ☐ Lunch time
- ☐ Dinner time
- ☐ During the night

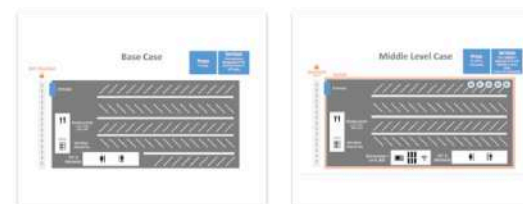
12

How do you classify this park?

- ☐ Really bad
- ☐ Bad
- ☐ Indifferent
- ☐ Reasonable
- ☐ Good
- ☐ Really good

13

Which truck park model better fits your needs?



- ☐ Base Case
- ☐ Mid-Level Case



- ☐ Premium Case
- ☐ None

☐ Other:

14

How much are you willing to pay to only spend the night?

- ☐ 1€ - 2€
- ☐ 2€ - 3€
- ☐ 3€ - 4€
- ☐ 4€ - 5€
- ☐ > 5€
- ☐ Not willing to pay
- ☐ Other:

15

How much are you willing to pay per hour to stop during the day?

- ☐ < 0,5€
- ☐ 0,5€ - 1€
- ☐ 1€ - 1,5€
- ☐ 1,5€ - 2€
- ☐ > 2€
- ☐ Not willing to pay

16

How much are you willing to pay for a meal?

- ☐ 5€ - 7,5€
- ☐ 7,5€ - 8,5€
- ☐ 8,5€ - 10€
- ☐ > 10€

17

How much are you willing to pay for shower?

- ☐ 0,5€ - 1€
- ☐ 1€ - 1,5€
- ☐ 1,5€ - 2€
- ☐ 2€ - 2,5€
- ☐ 2,5€ - 3€
- ☐ > 3€
- ☐ Not willing to pay

Questionnaires done to 101 truck drivers across the country followed a template of 24 questions and several possible answers for each

APPENDIX 17- Questionnaires to truck drivers

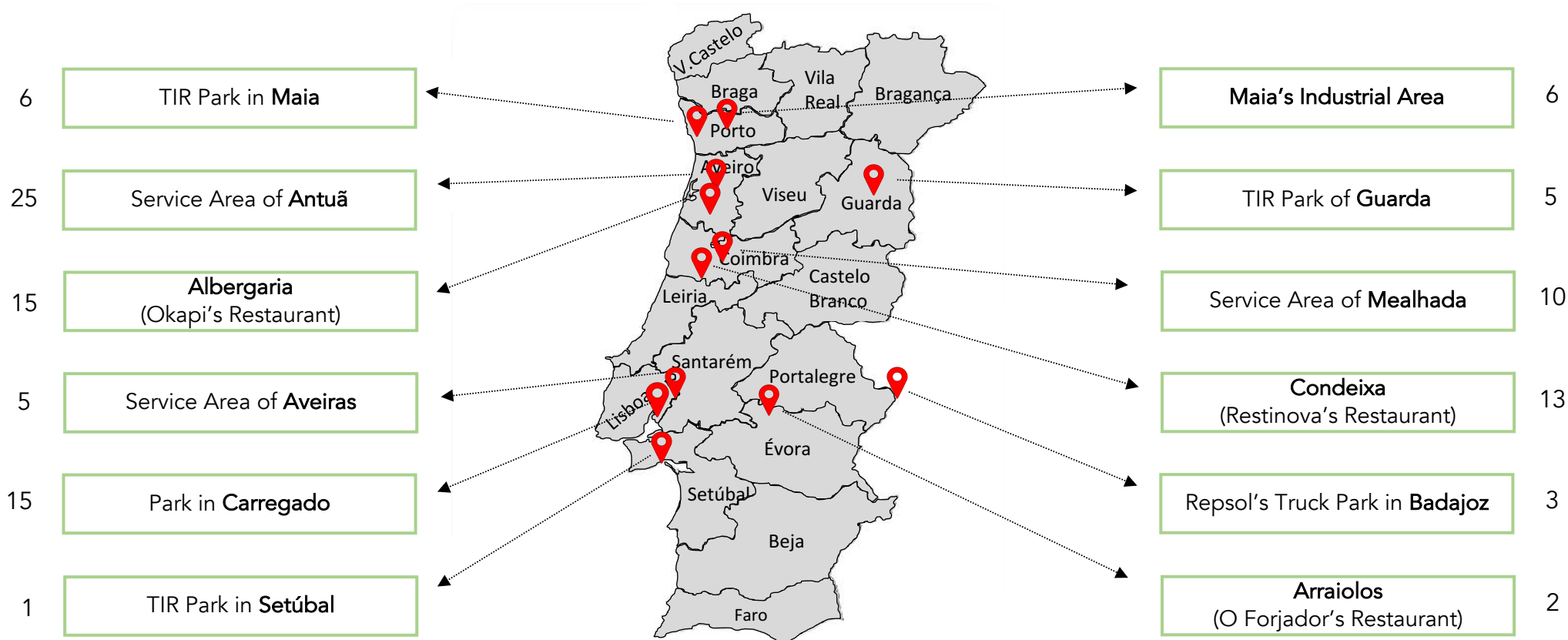
Template of the questionnaire

18	Would you prefer services to be offered individually or in package? ☐ Individually ☐ In package	21	How many times do you get out off highways to have a meal? ☐ Rarely ☐ Sometimes ☐ A lot of times ☐ Always ☐ Other: _____
19	How much are you willing to pay for the package "secure park+meal+shower"? ☐ 9€ - 10€ ☐ 10€ - 11€ ☐ 11-12€ ☐ > 12€ ☐ Not interested	22	If the selected model was applied to a Service Area, would you use more highways? ☐ No, because by boss won't let me use highways ☐ No, because I like to go to the restaurants I already know ☐ Yes, if my boss allows me
20	How many times per week (5/7 days) do you have dinner out? ☐ 1 - 2x ☐ 3 - 4x ☐ 5 - 6x ☐ 7 - 8x ☐ 9 - 10x	23	Which areas of the country do you think a truck park would be more profitable? Your answer: _____
		24	In the last 5 years, how many times were you robbed? ☐ 1 - 2x ☐ 3 - 5x ☐ > 5x ☐ Never ☐ Other: _____

APPENDIX 18- Questionnaires to truck drivers

1 In which place are we?

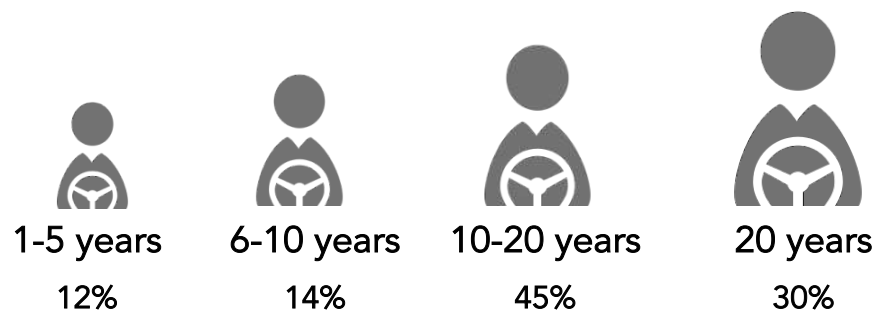
Total = 101 responders



From a sample of 101 truck drivers, 45% had between 10-20 years old and 49% worked solely in the national market, revealing an aging sector and the problems of being a peripheral country

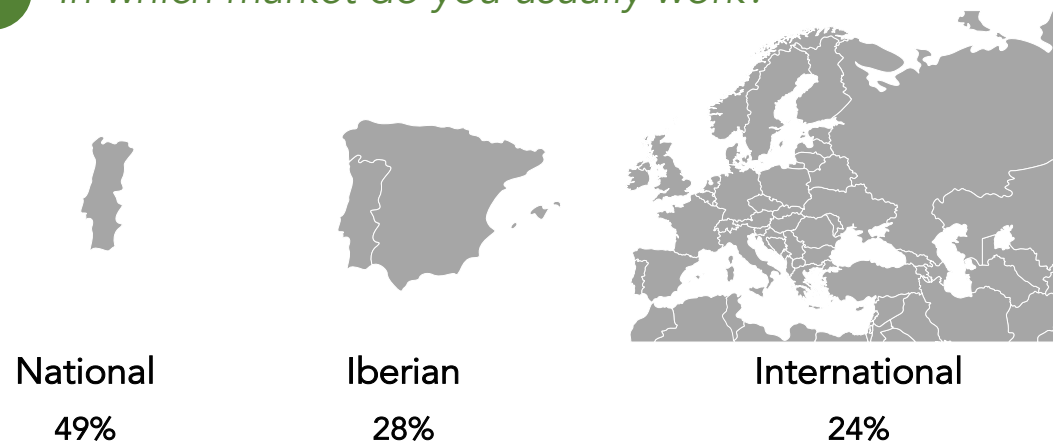
APPENDIX 19- Questionnaires to truck drivers

2 How many years of experience do you have?

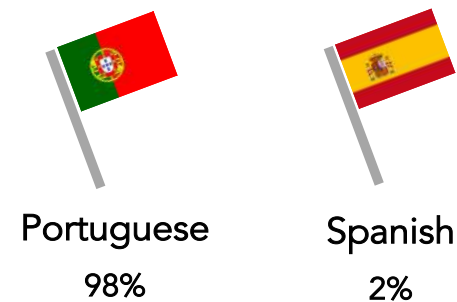


- "We have experienced a **particularly complicated situation in the sector, which is aging day by day**. It has been **difficult to attract new generations to work in this sector and there is a very serious lack of manpower**"
Gustavo Duarte, President of ANTRAM;
- The **reasons behind this phenomena** are many: high costs of driving licenses (3.000 €), low salaries (600 € base), large working schedules (15h p/day), health problems associated to the profession (obesity, diabetes, stress, physical wear and low social status).

3 In which market do you usually work?



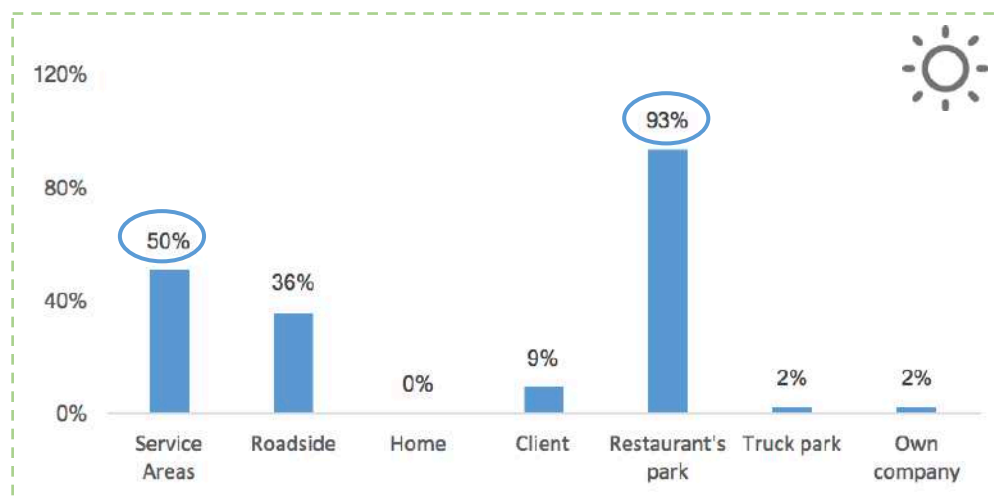
4 What is your nationality?



During the day or during the night, most drivers prefer to stop in Service Areas or restaurants' parks, the first due to a higher perception of security and the second due to the good price-quality of the food

APPENDIX 20- Questionnaires to truck drivers

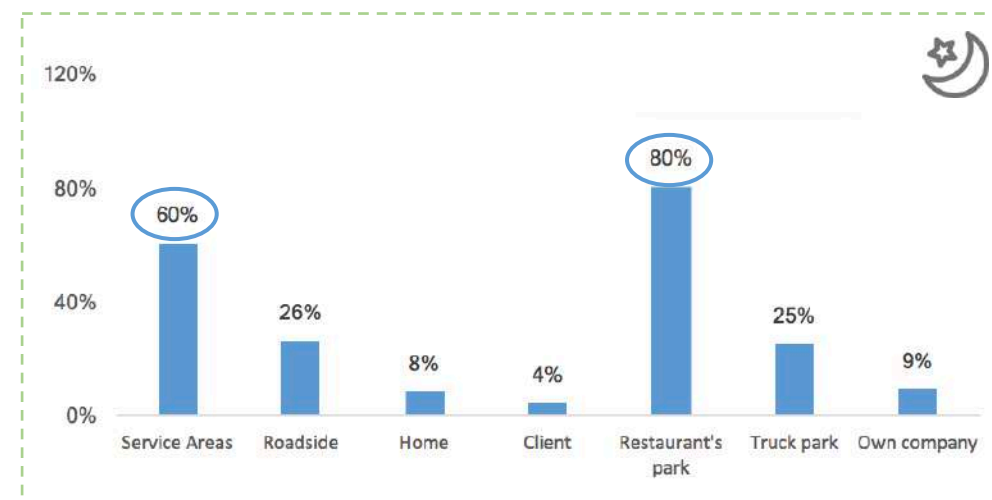
5 Where do you usually stop during the day?



Conclusion:

The preference of restaurants with enough space to park the truck supports the fact that the meal is at the top necessities for the drivers.

6 Where do you usually stop during the night?



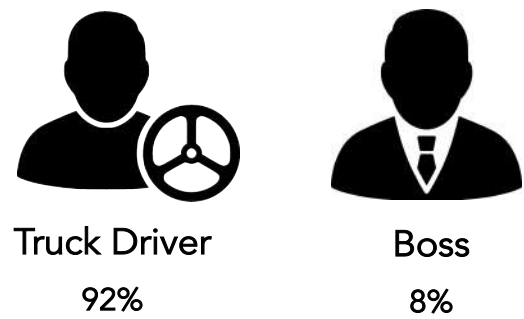
Conclusion:

Compared to the answers relative to the day, the % of service area and truck parks as preferable stop increases as the restaurant parks and sidewalks decreases. This shows that security is still a concern to the drivers.

APPENDIX 21- Questionnaires to truck drivers

7

Who takes the decision about where to stop?



Conclusion:

Although the routes are previously defined by the company, drivers are the ones who decides where he stops. The results of this answer sustains that the driver is the actual client of our product.

8

Who pays for services consumed during your stops?

Options/Place	Lunch	Dinner	Shower	WC	Secure Night Parking
Truck Driver	98%	99%	91%	97%	2%
Boss	1%	1%	0%	0%	68%
N/A (Not consumed)	1%	0%	9%	3%	30%

Conclusion:

The driver is the one who pays most of the daily expenses. Considering that in 68% of cases the transportation company is the one who pays for the secure night parking, the pricing strategy implemented for the truck park must allow the drivers to present the parking expenses to their boss.

Services Areas of Aveiras, Mealhada and Antuã are seek mainly from drivers who look for a free shower and overnight security, contrary to the restaurants' parks, where drivers seek a good meal and average security

APPENDIX 22- Questionnaires to truck drivers

9 Why did you stop here?

Options/Place	Badajoz	Arraiolos	Setúbal	Carregado	SA Aveiras	SA Mealhada	SA Antuã (SN)	SA Antuã (NS)	Condeixa (Restinova)	Albergaria (Okapi)	TERTIR	Maia	Guarda
Free shower					100%	70%	93%	100%		20%			
Live by				20%									80%
There are no other options			100%	80%	80%	80%						100%	20%
Proximity to upload/download area			100%	80%	80%	100%	80%			20%	100%	100%	
Restaurant-Coffee	67%	100%			40%	20%	27%	60%	38%				
Restaurant- Full meal	100%			87%					92%	87%			
Security	100%				100%	100%	100%	100%	85%	87%	100%		100%

Conclusion: The meal upsurge as the top reasons why they park. Plus, they value location of service areas, as they save a lot of time by being close to the highways. Moreover, in Carregado, Aveiras and Mealhada there are not much more options to park in the close surroundings.

Sources: Questionnaires

Services Areas of Aveiras, Mealhada and Antuã are places of frequent stop, either to take a coffee or spend the night, contrary to Restaurants, in which drivers stop mainly 1-3 times per week

APPENDIX 23- Questionnaires to truck drivers

10 How frequently do you stop here?

Options/Place	Badajoz	Arraiolos	Setúbal	Carregado	AS Aveiras	AS Mealhada	AS Antuã (SN)	AS Antuã (NS)	Condeixa (Restinova)	Albergaria (Okapi)	TERTIR	Maia	Guarda
Every day	33%	50%		33%	40%	60%	53%	40%	27%	26%		100%	
1 - 3 times per week				40%	20%	10%			50%	40%			
4 - 5 times per week				7%			7%				100%		20%
Twice a month			100%	7%		10%		20%		7%			40%
Once a month						10%		20%	8%	7%			
Rarely	67%	50%		13%	40%	10%	40%	20%	15%	20%		50%	40%

Conclusion: The locations with higher frequency are Service Areas, common places used to take a coffee in the morning, due mandatory 15min breaks or spend the night when eating their own food. Restaurants are the second place with higher frequency, mainly for being on IC2 and for the good food

Besides Condeixa, all the other places analysed have higher occupation during the night, especially Carregado and Albergaria, where all respondents say to stop there during the night

APPENDIX 24- Questionnaires to truck drivers

11 At what time of the day do you stop here?

Options/Place	Badajoz	Arraiolos	Setúbal	Carregado	SA Aveiras	SA Mealhada	SA Antuã (SN)	SA Antuã (NS)	Condeixa (Restinova)	Albergaria (Okapi)	TERTIR	Maia	Guarda
In the morning	67%					40%	7%		15%		50%		
Lunch time	33%			40%		30%	27%		77%	20%	17%	100%	
Dinner time	33%	50%		60%	100%	40%	40%	40%	23%	80%		50%	40%
During the night	67%	50%	100%	100%	80%	70%	87%	80%	54%	100%	67%	100%	100%

Conclusion:

Besides Condeixa, all the other places analysed have higher occupation during the night. Condeixa, as a centre and passage location in Portugal, registers more traffic during the day.

Regarding service areas, the utilization is clearly higher during the night. The prime location of the SA, allows the drivers to be faster at their destination point in the next morning, and since they are in the highway, the existence of frequent police patrols make them feel more secure.

Carregado and Albergaria have 100% utilization at night, for different reasons. In Albergaria, the restaurant and the reasonable parking lot are the facts that encourage most drivers to stop there. As for Carregado, the main reason is that there is any other alternative in close surroundings.

Carregado is clearly the place which rates worst in terms of quality, having all other with reasonable ratings in which regards overall classification of the park

APPENDIX 25- Questionnaires to truck drivers

12 How do you classify this park?

Options/Place	Badajoz	Arraiolos	Setúbal	Carregado	AS Aveiras	AS Mealhada	AS Antuã (SN)	AS Antuã (NS)	Condeixa (Restinova)	Albergaria (Okapi)	TERTIR	Maia	Guarda
Very bad			100%	73%							17%	33%	
Bad				27%		10%		20%			33%	33%	
Indifferent	33%	50%			40%	10%	7%					17%	
Reasonable		50%			20%	30%	13%	20%	23%	53%	50%	17%	
Good	67%				40%	50%	73%	60%	77%	47%			100%
Really good							7%						

Conclusion:

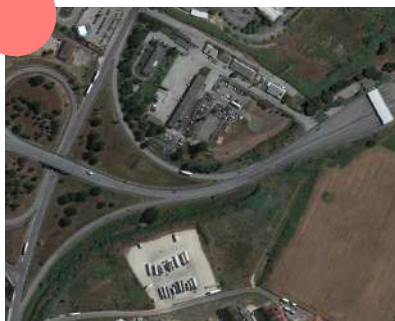
The main take-way of this question is clearly the bad classification of Carregado's park. The feedback gotten states that a park with better conditions is a great necessity in that are.

Analysing the other questions, the average answer is between the reasonable and good conditions, The conclusion is that there isn't any location that fulfils the drivers' needs.

Behind the classifications attributed to each park there are several factors taken into account by the truck drivers, the last which the team decided to further investigate and develop

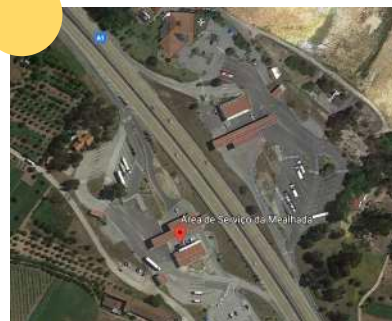
APPENDIX 26- Questionnaires to truck drivers

Notes: Major reasons for these classifications



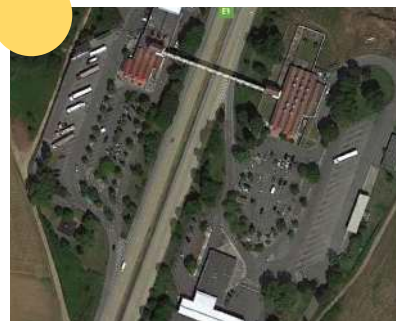
Carregado

- Land field in bad conditions
- No WC or shower
- No illumination
- Not secure
- However, good restaurant near by



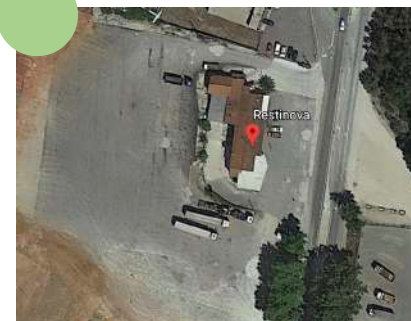
AS Mealhada

- Free WC and shower
- Secure
- None good and affordable restaurant near by
- Low number of places for heavy vehicles



AS Antuã

- Free WC and shower
- Secure
- Proximity to Porto
- None good and affordable restaurant near by
- Low number of places for heavy vehicles



Condeixa (Restinova)

- Good and affordable restaurant
- Good social environment
- Secure, with video-surveillance
- WC and shower



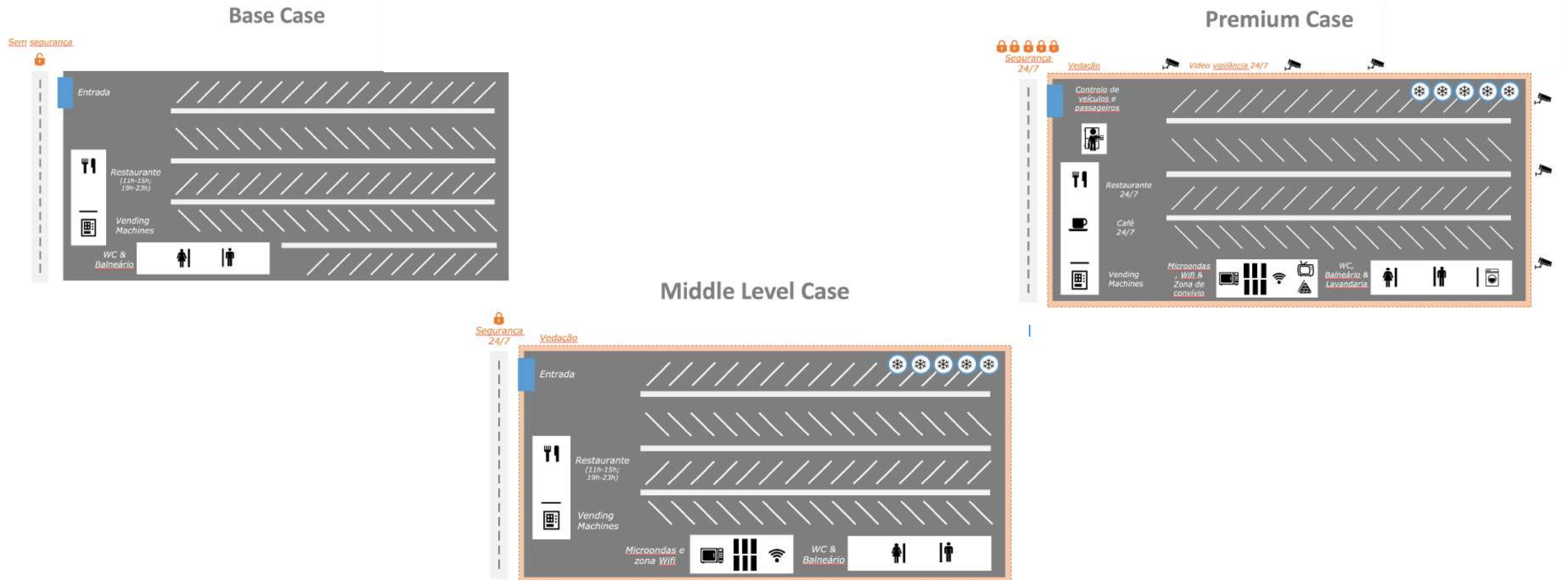
Albergaria (Okapi)

- Proximity to A25
- Proximity to Porto
- Good and affordable restaurant
- Good social environment
- Secure, with video-surveillance and guard
- WC and shower

In order to get a perception of which type of truck park drivers are looking for according to their needs, 3 truck park models were developed based on increasing levels of services and security

APPENDIX 27- Questionnaires to truck drivers

13 Which truck park model better fits your needs?

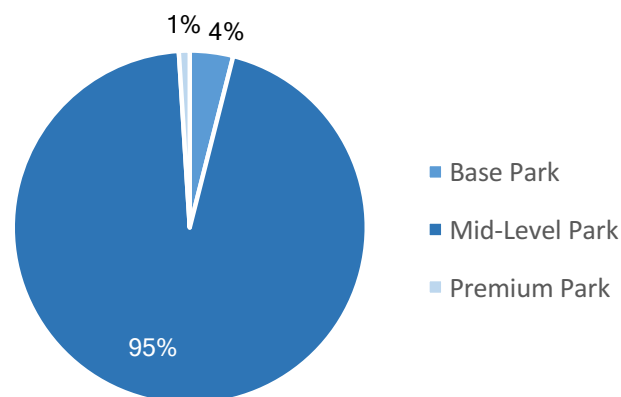


Sources: Questionnaires

From the questionnaires is perceivable that the preferred model is Model II (Middle Level Case), offering basic security through cameras and fence, good price-quality restaurant, shower, WC and lounge area

APPENDIX 28- Questionnaires to truck drivers

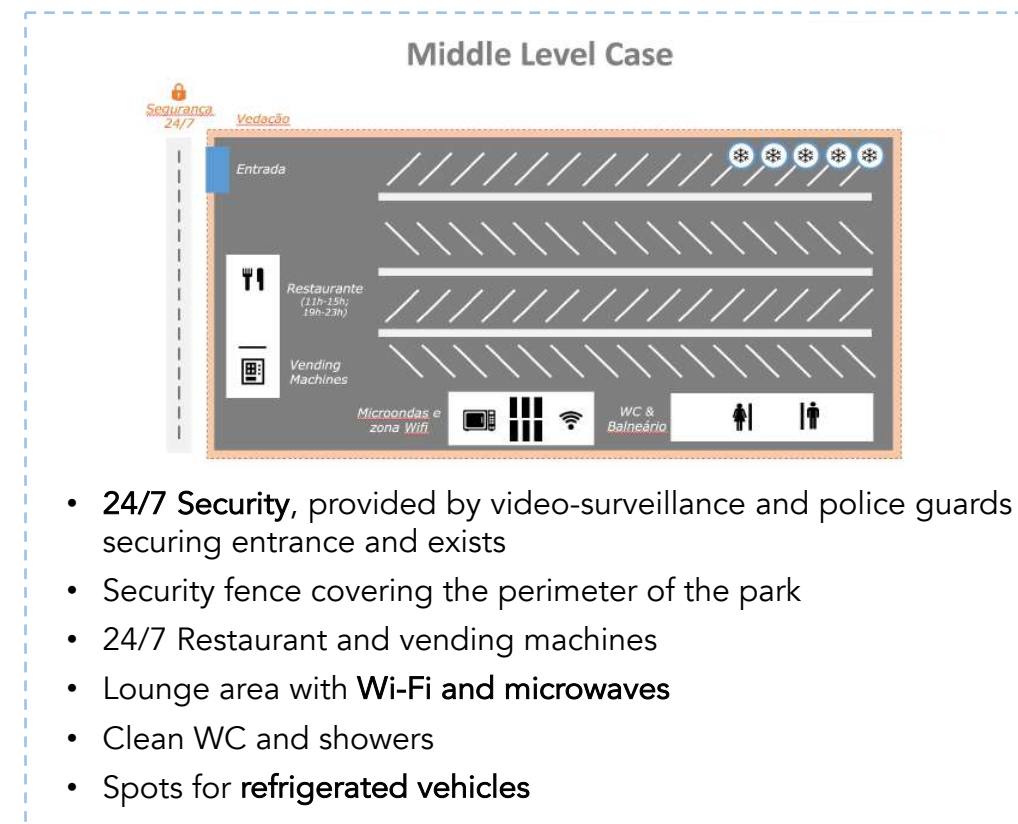
13 Which truck park model better fits your needs?



WHY?

- Most of drivers say to prefer Mid-level park since the **benefit offered by this option compensates for their current costs**
- Currently, they **pay an average of 8€ per meal and 2€ per shower, in non-secure parks**
- As such, if they can pay a **package of 10-11€ including “meal + shower + secure parking”**, it compensates
- Although biased by a psychological misperception, they **believe that security is offered as an extra mile at no cost, since their mind is only focused on the meal and shower prices**

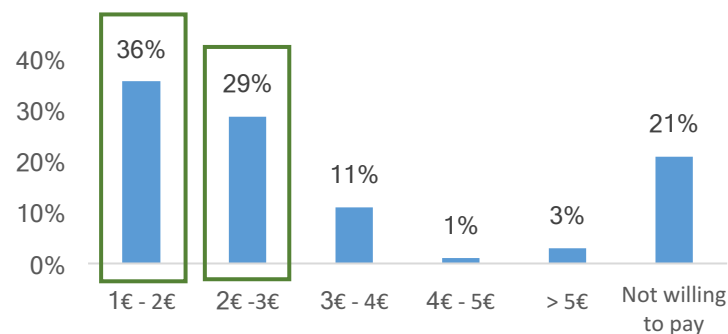
Sources: Questionnaires



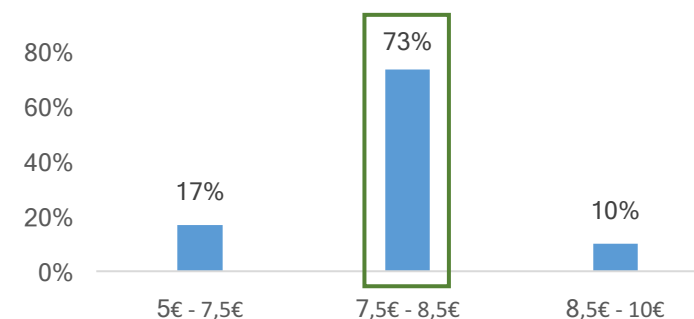
The questionnaires made to drivers to get an idea of what price range could be practiced, revealed that truck drivers are not willing to pay much per hour or per night, but are comfortable with 7,5-8,5€ per meal

APPENDIX 29- Questionnaires to truck drivers

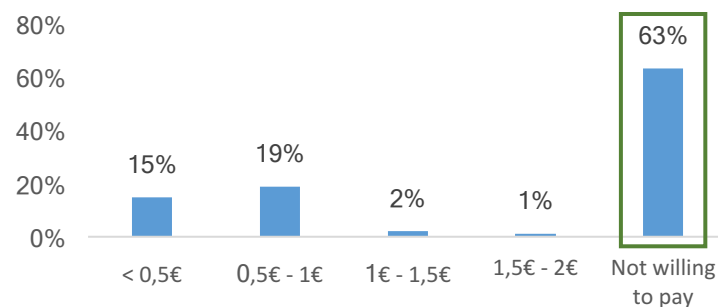
14 How much are you willing to pay to only spend the night?



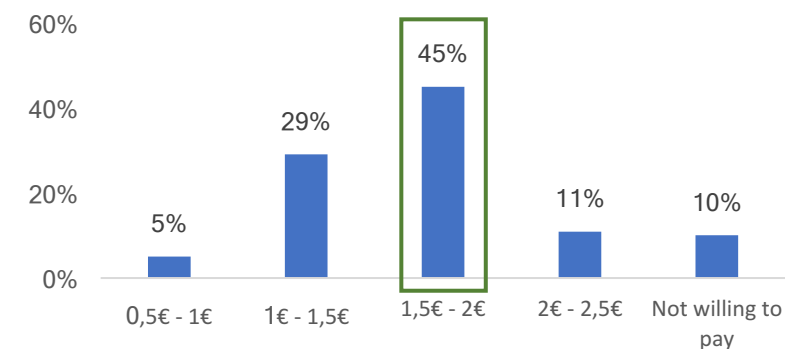
16 How much are you willing to pay for a meal?



15 How much are you willing to pay per hour to stop during the day?



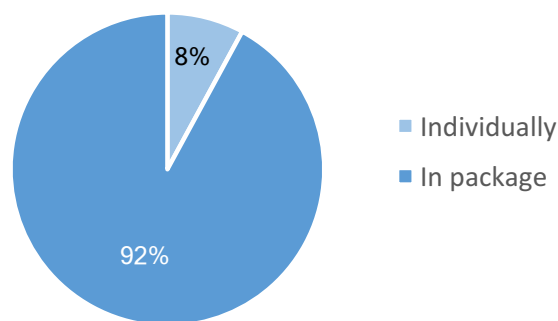
17 How much are you willing to pay for shower?



Most truck drivers say to prefer services to be offered in a package of "secure parking + meal + shower" rather than individually, being willing to pay 10 € -11 € for it

APPENDIX 30- Questionnaires to truck drivers

18 Would you prefer services to be offered individually or in package?

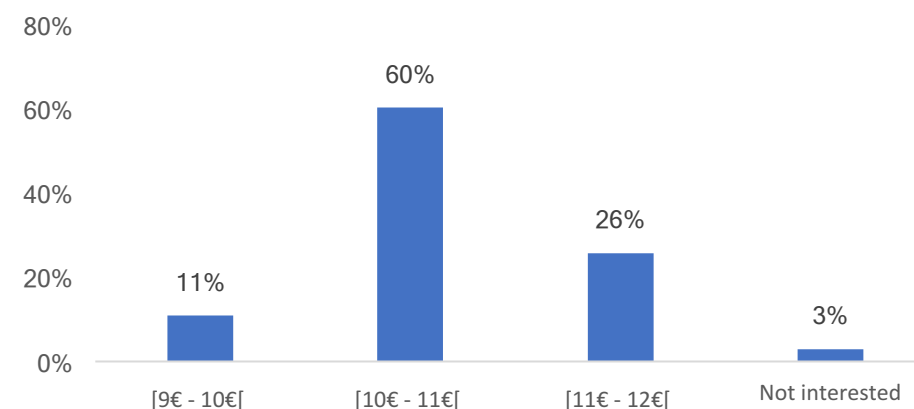


Conclusion:

The preference for the package is clear when compared to paying individually for each service used.

Although most clients are expected to choose the dinner package, it is also important to offer each service separately.

19 How much are you willing to pay for the package "secure park + meal + shower"?



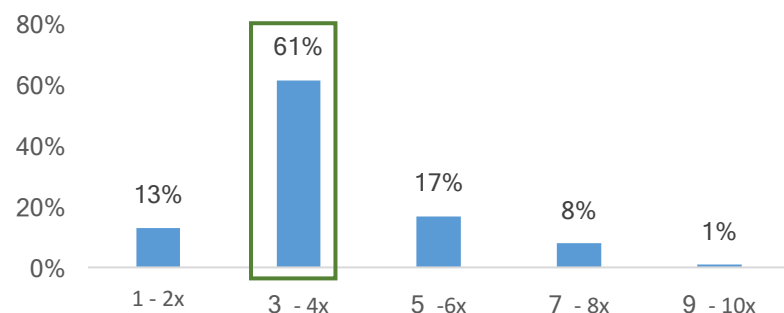
Conclusion:

As results from our query, the value the preferable pricing for the package is between 10 €-11 €, with a small percentage over the 12€.

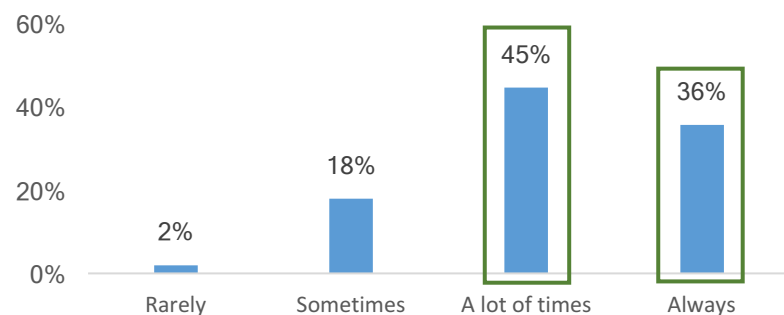
For most drivers, having a meal out implies getting out from highways, but most say to be willing to use more highways if a good price-quality restaurant exists in Service Areas

APPENDIX 31- Questionnaires to truck drivers

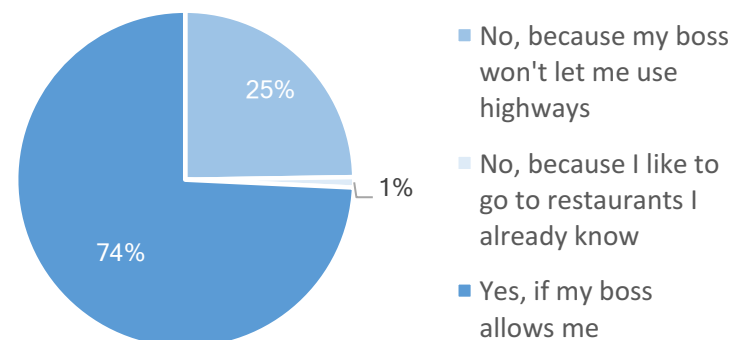
20 How many times per week (5/7 days) do you have dinner out?



21 How many times do you get out off highways to have a meal?



22 If the selected model was applied to a Service Area, would you use more highways?



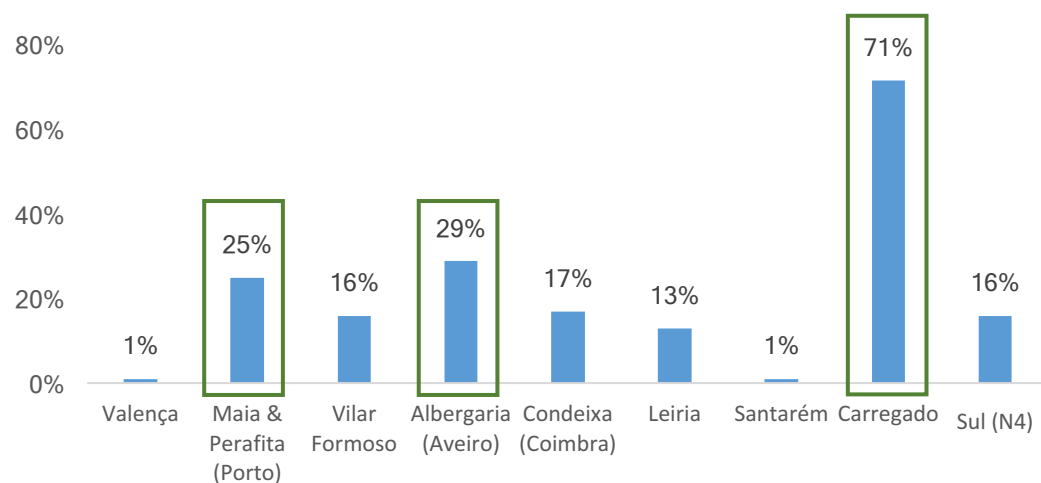
Conclusion:

The location of the service areas in highways is very appreciated by drivers. With an affordable restaurant, the drivers will have a much higher motivation to use the highways vs national roads.

After questioning drivers about in which places of the country would make more sense to build a truck park, most common answers are Maia, Albergaria and Carregado

APPENDIX 32- Questionnaires to truck drivers

23 Which areas of the country do you think a truck park would be more profitable?



Maia

"At the centre of Porto's industrial area, daily traffic is intensive due to the Leixões's Port and Retail companies operating their, such as: SONAE, IKEA, Petrolgal. Plus, there is no park of this type in the area"

Albergaria

"Close to the road junction of A25 with A1 and close to Porto, creating an intense traffic area of both international and national cargo. The only parks that exist in the area are restaurants, but they are not 100% safe"

Carregado

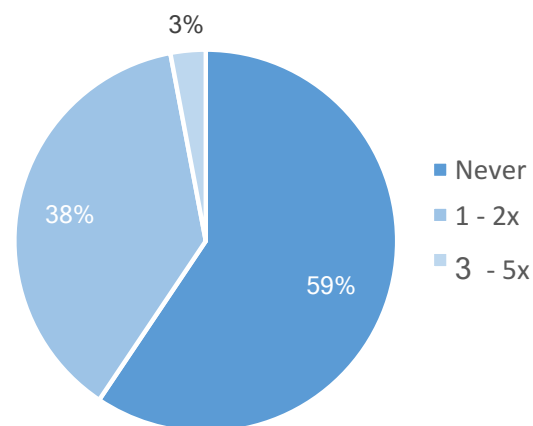
"Close to a major logistic and industrial centre, where leading retail and transportation companies have their logistic infrastructures. The intensity of truck traffic in the area is high, with an average of 300 trucks daily loading and uploading. However, the land field that exists nowadays for parking is in really bad conditions"



Security is clearly not a concern for truck drivers in Portugal, since the number of registered robberies is much lower than in other European countries and most robberies are oil or truck pieces, not cargo

APPENDIX 33- Questionnaires to truck drivers

24 In the last 5 years, how many times were you robbed?



- ✓ Most of truck drivers interviewed were never assaulted in national territory (59% never, 38% 1-2x).
- ✓ Most of them reported **episodes of robberies outside Portugal**, especially in Spain and France, but concerning Portugal, security of the cargo is not worrying.

Is Security a major concern for truck drivers in Portugal?

No, the level of insecurity is not even comparable to most European countries, especially to France or Germany where night robberies are very common. Most assaults that happen in Portugal are either **oil robberies** or the result from **fights between colleagues from the same company**.

What do stealers look for?

Most robberies concern oil, due the high practices at which it is sold in Portugal, 0.30€ more than in Spain. Besides oil, other common robberies are truck pieces, such as **batteries and mirrors**, and rarely, some cargo.

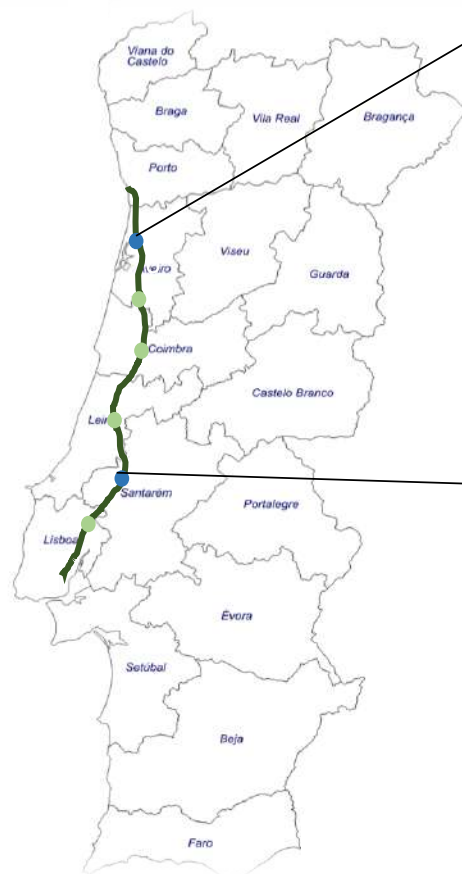
Does it compensates for transportation companies to have their trucks parked in secure areas?

Yes, taking into account an average of 5€ per night for parking in a secure area, the cost of having a deposit of 1.200L stolen gets around **1.400€**, which is bigger than the cost of 1.200€ (5€*5 days*4 weeks*12months) plus the cost of having the truck inoperative for repair.

From weekly observations in service areas of A1, it's possible to conclude that Antuã (direction S/N) registers intense truck traffic from Monday to Friday, and Santarém (direction N/S) during all week

APPENDIX 34- Brisa's service areas

- In order to better evaluate the intensity of truck traffic attending Brisa's Service areas of Antuã and Santarém, the team computed a small **pilot of observation** in each of these two service areas
- In Antuã it last 15 days, as for the case of Santarém it last 19 days
- In each of this days, it was asked to the service area's staff to count the number of trucks parking in the available spots and to take notes of their nationality
- The results were separated between working days and weekends



Antuã: 15 days analysed

North- South (14 Spots)

	Utilization Rate	Internationals
Working days	78%	42%
Weekends	20%	83%
#days at full capacity		3/15

South- North (21 Spots)

	Utilization Rate	Internationals
Working days	91%	55%
Weekends	38%	55%
#days at full capacity		6/15

Santarém: 19 days analysed

North- South (15 Spots)

	Utilization Rate	Internationals
Working days	80%	24%
Weekends	62%	32%
#days at full capacity		7/19

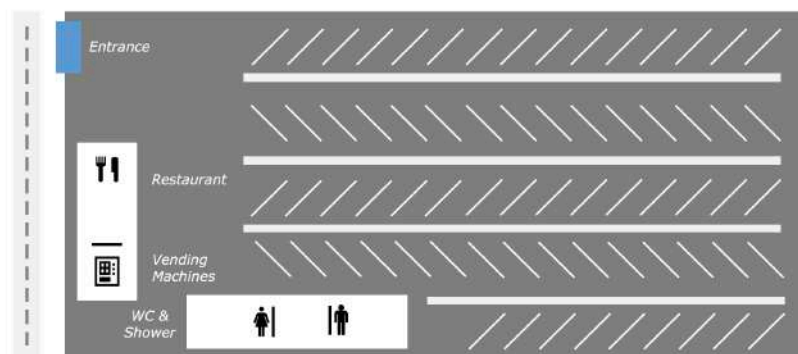
South- North (18 Spots)

	Utilization Rate	Internationals
Working days	78%	29%
Weekends	43%	39%
#days at full capacity		4/19

In order to get a perception of which type of truck park drivers are looking for according to their needs, 3 truck park models were developed based on increasing levels of services and security

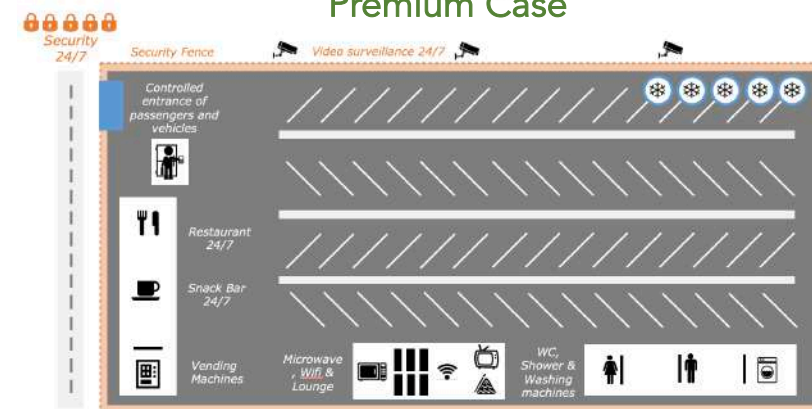
APPENDIX 35- Truck park models

Base Case



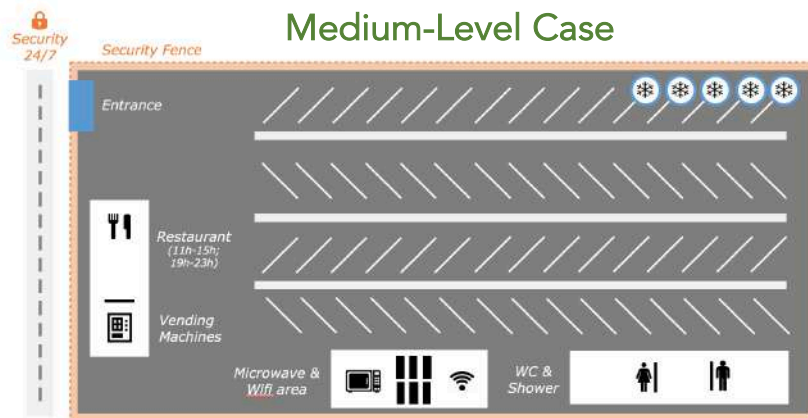
- The simplest case of the three
- No security fence or security cameras
- Restaurant from 12h-15h and 19h-23h
- Vending machines
- Clean WC and shower

Premium Case



- High level of security and services
- Security fence, video-surveillance 24/7, controlled entrances and exists of passengers and vehicles, special doors
- Places for refrigerated trucks
- Restaurant 24/7 and snack- bar 24/7
- Vending machines
- Clean WC, shower and washing machines for clothes
- Lounge area with TV and microwaves
- Wi-fi everywhere in the park

Medium-Level Case



- Medium level of security and services
- Security fence and video-surveillance 24/7
- Places for refrigerated trucks
- Restaurant 24/7
- Vending machines
- Clean WC and shower
- Lounge area with TV
- Wi-fi everywhere in the park

Antuã's CapEx is expected to reach 634.525 € and 1.039.525 € in the case of Carregado, as in Carregado it would be necessary to build the restaurant from scratch

APPENDIX 36- P&L Model

Assumptions: CapEx

The CapEx of the project is represented by all the costs needed to start the operations. All the values were provided by the Brisa Service Areas Team

CapEx inputs	Costs details	Total Costs
- Land area: 14.000 square meters - Total Land depth: 8.400 cubic meters - Tout Venant depth: 5.600 cubic meters - Perimeter: 400 meters # lamp posts: 25 - Billboard size: 55 square meters - Restaurant area: 300 sqm	- Terrain - Deforestation (2 € per m³) - Pave (5K € per hectare) - Tout Venant (18 € per m³) - Digging (6 € per m³) - To tarnish / paint (16,65 € per m²) - Fencing (25 € per meter) - Illumination - Cable (2,5 € per meter) - Lighting columns (1.500 € per unit) - Light fixture (1.300 € per unit) - Billboard (235 € per m²) - Restaurant - Building + filling (1.350 € per m²)	- Terrain preparation: 175.000 € - Tarred land: 233.100 € - Fences and boundaries: 10.000 € - Illumination: 71.000 € - Billboard: 12.925 € - Entries and exits control: 22.500 € - Architecture / Studies / Engineering: 50.000 € - Lockerrooms and lounge area: 60.000 € - Restaurant building (300 sqm): 405.000 € (only applied to Carregado, as the Antuã' park will use the existing restaurant area)

Sources: Field Research, In-depth interviews, Nova SBE Team, Brisa

The demand analysis was divided into 5 segments, each one separately analysed through traffic analysis, field research and opinions from industry experts

APPENDIX 37- P&L Model

Assumptions: Demand

According to Brisa’s projects analysis, the forecast of the cash-flows should have an extension of at least 15 years. Therefore we extended our analysis to 2035. Moreover, it was considered 22 weekdays and 8 weekend days per month for the purpose of our analysis.

Antuã	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
# Spots Available	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
Utilization Rate	52%	60%	69%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
% Locals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Eaters and Sleepers	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
% Sleepers	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
# Lunches	25	29	33	38	43	46	49	51	52	53	55	56	58	59	61	62	64
# Weekenders	7	8	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10

Carregado	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
# Spots Available	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
Utilization Rate	64%	74%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
% Locals	20%	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
% Eaters and Sleepers	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
% Sleepers	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
# Lunches	44	50	58	66	76	82	86	90	92	94	96	96	96	96	96	96	96
# Weekenders	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22

Sources: Field Research, In-depth interviews, Nova SBE Team, Brisa

The demand analysis was divided into 5 segments, each one separately analysed through traffic analysis, field research and opinions from industry experts

APPENDIX 38- P&L Model

Assumptions: Demand

Spots Available

- For the purpose of our analysis we decided to **equal the number of available spots on both locations**.
- To define the number of spots we used as **benchmark the Abertis Truck Park in Barcelona**. The truck park represents an area of 12.250 sqm, approximately, with 56 available spots and therefore gives an average of **218,75 sqm per spot**.
- Since the land in Carregado is smaller than the one in Antuã, we assumed the total area of the field in Carregado as the value for both parks to be explored. The property in Carregado has approximately **14.000 sqm**, which represents roughly **64 spots**.

Utilization Rate / Spots occupied at night

The utilization rate represents the number of available spots that are occupied during the night only. During the day is expected that the drivers are working and therefore can not stop for much time. This means that we can have some rotation during the day, however, at night the trucks are assumed to be there the whole night, no rotation is possible. To calculate the utilization rate, we analysed the highway daily traffic during 7 pm and 10 pm that comes or goes from/to Carregado or that passes through the Antuã's Service Area on both ways.

According to Brisa's Traffic department, there is an average annual growth of 2,5% of the annual volume traffic.

				2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Designation	ExitHour	South - North	North - South	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
Antuã	7:00 PM	86	87	173	178	182	187	191	196	201	206	211	217	222	228	233	239	245	251	257	264	270
Antuã	8:00 PM	71	78	149	153	157	161	165	169	173	177	182	186	191	196	201	206	211	216	221	227	233
Antuã	9:00 PM	57	60	117	120	123	126	130	133	136	140	143	147	150	154	158	162	166	170	174	179	183
Antuã	10:00 PM	45	46	92	94	96	99	101	104	106	109	112	115	118	120	123	127	130	133	136	140	143
Total		260	272	532	545	559	573	587	602	617	632	648	664	681	698	715	733	751	770	790	809	829

				2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Designation	ExitHour	South - North	North - South	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
Carregado	7:00 PM	127	101	228	234	239	245	251	258	264	271	278	285	292	299	306	314	322	330	338	347	355
Carregado	8:00 PM	97	77	175	179	184	188	193	198	203	208	213	218	224	229	235	241	247	253	259	266	272
Carregado	9:00 PM	70	67	137	140	144	147	151	155	159	163	167	171	175	180	184	189	193	198	203	208	213
Carregado	10:00 PM	61	53	114	116	119	122	125	128	132	135	138	142	145	149	153	157	160	164	169	173	177
Total		355	298	653	669	686	703	721	739	757	776	795	815	836	857	878	900	922	946	969	993	1.018

For our gathered percentage we considered the **5% of the highway users that stop in the service area as proxy**. The drivers seek for **good conditions at night rather during the day**, moreover, there are **not many alternatives** to our product within the closing areas. We believe the **volume obtained should be double (10%)**. We also expect a growth in terms of percentage for each year as the product is better incorporated in the market. For the **consumption rate it was initially established at 60%** with an annual growth until it reaches 90%. For **both locations, a conservative assumption was made, as we established a 80% maximum utilization rate** because it was not possible to guarantee an average utilization rate per day over that percentage.

Year (Antuã)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Annual Traffic	532	545	559	573	587	602	617	632	648	664	681	698	715	733	751	770	790	809	829
Capture Rate			10%	10%	10%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Consumption Rate			60%	66%	73%	80%	88%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Demand			34	39	44	51	58	61	62	64	65	67	69	71	72	74	76	78	80

80% Utilization Rate

Year (Carregado)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Annual Traffic	653	669	686	703	721	739	757	776	795	815	836	857	878	900	922	946	969	993	1.018
Capture Rate			10%	10%	10%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Consumption Rate			60%	66%	73%	80%	88%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Demand			41	47	54	63	71	74	76	78	80	82	84	87	89	91	94	96	99

80% Utilization Rate

Sources: Field Research, In-depth interviews, Nova SBE Team, Brisa

APPENDIX 39- P&L Model

Assumptions: Demand

% Locals

- Since Antuã is not a residential area, the **expected number of locals is zero**. There is a small possibility that some companies use this park to facilitate some logistic issues and therefore pay for the monthly fee, however for the purpose of the project, we considered zero.
- In Carregado the scenario is quite different, whilst it is considered as a **big industrial area, it also has a significant residential part**. We considered 20% locals based on some calculations using numbers collected from field research and restaurant owners' testimonials.

% Eaters and Sleepers

- The **affordable price and the quality of the meal are going to be the main motivation for the drivers to stop and use our truck park**. For Antuã we assumed a percentage of **90%**. We used the results from the interviews as base for this value. Another fact that supports this value is price we expect to practice. Not only is a competitive price compared to our peers, but also is not a huge difference when compared to the 5 € just to park the truck.
- **Regarding Carregado**, the idea is the same, yet the weight of the locals pushes down a little the percentage of eaters and sleepers.
- When inquiring one of the local restaurants that works almost exclusively for the truck drivers, **the owner stated that she serves between 20 to 30 dinners per day. As there are 2 restaurants for the purpose of the existing truck park, we assumed 50 meals for dinner** which represents approximately 75% of the total capacity of the existing park.

% Sleepers

- As the dinner package is very competitive in terms of pricing, we do not expect **many sleepers in our truck park**. Nevertheless we considered a small percentage of the total occupied spots as in the interviews a minor percentage answered that also wanted the services to be sold separately because he would like to have the flexibility to use the park without having to eat. Willingness to cook, take away food or simply to have the merchandise secured during the night can be some reasons to justify this choice.
- In number, we considered **10% for Antuã and 5% in Carregado**.

The demand analysis was divided into 5 segments, each one separately analysed through traffic analysis, field research and opinions from industry experts

APPENDIX 40- P&L Model

Assumptions: Demand

Meals (lunch)

For the number of meals served during lunch time, the approach made was similar to the utilization rate of the truck park during the night. **We assumed the highway traffic during 12 am and 3 pm that comes or goes from/to Carregado or that passes through the Antuã's Service Area on both ways.** According to Brisa's Traffic department, there is an **average annual growth of 2,5% of the annual volume traffic.**

		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Designation	ExitHour	South - North	North - South	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
Antuã	12:00 AM	89	106	195	200	205	210	215	221	226	232	238	244	250	256	262	269	276	283	290
Antuã	1:00 PM	86	91	177	182	186	191	196	201	206	211	216	222	227	233	239	245	251	257	263
Antuã	2:00 PM	104	93	197	202	207	212	217	223	228	234	240	246	252	258	265	271	278	285	292
Antuã	3:00 PM	109	108	217	223	228	234	240	246	252	258	265	271	278	285	292	300	307	315	323
Total		389	398	787	806	826	847	868	890	912	935	958	982	1.007	1.032	1.058	1.084	1.111	1.139	1.168

		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Designation	ExitHour	South - North	North - South	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
Carregado	12:00 AM	191	149	340	348	357	366	375	385	394	404	414	425	435	446	457	469	480	492	505
Carregado	1:00 PM	158	156	314	321	330	338	346	355	364	373	382	392	401	412	422	432	443	454	466
Carregado	2:00 PM	180	178	358	367	376	386	395	405	415	426	436	447	458	470	482	494	506	519	532
Carregado	3:00 PM	202	172	375	384	394	404	414	424	435	445	457	468	480	492	504	517	529	543	556
Total		731	656	1.386	1.421	1.457	1.493	1.530	1.569	1.608	1.648	1.689	1.732	1.775	1.819	1.865	1.911	1.959	2.008	2.058

For our gathered percentage we considered the 5% of the highway users that stop in the service area as proxy. During the day, as mentioned before, the **main concern is to have lunch in an affordable place and with enough space to park the truck.** It is also important to note that during the day they are working on a tight schedule, hence the available time to spent on searching for restaurants or to stop at a specific place might be short. For these reason we **assumed a starting percentage captured equal to the Brisa's service areas, 5%.** We also expect an annual growth as the product is better integrated in the market. For the consumption rate it was initially established at 60% with an annual growth until it reaches 90%. For both locations, we assumed that the restaurant was only able to rotate 50% of the available seats.

Year (Antuã)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Annual Traffic	787	806	826	847	868	890	912	935	958	982	1.007	1.032	1.058	1.084	1.111	1.139	1.168	1.197	1.227
Capture Rate			5%	5%	5%	5%	5%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Consumption Rate			60%	66%	73%	80%	88%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Demand			25	29	33	38	43	46	49	51	52	53	55	56	58	59	61	62	64

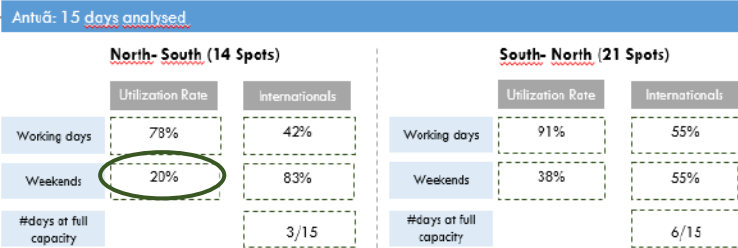
Year (Carregado)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Annual Traffic	1.386	1.421	1.457	1.493	1.530	1.569	1.608	1.648	1.689	1.732	1.775	1.819	1.865	1.911	1.959	2.008	2.058	2.110	2.162
Capture Rate			5%	5%	5%	5%	5%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Consumption Rate			60%	66%	73%	80%	88%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Demand			44	50	58	66	76	82	86	90	92	94	97	99	102	104	107	110	113

1.5x

Sources: Field Research, In-depth interviews, Nova SBE Team, Brisa

Weekenders

It is important to differentiate the demand during the week and weekend as the traffic is lower in weekend days. The number of weekenders was calculated based on the observation made in the service areas.



The approach was more conservative, as the chosen percentage for the Antuã's park was the lowest within the two ways locations - 20%.

The assumption made for the park in Carregado was slightly different. We've collected insights from the restaurant owners and from our own observations and concluded that, on average, there is 30 trucks parked at the current truck park in Carregado during the weekend. Since within the 30 trucks there are a few that are considered as local, we need to subtract them from the total number (30). Concluding, the result is 22, which we fixed along the following years

The pricing model was based on questionnaires made to drivers and was developed to fulfil their needs, through the provision of high quality services at affordable prices

APPENDIX 41- P&L Model

Assumptions: Pricing

Locals	→ 150 € per month	The value was calculated accordingly to the price per night and to the 1 day weekend package. If a local driver sleeps at home every night therefore he would have to pay 5 € per night totalling 150 €. Though 6 days per month he is obliged to stop for 24h straight, meaning 15 € per day. With 24 days paying 5 € and 5 days paying 15 €, the client pays a total of 230 €. This price turns the value of one entire day to just a 9h price.
Eaters and Sleepers	→ 10 € for the package (dinner + shower + park)	The results of our interviews showed that the preferable price among the interviewees is the 10 € package. Therefore, we decided to implement the preferred price.
Sleepers	→ 5 € to spend the night (9h)	Though the results raised a value between 2 € - 3 €. As a strategy plan, we decided to push the clients to the dinner package where the profitability is higher 3 € is a big difference compared to the 10 €, which might holdback the decision of paying for the whole package. If the price is 5 €, not only we have a higher profit, but also the motivation to pay for the package is higher "I can have a meal for just 5 € more"
Lunches	→ 8 € for the meal	The price of the meal was decided accordingly to the interviews and taking into account the new labour contract. By consuming the meal, the first hour is free. If he stays longer, he pays 1 € per hour.
Weekenders	→ 15 € for in entire day (includes one meal)	Since the expected target for this package are international drivers, we used the price of European truck parks as proxy. The price is within the average, yet, since Portugal is cheaper when compared to Spain, France or Germany. In this case, we include a meal.

The Profit & Loss Map demonstrates a good prediction for Antuã, although only in a mature phase of the truck park, the net income will be positive from 2022 onwards

APPENDIX 42- P&L Model

Profit & Loss Map of Antuã

Income Statement	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Revenue	146.096	168.018	193.229	222.223	234.746	241.262	245.726	250.393	253.183	256.047	258.985	261.999	265.092	268.266	271.522	274.862	278.290
Monthly Fee	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weekenders	9.655	11.104	12.770	14.687	14.746	14.746	14.746	14.746	14.746	14.746	14.746	14.746	14.746	14.746	14.746	14.746	14.746
Dinner Package	79.657	91.610	105.356	121.164	121.651	121.651	121.651	121.651	121.651	121.651	121.651	121.651	121.651	121.651	121.651	121.651	121.651
Meals	52.358	60.215	69.250	79.641	91.591	98.107	102.570	107.237	110.028	112.892	115.830	118.844	121.937	125.111	128.367	131.707	135.135
Parking	4.425	5.089	5.853	6.731	6.758	6.758	6.758	6.758	6.758	6.758	6.758	6.758	6.758	6.758	6.758	6.758	6.758
Costs	181.240	189.042	198.014	208.333	213.840	216.748	218.740	220.823	222.068	223.346	224.657	226.002	227.382	228.798	230.251	231.742	233.272
CMVMC	51.994	59.796	68.768	79.087	84.594	87.502	89.494	91.577	92.822	94.100	95.411	96.756	98.136	99.552	101.005	102.496	104.026
SG&A																	
Segurança (Park + Restaurant)	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000
Electricity (Park + Restaurant)	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088
Water + Gas (Restaurant)	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592
Telecoms	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744
Marketing	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152
Insurance (Park)	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220
Maintenance (Ground / WC / Lounge)	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488
Software	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380
Personnel Costs (Restaurant)	48.582	48.582	48.582	48.582	48.582	48.582	48.582	48.582	48.582	48.582	48.582	48.582	48.582	48.582	48.582	48.582	48.582
Operating results	-35.144	-21.024	-4.785	13.891	20.906	24.514	26.986	29.570	31.115	32.701	34.328	35.997	37.710	39.467	41.270	43.120	45.018
Profit before tax	-35.144	-21.024	-4.785	13.891	20.906	24.514	26.986	29.570	31.115	32.701	34.328	35.997	37.710	39.467	41.270	43.120	45.018
Income tax	0	0	0	-2.917	-4.390	-5.148	-5.667	-6.210	-6.534	-6.867	-7.209	-7.559	-7.919	-8.288	-8.667	-9.055	-9.454
Net Income	-35.144	-21.024	-4.785	10.974	16.516	19.366	21.319	23.360	24.581	25.834	27.119	28.438	29.791	31.179	32.603	34.065	35.564
Utilization Rate	52%	60%	69%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%

Sources: Field Research, In-depth interviews, Nova SBE Team, Brisa

In Carregado, the business is expected to have a higher utilization rate when compared to Antuã, reaching its maturity earlier and becoming profitable from 2021 onwards

APPENDIX 43- P&L Model

Profit & Loss Map of Carregado

Income Statement	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Revenue	217.724	245.690	270.461	288.778	309.843	321.328	329.197	337.423	342.343	347.391	351.142	351.142	351.142	351.142	351.142	351.142	351.142
Monthly Fee	9.877	11.359	12.288	12.288	12.288	12.288	12.288	12.288	12.288	12.288	12.288	12.288	12.288	12.288	12.288	12.288	12.288
Weekenders	31.347	31.347	31.347	31.347	31.347	31.347	31.347	31.347	31.347	31.347	31.347	31.347	31.347	31.347	31.347	31.347	31.347
Dinner Package	81.488	93.716	101.376	101.376	101.376	101.376	101.376	101.376	101.376	101.376	101.376	101.376	101.376	101.376	101.376	101.376	101.376
Meals	92.295	106.144	122.071	140.387	161.453	172.938	180.806	189.033	193.953	199.000	202.752	202.752	202.752	202.752	202.752	202.752	202.752
Parking	2.716	3.124	3.379	3.379	3.379	3.379	3.379	3.379	3.379	3.379	3.379	3.379	3.379	3.379	3.379	3.379	3.379
Costs	246.029	256.574	265.794	273.968	283.368	288.494	292.005	295.676	297.872	300.124	301.798	301.798	301.798	301.798	301.798	301.798	301.798
CMVMC	70.900	81.445	90.665	98.839	108.239	113.365	116.876	120.547	122.743	124.995	126.669	126.669	126.669	126.669	126.669	126.669	126.669
SG&A																	
Segurança (Park + Restaurant)	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000
Electricity (Park + Restaurant)	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088	26.088
Water + Gas (Restaurant)	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592
Telecoms	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744	3.744
Marketing	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152
Insurance (Park)	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220
Maintenance (Ground / WC / Lounge)	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488
Software	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380
Personnel Costs (Restaurant)	94.465	94.465	94.465	94.465	94.465	94.465	94.465	94.465	94.465	94.465	94.465	94.465	94.465	94.465	94.465	94.465	94.465
Operating results	-28.305	-10.884	4.667	14.810	26.474	32.834	37.192	41.747	44.471	47.266	49.344	49.344	49.344	49.344	49.344	49.344	49.344
Profit before tax	-28.305	-10.884	4.667	14.810	26.474	32.834	37.192	41.747	44.471	47.266	49.344	49.344	49.344	49.344	49.344	49.344	49.344
Income tax	0	0	-980	-3.110	-5.560	-6.895	-7.810	-8.767	-9.339	-9.926	-10.362	-10.362	-10.362	-10.362	-10.362	-10.362	-10.362
Net Income	-28.305	-10.884	3.687	11.700	20.915	25.939	29.381	32.980	35.132	37.341	38.982	38.982	38.982	38.982	38.982	38.982	38.982
Utilization Rate	64%	74%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%

Sources: Field Research, In-depth interviews, Nova SBE Team, Brisa

APPENDIX 44- P&L Model

Assumptions: OpEx

The OpEx of the project is composed by all the cost drivers of a parking lot and of a restaurant. In order to better analyse the costs, we divided into fixed and variable costs. All the values were provided by the Brisa Service Areas Team

Fixed costs	Variable costs
▪ Security - 2.000 € per month ▪ Electricity - 2.174 € per month (both park and restaurant) ▪ Water & Gas – 216 € per month ▪ Telecoms – 312 € per month ▪ Marketing – 91 € per month ▪ Insurance – 185 € per month ▪ Maintenance (Ground/WC/Lounge) - 1.624 € per month ▪ Software – 115 € ▪ Personnel Costs - 13.495 € per year per employee Antuã is sharing the personnel costs with the SA. Only 3,6 people considered Carregado will have an entire crew of 7 people working	▪ Cost per meal - 3,57 €

In order to assure success of the truck park project and secure demand, it is advisable that Brisa manages to put its truck park on 4 truck apps, currently widely used by truck drivers to find parking spots

APPENDIX 45- Truck parking apps

