



faunalert

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**FAUNALERT**

*Save money, protect life*

Road security system to reduce animal  
road accidents

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## 1. Executive summary

### 1.1. What is *FaunAlert*?

**FaunAlert** is a start-up that has created a system to alert car users in real-time of the presence of wild animals crossing the road. FaunAlert will prevent animal car accidents through an infrared-based detection system connected to a dynamic signal and mobile app, which will prompt a message whenever an animal is crossing or has recently crossed the road.

Our mission is to make people's road trips safer while at the same time protecting an irreplaceable value such as the wild fauna.

Our vision is to offer a solution which is currently not available and to become the reference in road security solutions.

We will reach this by implementing an innovative solution which will increase car drivers security, save money to public institutions and road maintenance companies, and protect wild fauna. Our motto is "Safe money, protect life".

### 1.2. The *FaunAlert* team

**FaunAlert** is formed by a highly qualified multidisciplinary team, well united, and motivated. All team members have university degrees in the fields of engineering or life sciences and are currently finishing their master's degree at EOI (Escuela de Organización Industrial). Together with this, the team has other skills and abilities related to problem solving, data analysis, and financial expertise.

Every team member is responsible for one of the different areas that make up the business model as described in the following diagram:



Eduardo Haro

Product development



Cillian Cunningham

Marketing strategy



Jorge Martínez

Financial plan



Nicolás Martínez

Project management

### 1.3. Value proposition

**FaunAlert** was born from the validation of a business, road safety, and conservation problem that currently does not have a practical, effective and scalable solution. Our value proposition is to provide an effective technical solution to warn drivers in advance and in real-time of the presence of wild animals crossing the roads, thus reducing wild animal mortality

(**Conservation Dimension**), cleaning, maintenance and legal expenses for licensee companies (**Business Dimension**), and increasing road security (**Social Dimension**).

**Business dimension.** Public institutions and concession holders responsible for highway maintenance make considerable economic and material efforts every year to clean and recover animal remains from roads. Although in certain accident black spots there is usually some type of signalling, the effectiveness of the current solutions is highly questioned if we take into account that in regions like Catalonia the number of animal car crashes increased by 100% in the past 7 years.

**Social/business dimension.** Car drivers are the legal responsible for the accident and therefore have to cope with all the expenses, unless they have hired a specific clause with their insurance companies (which is not often the case). Road accidents with medium to large size animals (such as wild boar or roe deer) can seriously put at risk the life of car drivers.

**Conservation dimension.** Accidents represent a huge environmental loss, quantified in 10 million vertebrates in Spain alone across 2006. These figures will continue to grow given the increased awareness and investment efforts in biodiversity conservation plans. For instance, as Iberian lynx populations have been recovering in the past decade, deaths by car collisions have steadily increased and represents today the main cause of Iberian lynx deaths.

#### ***1.4. FaunAlert business model and how are we making money***

Our solution is backed up by a business model based on 4 fundamental pillars:

1. **Installation of the detection and signalling system (Det-Sig system)** in those areas with the highest concentration of animal car crashes. The system has been fully designed by the **FaunAlert** team and, therefore, the company has exclusive rights on the product. In addition, we are about to apply for the patent at national and european level.
2. **Maintenance and relocation of the Det-Sig system** to adapt its location to the seasonality of animal movements and population densities. The relocation will be based on the predictions made by mathematical models that will be fine-tuned with accident data collected from the DGT, as well as with data on the abundance and distribution of relevant species such as wild boar, roe deer, or Iberian lynx.
3. **Monthly subscription fee for users of mobile application** which will alert drivers through voice notifications of the proximity of road sections with high rates of animal crossings, as well as of the imminent presence of animals crossing the roads.
4. **Consultancy and advisory services** offered to public (such as DGT) or private entities (such as insurance or concession holders) with the data collected in our database to optimize road signalling and road construction planning.

Taking into account the structure of our business model, **FaunAlert** is based on both a B2C (Business to Consumer) model for users and a B2B (Business to Business) for public and/or private entities, mainly focusing on road licensee companies.

## *1.5. Who are **FaunAlert** clients?*

The **FaunAlert** customer segment is divided into the following two groups:

- **Concession holders** responsible for the construction and maintenance of state highways.
- **Regional and/or local public administrations** responsible for the conventional roads (where most of the accidents due to animal collisions occur in Spain).

In addition to these two main customer segments, we have detected two other customer sub-segments

- **Drivers** are unprotected in terms of road safety (no effective signalling systems for animal crossing) and, in most cases, are responsible for all costs associated with vehicle reparations and healthcare.
- **Public entities** such as the DGT or private companies dedicated to the construction of road infrastructure could be interested in our consulting service, which we provide in order to optimize road design.

## *1.6. What's our market size and what's our market penetration strategy?*

In the client segment our main client will be **concession holders**. Since the number of companies dedicated to the construction and maintenance of state roads is rather limited, we intend to contact as many of them as possible in order to arrange formal meetings where we will present our project and its value proposition. We will focus on those companies with a greater volume of concessions and capital such as FCC, Ferrovial, **Acciona**, Sacyr, ACS, and Abertis. In addition, and to publicize **FaunAlert**, we will attend the National Road Safety Congress which is held yearly, as well as other relevant congresses or fairs.

Concerning our other main client segment, **public administrations of regional or local character**. The maintenance of conventional roads is generally outsourced, and therefore regional/local governments are not directly responsible for them. However, in this case, we will directly contact regional/local governments because they are responsible for negotiating the contract terms with the outsourced companies. We will need to hire a negotiator with experience to deal with and attract clients at the beginning of the project.

In order to give more visibility to **FaunAlert** through the press, our initial goal is to focus on applying our system in roads where **Iberian lynx** deaths due to car collisions accumulate. By doing this, we can accelerate market penetration, with an innovative solution that is not offered by any other company at the moment and which tackle a problem which will likely become worse in the near future due to the increase in nature conservation policies. In addition, a **blog and webpage** will be created to raise awareness among the population with news related to the nature of animal movements and project development.

## *1.7. How does **FaunAlert** work?*

The product offered by **FaunAlert** is based on an integrated detection and signalling system.

The detection system is composed of an **infrared light** emitting element (i.e. transmitter) and a receiver. It will be installed on the roadsides at those road **black spots** where most animal car accidents occur. The transmitter and receiver will be separated by about 50-100 meters (depending on road morphology, especially the curvature and slope). When the beam of infrared light is **intercepted** by animals crossing the roads, an electric signal will be triggered. In order to detect both medium and large animals, several transmitters and receivers will be arranged horizontally and placed at 10, 30 and 60 centimetres above ground. The signal emitted by the passage of wild fauna will be sent **via radio** to the second system. In conventional roads, the integral system that we propose will be complemented with the application of **pheromones** at strategic locations, in order to direct the passage of fauna through the monitored crossing areas which will be safer. This measure is not required in highways because they are fenced along most of their stretch by law.

The second system consists of a **traffic signal** formed by a **digital panel** that will be updated with warning messages for drivers based on the signals received from the detection system, and it will be placed 500 meters away from the detection system.

To ensure that the product operates on a continuous basis, a pair of **solar panels** will be installed in each of the mentioned sub-systems (detection and signalling), which will provide for the low electrical energy requirements.

### ***1.8. Financial expectations and business success keys***

For the first and second year, we estimate an **EBITDA** of 188,915 € and 560,367 €, respectively. We estimate the **Net Profit** at 139,341 € during the first year, and 418,318 € during the second year. We will have a **gross margin** of 71% and 80% for our two products (one for highways, and the second one for conventional roads), which is significantly high due to the lack of solutions of this type in the road security sector. The **ROE** for the first year will be 77.9%, and 70.7% for the second. The **breakeven point** will be 158,262 € with a payback of 9 months.

The keys to **FaunAlert**'s success are:

- A business model based on an **innovative** product, **easy to produce and install**, and **easily scalable**.
- **Integrated solution fully provided by FaunAlert**, from the detection of road black spots to the production of the Det-Sig system (installation and maintenance).

### ***1.9 Future company strategy***

**FaunAlert** will start operating in Spain, but with a clear medium-term goal (1 year) of internationalizing to other countries from the Eurozone (in particular, those countries with the highest animal collision rates, such as Germany, France, Switzerland and Portugal). After 3 years, market penetration in Latin America and North America will be addressed.