

# “External rear-view mirror replacement by Head Up Display images”



INVEST IN SPAIN

“Investment opportunities in the automotive sector in Spain”



GOBIERNO  
DE ESPAÑA

MINISTERIO  
DE ECONOMÍA  
Y COMPETITIVIDAD

INVEST IN  
SPAIN

“External rear-view mirror replacement by Head Up Display images”

**Index**

- I. INTRODUCTION**
- II. TECHNOLOGY DESCRIPTION**
- III. CURRENT SITUATION OF THE BUSINESS IN SPAIN**
- IV. EVOLUTION FORECAST, OPPORTUNITIES AND STRATEGY**
- V. REQUIREMENTS**

“External rear-view mirror replacement by Head Up Display images”

## I. Introduction

### Aim:

- ⇒ Projection of useful information in the field of vision of the driver:
  - ⇒ Better safety: driver can use more information
  - ⇒ Improved aerodynamics of the vehicle, by removing external mechanical components

### Business scope and line:

- ⇒ Development of high-tech technology (aeronautics, Formula1) for common vehicles
  - ⇒ Significant saving of materials
  - ⇒ Design of new low cost technologies to incorporate into all vehicles
- ⇒ Removing of the outer rear-view mirrors:
  - ⇒ Traditional suppliers of this products changing into this new technology
  - ⇒ Aerodynamics properties studies
  - ⇒ New general design of the vehicle (more futuristic and integrated)



“External rear-view mirror replacement by Head Up Display images”

## II. Technology description

### Description of the designs and technologies

- **Basic medium:** light beams superimposed on transparent surfaces (LED or LASER applications)
- **Possibly improved system, allowing to adapt the intensity of the image depending on the luminosity (luminosity sensors)**
- Appropriate design of the windscreen, to supporting the light beams



# LUMINOSITY

“External rear-view mirror replacement by Head Up Display images”

### III. Current situation of the business in Spain

#### **Current situation of the Technology in Spain:**

- ⇒ Some groups specialized in this technology: photonic science institute (ICFO) and ADTelecom
  
- ⇒ Companies interested:
  - ⇒ BMW, Lexus, Citroen, Toyota, Honda, GM, and Nissan (car constructors)
  - ⇒ Delphi, Siemens, Denso (parts suppliers)

## “External rear-view mirror replacement by Head Up Display images”

### IV. Evolution forecast, opportunities and strategy

- Good opportunity of commercialization, if a cheap HEAD-UP DISPLAY system is developed
- Technology not yet enough advanced to put into practice in automotive
- Opportunity of application of this technology for new design perspectives of GPS (current GPS could be forbidden)
- Current information indicators could be removed (freeing of space for other uses, saving of materials)
- Technology enables a shorter reaction time of the driver, when looking successively at the road and at the indicators -> less accidents
- Possible alliance with aeronautics to accelerate the time-to-market
- **Strategy:** Requires high quality products (Risk of perception as kind of “science fiction”)
- **Preferable vertical integration for companies** starting from scratch, working in several sectors, or **horizontal** through a traditional rear-view mirror supplier, interested in such activities of change.

“External rear-view mirror replacement by Head Up Display images”

## V. Requirements

- ⇒ Economic aspects: Necessity to reduce the price of this technology
- ⇒ Product specification:
  - ⇒ No further investigation required than about materials and light beams
  - ⇒ Technology already advanced, but is still to do

## What is Invest in Spain?

We share mutual  
Interests



## Taking advantage of this opportunity

INVEST IN SPAIN offers, without charge, an integrated investment support service

### I. Study and assessment of opportunities:

- i. We provide reports tailor-made studies and all the relevant information you need to establish yourself in Spain.
- ii. Starting-up: finding the ideal location identifying suitable partners and/or consultants and assessors, offering institutional contacts; lawyers, management services, accountants, employment agencies and executive headhunting services, assessment in permit and licensing procedures.
- iii. Post-investment: specialized assistance and support, facilitating contact with the relevant players, assessing the regulatory and legal environment, with a permanent service of monitoring opportunities and aid, thereby facilitating your integration into the Spanish industrial fabric and its sectorized networks.