i2D
TELEMATICS

LIVEDRIVE
Miguel Aires
Pedro Mouta
Digital Innovation Forum 2017
“Your car's data may soon be more valuable than the car itself.”

Matt McFarland, Washington Post
February 2017
INTELLIGENCE TO DRIVE

SLIDE I: OUR UNIQUE SELLING PROPOSITION

Data Privacy and Confidentiality

- i2D is compliant with the new European privacy legislation going out in 2018, and Privacy goes way beyond the technology.
- The vast majority of GPS based solutions are not compliant with EU 2018 Privacy directives
- Why would anyone put a monitoring device in their car board?
- The right to be forgotten belongs to the Driver

Trustworthiness

- i2D crosses more than 30 variables to validate the data and takes reliability to a whole new level
  - Forging a GPS signal is quite simple, and that’s why courts do not accept it
  - Cross-validating data from different sources (own sensors and car manufacturers’) information becomes trustable, truly reliable.

This will allow implementation of new governmental car policies, new institutional directives, new tools to the car insurance business, etc.

The 1M$ question

Why should I put a monitoring device on my car?

The Value Scale

- Where?
- When?
- How fast?

Balance

Having the drivers on our side

i2D is about bringing VALUE to clients and drivers because you need both sides of the equation to scale
ROAD MOBILITY SUSTAINABILITY

SLIDE II: THE PROBLEM WE’RE SOLVING

The large scale problem

Yearly average costs of Road Mobility

<table>
<thead>
<tr>
<th>Area</th>
<th>Europe</th>
<th>Portugal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accidents</td>
<td>€ 140 bi</td>
<td>€ 2,5 bi</td>
</tr>
<tr>
<td>Environment</td>
<td>€ 40 bi</td>
<td>€ 0,7 bi</td>
</tr>
<tr>
<td>Energy</td>
<td>€ 20 bi</td>
<td>€ 0,4 bi</td>
</tr>
<tr>
<td>Total</td>
<td>€ 200 bi</td>
<td>€ 3,6 bi</td>
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</table>

According to the European Road Safety Observatory

European targets

According to the 2008/50/EC Directive, Gothenburg

<table>
<thead>
<tr>
<th>Area</th>
<th>By 2050</th>
<th>By 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accidents</td>
<td>0</td>
<td>- 20%</td>
</tr>
<tr>
<td>Environment</td>
<td></td>
<td></td>
</tr>
</tbody>
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Two particular industries we can help

Car Insurance

3 Main cost areas:
- 10% in Customer Service costs
- 30% in Claims and Internal Processes costs
- Fine-tune risk assessment engines

Car Fleets

2 Major issues:
- The cost-benefit relation for corporations
- The data privacy concerns

What’s our solution

1. Car Technology
2. Regulation and Infrastructures
3. Driving Behavior

Influencing the driver’s behavior though we know it requires a cultural change.

- To efficiently foster cultural changes, it is paramount to work on the binomial Punishment / Incentive
- A product that solves both industries’ problems

Fleetdrive

A next generation fleet management solution that:
- does not rely on geolocation features
- provides sensitive insights about the driver without breaking his privacy and in a trustworthy way.
## HOW DOES I2D WORK

### SLIDE III: THE TECHNOLOGY

**i2D - a black-box solution**

### i2D unique “Standard-Vehicle” Concept

Using i2D technology, any fleet manager can define their Fleet Standard Car (e.g. - a 110 hp, diesel, 1,900 cc, 1,400 Kg car).

Then, i2D algorithms will compare each driving behaviour to that standard car and calculate the respective fuel consumption. So, we can compare the real driving behavior impact on fuel consumption, either someone is driving a Mercedes 500 S or a Fiat 500.

### GPS-less presentation mode (3D)

### How we process the information

i2D technology runs on top of **unique and powerful algorithms** to build reliable information that is trustworthy for whoever uses this information.

Through this technology, we’re able to measure in a 100% objective and reliable way the:

1. **VEHICLE INFORMATION**
   - Measurement

2. **DECONTEXTUALIZED DRIVING**
   - UNIQUE ALGORITHMS
   - Real-Time Measurement

3. **DRIVING BEHAVIOR**
   - UNIQUE ALGORITHMS
   - Real-Time Measurement

### VIV - Vehicle-Infrastructure-Vehicle

**VIV safety applications** started in 2014, with a demonstration project that we ran in USA with the NCSU / ITRE. A couple of predefined alarms were designed and successfully tested, warning an anonymous driver from a particular traffic condition.

#### Data analytics readiness

All the data is storaged and processed in a way that allows any big data analytics. This was a decisive point for our solution to be chosen by the USA universities.

#### Security

i2D protects data and communications from unauthorized access and/or manipulation and car electronic circuits.
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SLIDE III: ILLUSTRATIONS OF THE TECHNOLOGY

Second by Second trip reconstruction

3 axis accelerations, configuring dangerous or uncomfortable events

Fuel cut-off
1- Decelerating (using gear box and engine as a break) – a defensive and efficient driver...

Fuel cut-off
2- idem, down-hill

Altimeter
The only way to accurate driving efficiency and safety scoring
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SLIDE III: ILLUSTRATIONS OF THE TECHNOLOGY
i2D TELEMATICS

SLIDE III: ILLUSTRATIONS OF THE TECHNOLOGY

CREDITS

Trip: 487
Month: 2.526

Safety: 84.6%
Eco: 74.4%
Smoothness: 80.5%

Instant. Consumption: 27.7 l/100
Med. Consumption: 5.7 l/100
Emissions: 44.3 kg

Real Mapping
38.718777, -9.198815
Go

Speed
rpm
Gear Box
Slope
Fuel cut-off

4.62 m/s²
0.25 m/s²

maximum elevation: 110 m
accumulated elevation: 880 m
total gap: + 55 m
IN THE PRESENT MOMENT

SLIDE IV: CUSTOMERS, STRATEGIC PARTNERSHIPS AND TOP PRIORITIES

### Current customers

6 worldwide innovation centers, from which we highlight two:

- **NCSU** (North Carolina State University); running 90 i2D units.
- **UMD** (University of Maryland); running 150 i2D units.

These 2 main clients we currently have, both in the USA, are presently running two R&D relevant projects (from 5 to 6 million USD each) are they are doing so based on the i2D platform.

### Strategic partnerships

- **Car Driving Training**
  Partnering up with a key reference in the driving training industry to guarantee that our offer generates the expected results.

- **Energy Certification for Vehicles**
  Partnering up with ADENE – National Agency for Energy – in the way to **Fleet Energy Certification** through the use of telematics.

- **Insurance**
  Partnering up with an insurance firm to develop the potential associated with **TBI – Telematic-Based Insurance**

### Top priority customers

**Long-term perspective: 3 to 5 years**

- **Fleet Management**: all kinds of fleets, from corporate to professionals (logistics), to renting companies, to the government fleets, etc.
- **Car Insurance**: also, every insurance firm who provides car insurance will be a potential user of our telematics solution.
- **Mobility**: finally, once we have massive and critical data from drivers’ behaviour, we’ll be able to work together with municipalities and government to affect road mobility directly.

**Short-term perspective: today**

- **Corporate Car Fleets**: large corporations that have a mandatory security policy and a car fleet composed by cars they give to their employees as a compensation perk.
THE BUSINESS MODEL

SLIDE V: ACTION STEPS

Business Models

Car Fleets

- FleetDrive is a SaaS model
- We’ll have an entry-product like a simple energy auditing
- We’ll convert clients to our FleetDrive product from the entry-level one
- We’ll cross-sell a training package

Insurance

- Every car insurance business will become a Telematic-Based Insurance company
- It is highly likely that we’ll charge an annual fee to provide our technology to insurance businesses.

Key goals

1. Where we are today
   - 2012-2016: leveraging national funding from FAI (€1.4 M project), and Horizon 2020.
   - 2017: running Portugal 2020 funded project (€1.1 M), go-to-market oriented

2. What are we looking for: a €1.1M funding
   - €600k to launch FleetDrive in the market
   - €500k to support i2D in the design and development of a solution that integrates i2D telematics technology with Claims and Risk solutions of Insurance companies

3. Our proposal to investors: Challenge us
   There are 2 universities in the USA investing $12M in projects with our technology. The potential of what we can do and the applications of i2D Telematics are limitless.

   We’d like to invite you to challenge us!

Current cap table:
€2.100.000

Areas of investment:
Technology development
Marketing
Business Development

Market potential
A €7.5* Bi potential market by 2022
Growing 30% per year
- Insurance + Fleets

Long-term perspective
Business potential will be expandable to the global Mobility industry as we have massive data and historical.
MOBILITY ELEVATED TO HIGHER LEVELS OF EFFICIENCY