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SATELISE® : A SMART MOBILITY SOLUTION FOR ROAD USER CHARGING

RESULTS OF THE PILOT PROJECT IN PORTUGAL (2020-2022)

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1. INTRODUCTION: WHAT IS SATELISE ®? I

*Platform developed by **Cintra**, in limited commercial operation **since 2016** in the C-16 motorway in Spain*
(near Barcelona) with 1500 trips per day and 4500 active accounts.

The platform offers a technological solution for **RUC**, through **geopositioning of the mobile device** of the use r who only needs to install the Satelise ® app in his/her device.

Instead of physical tolling infrastructure, Satelise ® operates with **virtual gantries**, based on the concept of **geofencing** (polygons are drawn over the digital cartography of the infrastructure to be tolled).

Satelise ® registers the **GPS trace of the vehicle** along the tolled infrastructure, with toll transactions being created as the vehicle goes through the virtual gantries defined along the corridor as per the tolling scheme indicated by the tolling charger.

*Satelise ® includes some patents involving the **algorithms of definition of the virtual tolling zones** which allow for **increased accuracy in GPS** detection*

1. INTRODUCTION: WHAT IS SATELISE ®? II

1. INTRODUCTION: ADVANTAGES OF THE SOLUTION

MINIMAL NEED OF TOLLING CHARGING INFRAESTRUTURE

- Optimized **implementation timeline**
- Minimal **CAPEX & OPEX**
- Guaranteed **Flexibility /Scalability**

NO NEED FOR A DEDICATED DEVICE

- Simplified **commercial distribution**
- **Bi-directional communication** between user/service provider.
- **Technical interoperability** not an issue, as the solution relies on universal technologies

Real potential to transform any existing infrastructure into a “smart road“ by application of up-to-date 21st century technologies on 20th century roads.

2. PILOT PROJECT IN PORTUGAL I *Objectives*

Pilot project in partnership with **Vialivre (Toll Charger)** in the A22 (Algarve) and A28 (Porto) toll roads, in collaboration with **Infraestruturas de Portugal (IP)**, owner of the toll income, with authorization from **Instituto da Mobilidade e dos Transportes (IMT)**, as **Grantor and Regulator**, with the following **objectives**:

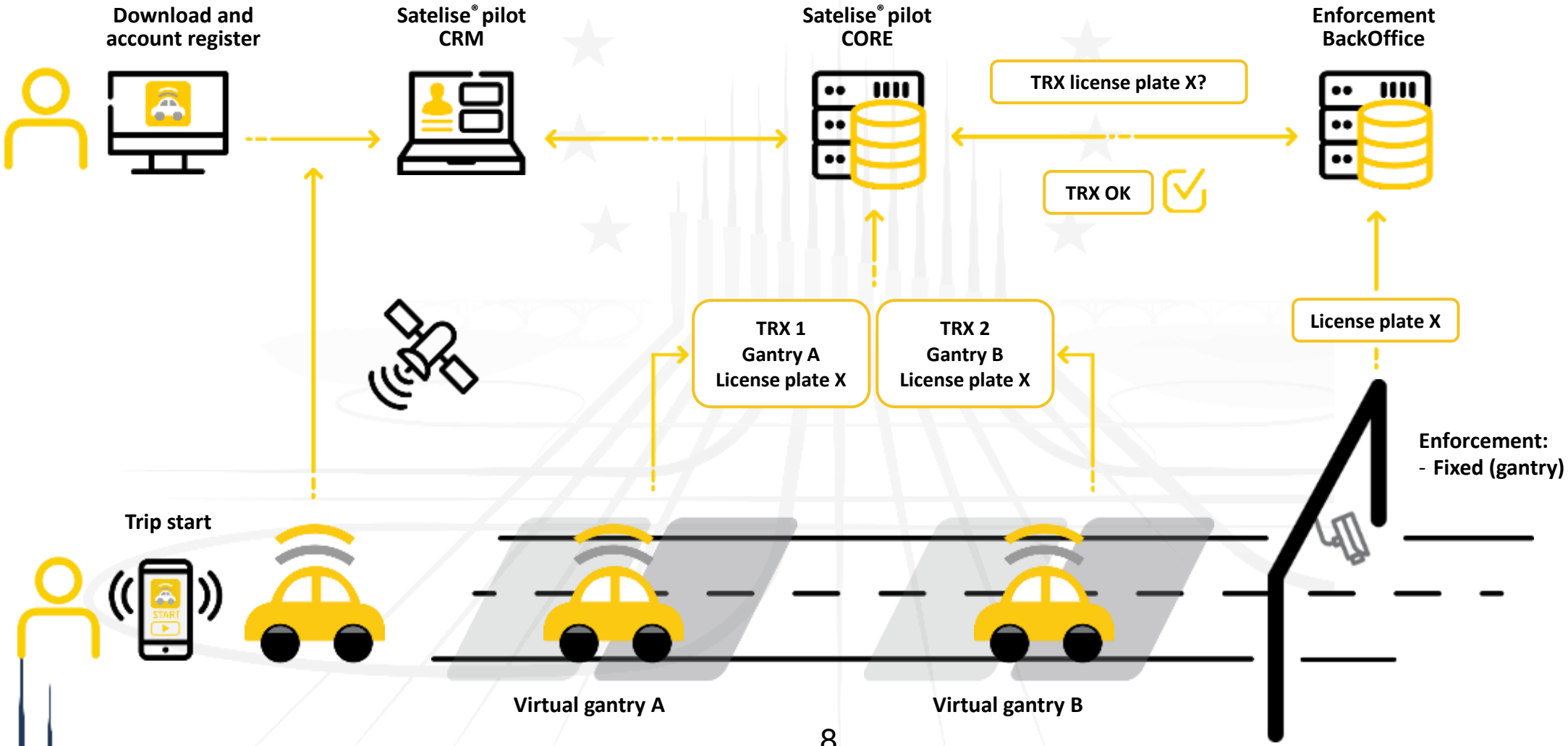
- Showcase the **technical feasibility** of **Satelise®** as an accurate payment mean for road user charging**.**

- Showcase the **feasibility** of **Satelise®** as a **toll service provider** in Portugal via:

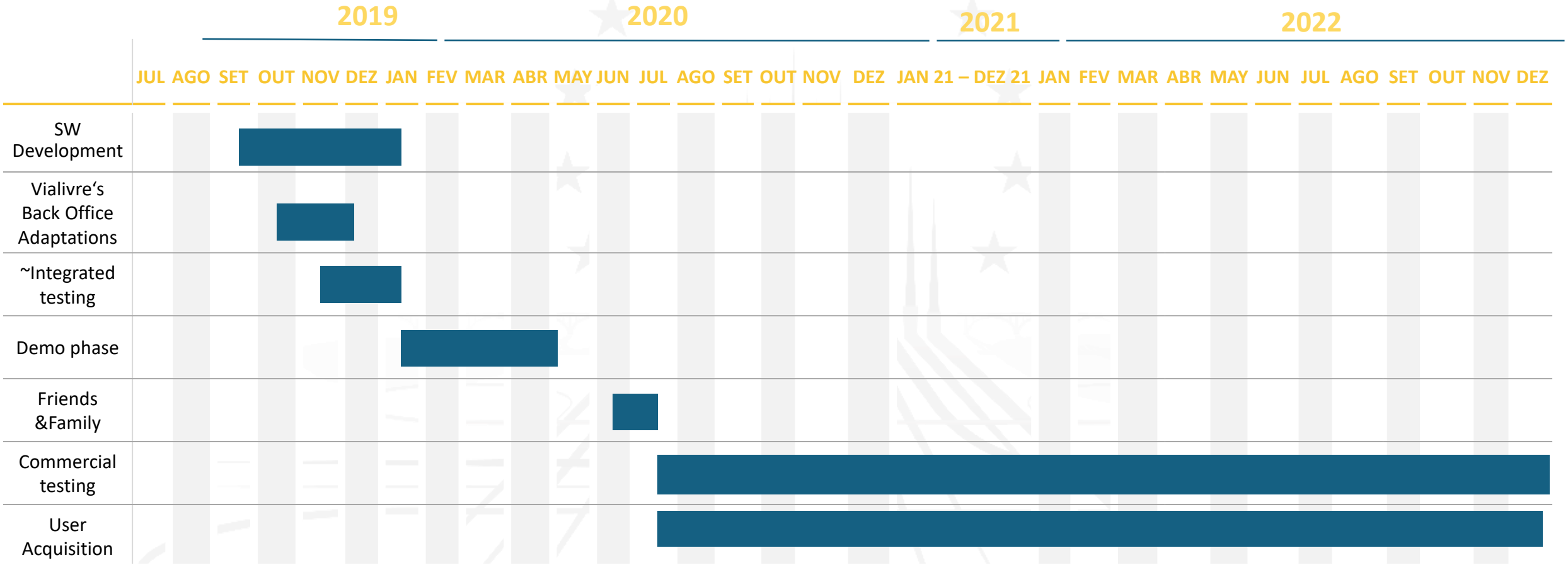
  → Illustrate through Vialivre's example **the simplicity of the adaptations needed in the current back office platforms** of the existing Toll Chargers to process Satelise ® transactions.
  → Performance of **full commercial cycle tests with real users**

- Develop a **limited commercial and marketing study** to analyse the behaviour of potential users of the platform, in terms of preferred payment means, frequency of use, precedent Toll Charger, invoicing preferences, usability aspects, etc.

2. PILOT PROJECT IN PORTUGAL II
Flow chart



2. PILOT PROJECT IN PORTUGAL III
Timeline



2. PILOT PROJECT IN PORTUGAL IV
New functionalities after the initial release

Upgrade	Requirement to be fulfilled	Released on
Availability of the app for testing in A22	The pilot was initially only scheduled to happen in A28, but we detected a strong interest in the users of A22.	14-10-2020
Availability of post-payment means for the account: "Referências Multibanco" and "MB Way"	Reluctancy of Portuguese users to associate a credit or debit card number as payment mean for their accounts	18-01-2021
Acceptance of foreign plate numbers in Satelise ® accounts	Direct request from this type of users, especially in A22 (Algarve region)	23-06-2021
C-Roads – NAP interface	Satelise ® was designated as the driver's interface to receive alerts and other traffic-related messages from the NAP in the Portuguese C-Roads project	23-11-2021

2. PILOT PROJECT IN PORTUGAL V
Main results (July 2020 to December 2022)

+70.000
DOWNLOADS (APPLE AND ANDROID)

4800
ACTIVE ACCOUNTS

9225
TRIPS A22 (87%)

1428
TRIPS A28 (13%)

USER PROFILE:
NATIONAL NOT RECURRENT OR FOREIGNER

+10653
TOTAL TRIPS

+89%
PAYMENT SUCCESS

30%
USERS WITH FOREIGN PLATE NUMBER

60%
POST PAYMENT

40%
CREDIT/DEBIT CARD

5
PUBLISHED VERSIONS OF THE APP, WITH CONTINUOUS FUNCTIONAL UPDATES

2. PILOT PROJECT IN PORTUGAL VI
Conclusions

- Confirmation of foreseen *commercial target* : **national drivers previously paying by plate or in enforcement phase (>50%) and foreign drivers (>30%).**

- Commercial and Technical **feasibility of the platform has been confirmed by the Pilot** considering the main results obtained:
  1. Technical failures practically non-existing
  2. High collection success rate (90%)
  3. Seamless integration of Satelise ® as a third Toll Provider in Vialivre's Back Office, with uninterrupted operation during the pilot without any registered incident affecting regular collection flows.

- Direct and permanent contact with test users during the pilot has allowed for continuous improvement of the platform/app and to obtain very valuable feedback to create a **roadmap of development of the future commercial version**, in particular in terms of user's interface.

3. NEXT STEPS
Commercial implementation in Portugal

Portugal transposed the Directive (EU) 2019/520 in Dezember 2022, through the decree 84-C/2022.

Cintra is analysing the commercial feasibility of Satelise ® in Portugal as a Toll Service Provider.

Some questions remain open in terms of certification of new toll service providers that want to use solutions for OBE different than a traditional transponder.

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THANK YOU

GRAZIE

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