

## Israel – Ruta N Smart Cities Call For Proposals

### EXPRESSION OF INTEREST

#### 1. Project Participant

Company name: Empresas Públicas de Medellín - EPM

Website: www.epm.com.co

Year established: 1955

Type of company: ☐ R&D ☐ Research institute ☐ University ☒ Other

Stage: ☐ Seed ☐ R&D ☐ Initial revenues ☒ Revenue growth

Ownership: ☒ Public ☐ Private ☐ Governmental ☐ Other

Number of employees: 7000

Number of R&D personnel: 17

Company contact information:

Address: Carrera 58 #42-125, Medellín, Colombia

Contact person:

Name: Juan Pablo Ortega Ipuz

Title: Innovation and Development Professional

Phone: +57(4) 3804474

Mobile: +(57)3006163461

Email: juan.ortega@epm.com.co

#### 2. Organization Background

##### General Business Description & Area of Expertise

Empresas Públicas de Medellín E.S.P., whose brand is EPM, is a public company located in the city of Medellín, Colombia, unique property of the Municipality of Medellín. It was founded in 1955 as an independent public institution, and transformed into Industrial and Commercial State Company of the municipal order, by decision No. 069 of December 10, 1997 issued by the Board of Medellín

It operates in the water (and sewerage), electricity and gas sectors. It is legally empowered to also act in the telecommunications and garbage collection sectors.

Its natural market is the city of Medellín, with 2,600,000 inhabitants, a city that is part of the Metropolitan Area of Valle de Aburrá, a conglomerate of nine other suburban

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municipalities with a million additional inhabitants. The Department of Antioquia is formed, in addition to its capital Medellín and its metropolitan area, by 115 other towns and rural areas, with another 2 million inhabitants.

EPM is the parent company of a business group formed, besides itself, of another 44 companies, all joint stock companies in which it has majority stake and management control through presence on their respective boards of directors. According to Colombian law, a corporate group is a conglomerate with subordinate relationship because of ownership of the entities that comprise it, and with unity of purpose and direction.

### **Technology Description (Main Products/Services) and IP**

The services that we provide to our users are: Electricity, piped gas, water and sewerage systems. EPM has also been prominent in these four public utility areas and is now progressing on a series of projects that will consolidate its leading position.

#### **Water**

EPM supports the well-being of the inhabitants of Medellín and its metropolitan area through the comprehensive management of the water cycle: the supply of excellent water quality and the collection and treatment of wastewater.

EPM provides these services with certified quality throughout all phases of the process. EPM services ten municipalities in the Aburrá Valley: Medellín, Bello, Envigado, Itagüí, La Estrella, Sabaneta, Copacabana, Girardota, Caldas and Barbosa, servicing a total of 974,781 clients.

#### **Energy**

EPM holds a significant position in Colombia's electricity sector, with a 21.11% share of the demand serviced across the country. For more than five decades, it has constructed the backbone of Colombia's hydroelectric system. After many years of experience in developing this type of project, it is progressing in the search for other sources of energy as a way of contributing to the environmental sustainability of the planet. In turn, this opens other opportunities for the company's national and international growth.

#### **Natural Gas**

EPM has provided piped natural gas since 1996, the year in which its pilot phase began. In 1998, this gave rise to its natural gas service mass distribution program, through a domestic network of pipelines that services residential, commercial and industrial sectors in the Aburrá Valley. Today, it has fully expanded across ten municipalities in the Aburrá Valley, including Medellín, and in other locations in Antioquia, offering a secure, economic and environmentally friendly energy alternative.

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### Targeted Customers

In 2017:

Water – 1'186.434 customers

Energy - 2'368.457 customers

Natural Gas – 1'132.329 customers

### Sales (over the last 3 years)- if applicable

2017: USD2,47 billions

2016 USD2,83 billions

2015 USD2,28 billions

### 3. General Information

Project Title: Smart services for road concessions

Technology Sector:

- ☐ Electric Mobility, Autonomous Mobility, Smart Mobility, Vehicle Technology.
- ☐ Digital city
- ☐ Information city
- ☐ Cognitive Smart CityEnergy, street lighting, smart buildings, distributed energy resources (DER), data analytics, and smart transportation.
- ☐ **Energy, street lighting, smart buildings, distributed energy resources (DER), data analytics, and smart transportation.**
- ☐ Environment
- ☐ Public safety

Submission Date: 31/01/2019

### Summary:

EPM is developing a new line of services of smart lighting solutions for Smart Cities and the logical next step is to develop smart services for road concessions, using the experience of the company in cities and road lightning concessions and the opportunity considering the important growth of road concessions in Colombia.





This project is focused in the Palmas road concession which connects the city of Medellin with the international airport of the city, where EPM is currently responsible for the lighting operation and maintenance.

Project Start Date: 01/10/2019

Project End Date: 01/10/2020

#### **4. Budget:**

Total Project Budget: USD2.000.000 USD estimated

Requested IIA grant (% of budget): 50%

EPM will provide in kind financing for the project with all its capabilities in local market understanding, public lightning, customer support, etc.

Requested Medellin Partner Support: Support with road concessions responsible at the local, state and national level

#### **5. Project Outline:**

##### **Project Description**

EPM is responsible for the lighting operation and maintenance of the Palmas road concession which connects the city of Medellin with the international airport of the city. This road is owned by the Government of Antioquia, it has 34.5 kilometers, 1,840 lightnings points and it is one of the most important roads of Antioquia state, with around 30.000 vehicles circulating daily.

It is considered the 6<sup>th</sup> most dangerous road in Colombia because just in the initial 14,5 kilometers between 2016-2018 there was 1,314 accidents, 625 people injured and 9 deaths.

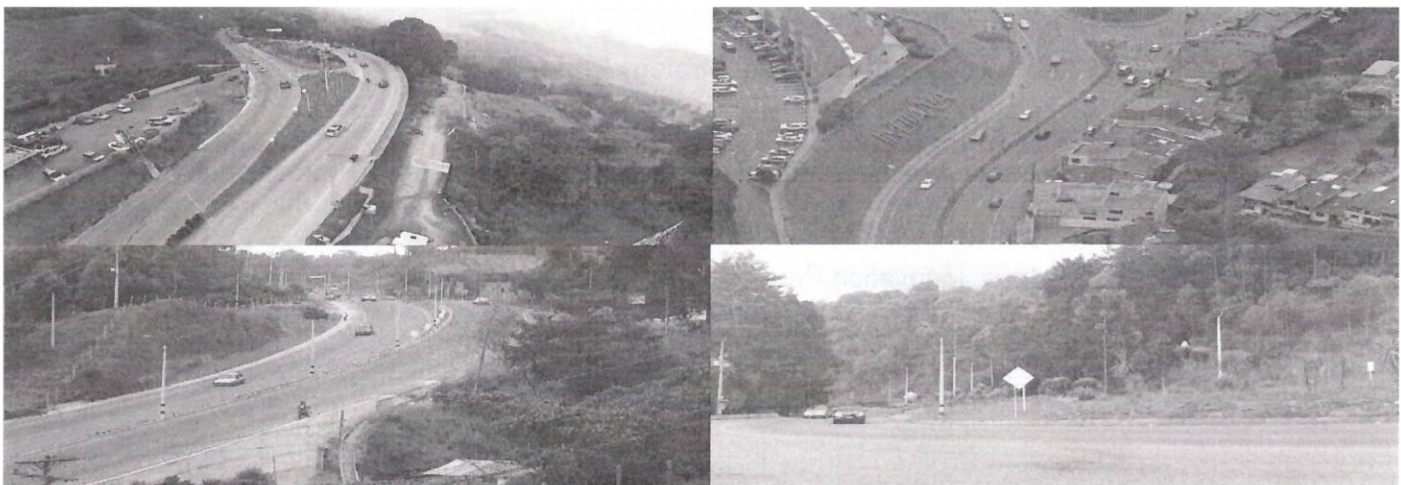
The project will deploy a smart lightning solution with smart mobility services to reduce and solve easily typical problems in the road such as:

1. Accidents
2. Overspeed
3. Traffic jumps

Giving information in real time to authorities and citizens.

The solution should give enough information to the concession owner for planning its operation, to support the operation and the ex-post analysis of the operation, helping them to accomplish their key performance indicators (KPI), improving the security levels for the road users and supporting the mobility and health authorities.

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### Market Potential and Commercialization

There are about 47 road concessions in the country for a total of 8,626 kilometers of concession length, some of them in the operation and maintenance stage and others under construction. These concessions seek to develop the national road network.

Our project seeks to address these concessions with smart mobility services that help solve security and mobility problems that arise in these roads and facilitate their operation and maintenance. The solution will be focused on providing information to mobility and health authorities, the users and those in charge of the operation and maintenance of the road, in a way that guarantees that in a short time the accidents and eventualities that are affect mobility and safety of the road, can be attended.

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### Expected Outcome of Project

With the project, we want to intervene initially the Palmas road concession of the Government of Antioquia in which we are currently responsible for the operation and maintenance of lighting. It is a road with 1,840 luminous points. Because of this first intervention, we expect to test and study smart solutions that contribute to managing safety and mobility problems on the road, with information that allows the concessionaire to speed up operations and maintenance and guarantee to the users an agile and safe transit on the road.

EPM could adjust the scope of the proposal with IIA and the Israeli partner company depending on the solution characteristics and the budget availability.

### Short Profile of the Key Staff who will be Undertaking the Work

Eugenia Maria Duque Mejia, Innovation Professional

Claudia Eugenia Durango Urrego, IT Professional

Viviana Kisner Mira, Government LOB Professional

Claudia Patricia Gomez Daza, Commercial Strategy Professional

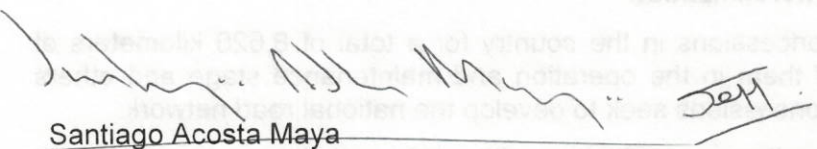
Fabio Andres Vasquez Torres, Lighting Professional

Giovanni De Jesus Marin Avalos, Energy Transmission and Distribution Professional

Andres Restrepo Sanchez, Technology Assimilation Professional

Juan Pablo Ortega Ipuz, Innovation Professional

Presented by



Santiago Acosta Maya

Innovation Manager

EPM