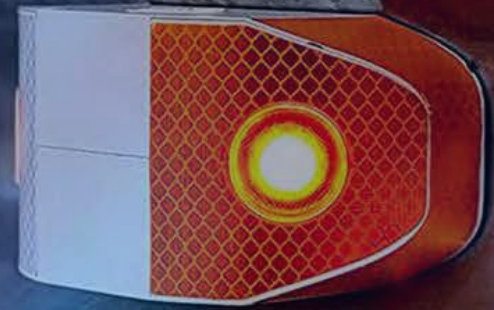


# PlugSmart<sup>®</sup> Pro

**A revolution in road  
safety**

An innovative solution that marks a  
significant change in Active Road Safety  
for the Infraestructure



# Key Milestones 2020-2023

Pain

### CONCEPTION

- Goals and social benefits
- Define the idea :
  - Brainstorming session with METALESA's engineering team
  - Commercial and engineering workshop to validate benchmarking results
  - Define general objectives

### STUDY ON RUN-OFF-ROAD ACCIDENTS

METALESA & Universitat de València

- Study of Run-off-Road Accidents in Spain between 2017-2023 and the Importance of Containment Systems in Reducing Accident Rates, Mortality, and Injury Severity in Urban and Peri-Urban Environments, with an Impact on Vulnerable Road Users

### ON-SITE CASE STUDY

- Pont Bimil-lenari on Elche( Spain)
- Elche viability study by METALESA (Spain)
  - Identified component requirements
  - External sensors required

### ON-SITE ELCHE (SPAIN) EXECUTION PROJECT

- Metaurban® SMART barrier infrastructure with PLUG&META® technology

The **stagnation** in finding effective solutions out **to reduce accidents and fatalities** caused by **run-off road crashes**.



SETTING UP First CE Certified SMART Parapet



Video Metaurban® SMART

# Study of Run-off-road accidents and the impact of ITS in Spain

80.329

NUMBER OF RUN-OFF-ROAD ACCIDENTS  
2017-2023



21.031

NUMBER OF VICTIMS WITH SAFETY BARRIER



892  
(4,2%)  
DEATHS

2.410  
(11,5%)  
SERIOUS INJURIES

17.729  
(84,3%)  
MINOR INJURIES

# Study of Run-off-road accidents and the impact of ITS in Spain



## Impact of ITS on accident rates

ITS can reduce run-off-road accidents by 49.5%, and by up to **59.7% in the most severe and fatal cases.**



## Key technologies for prevention

The **most effective solutions** include **dynamic signage systems that adjust speed** based on visibility and weather conditions.



## Investment in technology delivers results

Investing in ITS and active safety systems within infrastructure is a **strategic action to achieve road accident reduction targets.**

ITS IN RUN-OFF-ROAD SCENARIOS

# 49,5%

ACCIDENT REDUCTION

RUN-OFF-ROAD ACCIDENTS

# 72,1%

DUE TO EXCESSIVE SPEED

## Key Milestones 2024

### CRASH CUSHION SMART

by METALESA

- Study definition of a new crash cushion terminal with PLUG&META® technology
- SMART crash cushion terminal installed with smart signaling, automatic impact alerts to authorities, and solar-powered operation

### PlugSmart® Pro PROJECT DEVELOPMENT

"Universal Signaling Concept"

### PlugSmart® Pro

New SMART device by METALESA

- Engineer a versatile enclosure suitable for integration with any infrastructure
  - Enhanced functionalities
- FIRMWARE redesigned to support two independently controlled performance lights, in collaboration with the technology partner for industrial solutions.
- New electrical connector components design by METALESA
- Reflective Stickers (white/amber/red colors)

### PLUG&META® TRACE MANAGEMENT PLATFORM

Redefinition & redesign

- Design of the new PLUG&META® TRACE version 2 (v.2)
  - New scenarios and sensors integrated
  - Option to select device type: single light or dual independent lights
  - Statistical data collection and analysis enabled

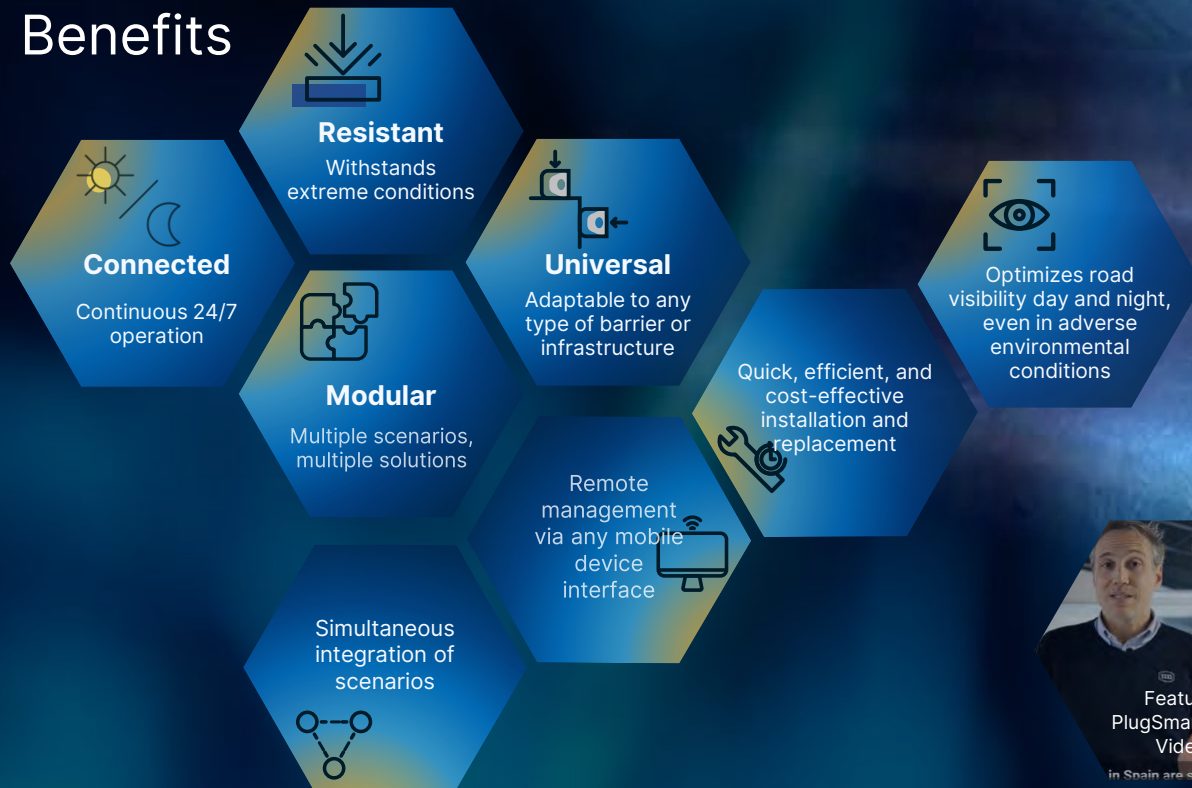
### COMMERCIAL PRESENTATION

International distributors



# PlugSmart® Pro: features and benefits

## Benefits



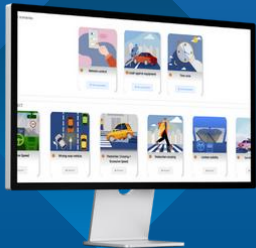
**Detects**  
Risks

**Signals**  
Accidents & incidences

**Reports**  
Events on the road



# Key Milestones 2025

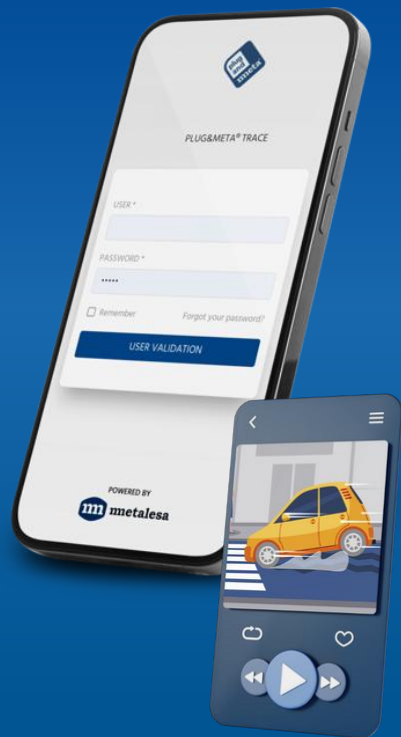


ITS Seville 2025 booth design



Mobility City Museum POS design

# PLUG&META® TRACE Management Platform



Increase emergency response for any type of incident

Report data for the management, analysis and prediction of events

Receive alerts for any incident from any device

Monitor the status of the installation

Set up scenarios and customize device performance parameters

# PR & Media impact PLUG&META® Technology

## 2022 PRESS MEDIA



### Metalesa demos Metaurban Smart system

If it exists, then Metalesa's new Metaurban Smart postrail restraintment system can measure it to provide the highest standard of road safety.



## 2023 PRESS MEDIA



### El Pont del Bimil.lenari de Elche aspira a ser el primer puente inteligente a nivel europeo

Las obras incluyen el cambio de bander por otros inteligentes que avisarán a través de su sistema IoT y de algunos posibles sensores de tráfico o accidentes.

### Elche activa el balizamiento 'inteligente' del Pont del Bimil.lenari, que avisará de cualquier anomalía



### SEZ

### Un mes y medio para convertir el Pont del Bimil.lenari en "inteligente"

Se ha iniciado el intercambio digital para mejorar la regulación de tráfico y para facilitar el intercambio de información sobre acontecimientos o situaciones.



## 2024 PRESS MEDIA



### PREMIO INNOVACIÓN 2024

### Global Mobility Call

Metalesa (SEGURIDAD VIAL) company presents Plug&Gate Pro, a new variable and intelligent signaling device for any type of road barrier.

This innovation represents a new paradigm in road barriers and projects, both new and existing. It not only detects and notifies incidents in real time, accelerating health care, but also prevents accidents by signaling risks on the road in real time. For example, excessive speed, adverse weather conditions, presence of animals, cyclists, pedestrians or other obstacles on the road.

Come to stand 2023 in Hall 8, and you will be able to see first-hand several samples of different barriers and projects.

The Metalesa technical team will be happy to assist you.

#GlobalMobilityCall

La empresa METALESA SEGURIDAD VIAL presenta Plug&Gate Pro, un nuevo dispositivo de señalización variable e inteligente para cualquier tipo de barrera de tráfico.

## 2025 PR /DIGITAL PROMOTION

Metalesa gana el Premio Nacional ACEX por su dispositivo Plug&Gate Pro: una revolución en la conservación y seguridad de carreteras

La innovación desarrollada por la empresa Metalesa permite transformar los barreras de seguridad convencionales en dispositivos inteligentes que mejoran la conservación, reducen los tiempos de intervención y promueven soluciones viables.



# Brand Initiatives Highlighted in Awards & Industry Events

## AWARD & DISTINCTIONS

- Ponle Freno-AXA Innovatin Award (winners 2024)
- ACEX National Award (winners 2025)
- Winner of the European Road Safety Charter's Good Practice of the Month for October (2025)
- Accredited as a “Ponle Freno Recommended Product” 2025
- Spanish National Innovation Award (pending decision 2025)
- Intertraffic Awards (under submission for 2026)



## FAIRS & CONFERENCES

- Intertraffic Amsterdam (confirmed 2026)
- Exhibition at Mobility City (2025)
- Global Mobility Call (2024)
- AEC/ATC (2024 & 2025)
- UPV Conferences (2024 & 2025)
- ITS Mobility City Ibercaja (2025)
- ATC Exhibition in Segovia (2025)
- ITS Spain Congress (2025)
- Koelnmesse Cologne exhibition center, Germany (2025)
- ITS Europe Congress, Seville (2025)
- SeguCITY Congress, Valladolid (2025)
- National Press Conference on innovative study of run-off-road crashes



Asociación  
Española de la  
Carretera



UNIVERSITAT  
POLITECNICA  
DE VALÈNCIA



INTERTRAFFIC  
29 MAR - 1 ABR 2022 AMSTERDAM



EUROPEAN  
CONGRESS  
VEHICLE 2022



Connecting the  
sustainable mobility  
ecosystem

THANK YOU!!

PlugSmart<sup>®</sup> Pro powered by PLUG&META<sup>®</sup>

[www.metalesa.com](http://www.metalesa.com)