

# Using Technology to Reduce Urban Graffiti

Case Study in Spain: Vitoria-Gasteiz and the Graffiti Office



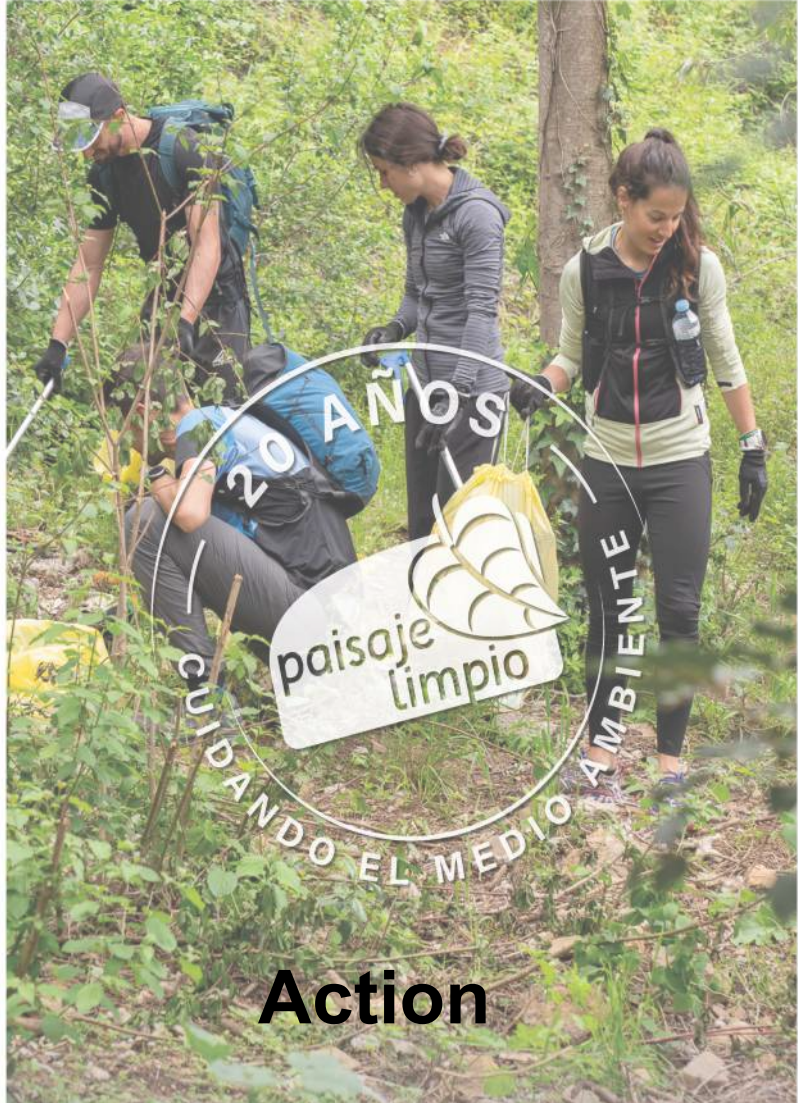
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# Who we are?

**Paisaje Limpio** is a non profit Association. It was created in 2004. The objective of Paisaje Limpio is to promote actions against litter, change behaviour in the population and to keep the landscape clean, through information, science and training.

# Our Stakeholders





**Action**



**Education**



**Science**

# The three pillars of Paisaje Limpio

# Education

*"Nobody Will protect that they don't care about; and nobody will care about the have never experienced"*

**David Attenborough** (naturalist and broadcaster)

*"We only protect what what we know, and we only love what we understand."*

**Jacques-Yves Cousteau** (explorer, oceanographer and communicator)



# Citizen Science

Citizen Science allows us to connect with nature...

- Collaborative learning
- Local solutions
- Environmental awareness
- Generation of large data
- Influence on public policies



# Science

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In addition to the educational component, we apply real science: protocols, measurements, analyses, and meaningful data.



A group of four people (two men and two women) are in a forest, celebrating their cleanup work. They are all wearing dark clothing and have large blue plastic trash bags tied around their waists. They are high-fiving each other in a circle, looking happy and energetic. The background is a dense forest of tall, thin trees.

# Action



# Volunteer Activities





# Connecting Our Work to the Graffiti Challenge

When we work in natural environments, we see very clearly that degradation attracts more degradation

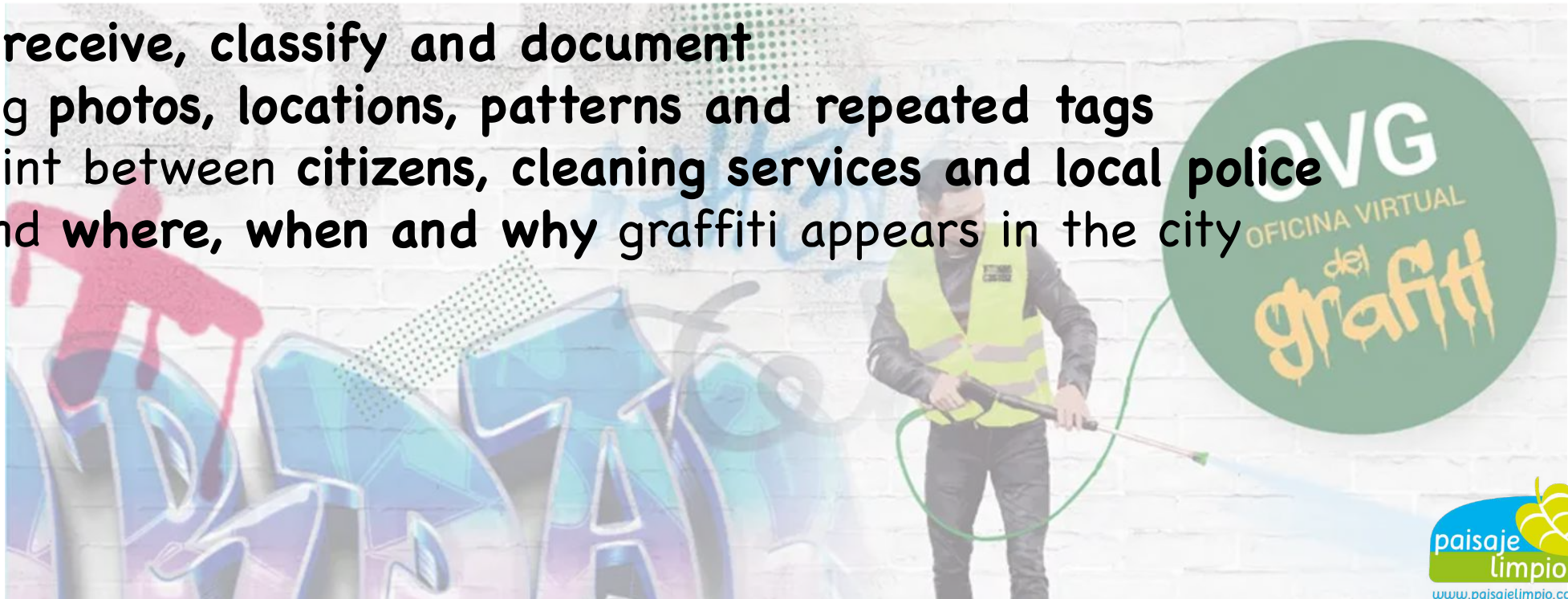
- **Graffiti and hip hop culture arrived in Spain in the 1980s as a form of urban expression and cultural revolution.**
- **Same pattern in nature and cities**  
**Graffiti as visual litter**
- **To protect a place, we must address all forms of pollution**  
Research (Keizer, Lindenberg & Steg, 2008; Vanderveen & van Eijk, 2016; Tehan et al., 2020)
- **Technology helps us act**



# Case Study: Vitoria-Gasteiz and Its Graffiti Office

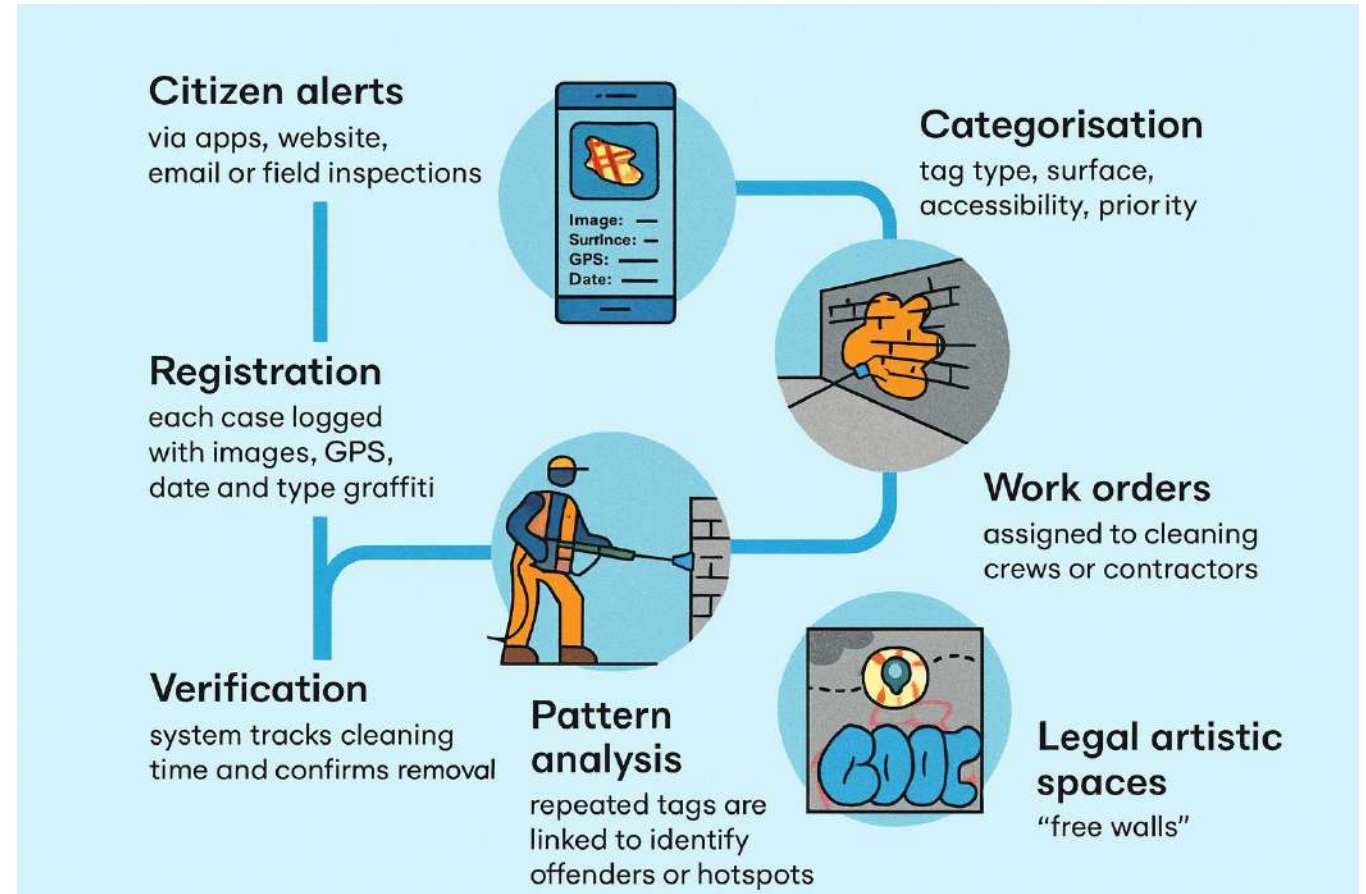
What Is the Virtual Office of Graffiti ?

- Central unit to **receive, classify and document**
- Database storing **photos, locations, patterns and repeated tags**
- Coordination point between **citizens, cleaning services and local police**
- Helps understand **where, when and why** graffiti appears in the city



# How the Graffiti Office Operates

- Citizen alerts
- Registration
- Categorisation
- Work orders
- Verification
- Pattern analysis
- Legal artistic spaces “free walls”



# Technology in the Graffiti Office

- **Digital platforms** centralising all graffiti reports
- **Image comparison tools** connecting similar tags across the city
- **GIS mapping** showing hotspots and frequency of incidents
- **Photo evidence** stored for administrative or legal actions
- **Efficient routing** for cleaning teams

# Vitoria-Gasteiz, A Clean and Well-Managed City

- Considered one of the **cleanest cities in Spain**
- It has been a **European Green Capital** for any years
- It receives **every years awards**: Escoba de Oro and the Escoba de Platino
- **Recognised for urban cleanliness**, waste management and graffiti removal
- **Strong operational coordination between Graffiti Office**, cleaning teams and police
- A leading **example**, though other cities are also developing successful approaches



# What Vitoria-Gasteiz Has Achieved

A structured **Graffiti Office** with a robust incident database

**Fast cleaning response**, preventing deterioration

More than **1,300 m<sup>2</sup> of graffiti removed** in specific annual campaigns

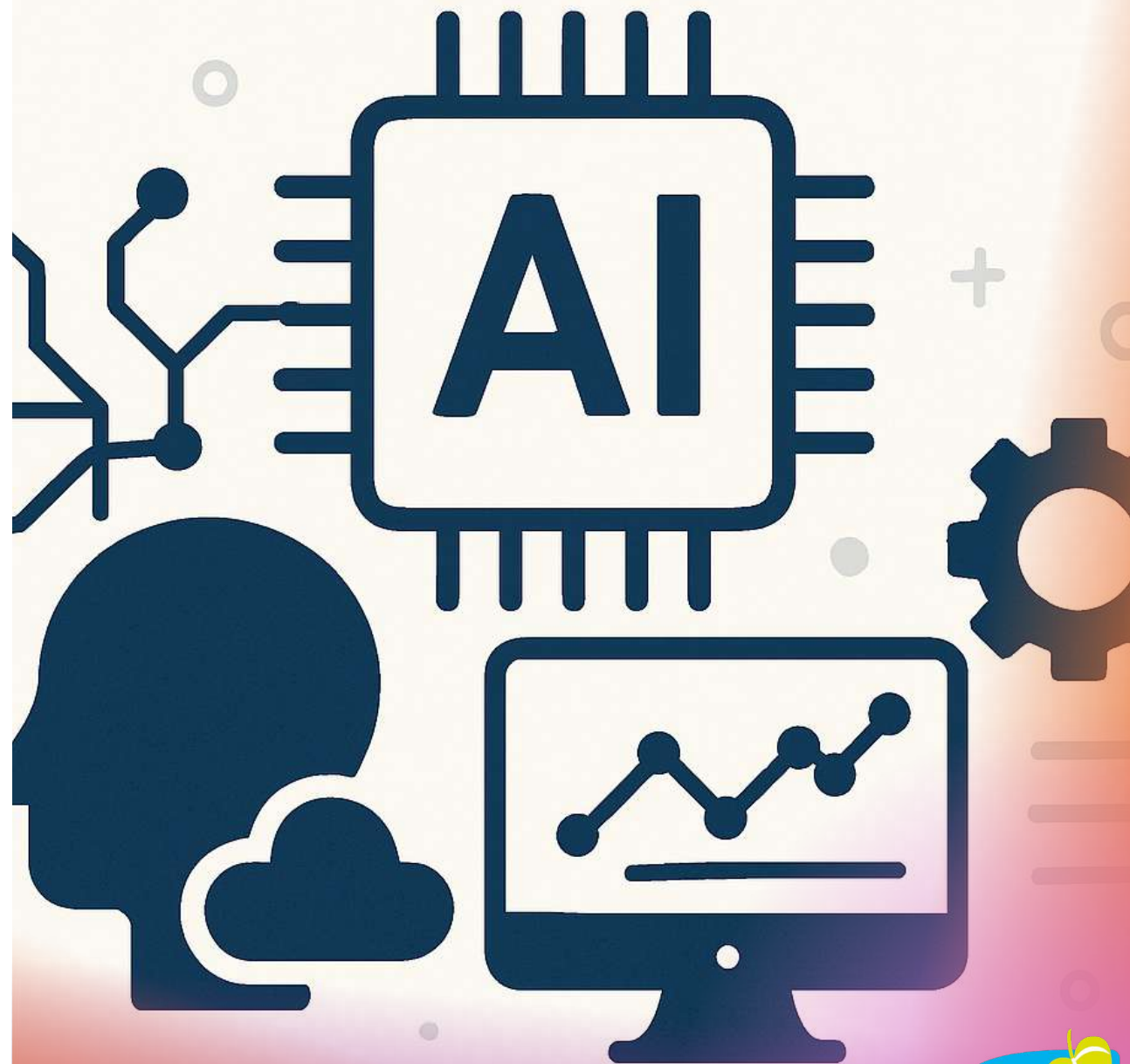
Vitoria is home to many authorized graffiti pieces

**ART  
NOT  
DISASTER**



# Looking Ahead: AI and Future Opportunities

- **AI models** can automatically detect graffiti from images
- Machine learning can compare tags like **visual fingerprints**
- AI can support:
  - Identification of repeated signatures
  - Detection of emerging hotspots
  - Prediction of where graffiti may appear next
- The future is a combination of **AI + human expertise + rapid action**



THANK YOU