



MEMBER OF BASQUE RESEARCH
& TECHNOLOGY ALLIANCE



Funded by the
European Union



Technologies being developed in TECNALIA thanks to RECONMATIC

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TECNALIA is the **largest applied research and technological development centre in Spain**, a European benchmark and member of the Basque Research and Technology Alliance.

With **1,520** experts from **27** nationalities, aimed at transforming technological research into prosperity, acting as agents of transformation of **companies** and **society** to adapt to the challenges of a future in continuous evolution.



We want to be the technological partner of all companies to generate high impact business opportunities through technology.

1

Laboratory Services

2

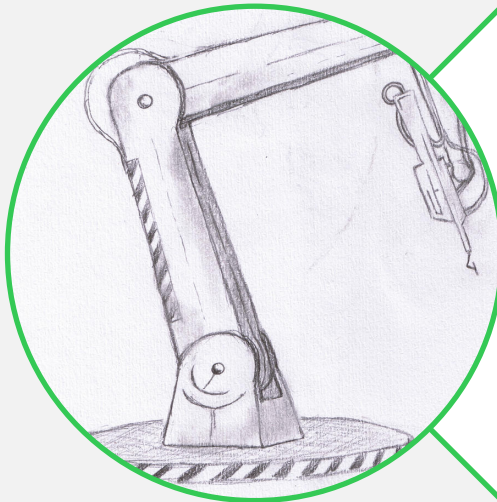
R&D and Innovation Projects

3

Development of Investment Opportunities



**1st technology:
Digitalized
predemolition audits**



**2nd technology: Waste
classification and
sorting robotic arm**

1st technology: Digitalized predemolition audits



Nowadays

- Paperwork
- Architectural plans and technical drawings in paper
- Maintenance and other relevant information can get lost

1st technology: Digitalized predemolition audits



Nowadays

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Future (our development)

- Information on BIM models
- No more paper needed
- Automatic updates and registration of info

1st technology: Digitalized predemolition audits

“Novel platform that integrates Artificial Intelligence (AI), Computer-Aided Design (CAD) and Augmented Reality (AR) to automatically develop a 3D digital model for End of Service Life (EoSL) Buildings from paper based drawings, in preparation for automated development of a pre-demolition protocol”

AI
undertanding

CAD
knowledge

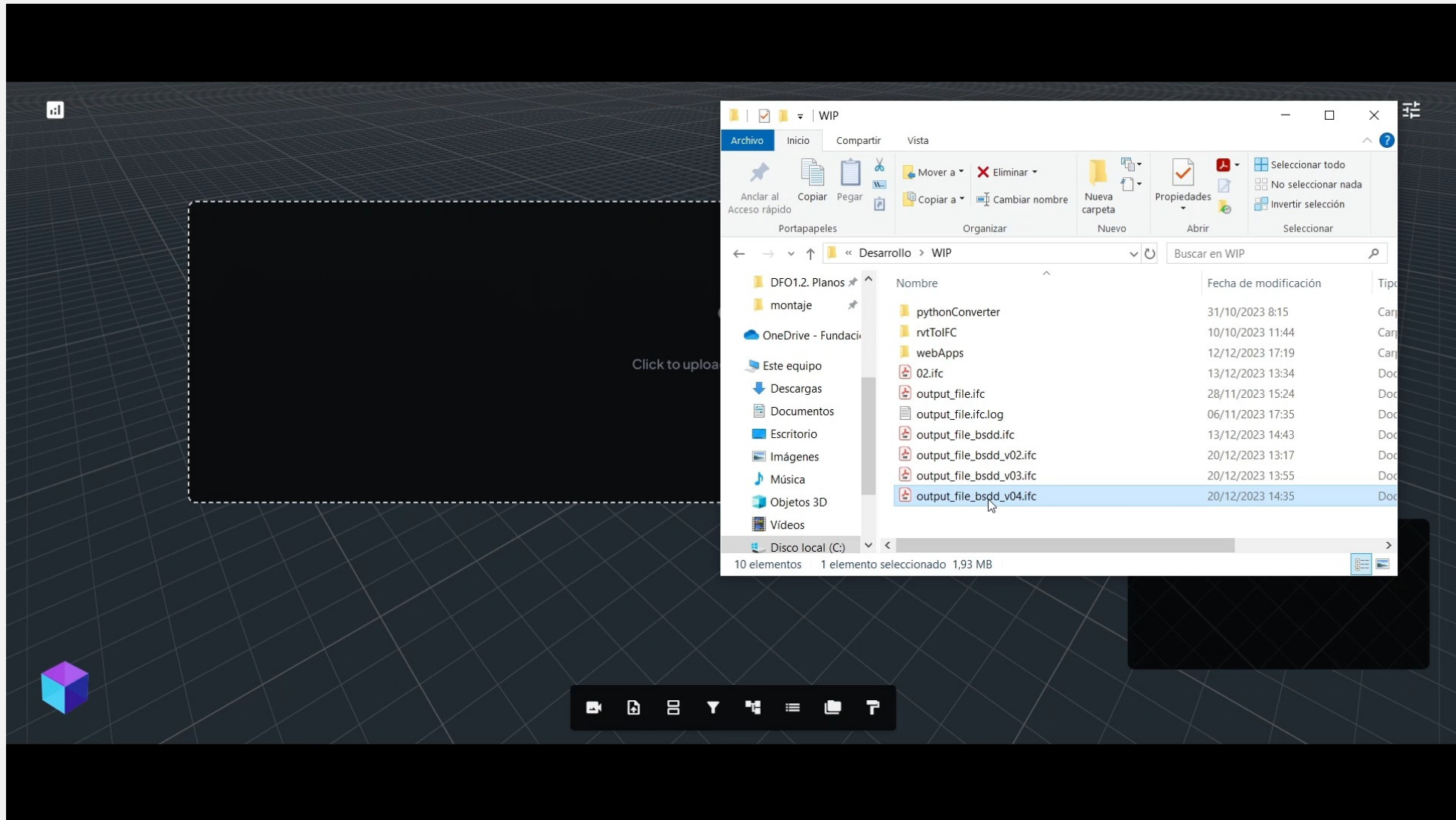
3D model or
BIM
knowledge

1st technology: Digitalized predemolition audits

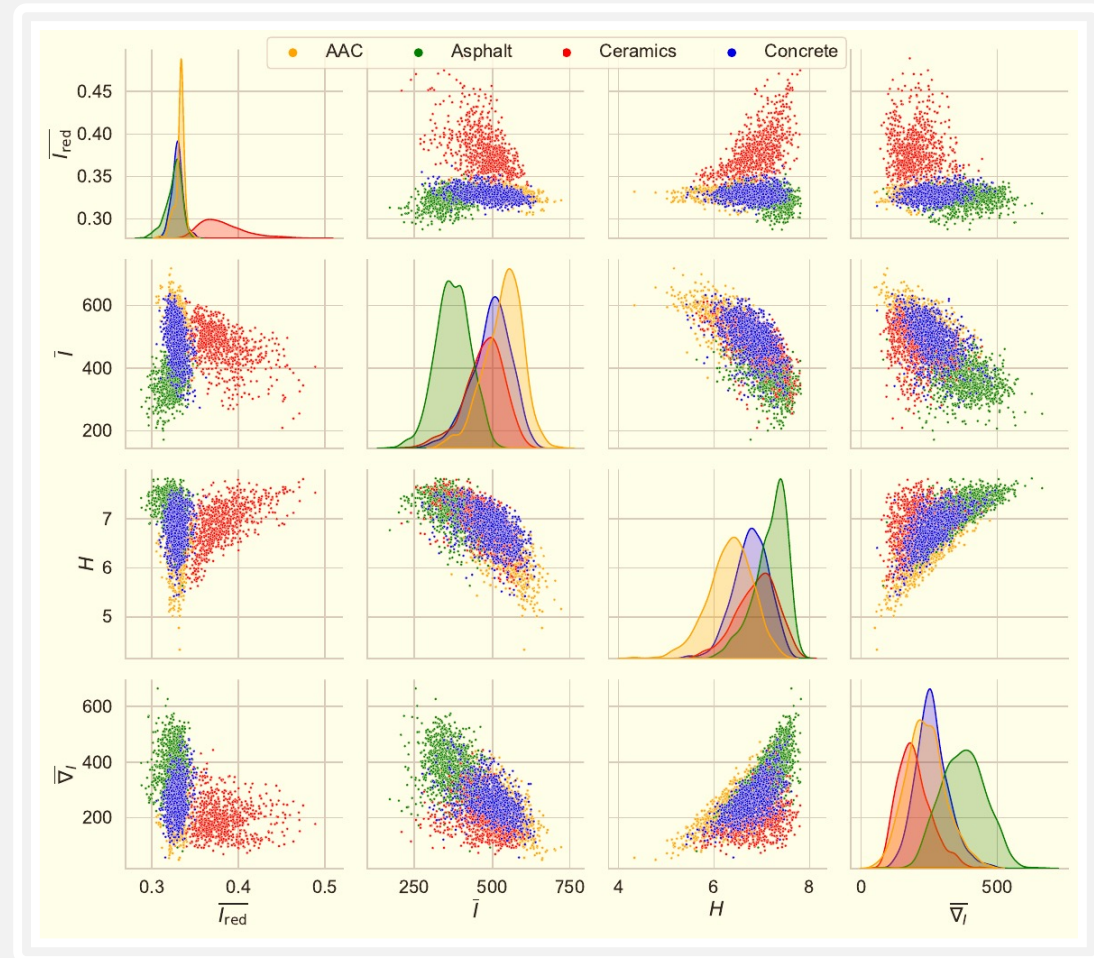
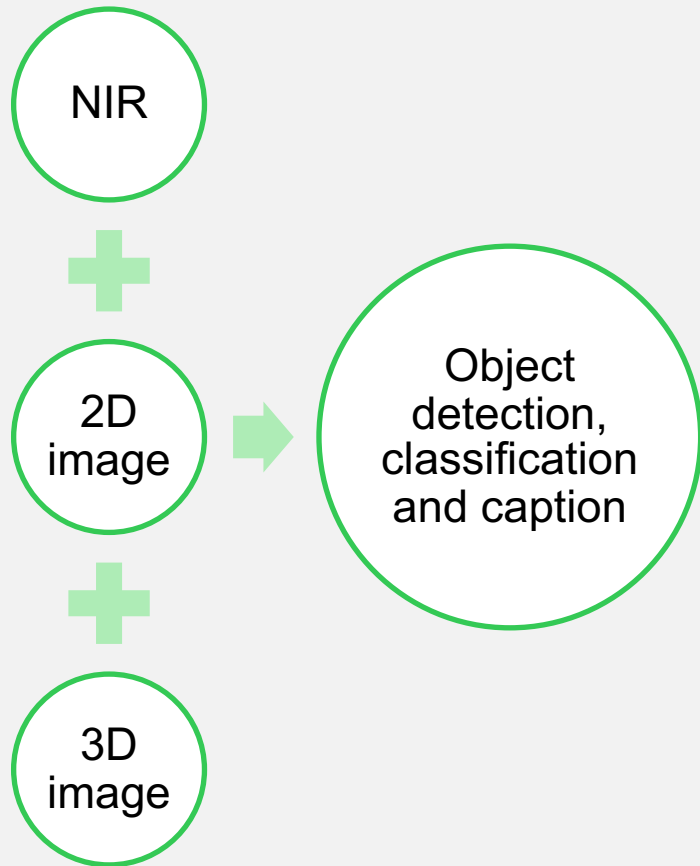
“Novel platform that integrates Artificial Intelligence (AI), Computer-Aided Design (CAD) and Augmented Reality (AR) to automatically develop a 3D digital model for End of Service Life (EoS) Buildings from paper based drawings, in preparation for automated development of a pre-demolition protocol”



1st technology: Digitalized predemolition audits



2nd technology: Waste classification and sorting robotic arm



Correlation of features extracted from RGB* images (relative intensity of the red channel, total intensity, entropy, and mean gradient)

*RGB camera is used to deliver colored images of people and objects by capturing light in red, green, and blue wavelengths (RGB). Utilizes visible light with a wavelength ranging from 400 to 700nm.

2nd technology: Waste classification and sorting robotic arm

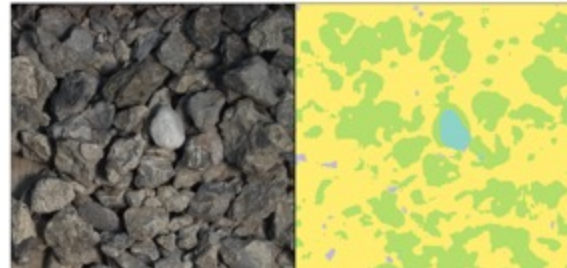
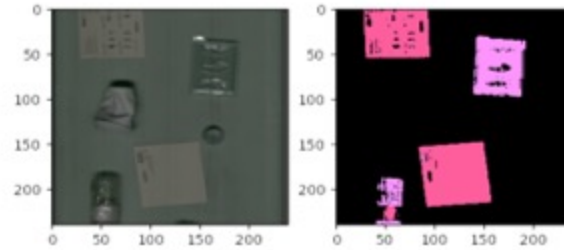
Perception: 2D, 3D & Multispectral



AI



Pick and Place Robot



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2nd technology: Waste classification and sorting robotic arm



THANK YOU
FOR YOUR ATTENTION

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