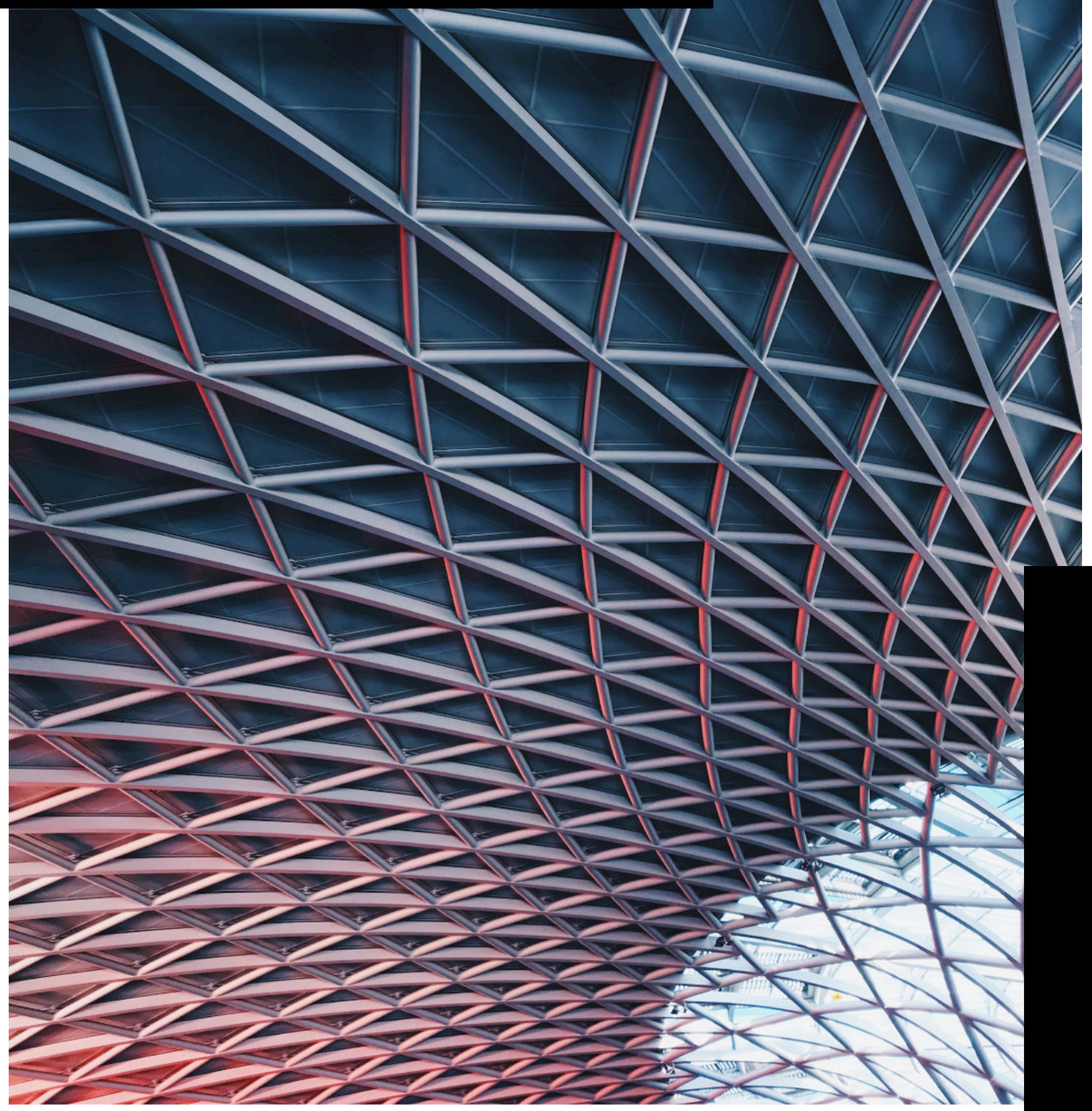
Innovation through Artificial Intelligence



WE ARE EXPERTS IN COMPUTER VISION, DATA SCIENCE, AND NATURAL LANGUAGE PROCESSING

Our solutions and products are a tool for the automation and optimization of processes, obtaining production and business metrics, key to help in strategic decision making.

We provide services and solutions based on **Computer Vision, Data Science and NLP (Natural Language Processing)**, and these technologies allow us to create innovative solutions through Artificial Intelligence.

Clients

Our clients have different profiles and business models and our multidisciplinary approach as a company allows us to adapt to their strategic needs.

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Innovation and partners

360º VISION

OUR PARTNER ECOSYSTEM ALLOWS US TO EXPAND OUR ADDED VALUE AND INTEGRATE ALL OUR ACTIVITIES AND SERVICES COHERENTLY WITHIN AN INCREASINGLY COMPETITIVE AND CHANGING GLOBAL MARKET.

Our network of business partners includes financing, technical and innovation partners. We work with **IBM technology, Google Cloud, and Amazon Web Services.**
We have to highlight our collaboration with **TheCircularLab (Ecoembes' open innovation center)** and our collaboration with the Pfizer Foundation or CIBIR. We also partnered with Impulso consulting firm for European innovation projects.

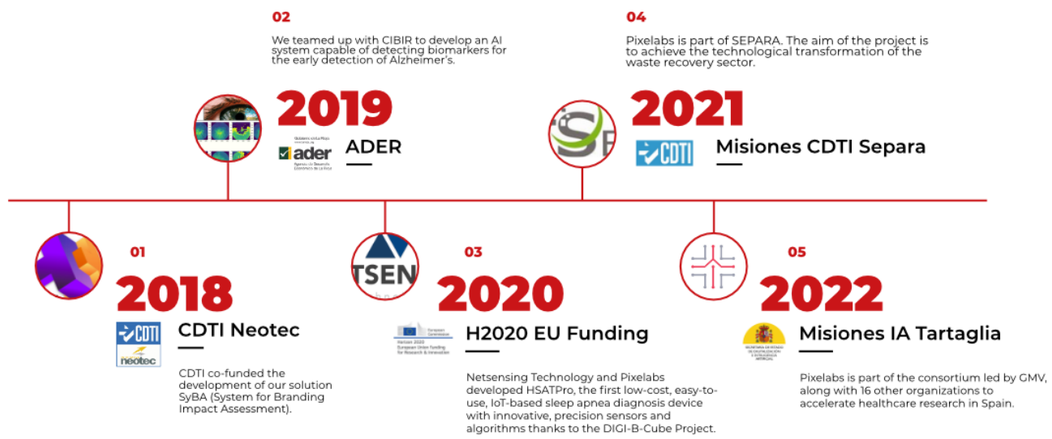
We have different employability and knowledge transfer programs with universities, highlighting **URJC's CAPO group (Advanced Computing, Perception and Optimization Group) or DSLAB (High-Performance Research Group in Fundamentals and Applications of Data Science)** or the UNIR programs.

We have several **certifications that endorse the quality of our ideas**, vision, and work at both national and European levels. At the national level, we have the **Innovative SME Certification**, issued by the Ministry of Economy, Industry, and Competitiveness. And we have received from Ecoembes the **goCircularPass** seal that recognizes our work within the circular economy.

Thanks to our innovative projects, we received the **Seal of Excellence (SOE) awarded by the European Commission** within the H2020-EIC-SME-Inst-2018-2020 call for our VISION project. Seal that demonstrates the high competitiveness of our ideas.

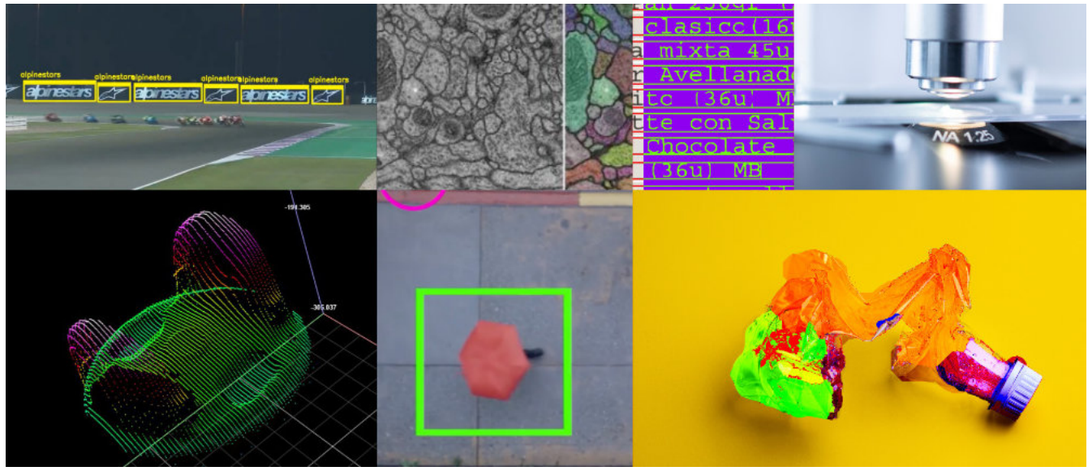
Partners

Milestones



Technologies

Innovative **solutions** through Artificial Intelligence **to improve your value chain.**



Computer Vision

Object Recognition
It concerns two main tasks: Object detection, locating objects in an image and indicating their location with a bounding box; Object classification, predicting the type or class of an object in an image. For example, detection of banners in sports events and the classification of each banner to different brands.

Object Segmentation
It provides information about various regions of interest in an image. It classifies each pixel of the image into one of the multiple classes. Semantic segmentation has no information regarding individual objects whereas instance segmentation gives a unique ID to each object. For example, detect irregular scratches in mechanical pieces and measure its surface.

Object Tracking
Aims to analyze videos to identify and track multiple objects, giving a unique ID and a bounding box to each object for each frame of the video. For example, following porcine sperm cells and analyzing its motility and trajectory.

Machine Vision

Hyperspectral
Non-visible light can provide information about the molecular composition of any object and material. This can be implemented in various processes related to quality control and industrial decision making such as food and recycling industry-related processes.

3D Vision
With technologies such as infrared and visible stereoscopic cameras, or laser profiling sensors, we can understand the 3D information of the world surrounding us. This allows us to create multiple applications regarding objects measurements, people counting and tracking, or navigation through space.

Microscopic Vision
With specific AI algorithms to visually process and understand microscopic images. We can identify objects of interest, segment them and track them across time to help users with their tasks such as quality control or diagnosis.

Data Science

Historical Records
The analysis of time series helps to understand the evolution of the data, detect anomalies or predict data trends. Clustering allows us to group individuals by their similarities.

Data-driven Decisions
Analyze, visualize and understand your data to make real-time decisions. With our dashboards displaying already trained models data, it is possible to see huge amounts of data in a glance.

Predictive Models
Record all data through time, allow us to predict what's going to happen in the future, and anticipate issues or events, whether good or bad, to resolve them before they happen.

Text & Language

Text Recognition
Detects and recognizes characters and words. It can be used in handwritten text or printed text in a document. The input might be a scanned document, a photo of a document, a scene photo, or from subtitle text superimposed on an image, like a scoreboard in a match. It can be used for multiple purposes such as claims, tables, delivery notes, bills, traffic signals, and any other kind of text.

Natural & Structured Language Processing
NLP describes the ability of a machine to understand human language, break it down, and understand what it means. It can help to analyze documents and conversations in order to get insights about them in any business domain language. Extract entities, relationships, sentiments, and tone to get better insights from unstructured and structured language.

Speech to Text, Text to Speech, and Translation
Turning speech into text and vice-versa, we find new ways of human device interaction. It makes possible the deployment of cognitive devices. With the add-on of real-time translation, the interaction can reach anyone, anytime, anywhere.

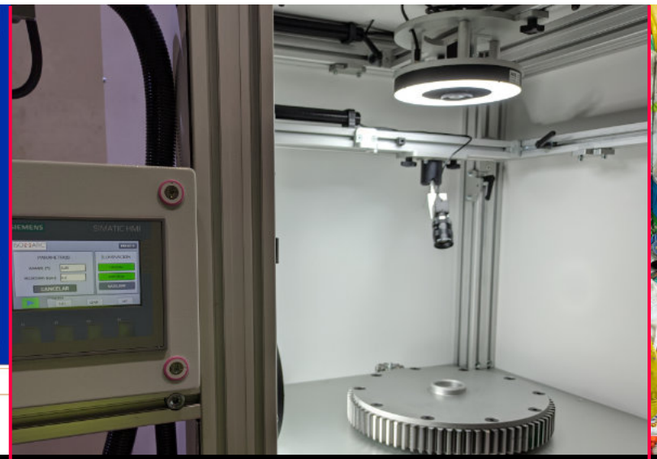
Case Studies

These are our featured case studies. You can find a direct link to our website below the description.

Automated packaging artwork quality assurance

We are working with Henkel improving their workflow when it comes to seal automation and internal labelling control for its products.

Henkel full case study



Quality control for automotive parts

Pixelabs quality control system detects errors in the mechanized pieces of motor vehicles to discard all those parts that cannot be use at future points of the assembly line.

ElgarWorks full case study

Plant 4.0: computer vision and deep learning in the Circular Economy.

We develop solutions and products based on artificial intelligence and computer vision for Ecoembes with a lot of applicability in the process of digitization in the circular economy.

Ecoembes full case study

Moto GP™: brand detection

AI applied to sponsorship. Dorna is using SyBA to extract, filter and analyze valuable data and generate detailed reports about sponsorship.

Dorna full case study

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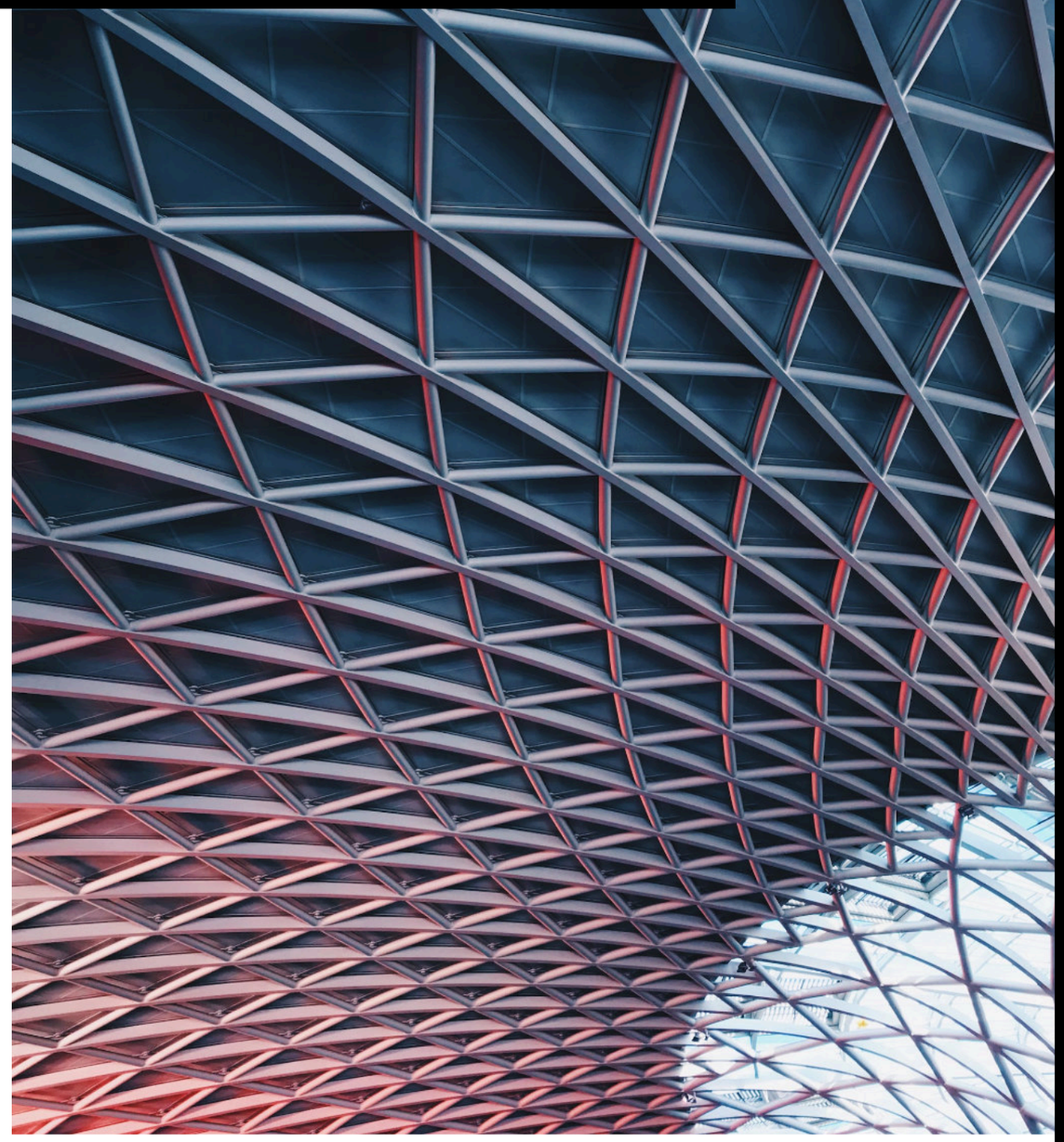

At Pixelabs **we believe in approaching all aspects of our business project, and not only from its most practical side but also in-depth from the most ethical and responsible side**, taking into account all stakeholders, integrating everything within the framework of development and social dimension, equity and environmental improvement.

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Contact us

info@pixelabs.es

+34 918 265 276