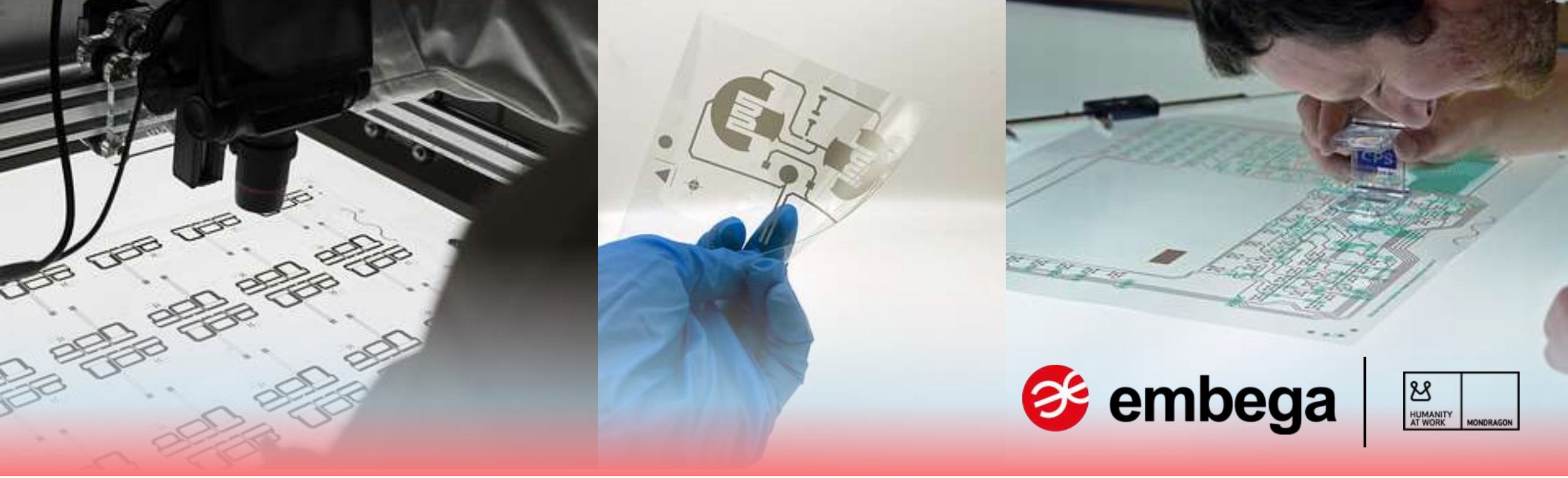


Betting on corporate culture: How to become an “A Supplier” in the automotive industry.

Luis Huici – Business Development Manager

Barcelona, April 9th, 2024

ADVANCED FACTORIES
EXPO & CONGRESS

AIAS
ASOCIACIÓN DE INDUSTRIAS DE ACABADOS DE SUPERFICIES

“The best way to predict the future is to invent it”

Alan Key

Our Company

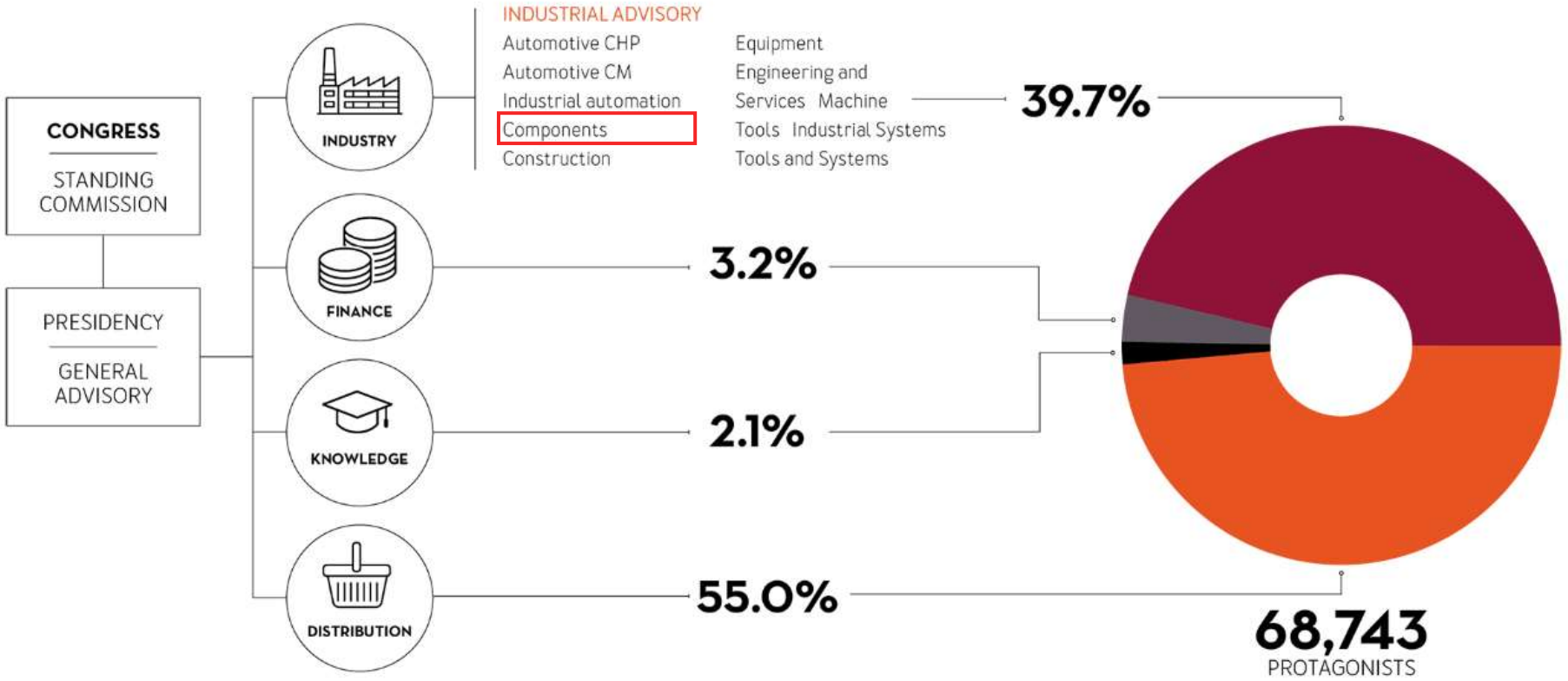
Embega, founded in 1972 as a cooperative, is an integral part of the **Mondragon Corporation**, headquartered in Villafranca, Navarra, Spain. Since our inception, we have remained committed to core values of **innovation, adaptability, and sustainability**. Our journey began with 43 partners focusing on machining, serigraphy, and lithography for appliances. Over the years, we expanded into anodizing, galvanizing, and ventured into new areas such as membrane keyboard production. Continuous innovation is at the heart of our operations, evident in our introduction of **flexible, backlit, and capacitive buttons and keyboard and printed electronics.**

- **2023 "Golden Q" - *Bosch&Siemens Group***
- **"A supplier" *Tier 1 partners***

Dedication to continuous improvement and innovation, particularly within our **serigraphy business unit.**

Part of Mondragon Corporation

We are part of the **Mondragon Corporation**, a group consisting of autonomous and **independent cooperatives** with production capacity in 41 countries and sales in over 150 countries. Mondragon is one of the **world's largest and most successful cooperative enterprises**, known for its commitment to sustainable development and social responsibility.



R&D Hub: Centro Stirling

The Centro Stirling (CS), serves as a pioneering **hub for research and development** supporting those companies within the Components Division of the Mondragon Corporation and others. Leveraging cutting-edge engineering and design principles, Centro Stirling focuses on advanced technology applications, ranging from **functional printing, electronics, mechanics and technology transfer.** Through its groundbreaking work, Centro Stirling aims to revolutionize energy systems and contribute to a more sustainable and environmentally friendly future.

funding
2008

locations
2

employees
32

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KNOWLEDGE AREAS

Electronics

Mechanics

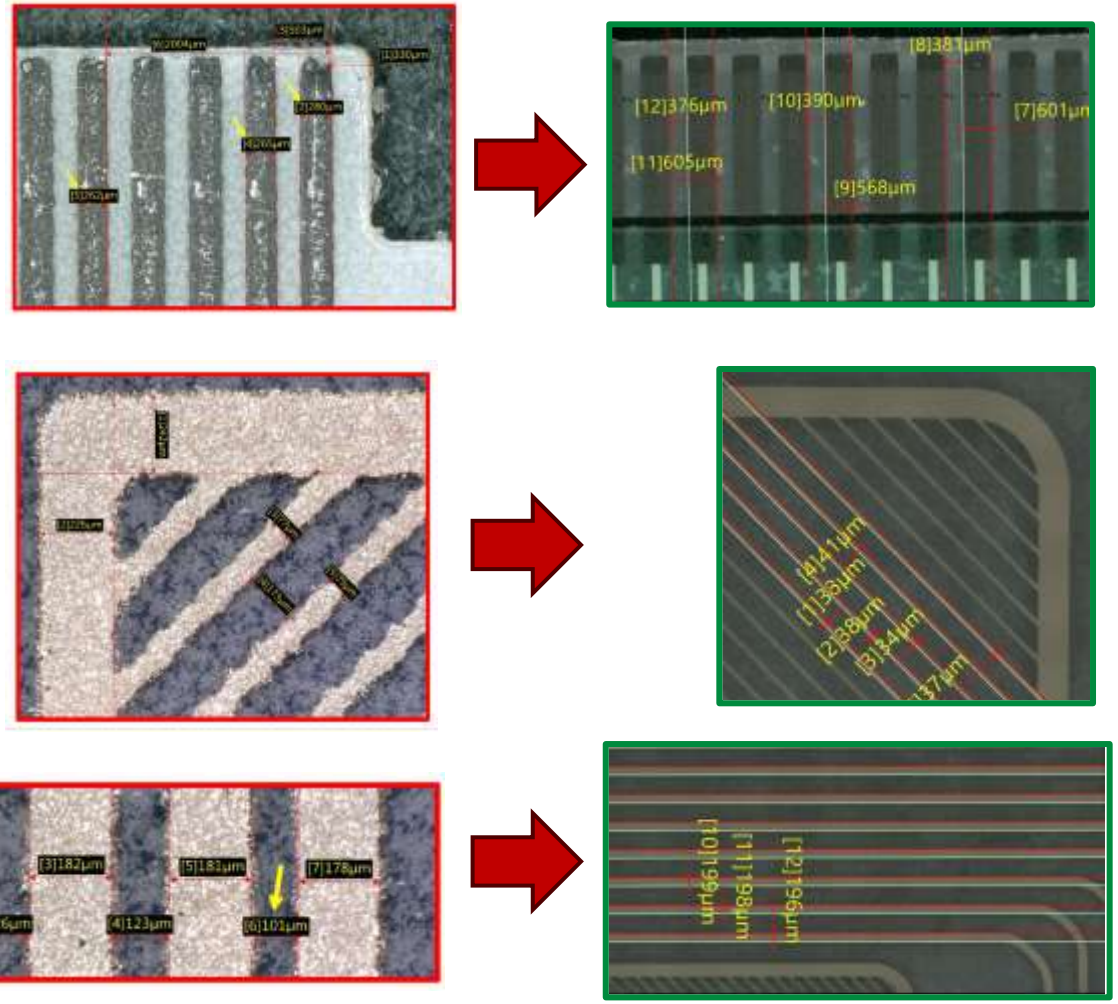
Technology Transfer

Functional printing

Product and Expertise:
Capacitive Sensors for Automotive Interiors

Embega's Printing Expertise: Key Areas of Mastery

- Expertise in **high requirements inks**.
- Proficiency in **ink rheology and preparation**.
- Mastery in **screen mesh** selection.
- Specialized knowledge in **light diffusion materials**.
- Profound understanding of **adhesive materials**.
- Meticulous control over **process parameters**.



Capacitive Sensors:
Printed Electronics for Automotive Interiors

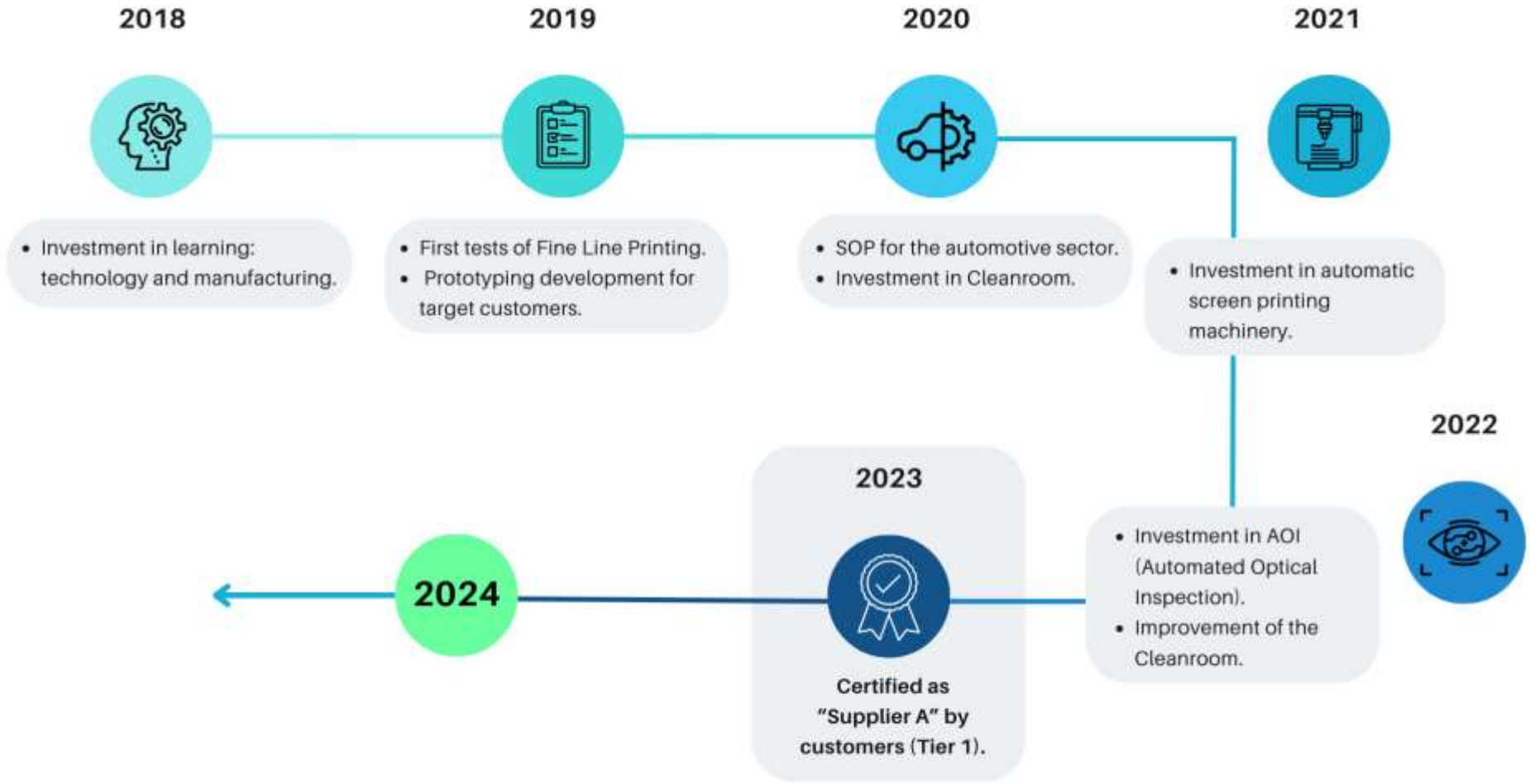
- **Capacitive sensors** allow selection by a simple touch or swipe of the finger on a surface.

- A simple and intuitive technology that can operate on a wide range of surfaces for **many sectors and applications.**

- They can be combined with **backlighting** to realize products with a high level of functionality, aesthetics and customization.

Case Study:
From Investing in People to Supplier Excellence.

Case Study: Step-by-step timeline

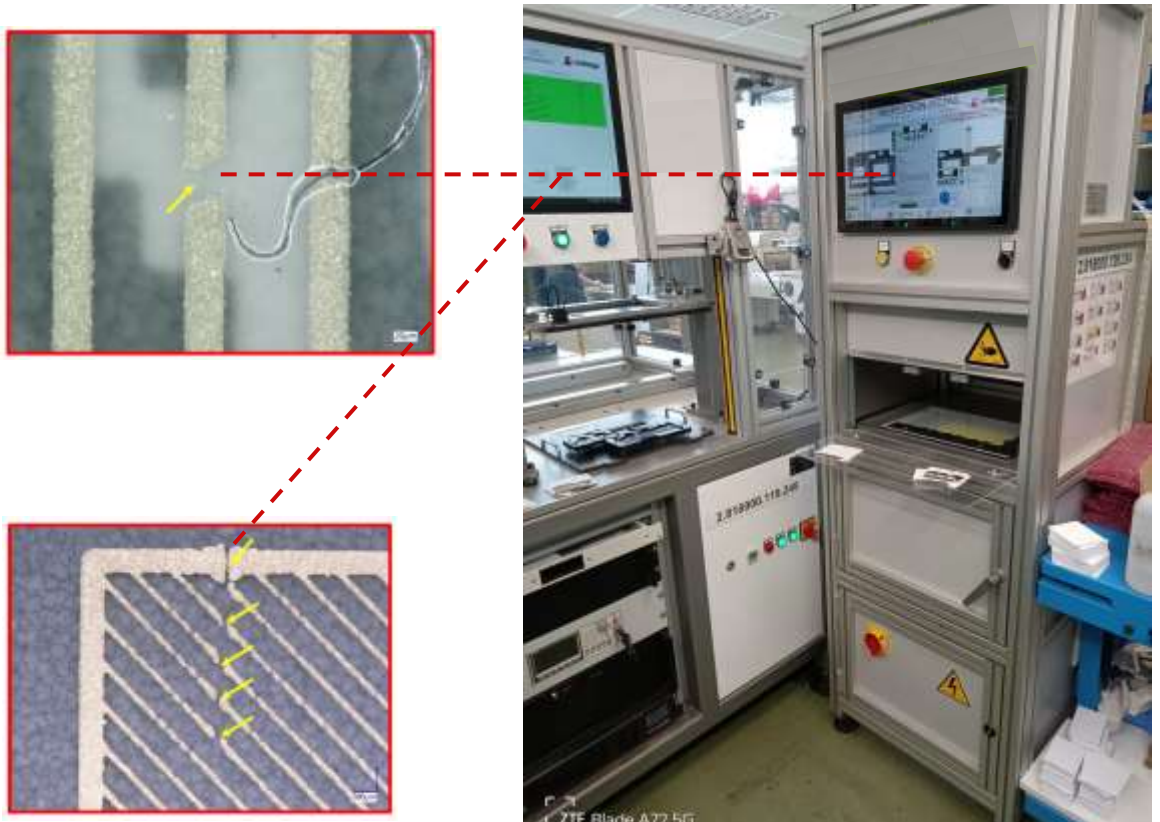


Overcoming Challenges: Investing in Techonology and Enhancing Quality Control.

Enhanced Quality and Efficiency: Achieving Zero PPM

Part Rejection and Enhanced Productivity:

- **Automatic Part Rejection.**
- **EOL (End of Line) Electrical Measurement.**
- **AOI (Automated Optical Inspection).**



Automatic Part Rejection by Visual Inspection

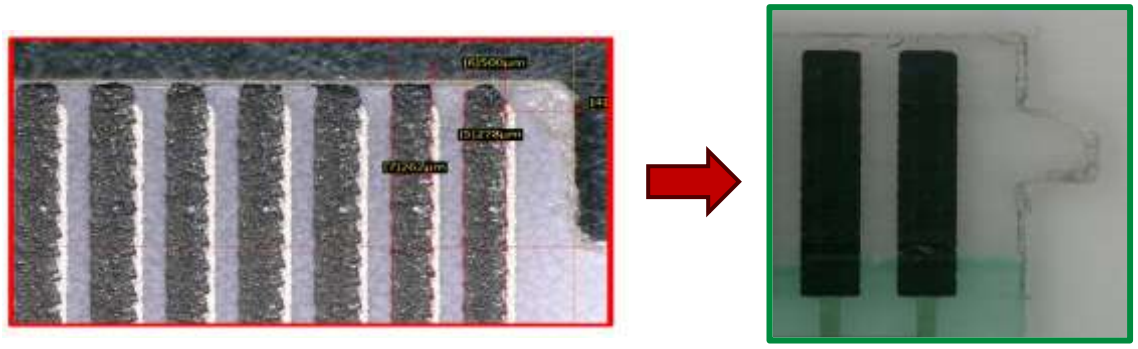
Enhanced Quality and Efficiency: Achieving Zero PPM

Part Rejection and Enhanced Productivity:

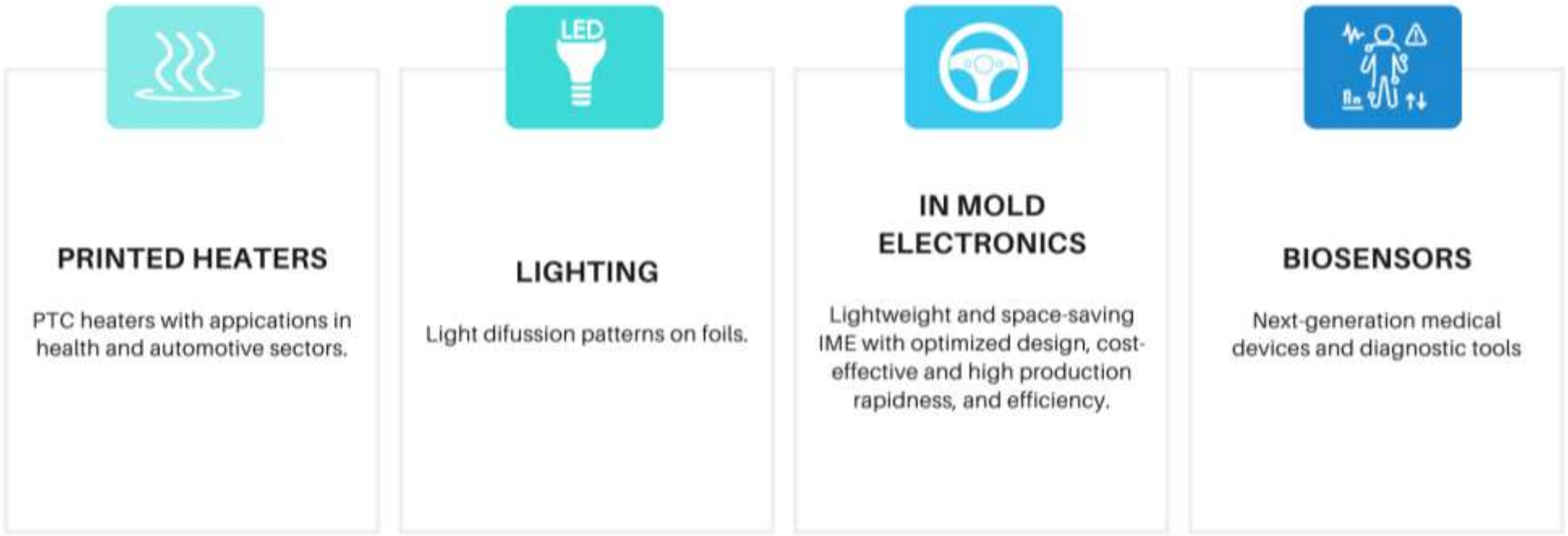
AUTOMATIC PART REJECTION BY VISUAL INSPECTION

Our Technology: Full Automatic Printing Machinery.

- Automatic handling with cylinder press for **minimum deformation.**
- High precision ensured by **CCD alignment system.**
- S2S Printing capability up to 500 x 500 milimeter sheets.
- **High speed** production for **efficient** workflow.
- ***2023 - Zero PPM (Parts Per Million) Achievement.***



Future Directions: New Developments and Research Fields.



www.embega.es

Thank you!

Get in touch!

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Business Development Manager

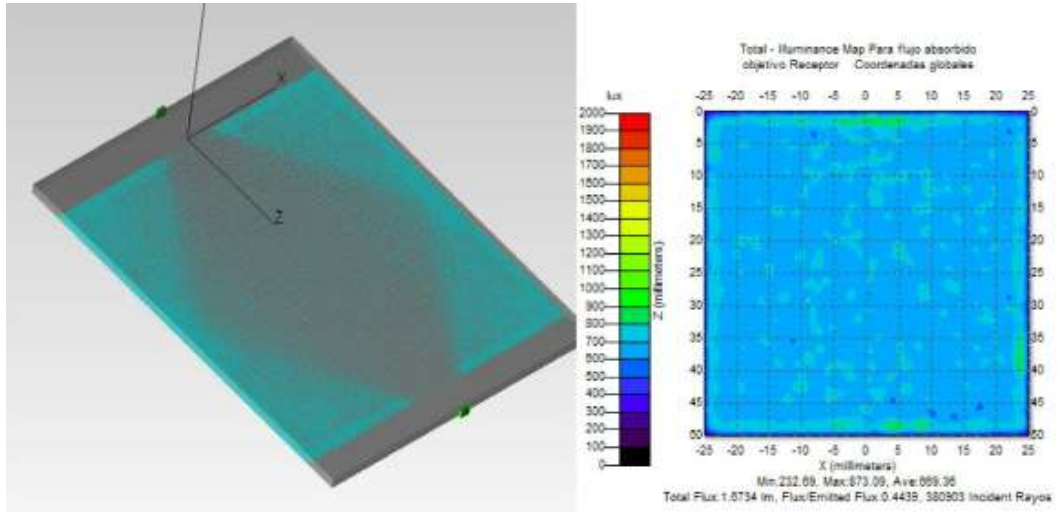
Email: lhuici@embega.es
Phone: +34 646 616 691

Research Lines: Printed Heaters

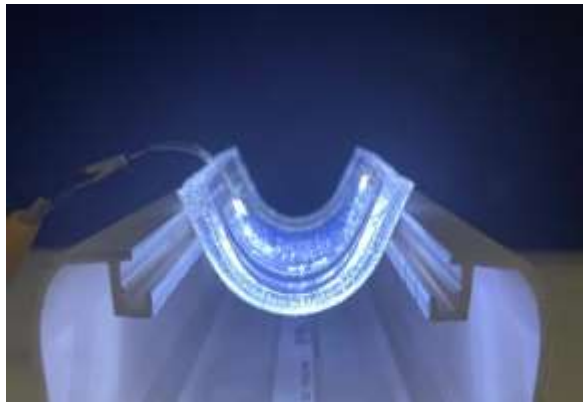
- One of our **research focuses is on efficiently design and mass-producing** PTC heaters to meet high-volume demands.
- These heaters find applications in **health and automotive sectors**, offering versatile heating solutions.
- **Embega x CS's** research aims to improve PTC heater performance for consistent and reliable heating in **diverse applications.**

Research Lines: Lighting

- Embega teams up with Centro Stirling to master **light diffusion pattern** design and simulation.
- Collaborative research aims to elevate LED performance through innovative fusion with diffusion **patterns on foils**.
- Together, Embega and Centro Stirling develop tools for **refining and optimizing lighting** surface characteristics.

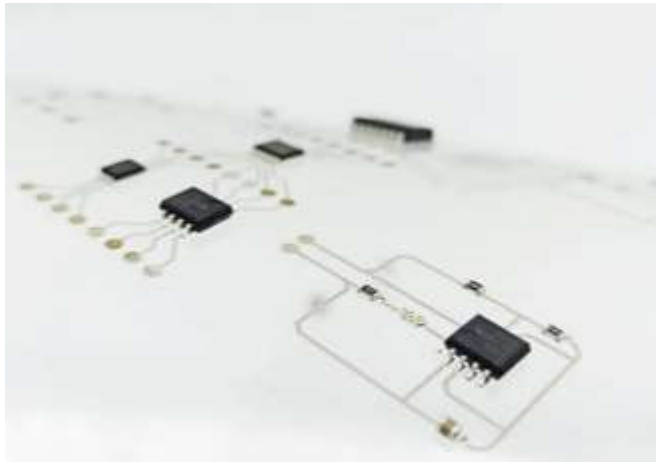


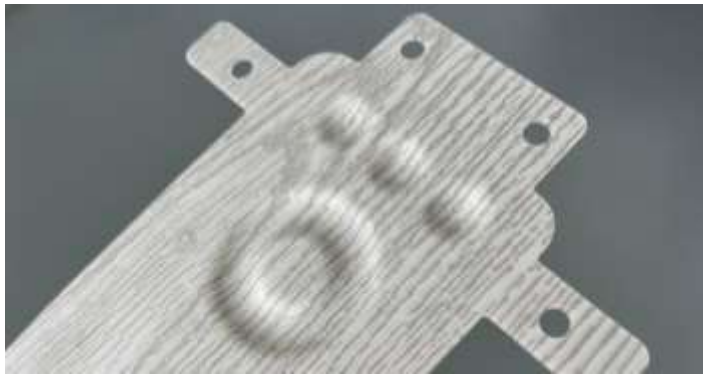
Research Lines: Lighting



In Mold Electronics (IME):

Aesthetic, sensors and lightning in a single part.





Research Lines: Printed Sensors & Biosensors

- Embega collaborates with Centro Stirling to advance the development of printed sensors and biosensors, focusing on their potential **applications in health and medical technology.**
- Prototype and refine printed sensor technologies, **future industrialization and commercialization.**
- Together, we explore the possibilities of integrating printed sensors and biosensors into various health-tech solutions, paving the way for **next-generation medical devices and diagnostic tools.**