

HANDFUL

Worker Safety and Well-being in Food Production Facilities



Plegma
LABS

CHALLENGES

In the food production sector, workers operate near **high-risk machinery** while under **strict hygiene and safety protocols**. Ensuring compliance with safety protocols by wearing personal protective equipment, maintaining a healthy indoor climate, and detecting equipment faults in time are constant challenges. Manual inspections are time-consuming and prone to oversight, while unplanned machine failures can lead to costly downtime or workplace accidents. **HELIOS Bakery** needed a smarter, proactive way to monitor worker safety, air quality and equipment status without disrupting production.

THE SOLUTION

With support from **EARASHI**, **PLEGMA LABS** developed and deployed **HANDFUL at HELIOS Bakery** to enhance the collaboration between AI and human supervisors to solve current challenges in food production environments. **HANDFUL integrates:**

Computer vision AI models for real-time detection of protective equipment such as gloves and hats.

IoT air quality sensors to monitor and optimize indoor environment.

Advanced energy monitoring meters to track machinery performance, monitor consumption, and predict failures.

Intuitive dashboard that offers insights and alerts to supervisors.

RESULTS

- **15 workers** monitored in a real food production facility
- **5 cameras** installed for real-time vision based detection
- **10 machines** monitored for energy and operational health
- **15 months** of data collection
- **7 months** of continuous HANDFUL system demonstration
- **3 integrated AI services** into a single dashboard
- **1 open dataset** released



EARASHI is an EU project funded by Horizon Europe under GA 101069994.

IMPACT

HANDFUL empowers food production facility (HELIOS BAKERY) supervisors with **real-time insights**, reducing reliance on manual checks and improving reaction time.

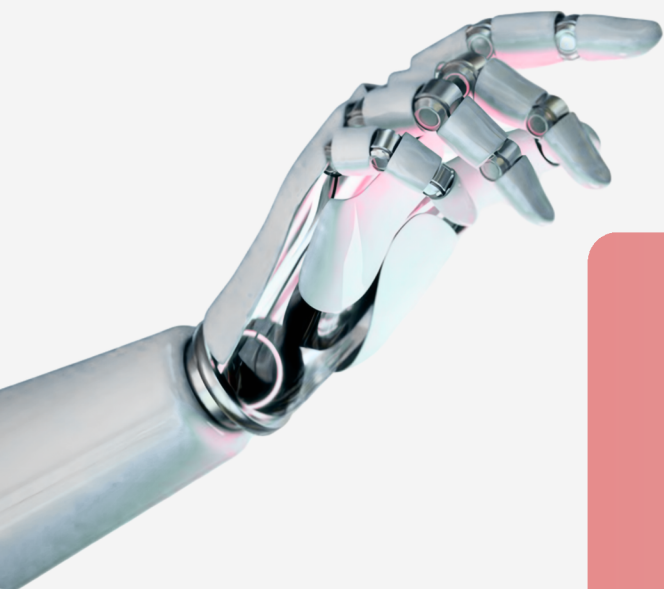
Workers are now **safer and more comfortable**, with their well-being monitored through smart HVAC control. Machine faults are detected early, helping HELIOS avoid production disruptions and unexpected maintenance costs.

The bakery now benefits from:

Improved worker safety and regulatory compliance

More stable environmental conditions for staff

Higher equipment uptime and process optimization



GET IN TOUCH WITH HANDFUL



www.heliosbakery.gr www.pleg.ma



EARASHI

www.earashi.eu

The HANDFUL project has received Financial Support to Third Parties (FSTP) of €199.937,50 from the EARASHI project, which is funded by the European Union's Horizon Europe research and innovation programme under Grant Agreement No.101069994. The support was provided through EARASHI Open Call 1.



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