CEA TECH SERVICES FOR THE FOOD INDUSTRY

Technology for tomorrow’s food-industry challenges

CEA Tech technology
- Vision systems
- Thermal systems
- Characterization
- Expert systems and advanced decision-assistance software
- Sensor systems and integration
- Robotics and cobotics
- Data transmission and processing
- Materials

 FOOD-INDUSTRY CHALLENGES

- Energy efficiency
  Reducing energy spending and recycling waste into energy
- Industrial efficiency
  Production line optimization; process control; occupational safety
- Logistics
  Assisted handling and palleting; food and package tracking
- Food safety
  Input characterization and quality-control; health inspection; cleanliness; packaging
- Traceability
  Raw materials traceability; packaging instrumentation and monitoring; detection of abnormal conditions in the food chain

CEA Tech can help the following businesses:
- Food manufacturers
- Food packaging manufacturers
- Food-industry (machine) manufacturers
- Health and safety inspection authorities
Here are some of the ways CEA Tech can support your development:

**Gas sensors (physicochemical, optical, etc.)**
Detect and analyze gases in real-time, with either single-gas or multiple-gas measurement for production lines; “electronic nose” systems

**Lensless optical imaging systems**
Detect the presence of bacteria; monitor cell cultures; monitor yeasts (for beer and other fermented products)

**Conducimetric sensors**
Provide real-time brewery-tank monitoring and modelling

**Sensors for water-quality monitoring**
Detect substances like proteins, toxins, hormones, pesticides, and drugs in water

**Integration of sensors into plastic, textiles, and other materials**
Measure indicators right at the product, adjusting for environmental factors

**RFID tags**
Integrate tags into food packaging to locate products and monitor parameters like temperature in demanding environments

**Materials**
Develop new materials to improve food packaging

**Flexible technologies**
Manufacture sensors on conformable materials integrated into the items to be monitored

**Expert systems and advanced decision-assistance software**
Detect non-quality inputs and/or outputs and start/stop processes in real time

**Virtual and augmented reality**
Design and model production lines and maintenance operations for operator training

**Robotics and cobotics**
Design cobots to assist operators with difficult, sensitive, or repetitive tasks

**Characterization**
Characterize matter, materials, processes, and packaging at the nanometric scale

**Heat recovery and biomass**
Recover and recycle waste into energy; increase production-line energy efficiency

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