

# AOTECH

ADVANCED OPTICAL TECHNOLOGIES S.L.

*Experts on optical sensors technology*



## Presentation

### Origin:

- Spin-off from the research group Applied Photonics Group (University of the Basque Country)

### Company mission:

- To apply photonic solutions to all kinds of industries.

### Own technology:

- Integration of spectroscopy-based sensors in food processes.
- Biosensors development for food, water and healthcare sector.
- Chemical baths monitoring system.

# PROBLEM

## FOOD INDUSTRY DIGITALISATION

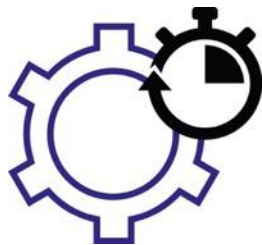
- ✓ Data through advanced instrumentation.
- ✓ Useful information.
- ✓ Real-time production adjustment and improved management.



## OBJECTIVES:

### ✓ Efficiency

Lower production costs, waste and reprocessing; resources optimisation.



### ✓ Quality

Quality assurance, consistency, customer satisfaction and loyalty.



### ✓ Traceability

Origin and characteristics of the raw material assurance and detection of counterfeit products. Security.



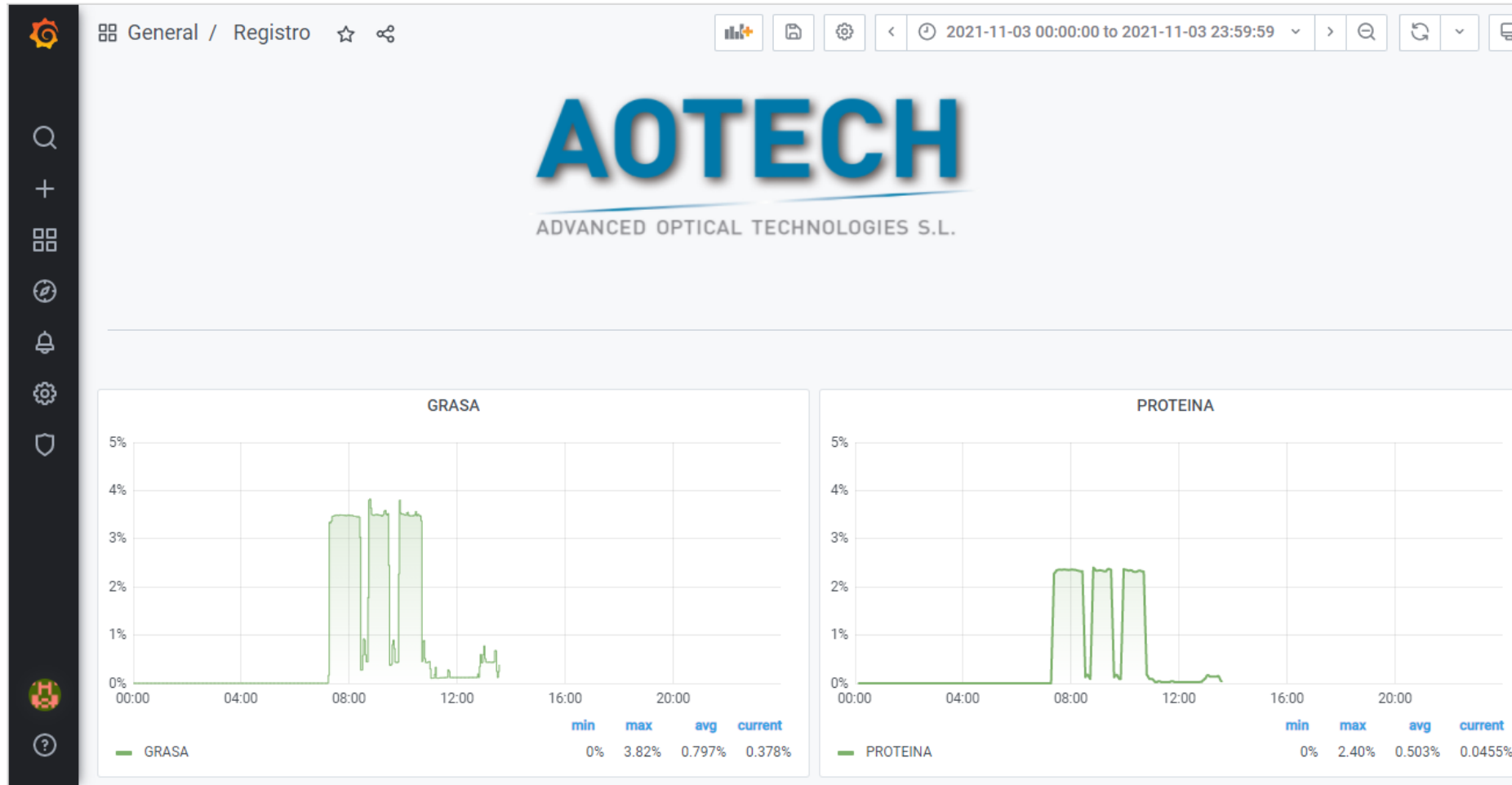
## AONIR Platform



- ❑ NIRS based sensors for in-line and real-time food production characterisation.
- ❑ 1 Single device → 2 versions (Contact/Non-Contact).
- ❑ Sending final data to PLC / SCADA / IoT.
- ❑ Calibration development and maintenance service.



## AONIR Platform



- ✓ DATA COLLECTION
- ✓ REPORTS
- ✓ ALARM SETTINGS
- ✓ BLOCKCHAIN

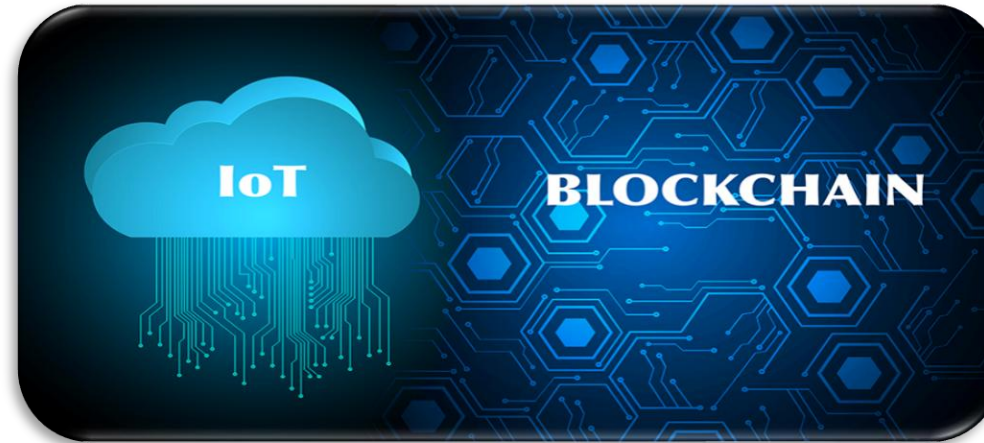


## IN-LINE QUALITY CONTROL & TRACEABILITY: Spectroscopy + IoT + Blockchain

### Quality control

Mayonnaise production  
real-time monitoring.

- ✓ Fat
- ✓ Moisture
- ✓ Salt
- ✓ Starch



### Traceability

Fat content reports  
certified by blockchain.



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the European Union

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## Main Food Applications

- ✓ **Non-destructive** measurements and determination of multiple parameters **at the same time**.
- ✓ Optimal results for **different kinds of products**: liquids, powder, grains, slurries, etc.
- ✓ **Real-time data and in-line** installation.
- ✓ Total quality management from raw materials to finished product → increase product **quality and consistency** with tighter control.
- ✓ **Optimisation** of mixing times / **Monitoring** of fermentation / **Energy savings** in drying process → **Real-time** determination of moisture.



We are looking for **pilot projects** to help us demonstrate the huge potential of our AONIR platform to achieve more efficient and sustainable production.

In addition, we are looking for partners to form **joint ventures** to collaborate in developing and commercialising specific solutions in different sectors.







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