Towards a Digital Ecosystem in the Galician Agri-Food Industry

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¿WHO WE ARE?

- Non-profit Foundation
- +25 years of experience
- Promoters: Regional Government and Universities
- Spanish National Technology Centre
- Member of ATIGA
- Member of the Spanish Big Data WG
We chair FEDIT, the Spanish Federation of Technology Centers

3,341 employees
34 technology centers
17,311 customer companies
NUESTRA PASIÓN
I+D y tecnología diferencial

Industry
IoT · Bigdata
Industry 4.0

Environment
Smart Agriculture and Fishing
Water Management and Quality
UAVs

Construction
Smart Buildings
Energy Monitoring
Green Infrastructures
IoT and BIG DATA TECHNOLOGY OFFER

- Design and development of **sensor-based systems** for remote and real-time monitoring and control.
- **Embedded** internet architectures.
- Development of platforms for sensor system **management**.
- Development of GIS Web Platforms for **data displaying**, **processing** and analysis.
- **Machine learning**.
TESTING FACILITIES
- Laboratory of Electronic Systems and UAVs.
- Laboratory of Software
THE AGRI-FOOD SECTOR IN GALICIA

- **7,6%** of the final agricultural production in Spain (2014).
- **Agriculture-Farming-Fishing-Forestry:** 4,6% of the regional GDP. (2016)
- **Food industry:** 14% of the regional GDP (2016) – 7,6% of the national GDP (2016).
- **Food industry:** about **2,290 companies** (98% SMEs) – about **27,000 employees** (21% of the total employees in the industry sector).
- **Main areas/verticals:** dairy, meat, wine, fish.
MAIN CHALLENGES IN DIGITISATION OF VALUE-CHAIN

**AWARENESS – TRAINING:** companies in the agri-food sector are not yet sufficiently aware of (or trained) the relevant smart electronic technologies they could introduce.

**LINKAGE:** Increase organised interaction between the relevant organisations: i.e. technology centres – cluster/business network organisation

**FACILITIES:** Improve open access pilot facilities where the new technologies can be demonstrated or tested (on-site validation of technologies)

**DATA ANALYTICS CAPABILITIES:** exploit data coming from the whole value-chain to optimize processes
PUBLIC STRATEGIES (I)
THE AGRI-FOOD SECTOR IN THE S3 GALICIA

**CHALLENGE 1:**
Natural and Cultural Resources

- **PRIORITY 1:** Modernisation of the Primary Sectors
- **PRIORITY 2 and 3:** Valorisation of Sea and Development of Aquaculture

**CHALLENGE 2:**
New Industry Model

- **PRIORITY 3:** Knowledge-based economy through ICT & KETs

**CHALLENGE 3:**
Healthy and Active Ageing

- **PRIORITY 2:** Food & Nutrition for Healthy Living
PUBLIC STRATEGIES (II): OTHER EXAMPLES

Galicia Industry 4.0 Strategy (2015)

Digital Agenda of Galicia (2013)
SOME POLICY MEASURES IN SUPPORT OF DIGITISATION

❖ Managing: Regional Agency for Technological Modernisation, Regional Ministry of Agriculture and Sea.
❖ Objectives: create a public platform to offer digital service to the Public Administration and agri-food agents.
❖ Technologies involved: Smart sensors, Big Data, UAVs.

INDUSTRIES OF FUTURE 4.0 - GALICIA
❖ Managing: Regional Innovation Agency
❖ Objectives: Strategic public-private projects for Industry 4.0

STRENGTHENING COMPETENCE CENTRES
❖ Managing: Regional Innovation Agency
❖ Objectives: Improve the knowledge generation in Technology Centres and its transfer to companies.
TOWARDS A DIGITAL ECOSYSTEM: ACTORS

INSTITUTIONS

COMPETENCE CENTRES
(1 University, 1 Public Research Centre, 4 CCs)

END-USERS
(2 Clusters, 1 Business Network Association)
TOWARDS A DIGITAL ECOSYSTEM: INITIATIVES

GALICIAN STRATEGY OF DIGITAL INNOVATION HUBS

Bioeconomy Hub

GALICIAN ADVANCE MANUFACTURING INNOVATION CONSORTIA

On-going process

On-going process

Galician Aerospace Innovation Hub
“Galeno”: Development and Demonstration of a GIS WEB System for the Monitoring and Data Management of the Vineyard.

Key technology words:
❖ Sensors
❖ Wireless connection
❖ Monitoring
❖ Data analytics

Numbers: 160 sensors, 36,000 data registered daily.

Partners: 6 Galician wineries, ITG

Funding: Galician Regional Government - Spanish Government
“Porcosost”: Development of an IoT System for the Monitoring of the Cooling System during the Celtic Pork Transformation Process.

Key technology words:
- Sensors
- Wireless connection
- Monitoring
- Data analytics.
- Predictive model

Partners: 3 Spanish companies, CNTA (National Centre for Food Security), USC, ITG.

Funding: Galician Regional Government - Spanish Government
“eNoseFOOD”: European Community Network for the Electronic Nose Technology applied to the Food Industry

Key technology words:
❖ Sensor technologies
❖ Network architectures and protocols for e-nose sensor networks.
❖ IoT application.
❖ Future testing of e-nose technologies in real scenarios.

Partners: University of Valencia, ITG and other 12 partners.
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Thank you
¡Gracias!

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