code: re-farm

'Consumer-driven demands to reframe farming systems'

Code: Re-farm project aims to evaluate the relationship between different husbandry systems with the quality of goat and poultry products

Key figures of Code: Re-farm:

Duration: **42 months**

Funding: **5.999.417,50 €**

21 partners from 9 European countries

HOW TO Code: Re-farm: THE PROBLEM

Intensive livestock production systems are evolving to meet the ever-increasing consumer demands. However, there are concerns about their impact on the product quality, animal health and welfare, and environmental sustainability.

On the other hand, extensive livestock production systems can produce products of premium quality and have the potential to be welfare-friendly for the animals. However, they are challenged by climatic conditions, diseases, as well as social and sustainability issues.

GOALS

Reveal the links between different husbandry systems and the intrinsic and extrinsic quality of eggs, poultry meat, goat milk and cheeses

Define the future demands and challenges of poultry and goat sector, and reshape the business models and ecosystem management practices to create value-added products

Develop novel technologies and Point-of-Care (POC) tools for the assessment of product quality across the value chain and for the analysis of animal health and welfare

Develop and validate an intelligent analytics platform for product quality monitoring and processing management
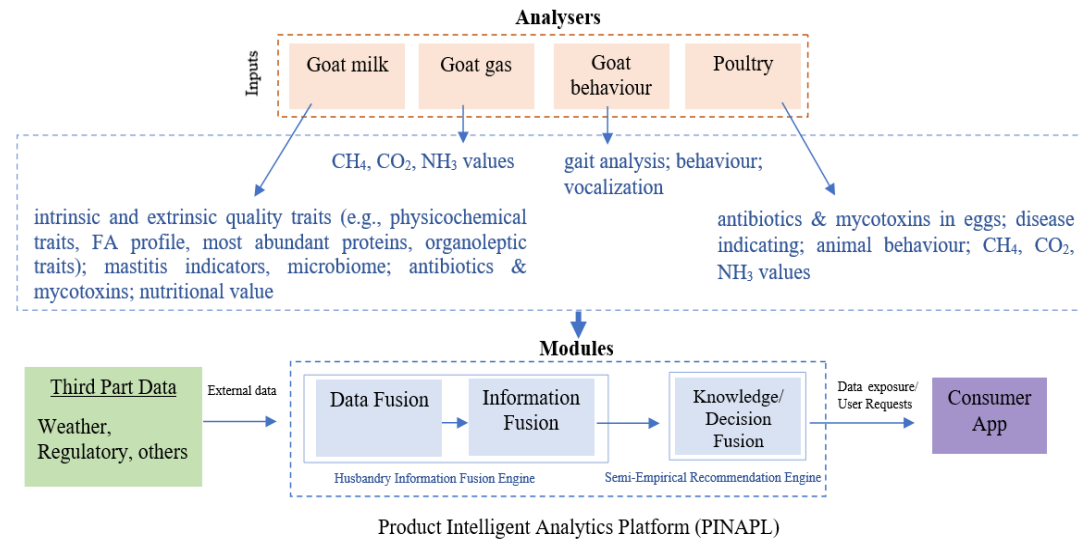
THE PILOTS

o   9 combinations of breeds, production lines and farming systems will be studied for egg, poultry meat, and goat milk production

o   5 poultry pilot farms located in the Netherlands and 4 goat pilot farms located in Greece, Italy, and Switzerland
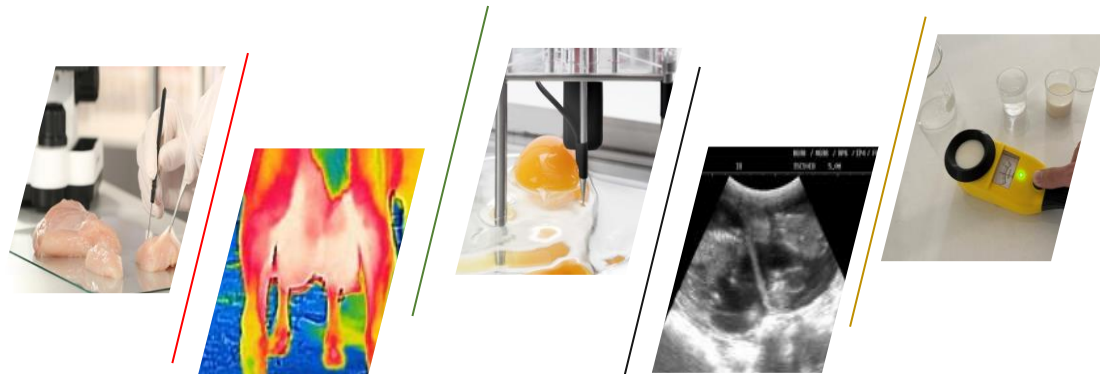
APPROACH

State-of-the-art (SoA) technologies will be interconnected via a software platform (PINAPL), which will be able to collect data, process them via intelligent algorithms, and provide useful output data for assessing the animal health and welfare status, the efficiency of the production process, and the product quality thereof.

Analysers

Inputs: Goat milk | Goat gas | Goat behaviour | Poultry

CH_4, CO_2, NH_3 values

gait analysis; behaviour; vocalization

intrinsic and extrinsic quality traits (e.g., physicochemical traits, FA profile, most abundant proteins, organoleptic traits); mastitis indicators, microbiome; antibiotics & mycotoxins; nutritional value

antibiotics & mycotoxins in eggs; disease indicating; animal behaviour; CH_4, CO_2, NH_3 values

Modules

Third Part Data — Weather, Regulatory, others → External data → Data Fusion → Information Fusion → Knowledge/Decision Fusion → Consumer App

Husbandry Information Fusion Engine | Semi-Empirical Recommendation Engine

Data exposure/ User Requests

Product Intelligent Analytics Platform (PINAPL)

WHAT IS EXPECTED?

The ambition of Code: Re-farm project is to identify the key strengths and weaknesses of different farming systems by using evidence-based science. Utilizing the insights of these findings in combination with the social demands, we expect to develop an alternative business model that will meet the needs of sustainability and consumer driven demands for product quality and animal welfare.

THE CONSORTIUM

Academic & Research partners

AERES

TECHNISCHE UNIVERSITÄT WIEN

BioSense INSTITUTE

TECNOALIMENTI

ARISTOTLE UNIVERSITY OF THESSALONIKI

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AGRICULTURAL UNIVERSITY OF ATHENS

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ΕΠΙΣΕΥ IGCS

TU/e

ISA

Industrial representatives & Farm partners

CyRIC

REM ANALYTICS

ALPES LASERS

Noldus Information Technology

CAPRILAIT

EXUS

SocietAgricolAccadiaVerde

Agromilk

'Skopelos' Goat Cooperative

QUANTARED TECHNOLOGIES