

AuthenBeef: use of blockchain technology in beef production to ensure authenticity and traceability



G. Arsenos¹, S. Vouraki¹, V. Papanikolopoulou¹, A. Argyriadou¹, V. Fotiadou¹, S. Minoudi^{2,3}, D. Karaouglanis^{2,3}, N. Karaiskou^{2,3}, P. Fortomaris¹, A. Triantafyllidis^{2,3}

¹School of Veterinary Medicine, Aristotle University of Thessaloniki, Greece

²School of Biology, Aristotle University of Thessaloniki, Greece

³Epigenomics Traditional Research, Center for Interdisciplinary Research and Innovation, Balkan Center, Greece

INTRODUCTION AND OBJECTIVE

The main attributes consumers value in addition to quality when buying meat are provenance and traceability.

The objective of **AuthenBeef** is to implement a fully **traceable beef supply chain** using **blockchain technology** combined with **genetic markers** both up the chain to market and back down the chain to farm.

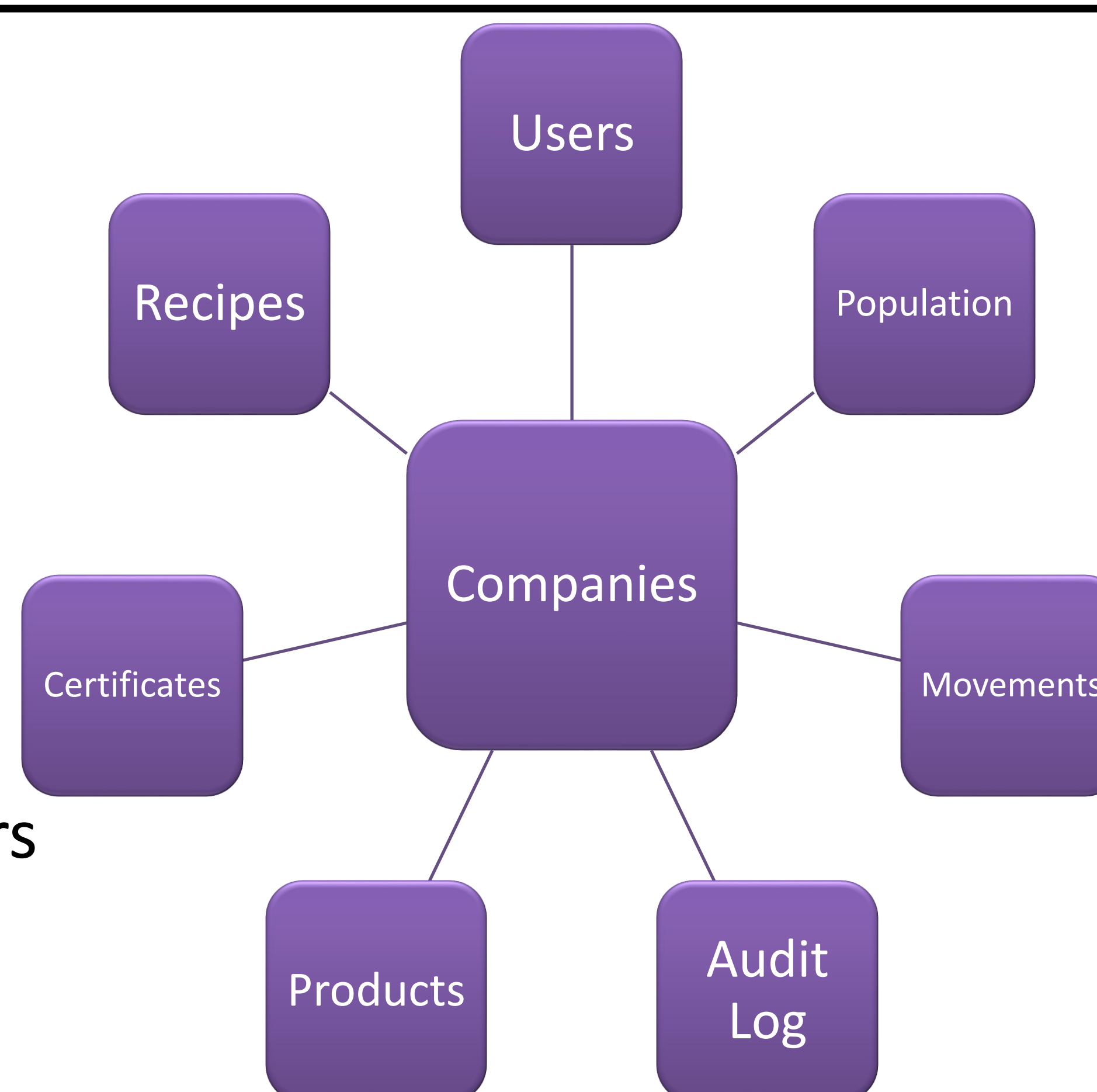
MATERIALS AND METHODS

- **Genetic analysis protocol:** 17 microsatellite markers → International Society for Animal Genetics
- **Genotyping & Identification:**
 - Individual animal blood sampling at slaughter
 - Meat sample collection at the selling point stage
 - Identification based on the genetic profile of blood and meat samples (n=250)
- **Recording system & Blockchain technology:**
 - Platform for recording traceable data
 - Key data entry points → entire production process → feedlots to final marketing of meat and its products
 - Decoding system using QR coding → real-time information to consumers



RESULTS

- Preliminary stage
- **Genotyping & Identification:**
 - 133/250 blood and meat samples
- **AuthenBeef recording platform:**
 - Back office → system information
 - Front office → information for end-users
 - QR coding
- **Data entry:** in progress



CONCLUSIONS

AuthenBeef offers a **marketing strategy** making the most of the **provenance and traceability of beef** and hence ensuring greater financial returns in the value chain.

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