

Coordinator:
Tiziana de Magistris
tmagistris@cita-aragon.es



TECHONEY

Development of a **blockchain-based ecosystem** that allows an **improved positioning of small producers of honey** on local and international markets

Research in Food Safety Conference 2022

CONTENT





- Food fraud with adulterated honey of low quality is a serious problem for beekeepers, since they have to sell their authentic products for lower prices. The economic damage is estimated at \$1 Billion. For consumers it is difficult to recognize fraud.
- TECHONEY is a EU research project that aims to develop an innovative ICT solution to certify authentic honey products along the supply chain and protect quality labels in local and international markets.



- In recent years, multiple blockchain based food production system have been proposed to offer a high level of transparency, traceability, trust and lower level of fraud.
- Deploying a blockchain system in the food industry is still at an early stage and facing two main challenges:
 - Data privacy of stakeholders in the supply chain
 - Scalability due to the increasing number of peers, transactions and channels in blockchain
- TECHONEY will investigate how to increase trust among honey supply chain parties to guarantee the honey quality, safety and sustainability.



Multi-stakeholder approach

- **STAKEHOLDERS** representing the honey supply chains will be invited for setting up **Living Labs** in six countries.
 - Represent 4 dimensions of the Quadruple helix innovation system (government, citizens, academia, industry)
- Once per year the stakeholders will be invited to a session.
 - participatory dynamics
 - keynote speakers address hot topics in supply chain organization.
- Further methods include deep interviews, online surveys, and questionnaires.



We are looking for

- Beekeepers and associations
- Researcher (apiculture, digital supply chains)
- Authorities and experts in **food-quality and -safety**
- Retailer
- Restaurants / HORECA
- Industries



TECHONEY



- TECHONEY performs a full physical, chemical and sensory characterization of honey sampled from five participating countries in terms of contaminants and microbiological quality.
 - Safety, Microbiological quality, and sensory evaluation of sampled honey from different locations in Spain, Italy, Turkey, Tunisia, Morocco
 - Proline, Sugar Composition, Moisture, Conductivity, Acidity, Diastase, HMF, Pollen, Heavy metal, Pesticide analyzes will be done.



WP3 CONSUMER BEHAVIOR AND STAKEHOLDERS' ACCEPTANCE

Activities planned until Q2 2023

- Review of public policies
- Meta-analysis: consumer's risk perception towards fraud
- Meta-analysis: consumers response towards digitalization tools to prevent food frauds
- Literature review about beekeepers' and retailers' attitudes and acceptance for traceability system, e-commerce, and digitalization tools

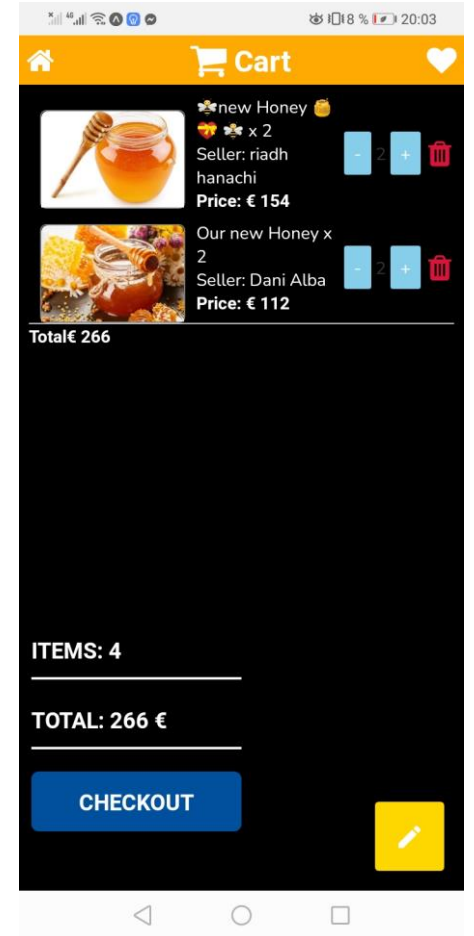
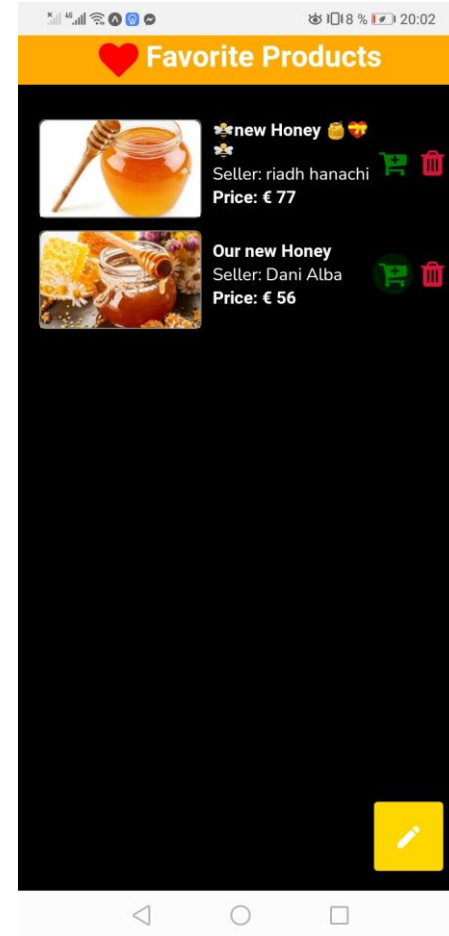
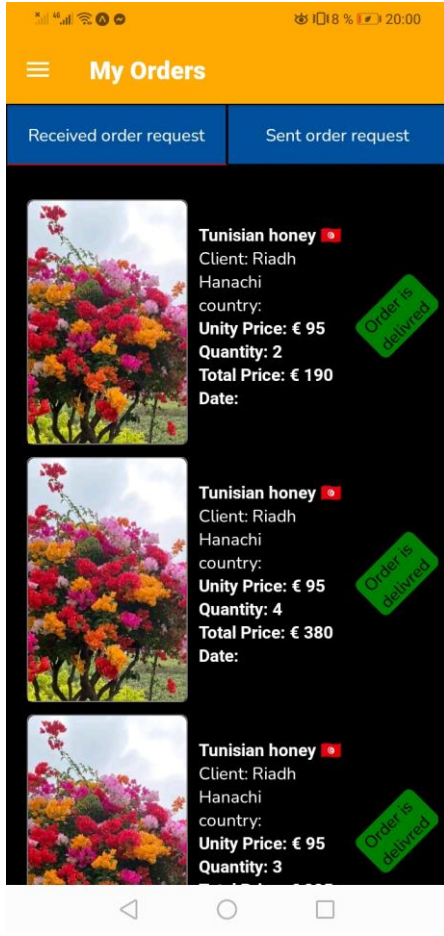


Current activities

- Survey on agri-food Supply Chain using Blockchain technology
 - Inspect various blockchain based solutions that have been proposed (in real world or in research) to be used in agri-food supply chains
 - Study the specifications and evaluate the performance of these blockchain based solutions
 - ✓ Type of the managed goods
 - ✓ Identification of the goods
 - ✓ Supply chain and the involved stakeholder
 - ✓ Goal of the solution
 - ✓ Idea to reach the goal
 - ✓ Use of blockchain
 - ✓ On-chain/off-chain storage of data
 - ✓ Use of smart contracts
- First step to identify requirements and define solution for the honey supply chain



Designing a mobile Market Place app





- Market studies and marketing strategies.
- Definition of marketing strategies to scale up the case studies
- Business and policy recommendations



Please contact me to join as expert

- christoph.stahl@list.lu
- info@techoney.org
- www.techoney.org



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