



**TOP4HONEYCHAINS**  
Trustable and Sustainable Open  
Platform for Smart Honey Value  
Chains  
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# Trustable and Sustainable Open Platform for Smart Honey Value Chains



## Introduction

Trustable and Sustainable Open Platform for Smart Honey Value Chains (TOP4HoneyChains). For over 140 million years, bees play a critical role in flowering plants and the honey bee is one of the most important insects for humankind as every third mouthful of human food is dependent on them. The honey business as an agri-food sector faces sustainability challenges to cope with complex relations from farm to fork, climate change, increasing competitive pressures, varying consumer diets, and food safety (honey fraud). Although Argentina and Türkiye are among the top three countries for the global honey producers, they have not been recognized as higher value end honey products globally. The honey fraud, which currently involves, among others, several Asian countries, has affected the international market. The challenge is to generate a smart value chain, driven by market preferences and consumer demands, based on the quality that has been preserved from the apiary, with records and transparency throughout the entire honey-food business including the apiary and honey processing, building trust between buyers and sellers. Transparent, efficient, and effective honey value chain is needed to achieve a dynamic and responsive honey-food system to cope with major forces globally as well as local imperatives. The main goal of TOP4HoneyChain is to develop TOP that will enable the smart honey value chains in Türkiye and Argentina by leveraging transnational approach along the Polish partner, UEKat and the Latvian partner, LBTU. The platform will be available for other countries to be adopted. The primary concern of TOP4HoneyChains is to increase effectiveness and efficiency of traceability and transparency for achieving smart honey value chains as a whole honey-food system supported by TOP along data driven innovative digital services. For instance, an apiary will be able to access to the quality test results of their original honey and the blends of each honey, which contributes to traceability and transparency of the chain. The consumer will be able to access information (turning relevant data into a meaningful form that serves a purpose) about the apiary practices and test results. We will develop policy to implement incentives for honey producers to increase their quality and thus to achieve platform adoption for the users (beekeepers, packing organizations, beekeeping associations and cooperatives, exporting and importing organizations, regulatory bodies, consumers).

## Goals

The TOP4HoneyChains project aims to revolutionize the honey-food system by demonstrating the impact of smart honey value chains. It seeks to enhance global and local economies, promote environmental sustainability in beekeeping, foster societal awareness, encourage transnational collaboration, and contribute to scientific progress. The project targets diverse consumer profiles and aims to influence consumer behaviors. Additionally, it emphasizes the inclusion of women and young people in beekeeping through digital services. By showcasing transparency in the food system, the project intends to strategically impact society's perception and potentially influence regulatory bodies. Overall, TOP4HoneyChains strives to bring positive changes across various dimensions of the honey value chain.

## Methods used in the project

- Transparent and traceable smart honey chains
- Open data platform
- Sustainable apiaries
- Data-aware digital business ecosystems
- Ontology and microservice architecture

## Expected results

Digitalized well-document records and verifiable information regarding the value chain activities associated with "High-Quality Argentine and Türkiye Honey" from the consumer to the apiary and vice versa.

Verifiable information on the production process, quality management, and product traceability.

The trend, insights regarding quality requirements and consumer perception and willingness to pay in relation to quality attributes.

Monitoring of the critical points or points of interest during the production process. Relevant effects of TOP4HoneyChains will have impacts on primary production, processing, packaging, and consumers' behaviors and attitude.

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## PARTNERS

