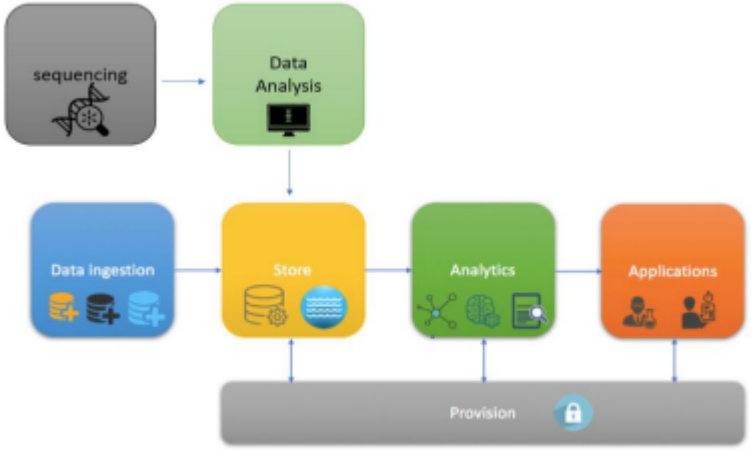
ICY TRACE: MONITORING AND DETECTION OF AUTHENTIC OF FOOD INGREDIENTS, ALLERGENS AND PATHOGENS IN HIGH-VALUE FOOD PRODUCTS BY NOVEL METAGENOMICS ANALYSIS METHODS.

Country	Contract value (€)	% carried out by Epsilon	No of staff provided	Client	Origin of funding	Date (start/end)	Consortium Members
Greece	600.000	16.8% 100.800	8	European Commission	EC HORIZON	06/06/2019 01/01/2022	3 Partners

Description of the project



Modules of the bio informational platform

The **IcyTrace** project aim was to develop an innovative solution for detecting and verifying the authenticity of food ingredients, allergens, and pathogens in high-value food products, particularly handmade ice cream. By applying cutting-edge metagenomics and blockchain technology, IcyTrace ensured the integrity of food data, helping prevent food fraud and ensuring consumer safety. The project focused on creating a comprehensive system where businesses can independently collect and prepare samples on-site, with the blockchain ensuring the accuracy and security of the analysis results. This solution was later applied to other food products, providing a scalable approach to food safety and authenticity.

IcyTrace objectives were:

- To develop an integrated solution for identifying and authenticating the ingredients of handmade ice cream, ensuring the use of genuine materials.
- To ensure the safety of food for consumers by detecting allergens and pathogens through advanced metagenomic analysis techniques.
- To prevent food fraud by ensuring that the correct ingredients are used in food products and that they are accurately labelled, protecting consumers from deceptive practices.
- To secure the integrity of the analysis data using blockchain technology, ensuring the authenticity of the results and preventing manipulation.

Services provided

Blockchain Integration:

- Epsilon was tasked with developing and implementing blockchain technology to ensure the integrity of the data collected during the analysis of food samples. This ensured that the results are tamper-proof and secure.

Data Handling and Analysis:

- Epsilon was involved in the processing and handling of data, utilizing advanced technologies to ensure that the information from food ingredient and pathogen detection was accurate and reliable.

Collaboration on Food Safety Solutions:

- Epsilon in collaboration with other partners helped develop and deploy technological solutions aimed at enhancing food safety and preventing food fraud.