FUNGES

Funges - Data-Powered Platform for Natural Resource Prediction

1. Project Overview

Funges is an online platform that leverages geographical and environmental data to provide users with real-time insights into the presence of natural resources in their surroundings.

By collecting, processing, and combining diverse datasets, Funges can predict the optimal conditions for the presence of plants, mushrooms, and other natural elements, which are influenced by geographical, meteorological, and ecological factors.

Addressing Climate Change & Preventing Resource Waste

Climate change is fundamentally altering natural ecosystems, with rising land and sea temperatures, unpredictable weather patterns, and shifts in seasonal cycles affecting the distribution and availability of natural resources.

- Higher temperatures disrupt traditional growth cycles, making it harder to predict when and where key resources will appear.
- Extreme weather events such as heatwaves, droughts, and excessive rainfall further impact the presence of biodiversity, affecting fungi, plants, and wildlife.
- Without proper tracking, valuable natural resources go to waste, as people and industries fail to locate them at the right time.

By optimizing the collection of naturally growing wild plants, mushrooms, and other foraged goods, Funges helps increase the effective availability of these resources. This ensures that more food and natural products are harvested sustainably rather than being left to degrade.
Funges provides a solution to mitigate these challenges by using data-driven predictions to guide individuals and organizations in making smarter, more efficient use of available natural resources.

2. Innovation & Technology

Currently, Funges provides real-time insights on Boletus edulis (Porcini mushrooms) using geographical and meteorological data, ensuring users receive accurate, up-to-date information on when and where these mushrooms are most likely to appear.

Key Features

- Environmental Data Integration – Combining geolocation data, climate models, and meteorological trends to predict resource availability.
- Probability Models for Resource Presence – Analyzing weather patterns, historical records, and ecological conditions to estimate the likelihood of finding natural resources.
- Climate Change Adaptation – Providing real-time insights on how climate variations are shifting ecosystems, helping users adjust strategies for sustainable harvesting.
- Scalability & Open Access – A cost-effective platform that can support a large number of users without requiring personal data, ensuring inclusivity and accessibility.

Traditional foraging techniques, seasonal calendars, and static knowledge are no longer sufficient in a world where climate change is disrupting established patterns. Funges offers a dynamic, real-time, data-powered approach to resource prediction.

3. Market Potential & Business Model

There is an increasing demand for environmental data applications from individuals who want to make informed, sustainable choices in their consumption and resource collection habits.

As climate change alters traditional foraging patterns and natural resource availability, individuals require reliable, data-driven insights to locate, access, and utilize natural resources effectively. This allows them to reduce waste, align consumption with natural cycles.

Industries are also recognizing the importance of environmental data in adapting to climate-driven changes. The agricultural sector and eco-tourism businesses increasingly integrate geospatial and meteorological data into their decision-making to optimize resource use and sustainability.

Target Users

- **Independent & Sustainable Resource Collectors** – Individuals who seek accurate, real-time environmental insights to optimize the collection of natural resources, such as mushrooms, wild plants, or other foraged goods. These users include foragers, self-sufficient consumers, outdoor hobbyists, and climate-conscious individuals attempting to reduce reliance on cultivation and minimizing waste.
- **Eco-Tourism & Nature-Based Businesses** – Organizations interested in enhancing outdoor experiences through data-powered insights, helping visitors understand and interact with nature responsibly
- **Agricultural & Food Industry** – Farmers, producers, and supply chain stakeholders looking to adapt to climate-driven changes in resource availability, optimize sustainable harvesting, and reduce resource waste. By leveraging predictive environmental insights, they can improve harvest planning, sourcing strategies, and overall sustainability efforts.

Business Model

- **Open Access for All** – Core features and environmental insights remain free and accessible to all users, ensuring inclusivity and maximizing the impact of publicly available data.
- **Freemium Model** – While basic resource data remain freely accessible to all, advanced features, such as higher-resolution forecasts, customized alerts, and ML model deployment, may be introduced as premium offerings if required to cover resource costs. The goal is to keep the platform as accessible as possible, with pricing introduced only for resource-intensive features in the future if required.

4. Why EIC Funding?

- Mitigating Climate-Driven Resource Waste – Supports sustainable resource utilization by improving predictive accuracy for natural resource presence.
- Enhancing European Data Infrastructure – Expanding dataset integration to increase the accuracy of resource predictions across the EU.
- Unique Approach – Funges leverages EU datasets such as the Corine Land Cover Database to provide real-time, open-access environmental insights. Unlike existing solutions, it prioritizes scalability, cost-efficiency, and accessibility, making it a game-changer in environmental monitoring

5. Team & Expertise

Loris Di Stefano (Founder) – Expert in data engineering, geographical information systems (GIS), and machine learning (ML), leading all aspects of platform development, from data integration to predictive modeling.