MIND F👁dS HUB

Innovative concept for the eco-intensification of agricultural production and for the promotion of dietary patterns for human health and longevity through the creation in MIND of a digital FOOD System Hub.

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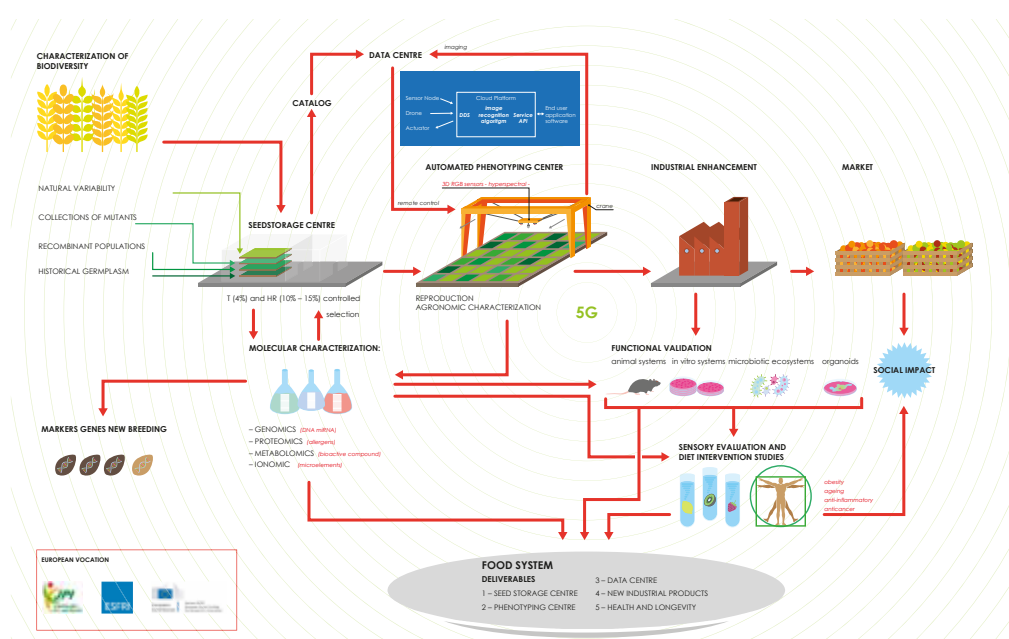
AGRICOLA MODERNA

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MIND F⦿dS HUB

Innovative concept for the eco-intensification of agricultural production and for the promotion of dietary patterns for human health and longevity through the creation in MIND of a digital FOOD System Hub.

MIND FoodS Hub integrates multidisciplinary skills with the aim of **promoting the vision of agri-food research as an engine of innovation, development and social responsibility.** The project has an unprecedented scope and dimension, and brings together research bodies of excellence with companies of international standing and rooted in the territory.

The general objective is the creation, in the context of innovation Milano INnovation District, of an infrastructure and skills hub for the development of an innovative concept aimed at the **identification, production and sustainable transformation** of plant products and derivatives **with an excellent nutritional profile, assessed through functional validation.** Outcomes from the project will positively impact the agri-food innovation system as well as businesses, consumers and other stakeholders locally and beyond.

The project unfolds its tasks in:

1. the identification of **experimental development pilots in the field and / or in an urban environment** through the selection of plant products (vegetables, fruits, legumes, cereals and pseudocereals) on the basis of nutritional and / or nutraceutical impact and relevance, in the context of the regional production lines.
2. the **creation of a Germplasm bank** and the characterization of the nutritional properties of wild species and ancient varieties.
3. the development and optimization of **agronomic practices in the field and / or in the greenhouse** (urban environment), through the **exploitation of smart applications.**
4. the farming, in a protected environment including in **vertical farming**, of selected species in order to characterize their **metabolic and nutritional profiles.**
5. the implementation of **high-throughput phenotyping infrastructure** for crops.
6. the **set-up of a computing infrastructure** consisting of a hybrid environment integrating smart devices / sensors, edge processors, 5G communication network and cloud computing architectures.
7. the exploitation of innovative platforms for the evaluation of **nutritional properties** and **bioactive components**, the study their bio-availability, and the microbial ecosystems associated with the improved products.
8. the integration of the outputs of the various platforms for the development of **prediction models of nutritional and functional value.**
9. the improvement of the **sensory characteristics and consumer acceptability.**
10. **in-vitro and in-vivo functional validation using mechanistic approaches**, with demonstration of the effects at systemic, cellular and molecular level.
11. the study of the **nutritional and health impact through dietary intervention studies in target groups.**
12. the **validation of the food system concept** through **business cases developed with industrial partners** and through the building of a network of knowledge, skills and key infrastructures for the promotion of the new concept.
13. the **connection to citizens** thanks to the creation of **living labs** and paths capable of increasing awareness and sharing of actions to safeguard the planet, human health and longevity.

MIND FOODS HUB

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