METRO FOOD-IT

Strengthening of the Italian Research Infrastructure for Metrology and Open Access Data in support to the Agrifood

Italian National Recovery & Resilience Plan (NRRP)
Mission 4 "Education and Research" - Component 2: from research to business
Investment 3.1: "Fund for the realisation of an integrated system of research and innovation infrastructures
Action 3.1.1 "Creation of new research infrastructures strengthening of existing ones and their networking for Scientific Excellence under Horizon Europe

METROFOOD-IT project is related to the Italian Node of the European Infrastructure METROFOOD-RI – *Infrastructure for promoting metrology in food and nutrition* (www.metrofood.eu - ESFRI Roadmap, domain Health and Food).

METROFOOD-IT Mission

To support research and innovation in the agrifood by providing integrated services, boosting the digitalization of agrifood systems and their efficiency, traceability, and sustainability, increasing the reliability of products and processes and information provided to citizens, authorities, and food system actors.

Project aim

Strengthening the existing infrastructure related to the ESFRI METROFOOD-RI for the domain health and food and included in the NPRI high-priority list, focusing on the electronic component and its integration with the physical one, making it fully implemented, fully operational and sustainable in the long-run.

Duration: 30 Months
Starting date: 1 Sept. 2022
Total funding: 17,79 M€

CONSORTIUM
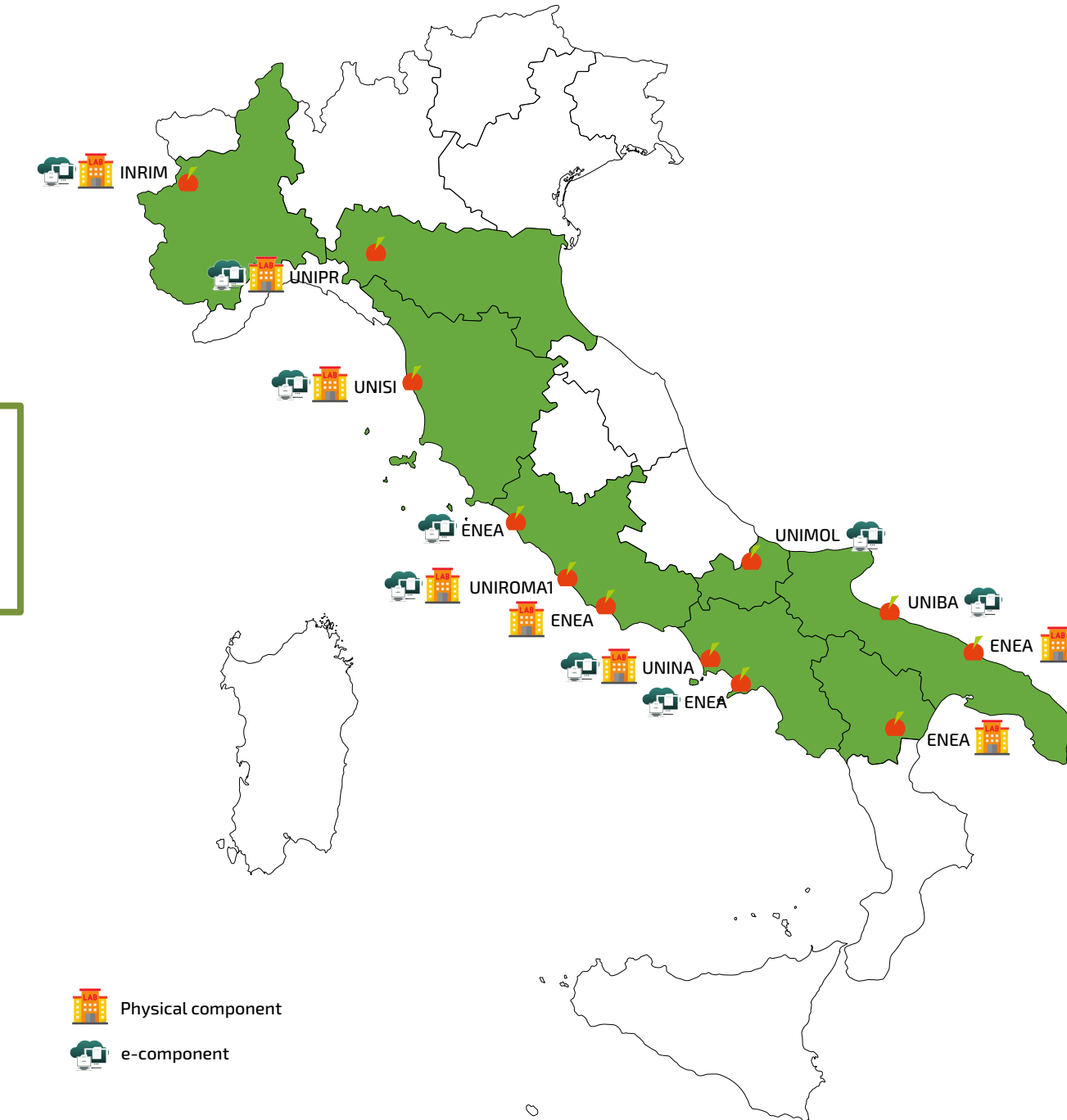
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OBJECTIVES

Specific objectives

SObj1: fully implement the RI in its physical and electronic components, technically organise it as service-oriented organisation and define its operational standards

SObj2: implement an open data platform, a cloud infrastructure for data integration and analysis and an integrated system of ICT solutions applied to the agrifood, and ensure long term FAIR data access

SObj3: define the service chart and implement the service provision by providing transnational (physical and remote) and virtual access to advanced and efficient services, enabling interdisciplinary research for the agrifood

SObj4: liaise and clustering with other relevant RIs and NRRP initiatives for a better integration in the landscape, the realisation of a connected ecosystem, thus increasing the impact

SObj5: promote user and stakeholder engagement in a co-creation approach for better meeting user demand and ensure outreach and training of the community of stakeholders, beyond researchers, to enable them in the best use of the research facilities and services offered

SObj6: set up the **management and organisational structure** of the infrastructure, define its **business plan** and the strategies and **roadmap for its self-sustainability**.

Objectives for the Agrifood

➢ Promote **transparency** (especially among micro-enterprises and SMEs), increase the **sustainability and resilience** of agrifood systems and improve **the performances of production processes**

➢ **Reduce the vulnerability** of production chains to fraud and sophistication, demonstrating and communicating the **origin and authenticity** of raw materials and products

➢ Improve **food safety, food defense, food quality and production processes' control systems**, through the identification and integration of tools to be adopted in the various supply chains

➢ Support policy makers and inspection and control agencies in promoting and demonstrating food transparency, also **inspiring policy development**

➢ Increase **consumer awareness and confidence** in the production systems, encouraging the adoption of **healthier and more sustainable diets**.

FACILITIES
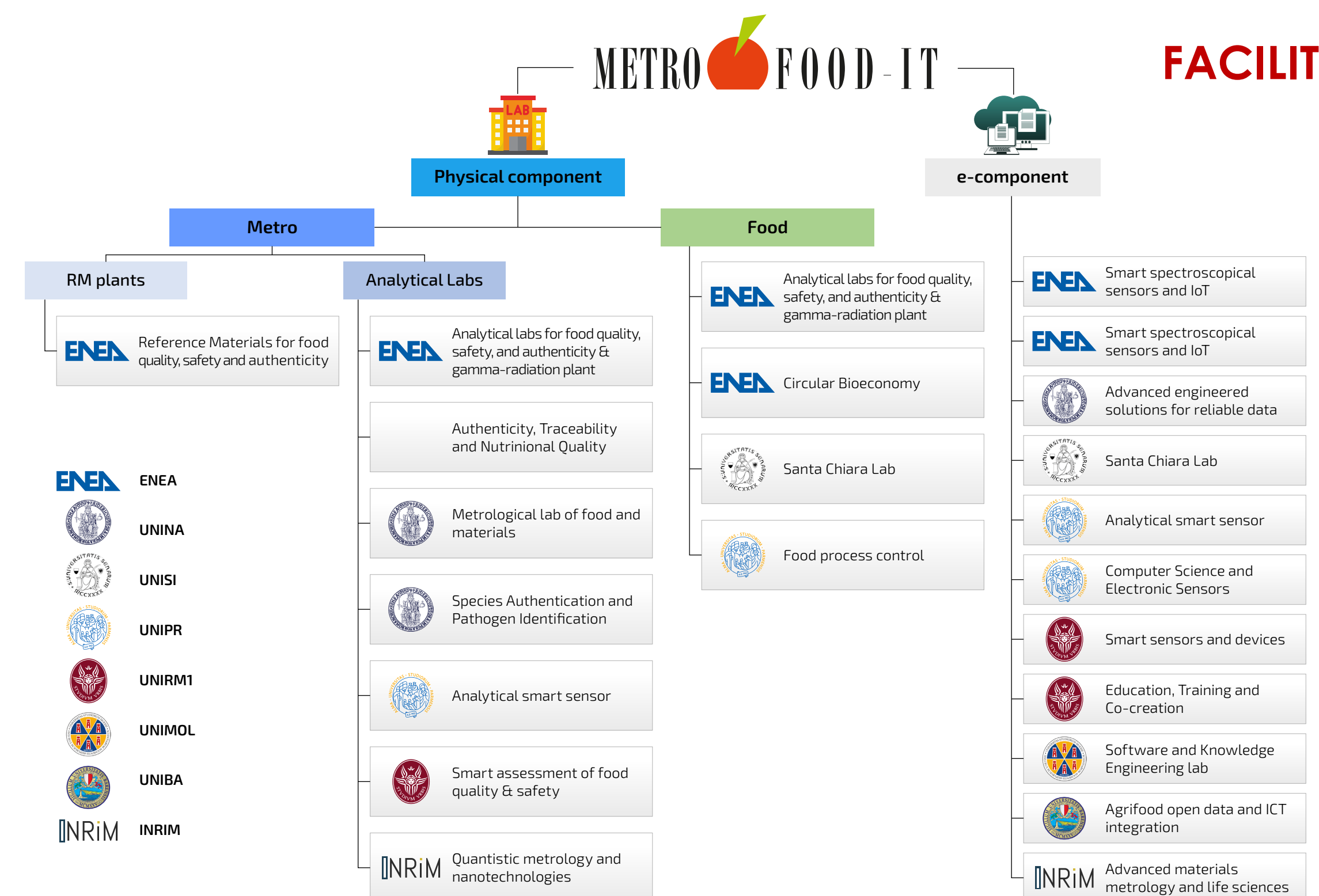
The set of advanced services provided by the RI is addressed to different users categories with access to various physical facilities (laboratories and plants) and e-resources (e.g., apps, software, models) and will allow the RI to act as an interface between research and innovation, industrial players, and consumers, defining and testing different processes and scenarios for the development of sustainable and innovative agrifood systems, food safety, healthy diets, and solutions for a circular bioeconomy.

CONCEPT
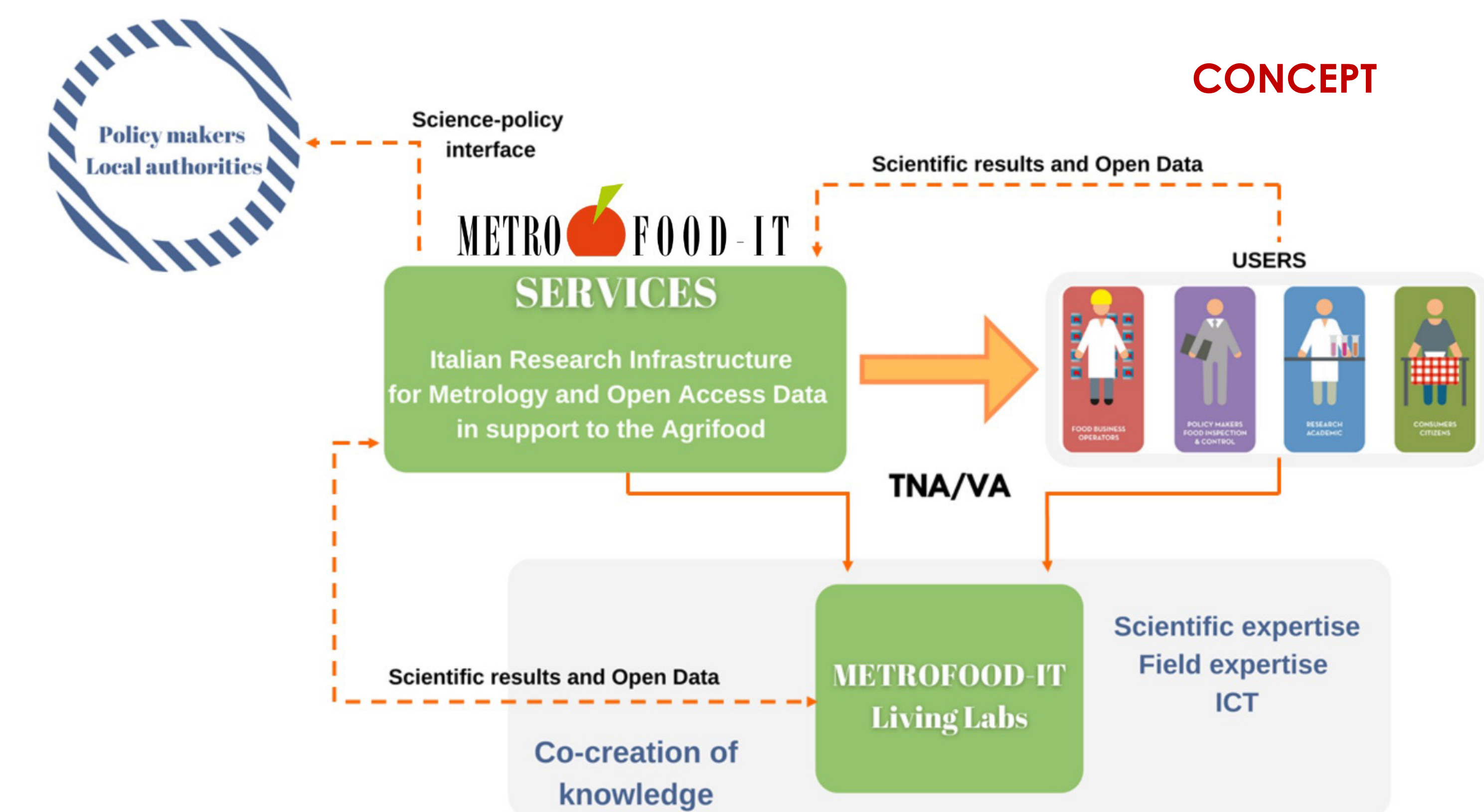
The project focuses on the RI's electronic component and its integration with the physical one, to provide services in support to the digitalization of the agrifood system for food quality & safety, traceability, food transparency, sustainability, and resilience of agrifood systems, and circular economy. It aims at developing the organizational and operational framework of the RI and structuring the strategy, procedures and supporting system for the service provision via TransNational Access (TNA) and wide Virtual Access (VA), thus making the Italian infrastructure fully implemented, operational and sustainable in the long run.
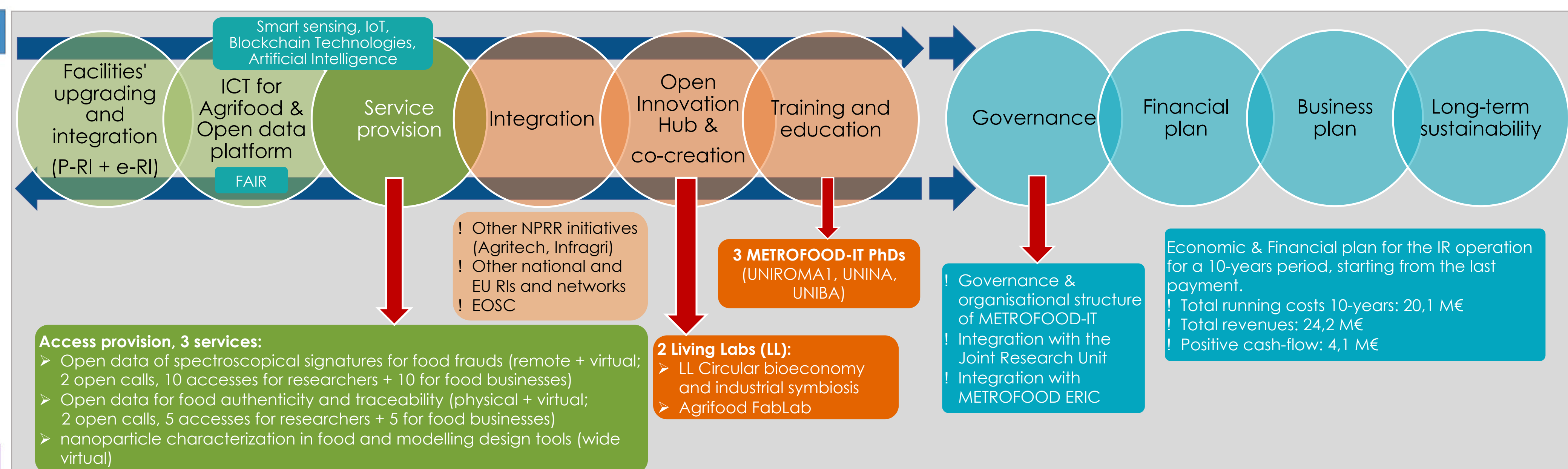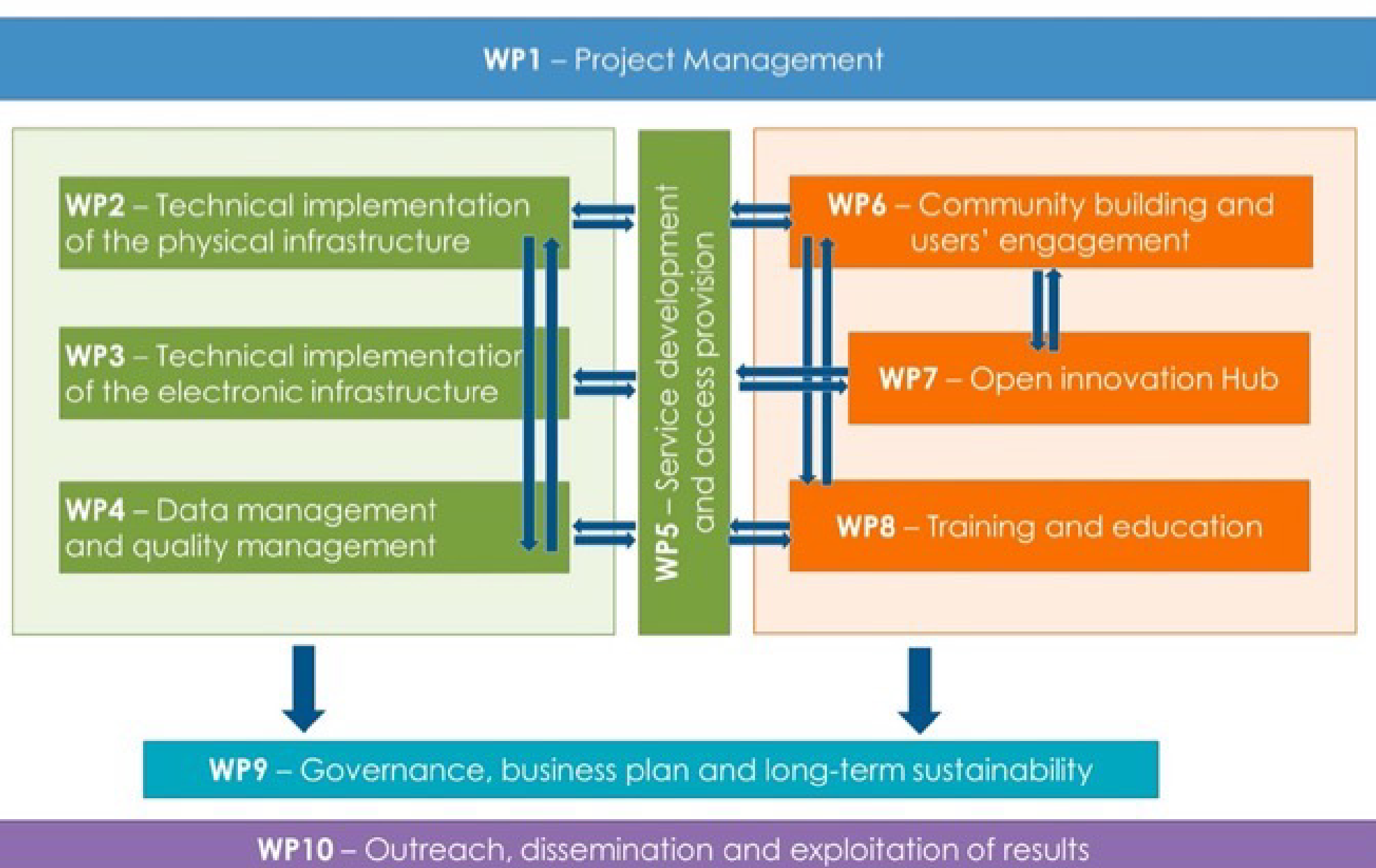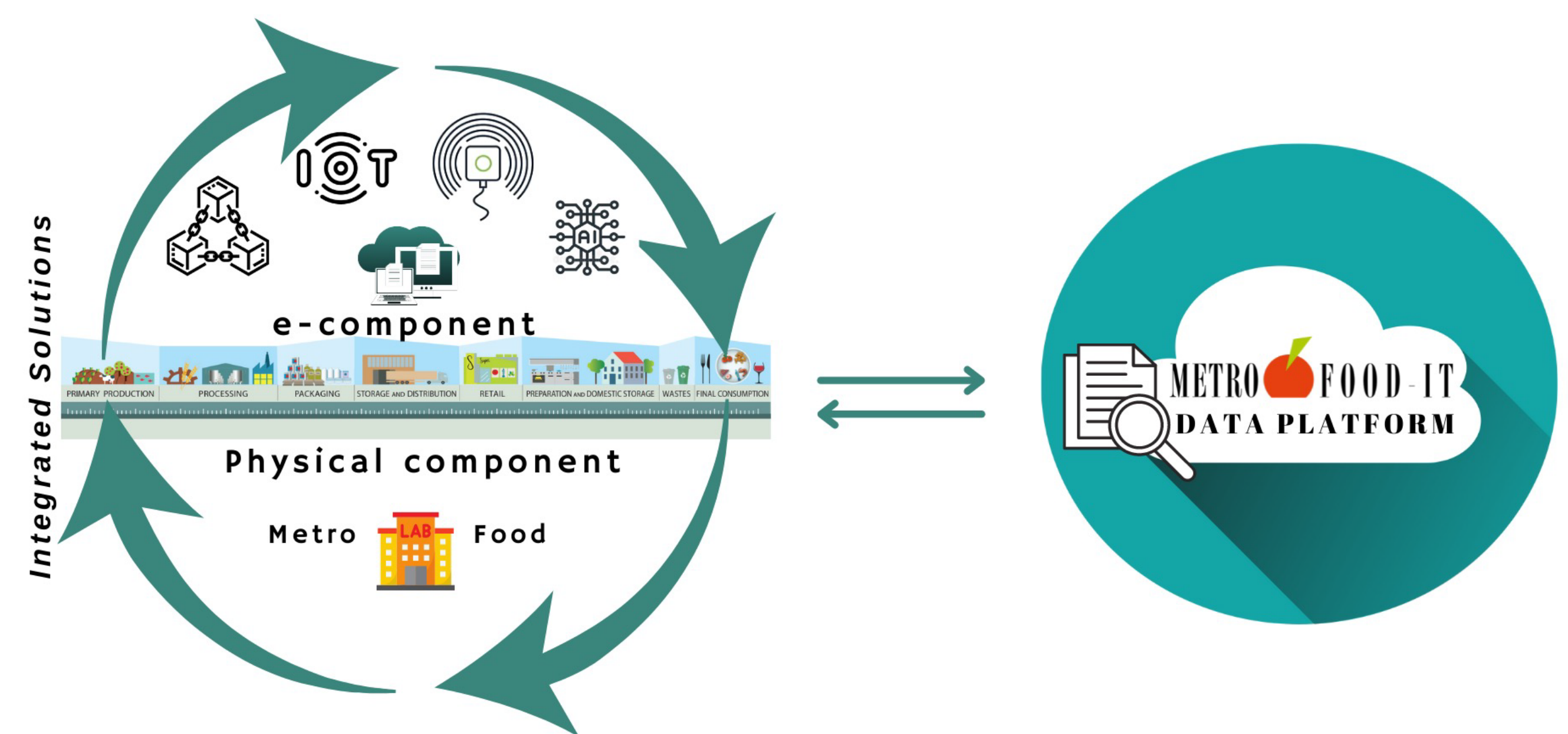
METROFOOD-IT will be characterised by the application of ICT solutions with an integrated supply chain approach. The innovation potential relies on the state-of-the art services, tools and concepts deployed, along with FAIR data management, data quality and open data, crossing the 4th digital evolution applied to the agrifood. Computational modelling and laboratory-based solutions will be integrated via upcoming approaches such as smart and remote sensing systems, IoT, blockchain, and Artificial Intelligence. An open science-based approach will be followed, sharing, and making open data and access to resources. Open communication with the various stakeholders on objectives, results, outcomes, and impacts will allow for the promotion of a direct and motivated involvement, through the application of a multi-actor approach. Overall, METROFOOD-IT will contribute to overcome fragmentation and research compartmentalisation, enabling researchers to access, create, share, connect, analyse, and interpret various and heterogeneous factors and paving the way to ambitious, transnational, transdisciplinary advancements in the agrifood, while significantly reducing duplication of research efforts and thereby providing stimulus for creative thinking to develop innovative practices, products, and services to advance knowledge. Poster METROFOOD-IT PNRR (1).jpeg
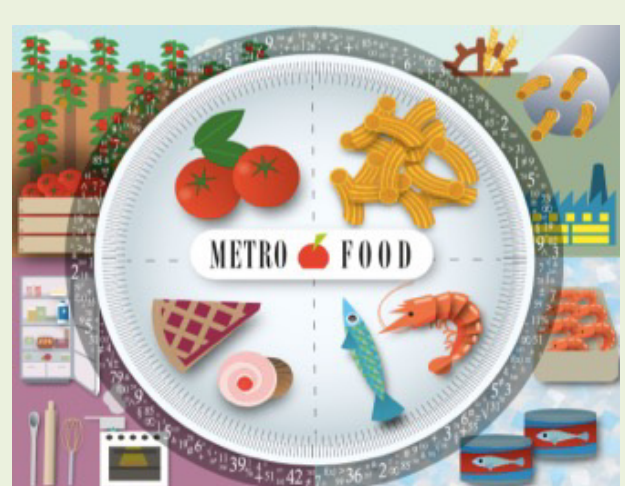
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