# Building a research infrastructure for Food, Nutrition and Health Research (FNH-RI) in Europe

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# 1. Why specific

The FNH-RI SCIence case









# The consumer as link between the agri-food and health sector

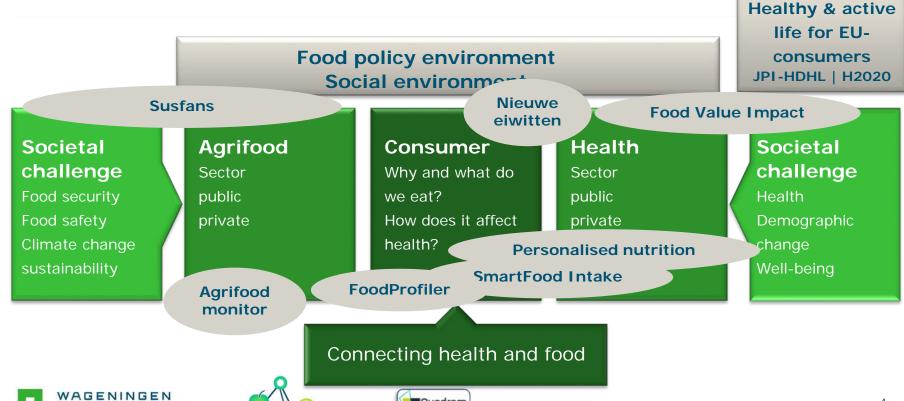
#### Healthy & active life Food policy environment / Social environment for EU-consumers JPI-HDHL | H2020 **Societal Agrifood** Societal Health challenge Consumer challenge **Sector** Sector Food security Why and what do Nutrition & Health we eat? Food safety How does it effect Public & Demographic Public & Climate change health? private Change private Sustainability Well-being Connecting Food, Nutrition & Health







# The consumer as link between agrifood and health sector



## 2. What

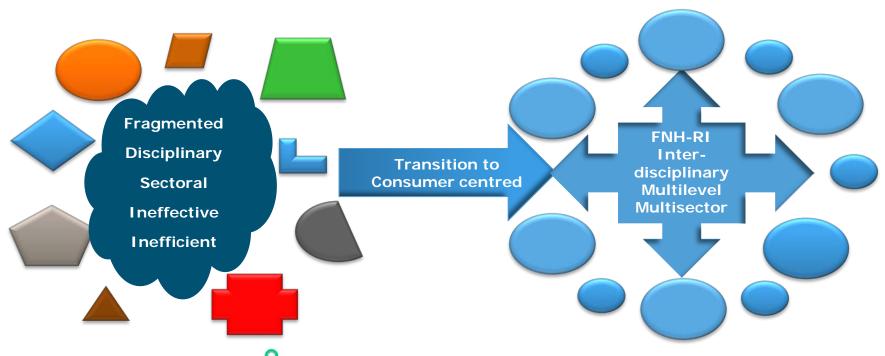








# Research Infrastructures: overcome fragmentation









### Aim of FNH-RI

FNH-RI aims to be an overarching, virtual, integrated research environment to collate, validate, harmonize and connect existing and future research data & tools, labs & experimental facilities.









## Potential impact and Breakthroughs

#### Food system - Protein shift

- Goal: to shift consumer behaviour towards more sustainable, healthy and affordable protein choices
- The ambition of FNH-RI is to facilitate to extend existing and new data to improve previous approaches towards sustainable food choices
- FNH-RI facilitates to combine consumer and food system actor focus to increase sustainability in food production and consumption









## Potential impact and Breakthroughs

#### Consumer - Smart kitchen

- Goal: Empowered consumers able to make sustained, healthy and sustainable dietary choices
- The ambition of FNH-RI is to facilitate to extend new and existing tools to increased consumer trust by standardize, harmonize and integrate data for evidence based feedback structures
- FNH-RI facilitates to combine consumer and Internet- of Things technology e.q., 3D printing and open internet food apps, to personalized his food and health profile





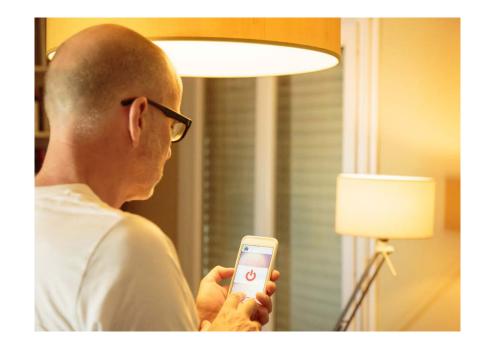




## Potential impact and Breakthroughs

#### Preventive health care system

- Smart home for elderly
- Goal: to reduce the preventive health care cost of moving people to elderly homes. Ageing in place is the mantra.
- The ambition of FNH-RI is to facilitate to extend existing and new services and knowledge to improve business models and social innovation
- FNH-RI facilitates to combine consumer and preventive health care system by provide connect big data and new data to create opportunities for new algorithms, to find patterns for advance predictions.









### FNH-RI model

Data platform

added value by scientific integration of fragmented and locked data via services to stakeholders

ICT backbone

supporting the interoperability of standardization and quality management of data and tools

**Governance structure** 

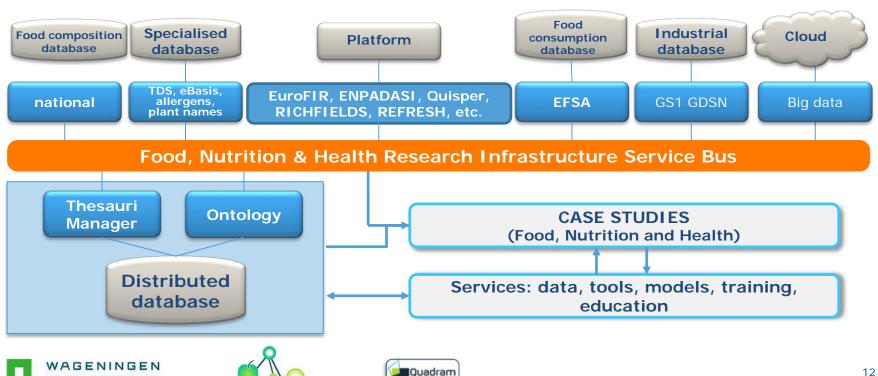
conditions for access, organizes centralized and distributed activities, and enables flexibility regarding innovation within the RI







# FNH-RI Platform and interoperability Conceptual design FNH-RI







Core Offering

#### Website Portal to access Data Platform

(access subject to appropriate permissions

#### **Authoritative Materials and Standards**

#### • Data catalogues and data management protocols

identifying and describing data (Commercial, Public and Research/Academic data) and its provenance; Lists of relevant laboratories; best practice documents and data management protocols

#### Research protocols

development, capture and sharing of best practice protocols for the use of connected and 'big data' in food-related consumer behavior research.

#### Standardised vocabulary/thesauri

standardisation of vocabulary and development of thesauri to support research activities utilizing connected data.

#### • Ontologies/Semantic Data models

 $development\ of\ ontologies\ and\ semantic\ data\ models\ to\ support\ research\ activities\ utilizing\ connected\ data.$ 

#### • Training/Consultancy services

to assist both the Consumers (RICHFIELDS) data users and data providers to improve the quality of their data usage/capture of determinants of food behavior.

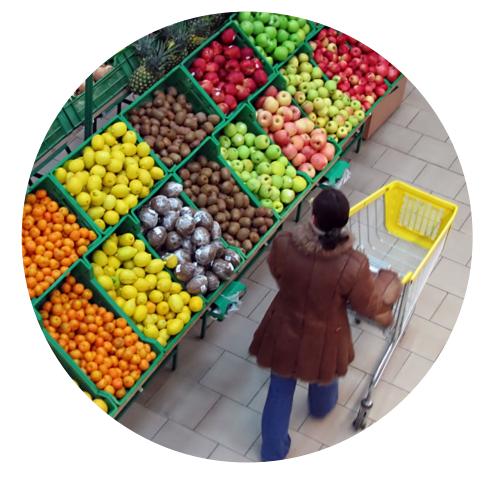
#### Data Platform/Technology FNH-RI Consumer Data Platform "Richfields" Data storage, data linkage and search capabilities; calibration and knowledge generation tools **Public** Hard **Private** Data Infrastructure data **RICHFIELDS** linkages to **APPS** Food business. **APP** experimental Private or Public RIs. (including facilities public/ academic agriculture, Labs. virtual private research manufacturing supermarkets. and retailers) etc. Consumers



#### **Governance Structures**

- Management/Steering Committee transparent governance/ethical framework; informing future research agendas
- User & Stakeholder Network / Forums community of researchers/stakeholders
- Conferences/wider dissemination 'go to' for food behaviour tools, expertise and data

## 3. How









## Roadmap

- ESFRI roadmap evaluation
  - consolidate collaborations (MoU, more countries, EU coverage)
- EU Member States
  - Preparing FNH-RI consortium for ESFRI-roadmap
  - Political & fin support ESFRI roadmap applic (Ministries)
  - National roadmaps (DK,NL,IT,UK,FR,SL). Coming up new node 2019







### Services & tools in- & external to FNH-RI





- centres for nutrition in EU
- toolbox for trials
- standards for data



- ethics check
- guidance on ethical, legal, and social issues when exchanging data



metrology and standards for food labs on food safety, food quality and food data



- databases & tools catalogue
- recommendations for data storage/transfer/access
- cloud provisioning



- to ensure sustained advocacy for food information in Europe
- develop, publish and exploit food composition information
- promote international cooperation and harmonisation of standards to improve data quality, storage and access.







## Time line of the Food, Nutrition and Health RI



**Growth of Member States** and stakeholders involved

2024
Fully operational
Food, Nutrition
& Health RI

 2015
 2016
 2017
 2018
 2019
 2020
 2021
 2022
 2023
 2024
 2025

 Design phase
 Preparatory phase
 Implementation phase











RI design & development : Member State & EU (H2020, JPI, etc.)

RI building: Member State & EU level funding







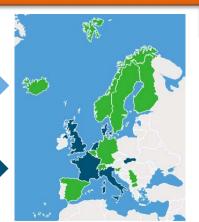












## **Business model**









### Business model: science case to innovation

#### FNH-RI

Linking pin

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Overarching Science case

**FNH Research** 

New Projects
New Customers
New Topics

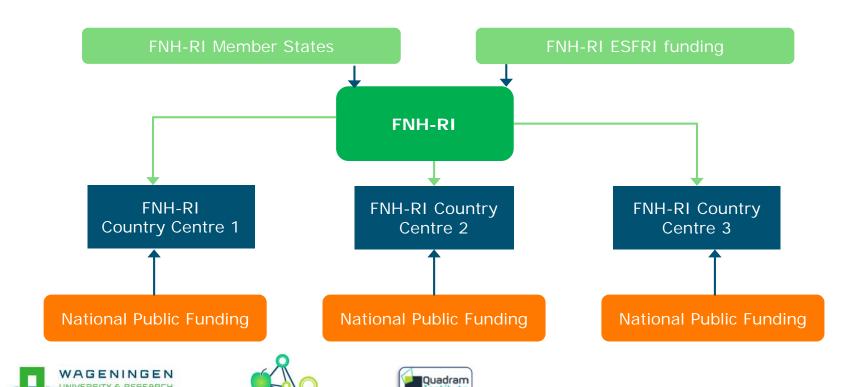
### Policy, innovation, breakthrough







## FNH-RI Funding scheme



On behalf of all partners of the FNH-RI consortium and its partners from EuroDISH and RICHFIELDS:

# THANK YOU FOR YOUR ATTENTION







