



FNS - Cloud

Food Nutrition Security

FNS-Cloud and METROFOOD-RI: Supporting food traceability & transparency

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Who should have been giving this talk ?



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FNS-Cloud outputs

FNS-CLOUD

Virtual research environment
Data discovery and access
Research object publishing
Integrated EU FNS data and tools
FNS-Cloud catalogue
Technical architecture with EOSC

COMMUNITY

Stakeholder and User Groups
Community of Practitioners
External Expert Advisory Board

FRAMEWORK

FNS-Cloud platform
Service providers
Users, existing and new
FNS-Cloud governance

FNS-CLOUD SERVICES

Service catalogue
FNS-Cloud Services
FNS-Cloud Tools
User documentation
eLearning & social media CoP
Work-based learning grants (30)

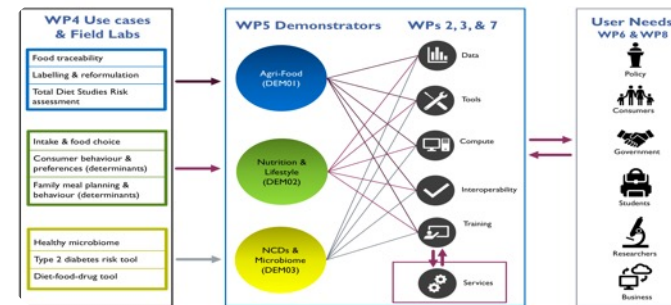
FNS-CLOUD EVENTS

Consortium meetings (6)
User community workshops (4)
Train-the-trainer (4)
Work-based learning events (4)
Final event (1)

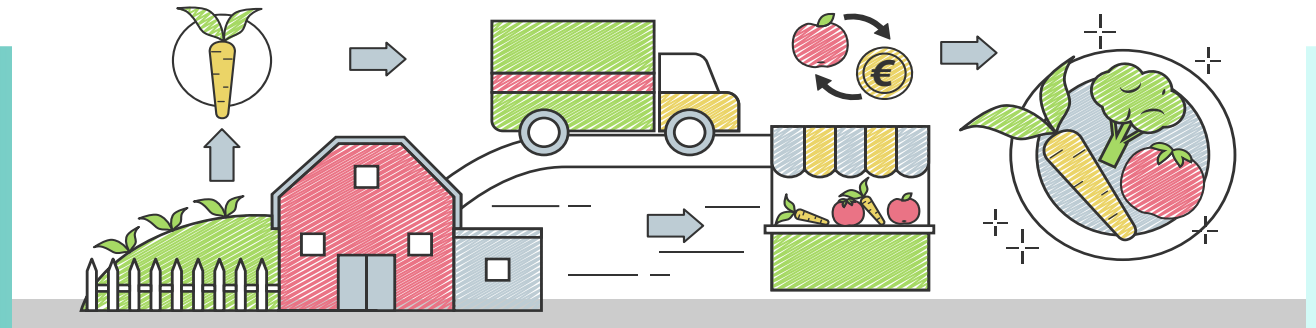
FNS-CLOUD USE CASES

UC1: Food Traceability & Metrology Search Engine
UC2: Food labelling data and reformulation tools
UC3: Total Diet Studies risk assessment
FieldLab1: Intake and food choice
FieldLab2: Intake and vulnerable groups
FieldLab3: Family meal planning
FieldLab4: Diets for healthy microbiomes
FieldLab5: NCD risk tools
UC4: Alert classification system for food-diet-drug interactions

FNS-CLOUD DEMONSTRATORS



FNS-Cloud Use Cases & Field Trials



Existing data, use cases to develop ...

- **Food traceability & metrology search engine (milk, olive oil, fish) (ENEA, IT)**
- Food labelling data and reformulation tools (branded foods db) (NUTRIS, SI)
- Total diet studies risk assessment (consumers, professionals) (RIVM, NL)
- Food intake, consumer behaviour & lifestyle (mapping tool, merging strategies, data quality and usability assessment) (UCD, IE)
- Lifestyle and NCDs cohort data (type 2 diabetes risk) (HUA, GR)

Emerging or no data, field trials to fill gaps ...

- Novel dietary intake and behaviour tools (24 h recall ethnic groups) (UCD, IE)
- Novel dietary intake and behaviour tools (eNutri FFQ, elderly) (UoR, UK)
- Family meal planning (Lifely, IT)
- Healthy diets for healthy microbiome (QIB, UK)
- Alert classification system for food-diet-drug interactions (IMDEA, ES)

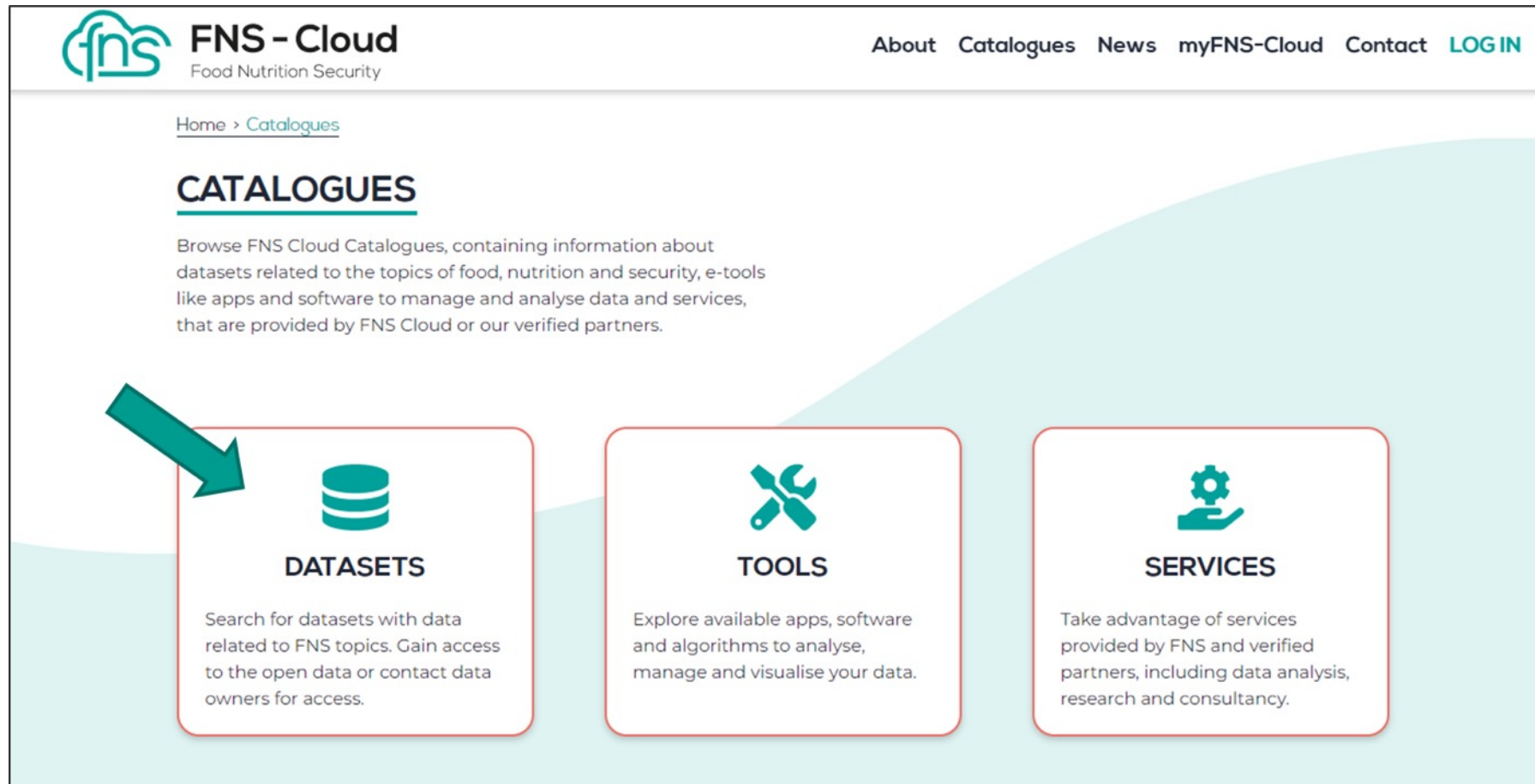


FNS-Cloud Demonstrators

Bringing use cases and field trial data, knowledge, tools, and services together to answer research questions

- **Agri-food data and tools (DEM01)** – traceability, metrology, labelling, (re)formulation, and benefit:risk
- **Nutrition & Lifestyle (DEM02)** – intake, behaviour, purchase, preparation, consumption, and composition
- **Non-communicable diseases and microbiome (DEM03)** – healthy diets, healthy microbiome, risk for T2D, food-drug interactions

FNS-Cloud Catalogues and Data Search



The screenshot shows the FNS-Cloud website interface. At the top, the logo "fns FNS - Cloud Food Nutrition Security" is on the left, and navigation links "About Catalogues News myFNS-Cloud Contact LOGIN" are on the right. Below the header, a breadcrumb trail reads "Home > Catalogues". The main heading is "CATALOGUES" in bold, underlined. A descriptive paragraph follows: "Browse FNS Cloud Catalogues, containing information about datasets related to the topics of food, nutrition and security, e-tools like apps and software to manage and analyse data and services, that are provided by FNS Cloud or our verified partners." Below this, three red-bordered boxes are arranged horizontally. The first box, "DATASETS", features a database icon and a large green arrow pointing to it from the left. Its text describes searching for datasets. The second box, "TOOLS", features a wrench and screwdriver icon and describes exploring apps and software. The third box, "SERVICES", features a gear icon and describes taking advantage of services provided by FNS and verified partners.


FNS - Cloud
Food Nutrition Security

About Catalogues News myFNS-Cloud Contact [LOGIN](#)

[Home](#) > [Catalogues](#)


CATALOGUES

Browse FNS Cloud Catalogues, containing information about datasets related to the topics of food, nutrition and security, e-tools like apps and software to manage and analyse data and services, that are provided by FNS Cloud or our verified partners.




DATASETS

Search for datasets with data related to FNS topics. Gain access to the open data or contact data owners for access.



TOOLS

Explore available apps, software and algorithms to analyse, manage and visualise your data.



SERVICES

Take advantage of services provided by FNS and verified partners, including data analysis, research and consultancy.

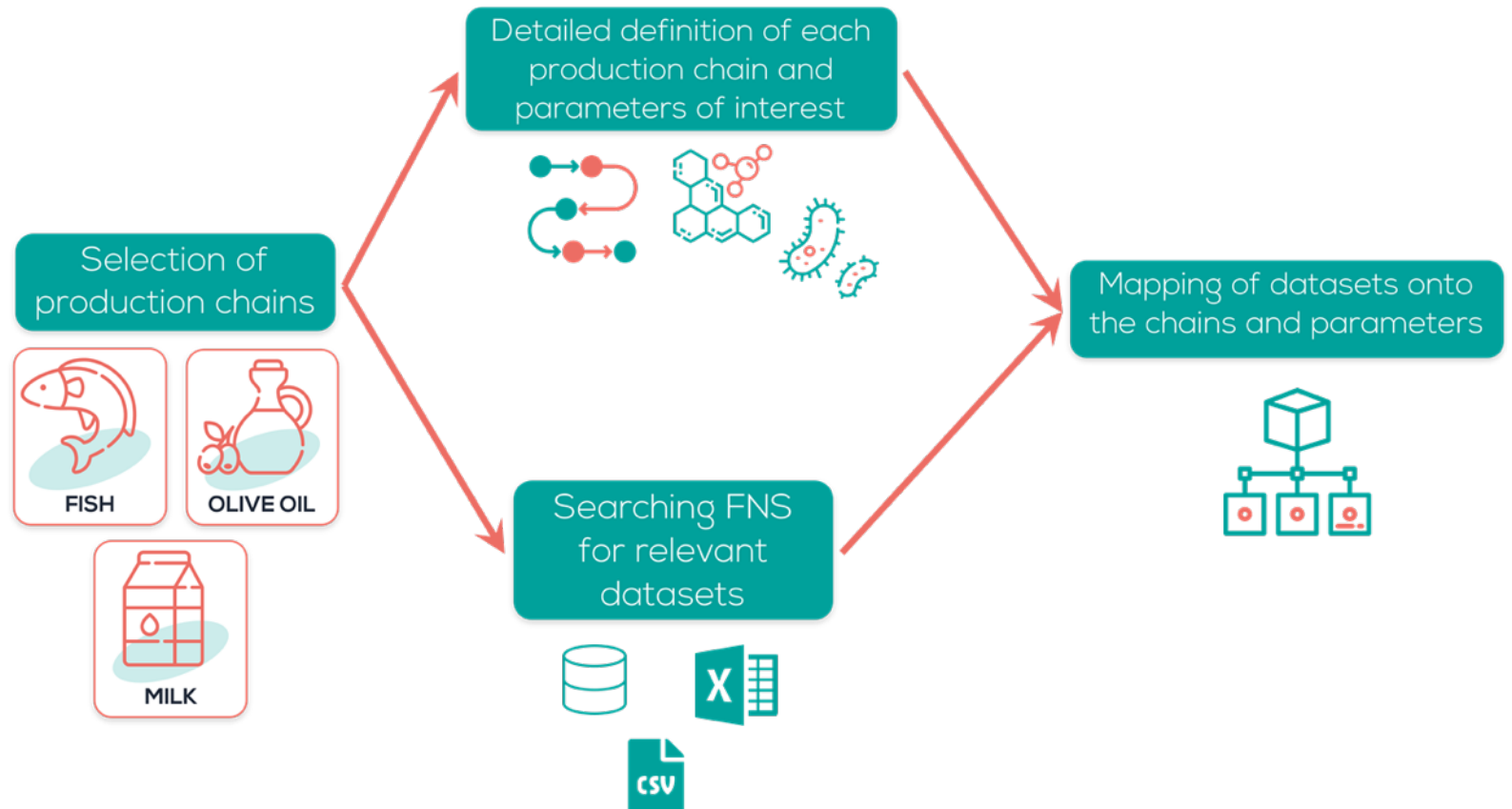
FNS-Cloud Traceability Search Engine



Answer research questions related to nutritional quality, safety and authenticity/traceability of foods

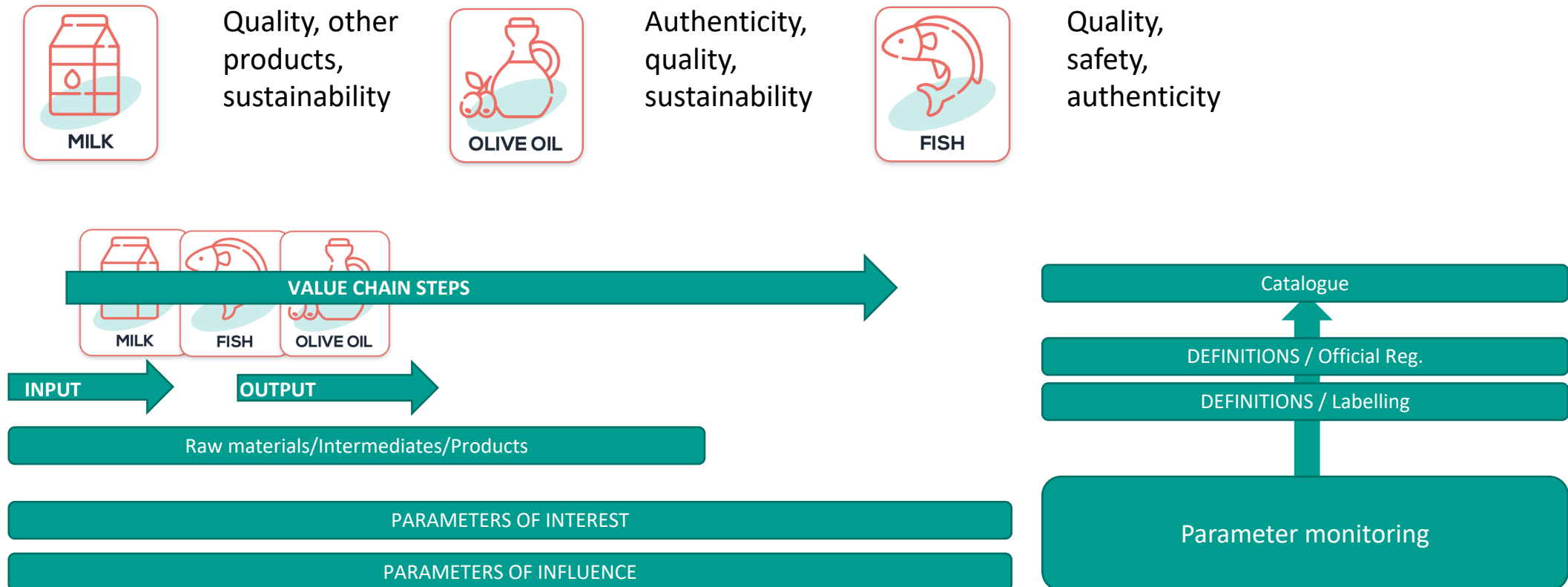
Agri-food data and tools (DEM01)

- How do agricultural practices in animal husbandry affect nutritional composition?
- What are the nutritional differences between wild and farmed fish?
- Does geographical origin of olive oil impact shelf-life and health benefits?



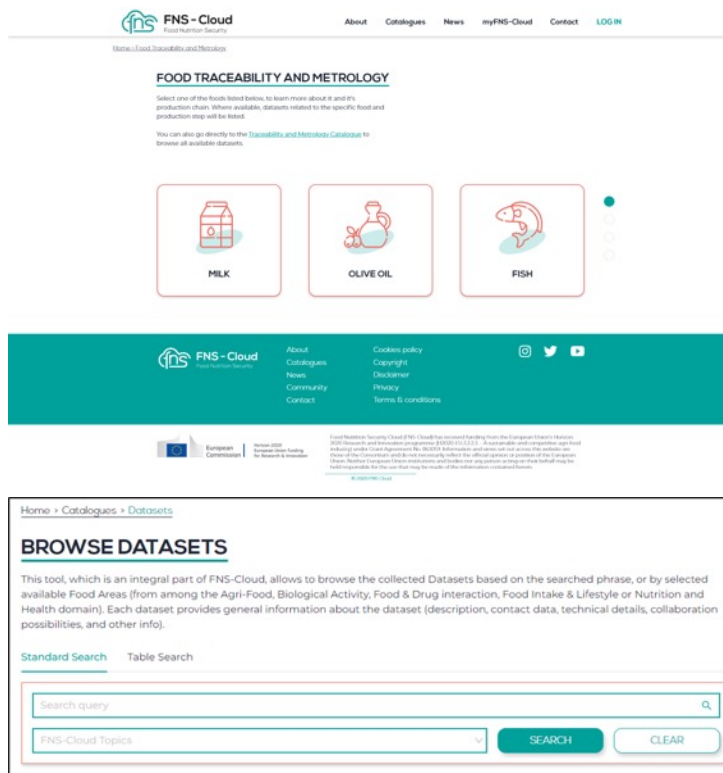
Creating the traceability search engine

Criteria for (3) model foods: vegetable and animal origin, different countries, wide range of existing datasets, potential to be extended (e.g., milk to cheese)



FNS-Cloud traceability search engine

Standard Search: Milk & production chain



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Home > Food Traceability and Metrology

FOOD TRACEABILITY AND METROLOGY

Select one of the foods listed below, to learn more about it and its production chain. Where available, datasets related to the specific food and production step will be listed.

You can also go directly to the [Traceability and Metrology Catalogue](#) to browse all available datasets.

MILK

OLIVE OIL

FISH

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Home > Catalogues > Datasets

BROWSE DATASETS

This tool, which is an integral part of FNS-Cloud, allows to browse the collected Datasets based on the searched phrase, or by selected available Food Areas (from among the Agri-Food, Biological Activity, Food & Drug interaction, Food Intake & Lifestyle or Nutrition and Health domain). Each dataset provides general information about the dataset (description, contact data, technical details, collaboration possibilities, and other info).

Standard Search Table Search

Search query

FNS-Cloud Topics

SEARCH CLEAR

Standard Search Table Search

* Dimension 1 (vertical axis):

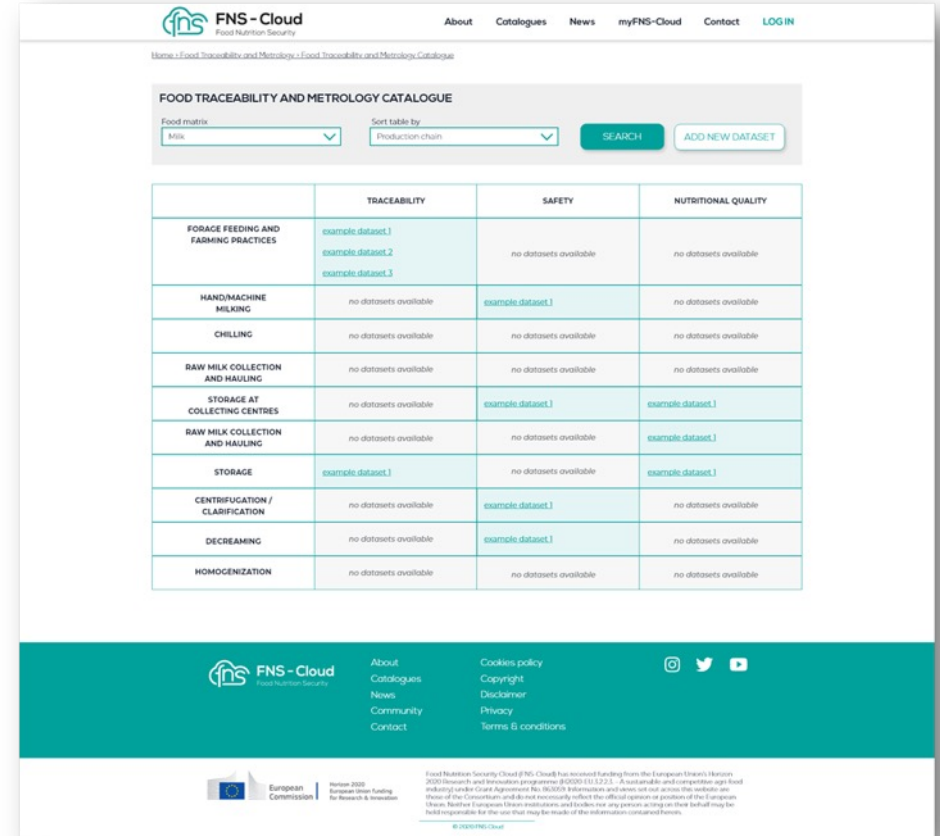
Dimension 1

* Dimension 2 (horizontal axis):

Dimension 2

SEARCH

CLEAR



FNS-Cloud
Food Nutrition Security

About Catalogues News myFNS-Cloud Contact LOGIN

Home > Food Traceability and Metrology > Food Traceability and Metrology Catalogue

FOOD TRACEABILITY AND METROLOGY CATALOGUE

Food matrix: Milk Sort table by: Production chain

SEARCH ADD NEW DATASET

	TRACEABILITY	SAFETY	NUTRITIONAL QUALITY
FORAGE FEEDING AND FARMING PRACTICES	example dataset.1 example dataset.2 example dataset.3	no datasets available	no datasets available
HAND/MACHINE MILKING	no datasets available	example dataset.1	no datasets available
CHILLING	no datasets available	no datasets available	no datasets available
RAW MILK COLLECTION AND HAULING	no datasets available	no datasets available	no datasets available
STORAGE AT COLLECTING CENTRES	no datasets available	example dataset.1	example dataset.1
RAW MILK COLLECTION AND HAULING	no datasets available	no datasets available	example dataset.1
STORAGE	example dataset.1	no datasets available	example dataset.1
CENTRIFUGATION / CLARIFICATION	no datasets available	example dataset.1	no datasets available
DECREASING	no datasets available	example dataset.1	no datasets available
HOMOGENIZATION	no datasets available	no datasets available	no datasets available

FNS-Cloud
Food Nutrition Security

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Home > Catalogues > Datasets

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Standard Search Table Search

Search query

FNS-Cloud Topics

SEARCH CLEAR

FNS-Cloud traceability search engine

Table Search: Supply chain & Food topic → Milk & authenticity

* Dimension 1 (vertical axis):

Supply chain / supply chain steps ▾

* Production chain steps:

Supply Chain Steps

- ▼ milk
 - ☐ addition of additives
 - ☐ centrifugation/clarification
 - ☐ chilling milk
 - ☐ consumption
 - ☐ cooling
 - ☐ de creaming
 - ☐ distribution
 - ☐ fat standardization
 - ☐ feeding and farming practices
 - ☐ filling, packaging and labeling

* Dimension 2 (horizontal axis):

Food science topics ▾

* Food science topics:

Authenticity/traceability x

	Nutritional quality
feeding and farming practices (milk)	CNR_ISPAAM_AGEs-containing proteins CNR_ISPAAM_bovine milk_thermal treatment_peptides
hand/machine milking (milk)	CNR_ISPAAM_AGEs-containing proteins CNR_ISPAAM_bovine milk_thermal treatment_peptides
filling, packaging and labeling (milk)	CNR_ISPAAM_bovine milk_thermal treatment_peptides CNR_ISPAAM_AGEs-containing proteins CNR_ISPAAM_BoMiProt CNR_ISPAAM_bovine milk bioactive peptides_MBPDB EuroFIR Food composition datasets (via FoodExplorer) Phenol-Explorer FooDB
chilling milk (milk)	CNR_ISPAAM_bovine milk_thermal treatment_peptides CNR_ISPAAM_AGEs-containing proteins
raw milk collection and hauling (milk)	CNR_ISPAAM_bovine milk_thermal treatment_peptides CNR_ISPAAM_AGEs-containing proteins
transport to the recipient (milk)	FooDB
food preparation (milk)	
consumption (milk)	CNR_ISPAAM_AGEs-containing proteins FooDB

Other information:

Legal definitions, visualisation

Exploiting FNS-Cloud tools



European Commission

Innovator's login English

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INNOVATION

Food traceability & metrology visual search for datasets along the production chains of milk, olive oil and fish.

SHARE:

Market Maturity: **Tech Ready**

These are innovations that are progressing on technology development process (e.g. pilots, prototypes, demonstration). [Learn more →](#)

Market Creation Potential

This innovation was assessed by the JRC's Market Creation Potential indicator framework as having a **"High" level of Market Creation Potential**. Only innovations that are showing multiple signals of market creation potential are assigned a value under this indicator system. [Learn more →](#)

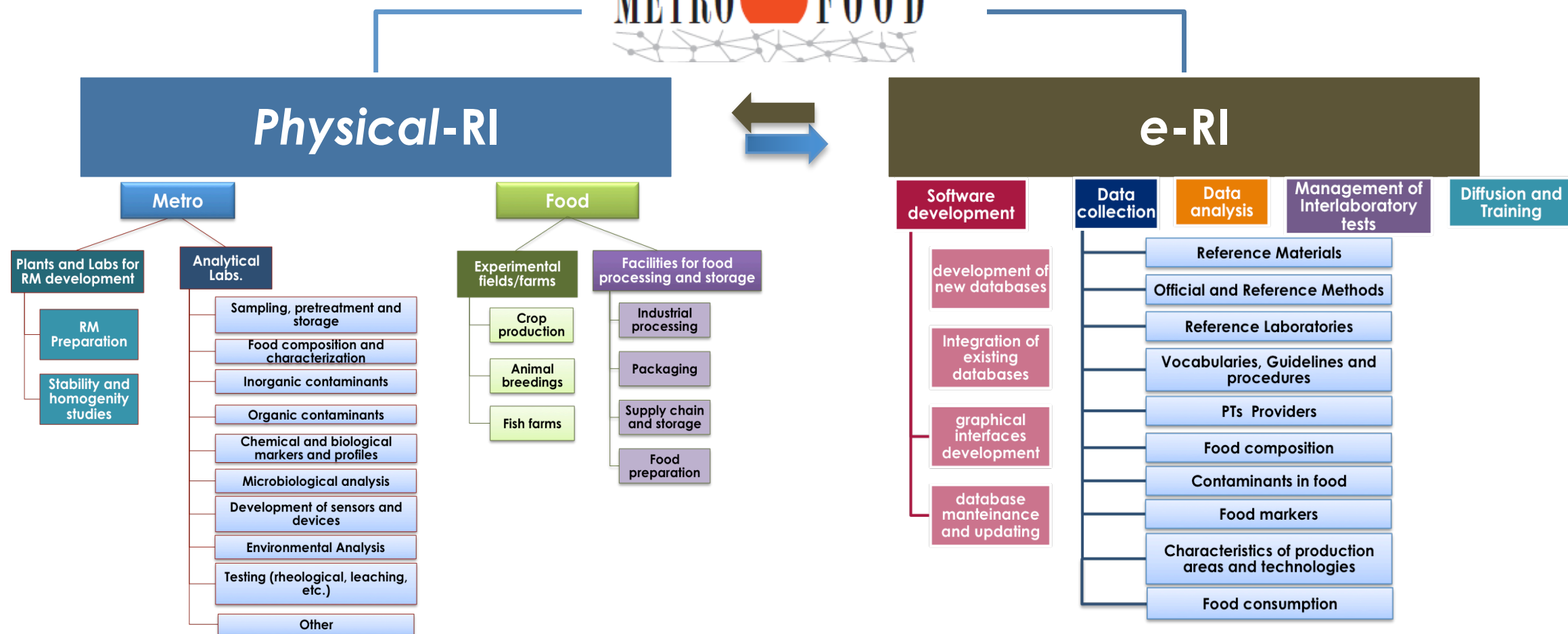
Women-led innovation ♀

A woman had a leadership role in developing this innovation in at least one of the Key Innovator organisations listed below.

Location of Key Innovators developing this innovation



METROFOOD-PP



METROFOOD-RI

- ✓ Definition of common standards for data exchange
- ✓ FNS-Cloud traceability search engine compatible with METROFOOD, supporting aims of both FNS-Cloud and METROFOOD
- ✓ Adaptation it to other food chains and/or new research questions

