FNS-Cloud
Food Nutrition Security Cloud

Project Information

URL: www.fns-cloud.eu

Project Coordinator: RTDS ASSOCIATION

Coordinator Country: Austria

Project duration: 01/10/2019 - 30/09/2023

Funding Programme: H2020-EU.3.2.2.3. - A sustainable and competitive agri-food industry

Project mission

FNS-Cloud aims to develop an on-demand, federated network (cloud infrastructure), supporting access and exploitation of FNS resources, integrated with other thematic clouds and the European Open Science Cloud (EOSC). In addition, FNS-Cloud fosters advanced methods and Services for user communities, making FNS data more FAIR (Findable, Accessible, Interoperable, and Reusable) and adding-value to publicly funded research for citizens.

Type of synergy

Usage and exploitation of Blue-Cloud VRE services: FNS-Cloud supports the development of the new FAO uFish dataset, a widely used and cited reference table of Food Composition values of aquatic products. The data are taken from selected publications and undergo a thorough review and validation process that must be replicated in this application. The collaboration between Blue-Cloud and FNS-Cloud brings twofold benefits. On one side, the uFish dataset benefits from EU supported API's, like FOODEX2, available in the FNS-Cloud dataset. On the other side, through uFish, FNS-Cloud will be able to find fully referenced records on Food Composition of aquatic products. The uFish dataset is going to enrich the Blue-Cloud Fishery VRE in terms of GRSF description of fish items in the food-value chain and can contribute to a better understanding of the nutritional contribution of fish to food systems. The data connection can be guaranteed through the exploitation of the D4Science Infrastructure.

The technical collaboration, building on an information analysis of the requirements in FAO for Fisheries and Aquaculture Food Composition Tables in the INFOODS framework, resulted in an application, deployed in a D4Science VRE. For the system design, a MySQL Database interacts with a Angular application through JAVA Spring Boot to add, edit, and remove information related to referenced Food Composition Data. The D4Science infrastructure is used to host the application as a Docker Container, and provides certain aspects of user management. For the output, the D4Science WorkSpace can be used by select users.

FNS-Cloud and Blue-Cloud data overlap where they describe fisheries products as food items. The two domains thus need to share the same definitions of reference data to achieve semantic interoperability. Without sharing reference data describing species, areas, food-processing and treatments, and even preparations, data cannot be shared with confidence. Blue Cloud developed uFish to implement FAIR data standards for interoperability by developing the capacity to generate FoodID's; standard descriptions of food items using a standardised approach also in use in FNS-Cloud related FoodExplorer. With uFish, Blue-Cloud delivered the core technical data management component across the Food and Fisheries domain. It can be further developed to cover more domains (other foods) and provides important new classifiers for the geographic and temporal origins of Food items, which are poorly defined in existing classification systems. For instance, with uFish, the UUID's of the Global Record of Stocks and Fisheries can be included. These UUID's inform on the geographic provenance, management system, and responsible authority of a food item.

Contribution to Blue-Cloud Roadmap: Karl Presser is one the ESEB members, fully involved in supporting the strategic mission of Blue-Cloud and one of the interviewed stakeholders who brought their vision, input and guidance into the Blue-Cloud Roadmap.

Joint dissemination/communication activities: FNS-Cloud and Blue-Cloud have co-organised and joined events to present the synergic work carried out. An example is given by the joint participation at the EOSC Symposium 2021, where the two projects presented development of the new FAO uFish dataset. Another joined event is represented by the organisation of the workshop "*Channeling open science for a sustainable management of the ocean*" as a side event of the Open Science FAIR 2021, that Blue-Cloud has done together with BE OPEN, and Cos4Cloud.

Karl Presser, Premotec GmbH and FNS-Cloud, joined the workshop titled "*Blue-Cloud Open Science platform as a model for a sustainable Data federation in EOSC*" organised as part of the EOSC Symposium 2022 in Prague, as well as the Round Table "*Building and bringing a thriving marine Open Science community into EOSC: Opportunities & outstanding challenges*" at the Blue-Cloud final event in Brussels in December 2022.