



Food Product Development app

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Introduction

The Food Product Development app allows companies in the small and middle sized food industry to organize their research & development activities in a structured and intuitive way.

The app focuses on **managing knowledge** that may be useful for the development or redesign of food products (such as legal, competitive or scientific content), and allows R&D teams to manage their development projects. Projects are managed by **organizing tasks** for all participants to the R&D projects **and the content** (documents & data) they need.

The Food Product Development app is based on Microsoft technology, and requires valid access licenses to SharePoint (through Office 365 licensing) and PowerApps (model driven apps).

The app can be customized by changing the underlying R&D processes, data forms, views, task templates, document classification etc. It can also be extended with other tools that belong to Office 365 such as Planner (for active task planning) and Power BI (for advanced dashboards).

Food Product Development

Knowledge management

Knowledge which could be used for the development of new products or the redesign of existing products, is managed in the 'Knowledge' section of the app.

Knowledge can be registered & consulted across 3 areas:

- Knowledge about legal, competitive or scientific topics (e.g. food packaging)
- Knowledge about competitor products (e.g. food formulas)
- Knowledge about ingredients (e.g. food additives)


Knowledge articles

When adding a knowledge article, make sure to select the right article type (regulatory, scientific or competition) and specify a publisher. Publishers are managed via 'Account & contact management'.


The public health risk posed by *Listeria monocytogenes* in frozen fruit and vegetables including herbs, blanched processing

Knowledge Article

Article Related


Article Title	* The public health risk posed by <i>Listeria</i> ...
Article Type	* Scientific
Publisher	*  EFSA Journal
Summary	A multi-country outbreak of <i>Listeria monocytogenes</i> ST6 linked to blanched frozen vegetables (bfV) took place in the EU (2015–2018). Evidence of food-borne outbreaks shows that <i>L. monocytogenes</i> is the most relevant pathogen associated with bfV. The probability of illness per serving of uncooked bfV, for the elderly (65–74 years old) population, is up to 3,600 times greater than cooked bfV and very likely lower than any of the evaluated ready-to-eat food categories. The main factors affecting

TOPICS Select

 Frozen food

ABC

INGREDIENTS Search



No data available.

ABC






An article can be linked to one or more topics and to one or more ingredients.

Go to the 'Related' tab to add one or more documents to the knowledge article. These documents will be added to a specific document library / folder on a specific SharePoint site.


The public health risk posed by *Listeria monocytogenes* in frozen fruit and vegetables including herbs, blanched processing


Knowledge Article

Article **Documents** Related

 Show Chart  New  Upload  Document Location  Open Location

Document Associated Grid

 Documents on Default Site 1

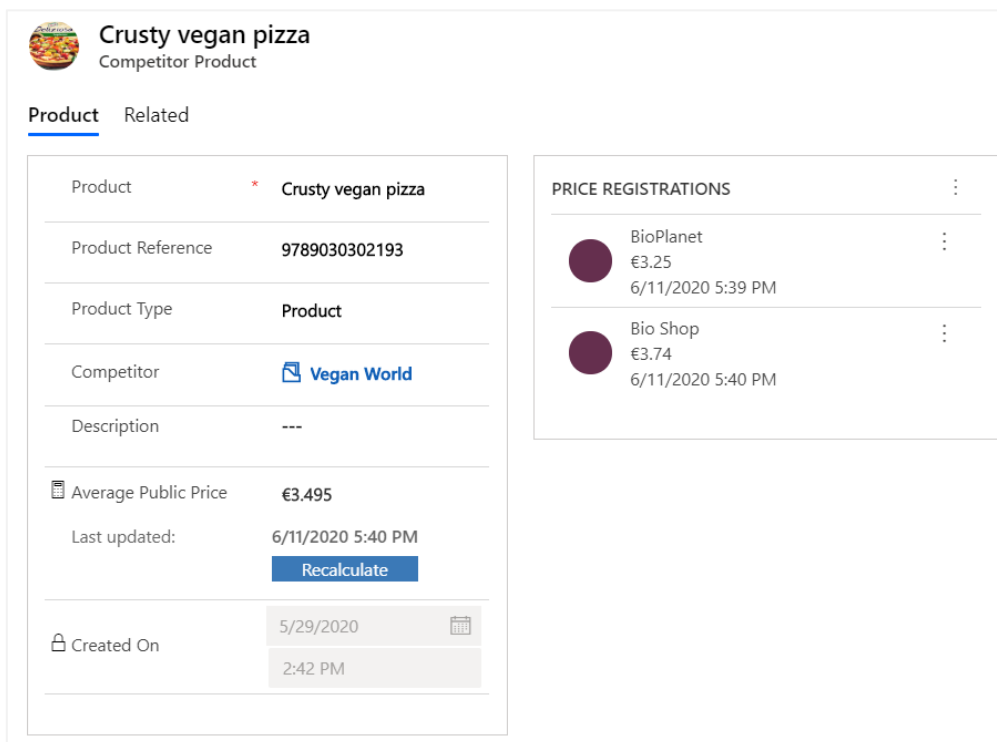
✓	Name	Modified
	The public health risk posed by <i>Listeria monocytogenes</i>	6/2/2020 11:12 AM

Documents can also be added / edited / deleted from the SharePoint site itself.



Competition

Ideas for new products may arise from (the analysis of) competitor products. New competitor products can be added to the system with some basic data such as name, product barcode, competitor name and description.



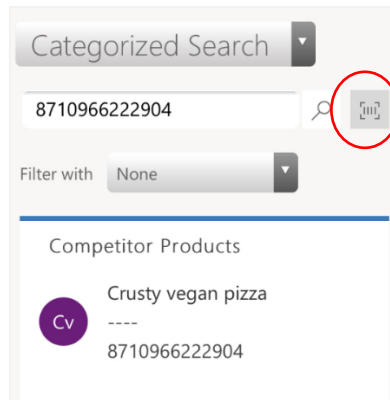
The screenshot shows the 'Crusty vegan pizza' competitor product entry. The header includes a pizza icon and the title 'Crusty vegan pizza' with the subtitle 'Competitor Product'. Below this are two tabs: 'Product' (selected) and 'Related'. The 'Product' tab contains a form with the following fields:

- Product: **Crusty vegan pizza**
- Product Reference: **9789030302193**
- Product Type: **Product**
- Competitor: **Vegan World** (with a logo icon)
- Description: **---**
- Average Public Price: **€3.495**
- Last updated: **6/11/2020 5:40 PM** (with a **Recalculate** button)
- Created On: **5/29/2020 2:42 PM** (with a calendar icon)

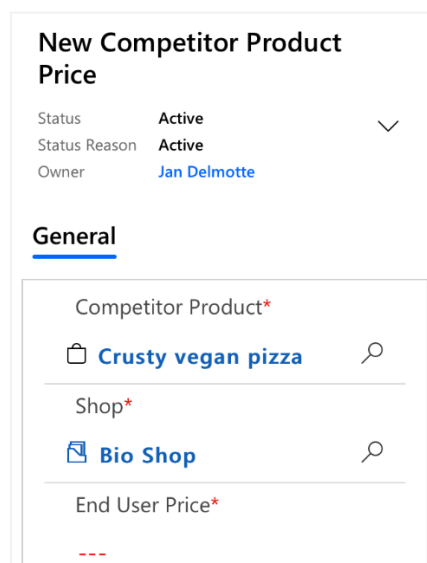
To the right of the form is a 'PRICE REGISTRATIONS' section with two entries:

- BioPlanet**: €3.25, 6/11/2020 5:39 PM
- Bio Shop**: €3.74, 6/11/2020 5:40 PM

Through the Dynamics 365 app for mobile devices or the 'Food Product Competition' app, collaborators can easily search for competitor products by scanning a barcode or add a new competitor product.



Once a product has been added, it is possible to register the price at which the product is sold in a specific shop on a specific date. These data can be analysed e.g. in order to change pricing for similar products.



Ingredients

A list of ingredients can be uploaded or synchronized from an external (ERP) system. Food ingredients are categorized in ingredient categories, and values may be specified for a standard amount (100 g / ml by default).

Ingredients may be linked to:

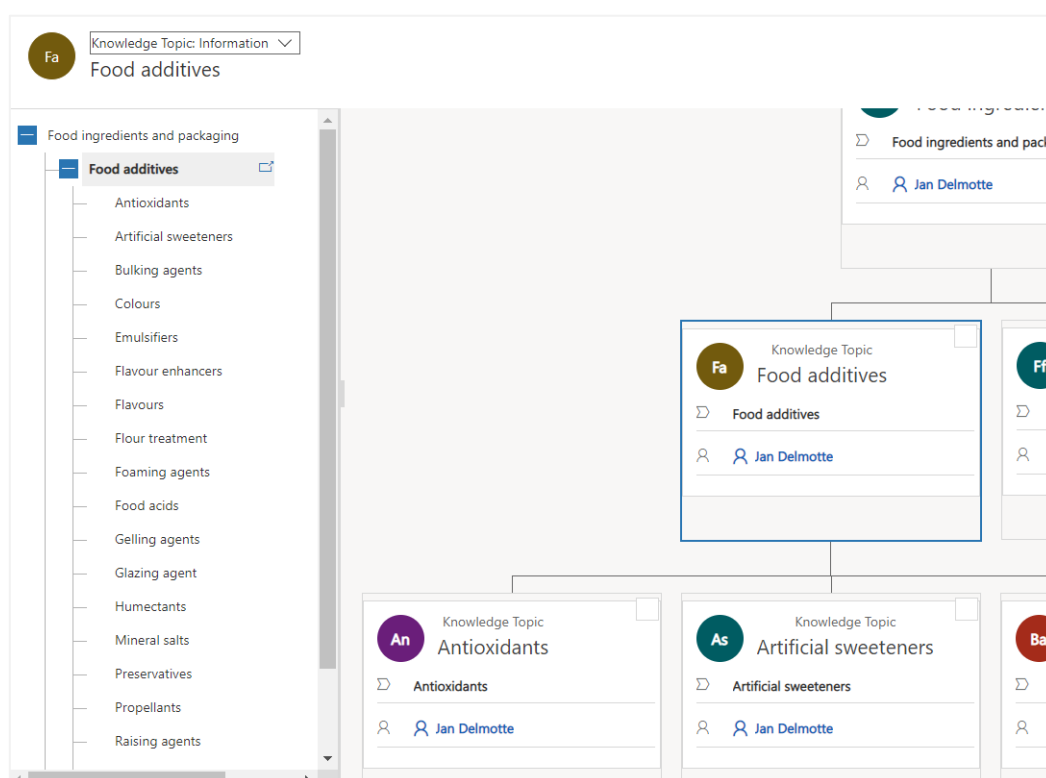
- knowledge articles: containing important information about the ingredient
- propositions: development projects in which the ingredient is being used
- suppliers: suppliers who can supply the ingredient

Olive Oil		
Ingredient		
Ingredient	Specifications	Related
AGS (g)	13.81	
Alcohol (g)	---	
Alpha Carotene (mcg)	---	
Ash (g)	---	
Beta Carotene (mcg)	---	
Beta Cryptoxanthin (mcg)	---	
Caffeine (mg)	---	
		Fructose (g) ---
		Iron (mg) ---
		Glucose (g) ---
		Galactose (g) ---
		Lactose (g) ---
		Lipids (g) 100.00
		Lutein and Zeaxanthin (mcg) ---
		Lycopene (mcg) ---

Knowledge topics

Knowledge articles can be linked to one or more knowledge topics. This makes it easier to search for articles that are related to a specific topic.

A topic taxonomy can be built by assigning a parent topic to one or more child topics.



Product development

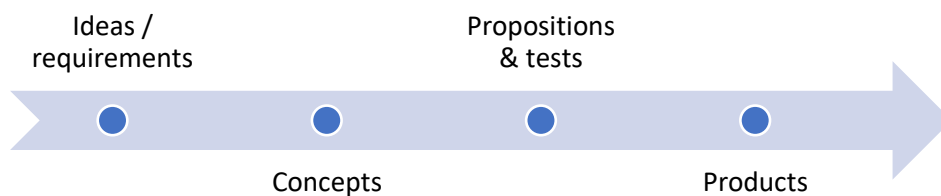
The built-in food product development process runs in a number of sequential steps.

Step 1: Ideas and / or requirements are registered in the app. Each idea / requirement can be evaluated and assigned a score.

Step 2: When the score (out of 10) is ≥ 7 , the idea / requirement leads to the definition of a concept.

Step 3: When the concept has been defined, one or more propositions (= candidate products) may be developed. Developed propositions are subject to one or more tests of different kinds (organoleptic, lab, stability, production).

Step 4: Propositions that have successfully been evaluated lead to the definition of new food products.



Step 1: Ideas / Requirements

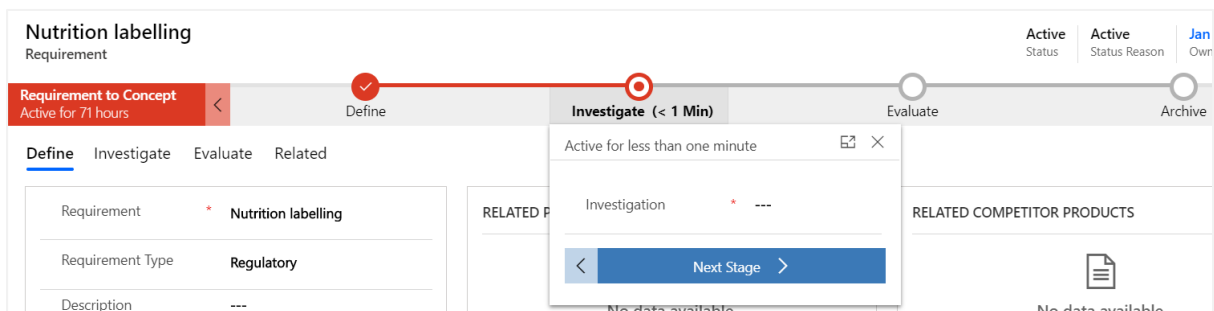
Ideas and requirements can be registered by any authorized collaborator.

Ideas / Requirements can be related to competitor products, own products (e.g. idea for product redesign / improvement) or to knowledge articles:

- competitor product: e.g. a prospect requests to provide a product with similar characteristics as a product they already buy from a competitor
- own product: e.g. redesign of an existing product because of change in formula (some ingredients may no longer be available or the supplier may have changed), improved design etc.
- knowledge article: e.g. the national food authority may impose some new regulation on specific ingredients, packaging etc.

The main difference between ideas and requirements is the strictness of their nature: requirements must be implemented at some point in time whereas ideas may be taken into account during the development process.

Intuitive built-in processes are provided for the Definition / (Investigation) / Evaluation of both ideas and requirements.



Step 2: Concepts

Positively evaluated ideas and requirements may both lead to the definition of a new concept. A built-in process guides the concept manager through the process. When a next stage is entered, some predefined tasks are automatically created. A new stage can only be entered when all tasks have been completed. It is possible to create new tasks or delete / edit tasks which have automatically been created.

Vegan ready to eat food

Concept

Concept to Product

Active for 13 days

Define

Evaluate

Develop

Introduce

Define

Evaluate

Develop

Abandon

Introduce

Launch

Follow-Up

Planning

Related

Concept	* Vegan ready to eat food
Activity Sector	Food
Concept Type	Develop Product
Product Type	Range of Products
Idea	Vegan oven food
Requirement	---
Due Date	8/31/2020
Description	An increasing number of people are adopting plant-based diets around the world and restaurants chefs are eager to cater to this growing trend by creating and offering vegan options on their menus.

DEFINITION TASKS

✓ Subject

Define initial product formula

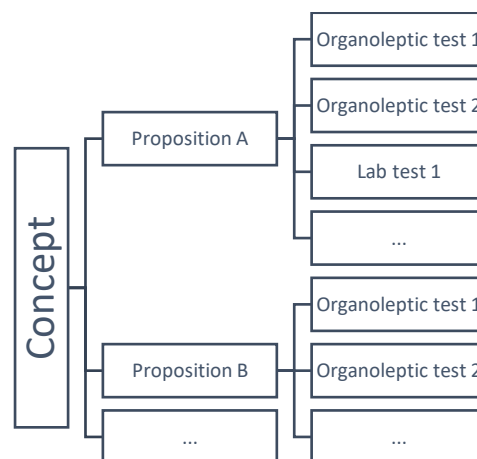
Define concept objectives

ABC

1 - 2 of 2 (0 selected)

After the Definition and Evaluation stages, several product candidates or Propositions may be defined during the Develop stage. If on the other hand the Evaluation stage proved to be unsuccessful (score lower than 7 / 10), the process automatically proceeds to the Abandon stage where the concept manager is requested to provide an abandon reason.

For each proposition a separate built-in process is triggered (cf. below). Similarly, for each proposition several tests may be defined each triggering a separate built-in testing process (cf. below). The relation between Concept > Proposition > Test is as follows:



When at least 1 proposition has been successfully tested, the concept may be pushed to the Introduce stage. During this stage, one or more food products are created based on one or more successful propositions. The introduction stage's goal is to prepare the future product for product launch (product documentation, marketing, pricing, technical sheets, ...).

When the Introduce stage is completed, the process proceeds to the Launch stage.

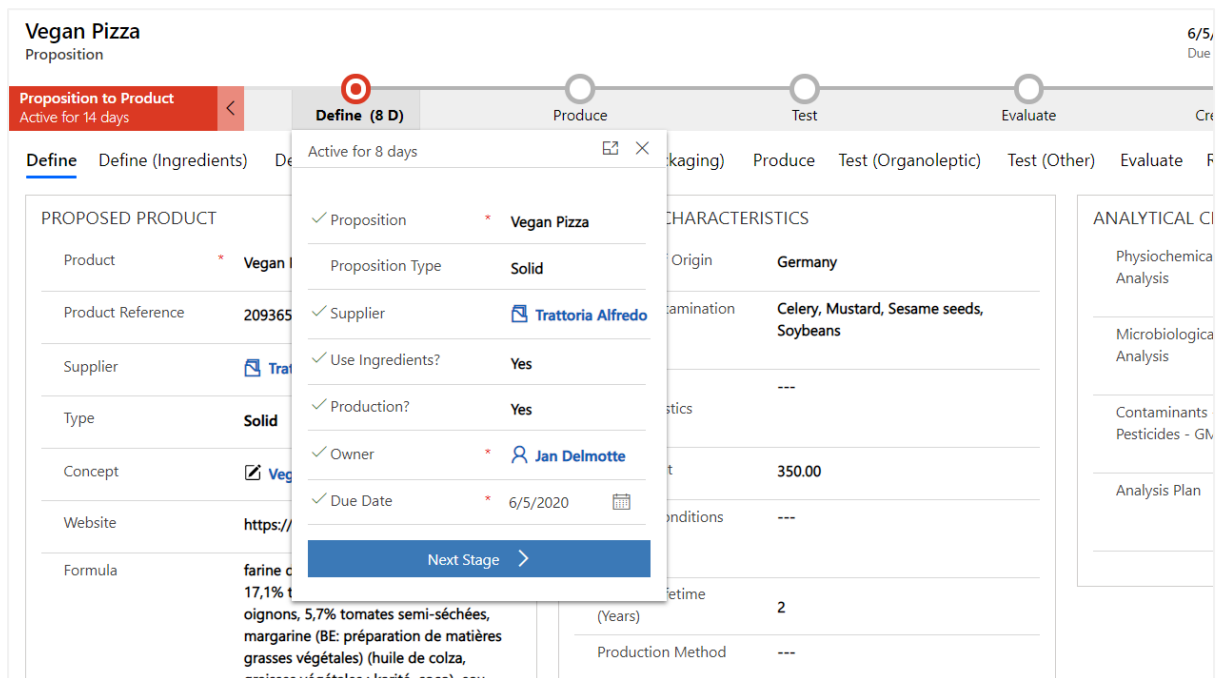
Finally when the product is launched on the market, it can be monitored for some time during the Follow-Up stage before the concept process is actually ended.

Step 3: Propositions

A proposition is a candidate for a future food product. Propositions may be developed in-house or externally, or may be purchased from other suppliers if e.g. they nicely fit in the existing product portfolio.

Each proposition is managed through a similar stage gate process as the concept 'parent' it depends on. At the Define stage, the proposition manager must specify whether:

- The built-in *ingredients feature* will be used ('Use ingredients?' set to 'Yes'): this allows to select ingredients from the app's ingredient database and automatically calculate food values such as the amount of energy, sugars, fibers, salt, ... per 100 g / ml and per serving. Formulas may also be calculated in an external system and registered in the app in their final version.
- The *Produce stage* will be used ('Production?' set to 'Yes'): this adds a Produce stage just after the Define stage in order to manage the production of the product candidate before it can be tested.



Vegan Pizza
Proposition

6/5/2020
Due

Proposition to Product
Active for 14 days

Define (8 D) Produce Test Evaluate Create

Define Define (Ingredients) De Active for 8 days

PROPOSED PRODUCT

Product	* Vegan Pizza
Product Reference	209365
Supplier	Trattoria Alfredo
Type	Solid
Concept	Vegan Pizza
Website	https://
Formula	farine de blé, huile de colza, tomates semi-séchées, oignons, 5,7% tomates semi-séchées, margarine (BE: préparation de matières grasses végétales) (huile de colza, arômes végétales: levure, sel, eau)

✓ Proposition * **Vegan Pizza**

Proposition Type **Solid**

✓ Supplier **Trattoria Alfredo**

✓ Use Ingredients? **Yes**

✓ Production? **Yes**

✓ Owner * **Jan Delmotte**

✓ Due Date * **6/5/2020**

Next Stage >

CHARACTERISTICS

Origin	Germany
Examination	Celery, Mustard, Sesame seeds, Soybeans
Statistics	---
Cost	350.00
Conditions	---
Shelftime (Years)	2
Production Method	---

ANALYTICAL CHARACTERISTICS

Physiochemical Analysis
Microbiological Analysis
Contaminants Pesticides - GVI
Analysis Plan

In case the *ingredients feature* is used, the proposition manager defines the procentual amount of each ingredient in the final product. Food values will automatically be calculated based on this amount and added to obtain the proposition's total food values.

Vegan Pizza
Proposition

Proposition to Product
Active for 14 days

Define (8 D) Produce Test Evaluate

Define Define (Ingredients) Define (Nutritional Info) Define (Marketing & Packaging) Produce Test (Organoleptic) Test (C

✓	Ingredient	Quantity	Measure Unit	Energy (kJ)	Energy (kcal)	Proteins (g)	Lipids (g)	AGS (g)	Ca
	Mozzarella (Lowf	17.00	%	180.67	43.18	4.12	2.71	1.72	
	Wheat Bran Cruc	33.00	%	298.23	71.28	5.13	1.40	0.21	
	Oil Vegetable Na	6.00	%	221.92	53.04	0.00	6.00	0.39	
	Tomato Products	8.00	%	12.72	3.04	0.13	0.02	0.00	
	Paprika	6.00	%	70.79	16.92	0.85	0.77	0.13	

Each proposition can be subject to one or more tests of different types:

- Organoleptic test (= default test type)
- Lab test (through internal or external lab)
- Production test
- Stability test

When defining a new test, the test form will dynamically change based upon the chosen test type.

When conducting an organoleptic test, the test person will see the proposition's test references the candidate product must be tested against. Evaluation scores for each criterion can be entered using the sliders. An average score of 7 / 10 or higher is required to make the test positive.

Test by Jan
Test

6/4/2020 Due Date Active Status Active Status Reason Jan Delmotte Owner

Test Definition to Evaluat...
Active for 13 days

Define **Execute (13 D)** Evaluate Close

Test Result Related

TEST DESCRIPTION

Test * **Test by Jan**

Test Type **Organoleptic Test**

Description **Please compare to non vegan similar pizza**

Due Date 6/4/2020

Owner * **Jan Delmotte**

Created By **Jan Delmotte**

ORGANOLEPTIC TEST

Proposition **Vegan Pizza**

Appearance Reference	Typical Italian pizza
Colour Reference	Red green & wide range of colours from nanrika & peppers
Flavour Reference	Herbs
Odour Reference	Italian herbs
Taste Reference	Non vegan pizza
Texture Reference	Crispy vegetables

Average Score 8.50

Appearance Evaluation **Very appetizing look**

Appearance Score **9**

Colour Evaluation **Colourful peppers**

Colour Score **8**

Flavour Evaluation **---**

Flavour Score **7**

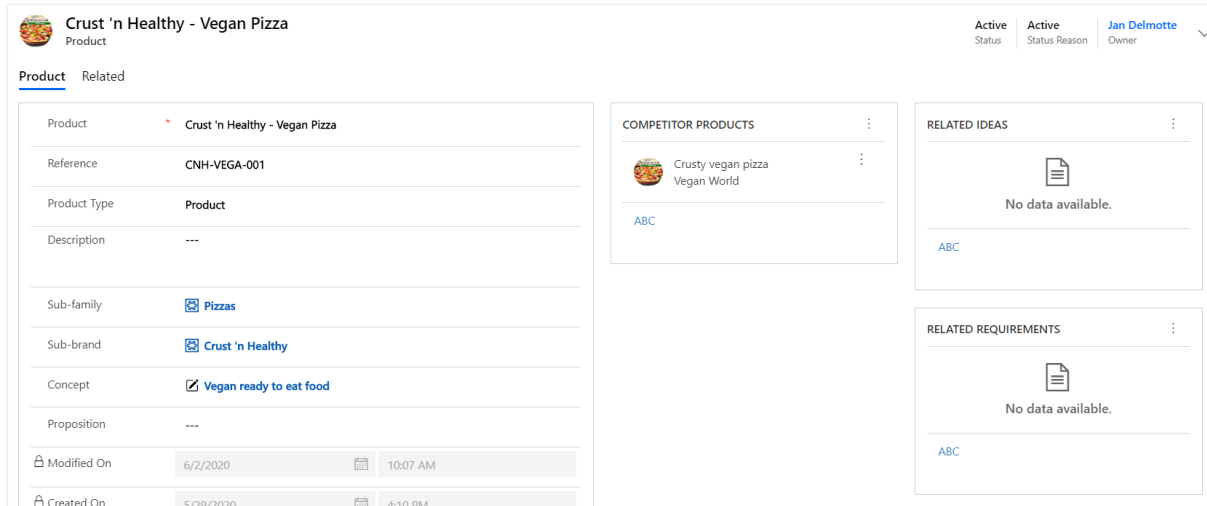
Odour Evaluation **Delicious smell**

Step 4: Products

Each successfully evaluated (tested) proposition may lead to one or more food products. Depending on the configuration of the ERP system, new products may be defined in the ERP system and then synchronized to the app, or they may directly be created in the app and linked to the ERP system using an ERP product ID.

Products are always categorized into a family and subfamily, and into a brand and subbrand. (Sub)families and (sub)brands may also be synchronized from the ERP system.

Once a new product is defined, it can (at a later stage) be related to similar competitor products or be the source of new ideas or requirements.



Crust 'n Healthy - Vegan Pizza
Product

Active Status | Active Status Reason | Jan Delmotte Owner

Product | Related

Product	Crust 'n Healthy - Vegan Pizza
Reference	CNH-VEGA-001
Product Type	Product
Description	---
Sub-family	Pizzas
Sub-brand	Crust 'n Healthy
Concept	<input checked="" type="checkbox"/> Vegan ready to eat food
Proposition	---
Modified On	6/2/2020 10:07 AM
Created On	5/29/2020 4:10 PM

COMPETITOR PRODUCTS

Crusty vegan pizza
Vegan World
ABC

RELATED IDEAS

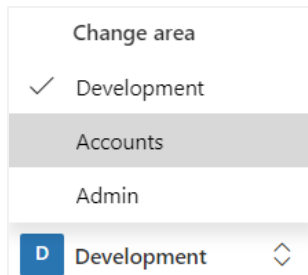
No data available.
ABC

RELATED REQUIREMENTS

No data available.
ABC

Account & contact management

This section of the app allows to manage all accounts (customers, prospects, suppliers, potential suppliers, competitors, authorities, key opinion leaders) and their contacts.



Change area


- ✓ Development
- Accounts
- Admin
- D Development

Change the area at the bottom left to 'Accounts' to get access to account & contact management.

Some accounts and contacts may be synchronized from your organization's ERP or CRM system (e.g. customers, prospects and suppliers). Please consult your system administrator to find out which data are managed in your ERP / CRM system, and which account and contact data can be managed via the Food Product Development app.

Please make sure you select the right account type when creating a new account. By default you can choose from:

- customer
- prospect
- supplier
- potential supplier
- authority
- competitor
- key opinion leader


New Account

General

ACCOUNT INFORMATION

Account Name * **Competitor**

Account Type **Competitor**

Phone

Fax

Website

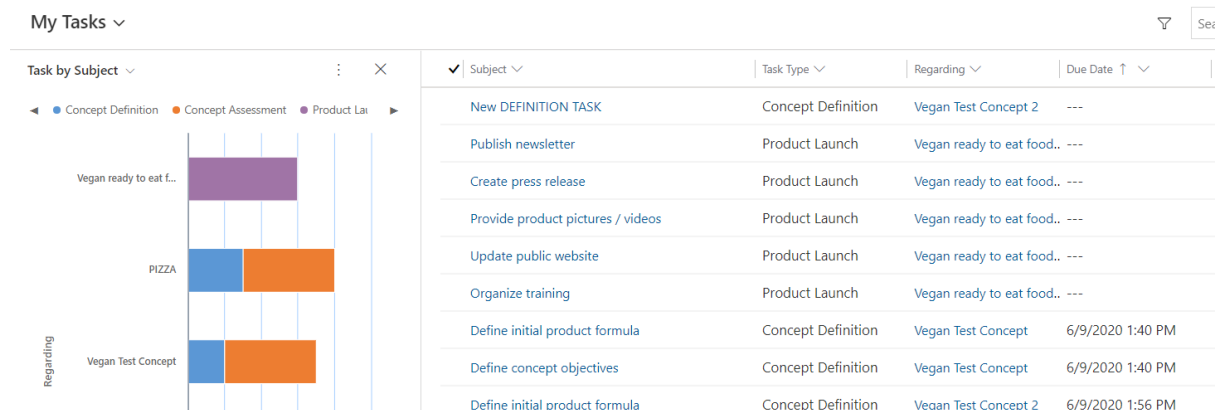
Parent Account ---

--Select--
Customer
Prospect
Supplier
Potential Supplier
Competitor
Authority
Key Opinion Leader

Task overview

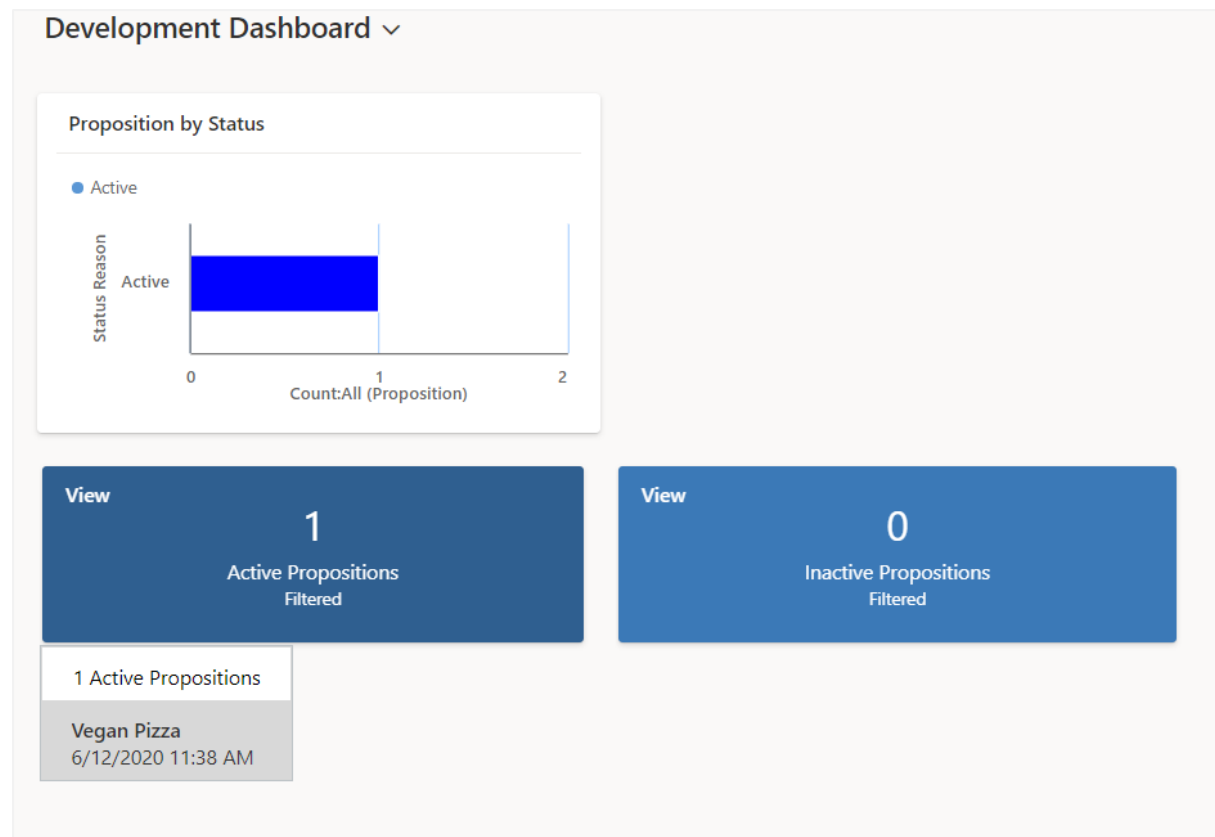
Each user who participates to the Concept development process may be assigned one or more tasks. The task overview lists all tasks assigned to a specific user, and provides filters for listing overdue tasks etc.

As for any view in the app, the chart feature allows to graphically identify groups of tasks and filter the task view on the right by clicking on a specific part of the graph.



Development dashboard

The dashboard shows a high level (filterable) overview of all concepts & propositions. Clicking on a specific concept or proposition takes the user to the corresponding concept / proposition page.





Food Product Competition


The Food Product Competition app can be installed on a smartphone or tablet. It allows to quickly register food products from competitors by scanning their barcodes and entering valuable information such as a public price and the name of the shop (customer) where the product was scanned.

To use the Food Product Competition app, first install the Microsoft PowerApps app from the app store. When the installation is completed, log on to the PowerApps app using your Office 365 credentials. The Food Product Competition app can then be launched.

Food Product Competition


5 012345 678900

 Scan product >

 Search product >

Product Details

Name

Vegan cereals

Barcode

9789030302193

Competitor

Vegan World

Brand

Veganize

Reference

453678-veg

Add price

Bio Shop

€ 2,04

The Bio Shop

€ 2,5