# Functional analysis

## The need

Who’s the users: food producer (solid food, not liquid food)

What kind of product: 4 kind of product

* Vegetables, moist food
* Aromatics and medicinal plants
* Cheese
* Nuts

What’s the aim: Dry food with airflow

Causes:

* improve food conservation
* create new products

## Functional analysis

For that product, we imagine 5 different phases. Except the 2 main phases, the utilisation phase and the supplying phase, all of other phases is optional and we tried to developed a product which can integrate, or not, that phase, according to user’s desire.

### Utilisation phase – Drying phase

User

Food

External energy

Météo

T° ext

Milieu physique extérieur

Dryer

Legislation

PF1

UF1

UF4

CF2

CF1

UF2

UF5

FS3

Principal function:

PF1: Dry dietary products

* Increase Temperature (heating system)
* Create an airflow (convection system)
* Reduce airflow humidity (airflow drying system)
  + Air exchange
  + Condensation
  + Absorption

Using function:

* UF1: Be ergonomic
* UF2: Capacity (kg/week producer units, transfer it in technician units)
* UF3: Respect of alimentary law - Material choice
* UF4: drying speed – optimisation of the heating and airflow drying
* UF5: drying homogeneity – optimisation of convection
* FS1 : encombrement
* FS3 : type et consommation d’énergie
* FS4 : adaptivité à différents produits
* FS5 : réparabilité
* FS6 : coût

Constraint function:

* CF1: Product quality
  + T° regulation
* CF3: pollution sonore

### Supplying phase

### Stocking phase

### Transport phase

### Maintenance/optimisation phase