



SpaceBakery

Duration : 2.5 years
Kick-Off : January 2020

WHAT IS SPACEBAKERY?

A closed Ecological Plant Cultivation System and Bakery for extended stays on Planet Mars and their applications for Planet Earth. The SpaceBakery is an interdisciplinary cooperative research between:



International group offering bakery, patisserie and chocolate products and application expertise for artisans, industry, retailers and QSR.



Cluster organization for the agrifood industry to facilitate innovation



Solution provider for the vertical farming industry



Technology company developing chips and machine learning based smart sensors



Laboratory of Plant Ecology



Expert group for Interdisciplinary BioSciences



Centre for Environmental Sciences

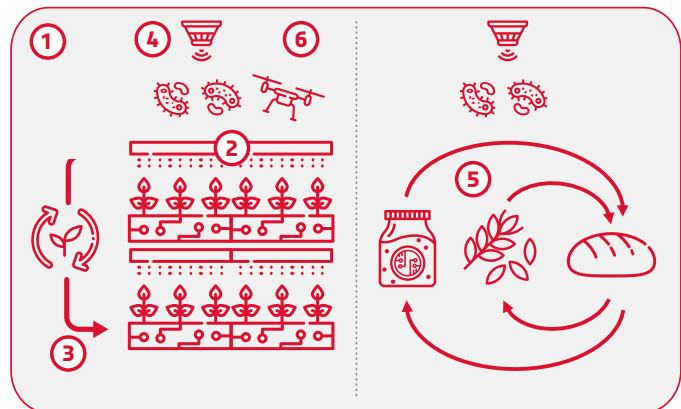
WHAT WILL BE THE FOCUS OF SPACEBAKERY?

It is a closed and self-sustainable modular system which is independent from agricultural land and climate, with optimal use of resources.

1. Hardware – closed production system
2. Efficient crop production
3. Use and recycling of resources
4. Monitoring of microbial climate
5. Healthy and nutritional staple food

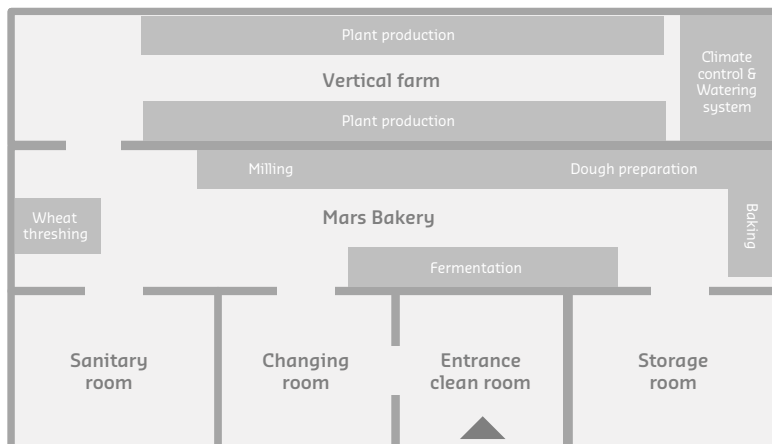
Preparing for next phase:

6. Pollination within closed system



WELCOME TO SPACEBAKERY

These are the compartments inside the containers.



1. Researchers enter the closed environment through the clean room
2. They get changed into lab clothing
3. In the Mars Bakery room, the wheat is processed into flour. Dough is leavened through natural fermentation and bread is baked and evaluated.
4. In the Vertical farm area, plants are growing on racks
5. Sanitary room includes toilet, sink and shower
6. In the storage room, researchers can find all materials needed (utensils, etc.).