Smart Aquaponics

DEVELOPMENT OF A TOOL FOR EDUCATION, DECISION SUPPORT & MONITORING FOR AQUAPONICS

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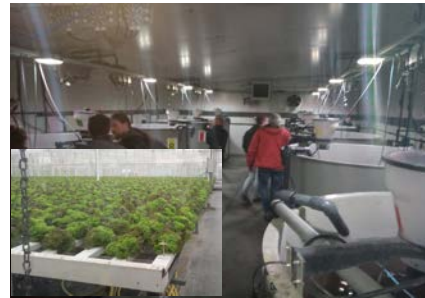
Aquaponics emergence

PTI, 2010
Secondary school

Uliège, 2012
University

PCG, 2015
Research center

Aquaponiris, 2015
NGO

Aquaponie BXL, 2016
NGO

Don Bosco, 2017
Secondary school

Jardin de l'usine 2018
Organic Shop

Abattoir Anderlecht 2018
Aquaponic Farm

Aqua4C & Tomato Master 2018
Aquaponic Farm

Atelier de Bossimé
2019

Aquaponics emergence

Aquaponic systems are diverse

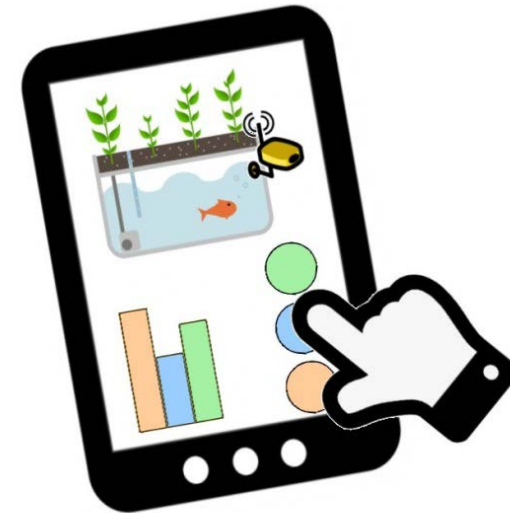Aquaponics is a new technology
->No advanced teaching programs
->No specifics tools

How to foster aquaponics development?

Smart Aquaponics, an application with:

- Training program

- Simulator

- Monitoring tool

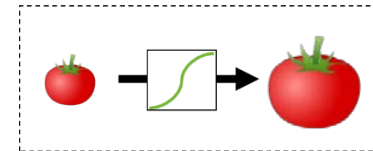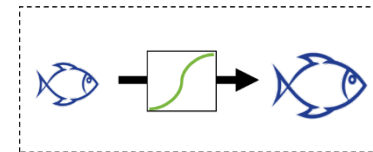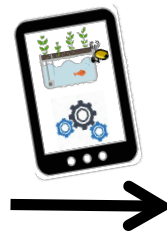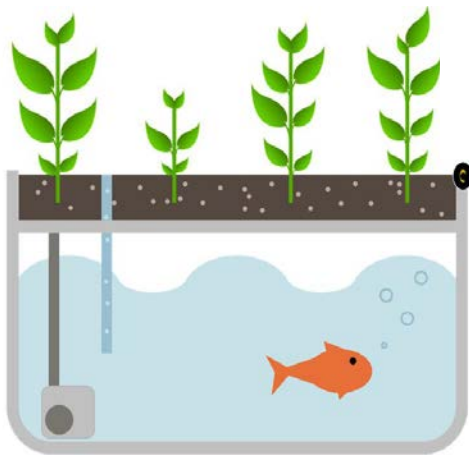# Training program:

- Learn with a game
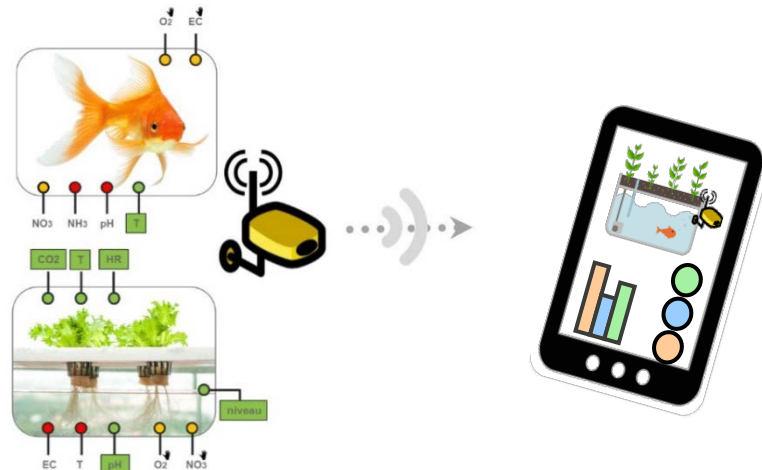- Develop a small system into a professional system

Simulator

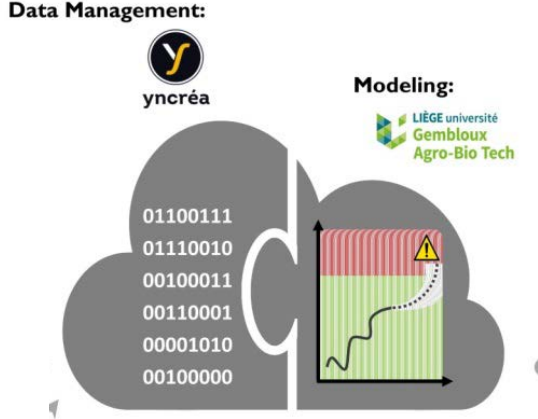- **Design** aquaponic system in the application
- **Simulate** different scenarios

Monitoring tool

- Stay connected with your aquaponics system
- Fish & plant informations in one application
- Anticipate accidents

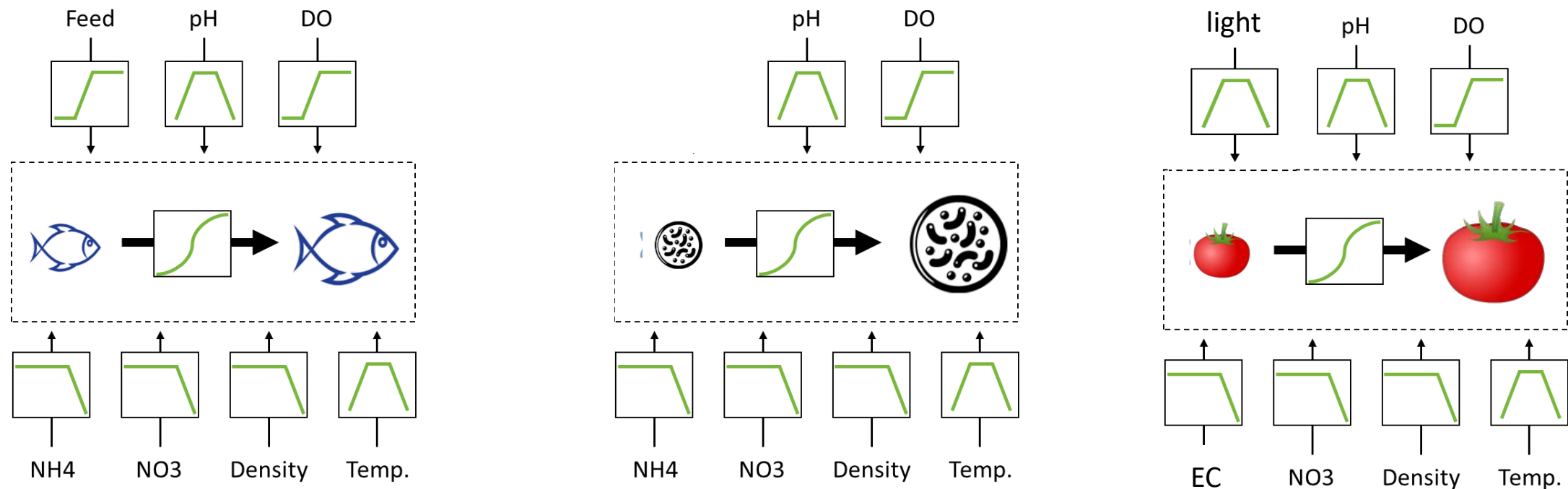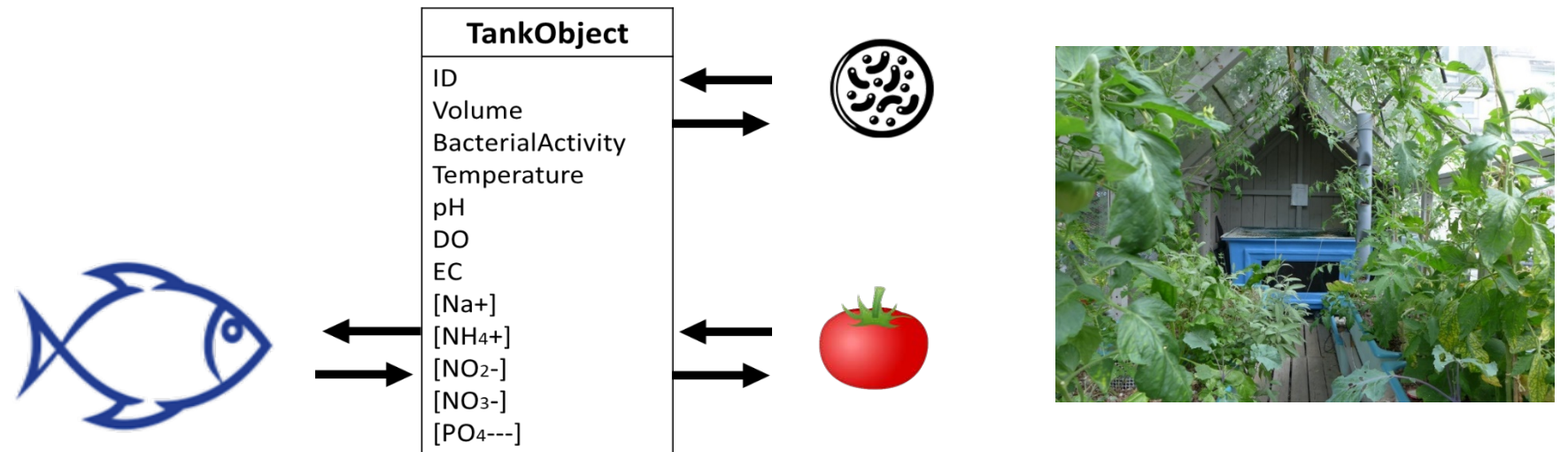# Smart Aquaponics strategy

Smart Aquaponics Model

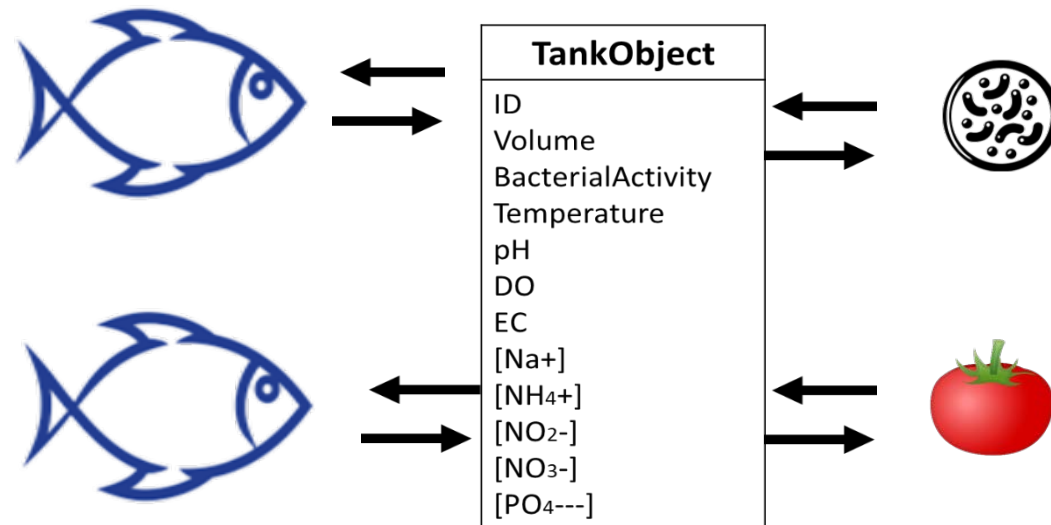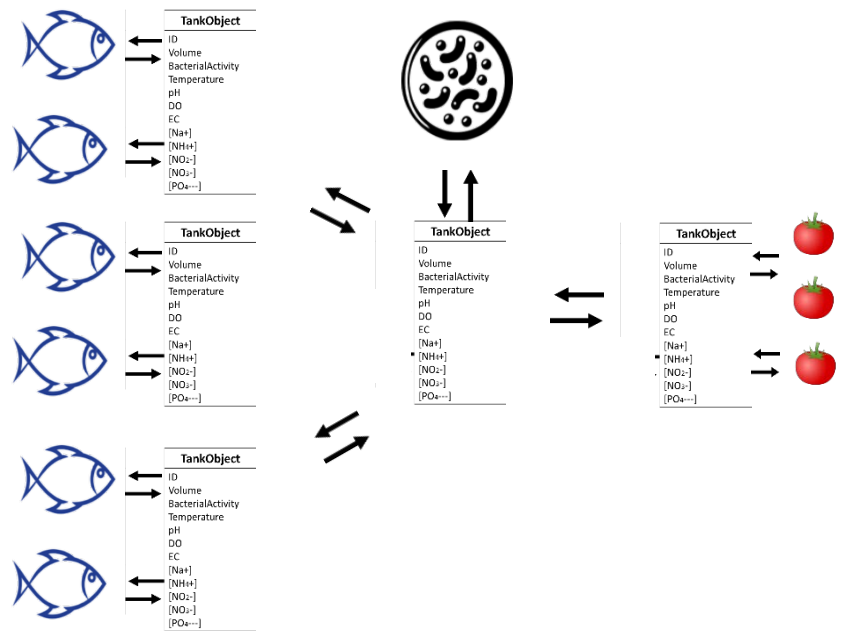## Our model simulates each objects of a system

Smart Aquaponics Model

Interactions between objects enable simulation of complex systems

Smart Aquaponics Model

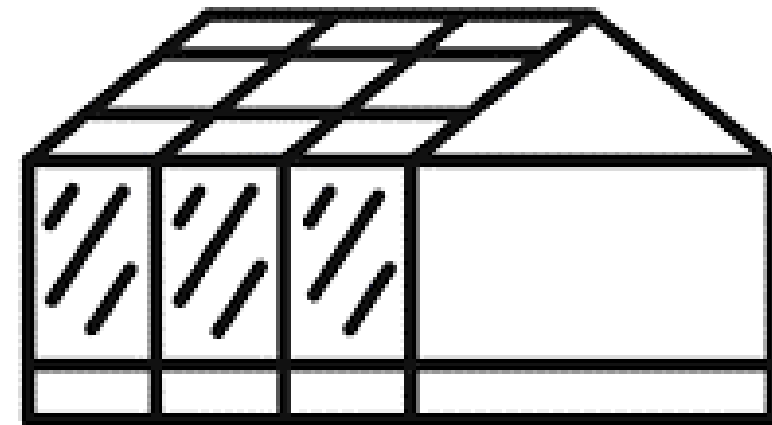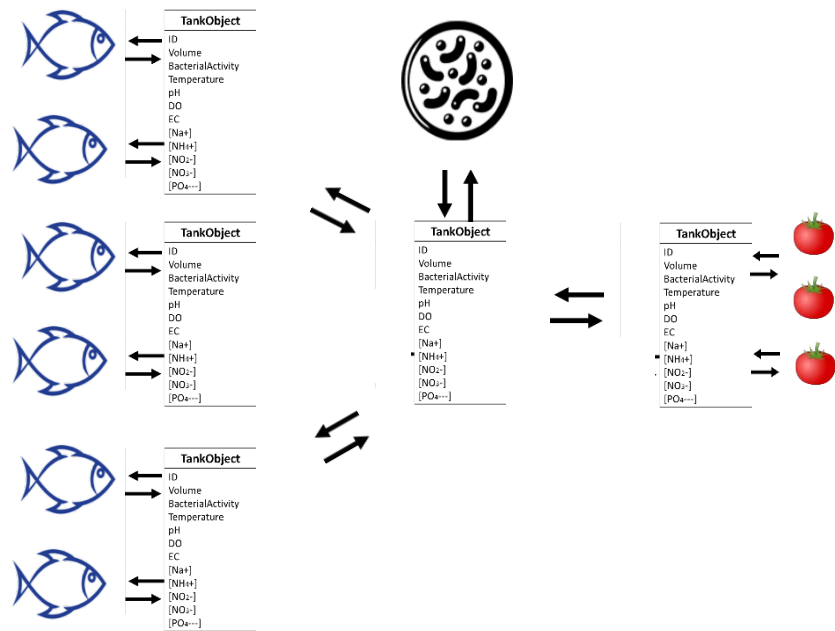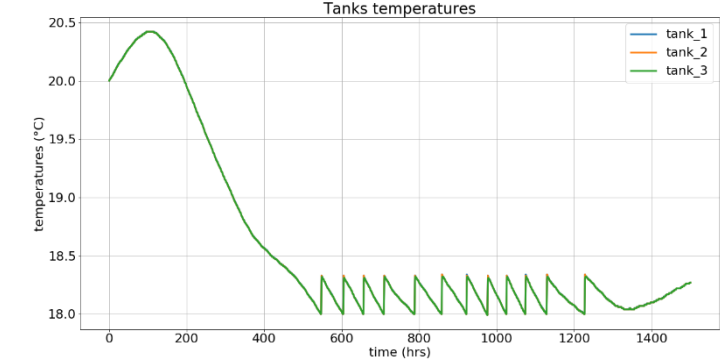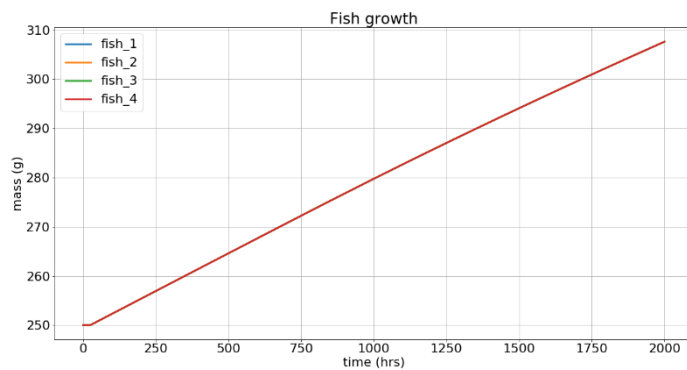## Interactions between objects enable simulation of complex systems

Smart Aquaponics Model

Interactions between objects enable simulation of complex systems

Smart Aquaponics Model
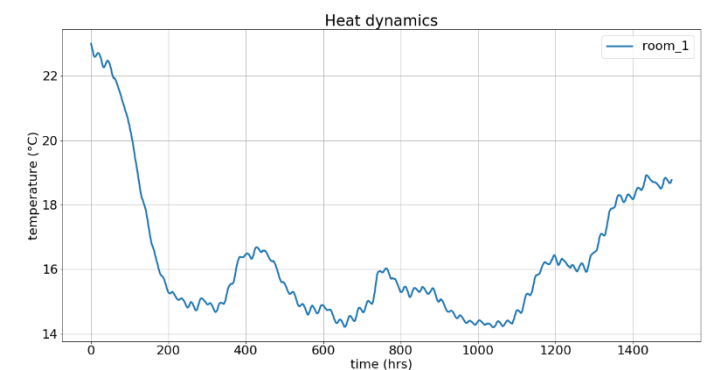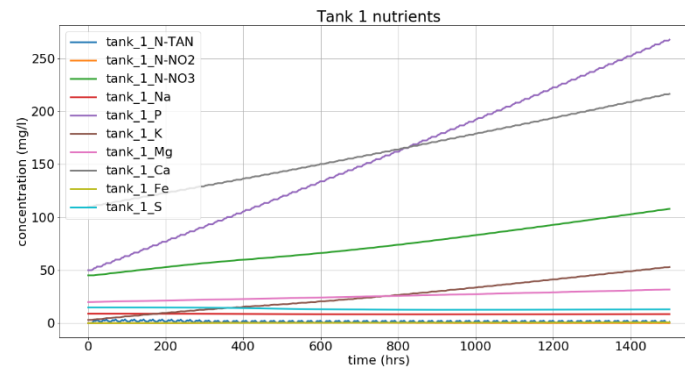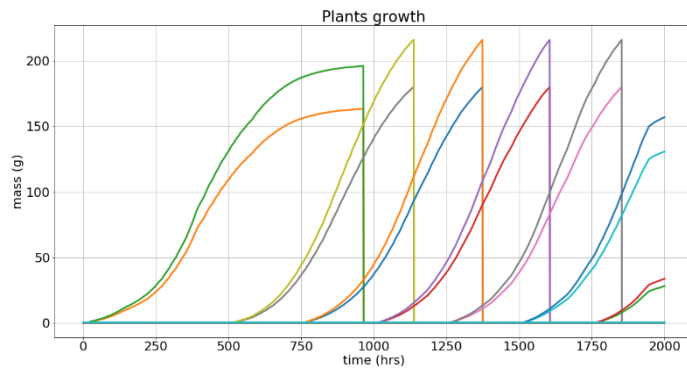
Interactions between objects enable simulation of complex systems
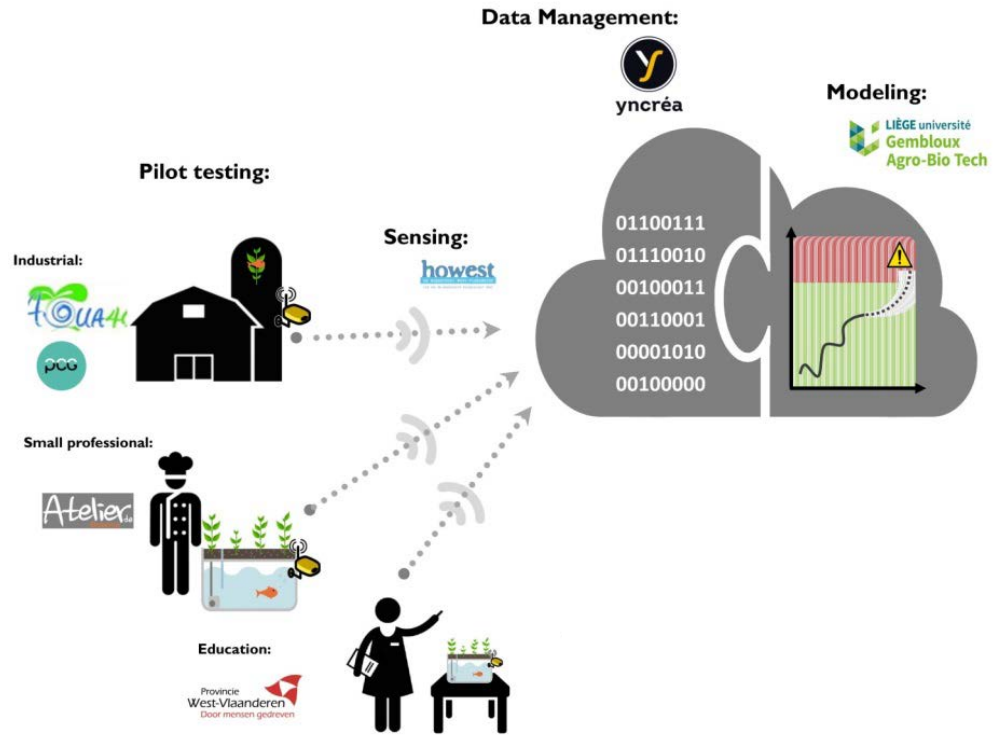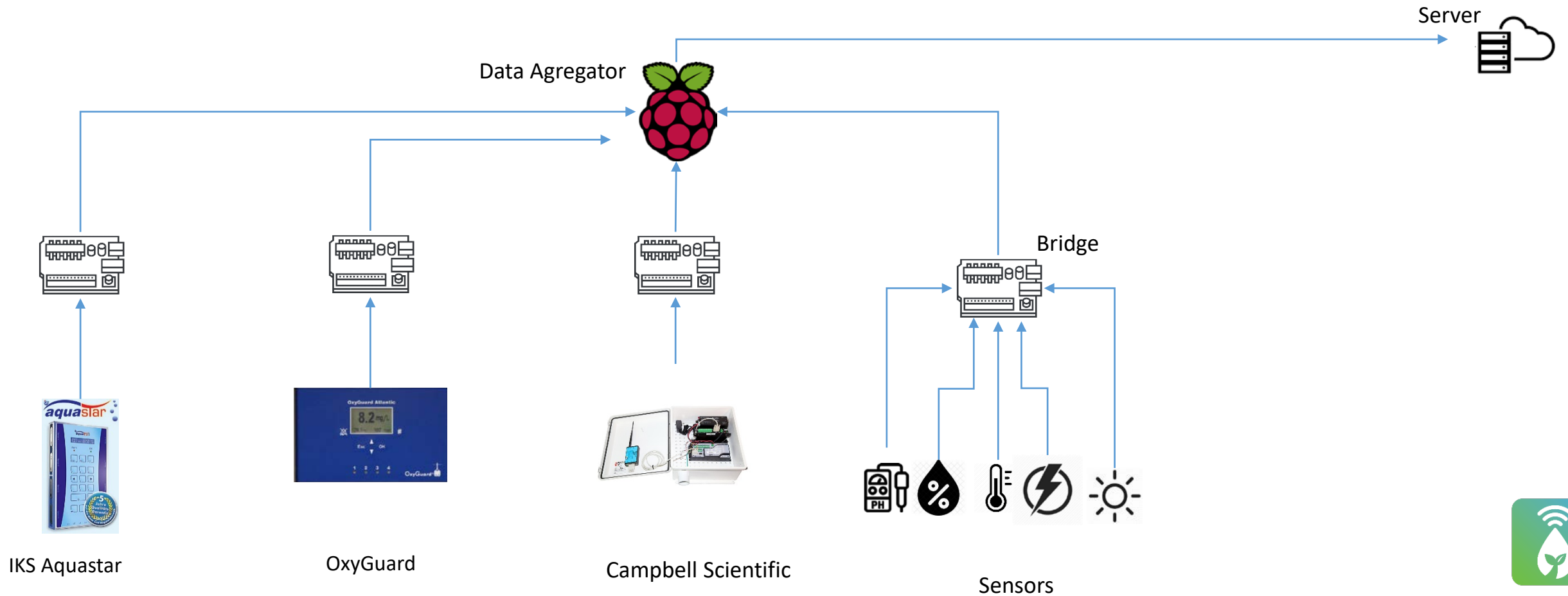
Smart Aquaponics Model

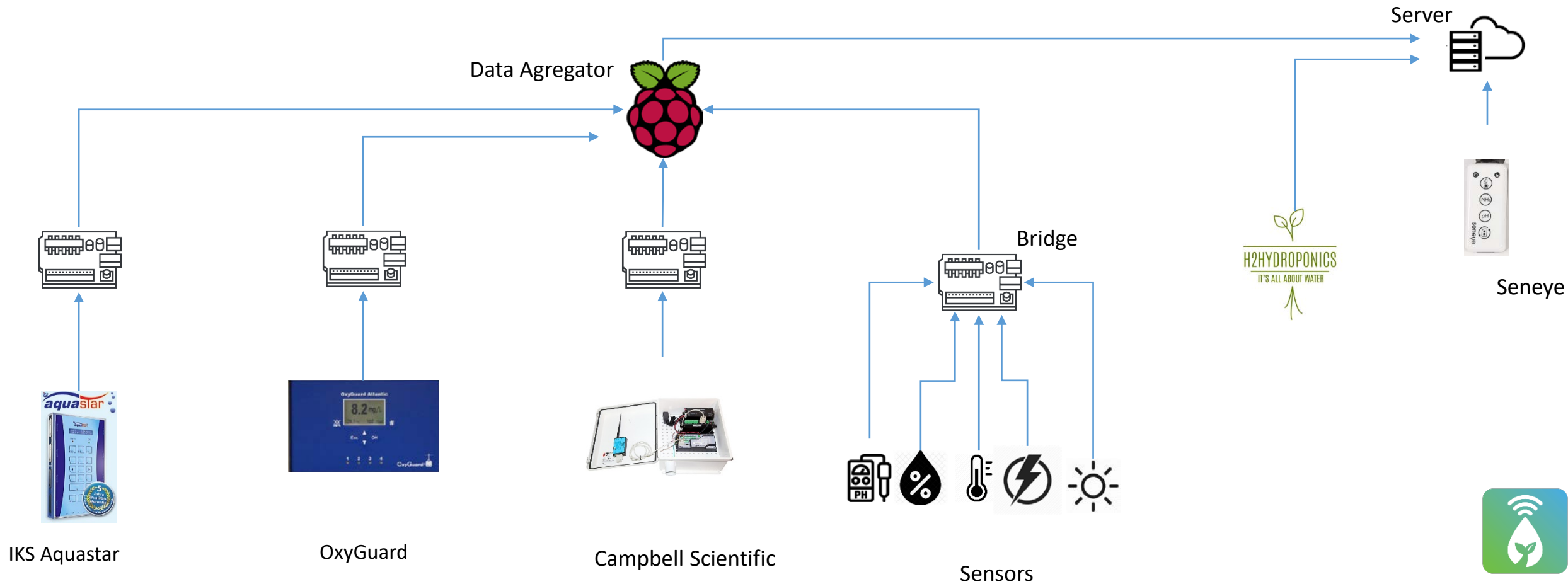# Results
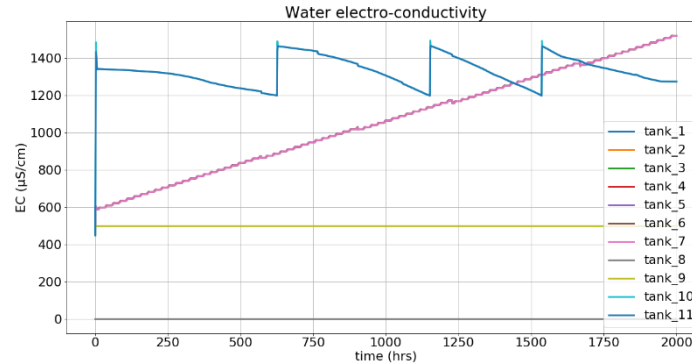
Smart Aquaponics strategy

Smart Aquaponics: Sensing

The data acquisition chain collects data from different sensor systems

Server

Data Agregator

Bridge
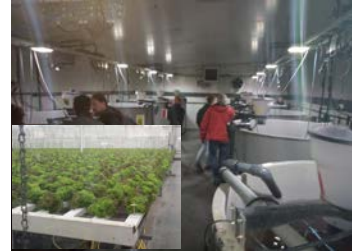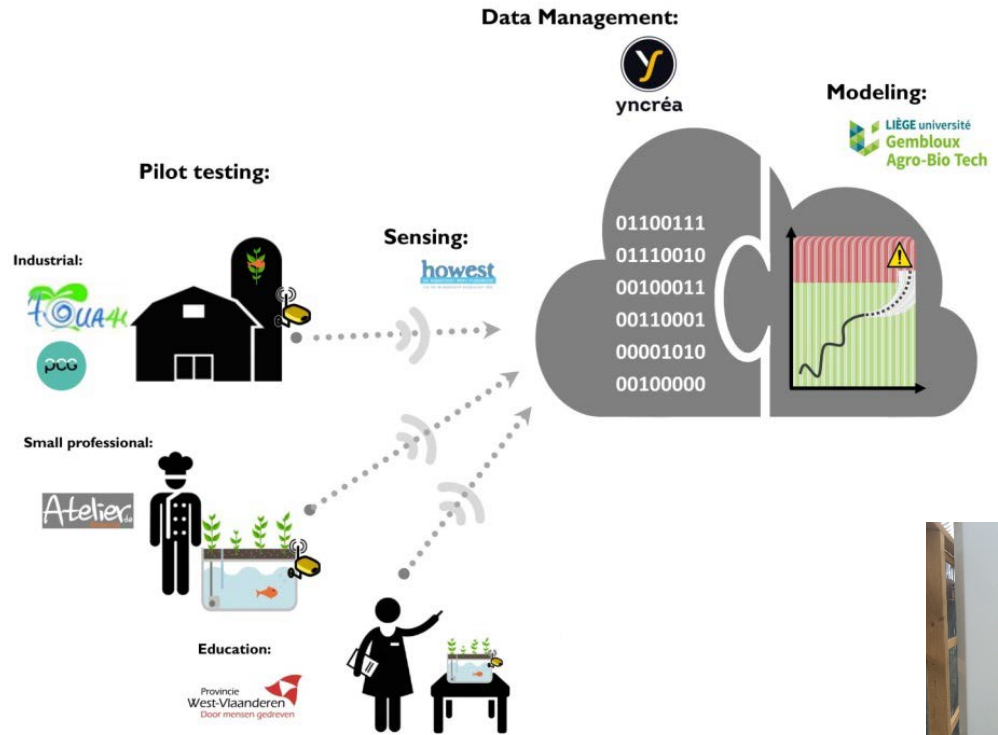
IKS Aquastar

OxyGuard

Campbell Scientific

Sensors

Smart Aquaponics: Sensing

The data acquisition chain collects data from different sensor systems

Server

Data Agregator

Bridge

H2HYDROPONICS
IT'S ALL ABOUT WATER

Seneye

IKS Aquastar

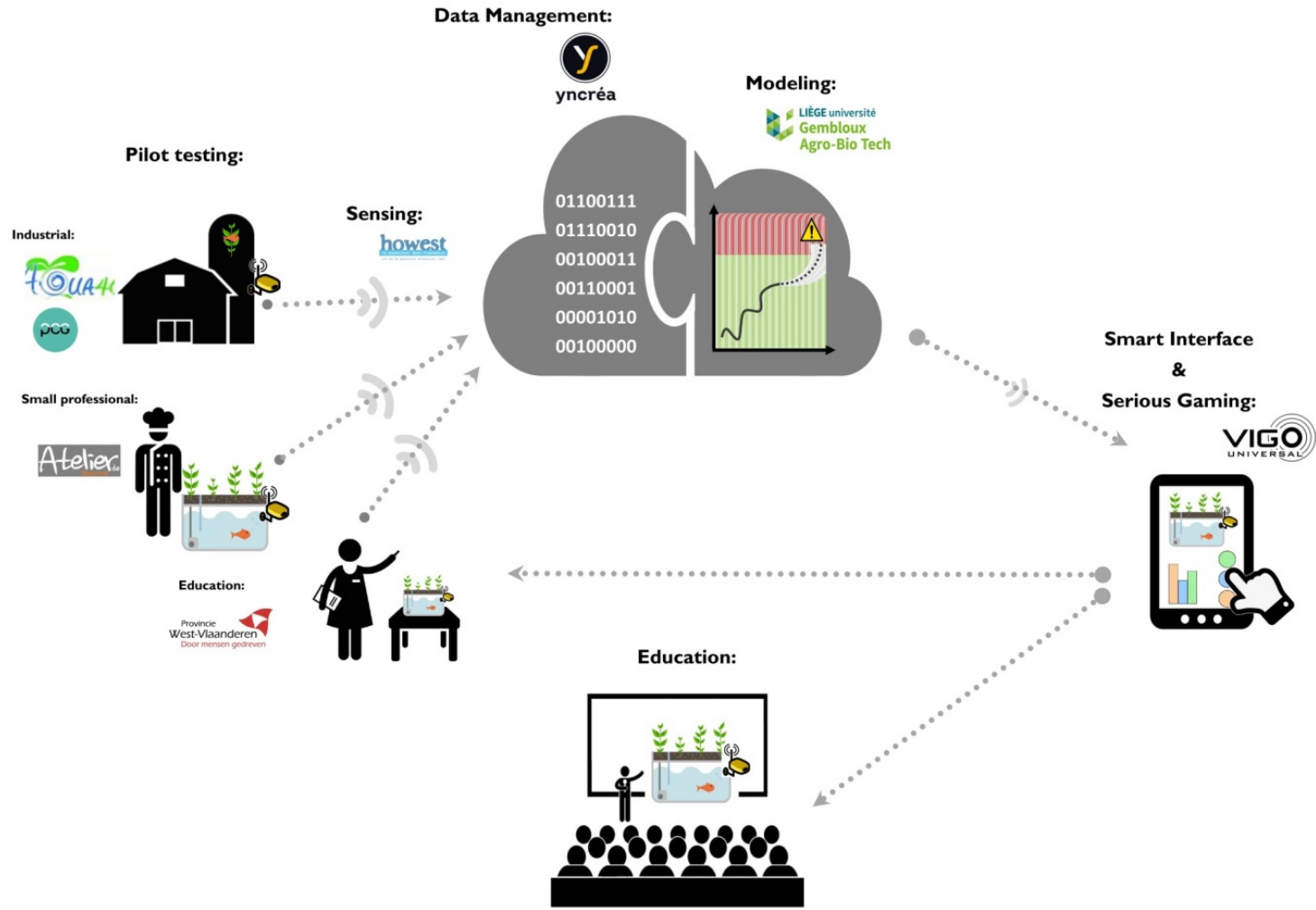OxyGuard

Campbell Scientific

Sensors

Smart Aquaponics: Sensing

Smart Aquaponics: Application
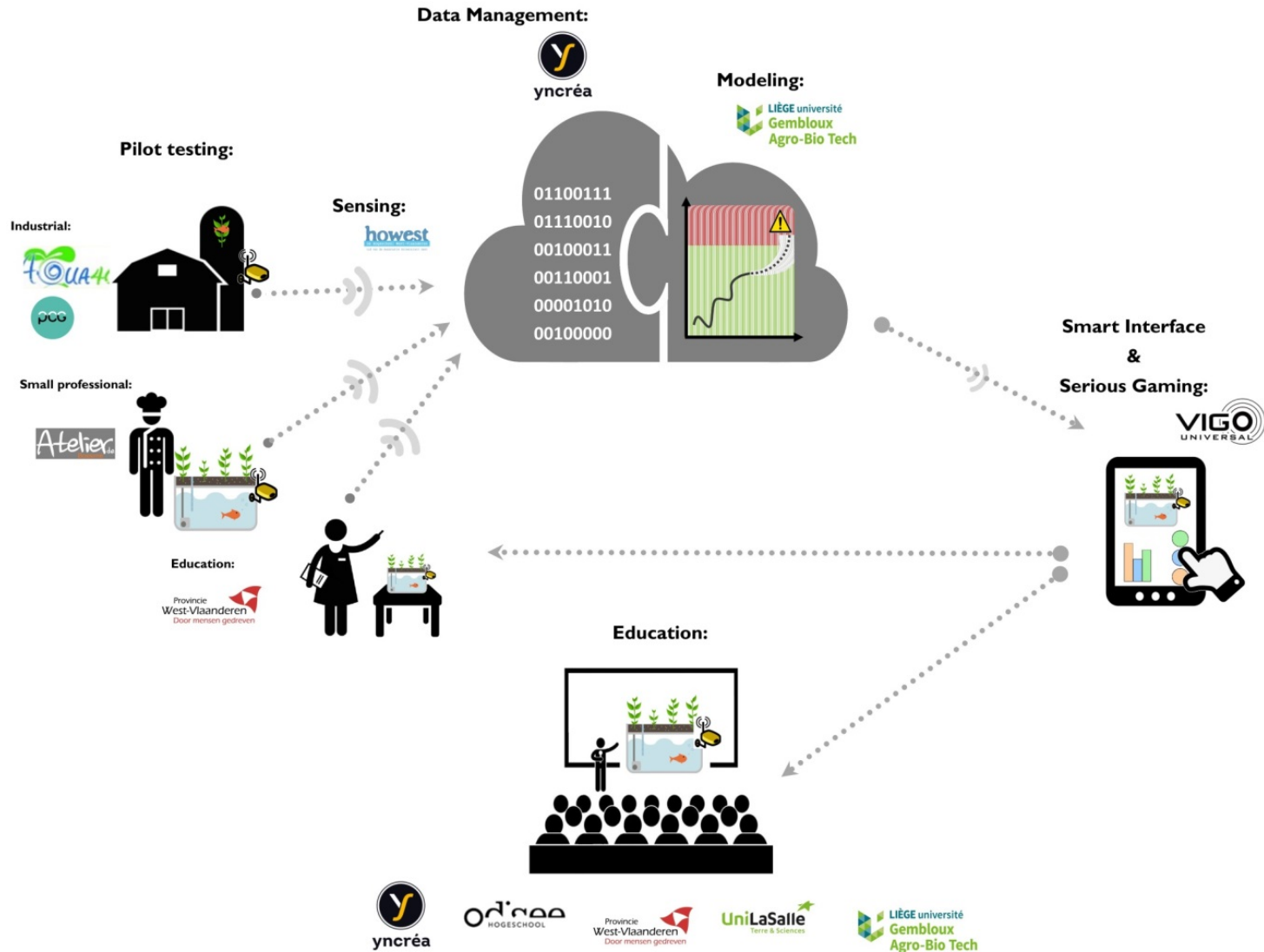
Smart Aquaponics release: 2021

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