

Smart Farming

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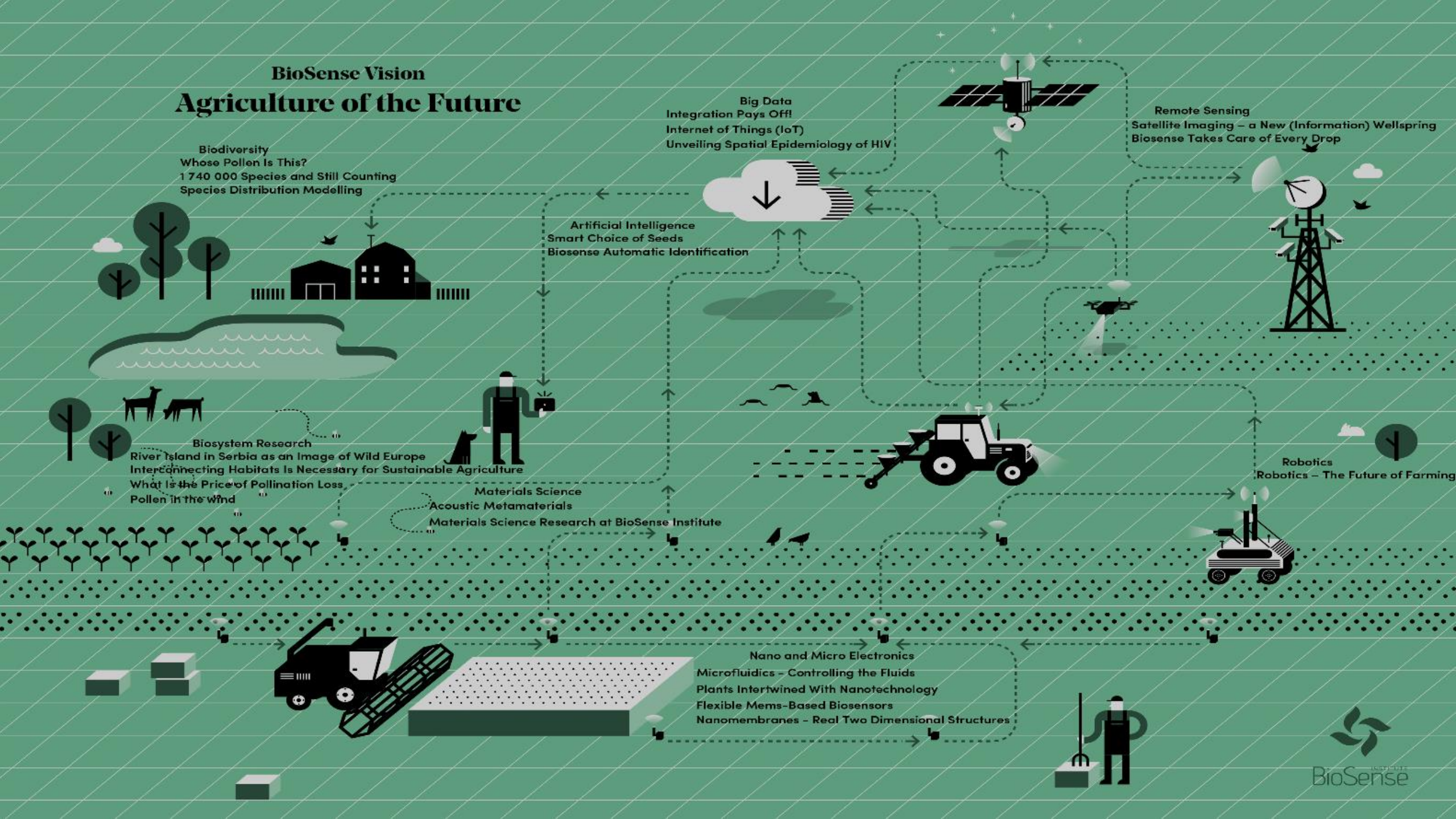


“We cannot feed today’s world with yesterday’s agriculture. However, highly productive sustainable agriculture can feed a multiple of today’s world population.”

Rudy Rabbinge
Professor Sustainable
Development & Food Security
Wageningen University and
Research Centre



BioSense Vision Agriculture of the Future



Biodiversity
Whose Pollen Is This?
1 740 000 Species and Still Counting
Species Distribution Modelling

Big Data
Integration Pays Off!
Internet of Things (IoT)
Unveiling Spatial Epidemiology of HIV

Remote Sensing
Satellite Imaging – a New (Information) Wellspring
Biosense Takes Care of Every Drop

Artificial Intelligence
Smart Choice of Seeds
Biosense Automatic Identification

Biosystem Research
River Island in Serbia as an Image of Wild Europe
Interconnecting Habitats Is Necessary for Sustainable Agriculture
What is the Price of Pollination Loss
Pollen in the Wind

Materials Science
Acoustic Metamaterials
Materials Science Research at BioSense Institute

Nano and Micro Electronics
Microfluidics – Controlling the Fluids
Plants Intertwined With Nanotechnology
Flexible Mems-Based Biosensors
Nanomembranes – Real Two Dimensional Structures

Robotics
Robotics – The Future of Farming



A digital innovation ecosystem can be seen as a coral reef where there are big and small fish, hunters and prey, but overall everyone performs better compared to isolation.”

—EIP-AGRI Seminar, Digital Innovation Hubs for Agriculture

Smart Sowing Strategy

What to plant where?

Big Data Analytics



Humans

5^{14}



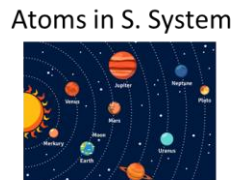
Ants

5^{21}



Stars in Universe

5^{30}



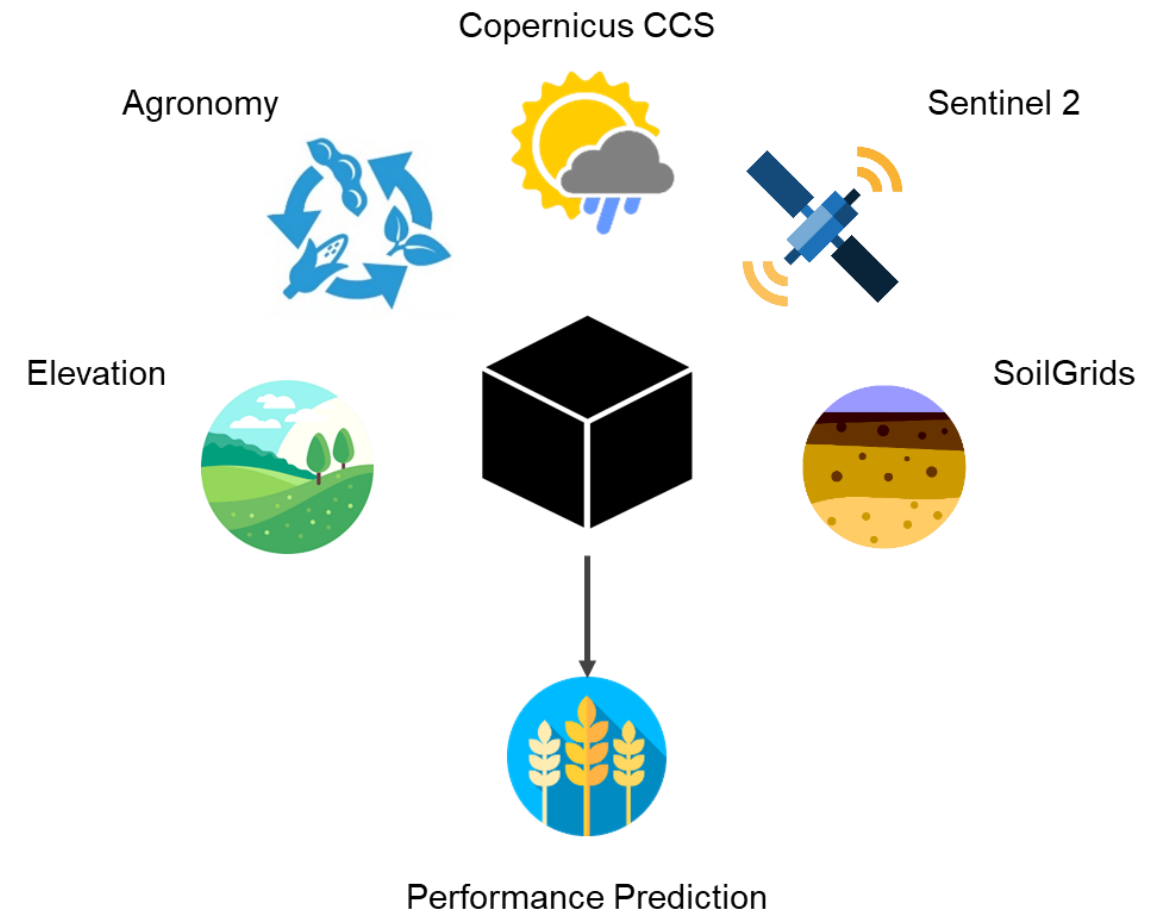
Atoms in S. System

5^{70}



Atoms in Universe

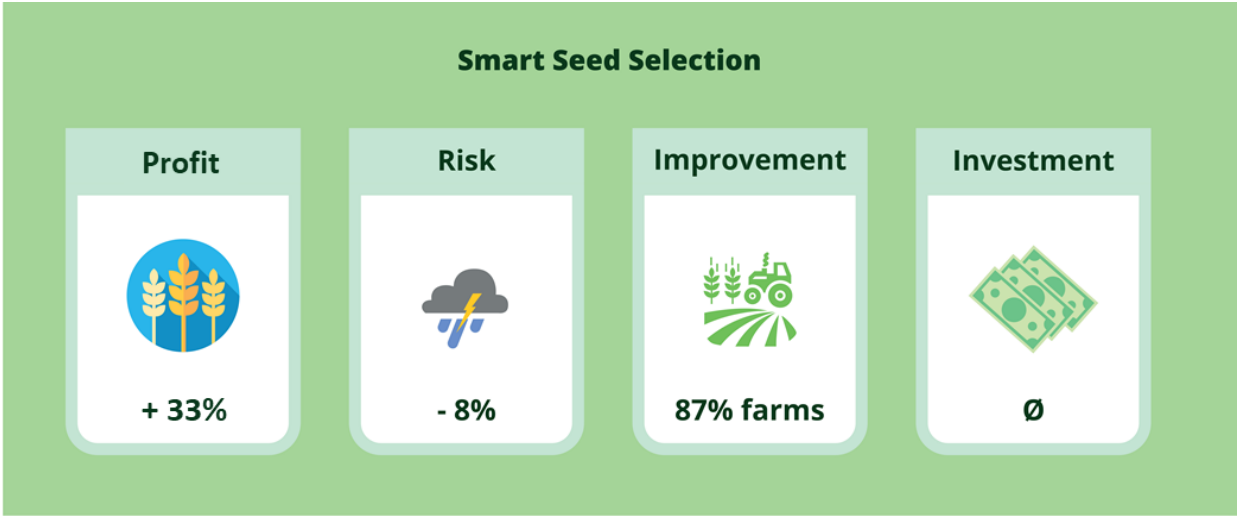
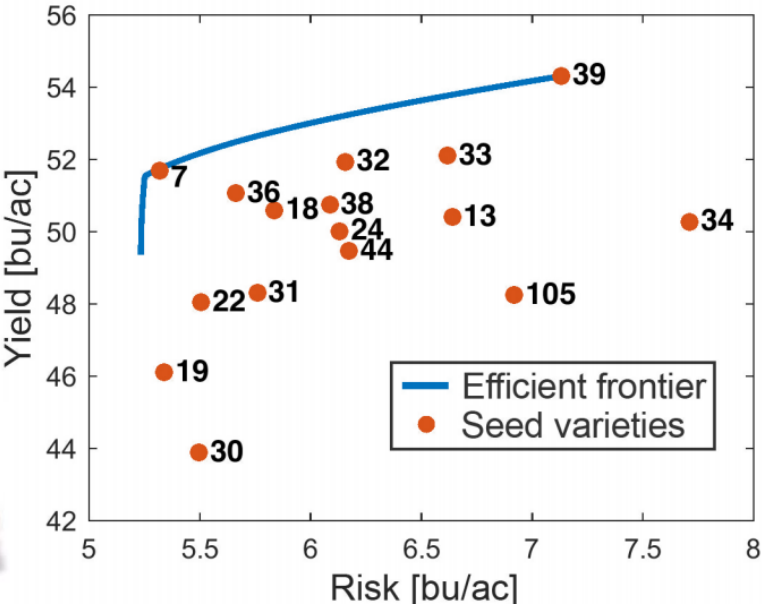
5^{117}



Big Data Analytics



Field 3	
Maize	
Hybrid	Percentage
7	50%
19	30%
39	20%



4th place Syngenta Crop Challenge 2016
 1st prize Syngenta Crop Challenge 2017
 CGIAR Inspire Challenge winners (2018)
 Systems for soya (US), maize (Mexico) and multiple crops (Serbia)

AGROSENS PLATFORM AT GLANCE

www.agrosens.rs

THE WEB AND MOBILE PLATFORM OFFERS VARIOUS FREE SERVICES FOR CROP MONITORING AND PRODUCTION MANAGEMENT



Digital field records



Weather forecast



Satellite crop indices



Pest & plant diseases



Soil analysis overview



Overview of costs



Machinery calibration



Crop photo uploads

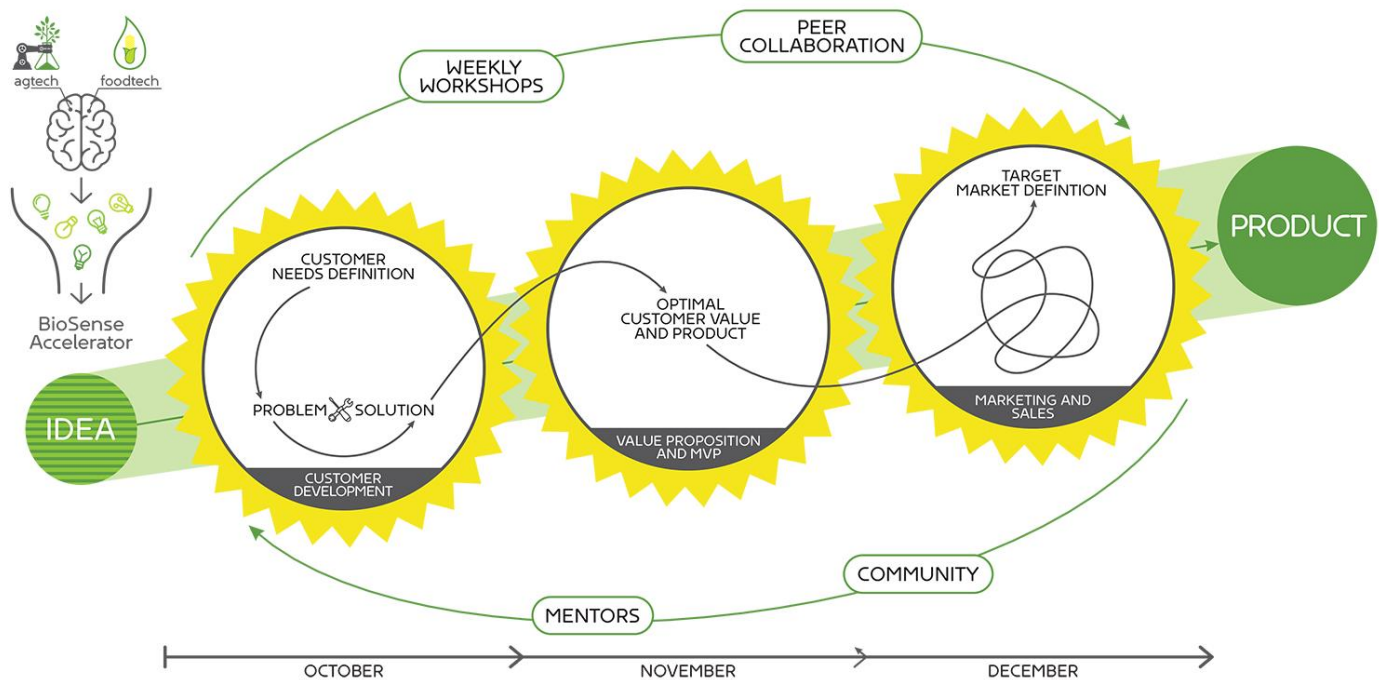
Agtech is Booming in Belgrade and Novi Sad's Startup Ecosystem

Agriculture, a traditional Serbian industry is going digital



Ecosystem Building

BIOSENSE ACCELERATOR | BUILDING A THRIVING COMMUNITY OF INNOVATORS. DESIGNING THE FUTURE OF FARM TO FOOD VALUE CHAIN



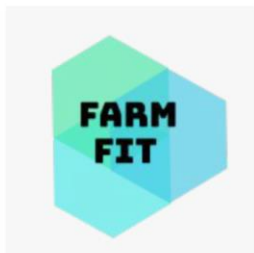
BioSense Accelerator



Funding Opportunities



BIOSENSE ACCELERATOR – Our Teams



€2.5 Million equity-free funding

OPEN CALL

01

**100 winners
receive €10k**

OPEN CALL

02

**15 teams
receive €100k**

Supporting
services:



Business Catalysts



Learning



Mentorship



Networking



**Industrial
Challenges**
2.7 M €

Open Call
1/08/20
31/10/20

**3 Open
Calls**



Open Call 2
21/12/20
31/03/21

**Innovation
Experiments**
5.3 M €

Open Call 1
1/3/20
31/05/20

- Address a need of the agri-food sector
- Be based on robot technologies
- Have a local DIH as contact point
- Use the network of cross-boarder services
- Provide feedback on the use of services
- Create videos to showcase the work done
- Promote agROBOfood in their network



What's next?

ΚΟΣΜΟΣ



Horizon Europe: SDGs, Missions and grassroots initiatives

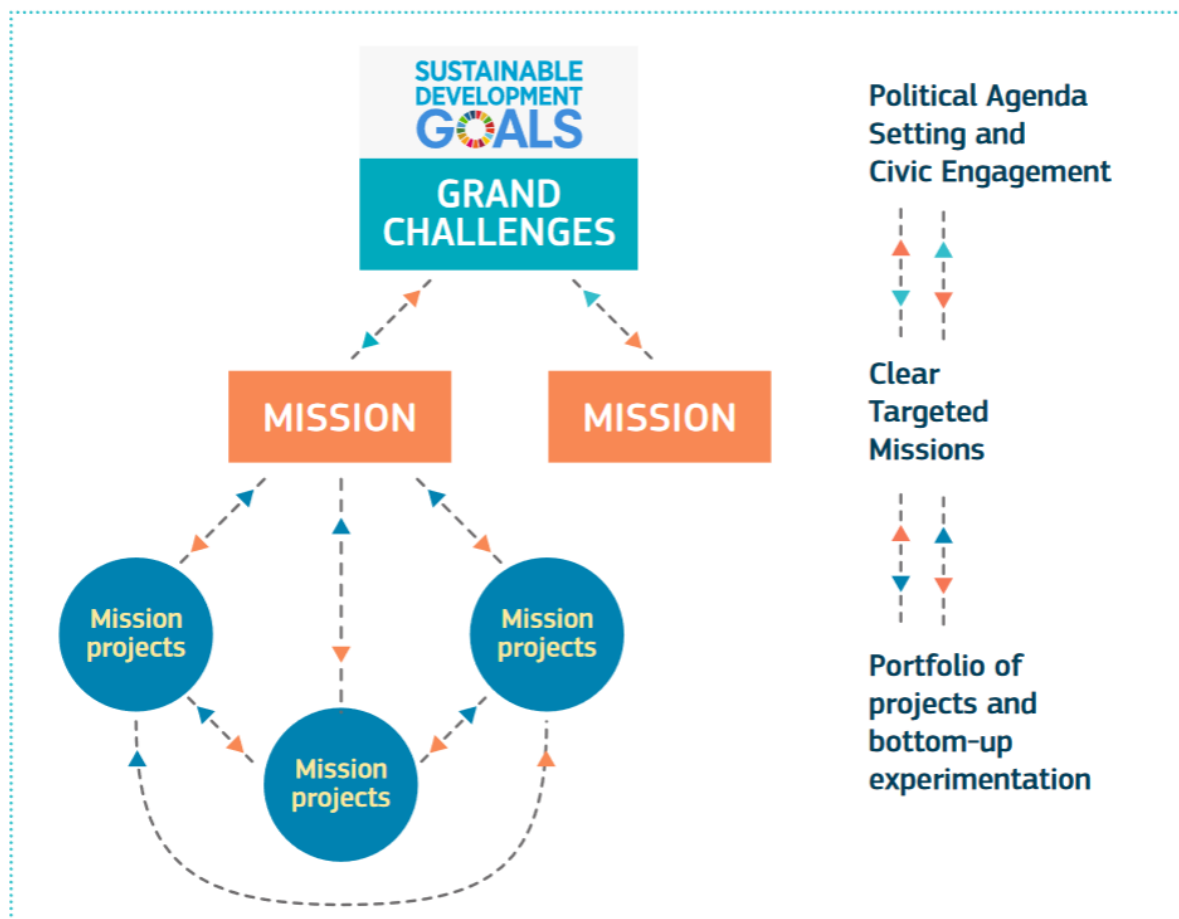
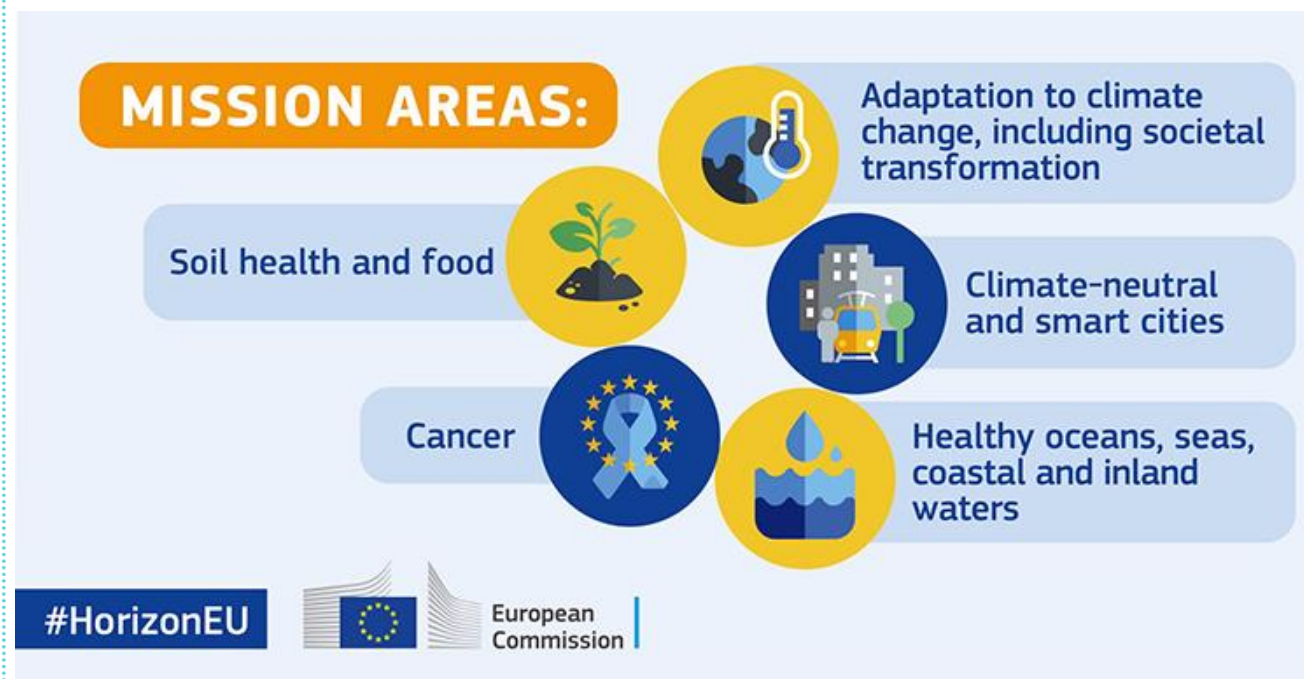


Figure 1. From Challenges to Missions Image: RTD - A.1 based on Mazzucato (2017)





Thank you
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KOΣMOΣ

