WISE FARM

Problem:
- raising demands for animal welfare
- replacement from manual work to digital/automatic
- What is the economic benefit for farm investment

innovation

Objects:
- to select some preliminary components for digital AUW assessment
- to develop road maps for farmer
- to test solutions in production farms

Outcomes:
- VALIDATED DATA SETS
- road maps
- prototype solutions
- new business models? / business case?

→ FARMER

Partners:
- EDC EIP Group - digital components
- OULU EIP Group - data merge

BOTH
- final
- research

*: EIP Group Participants (FARMS, RESEARCH, TEHNOLOGY, [illegible])

First steps: Check uncertainties
Draft the projects + budgets

BÜROO MAAILM

CIRCULAR ECONOMY BUSINESS MODELS IN AGRICULTURE

- How to gain resource efficiency and sustainable crop production via CE?

CLOSED LOOPS IN REGIONS:

Objectives:

1. COLLABORATION
   - RESOURCE SHARING
   - DEVELOPMENT
   - NEW START-UPS/ BUSINESS
2. KNOW-HOW
   - HOW TO DO (1.)
   - HOW TO SOLVE ISSUES
     - TRUST
     - RESOURCES
     - BYROCRACY
   - LEARNINGS FROM IND. CE
3. PILOT CASES
   - FIN + EST + LV
   - O1 & O2
   - LEARNINGS FROM CASES

POSSIBLE CASES:
- SOIL IMPROVEMENT
- "BIOCHAR"
- MATERIAL LOGISTICS
- VALORISATION OPPORTUNITIES
- ETC. ???

RESULTS:

CASE EXAMPLES → CONCEPT FOR BUSINESS ECOSYSTEM → SOCIAL INNOVATIONS – NEW START-UPS NEW BUSINESS ⇢ VALORIZATION OF PRODUCTS

CONCEPT FOR BUSINESS ECOSYSTEM → SCALEABILITY FOR OTHER CASES

SOCIAL INNOVATIONS – NEW START-UPS NEW BUSINESS → CULTURAL CHANGE

Partners:

FIN:
R&D:
- Oamk - 02
- SAMK - 03

Company:
- TBC - 01

EST:
Company:
- TBC - 01

R&D:
- EMÜ - 02 or 03?

LV:

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Latvia
1. Institute of Agro-Resources and Economics
2. Latvia University of Life sciences and Technologies, Food Institute
3. Company ?
4. Farmer ? , Berry or berry grower

Finland
Partners are needed

Outcome:

~~1. Higher value~~
1. Food supplement prototype
2. Waste valorization technology

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FRUIT POMACES VALORIZATION AS AN ANIMAL FEED

Problem statement:

Fruit pomace often treated as waste. However, it is rich in nutrien and bioactive compounds that can suppo both sustainable feed production as well as improve animal health.

Objectives:

1. Understanding of composition of wastes.
2. Development of processing methods
3. Delivery format
4. In vitro and in vivo testing
5. Techoeconomical analysis

Partners:

Estonia

1. Polli Horticultural research C
2. TFTAK
3. Waste producer (food producer
4. Feed producer
5. Farm (for testing), breeding organizations
6. Veterinarians

AUTONOMOUS (LASER) WEEDING ROBOT

Eliminate weeds - 97%.

BOOST YIELDS +30%.

PRECISE, CHEMICAL FREE, AUTOMATED

BLACKCURRANT FARMERS +80% PROFIT

PARTNERS:

FARMER	RESEARCHER	INDUSTRY
FIELD + EXPERTISE + PROJECT LEADER	AGRONOMIST AI/ML EXPERT SOIL SCIENTIST LASER, OPTIC EXPERT	WORK SAFETY EXP. LASER/OPTICS DEVELOPMENT HARDWARE BUILDING
LV - ~~ARTA~~ EST + MARGUS TINNO? FIN + ?	FIN - LUKE? EST - EMU ? LV - BULDURI ?	LV - MILDA TECHNOLOGY

PROTOTYPE

DIVERSITY FIELD ~~&~~ AND CLIMATE CONDITIONS
SEED VARIETY

EXPERIENCE IN AGRICULTURAL AUTOMATION SOLUTIONS

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PERMACULTURE PILOT PROJECT

SMART CITIZENS

EARTH CARE
PEOPLE CARE
FUTURE CARE

ONE OF PERMACULTURE PRINCIPLES IS PERMACULTURE YIELD IS UNLIMITED

VALUES ENVIRONMENTAL

PROBLEM STATEMENT

* LACK OF KNOWLEDGE & ~~ABILITY~~ LOST TO GROW FOOD IN PERMACULTURE WAY (FOOD FOREST) TO GUARANTEE ONES FOOD SECURITY, INCLUDING FOOD PRESERVATION, IN ORDER TO ACHIEVE SELF SUFICIENCY

ESPECIALLY

NUTRITION & WATER MANAGEMENT WASTE ; ALL BIOMATERIAL IS USED TO IMPROVE SOIL GROWING & ADDING NUTRITION TO THE SOIL (LOCALLY)

ISSUES ARISED

* FOOD GROWING ABILITIES AMONG CITY HOUSEHOLDS (ESPECIALLY INCLUDING CHILDREN & REFUGEES)
* GROWTH OF SOCIAL INVOLVMENT & INTEGRATION
* KNOWLEDGE EXHANGE BETWEEN DIFFERENT CULTURES & AGE GROUPS
* HOLISTIC WAY TO GUARANTEE ONES FOOD SECURITY
* TO INNOVATIVELY GROW PERENNIAL VEGGIES INSTEAD OF ANNUAL ONES. NEW WAYS OF FOOD PRESERVATION

PARTNERS

PERMACULTURE EXPERTS (EST, LAT, FIN ASSOCIATIONS) TO SHARE THEIR EXPERT KNOWLEDGE & PRACTICE +

SPECIAL INSTITUTIONS & UNIVERSITIES (+... APLIED SIENC

METK — HERITAGE PLANTS & KNOWLEDGE

PERMACULTURE FARMS IN ESTONIA

AND NETWORK (PERMACULTURE FARMS & PRACTICIONERS)

NORDIC PERMACULTURE ACADEMY

BY GOVERNMENT

AKESH ROOTMAN RAK ; CATHRINE DOLLERIS (DENMARK)

RIGIKAITSE

DIGITAL DECISION - SMART SOIL

Problem: Lack of information of soil properties for decision making

Objectives:
- gathering existing inform
- identifying lacking informati
- viable ways to gather data

Outcomes:
- comparing data
- digital service demo
- Technical data collection systems

Roles: Company?
Farmers?

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petri.linna@jamk.fi

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