

TRANSALP PROJECT

Understanding the Medical Aromatic Plant Sector in the Alpine Region

Dr. Gerd Meier zu Köcker
ClusterAgentur Baden-Württemberg



Interreg
Alpine Space



 **HEALPS²**
European Regional Development Fund

 **ARGEALP**
Die Alpen leben • Le Alpi vivono

 **ClusterAgentur**
BADEN-WÜRTTEMBERG



Agenda

1.

Introduction

2.

MAP Sector &
Industry

3.

Supply &
Demand

4.

COVID-19 &
Digitalization

Understanding of Phytopharma

- **Phytopharma** is understood as “**health-related products derived from plant sources**”. These include bio-active ingredients for pharmaceutical grade medicines, natural herbal medicines, cosmetics, cosmeceuticals, nutraceuticals, nutritional supplements and similar health-related natural products.
- **Medicinal & Aromatic Plants (MAPs)** are botanical raw materials that are used for therapeutic, aromatic or culinary purposes as components of cosmetics, medicinal or foods products. There is an increasing demand for MAPs thanks to an increased production of healthcare formulations; MAPs based supplements have a market of \$35 billion p. a. (2019).
- **Sub-Sectors**
 - Pharmacy (dietary supplements, drugs)
 - Cosmetics (natural cosmetics, perfumes)
 - Food industry (seeds, oils, herbal essences and extracts, etc.)



Examples for Medical Aromatic Plants



chamomile



fennel



melissa



valerian



calendula



arnica



nettle



Market Segments and Trends



Food
ingredients

Natural
Cosmetics

Homoeopathy

Drug Store

OTC
medicines

Prescription
medicines

Price



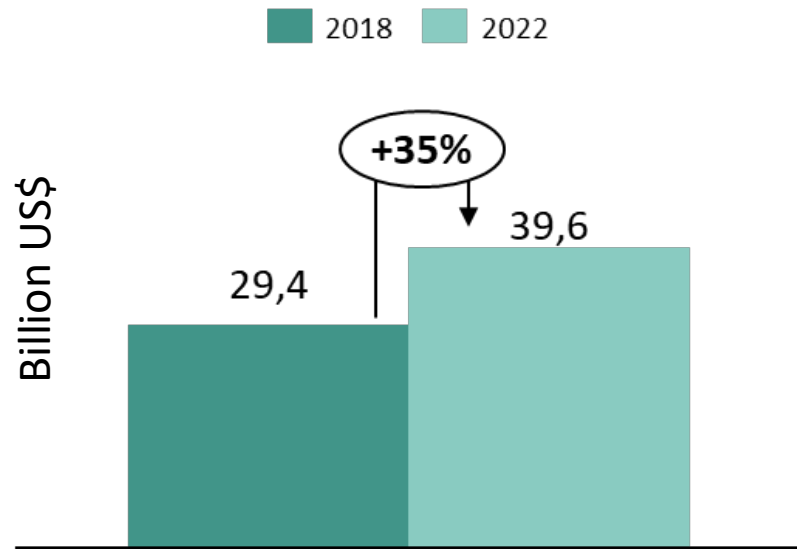
Demand



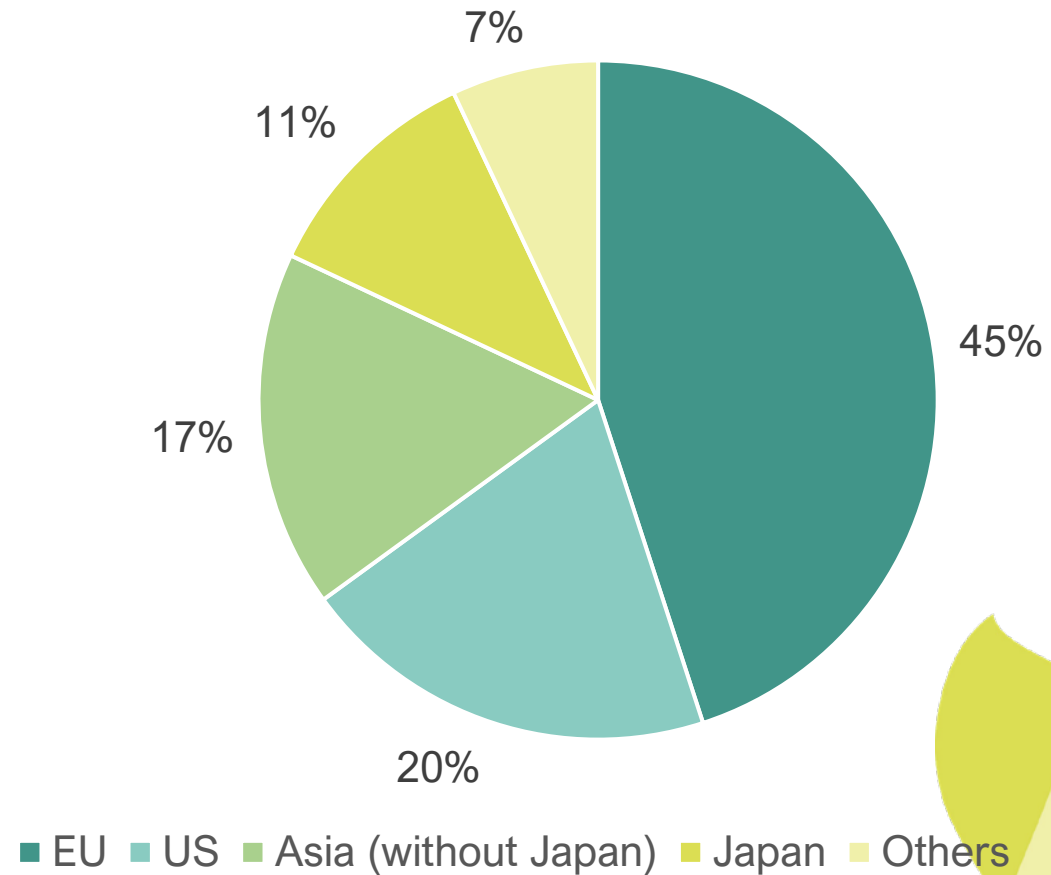
Story



The Global Market for Botanical and Plant-derived Drugs (US\$)



Source: BBC Research, 2018



Phytopharma Value Chain

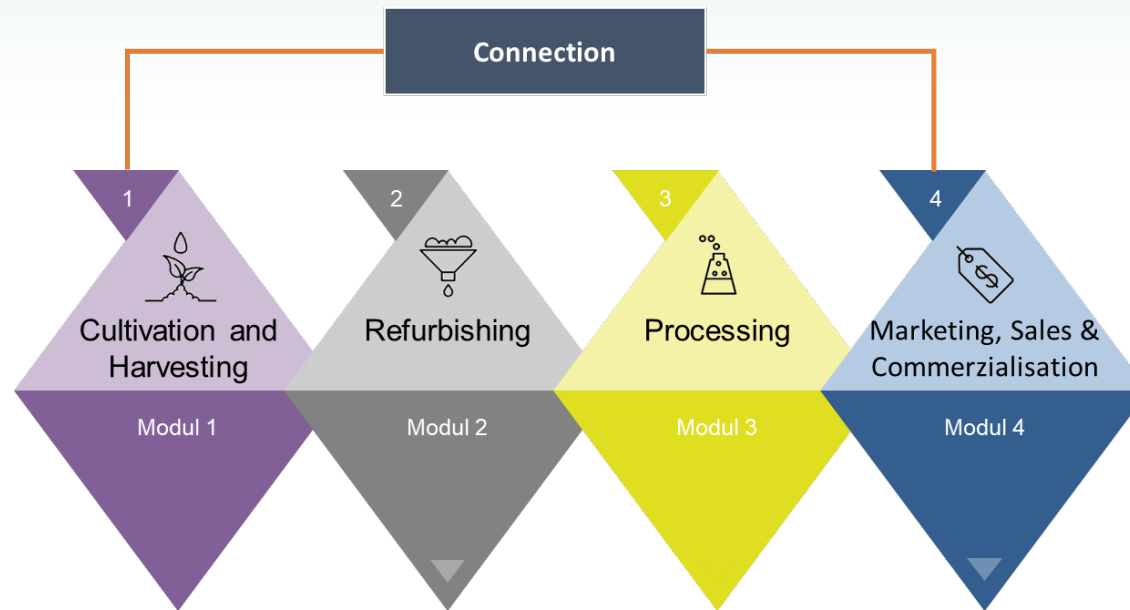
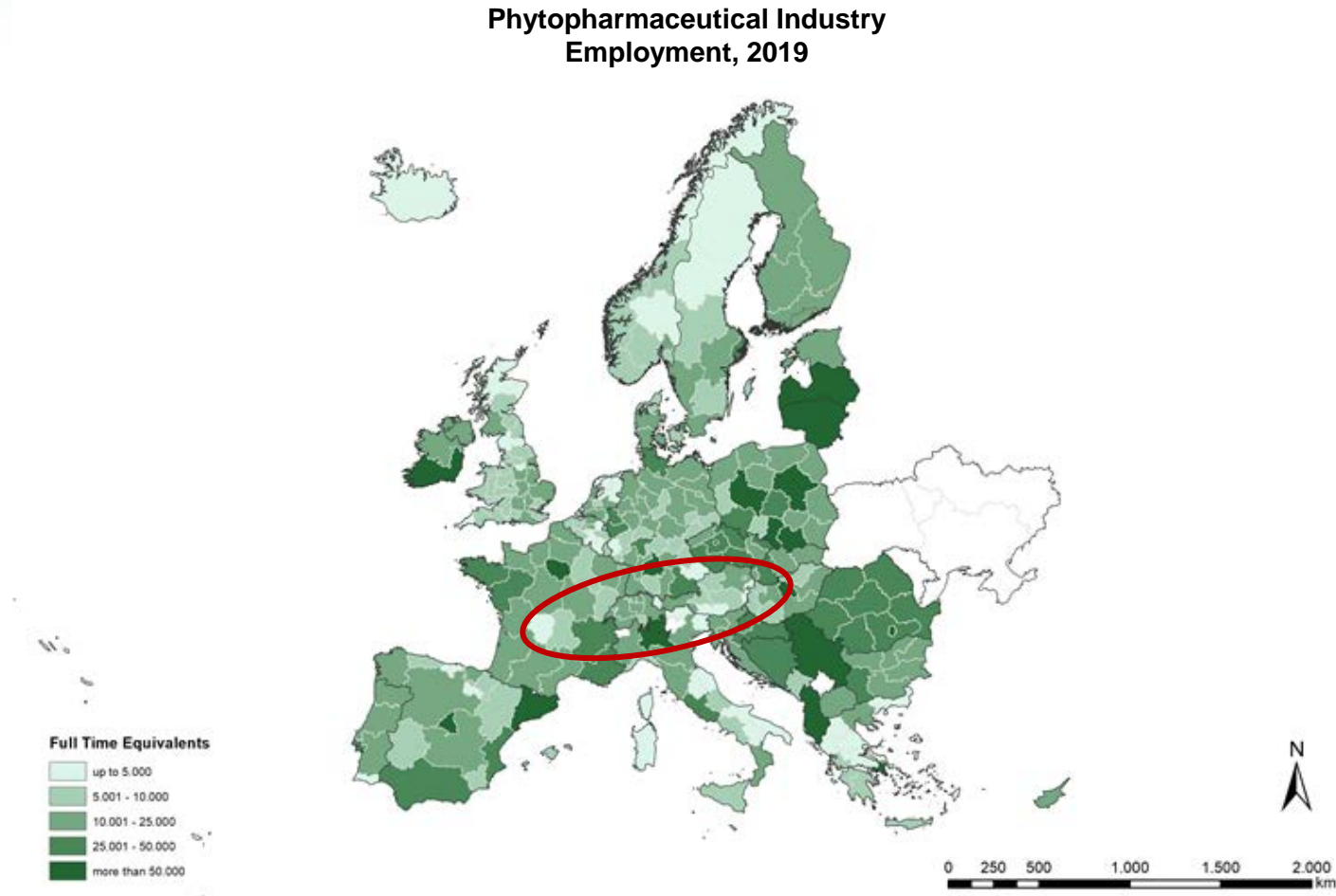


Illustration of simplified value creation

- The cultivation of MAPs is conducted by farmers. In some cases, wild collection is done as well.
- The plants are dried in the so-called vegetable drugs.
- Plant drug products are crushed or powdered plant drugs, tinctures, extracts, essential oils, extracted juices and derived secretions.
- They are obtained by extraction, distillation, compression, phase separation (fractionation), purification, concentration or fermentation.
- An active substance is obtained which is incorporated into the final product

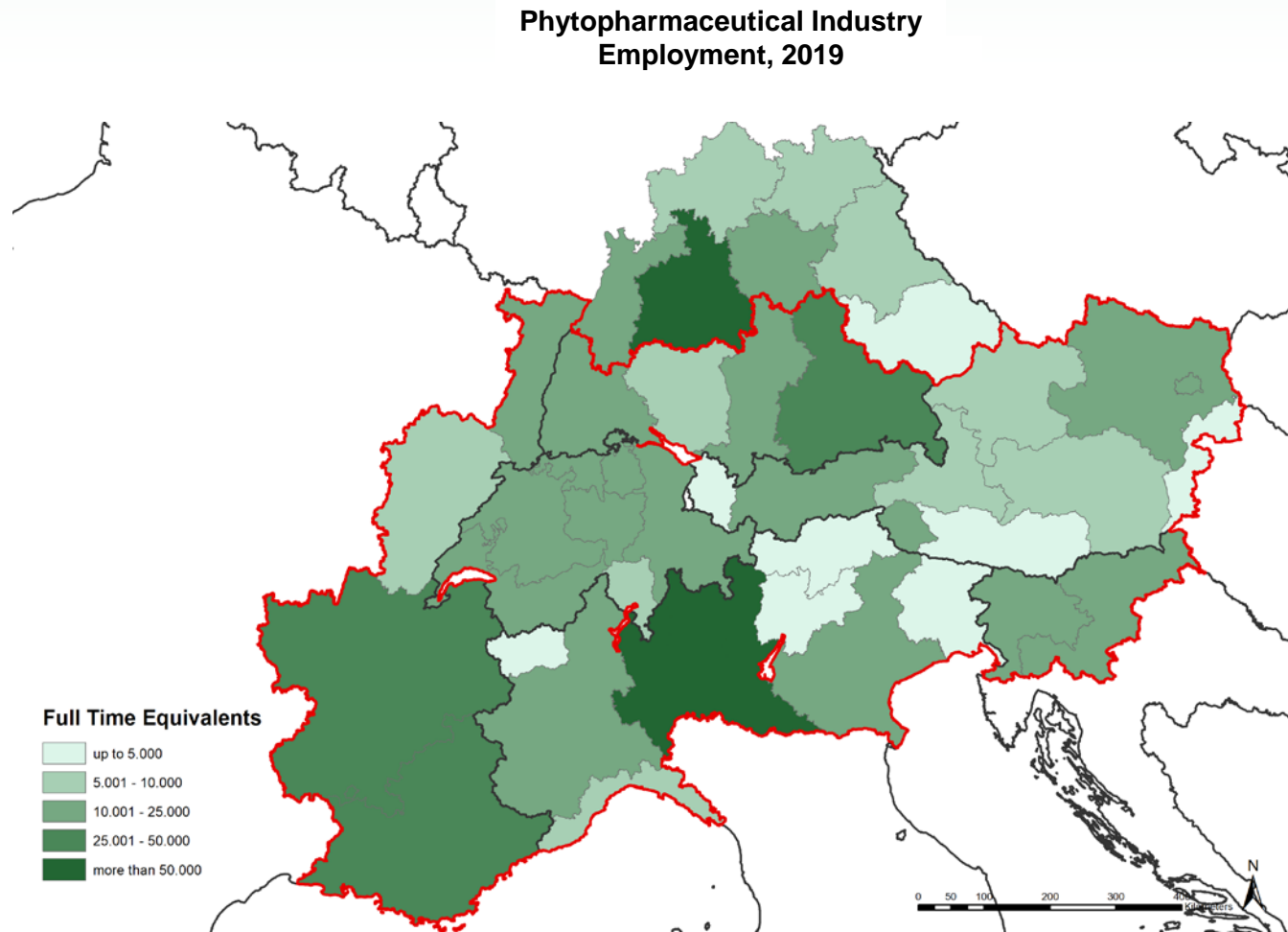


Alpine Region – A Hot Spot for Phytopharmaceutical Industry ?



Source: Meier zu Köcker et al., 2018

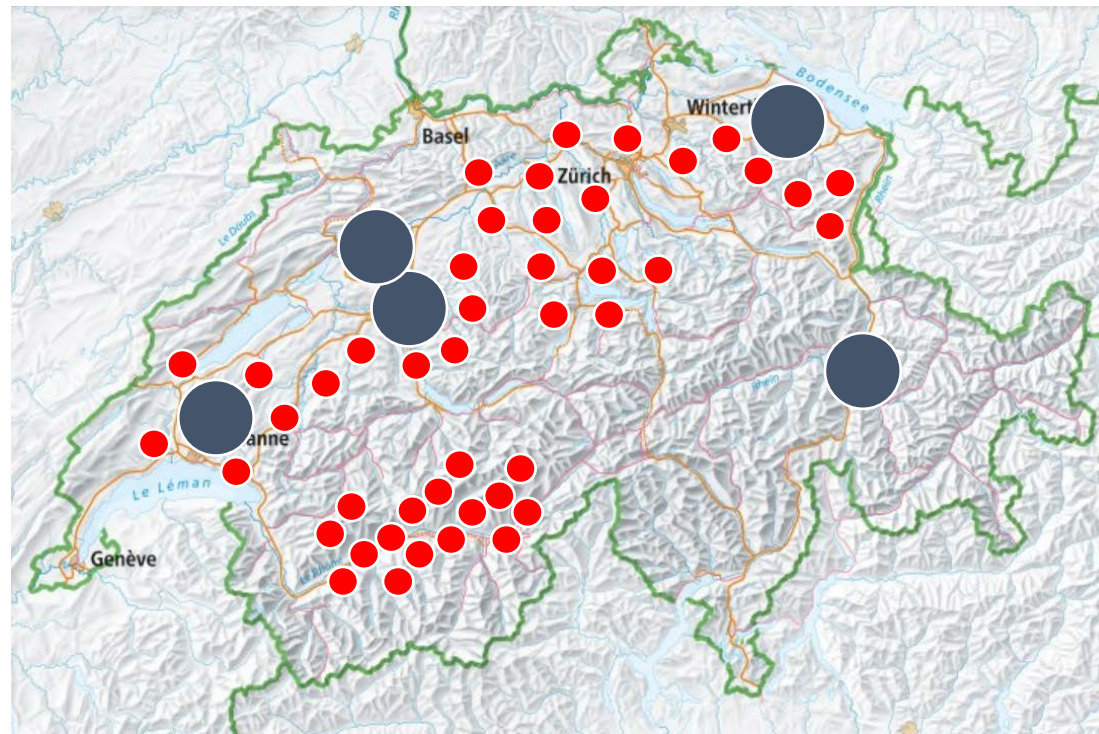
Alpine Region – A Hot Spot for Phytopharmaceutical Industry ?



Source: Meier zu Köcker et al., 2018

Alpine Region – A Hot Spot for Phytopharmaceutical Industry ?

Less than 10 employees
10-50 employees



Alpine Region – A Hot Spot for Phytopharmaceutical Industry 2

NACE Code	Exploayers per Firm Bavaria
Wholesale of Pharmaceuticals	5.30
Wholesale of Flowers and Plants	6.91
Growing of MAP	7.00
Processing of Tea and Coffee	8.09
Pharmaceutical Preparations	8.64
Mixed Farming	18.21
Perfumes	80.81

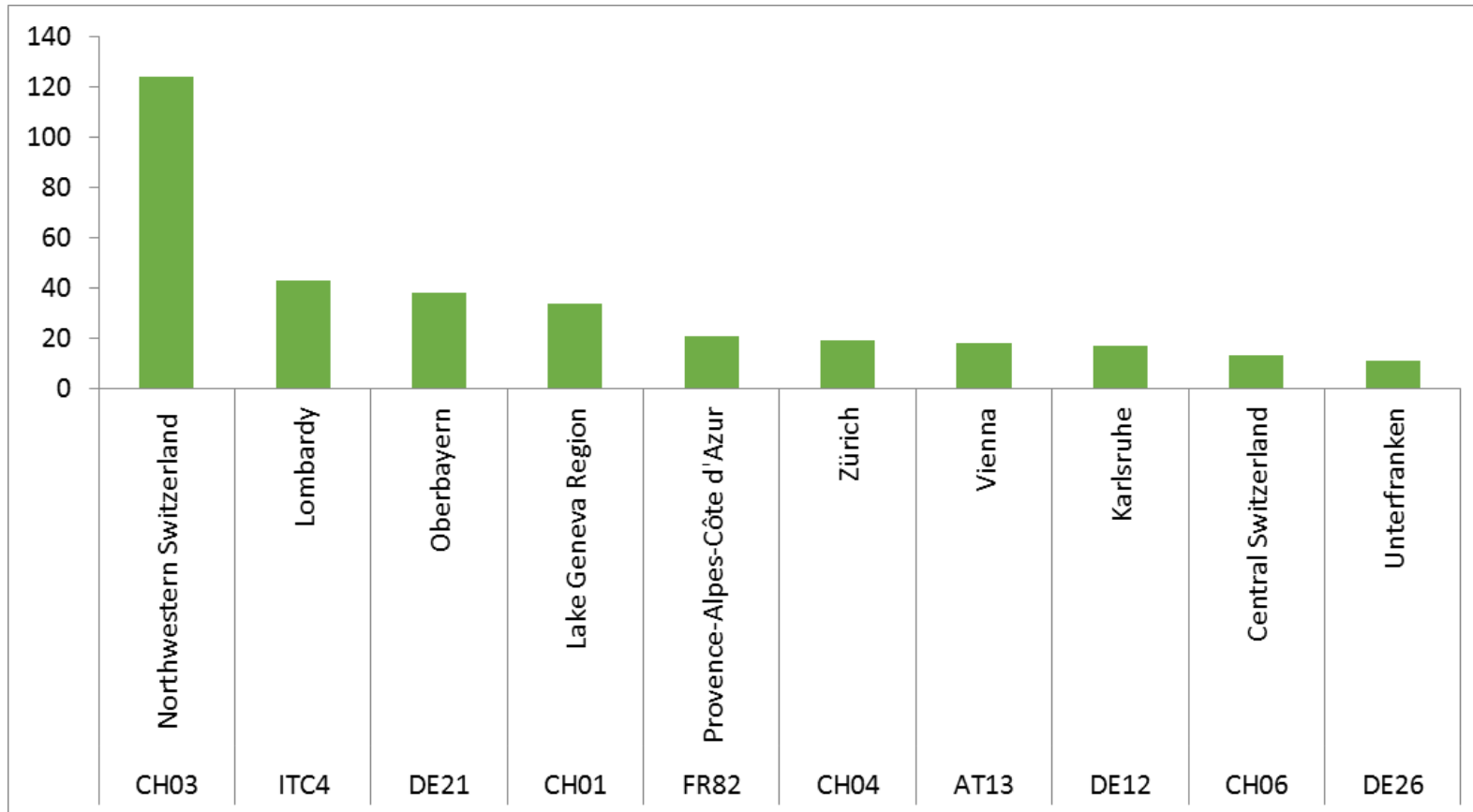
NACE Code	Employers per Firm BW
Processing of Tea and Coffee	2.40
Growing of MAP	5.00
Wholesale of Flowers and Plants	5.09
Wholesale of Pharmaceuticals	11.15
Mixed Farming	11.15
Perfumes	20.83
Pharmaceutical Preparations	98.48

NACE Code	Employers per Firm CH
Growing of MAP	1.45
Mixed Farming	1.46
Wholesale of Flowers and Plants	4.96
Wholesale of Pharmaceuticals	7.12
Perfumes	10.67
Processing of Tea and Coffee	13.00
Pharmaceutical Preparations	47.15

Source: TRANSALP Project

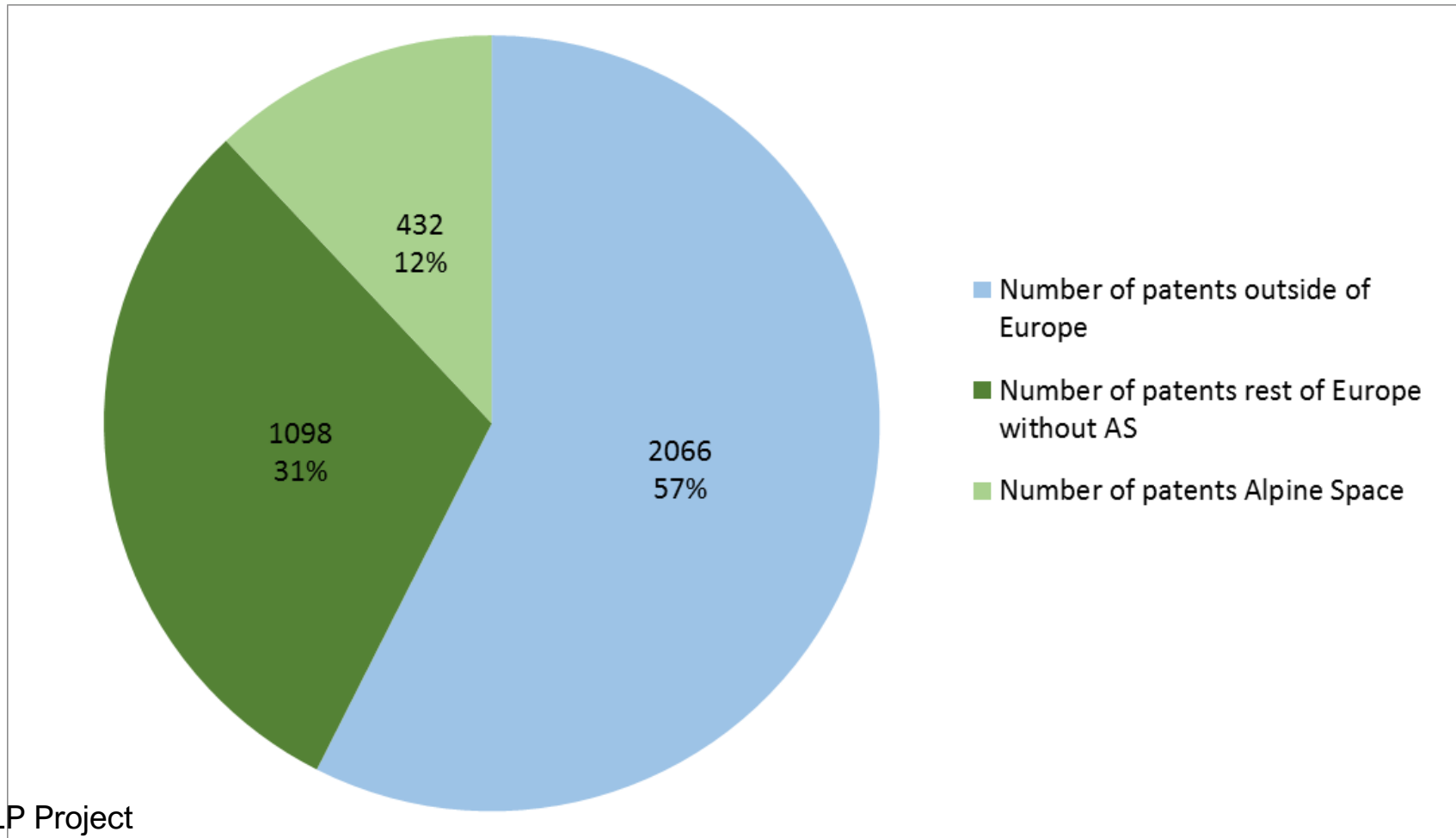


Top 10 Alpine Regions - Number of Patents in 2019



Source: TRANSALP Project

Number of patents in 2019 – The Alpine Region in Global Perspective



Source: TRANSALP Project

Supply Side Considerations (I)



The Alpine Space allows cultivation of huge variety of MAPs



Increasing demand for quality MAPs from the following market segments:

Pharmaceutical Industry / Cosmetic Industry / Food Industry

Pharmaceutical Industry: Medical offices / Pharmacies / Drug stores / Retailers



Different micro-climates help to reduce harvest risks



Strong players at all levels (farmer cooperatives, manufacturers – e. g. Zeller AG, Rausch AG, Ricola or Research (ZHAW, Agroscope)



Two approaches:

“Cluster Initiatives”: PhytoArk, Mediplant / Agroscope provide infrastructure (extraction) and contribute to tech-transfer

Integrated VC: Zeller (Vitaplant) / A. Vogel (Bioforce), in-house from research to retail

Supply Side Considerations (II)



The cultivation of MAPs is ambitious, it needs at least one year (3-5 normally) to grow MAPs in a good quality



Regulations: Increasing accuracy and measurability of harmful substances in soil and plants make farmers face massive pressure



Infrastructure is an important success factor (e.g. drying plants, squeezers, etc.)



1. Business development structure at farmers level is completely missing.
2. Farmers carry the sole risk for innovative cultivation and growing



Farmers are interested to increase production, if the framework conditions are right:

Purchase guarantees
Long term contracts

Barriers for Increased MAPs Production in Alpine Region



High consumers request: proof of origin, efficiency, sustainability - environment, practices



Farmers: Skills, knowledge and market information missing



Manufacturing industry: Not much support for technology transfer



Right plants for the right market: biodiversity, diseases, climate, Nagoya protocol



Infrastructure: Good R&D infrastructure, test beds and networks missing

Demand side Considerations (I)

Change in consumer behavior:
natural, healthy, sustainable, fair trade business practice



Demand for high quality MAPs is growing rapidly

Regulations
Story/ Marketing
Fear of scandals:
Contamination,
adulteration,
counterfeiting
products



Access to high Quality MAPs hampered position of producers

Organic
Numerous small farmers/pickers
Infrastructure
Good practices / organic



Better Quality = Better Price

But: not every price can be paid



Contractual partnerships vs. farmers clusters / networks

Contractual partnership guarantees full control
Farmers clusters:
increase of quality and variety production
(motivation, entrepreneurship)

Digital Tools as Driver for Efficiency



Traceability - accountability of the VC

Information exchange accross the value chain
Consumer - producers. farmers
Origin, efficacy, organic, business practice
Farmers – become accountable for actions – better prices



Optimization of the Supply Chain:

Reducing the time of origin
Logistics- distribution to retailers
Issues of recall



Transaction

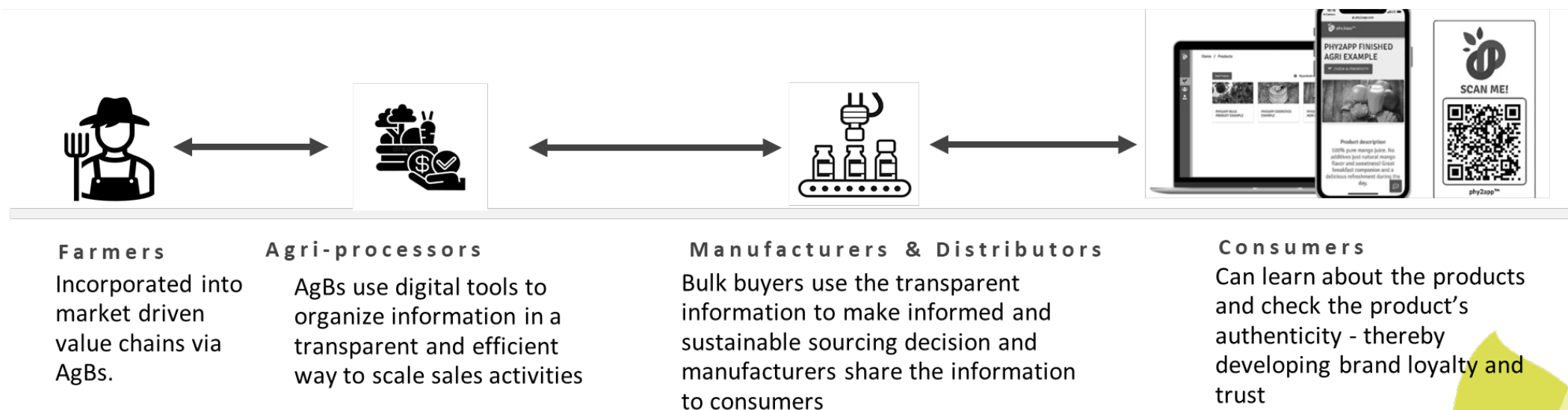
Sell at fair prices
Lowering transaction fees
Documentation



Improving yields







Optimize the production process, reduce costs and reduce environmental impact.
Rea time warnings, monitoring, control at farm level

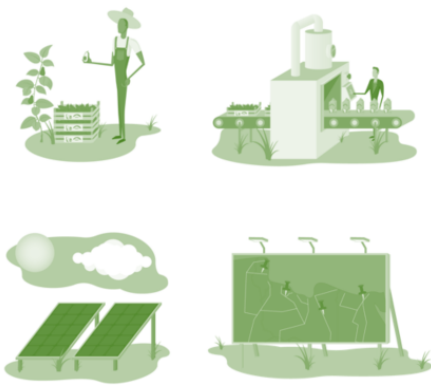
How to Solve Transparency Challenges with Digital Tools



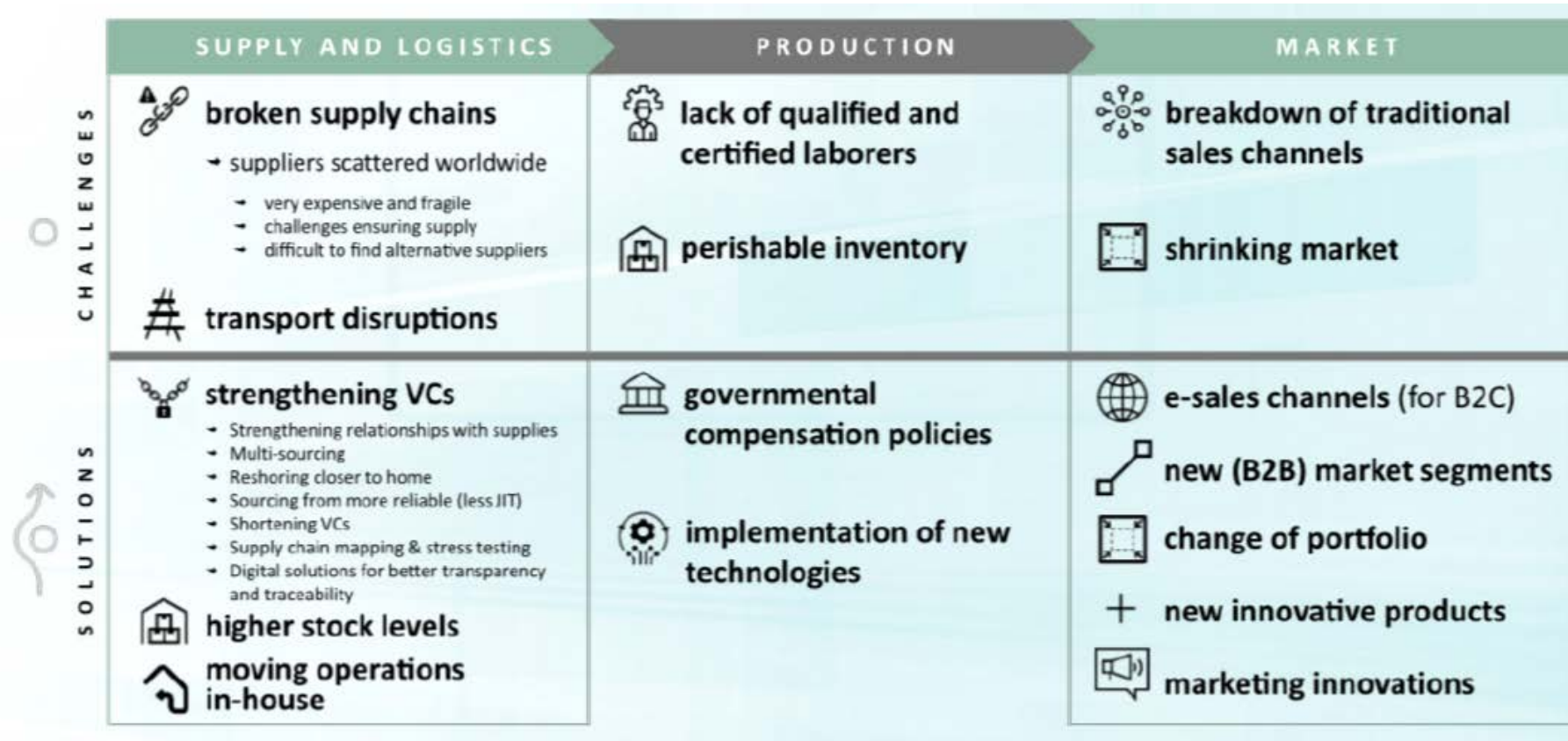
Phy2app ©

How to Solve Transparency Challenges with Digital Tools

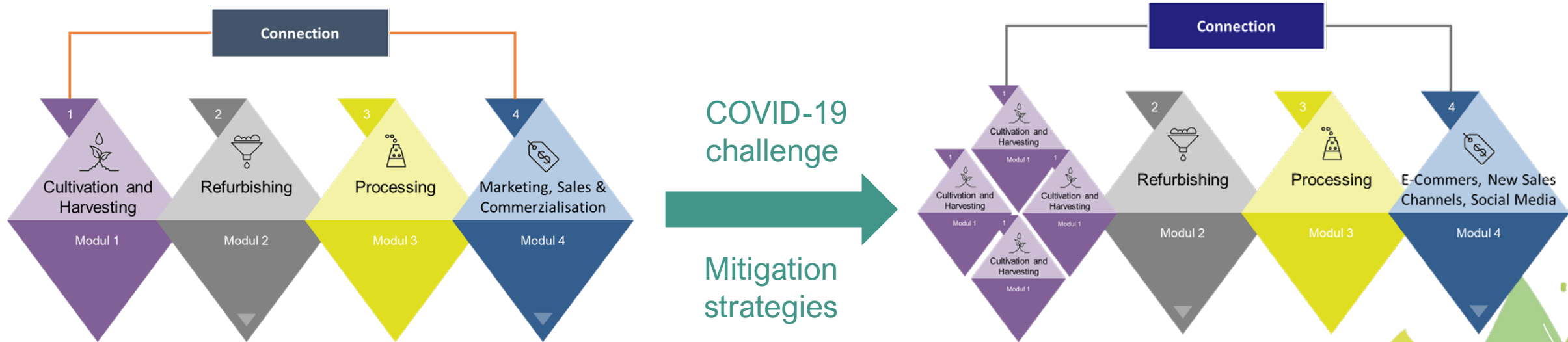
Environmental Impact	Social Impact	Origin
		
Score of importance = $X/5$	Score of importance = $X/5$	Score of importance = $X/5$
East African Market	European Market	Projected Global Market
		
Market Stage = x	Market Stage = x	Forecasted Potential = $X/5$



COVID-19: Challenges and Solutions for MAP Industry in Alpine Region

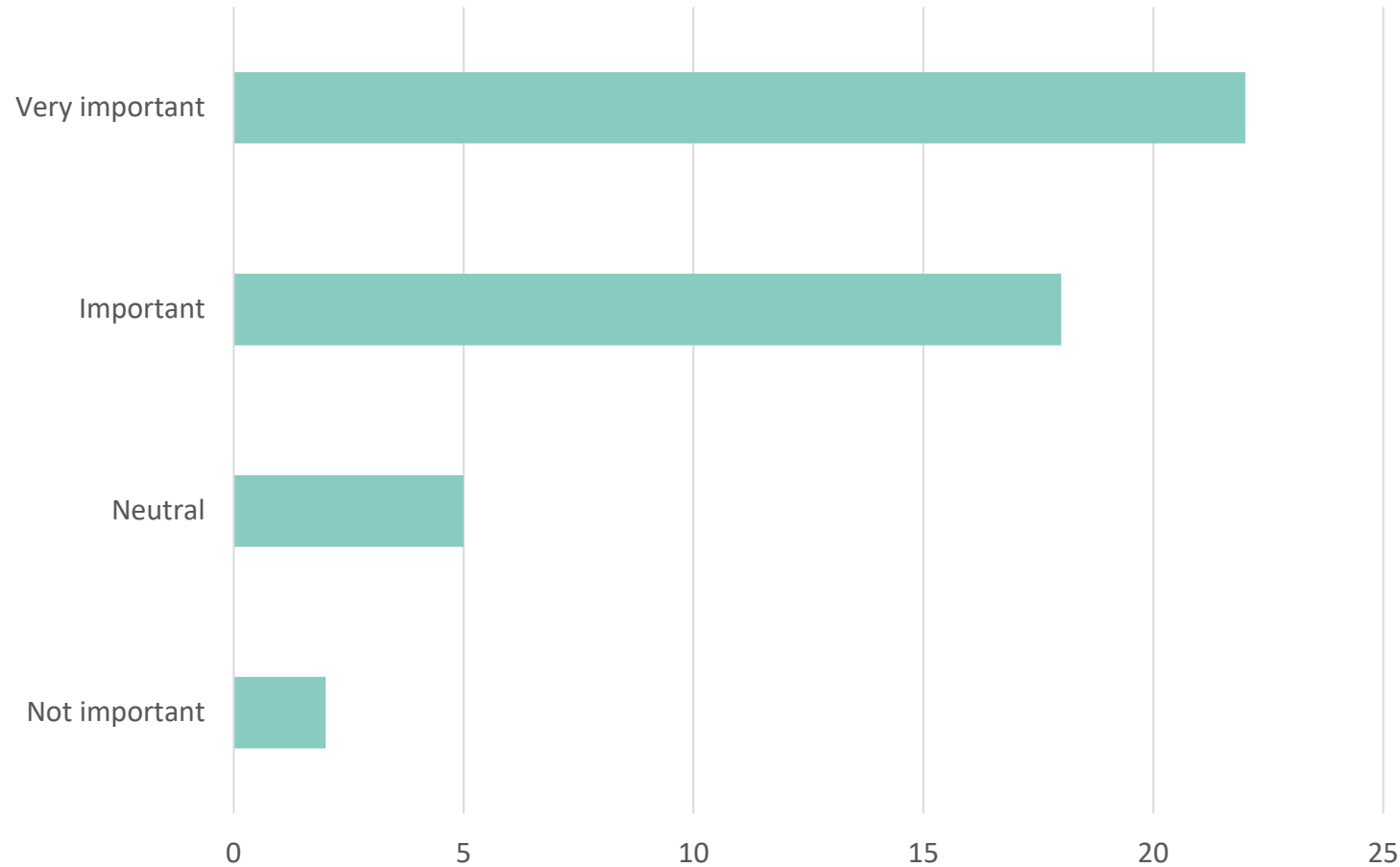


Impact of COVID-19 and Role of Digitalization (II)



Impact of COVID-19 and Role of Digitalization (II)

Importance of Digitalization for Solving COVID-19 Related Issues



Number of respondents
from BW, Slovenia and
Switzerland: 45,
May 2020



Conclusions: Supply Side (Farmers)

- Openness to increase MAP production, if demand is assured
- Lack of knowledge on agronomy of MAPs
- Lack of information on market conditions
- Almost all farmers / producers are certified organic
- GACP – good agriculture and collection practices is challenging, but a must
- Small scale promotion programs missing
- Enormous bureaucracy and regulatory barriers



Conclusions: Supply Side (MAP producers)

- Changing market demand
- Regional aspects may be more relevant for cosmetic than for pharmaceutical products
- New sales channels as respond to COVID-19: e-commerce, online shops and walk-in costumers
- Farming, buying of MAPs and producing is going local



General Conclusions

- Contractual partnerships with length > 1 year common
- Networks / cooperatives mostly not in place or only on a loose basis
- Regulatory aspects are unclear and irritating for all actors involved
- Regional branding of high relevance
- Increased use of digital tools increases resilience and efficiency on farmer and MAP producer level





Have a look at the project website
www.alpine-space.eu/healps2

and follow us



HEALPS2