

# Dual track education in Switzerland with Focus on Curriculum development



**SFIVET**

SWISS FEDERAL INSTITUTE FOR  
VOCATIONAL EDUCATION AND  
TRAINING

*Swiss excellence in vocational  
education and training*



**SEMINAR DUAL EDUCATION IN FLANDERS**

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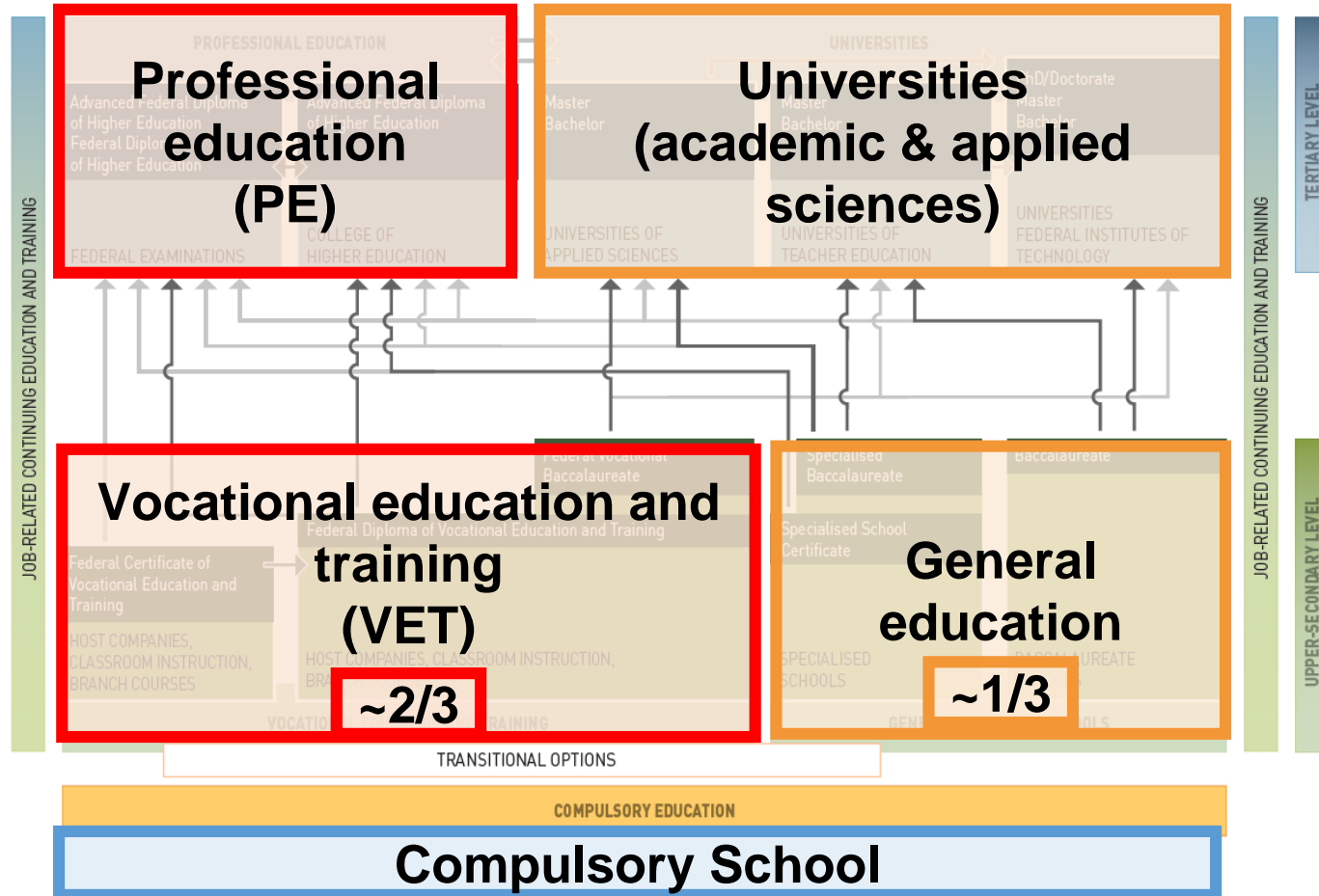
**”Tell me and I forget,  
teach me and I may remember,  
involve me and I learn.”**

# Economic performance linked to VET

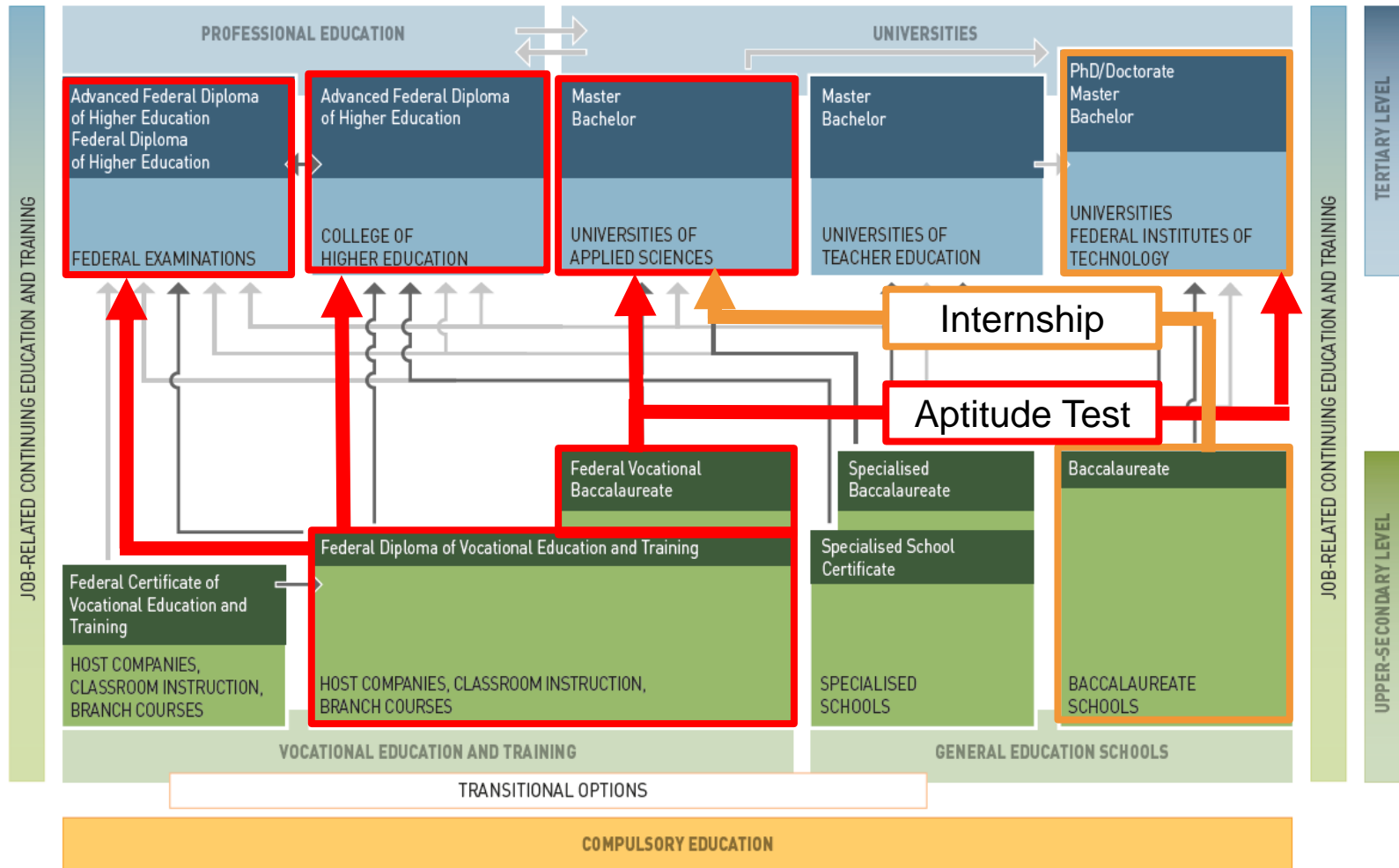
- Low (youth-) unemployment rate
- Switzerland holds a leading position in innovation
- 95 % of the teenagers (16-20y) successfully achieve to complete an educational qualification
- 70% of the young people take the route of VET



# Swiss education system



# Permeability



# Swiss dual-track approach to VET

How does it work ?



## Practice

In-company training  
(3-4 days per week)

Branch courses



## Theory

Classroom instructions at  
VET-school  
(1-2 days per week)

Preparatory course for FVB

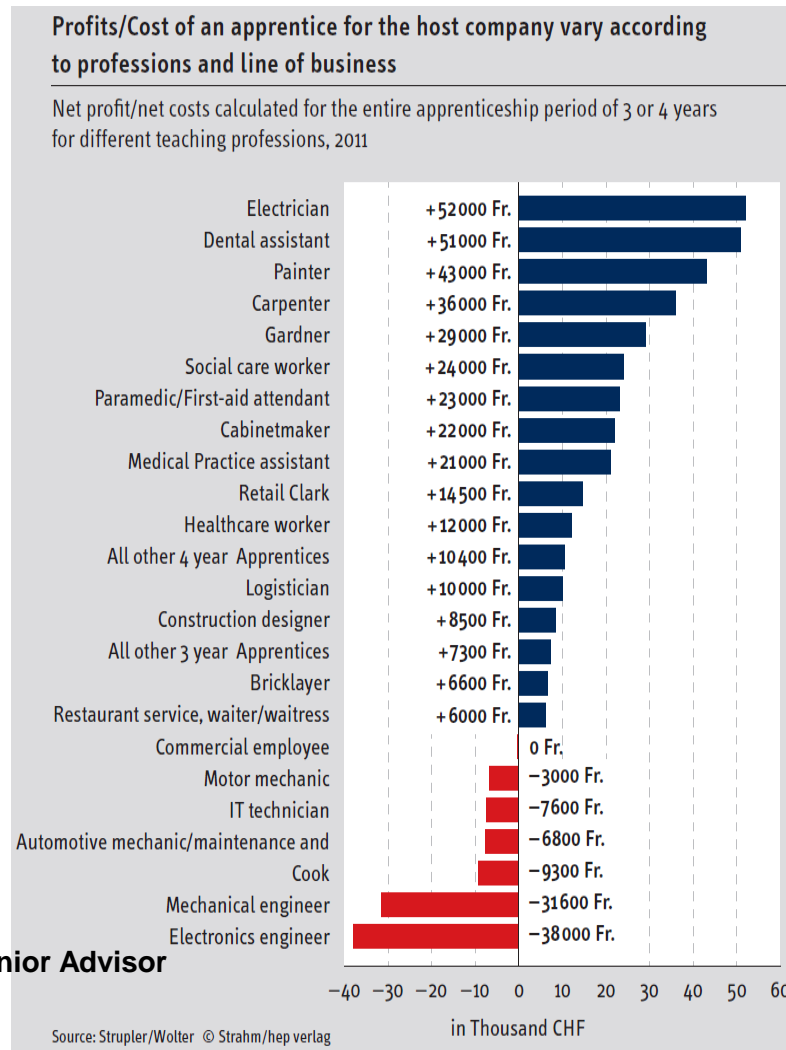
# Swiss dual-track approach to VET

## How does it work ?

- Apprenticeship-contract between company and apprentice
- Apprentice gets a salary from the company
- Apprentice is trained by the company and rapidly integrated in the production/commercial process
- Company needs a permission (e.g. infrastructure, training of instructors)
- Capacity building of teachers (pedagogy – technical skills)
- Competence orientation

# Why do companies train apprentices?

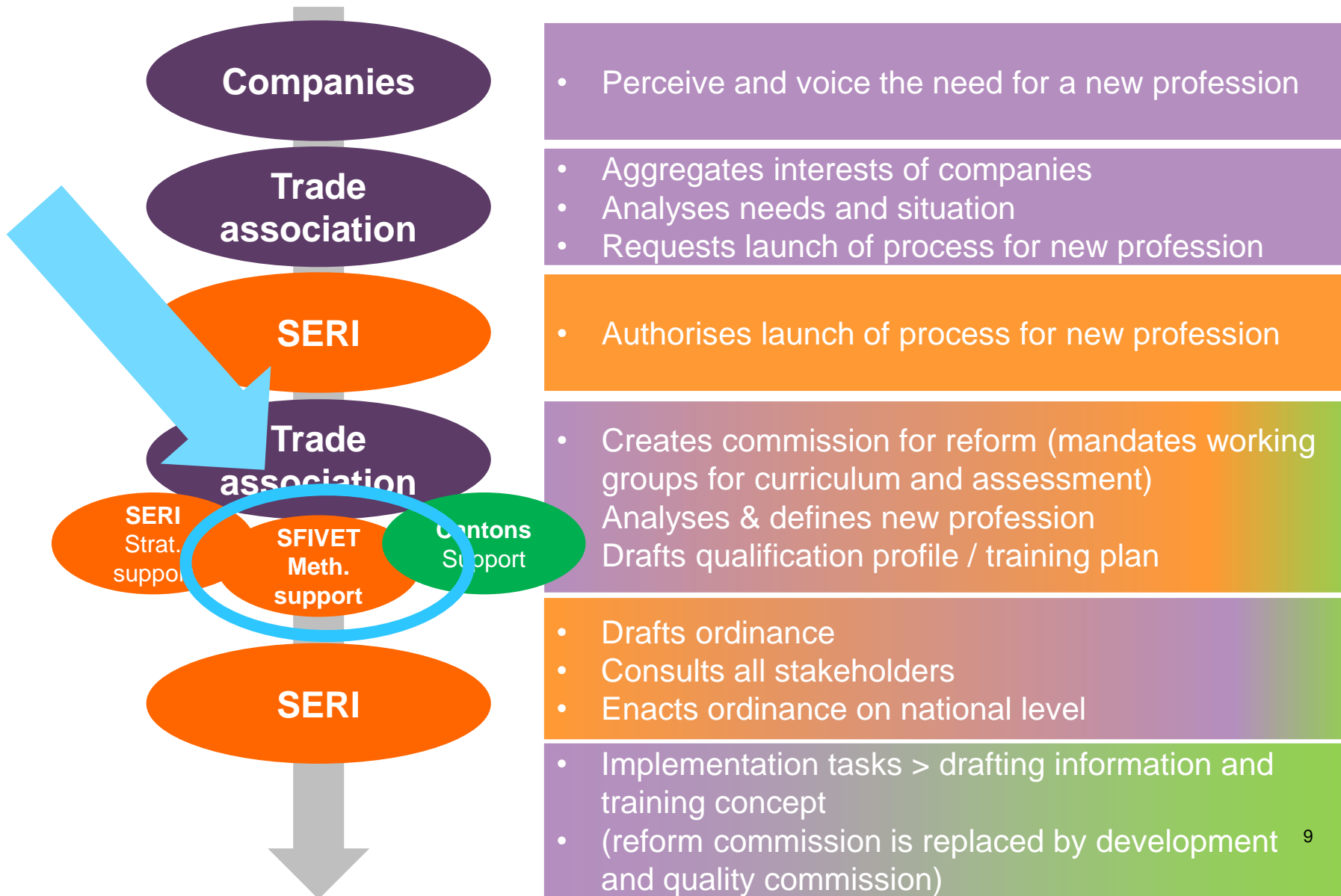
## 1. Apprenticeship is beneficial for companies



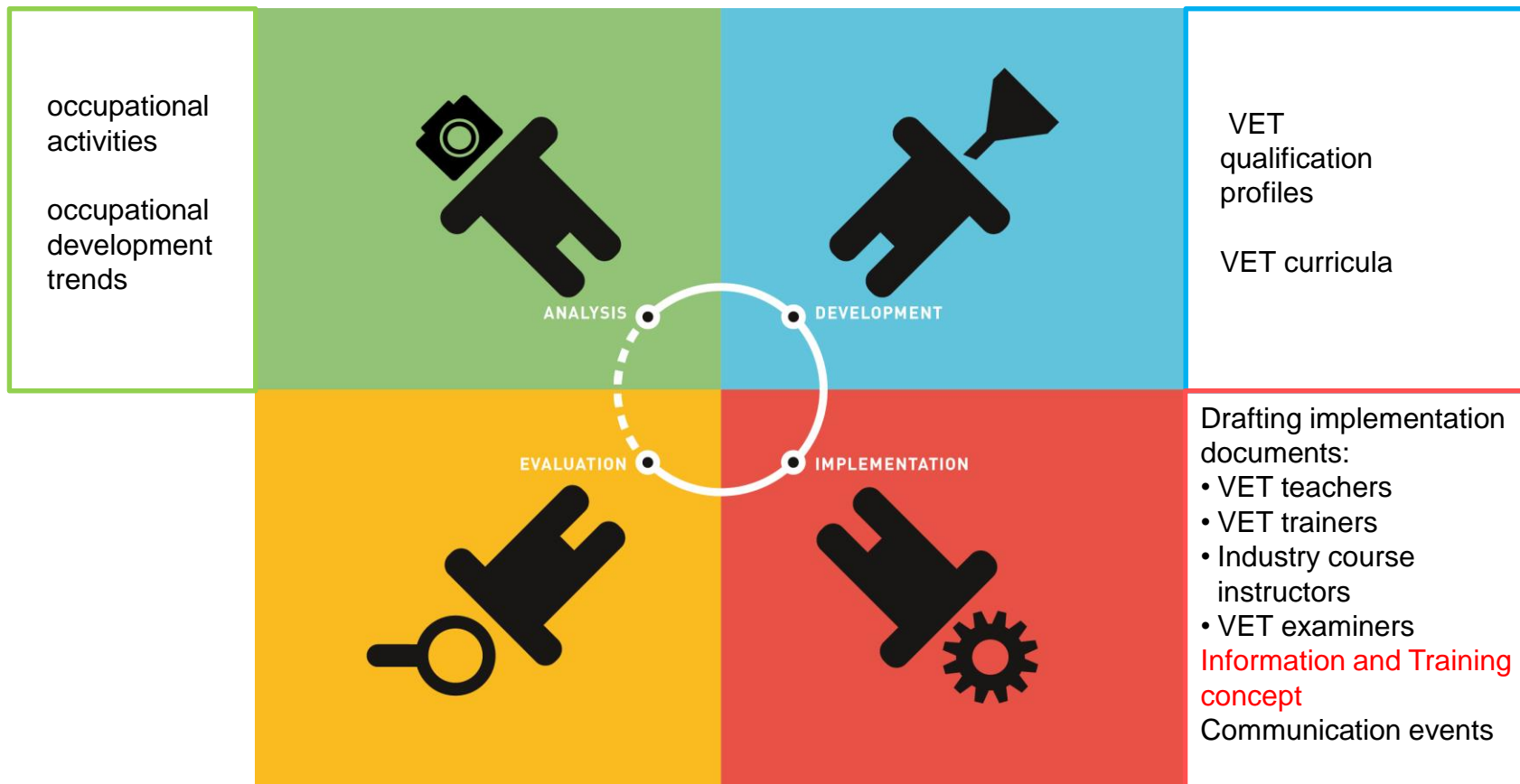
Source: VPET in Switzerland, Strahm, Geiger, Oertle, Swars, 2016



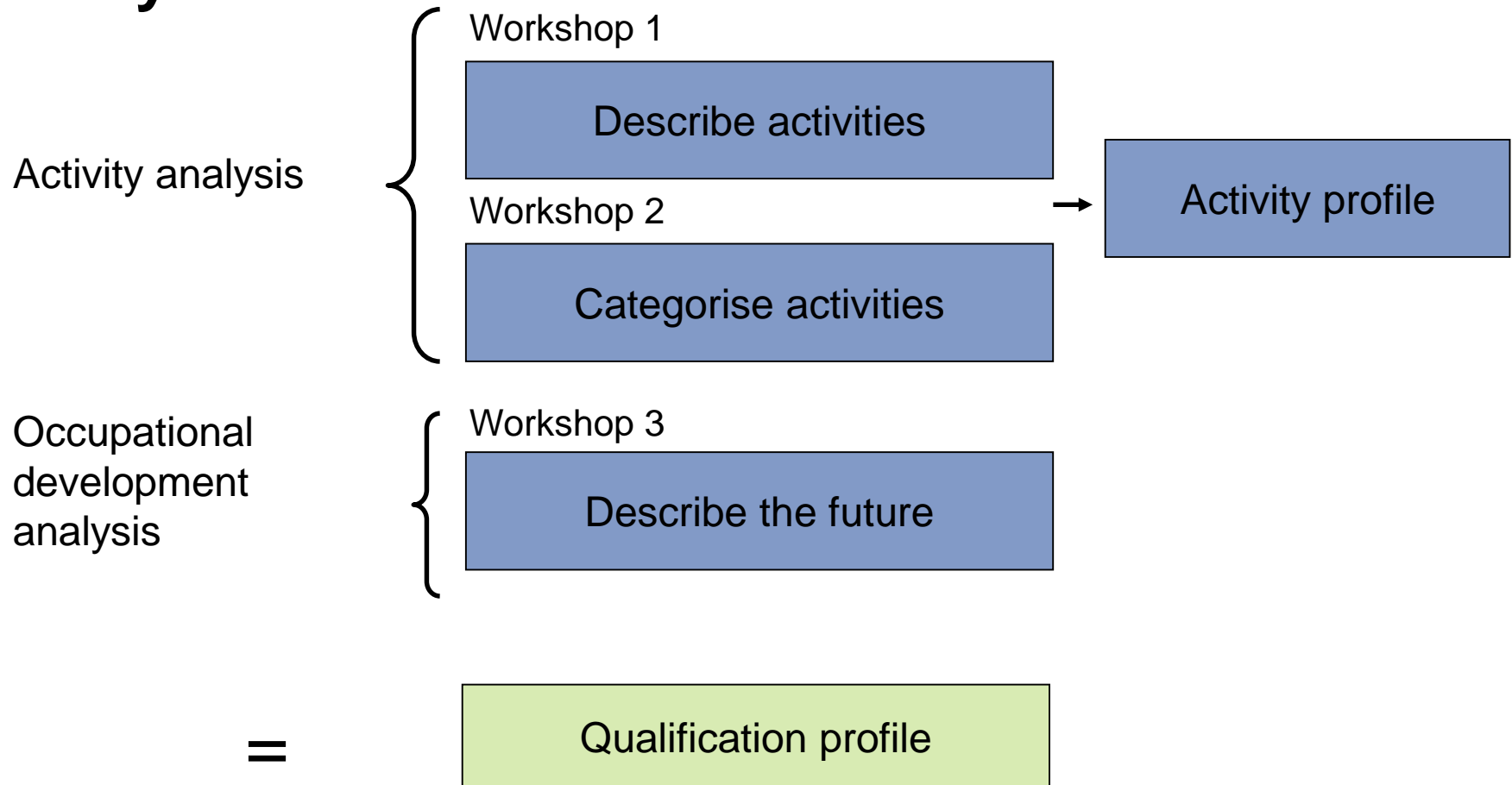
# A new profession in VET



# Development of professions – SFIVET method

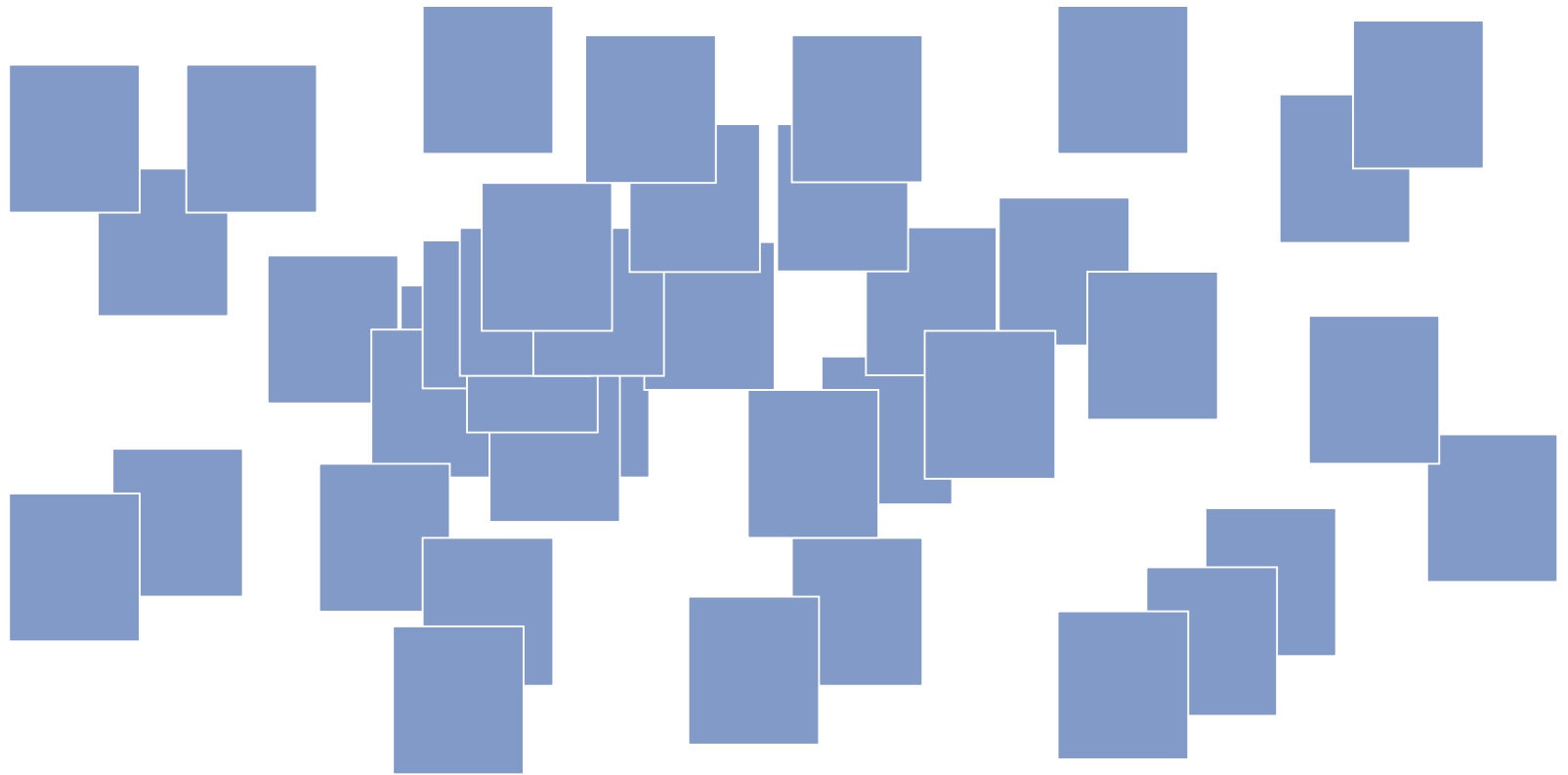


# Elaborating a qualification profile: Overview of analyses



# Workshop 1: Activity analysis

## Having young professionals describe occupational activities





## Activity analysis: Description of work situation

Situation title / Keyword

Aim of work situation, assignment, problem to be solved

Action taken

Outcome/result and client/consumer

Participants

Responsibility (Tasks may be performed by the learner without guidance/supervision or with guidance/supervision)

Material

Tools, machines, auxiliary means

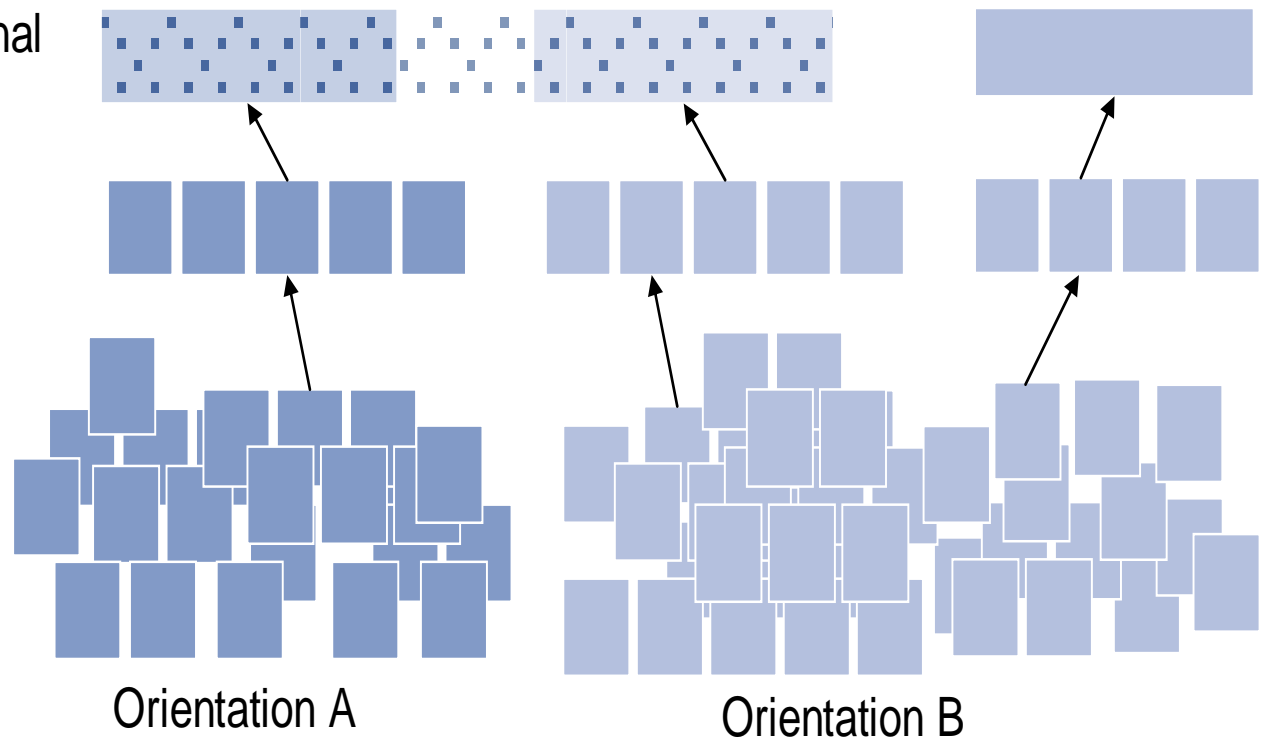


# Workshop 2: Having experienced workers categorise occupational activities

**3** Groups of occupational activities

**2** Similar occupational activities

**1** All occupational activities



# Classification of occupational activities in workshops



# Occupational Activities become Professional Situations

- An occupational activity is carried out in specific context
- Activity + context = professional situation  
(alternatively: work situation, occupational situation)
- Note: **not a problematic** situation (“I had a situation”)



# Result of the analyses:

## Example **situation** profile Gardener (excerpt)

Area of Situation	Professional <b>situations</b>			
	1	2	3	4
<b>Consultation and sales</b>	Advise customers	Take orders	Sell products and services	Write reports and delivery receipts
<b>Delivery and service</b>	Deliver products	Perform services		
<b>Operational maintenance</b>	Supervise production facilities and equipment	Carry out maintenance work	Dispose of material in an environmentally sound fashion	
<b>Planting and seeding</b>	Rework plant and crop surfaces	Plant plants	Create grasslands and meadows	Prepare pots for planting

# Definition of Competence

- Competent we call a person who is able to manage a professional situation successfully. Therefore she/he uses a relevant bunch of resources: knowledge, skills and attitudes.

# Result of the analyses:

## Example competence profile Gardener (excerpt)

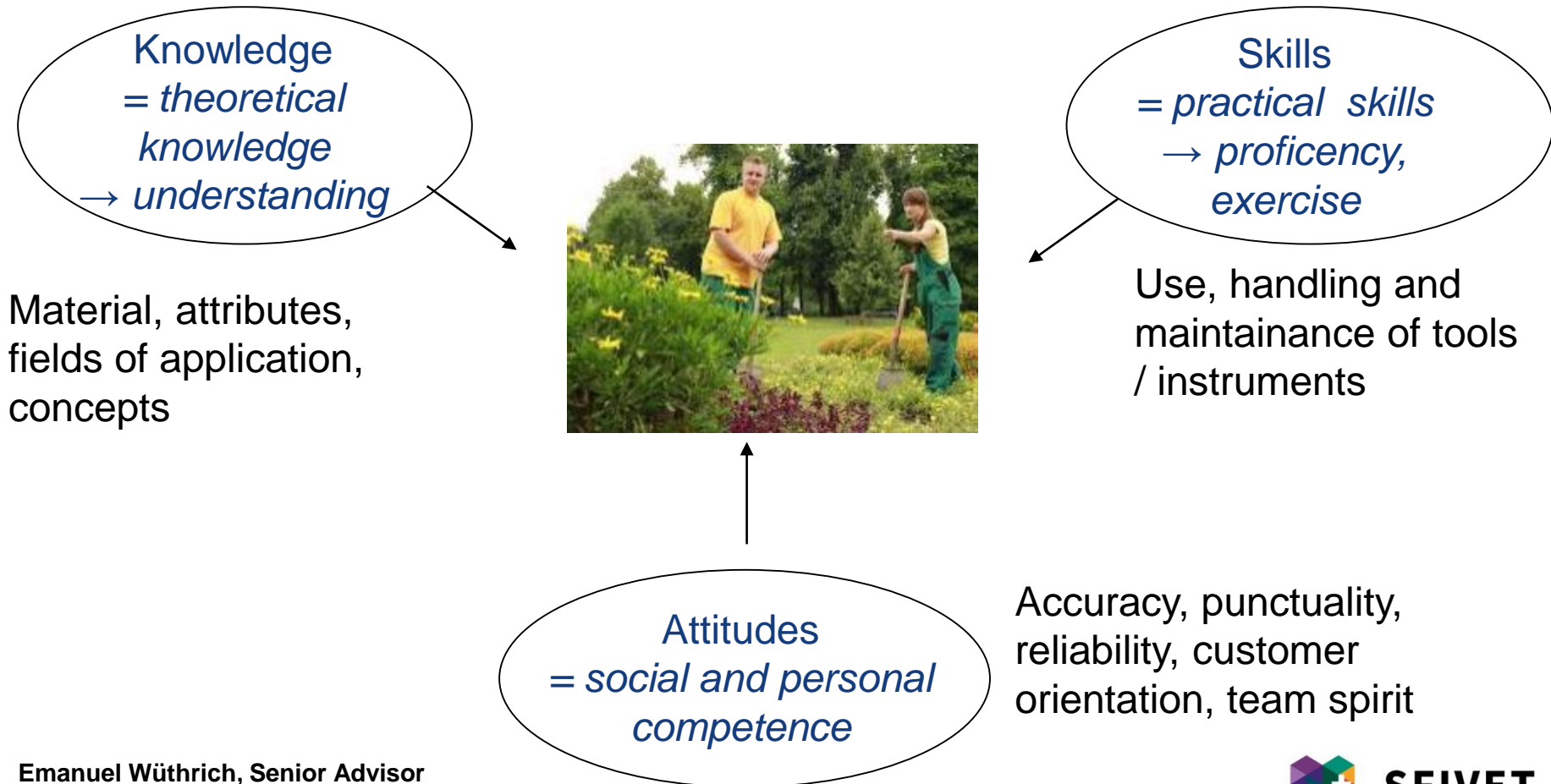
Area of Competence	Professional competences			
	1	2	3	4
<b>Consultation and sales</b>	Advise customers	Take orders	Sell products and services	Write reports and delivery receipts
<b>Delivery and service</b>	Deliver products	Perform services		
<b>Operational maintenance</b>	Supervise production facilities and equipment	Carry out maintenance work	Dispose of material in an environmentally sound fashion	
<b>Planting and seeding</b>	Rework plant and crop surfaces	Plant plants	Create grasslands and meadows	Prepare pots for planting

# Workshop 3: Looking into the future of the occupation – having experts and visionaries develop scenarios



- In Workshop 3 6-10 acknowledged experts and visionaries of the respective occupational field develop scenarios and deduce additional relevant competencies
- These competences may be added to the competence profile.

# Approach to a definition of «competencies»



# Elaborating the curriculum

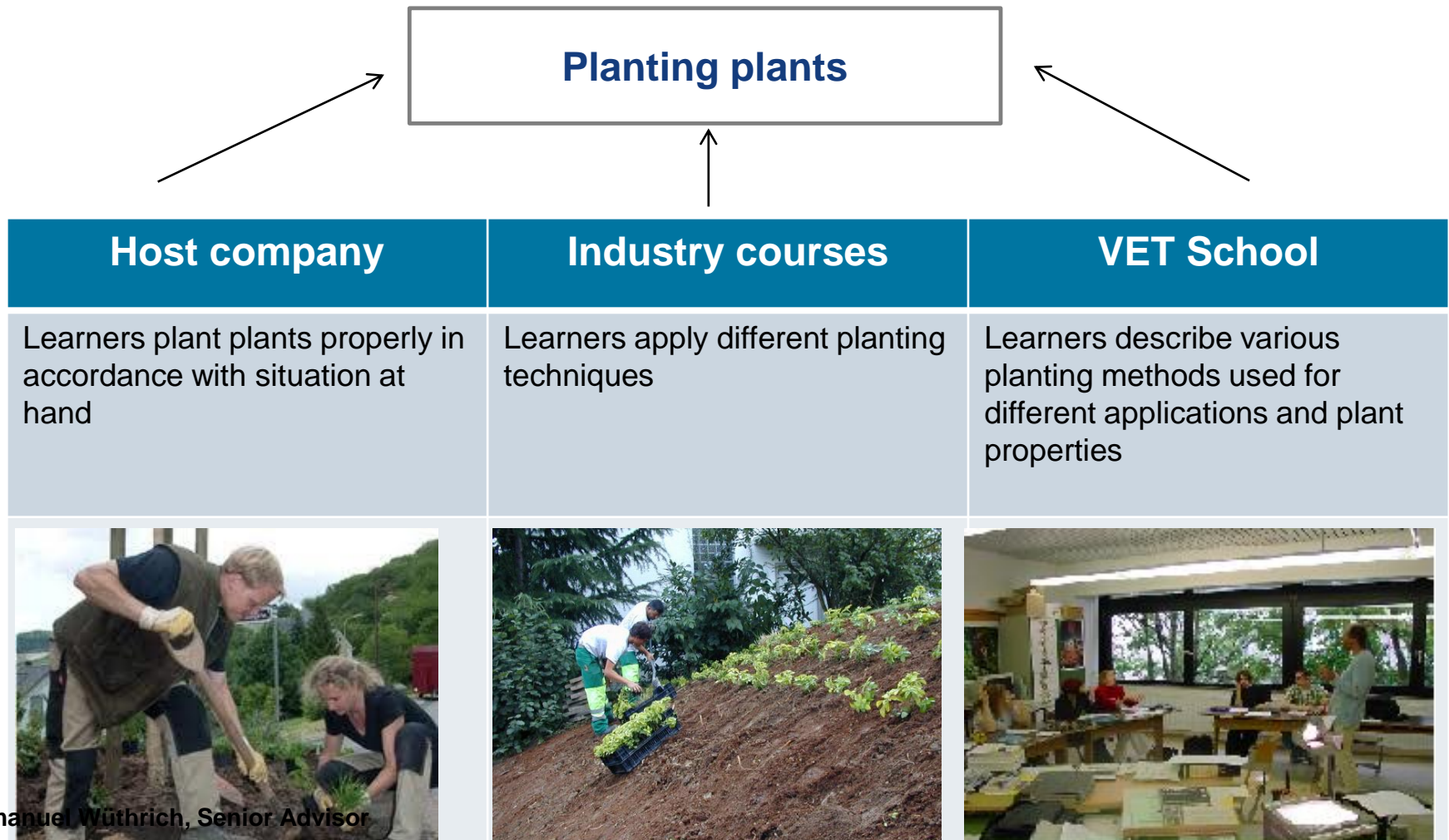
<b>Area of Situation:</b> Handling general milk processing phases	<b>Nr.:A.1</b>
<b>SituationTitle:</b> Receiving, conveying and storing raw materials	
<b>Example of Situation:</b> A specialized milk truck carrying raw milk arrives at the unloading ramp. The handler takes an average sample and gets the accompanying documents from the truck driver. The technician-technologist Maria submits the average sample and the documents to the lab technician Ilya who carries out an analysis for inhibitors and the physiochemical analysis. After she receives the results of the analysis, Maria accepts the milk and transfers it for temporary storage.	
<b>Knowledge required:</b> <ul style="list-style-type: none"><li>• Knowledge about the regulatory requirements, procedures and rules for milk acceptance</li><li>• Knowledge about the physiochemical properties of raw milk and the acceptable values thereof</li><li>• Knowledge about the safety rules and the measures that need to be taken in case of a broken thermometer</li></ul>	
<ul style="list-style-type: none"><li>• Knowledge about the structure and principle of operation of milk acceptance line and the rules for safe operation</li><li>• Knowledge about HACCP (Hazard Analysis and Critical Control Points)</li></ul>	
<b>Skills required:</b> <ul style="list-style-type: none"><li>• Taking average sample</li><li>• Performing laboratory analysis for inhibitors in the milk</li><li>• Performing laboratory physiochemical analysis of the milk (density, acidity, fat content, protein content)</li><li>• Filling-in the acceptance control logbook</li><li>• Checking the condition of the acceptance line and the pathway to the storage tank</li><li>• Monitoring the flow of the milk to the storage tank</li></ul>	
<b>Social competence required:</b> <ul style="list-style-type: none"><li>• Abides by the rules</li><li>• Works with responsibility</li><li>• Works in a team</li></ul>	

Emanuel Wüthrich, Senior Advisor

Competence: Receiving, conveying and storing raw materials	Nr. A1	Belongs to competence area: Handling general milk processing phases Competencies involved: none
Semester /school year: Semester 1 / school year 1		Number of lessons throughout the whole apprenticeship: 4
Semester/year of apprenticeship: [indication in which semester the competence is developed in the company]		Number of lessons per semester: 4 semester 1
Relevant (professional) <u>situations</u> : <ul style="list-style-type: none"> <li>• Receives raw material that is of insufficient quality</li> <li>• Transfer of raw milk suffers malfunction</li> <li>• The quantity of the raw milk is smaller than expected</li> </ul>		Topics involving the relevant knowledge, skills and social competencies according to the <u>CoRe</u> -catalogue <ul style="list-style-type: none"> <li>• Composition and property of milk</li> <li>• Milk <u>acceptance</u></li> <li>• Storage of <u>raw materials</u></li> <li>• Communication of a <u>complaint</u></li> </ul>
Contribution of the <u>company</u> Year 1 <ul style="list-style-type: none"> <li>• Taking average sample</li> <li>• Performing laboratory analysis for inhibitors in the milk</li> <li>• Performing laboratory physiochemical analysis of the milk (density, acidity, fat content, protein content)</li> <li>• Filling-in the acceptance control logbook</li> <li>• Checking the condition of the acceptance line and the pathway to the storage tank</li> <li>• Monitoring the flow of the milk to the storage tank</li> </ul>		<u>Social competencies</u> Year 1 <ul style="list-style-type: none"> <li>• Takes the sample autonomously, precisely, <u>efficiently</u> and <u>tidly</u></li> <li>• <u>Performs laboratory analysis accurately</u></li> <li>• Communicates respectfully and honestly with the client</li> <li>• Respects the company's standards and interests in contact with the client</li> </ul> Year 2 <ul style="list-style-type: none"> <li>• <u>none</u></li> </ul> Year 3 <ul style="list-style-type: none"> <li>• <u>none</u></li> </ul>



# Development of the Training Plan: Defining learning objectives for the three learning sites

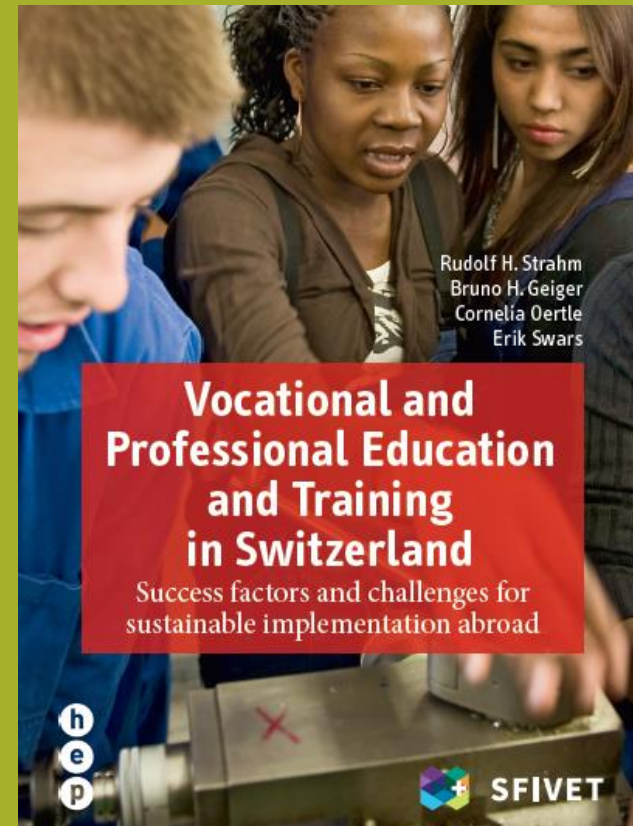




# Implementation:

Information and Training Concept  
(established by the association on behalf of  
the commission for development and quality):

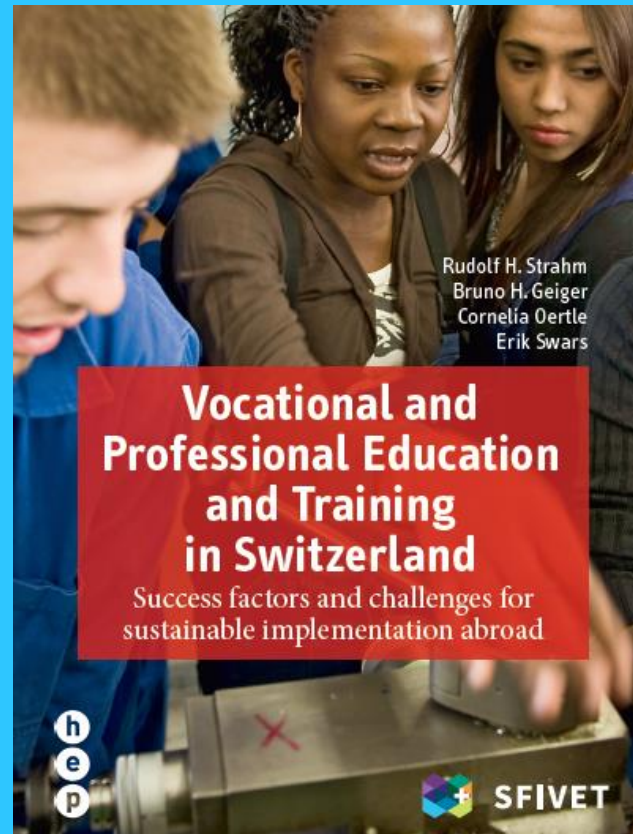
- Who is informed?
- Who is trained?
- On what?
- When?
- By whom?
- Where?
- Who pays?
- Who organizes?



# Thank you for your attention!

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