



**Politécnico  
de Coimbra**

**Pact for Skills**



# **European Qualifications & Competences for the Vegan Food Industry**

**621581-EPP-1-2020-1-PT-EPPKA2-SSA**

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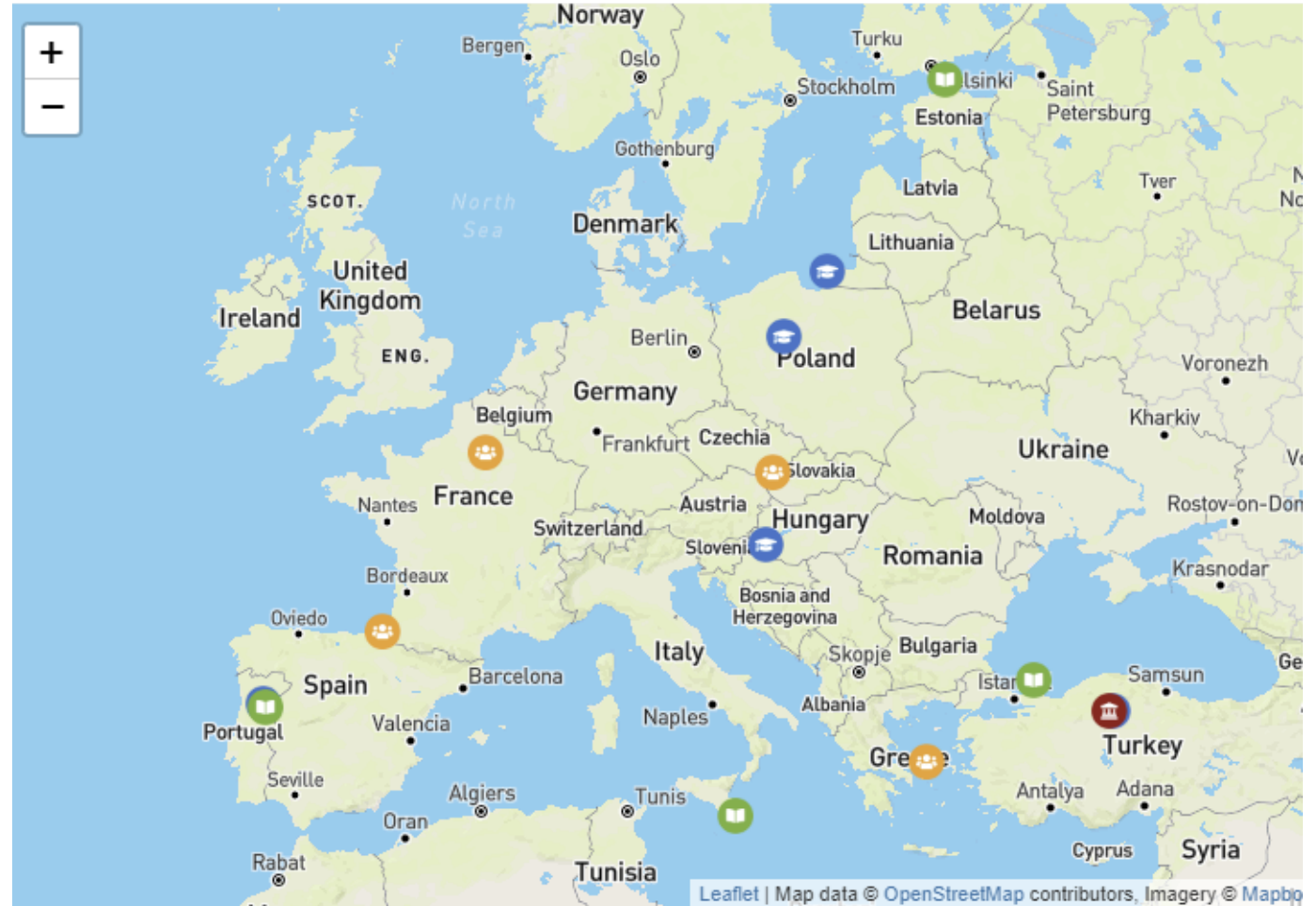
**Rui Costa**

**16 Dec 2022**



# Partnership

- 1 Ministry
  - 1 Qualifications agency
  - 2 University applied sciences
  - 3 Universities
  - 1 Sec. educ – university
  - 1 Secondary education school
  - 1 Training organization
  - 2 Industry federations
  - 2 Associations of professionals
- 11 countries





**Politécnico  
de Coimbra**

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aCTAe



Prof. Dr Rui Costa

December 16, 2022

The Agri-Food Pact for Skills – Update and upcoming activities



# THIS PRESENTATION

**01**

**Driving forces for  
change of the  
training of food  
industry  
professionals**

**02**

**EQVEGAN  
trainings**

**03**

**EQVEGAN  
certification and  
work-based  
learning**

# Driving forces for change of the training of food industry professionals

Plant based

Automation

Sustainability

Soft skills

Work-based  
learning

Mobility/valorizati  
on of  
professionals

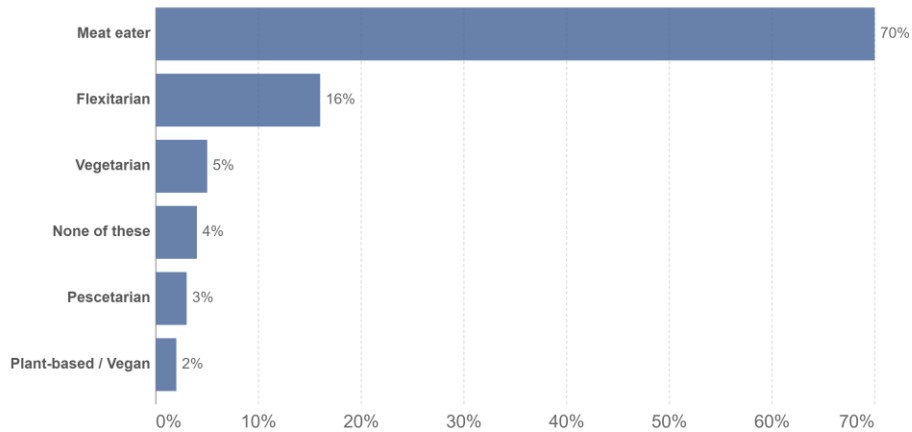
# Plant based

# Plant based

## Vegans, vegetarians and meat-eaters: self-reported dietary choices in the UK, All adults, Jul 11, 2022

Our World in Data

- Flexitarian: mainly vegetarian, but occasionally eat meat or fish
- Pescetarian: eat fish but do not eat meat or poultry
- Vegetarian: do not eat any meat, poultry, game, fish, or shellfish
- Plant-based / Vegan: do not eat dairy products, eggs, or any other animal product



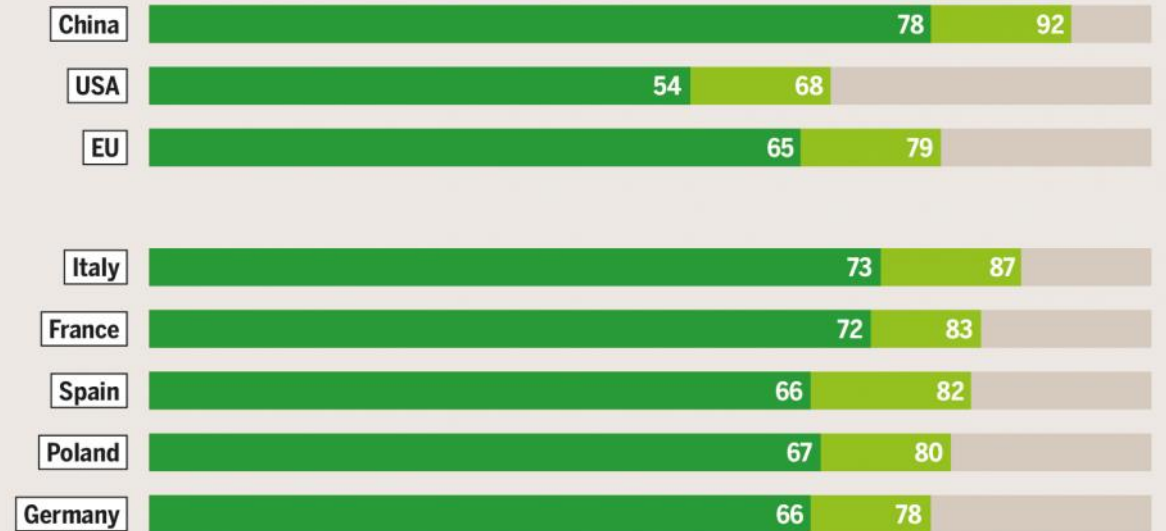
Source: YouGov (2021) OurWorldInData.org/meat-production • CC BY  
 Note: Based on biannual survey data of adults aged 18 years and older. Around 2000 adults are included per survey.

## DOWNSIZING THE RED MEAT PORTIONS

Responses to a survey, 2019, percent

“Have you reduced your red meat intake to fight climate change?”

- have done so already
- intend to do so



Participants: China, USA: 1,000, EU: 28,088, other: 2,000

© MEAT ATLAS 2021 / EIB

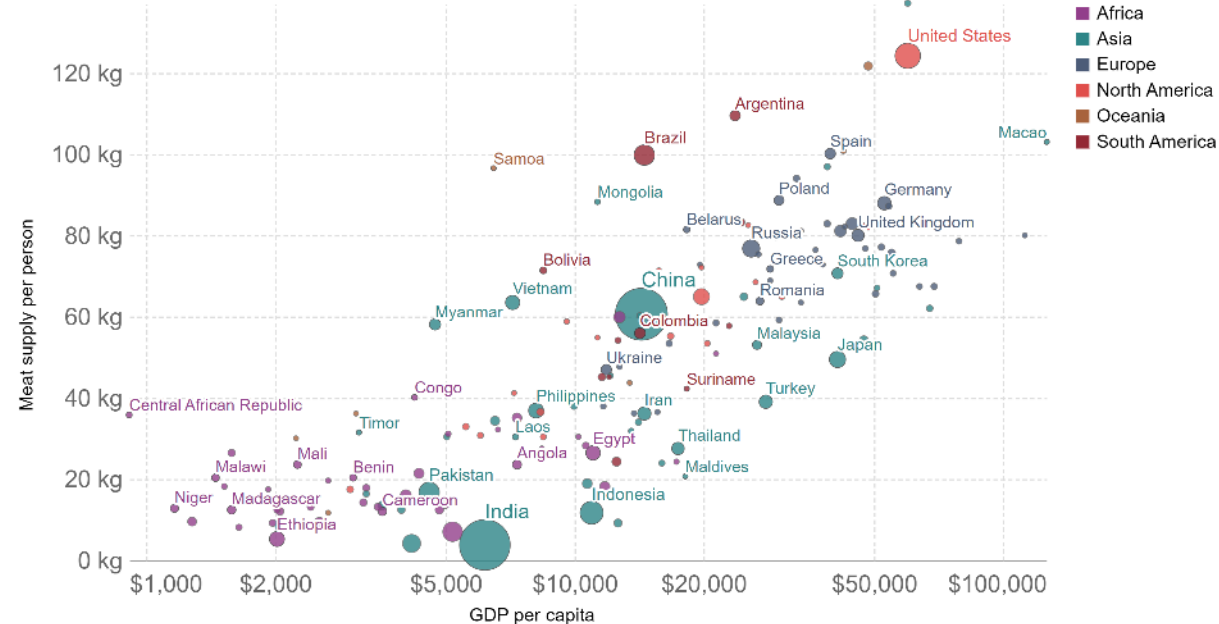
<https://eu.boell.org/en/2021/09/07/active-state-political-economy-transforming-meat-system>

# Meat consumption

## Meat consumption vs. GDP per capita, 2017

Average meat consumption per capita, measured in kilograms per year versus gross domestic product (GDP) per capita measured in constant international-\$. International-\$ corrects for price differences across countries. Figures do not include fish or seafood.

Our World  
in Data



Source: Food and Agriculture Organization of the United Nations, Data compiled from multiple sources by World Bank  
OurWorldInData.org/meat-production • CC BY





<https://www.greenqueen.com.hk/10-stats-that-prove-that-plant-based-is-the-future-of-food/>

# Plant based processing



## Technology of...

- Meat analogues
- Fish analogues
- Dairy analogues
- Egg analogues
- Vegetable drinks
- Mycoprotein
- Seaweeds



## Nutrition (diets)



## Food safety issues



## Food product development insights (trends, shelf life, law)

# Sustainability

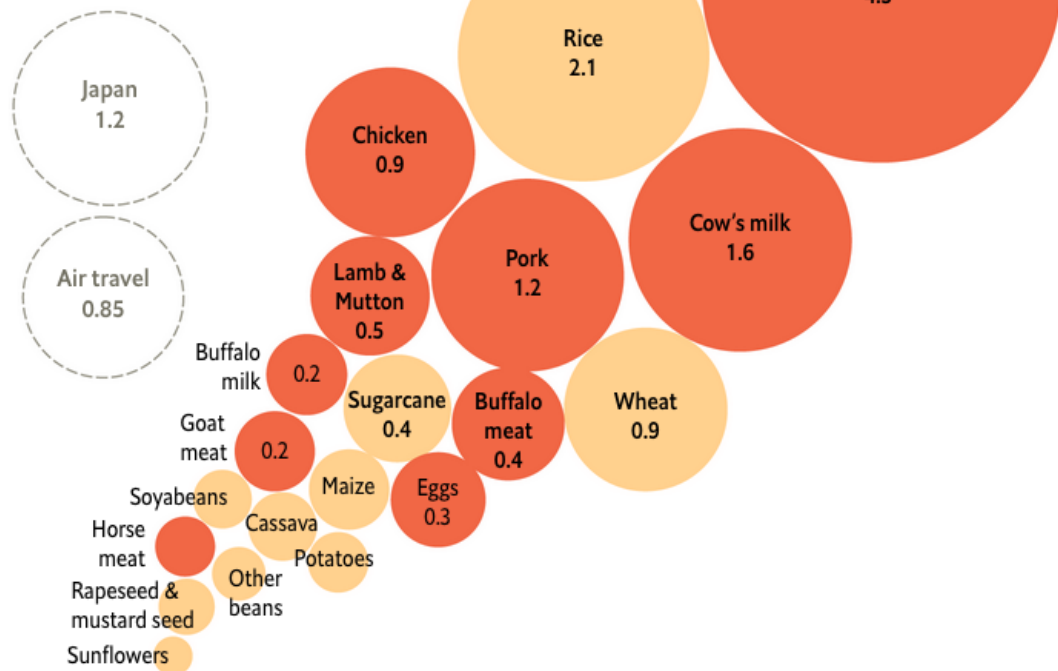
# The Economist

## Annual emissions, CO<sub>2</sub>-equivalent gigatonnes

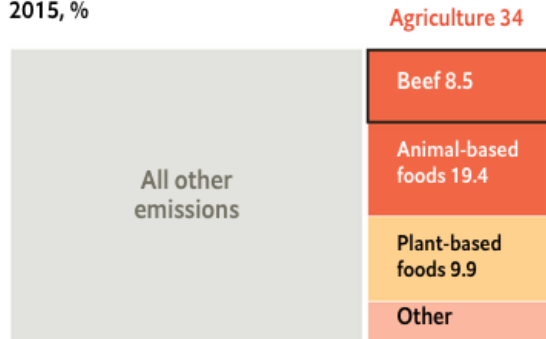
Ten biggest sources in each category, 2010

● Animal-based ● Plant-based

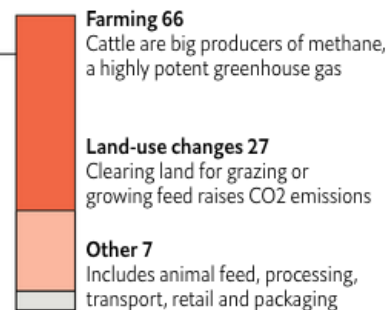
Compared with total emissions from



## Share of global emissions 2015, %



## Emissions from beef production By type, %



# Climate change

GoodSignal: Changing The Climate: The Role of Alternative Proteins

**“Global temperatures have risen by 1.1°C as compared to 1850 levels**

**UN Environment Programme (UNEP) just a week before COP27 stated that there were no longer any viable pathways available to achieve the 1.5°C threshold by 2030.**

**To meet the 1.5°C threshold, a 44% reduction in current emissions<sup>6</sup> will be needed to achieve the targets – a herculean task. Our food system, which emits a third of global emissions, will play a crucial role. Animal agriculture amounts to a significant component at 14.5% of total global emissions.**

**Plant-based meat currently commands 1.4% of the conventional meat market.<sup>8</sup> Experts predict alternative proteins will command between 7% to 14% of the conventional animal agriculture market share by 2030 (2% of emissions).<sup>9</sup>”**

# Green skills

- Energy/water/waste critical points
- Food waste – targeting consumers
- Waste management
- Food by-products
- Circular economy
- Green economy
- Environmental footprints

# Automation

# AAA advanced skill clusters

## Digital delivery

- Web development
- User interface design
- Data visualization
- Automated testing technics
- Application programming interface

## Data Science

- Mathematical modeling
- Big data analytics
- AI and machine learning
- Web analytics
- Simulation

## Data engineering

- Data wrangling
- Cloud computing
- Cloud security architecture
- Data mining
- Data techniques

## Automation & robotics

- Robotics
- Automated testing
- Automation
- Computer-aided manufacturing
- Industrial automation

<https://www2.deloitte.com/us/en/insights/industry/retail-distribution/digital-skills-food-industry.html> (2019)

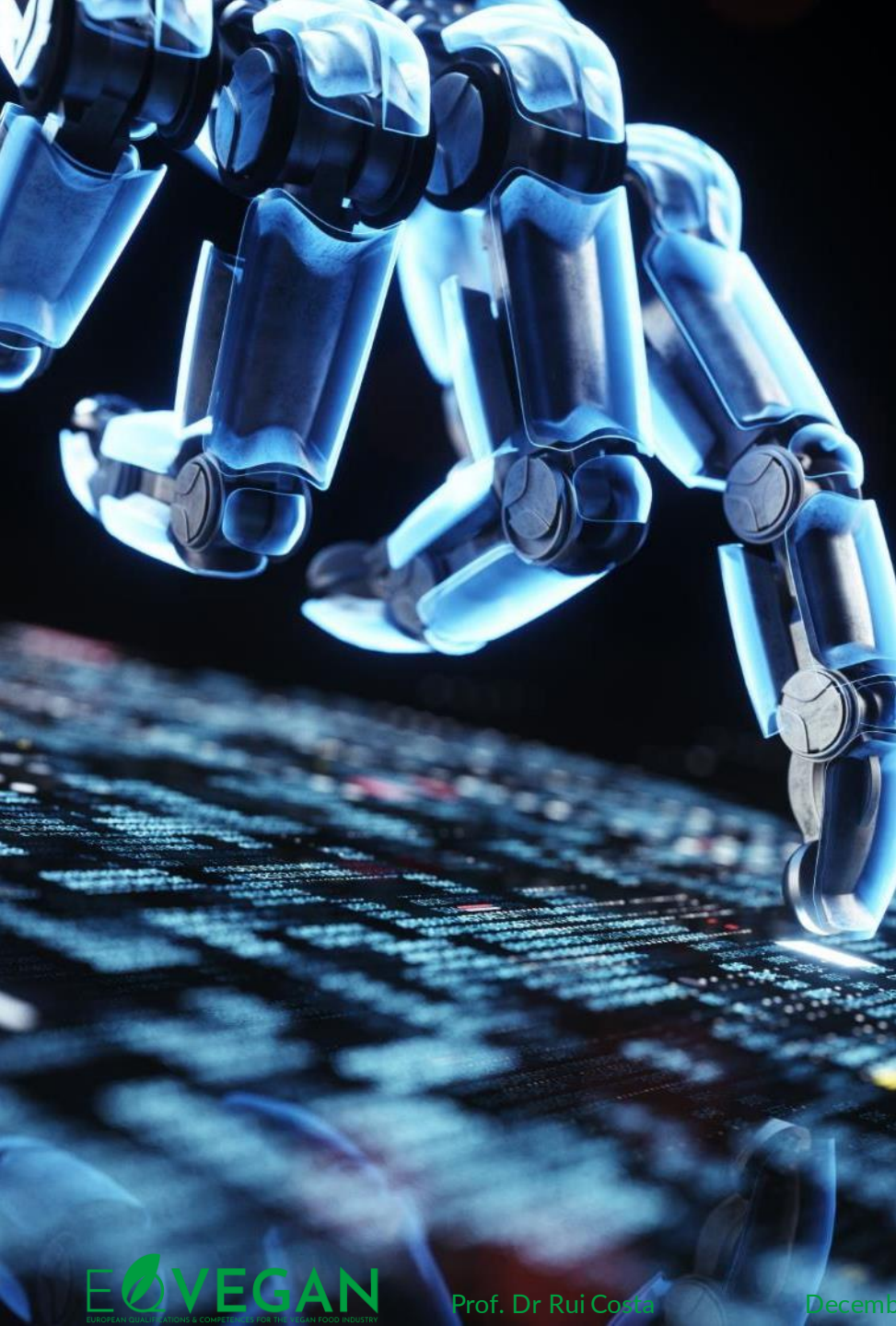


# AAA advanced skill clusters

## Automation & robotics

- Robotics
- Automated testing
- Automation
- Computer-aided manufacturing
- Industrial automation

<https://www2.deloitte.com/us/en/insights/industry/retail-distribution/digital-skills-food-industry.html> (2019)



# Digitalization and automatization skills

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## ICT

operate with basic ICT, working with human-machine interface; use different software, like traceability, IoT)

## Automation

operate effective cooperation with automation specialists, basic understanding of automated systems, identify common sensors in the automation of components and use cases for sensors, etc

## Robotics

identify various types of robots, operate fault diagnostic of robots, select devices for the automatic handling of products, etc.

## Electives

additive manufacturing technologies, machine vision, artificial intelligence and machine learning

# Soft skills

GLOBAL

# Consumer Trends 2022

## 01 IN CONTROL

In times of uncertainty, consumers crave a sense of control over their lives. Brands can deliver the information and options that consumers need to feel like they're in the driver's seat.

## 03 ETHICS CHECK

While many brands have made their voices heard on controversial topics, consumers want to see measurable progress against their goals.

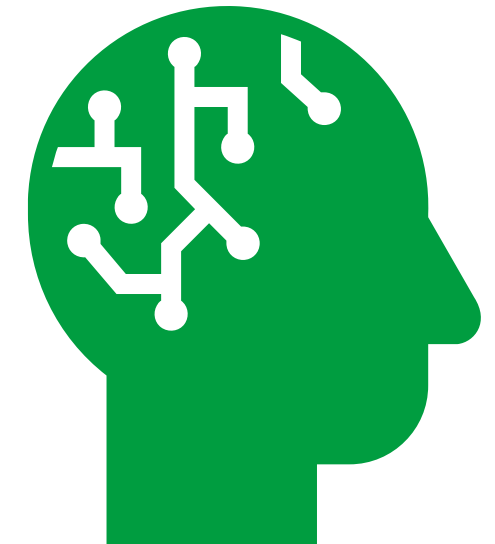
## 02 ENJOYMENT EVERYWHERE

Having endured lockdown, consumers are eager to break out of their confines and explore, play and embrace novel experiences, both virtually and in the 'real', physical world.

## 04 WHAT ELSE IS HAPPENING IN 2022?

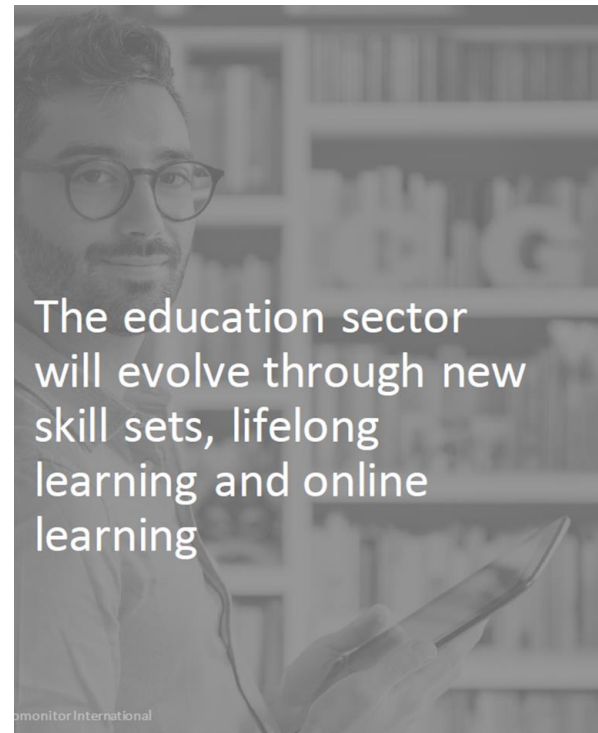
- Flexible Spaces
- Climate Complexity

# Most relevant soft skills for the food industry

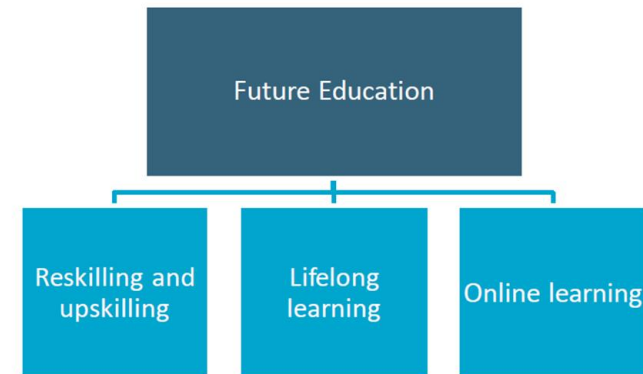


Domains	Skills
Critical and innovative thinking	Problem solving
	Critical thinking
Interpersonal skills	Active listening
	Optional knowledge (Project management)
	Planning and organization
	Leadership
	Team building management
Intrapersonal skills	Team working
	Self-management (time, stress, organization)
	Self-awareness
Other	Ethical understanding

# Training aligned with education trends



19



EUROMONITOR INTERNATIONAL

# Training needs

01

**Plant based processing**

02

**Green skills**

03

**Digital and automatization skills**

04

**Soft skills**

## Sector Skills Alliance

EQVEGAN is a Sector Skills Alliance to prepare innovative trainings to sustain the quick change occurring in the food industry towards the production of vegan food, sustainability, and industry 4.0. Be a part of it!

Know More



# Occupations in the food industry

## Food operator

- EQF 4 (vocational secondary education)



## Food technician

- EQF 5 (short cycle)



## Food technologist/engineer

- EQF 6 (bachelor)
- EQF 7 (master)



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## The European Qualifications Framework

The EU developed the **European Qualifications Framework (EQF)** as a translation tool to make national qualifications easier to understand and more comparable. The EQF seeks to support cross-border mobility of learners and workers, promote lifelong learning and professional development across Europe.



International  
Labour  
Organization

Promoting jobs,  
protecting people



ESCO

European Skills/Competences, qualifications and Occupations

[About the ILO](#)

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[Meetings and  
events](#)

[Publications](#)



ISCO

International Standard Classification of Occupations



# EQVEGAN certification and WBL

# certification and WBL

**Work-based learning  
database**



**Guidelines for work-based  
learning and recognition of  
prior learning**



**Occupational profiles of food  
professionals, ready to be  
incorporated in ESCO**



**Certification of job profiles**



# What are Digital Credentials

European Digital Credentials describe a learning achievement. They can describe activities, assessments, and professional entitlements as well as qualifications.

The [European Commission](#) is developing the European Digital Credentials Infrastructure (EDCI) to support efficiency and security in how credentials such as qualifications and other learning achievements can be recognised across Europe.

Work is ongoing on the development of the European Digital Credentials Infrastructure (EDCI). The EDCI will support authentication services for any digital documents or representations of information on skills and qualifications as outlined in [Article 4 \(6\) of the Europass Decision](#).

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[Know More](#)



A photograph of three people in an office environment. A woman with long red hair and glasses is in the center, smiling broadly with her right hand raised. To her left, another woman with glasses is also smiling and looking upwards. To the right, a man with a beard is smiling and raising his right hand. The background shows large windows and a green plant.

Discover opportunities  
to upgrade your  
**Food Industry skills!**

# CONTACT

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ISEKI Food Association

[EQVEGAN.EU](http://EQVEGAN.EU)

[FOOD-SKILLS.EU](http://FOOD-SKILLS.EU)

*Thank you for your attention!*

ERASMUS+ Sector Skills Alliance EQVEGAN  
European Qualifications & Competences for the Vegan Food Industry.  
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