



European  
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# Apprenticeships in construction:

Driving the green transition in the  
EU through the Renovation Wave

11:00 - 12:30 | 29 November 2023

Employment,  
Social Affairs  
and Inclusion



# Welcome

Ana Carrero, Deputy Head of Unit,  
DG EMPL, B3 Unit - Vocational Education and Training, European Commission

# Agenda

Time	Sessions
11:00 – 11:03	<b>Welcome by Ana Carrero</b> , Deputy Head of Unit in the European Commission, DG EMPL, B3 Unit - Vocational Education and Training.
11:03 – 11:15	<p><b>Part I: Thematic introduction</b></p> <p><b>Stelina Chatzichristou</b>, Expert in Research and Policy Analysis in Vocational Education and Training, CEDEFOP</p> <ul style="list-style-type: none"> <li>• Presentation on the results from the Skills intelligence data insights on 'The greening of the EU construction sector'.</li> </ul>
11:15 - 11:55	<p><b>Part II: Presentations: Inspiring practices</b></p> <ol style="list-style-type: none"> <li>1. <b>Rolf Gehring</b>, Political Secretary at European Federation of Building and Woodworkers (EFBWW)</li> <li>2. <b>Carmen Devesa</b>, Director of Innovation at AEICE Efficient Construction - Spain</li> <li>3. <b>Angela Martina</b>, Vocational Education &amp; Training Chair at European Construction Industry Federation (FIEC)</li> <li>4. <b>Marcel Deravet</b>, Project Manager at Institute for training in construction sector (IFSB) - Luxembourg</li> </ol>
11:55-12:15	<b>Part III: Joint discussion on challenges and trends</b>
12:15-12:25	<b>Q&amp;A session</b>
12:25-12:30	<b>Concluding remarks</b>

# Housekeeping rules

- Your **microphone and camera will be turned off** at all time.
- We encourage you to use the **chat** to leave comments and interact with other participants during the event.
- Please note that this event will be **recorded**.
- If you are having any **technical issues**, please send us a message through the chat or contact us at [eaafa.events@ecorys.com](mailto:eaafa.events@ecorys.com)



# Part I:

# Thematic introduction

Stelina Chatzichristou, Expert in Research and Policy Analysis in Vocational Education and Training, CEDEFOP



# Skills in transition in the construction sector: the importance of skills intelligence

Stelina Chatzichristou  
Expert, Cedefop

European Alliance for Apprenticeships

*Apprenticeships in construction: Driving the green transition in the  
EU through the Renovation Wave*

November 29th, 2023

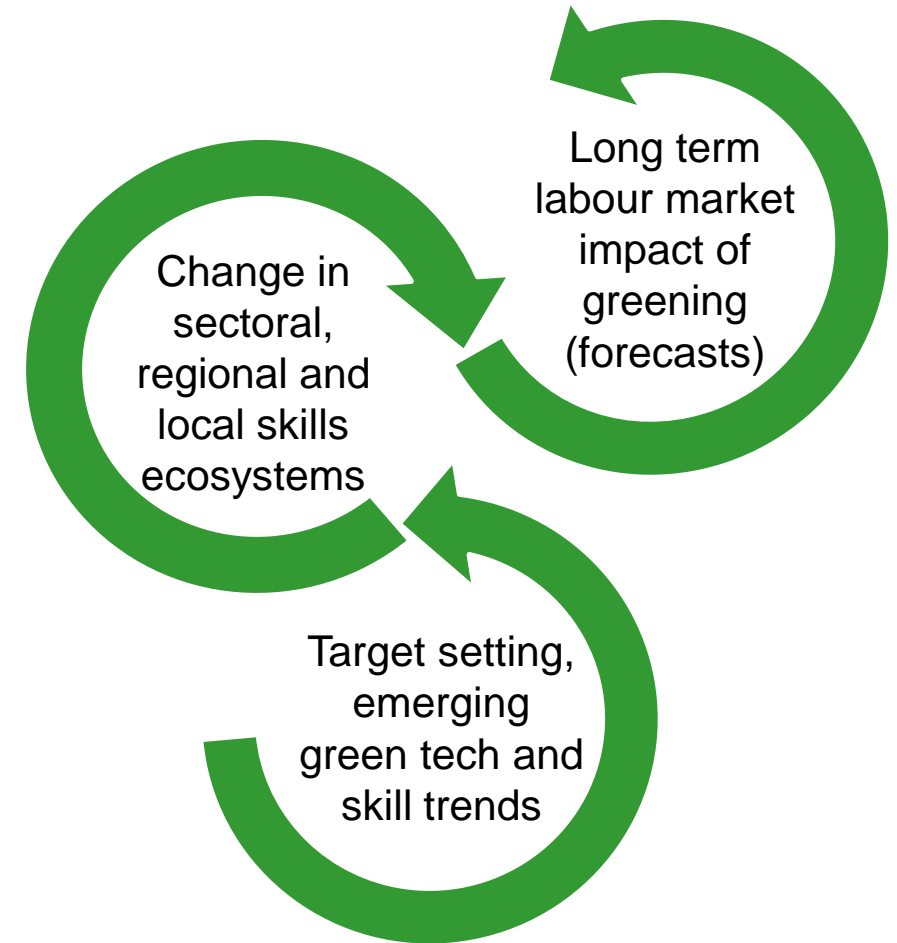


**CEDEFOP**

European Centre for the Development  
of Vocational Training



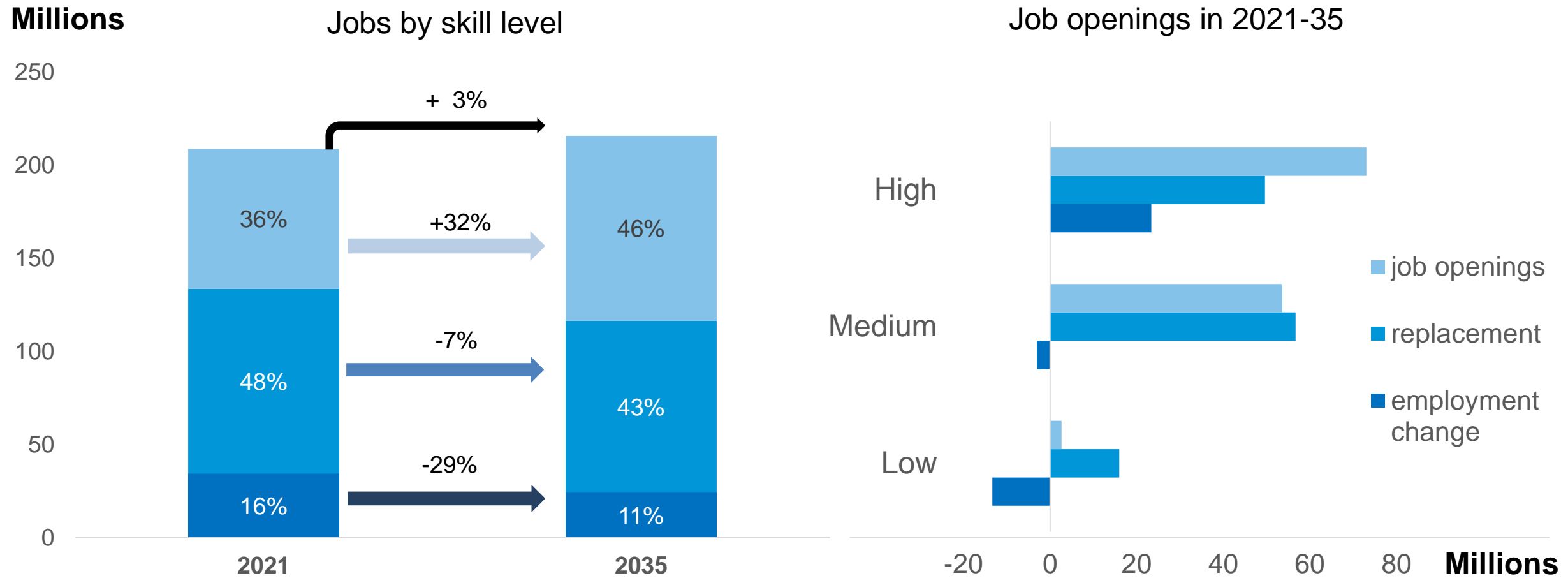
# Cedefop blends insights to develop skills intelligence



Cedefop Green Observatory ([Cedefop GO](#))

# The labour market up to 2035

## megatrends make jobs rapidly more skills intensive

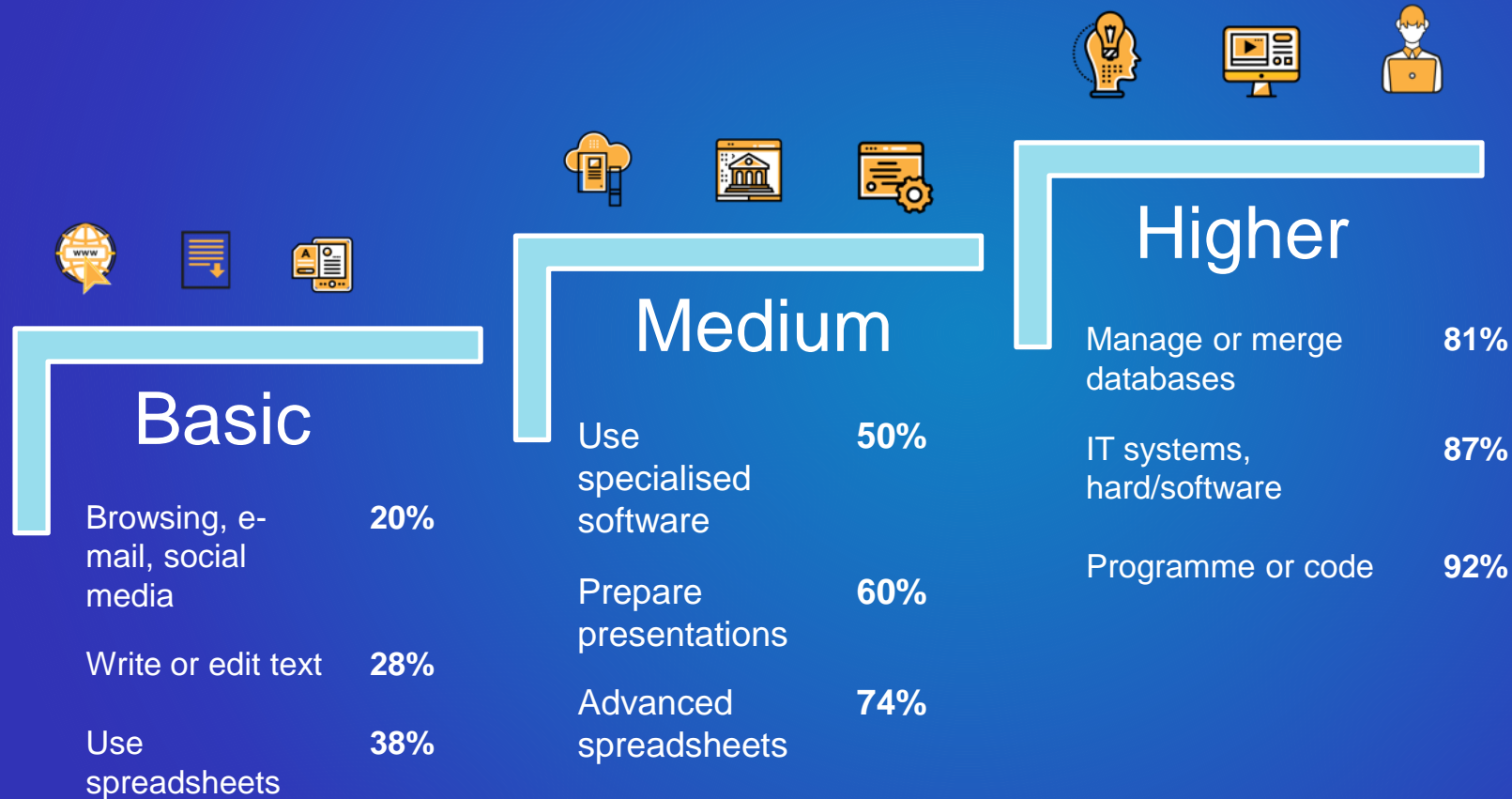


Source: Cedefop skills 2021-35 forecast



# Just digital transition via up and reskilling people

Learning potential in digital activities (% adult workers)



Source: Cedefop 2nd European Skills and Jobs Survey (2021)

# Green jobs in the future of work and VET's role in accelerating transition



## Frontline green jobs

Construction professional  
Repair specialist  
Energy professional  
Material extraction/recycling/reuse expert  
Material and process engineers  
Circular product designers  
Transport and mobility specialist  
Environmental protection specialist

## Greentech specialists

Industrial problem analysts  
Industrial symbiosis facilitators  
Hydrogen specialists  
Urban space specialist  
Energy expert  
Circular economy plant designer  
Agronomists



## Green management

Green/smart city manager  
Logistics manager  
(Strategic) waste manager  
Waste valorisation professional  
Renewable energy managers

## Digital specialists

ICT professional  
Data scientists and data analysts  
E-commerce specialists  
GPS experts (precision agriculture)  
Waste sorting optimisation professional

## Green hearts and minds

HR specialists  
Consumer behaviour specialists  
Sustainability trainers  
Waste management trainer  
Citizen engagement specialist

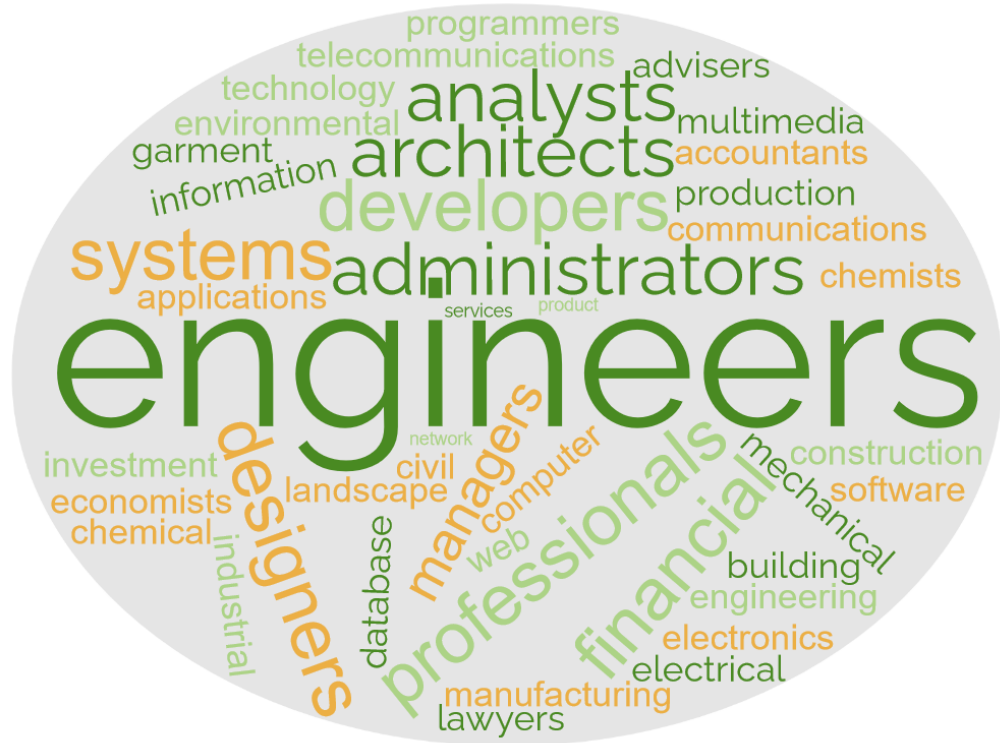
Source: Cedefop green skills foresights in [cities](#), [waste management](#), [agri-food](#) and [circular economy](#)

- Highly and medium-skilled
- Tasks change rapidly (emerging “greentech”)
- Inventing, designing, conceptualising green transition solutions:
  - Engineers, process designers, scientists/R&D

*and implementing it:*

- Managers, lawyers, renewable energy technicians, construction technicians, communication specialists

## Small but indispensable: “thyroid” occupations are green transition enablers

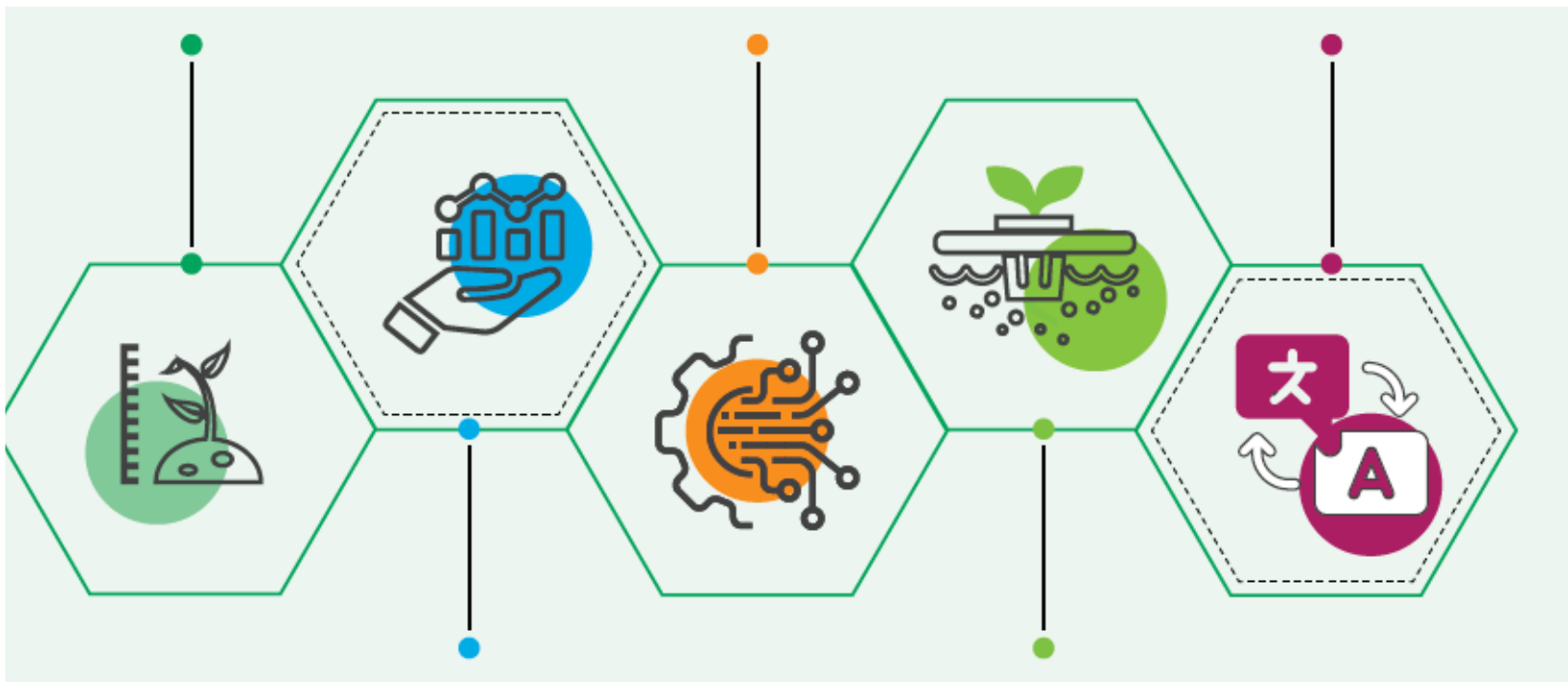


# Skill sets driving the green transition

Strategic skills

Production skills

Marketing / communication skills



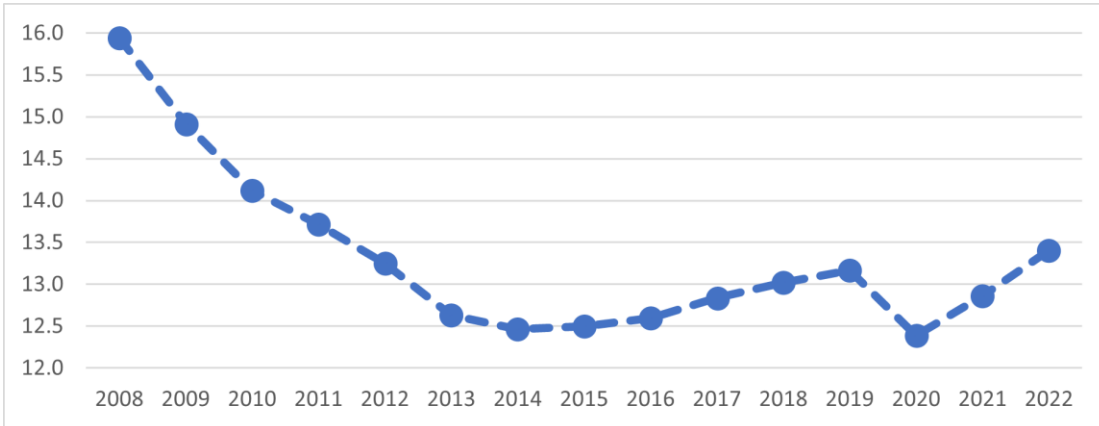
Systems thinking, empathy

Enabling skills: digital and data analysis skills & product and process design skills



# Substantial job demand and more high skilled roles

Employment in construction, 2008- 2022 (data for Q2)



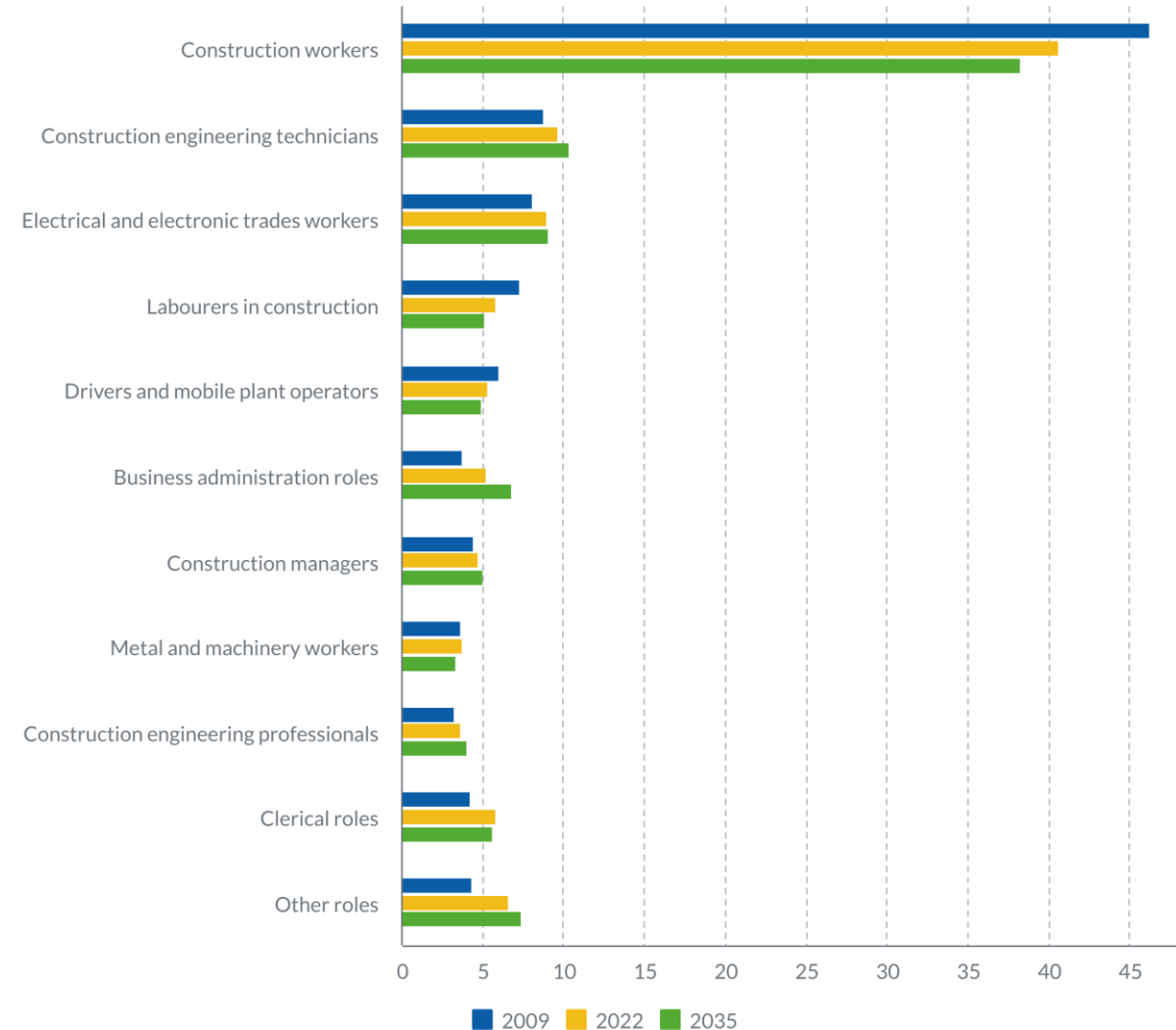
Source: Eurostat Labour Force Survey. Online data code: LFSQ\_EGAN2

- employment ↓ ca.1% (= 180,000 job positions) between 2021-2035

⇒ Replacement demand/retirements will lead to *substantial job demand*, estimated at minimum 7 million job openings over the period.

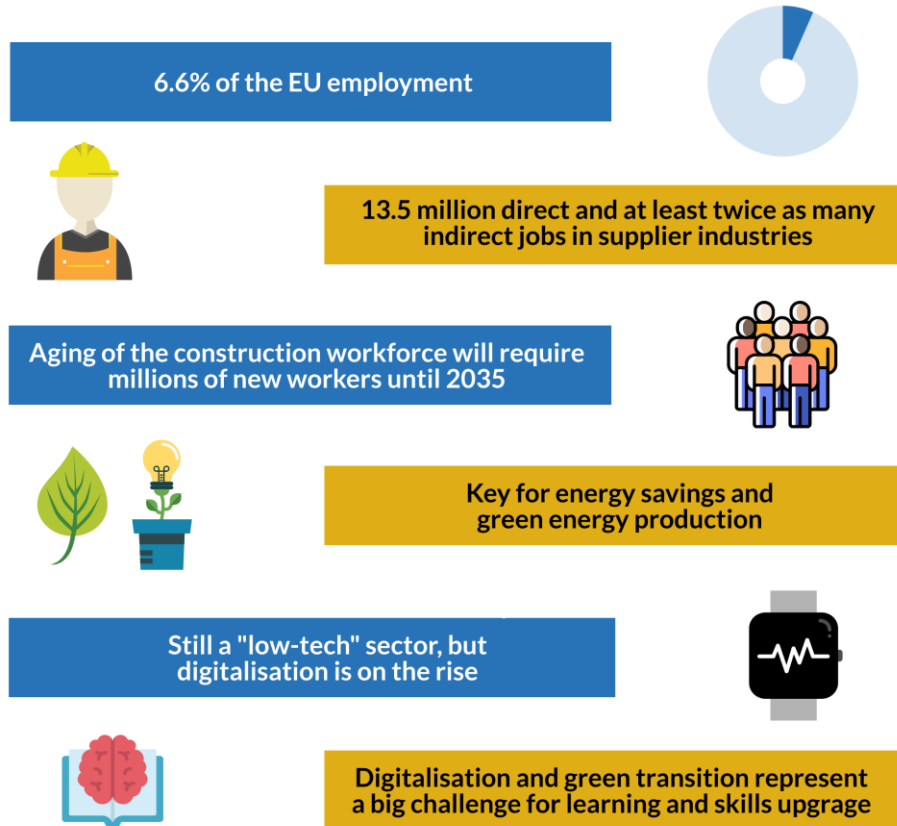
[Cedefop 2035 Skills Forecast](#)

Employment shares of key occupations in construction (in %)



Source: Cedefop Skills forecast database. Own calculations.

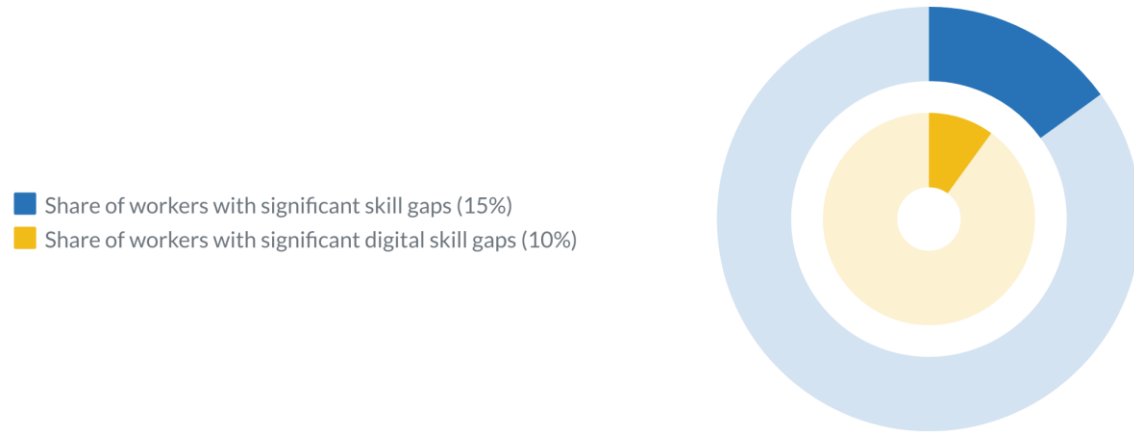
# Challenges and opportunities for the construction sector



- **digitalisation** (e.g., smart specifications)
- **green transition** (e.g., energy efficiency, renewable energy systems, wood construction, and waste/recycling)
- **management** (improve relations between co-workers in an increasingly interrelated environment)
- **new production techniques**
- **soft skills**

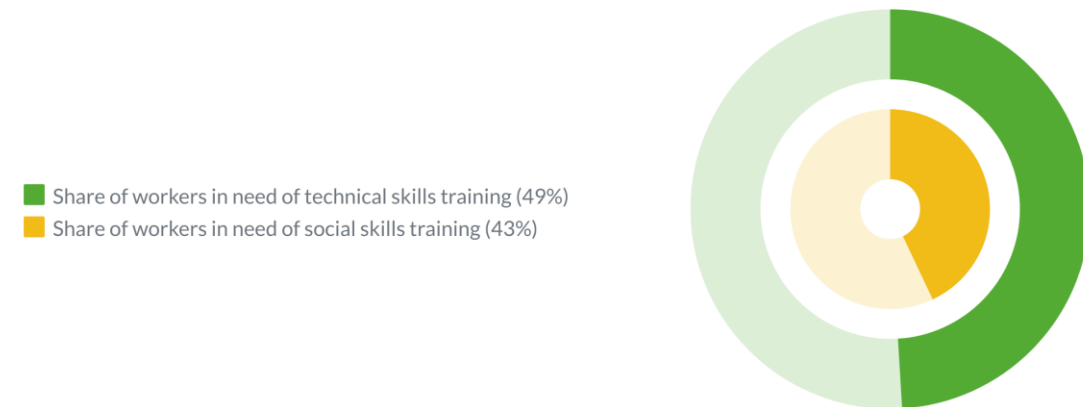
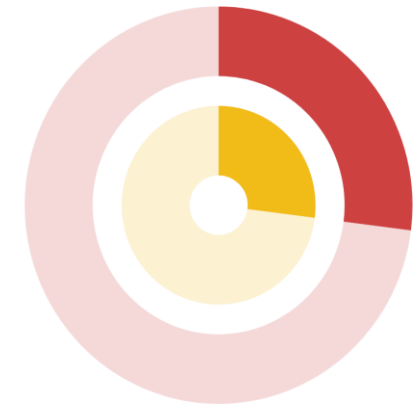
+ Supply chain disruptions & cost of energy

# Skill challenges in the construction sector



- Share of workers with significant skill gaps (15%)
- Share of workers with significant digital skill gaps (10%)

- Share of overqualified workers (27%)
- Share of low skilled workers (27%)



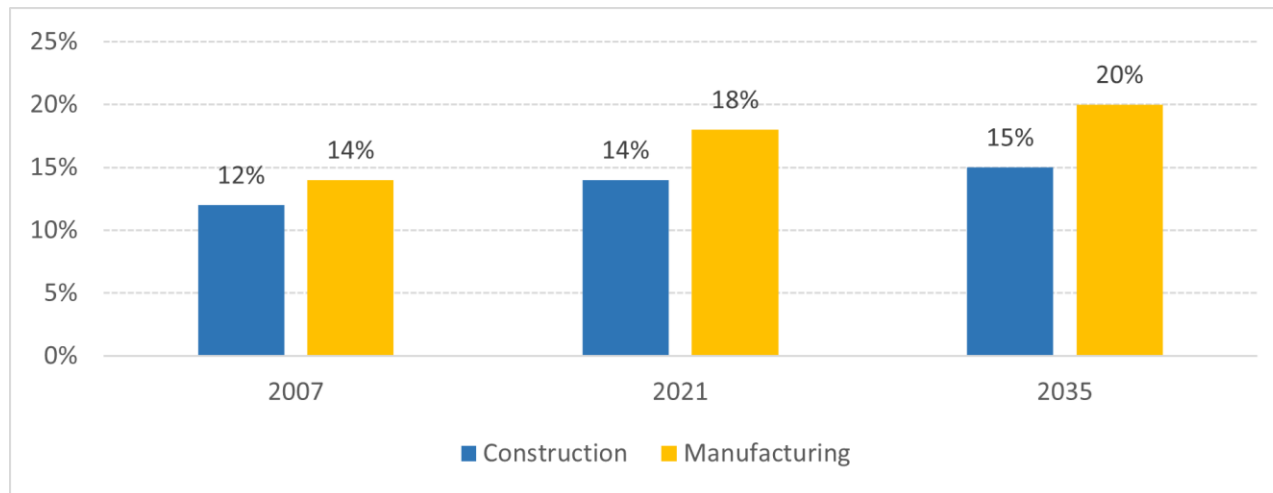
- Share of workers in need of technical skills training (49%)
- Share of workers in need of social skills training (43%)

# Greener and more productive requires more innovation

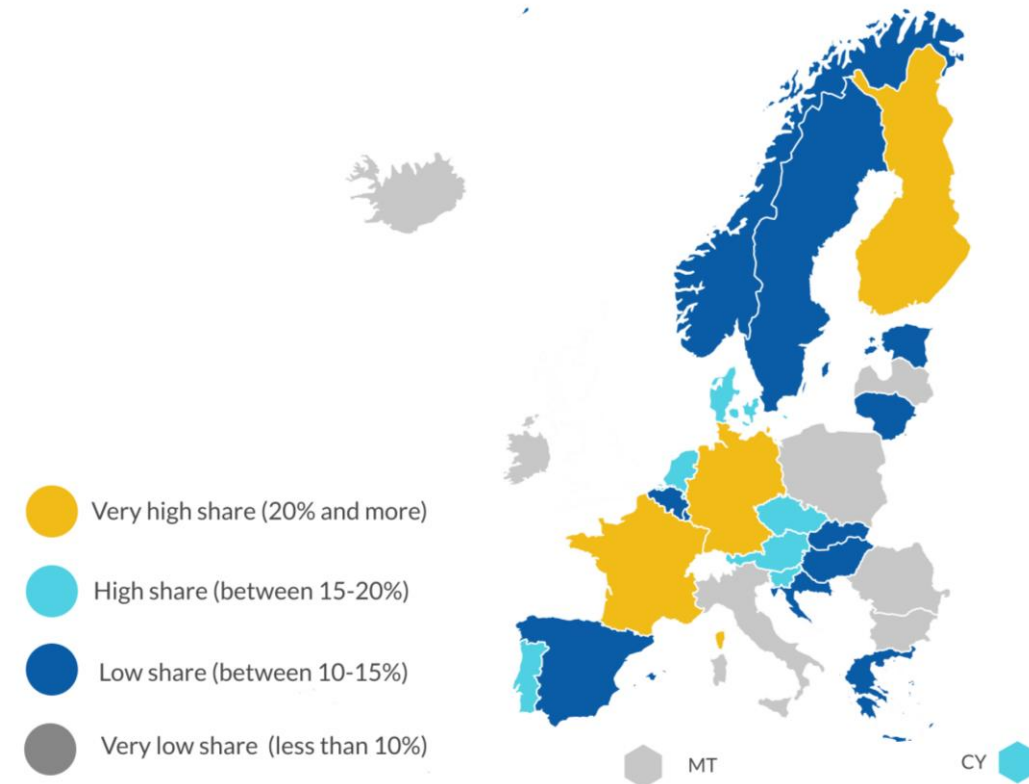
- New technologies to improve sector's productivity (e.g., digital tools for monitoring the construction process such as Building Information Modelling (BIM), 3D printing, sensors, and the use of AI / digital twins in design)
- But modest take-up, especially among SMEs

Employment share of technology-intensive occupations in the construction sector by countries (2021)

Employment share of technology-intensive occupations (in %)



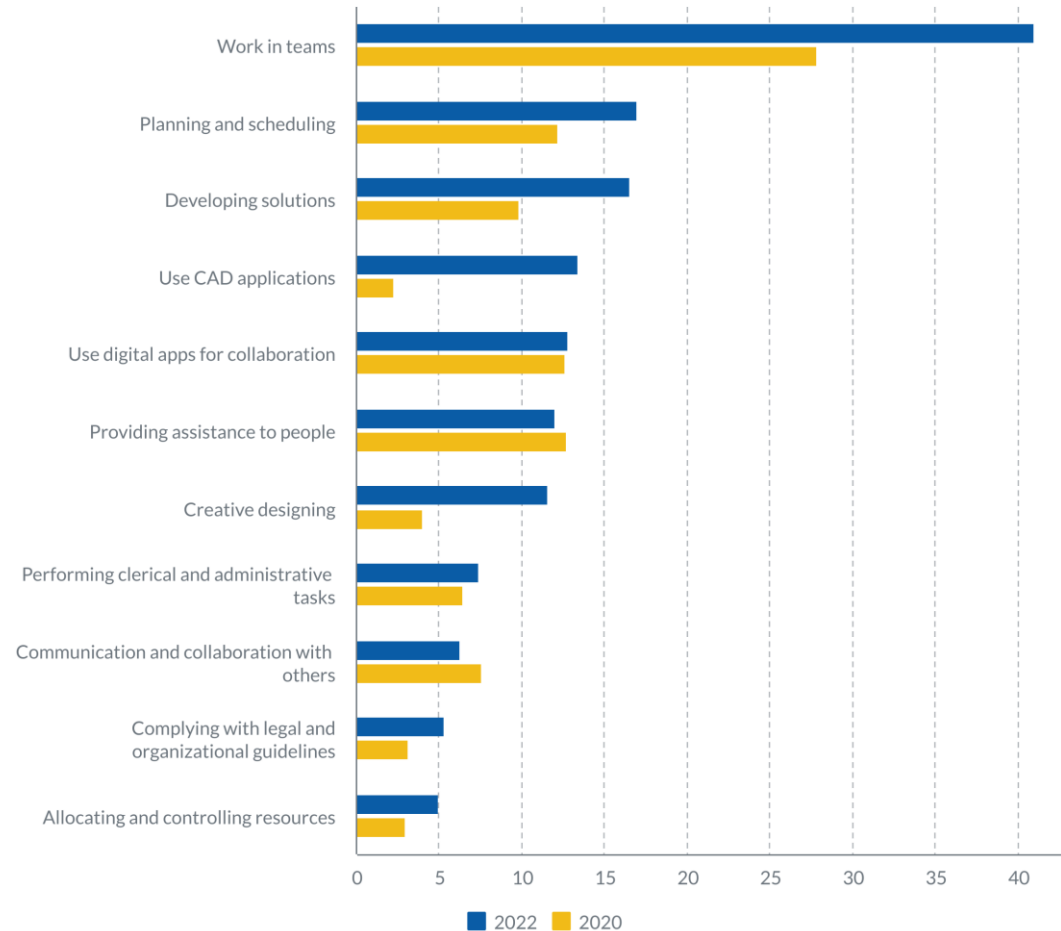
Source: Cedefop Skills forecast database. Own calculations.



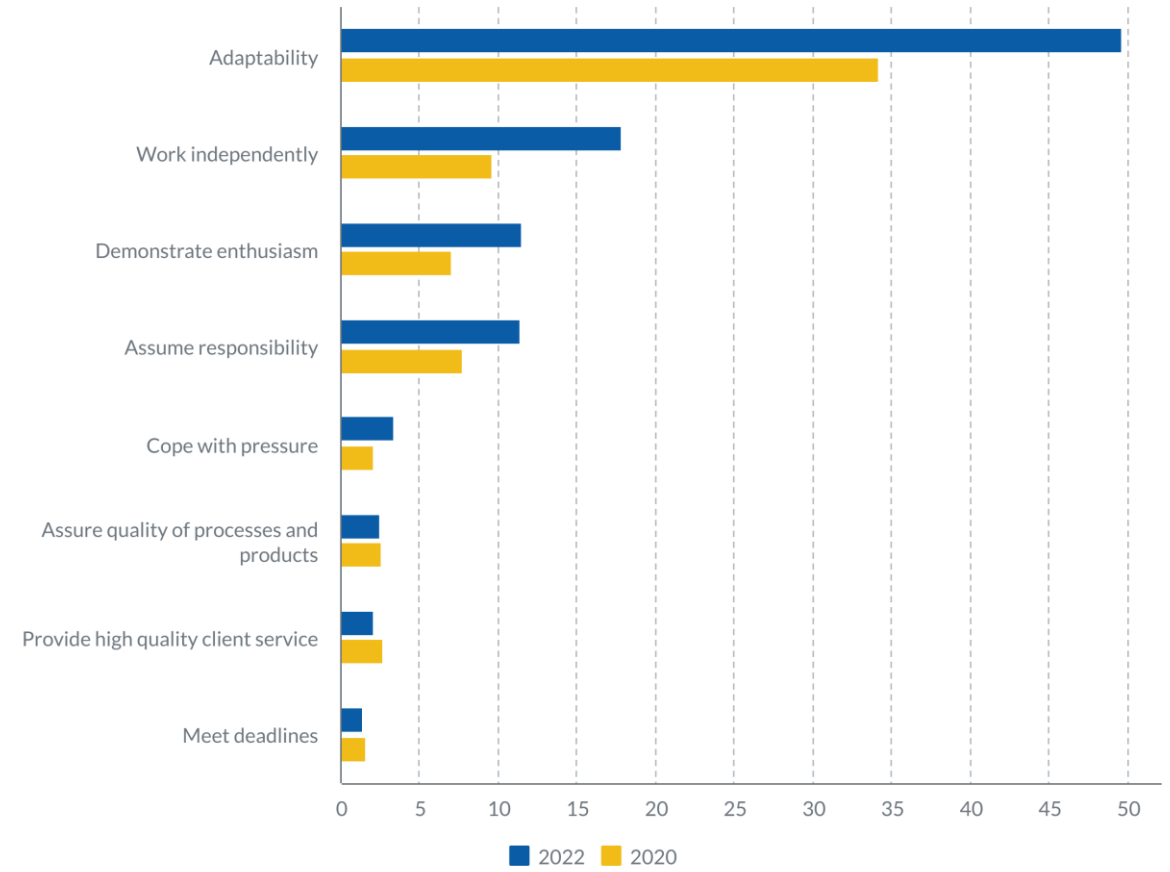


# A wide range of skills necessary for the sector's twin transition

Most frequently required skills in construction OJAs\* (2020-22)



Top transversal skills required in construction's OJAs (2020-22)



Source: Cedefop Skills OVATE. Own calculations.

\*OJA limitations- [overrepresentation bias favouring high-skilled jobs](#) and transversal skills

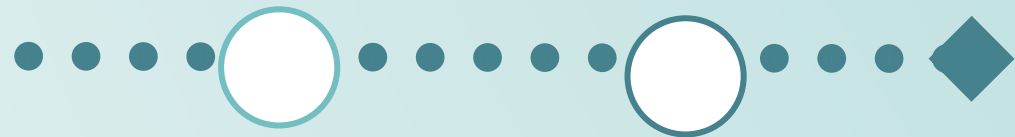
# VET's enabling role and responsibility

Short-term (*sprint*)



**Accompany change**

Long-term (*marathon*)



**Trigger change**

- Recalibrating VET
- Targeted CVET: Adjust training to learners' needs to respond to replacement demand (e.g., short-training modules; microcredentials)
- Work-based learning/apprenticeships
- Shaping circular economy citizenship
- Technical and digital skills; but also *empathy, soft skills*
- "Green" skills anticipation

# Thank you

**Cedefop 7th Virtual Get-Together – Register here!**

[Greening VET : What does it mean and what does it take?, 25/1/24](#)

[www.cedefop.europa.eu](http://www.cedefop.europa.eu)

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# Part II: Presentations: Inspiring practices

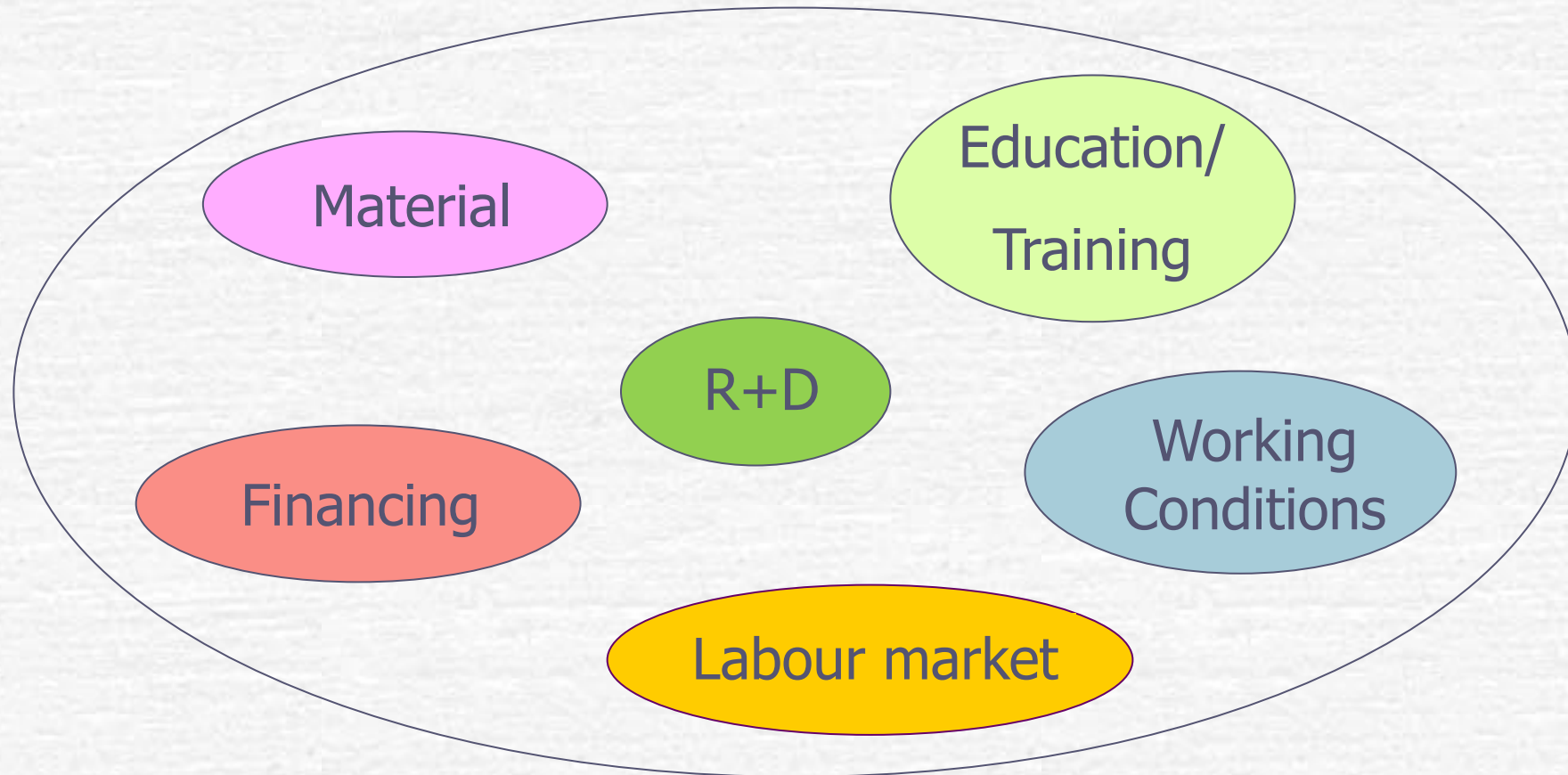


- **Rolf Gehring**, Political Secretary, European Federation of Building and Woodworkers (EFBWW)
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- **Marcel Deravet**, Project Manager, Institute for training in construction sector (IFSB) - Luxembourg

# European Federation of Building and Woodworkers

Rolf Gehring, Political Secretary

## Renovation Wave – Related Subsystems



# Horizontal and vertical levels/systems

## Horizontal

- European level
- National level
- Sectorial level
- Company level



## Vertical

- Labour market
- Vocational training system
- Legal framing (transferability)
- EU Programs
- Cross sectorial elements
- Training centres/schools
- ...



# Social Dialogue Initiatives



## Pact for Skills in Construction



Let's commit to improve the skills in our sector!



Establishing a new Strategy on Construction Skills in Europe



# **AEICE Efficient Construction - Spain**

Carmen Devesa, Director of Innovation

# 1.

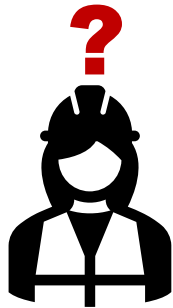
# Current problems of apprenticeship in the HABITAT sector

Tackling the subject.



1. In this sector, the mismatch of working conditions with the expectations of 21st century society is probably the biggest cause of labour shortages that companies are complaining about today.

during the 2023-2024 academic year only 140 students chose subjects related to the sector out of an offer for 21,000 students.  
Source: Castilla y León Government



2. The training of the students may not meet the expectations of the companies especially about the digital and ecological transitions, equal opportunities and gender balance. Education needs to adapt nimbly and swiftly to the changing conditions of the environment.

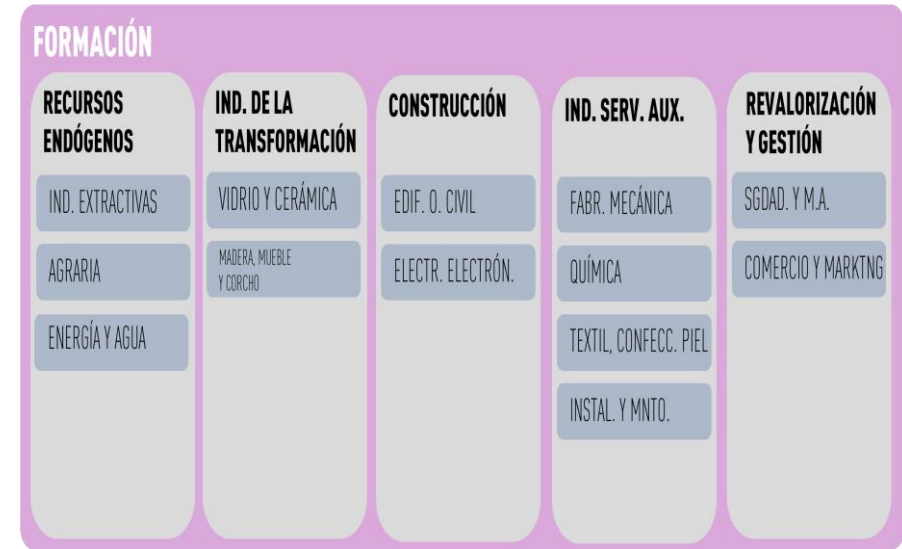
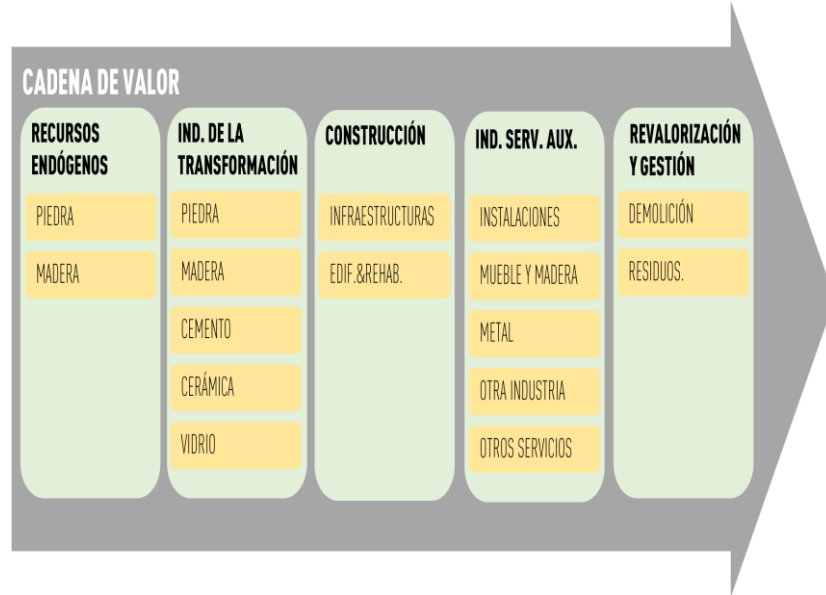
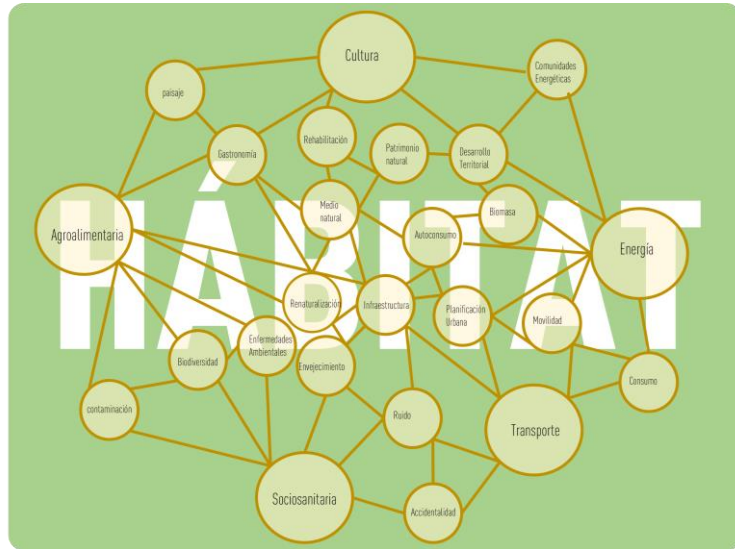
Spanish companies cannot find workers. This is reflected in the latest report on human resources (HR) prepared by Randstad and the Spanish Confederation of Business Organization's (CEOE), which shows that 72% of companies cannot find employees for their vacancies. Source: Randstad Research 2023

# 2.

# Habitat of Castilla y León sectorial Map

**Habitat of Castilla y León.**

In Castilla y León, in order to respond to the necessary modernisation of the sector, the autonomous government has been a pioneer in defining the Habitat sector and developing the Sectorial Plan of the Habitat in Castilla y León PSHCYL, which sets the roadmap for the sector.

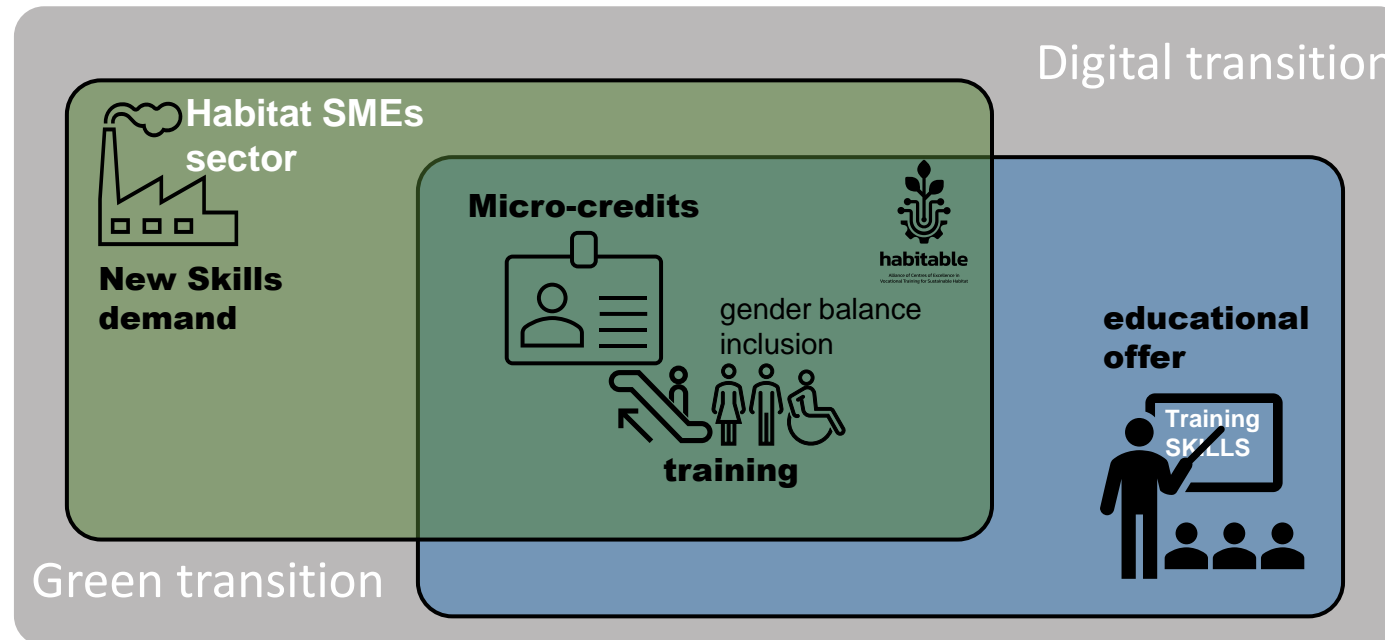


# 3.

# Habitable Erasmus+ pax cove project

**Habitable.**

This large macro-sector, and its roadmap, need an aligned training ecosystem. In this sense, the Erasmus Centres of Vocational Excellence (CoVE) programme is perfectly suited to the structure we need, and, in addition, we are enriched by the participation of other countries and experiences.



101104680-HABITABLE-ERASMUS-EDU-2022-PEX-COVE

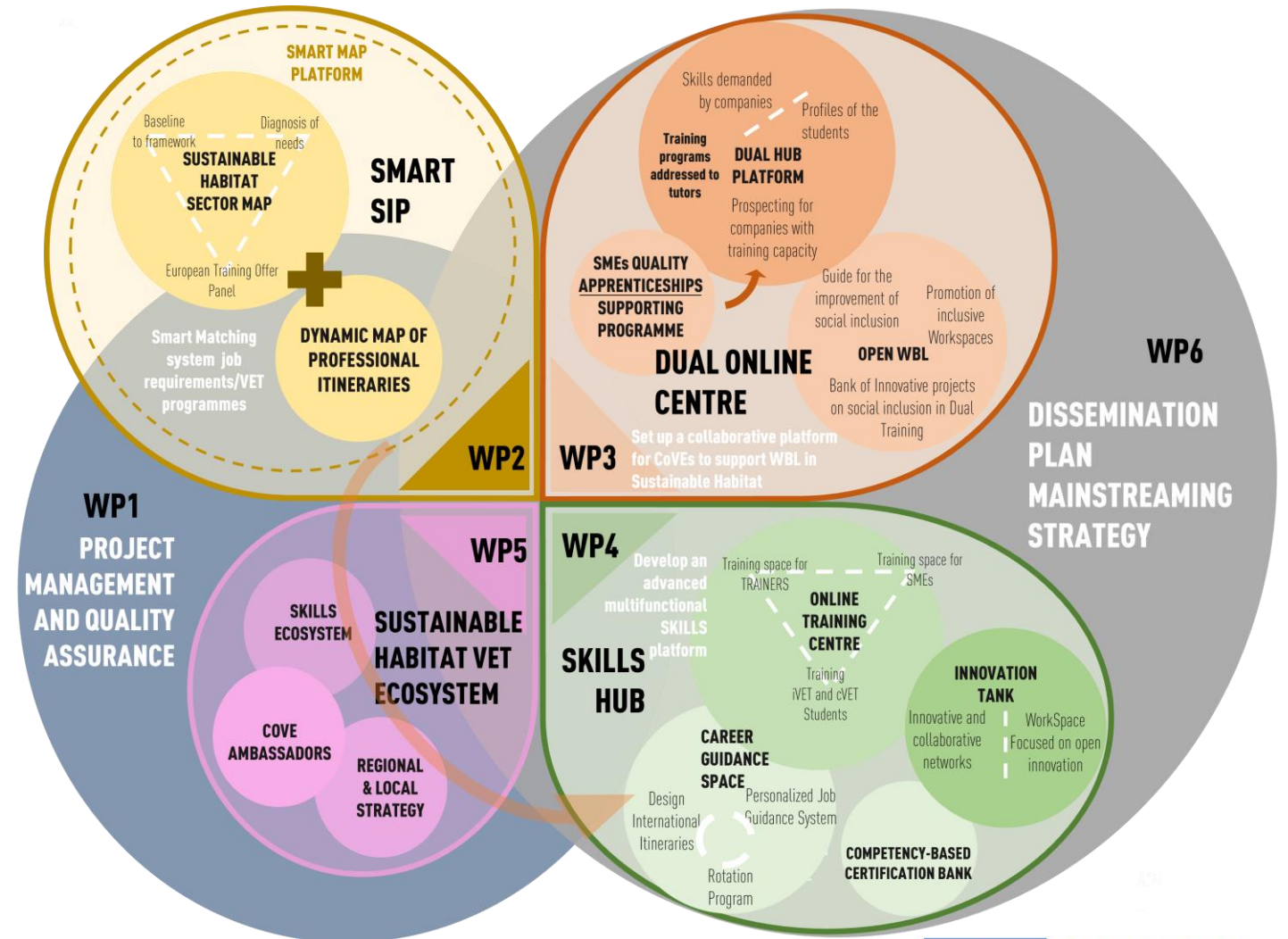
# 4.

# Habitable. The apprenticeship training ecosystem

## Habitable apprenticeship.

Habitable will address several facets:

1. **Centres of excellence** in different specialities (wood, construction, civil works, and so) networking and collaborating.
2. A platform for continuous **monitoring the needs of the sector**.
3. **Innovation hub** between centres and companies.
4. **Training** of the network's teaching staff.



101104680-HABITABLE-ERASMUS-EDU-2022-PEX-COVE



# 5.

Who?

## Consortium



19 Partners

6 Countries



Source: HABITABLE\_main\_control

[https://docs.google.com/spreadsheets/d/1qv-1PN89ClguAFDMnjz9WzGH9WrZ98gB/edit?usp=drive\\_link&oid=110736283304366176166&rtppof=true&sd=true](https://docs.google.com/spreadsheets/d/1qv-1PN89ClguAFDMnjz9WzGH9WrZ98gB/edit?usp=drive_link&oid=110736283304366176166&rtppof=true&sd=true)

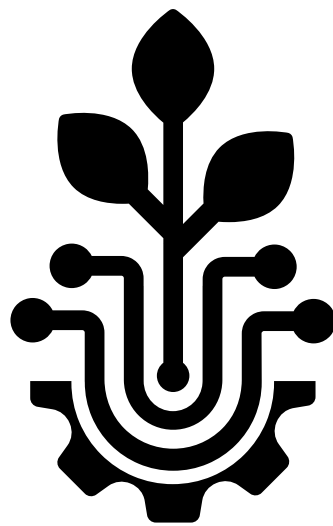
# Habitable. The project







# Thank you!



## habitable

Alliance of Centres of Excellence in  
Vocational Training for Sustainable Habitat

# **FIEC – Building the change**

Angela Martina, Chair of Working Group on VET and Youth



# Apprenticeships in Construction - Driving the green transition in the EU through the Renovation Wave

European Alliance for Apprenticeships – 29.11.2023



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**Angela Martina**

Chair of FIEC Working Group on VET and youth

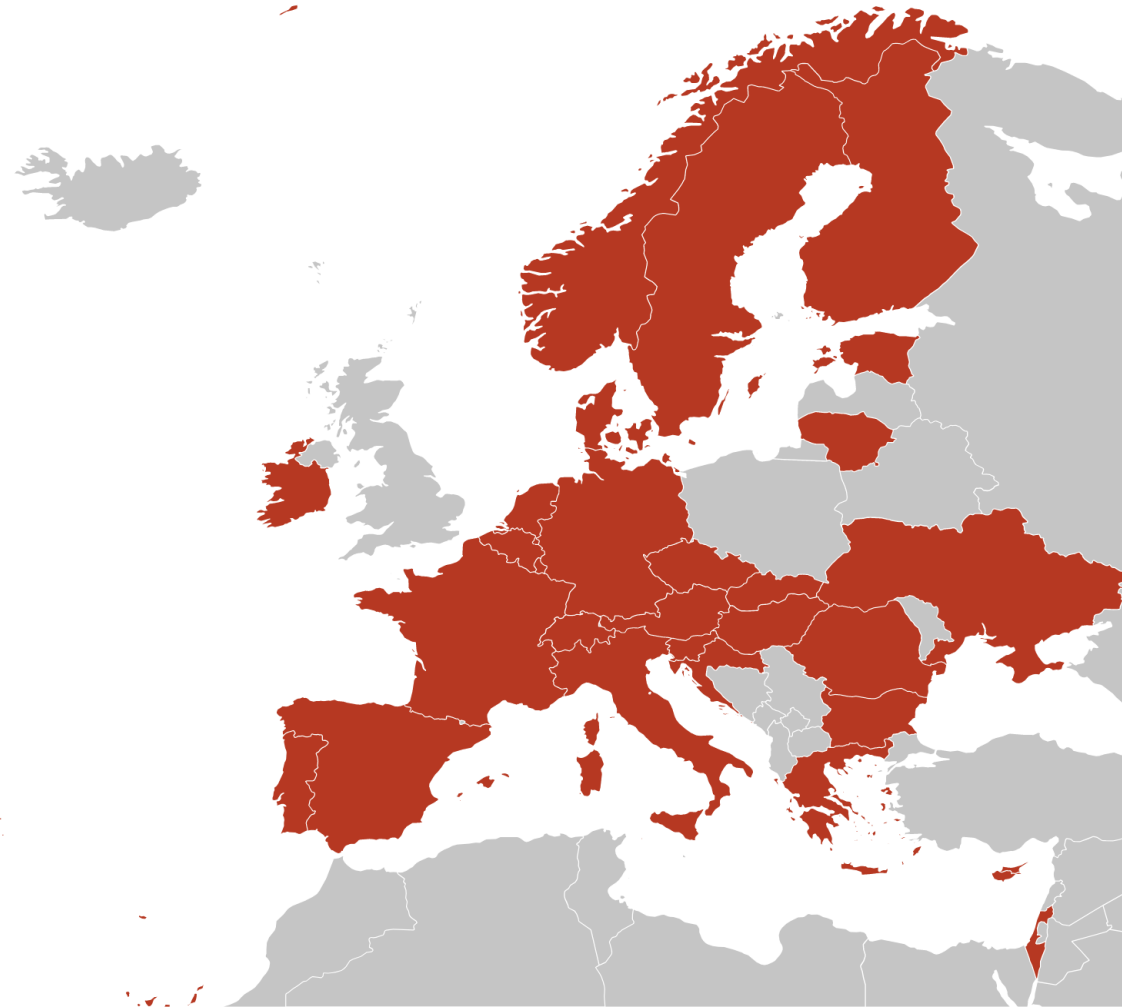


# About FIEC



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- 32 national member federations
- **27 countries** (24 EU & Norway, Switzerland, and Ukraine)
- **Construction enterprises** of all sizes (from small to medium-sized enterprises as well as “global players”) that carry out all forms of building and civil engineering activities
- Officially recognised EU Social Partner representing employers of the construction industry.
- **Apprenticeships are discussed in the sectoral social dialogue working group on VET and youth.**



# Apprenticeships as a tool to tackle labour shortage in the construction sector



- Persistent and strong labour shortage in the construction industry  
(FIEC position paper -Oct 2023)
- Need for (skilled) workers.
- Estimations indicate that the green transition could lead to the creation of between 1 and 2,5 million additional jobs overall by 2030.
- Apprenticeships can be a tool to attract young workers and promote jobs in the construction industry.



# The need to develop apprenticeships to reskill and upskill workers to cope with European policies



- Investments in construction are growing with European and national policies. The Renovation Wave only would result in 35 million buildings being renovated by 2030.
  - With the green transition, new skills and professions are needed in the construction industry.
- Apprenticeships can support key EU initiatives in reskilling and upskilling workers.
  - Adult apprenticeships must be developed as well.



# Examples from Italy

- I. apprenticeship **for the acquisition** of an upper secondary vocational **qualification**
- II. vocational apprenticeship -contracts aimed at **teaching a trade** or a profession
- III. higher **education and research** apprenticeship





# In Italy – how many apprentices?



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Ripartizione geografica	Tasso di occupazione 15-64 anni			Tasso di occupazione 15-29 anni			Apprendisti/Occupati 15-29 anni		
	2018	2019	2020*	2018	2019	2020*	2018	2019	2020*
Nord	67,3%	67,9%	66,6%	39,2%	40,3%	37,8%	17,1%	18,4%	18,4%
<i>Nord-Ovest</i>	66,8%	67,3%	65,9%	38,4%	39,3%	36,6%	15,6%	17,2%	17,4%
<i>Nord-Est</i>	68,1%	68,9%	67,5%	40,4%	41,8%	39,4%	19,0%	20,0%	19,6%
Centro	63,2%	63,7%	62,7%	31,6%	32,8%	30,6%	19,2%	20,8%	20,2%
Mezzogiorno	44,5%	44,8%	44,3%	21,0%	21,5%	20,1%	10,5%	11,9%	12,4%
<b>Italia</b>	<b>58,5%</b>	<b>59,0%</b>	<b>58,1%</b>	<b>30,8%</b>	<b>31,8%</b>	<b>29,8%</b>	<b>15,8%</b>	<b>17,2%</b>	<b>17,2%</b>



# In Italy - more data



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	Valori assoluti (medie annuali)				Valori assoluti (medie annuali)			
	2019				2020*			
	I Livello	II Livello	III Livello	Profess.nte su totale %	I Livello	II Livello	III Livello	Profess.nte su totale %
<b>Ripartizione geografica</b>								
Nord	8.681	313.523	931	97,0%	7.663	297.925	1.068	97,2%
<i>Nord-Ovest</i>	3.640	165.324	785	97,4%	2.980	158.545	936	97,6%
<i>Nord-Est</i>	5.041	148.200	146	96,6%	4.683	139.380	133	96,7%
Centro	1.252	133.374	99	99,0%	1.026	122.687	104	99,1%
Mezzogiorno	1.987	101.444	136	98,0%	1.997	98.460	105	97,9%
<b>Classe di età</b>								
Minori	2.409	718	10	22,9%	2.054	452	10	18,0%
Da 18 a 24	7.540	260.906	264	97,1%	6.874	238.760	279	97,1%
Da 25 a 29	1.626	228.505	743	99,0%	1.425	217.542	826	99,0%
30 e oltre	346	58.211	149	99,2%	332	62.319	163	99,2%
<b>Genere</b>								
Maschi	8.111	319.131	781	97,3%	7.507	307.220	871	97,3%
Femmine	3.810	229.210	386	98,2%	3.179	211.852	405	98,3%
<b>Totale</b>	<b>11.920</b>	<b>548.341</b>	<b>1.166</b>	<b>97,7%</b>	<b>10.686</b>	<b>519.072</b>	<b>1.277</b>	<b>97,7%</b>

(\*) Dato provvisorio

Fonte: Inps - Archivi delle denunce retributive mensili (UniEmens)



# In Italy: apprenticeship in construction



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Attività economica <sup>a)</sup>	Valori assoluti (medie annuali)				Valori assoluti (medie annuali)			
	2019				2020*			
	I Livello	II Livello	III Livello	Prof.te su totale %	I Livello	II Livello	III Livello	Prof.te su totale %
Metalmecanica	871	38.726	192	97,3%	782	38.608	219	97,5%
Attività manifatturiere (esclusa metalmeccanica)	1.862	94.354	244	97,8%	1.666	89.182	271	97,9%
<b>Costruzioni</b>	<b>1.851</b>	<b>38.897</b>	<b>38</b>	<b>95,4%</b>	<b>1.878</b>	<b>40.707</b>	<b>50</b>	<b>95,5%</b>
Commercio all'ingrosso e al dettaglio; riparazioni di auto e moto	2.036	112.097	74	98,2%	1.960	108.780	83	98,2%
Servizi di alloggio e ristorazione	2.313	91.704	35	97,5%	1.645	70.265	24	97,7%
Attività professionali e servizi di supporto alle imprese	606	46.479	199	98,3%	696	46.807	231	98,1%
Servizi sociali e alla persona	1.699	53.533	112	96,7%	1.445	49.160	85	97,0%
Altre attività di servizi	568	66.488	184	98,9%	535	68.878	224	98,9%
Altre attività	115	6.065	89	96,7%	79	6.685	91	97,5%
<b>Totale</b>	<b>11.920</b>	<b>548.341</b>	<b>1.166</b>	<b>97,7%</b>	<b>10.686</b>	<b>519.072</b>	<b>1.277</b>	<b>97,7%</b>

(\*) Dato provvisorio

<sup>a)</sup> Classificazione Istat ATECO 2007

Fonte: Inps - Archivi delle denunce retributive mensili (UniEmens)

# In Italy: after apprenticeship



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**Tabella 1.16** Numero di rapporto di lavoro in apprendistato trasformati in operai/impiegati a tempo indeterminato per genere, ripartizione geografica e classe di età: valori assoluti e variazione %. Anni 2018-2020

	Val. assoluti 2018			Val. assoluti 2019			Val. assoluti 2020*			Variaz.% su anno preced. 2019			Variaz.% su anno preced. 2020*		
	M	F	Tot	M	F	Tot	M	F	Tot	M	F	Tot	M	F	Tot
<b>Ripartizione geografica</b>															
Nord	24.128	17.316	41.444	29.957	21.565	51.522	33.518	22.983	56.501	24,2%	24,5%	24,3%	11,9%	6,6%	9,7%
<i>Nord-Ovest</i>	<i>12.382</i>	<i>9.187</i>	<i>21.569</i>	<i>15.681</i>	<i>11.743</i>	<i>27.424</i>	<i>17.500</i>	<i>12.543</i>	<i>30.043</i>	<i>26,6%</i>	<i>27,8%</i>	<i>27,1%</i>	<i>11,6%</i>	<i>6,8%</i>	<i>9,6%</i>
<i>Nord-Est</i>	<i>11.746</i>	<i>8.129</i>	<i>19.875</i>	<i>14.276</i>	<i>9.822</i>	<i>24.098</i>	<i>16.018</i>	<i>10.440</i>	<i>26.458</i>	<i>21,5%</i>	<i>20,8%</i>	<i>21,2%</i>	<i>12,2%</i>	<i>6,3%</i>	<i>9,8%</i>
Centro	9.063	6.678	15.741	11.130	8.063	19.193	12.431	8.415	20.846	22,8%	20,7%	21,9%	11,7%	4,4%	8,6%
Mezzogiorno	4.977	3.046	8.023	7.910	5.040	12.950	8.674	5.491	14.165	58,9%	65,5%	61,4%	9,7%	8,9%	9,4%
<b>Classe di età</b>															
Minori	6	2	8	11	-	11	17	8	25	83,3%	.	37,5%	54,5%	.	127,3%
Da 18 a 24	12.759	6.595	19.354	16.771	8.259	25.030	18.074	8.546	26.620	31,4%	25,2%	29,3%	7,8%	3,5%	6,4%
Da 25 a 29	17.953	13.724	31.677	22.566	17.762	40.328	25.289	18.600	43.889	25,7%	29,4%	27,3%	12,1%	4,7%	8,8%
30 e oltre	7.450	6.719	14.169	9.649	8.647	18.296	11.243	9.735	20.978	29,5%	28,7%	29,1%	16,5%	12,6%	14,7%
<b>Totale</b>	<b>38.168</b>	<b>27.040</b>	<b>65.208</b>	<b>48.997</b>	<b>34.668</b>	<b>83.665</b>	<b>54.623</b>	<b>36.889</b>	<b>91.512</b>	<b>28,4%</b>	<b>28,2%</b>	<b>28,3%</b>	<b>11,5%</b>	<b>6,4%</b>	<b>9,4%</b>

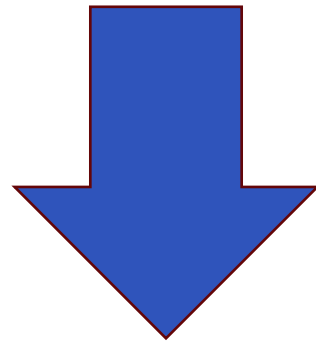
(\*) Dato provvisorio

Fonte: Inps - Archivi delle denunce retributive mensili (UniEmens)



# Good practices

- I. apprenticeship **for the acquisition** of an upper secondary vocational **qualification**



**Qualification in  
construction technician**





# Main challenges faced by the industry

- Improve the image of the sector and of VET to attract more apprentices
- Birth rate
- Mobility of apprentices





**Thank you!**

Follow us on



LEVEL PLAYING FIELD  
SME  
CONSTRUCTION 4.0  
RECOVERY  
REBUILD UKRAINE  
ENERGY NETWORKS  
EMPLOYMENT  
CONSTRUCTION IS THE SOLUTION INDUSTRY  
YOUTH EMPLOYMENT  
RESOURCE EFFICIENCY  
DIGITALISATION  
GROWTH

WATER NETWORKS  
SOCIAL DIALOGUE  
GREEN DEAL  
RENOVATION WAVE  
COMPETITIVENESS  
ENVIRONMENT  
INFRASTRUCTURE MAINTENANCE  
IT-NETWORKS  
ENERGY EFFICIENCY

STANDARDISATION  
INNOVATION  
ENERGY PRODUCTION  
INFRASTRUCTURE

SUSTAINABILITY  
SKILLS TRAINING/EDUCATION  
CLIMATE CHANGE  
CIRCULAR ECONOMY  
JOBS

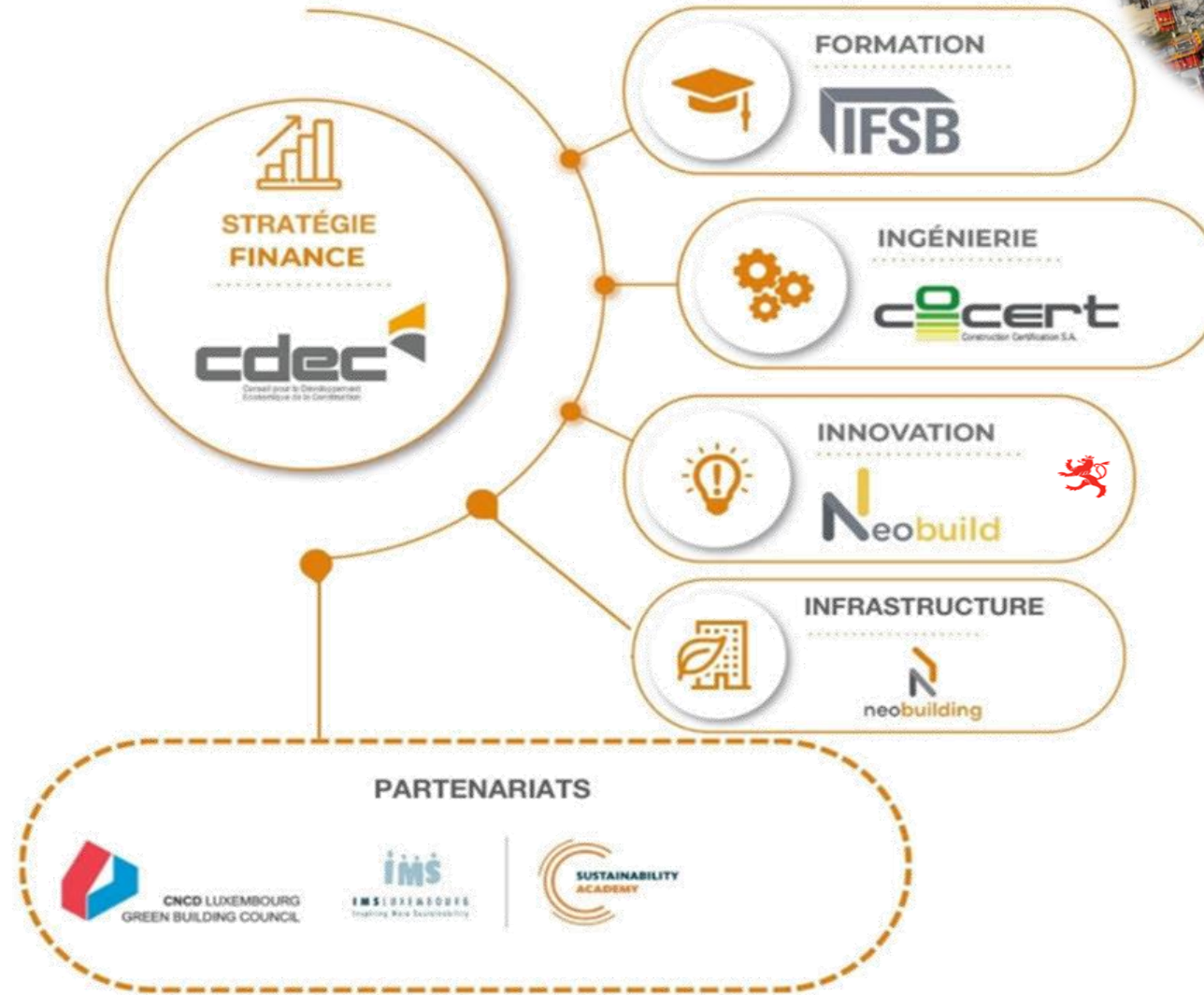
FIEC  
Building the change

# **Institute for Training in Construction Sector (IFSB) - Luxembourg**

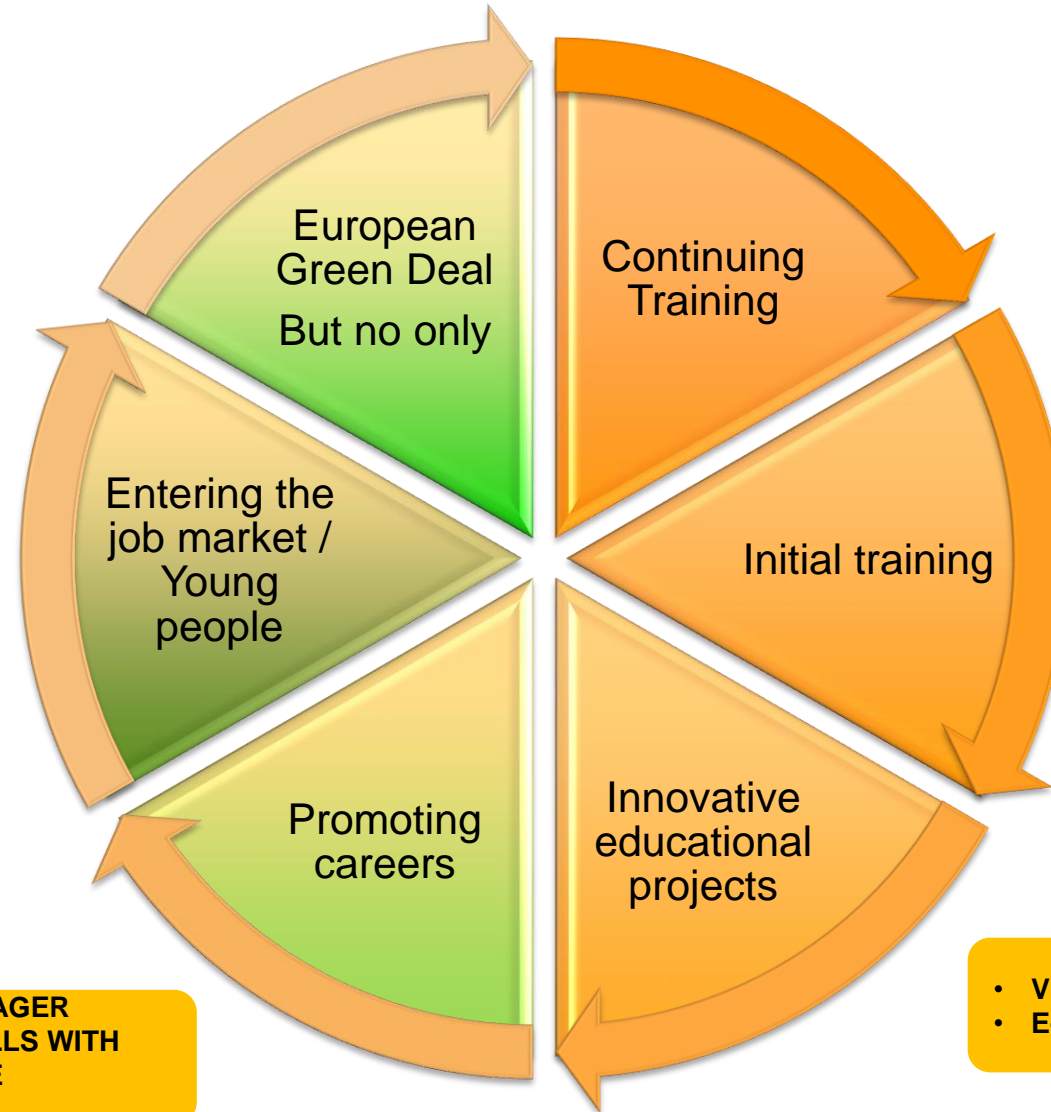
Marcel Deravet, Project Manager

# THE ECOSYSTEME IFSB

WE BELONG  
TO THE  
CONSTRUCTION SECTOR



# THE VIRTUOUS CIRCLE OF SUSTAINABLE CONSTRUCTION



- WORKING WITH THE OFFICE FOR THE UNEMPLOYED PEOPLE (ADEM)
- DISCOVERY OF CONSTRUCTION PROFESSIONS FOR SECONDARY SCHOOL STUDENTS

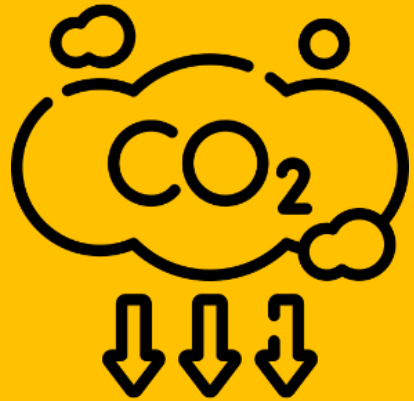
- We've developed trainings for
- ECO-CIRCULAR CONSTRUCTION ADVISOR
  - DRINKING WATER MANAGEMENT
  - SUSTAINABLE RENOVATION (Interreg E=0)

- Uni.lu / uni lorraine / BTS Wood Lux / Uliège
- SUSTAINABLE CONSTRUCTION
  - LOW CARBON CONCRETE USE
  - HIGH ENERGY EFFICIENT BUILDING

- FROM LABOURER TO SITE MANAGER
- DEVELOP THE NECESSARY SKILLS WITH COURSES ABOUT SUSTAINABLE CONSTRUCTION

- VIRTUAL IMMERSION
- E-LEARNING AND DIGITAL LEARNING





**Construction  
carbon footprint**



**Eco-circular  
Construction**



**CSR  
Corporate sustainability  
Responsibility**

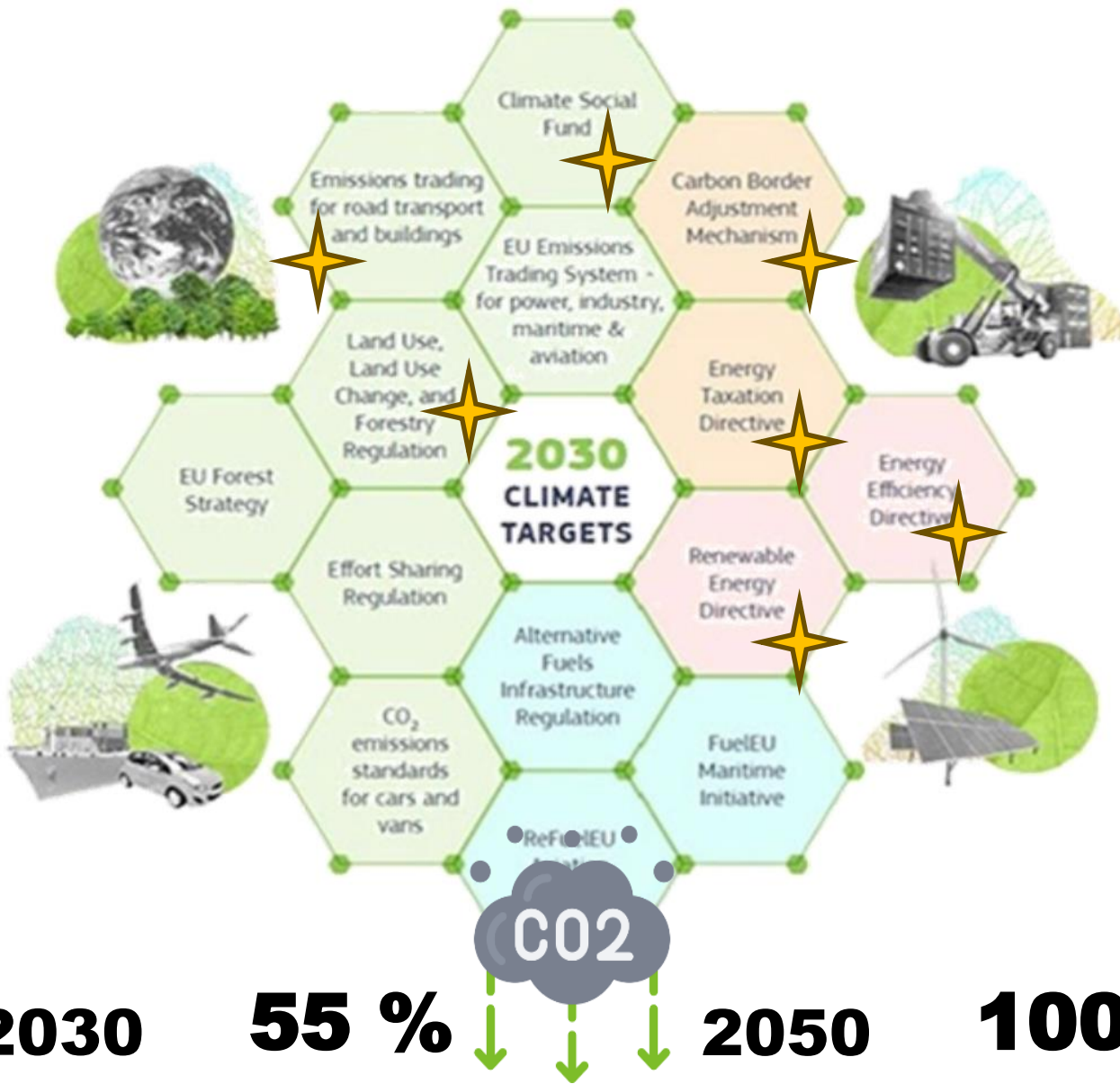


**Embodied Carbon**  
Manufacture, transport and  
installation of construction materials

**Operational Carbon**  
Building energy consumption



# TRAINING SESSIONS



## Training for

- all the workers
- the managers
- engineers and architects

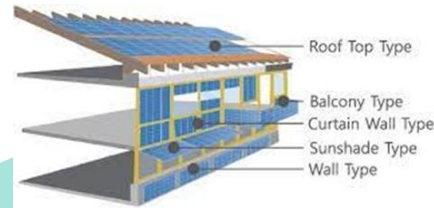
## Technics and quality

- water adduction (with the Lux administration)
- assemblers (prefabricated constructions)
- renovation (E=0 UE Project)

## Innovation

- biosourced products
- low carbon concrete (with biochar for ex.)
- active façades (noble function : co2 reduction (with algae), PV production, green façade, ...)

# EX: LOW CARBON ADVISOR



## BASIC COURSE (40H)

- **LOW CARBON FOOTPRINT**
- **REGULATIONS (National and EU)**
- **BIOSOURCED MATERIALS AND RECYCLED ONES**
- **CIRCULAR AND RECYCLED CONSTRUCTION**

## ADDITIONAL COURSE MODULES (80H)

- **ENERGY +**  
PRODUCTION, STORAGE, DISTRIBUTION  
PHOVOLTAIC, SOLAR, WIND, GEOTHERMAL,  
BIOMASS, ...
- **WATER**  
NEEDS, RAINWATER, WASTEWATER (BLACK and  
GREY), URBAN BIOGAZ, CLEANING
- **INDOOR AIR QUALITY**  
H2E PROJECT, CLEANING UP
- **VEGETAL**  
URBAN FARMING, GREEN ROOF and FACADES  
MICROFORESTS and BIODIVERSITY
- **CARBON**  
MICROALGAE, EFUEL, CCU CARBON CAPTURE and  
USES, ...

# Part III: Joint discussion on challenges and trends



**EaFA**

**10**  
YEARS

**EUROPEAN  
YEAR OF  
SKILLS**

# Q&A session

# Concluding remarks