



CEDEFOP

European Centre for the Development  
of Vocational Training



50  
YEARS

SHAPING LEARNING AND  
SKILLS FOR EUROPE

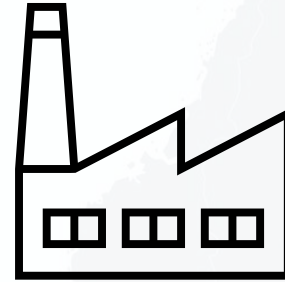
# Mapping Digital Skills in IVET Curricula

*using NLP techniques*

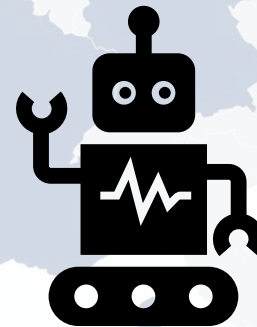


***Are students learning the right digital skills for tomorrow's jobs?***

***As digital transformation spreads, the demand for modern, adaptable skills is rapidly increasing across industries***



Traditional job skills were often static and learned once for an entire career



Emerging digital skills are dynamic, centered on data, AI, and adapting to new technology



# 1

## The mission:

*map and analyse all  
IVET current and old  
curricula*

# Four (4) key objectives

- 1** Measure the extent of digital skills provision in IVET curricula across all sectors/fields of study
- 2** Analyse variations in digital skills provision between Member States and sectors/fields of study and over time
- 3** Identify and analyse good practices in digital skills provision
- 4** Develop a framework for measuring digital skills mismatches by comparing IVET curricula with labour market needs

# Scope and Coverage

## Target Population

Old and current IVET curricula at ISCED level 3 across all sectors/fields of study.

## Data Focus

Intended (written) curriculum updated within the last seven (7) years (and the previous version (old))

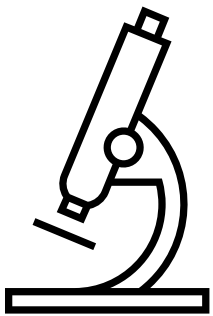
## Geographical Coverage

Eight (8) selected EU Member States: Croatia, Estonia, Spain, Finland, France, Germany, the Netherlands, and Greece



*But how??*

*It's like analyzing the DNA of  
thousands curricula (10K)  
simultaneously*



# 2

**A new  
idea:  
*analyse  
curricula using  
AI***

# How it will be done?



## Data collection

National and regional IVET curricula across EU Member States



More than 10.000 documents



## Data analysis

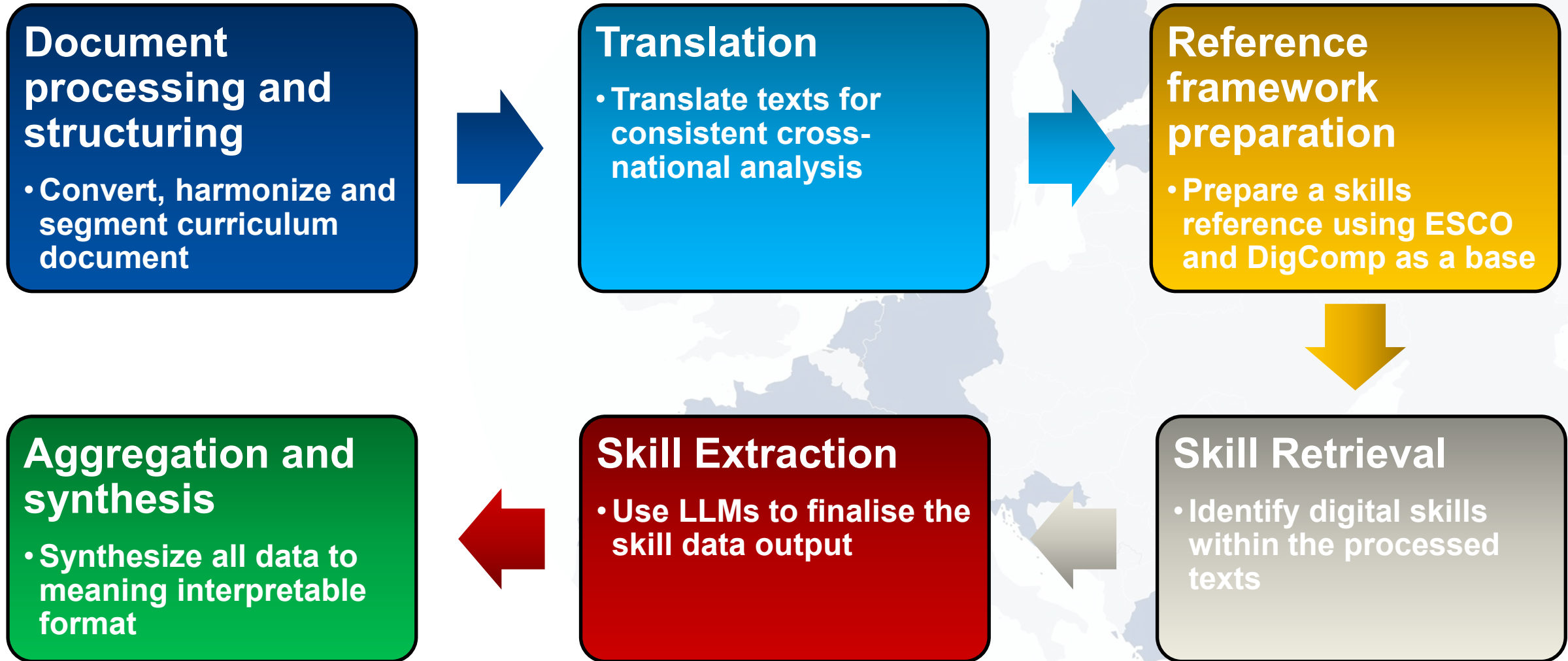
Both basic and advanced digital skills will be analysed across all sectors and fields of study using Natural Language Processing (NLP) techniques



## Comparison

Data will be compared with labour market needs, aiming to identify gaps between education and employment demands

# Overview of the methodology



# Skill Mismatch analytical framework

**Skills provision**

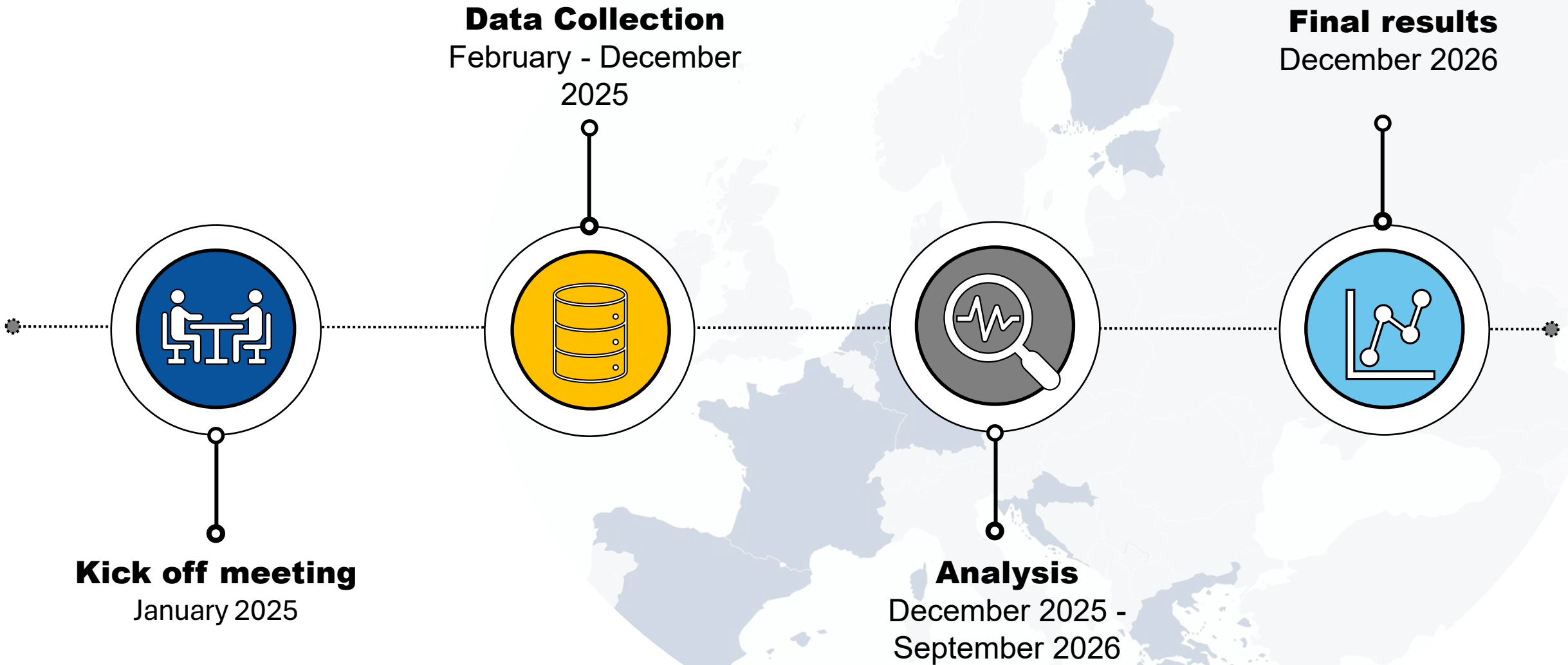
**Skills demand**

Data extracted from curricula

European Skills and Jobs Survey

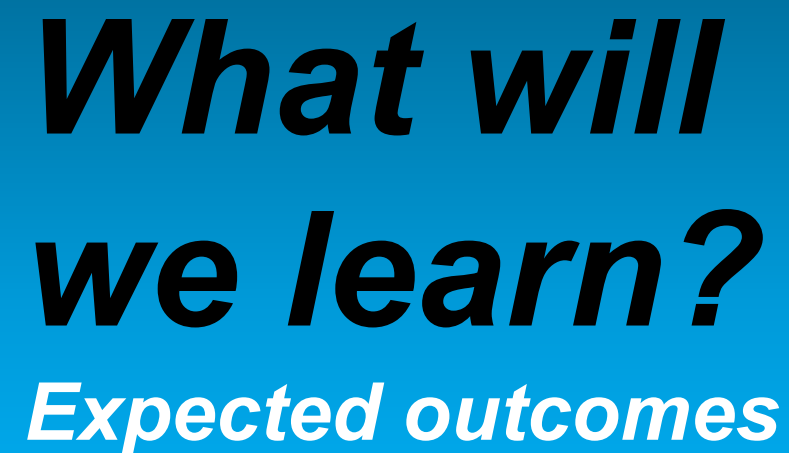
Real time job market data from Skills-OVATE

# Project plan: overall timeline





3



***What will  
we learn?***  
*Expected outcomes*

“



***If IVET students learn the digital skills that employers need***



A row of seven wooden figures stands on a light blue surface. The central figure is painted red, while the others are natural wood. The background features a faint, light blue map of Europe. In the top right corner, a large blue number '4' is displayed.

# 4

**Why this matters?**



“

***Supporting policy-makers to  
align provision of digital  
skills in IVET with labour  
market demand***



“

*Help young learners get the digital skills they need to navigate and succeed in a changing environment*

## About Cedefop

# Digital skills for tomorrow: promoting inclusive excellence in VET

- + Who we are
- What we do
  - Programming Document / Work Programme
  - Annual reports
  - Projects
  - Cedefop Regulation
  - Code of good administrative behaviour
  - Prevention and management of conflict of interests
  - Equal opportunities and diversity
  - Sustainability
- + Finance and budget
- + Job opportunities
- Public procurement and grants
- + Public documents
- EU Agencies Network
- Contact us
- FAQs

**As digital transformation spreads across industries and workplaces, the demand for modern, adaptable skills is rapidly increasing. Vocational education and training (VET) is essential for equipping young learners with the digital skills and competences they need to navigate and succeed in this evolving digital environment. Ensuring that digital skills are effectively integrated into initial VET (IVET) curricula is crucial for preparing learners to meet the challenges of the digitalised labour market and empowering them with the tools necessary to build a successful future.**

- 📄 Project details
- 👤 Project contacts

## Advancing digital skills in vocational education and training

Cedefop supports evidence-based policy-making to ensure that VET students are equipped to live and work in an increasingly digitalised economy, fostering the development of digital skills in vocational education and training across EU. In this direction, a new research project – *Mapping digital skills in IVET curricula* – will run from January 2025 to December 2027.

## What is the project about and why is it important?

The *Mapping digital skills in IVET curricula* project aims to analyse how digital skills are integrated into initial IVET curricula at ISCED level 3 across EU Member States. The goal is to provide valuable data to align education systems with labour market demands, ensuring that vocational graduates are prepared for the digitalised economy. The project will assess the current landscape of digital skills provision by employing natural language processing (NLP) techniques.

# Thank you

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

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