OVERLAP

EU labour markets will be reshaped by the concurrent challenges posed by the demographic, digital and green transitions. However, the effects will not be the same everywhere. Some regions may be more affected by the green transition due to their reliance on high-emitting industries; other regions may be better placed to reap the benefits of the digital transformation of the economy; while others may be limited in their capacity to exploit the ongoing transitions by a shrinking working-age population. Within the context, **this study will pursue two main objectives**.

1. **[Descriptive]** Create a detailed overview of the demographic dynamics that characterize regional labour markets at NUTS3 level.

2. **[Analytical]** Examine the potential impacts of ongoing trends, or of potential shocks and EU policies, on regional labour markets.

An **analytical method** is required that not only shows how various regional job markets will be influenced but also how different groups of workers and individual employees will be impacted. To this end, we will employ a **dual top-down and bottom-up approach**.

Top-down Approach

Top-down approaches are regularly used to assess the impact of relevant trends on regional labour markets and skills development.

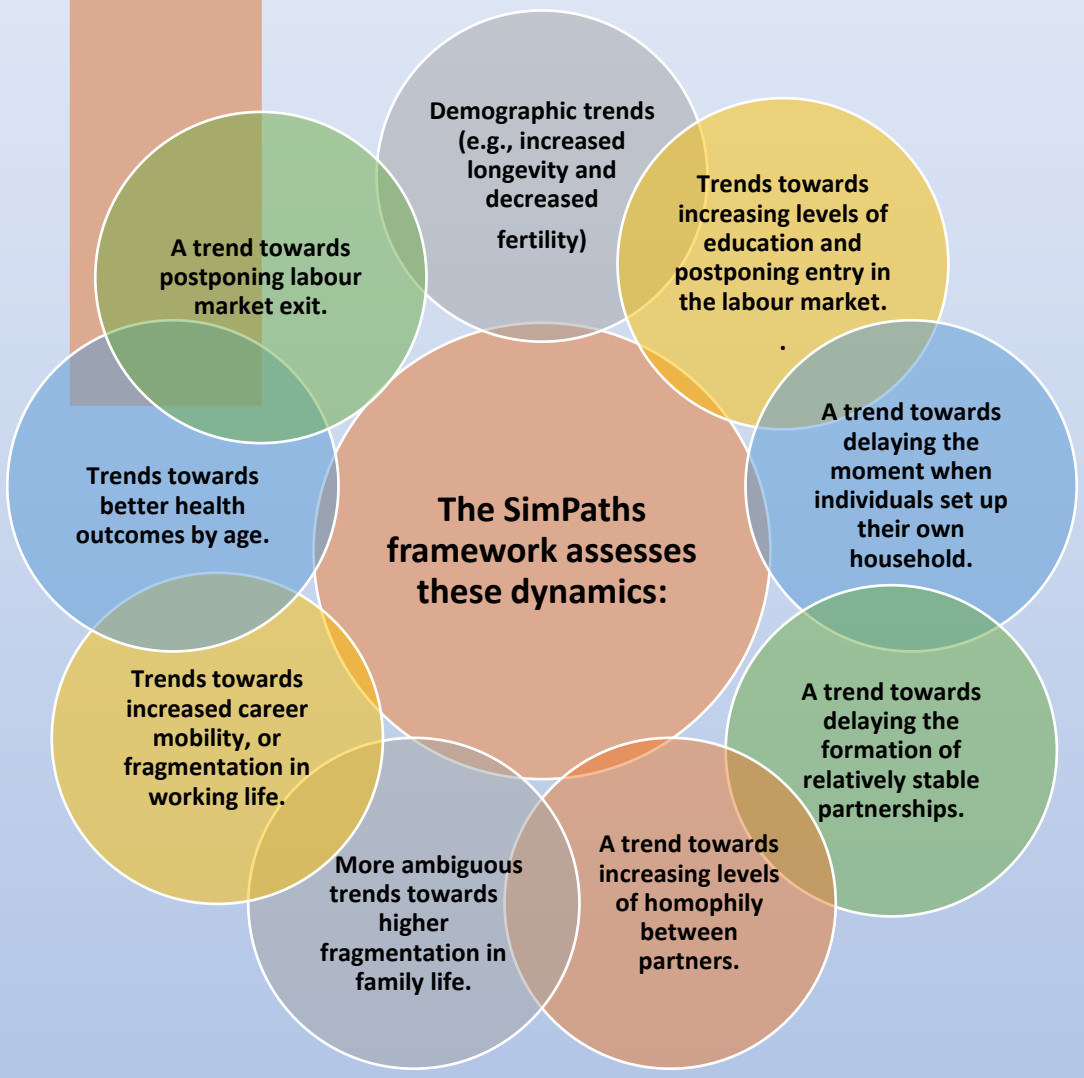
We will use a dynamic input-output model to **predict how transitions will affect national labor markets**, estimating the **available workforce** and **employment levels** for each country and industry.

A **regionalization model** will then be used to **regionalize national results** and provide more detailed information at NUTS-3 level. **The result will be estimates of the labor force and employment levels expected in each NUTS-3 region for 2030 and 2040**.

We will **combine the results with national data on the workforce**. This helps us identify **how changes in industries might affect groups of workers:** whether it impacts men or women more, or older versus younger employees.

Bottom-up Approach

*As an addition to the top-down approach, we will develop a **new detailed microsimulation model for regions**. This model can project individual life paths, providing more insight into how economic and social changes affect different groups, going beyond the general overview and simplifications in the top-down approach. The purpose of microsimulation models is to **generate data that does not otherwise exist**. In microsimulation, the state of micro units (individuals, households, or firms) are modified starting from some initial configuration on the basis of some biological, institutional or behavioural rules. This data can then be used to generate predictions or to run counterfactual exercises to assess causality.*



We will apply the micro-analytical approach to analyse regional labour markets in a selection of territories (i.e. United Kingdom, Hungary, Poland, Greece, and Italy). The innovative micro-simulation models developed through this project will **expand our ability to investigate how different groups of workers and individual employees will be impacted across and within regions.**

Once developed, the SimPaths models will allow us to investigate:

- How employment outcomes differ among sub-groups of the population
- How individual work trajectories look like over time
- How individuals are impacted by policies