

# IDENTIFICATION OF LABOUR MARKET TRENDS AND SKILL NEEDS – TOOLS AND EXPERIENCES IN GERMANY

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**Cedefop workshop „A short-term Sector-Based  
Anticipatory System for labour market trends“**

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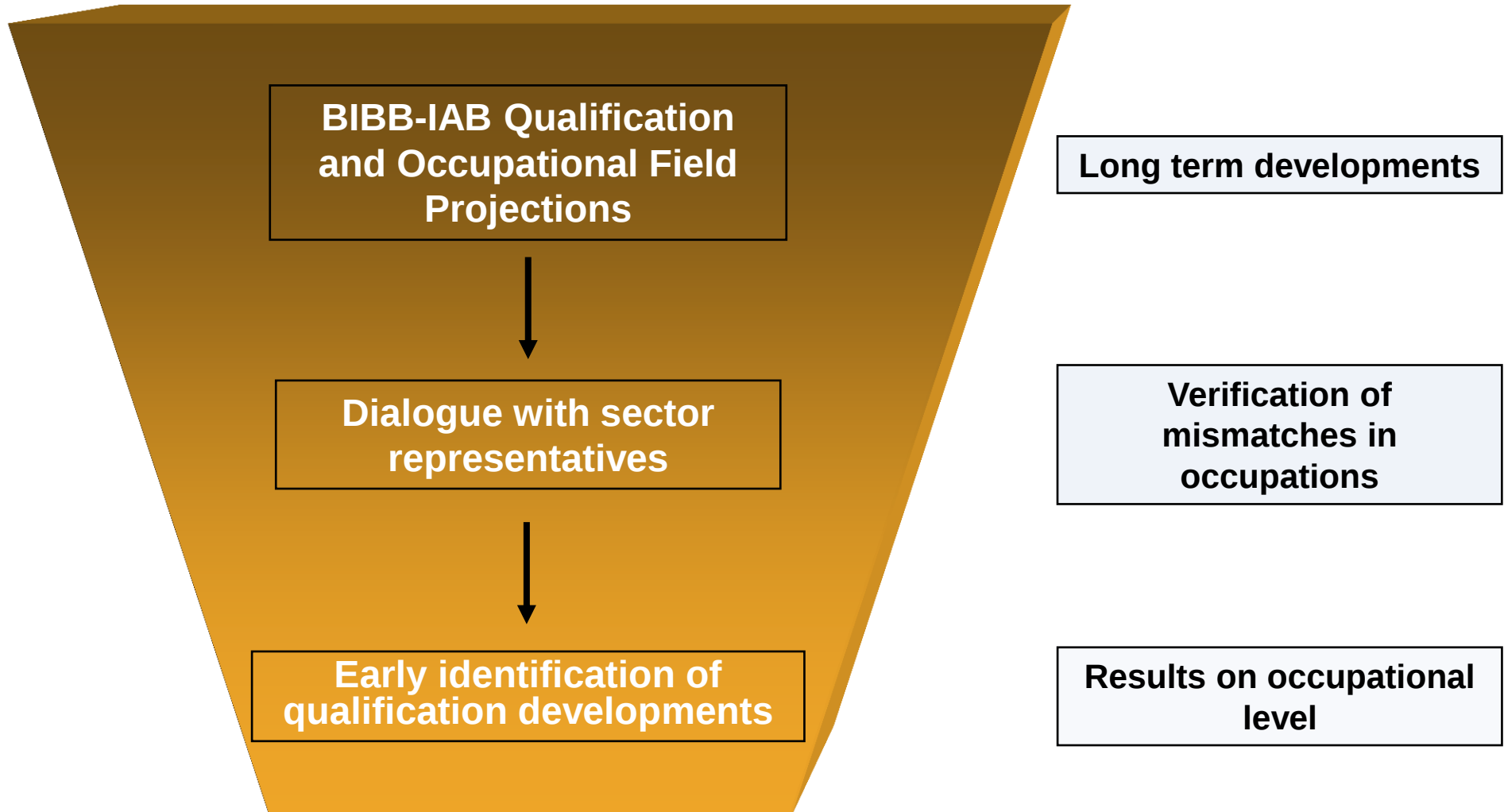
# Summary of structure

- Why analyse labour market trends and skill needs?
- Qualification perspective
  - Long-term developments: BIBB-IAB-Qualification and Occupational Field Projections
  - Verification of mismatches
- Labour market perspective
  - Short-term labour market indicators
  - Short-term labour market forecasts
  - Short term forecast for the apprenticeship system
- Summary

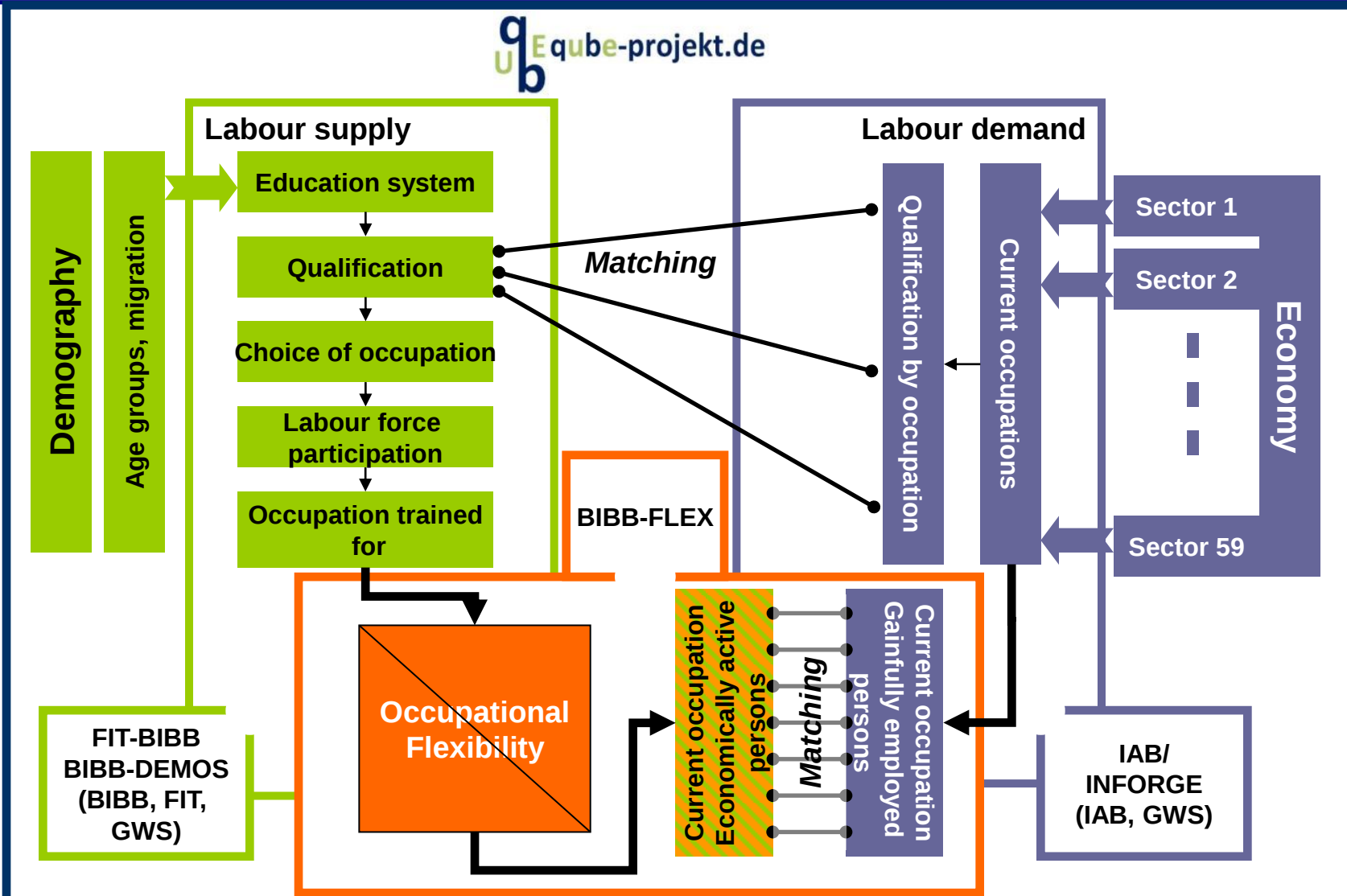
# Why analysing labour market trends and skill needs?

1. Qualification perspective: What kind of changes are necessary for the education system? (Bott 2010)
  - The regulation process for VET-programs/occupations needs to be based on empirical grounded information
  - Ensuring long-term employability of the labour force through VET and further education and training
  - This needs information on long-term and short-term development of occupation specific skill needs and skill supply
  
2. Labour market perspective: What has to be done to ensure the supply of skilled workers and to minimise unemployment?
  - Identifying recruitment problems of enterprises
  - Identifying „shortage occupations“ for blue card regulation
  - Financing of specific further training
  - Focus on short-term developments of skill needs (and skill supply)

# Qualification perspective



# BIBB-IAB-Qualification and Occupational Field Projections



Source: Helmrich et al. (2012): Shortages on the labour market: Changes in education and employment behaviour will mitigate shortages of skilled workers. BIBB-Report 18/12, Bonn.

# Occupational flexibilities in 2008 (Microcensus)

| Major occupational field of the initial vocational qualification             | Percentage shares* for switches from the field of the initial vocational qualification to the current major occupational field |       |       |       |       |       |       |       |       |       |       |       | Line percentage |
|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------|
|                                                                              | P 1                                                                                                                            | P 2   | P 3   | P 4   | P 5   | P 6   | P 7   | P 8   | P 9   | P 10  | P 11  | P 12  |                 |
| 1: Occupations involving the extraction or production of raw materials       | 49.2%                                                                                                                          | 8.3%  | 2.7%  | 5.9%  | 13.6% | 6.3%  | 5.2%  | 2.7%  | 2.2%  | 0.7%  | 2.3%  | 0.9%  | 100.0%          |
| 2: Manufacturing, processing and repair/maintenance occupations              | 1.8%                                                                                                                           | 46.3% | 8.0%  | 5.8%  | 16.0% | 5.5%  | 4.1%  | 7.0%  | 2.5%  | 1.1%  | 1.3%  | 0.5%  | 100.0%          |
| 3: Occupations involving the operation and servicing of plants and machinery | 1.2%                                                                                                                           | 15.6% | 42.3% | 4.9%  | 12.0% | 5.1%  | 4.2%  | 7.6%  | 2.6%  | 2.6%  | 1.4%  | 0.5%  | 100.0%          |
| 4: Occupations involving the sale and marketing of goods                     | 0.8%                                                                                                                           | 3.0%  | 1.0%  | 51.2% | 6.0%  | 10.2% | 18.7% | 1.2%  | 3.5%  | 1.2%  | 2.9%  | 0.4%  | 100.0%          |
| 5: Transport, storage and security occupations                               | 1.0%                                                                                                                           | 6.0%  | 2.4%  | 4.4%  | 65.9% | 3.6%  | 10.5% | 2.1%  | 1.4%  | 0.6%  | 1.4%  | 0.7%  | 100.0%          |
| 6: Hotel/restaurant and cleaning occupations                                 | 3.0%                                                                                                                           | 5.0%  | 2.6%  | 9.3%  | 7.9%  | 58.0% | 6.4%  | 1.0%  | 2.3%  | 0.8%  | 3.0%  | 0.7%  | 100.0%          |
| 7: Office and commercial occupations                                         | 0.5%                                                                                                                           | 1.2%  | 0.4%  | 8.8%  | 3.9%  | 3.8%  | 70.2% | 1.9%  | 5.4%  | 1.3%  | 2.1%  | 0.5%  | 100.0%          |
| 8: Technical and scientific occupations                                      | 0.8%                                                                                                                           | 7.5%  | 2.5%  | 5.1%  | 3.8%  | 2.5%  | 7.8%  | 52.8% | 8.6%  | 3.4%  | 1.7%  | 3.6%  | 100.0%          |
| 9: Legal, management and business occupations                                | 0.3%                                                                                                                           | 0.6%  | 0.2%  | 7.7%  | 2.1%  | 1.6%  | 26.0% | 3.9%  | 49.4% | 4.3%  | 1.6%  | 2.2%  | 100.0%          |
| 10: Occupations in the media sciences, humanities, social sciences or arts   | 0.2%                                                                                                                           | 1.5%  | 0.6%  | 6.4%  | 2.3%  | 2.6%  | 10.4% | 5.8%  | 7.0%  | 46.5% | 3.8%  | 12.8% | 100.0%          |
| 11: Health care, social and personal care occupations                        | 0.4%                                                                                                                           | 2.2%  | 0.4%  | 4.6%  | 1.9%  | 5.2%  | 6.7%  | 0.8%  | 1.4%  | 1.0%  | 71.8% | 3.4%  | 100.0%          |
| 12: Teaching occupations                                                     | 0.2%                                                                                                                           | 0.7%  | 0.3%  | 2.1%  | 1.1%  | 2.7%  | 3.9%  | 1.0%  | 1.5%  | 2.2%  | 4.7%  | 79.6% | 100.0%          |
| No vocational qualification                                                  | 3.1%                                                                                                                           | 16.6% | 5.3%  | 10.8% | 16.0% | 27.5% | 8.9%  | 2.3%  | 1.8%  | 2.3%  | 4.6%  | 0.9%  | 100.0%          |
| In school/vocational training                                                | 1.9%                                                                                                                           | 15.1% | 4.9%  | 14.7% | 7.3%  | 12.1% | 16.6% | 5.9%  | 1.4%  | 4.7%  | 12.6% | 2.9%  | 100.0%          |
| Total                                                                        | 2.4%                                                                                                                           | 13.8% | 4.9%  | 10.8% | 9.4%  | 10.3% | 16.8% | 8.3%  | 4.9%  | 3.2%  | 11.5% | 3.7%  | 100.0%          |

# Verification of mismatches (recent initiatives)

- E.g. EU-Initiative „BUILD UP Skills“ (2011-2013):
  - Forecast of occupation specific labour force needed to fulfil the „Europe 2020“ energy goals in the building sector.
  - Qualitative analyses of competencies needed for skills in relation to energy efficiency and renewables in all types of buildings.
  - Developing of a national roadmap with ministries, employer and labour representatives for qualifying the building workforce.
  
- STEM-Discussion Initiative (2012):
  - Round table discussion of all German institutes involved in short-term and long-term labour market analyses for STEM occupations
  
- Qualification structure and qualification needs in environmentalism (2012):
  - Identification of enterprises and task profiles in environmentalism through job advertisements and expert interviews
  - Survey of enterprises in relevant sectors

# Summary qualification perspective

1. Identification of long-term supply and demand developments by occupation and skill level under consideration of occupational flexibility
  - Adaption processes of the education system are slow and effects will only be recognisable in the long term.
2. Verification of mismatches by sector or occupations specific measures:
  - Dialogue with sector representatives (always)
  - Analysing of specific competencies needed and supplied
    - Job advertisement analysis
    - Employer surveys, labour force surveys
    - Expert interviews (for additional information)

# Labour market perspective

- Identifying recruitment problems for enterprises (short-term)
  - Central shortage indicators:
    - Average of finalised vacancy duration in days: stock and change in stock
    - Vacancies more than 3 month unoccupied: stock and share
  - Additional indicators for not realised demand (jobs)
    - Access to jobs, stock of jobs, job access rate, job stock rate, penetration rate
  - Additional indicators for not realised demand (employment)
    - Average employment development in the past, labour turnover rate, age structure of employed persons
  - Additional indicators for not realised supply (unemployed)
    - Unemployed and job-seekers in relation to vacancies, structure of unemployment (e.g. long-term unemployed, age), unemployment rate (not always helpful)

# Short-term labour market forecasts

- Short-term forecast of labour market development from the Institute for Employment Research
  - Twice a year to forecast GDP, unemployment and amount of employed persons in sectors (10 sectors)
  - Results are used by the Federal Employment Agency for budgeting but also for economic advice and possible labour market interventions
  - Results by sectors are used for modelling reasons but do not have an impact on budgeting or labour market measures

# Short-term forecast of the supply and demand of VET I

- § 86 BBiG (German Vocational Training Act)
  - (1) The Federal Ministry of Education and Research shall constantly track developments in vocational education and training and shall submit a corresponding report. [...] If there are indications that a regionally and sectorally balanced supply of initial training places may be at risk, the report shall include proposals for remedying such situation.
  - (2) The report shall specify
    - 2. For the current calendar year
      - a. the number of persons expected to be seeking initial training places up to 30 September of the current year,
      - b. an estimate of the number of initial training places expected to be on offer up to 30 September of the current year.

# Short-term forecast of the supply and demand of VET (PROSIMA)

## Support model: Pupils/school leavers/students

*Amplitude of explanation:*

School leavers from general secondary school, pupils in vocational preparation classes, pupils in vocational schools, beginning students, graduates, drop-outs

## Central model: In-firm training

*Amplitude of explanation:*

New apprenticeship contracts (30.09 and 31.12), supply and demand of apprenticeship places, potential supply and demand for apprenticeship places, apprenticeships in sectors and occupations, persons leaving apprenticeship system (graduates and drop-outs)

## Support model: Labour market

*Amplitude of explanation:*

Gainfully employed persons in sectors and qualifications, unemployed, vacancies

## Support model: Economy

*Amplitude of explanation:*

National accounts, public expenditures and revenue, GDP, gross value added, net production, capacity utilisation, amount of money in circulation, interest rates

# Summary labour market perspective

- Short-term (occupation specific) indicators (vacancies) for short-term labour market reactions
  - e.g. EU Blue Card regulation
  
- Short-term forecasts for short-term political actions
  - e.g. providing additional public financed apprenticeship places
  - Budgeting of the Federal Employment Agency

# Summary

- Tools for labour market trends and skill needs have to be chosen according to the possible measures that can be taken to overcome mismatches
  - Long-term forecast have proved to be a beneficial tool for controlling the VET/education system and ensuring employability of the youth
  - Methods for analysing recent skill developments within occupations and sectors have to be chosen accordingly.
    - Sector representatives (stakeholders) should always be involved
  - Short-term forecasts are less occupation and sector specific and are linked to general political actions (expenditures)
    - Financing of additional apprenticeship places
    - Budgeting of the Federal Employment Agency
    - Sector specific results are normally only used for modelling reasons

Thank you very much for your attention!

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