

Technology Pact and STEM promotion in the Netherlands: Lessons learnt and future perspectives

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Presentation outline

- Introduction: STEM strategies in the Netherlands
- Technology Pact: Partners and objectives
- The regional approach
- Results and future perspectives

STEM strategies in the Netherlands

Evolving STEM strategies & role of the STEM platform



Technology Pact: partners and objectives

2013-2020: Technology Pact

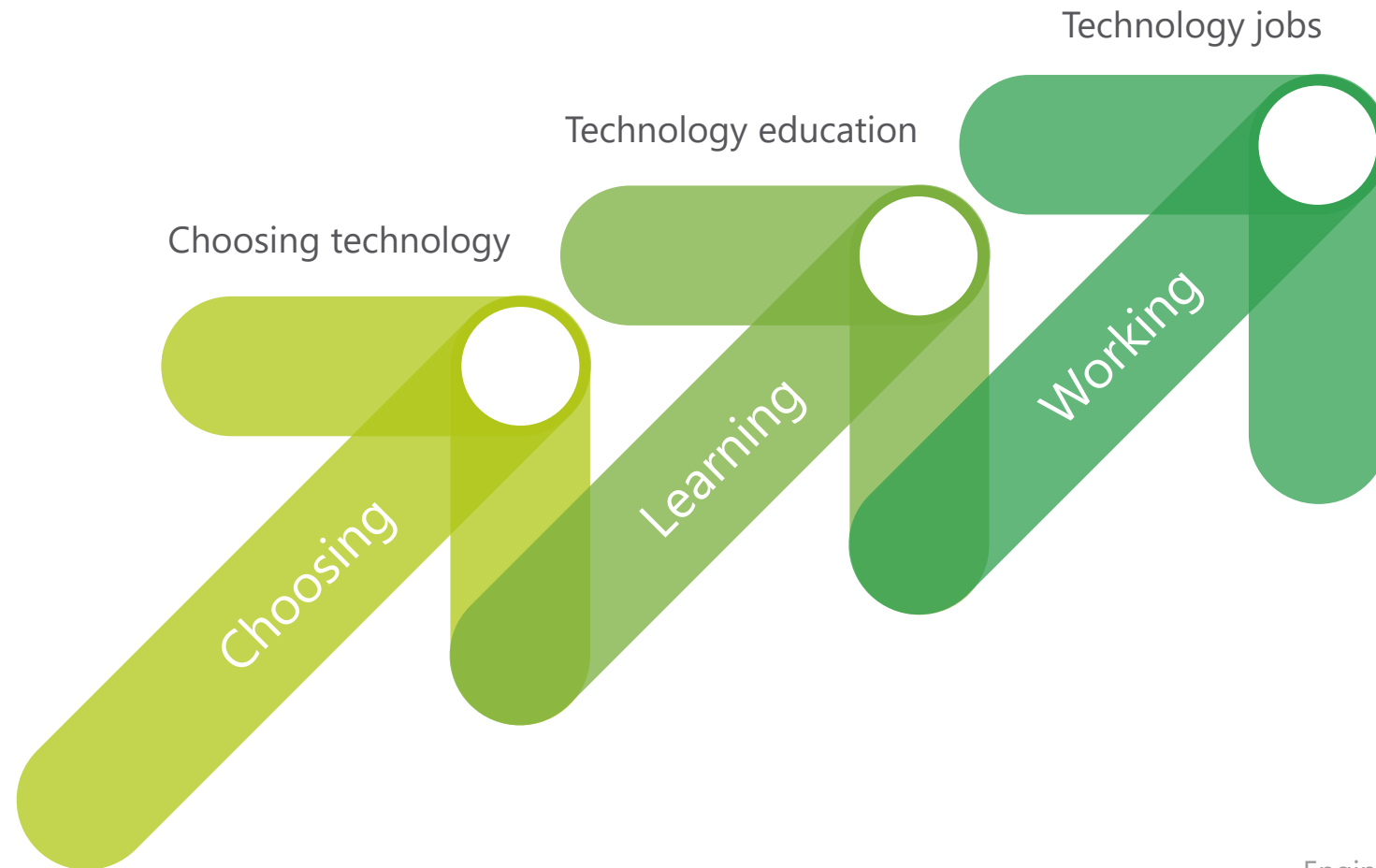
- 60 partners
 - *3 national ministries, industry associations, education sectors, regions, labour unions.*
- Policy support (e.g. RIF), no financial support
- Chain approach & regional approach
 - *3 main strands, 12 objectives, covering the entire 'talent pipeline' from primary education to the labour market*

Role of the national STEM Platform

- National programmes & regionalised implementation
 - *Jet-Net, Centres of Expertise, STEM teacher academy, VO-HO netwerken,*
 - *Regional coordinators*
- Monitoring
 - *Technology Pact Monitor – regional data*

Technology Pact: partners and objectives (2)

Three strands of objectives, covering the entire education chain



Technology Pact: partners and objectives (3)



Choosing technology

Discovering technical talent at an early stage, attracting expert lecturers in order to provide inspirational basic education

1. Ensure that all primary schools offer their pupils Science & Technology education on a structural basis by 2020, with a prominent emphasis on digital skills.
2. Help primary education teachers improve their skills in the area of Science & Technology education.
3. Strengthen public-private partnerships in support of primary and secondary education.
4. Ensure greater intake and retention of secondary education pupils opting for an exact sciences profile, and effectively apply career orientation and counselling programmes.
5. Improve the alignment between secondary education, vocational education and higher education.
6. Stimulate the professionalisation of current lecturers and increase the number of lecturers with educational Master's degrees in the secondary education system

Technology education

Training technical professionals for the future.

7. Active collaboration between the education community and business sector in terms of the training and education of lecturers at vocational education institutions.
8. Ensure more sustainable public-private partnerships within the vocational education sector.
9. Ensure effective alignment between the available range of education programmes, the regional business community and secondary and vocational education institutions, as well as sufficient suitable work placement positions / apprenticeships (for both boys and girls).
10. Ensure effective alignment between higher education institutions and the business community and within the higher education community itself, with a greater focus on international and technical talent.

Technology jobs

Retaining technical professionals and talent for the technology sector

11. Promote collaboration between regional and industry sector networks, and offer better access to labour market information.
12. Make optimal use of technically-skilled staff and their talents and retain them for individual companies, the overall industry sector and technology itself by investing in sustainable employability.

The regional approach

Regional approach

- 5 'landsdelen' (administrative regions)
- Diverse arrangements / formats (sub-regional pacts)
- Regional coordinators



The regional approach (2)

National Technology Pact

- 60 partners (3 ministries, education sectors, industry, regions)
- Governance
 - National Steering Group (LRT)
 - Liaisons (executive group)

TP regions ('landsdelen')

- Various formats
- Governance
 - 'Executive network' of **primary stakeholders**
 - Executive working group
 - Action on sub-regional level
- Role
 - Priority setting
 - Coordination (action on sub-regional level)
 - Communication / lobby

The regional approach (3)

Action in the sub-regions (provinces)

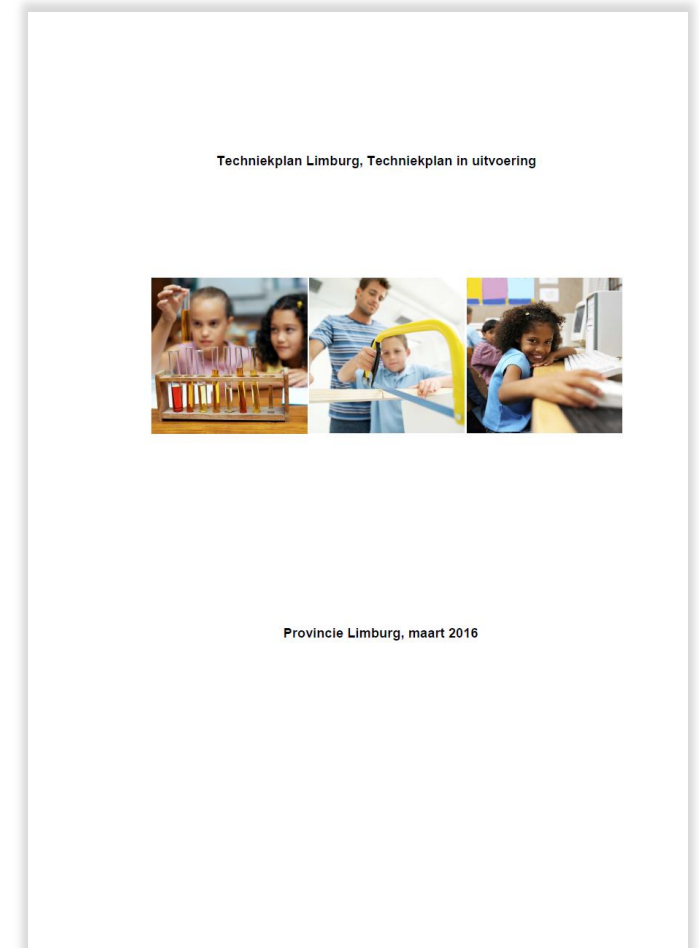
- Provinces develop own human capital policies
- Various formats of sub-regional pacts
 - Example 1: Techniekplan Noord-Midden Limburg
 - Example 2: Techniekpact Rotterdam
- Results
 - Regional Technology Pacts
 - Inspiration & knowledge exchange



The regional approach (4)

Example 1: *Techniekplan NM Limburg*

- Objectives / priorities
 - Transition VET – labour market
 - Impact of energy transition on construction sector
- Approach
 - Innovation in VET: Public-private partnership (RIF – national instrument) with co-financing of province & local industry



The regional approach (5)

Example 2: *Techniekpact Rotterdam*

- Objectives / priorities
 - 'The next economy'
 - 6 specific priorities
 - Integrated approach career orientation
 - Talent development in PE, childcare, teacher professionalisation
 - Secondary education
 - Transition pre-VET – VET
 - Teacher shortages in VET
 - Expansion / strengthening school – company collaboration

- Concrete actions per priority



Results and future perspectives

Results

- Quantitative impact (Technology Pact Monitor)
 - *Monitor covers 3 main strands of Technology pact*
 - *Regionalised monitoring*
 - *4 on 10: Targets Higher Education achieved*
 - *Pre-vocational / VET problematic*
 - *Teacher shortages*
 - *New challenges*

- Qualitative impact: cross-overs & policy innovation
 - *New approaches*
 - *Zorgpact (Health Pact)*



Technology Pact Monitor

The Technology Pact Monitor is a yearly impact report that monitors the progress towards the objectives of the Technology Pact on the national and regional level.

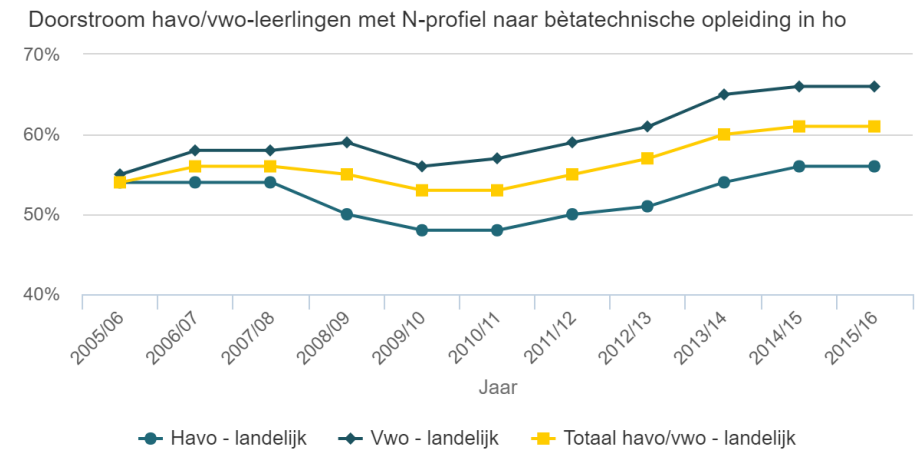
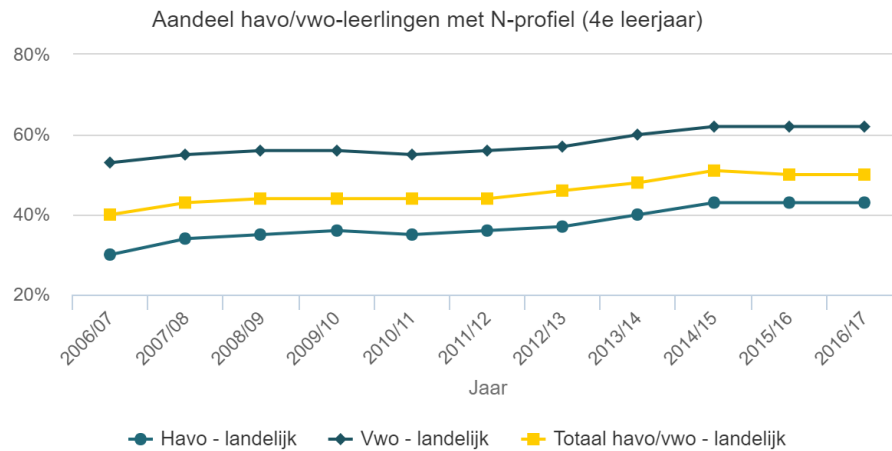
The Technology Pact Monitor is prepared by the Dutch ministry of Economic Affairs (EZ) and the National STEM Platform (PBT) and relies on datasets of the National Statistics Agency (CBS), the Education Executive Agency of the Dutch Ministry of Education, Culture and Science (DUO) and the Employee Insurance Agency (UWV) and various partners in the field.

For more info, see: www.techniekpactmonitor.nl

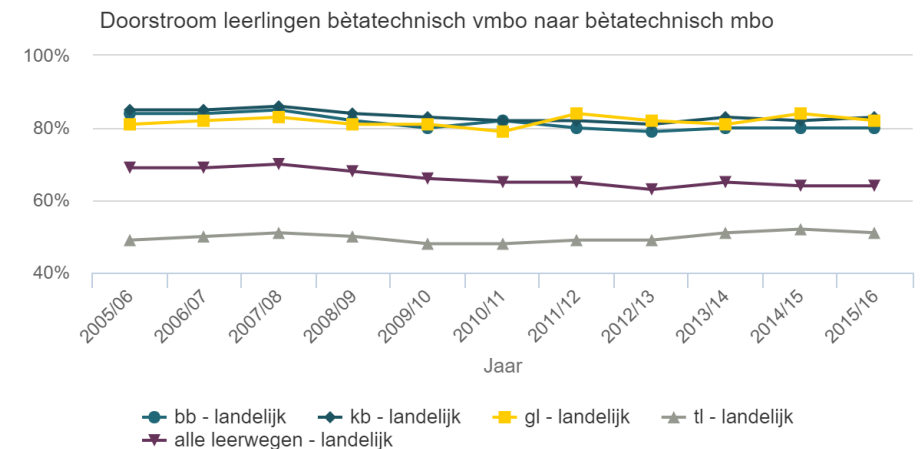
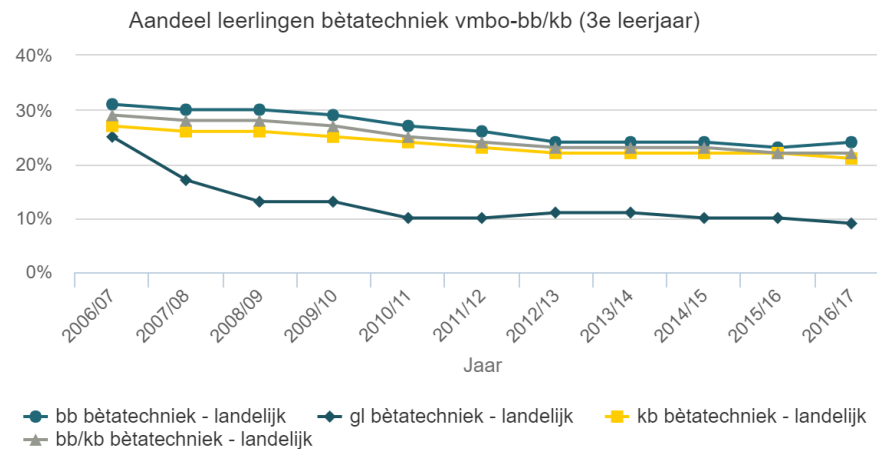
Results and future perspectives (2)

Technology Pact strand 1: Choosing technology

Pre-university



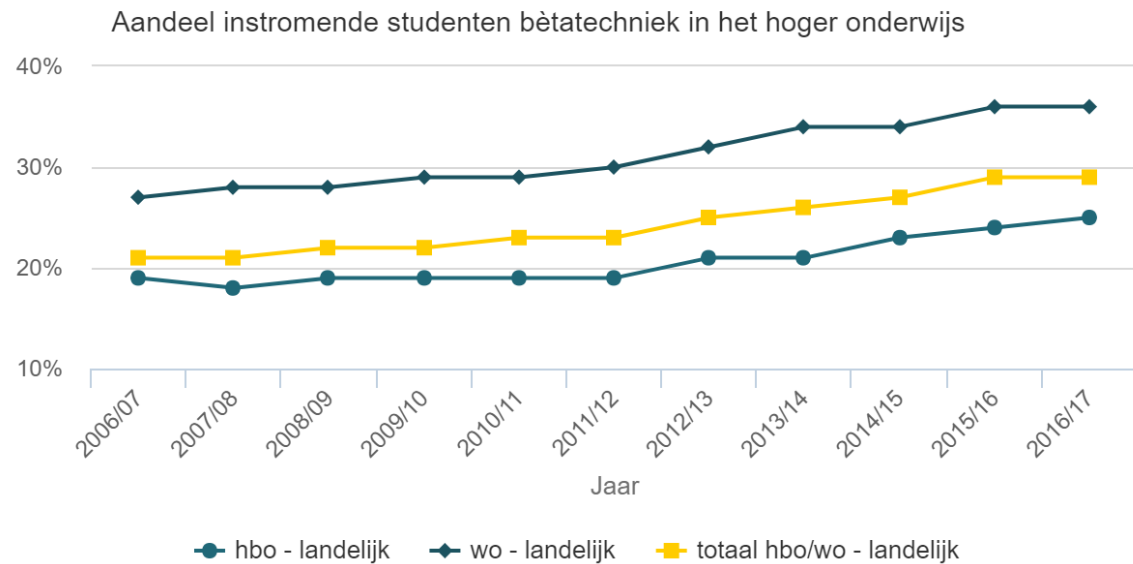
Pre-vocational



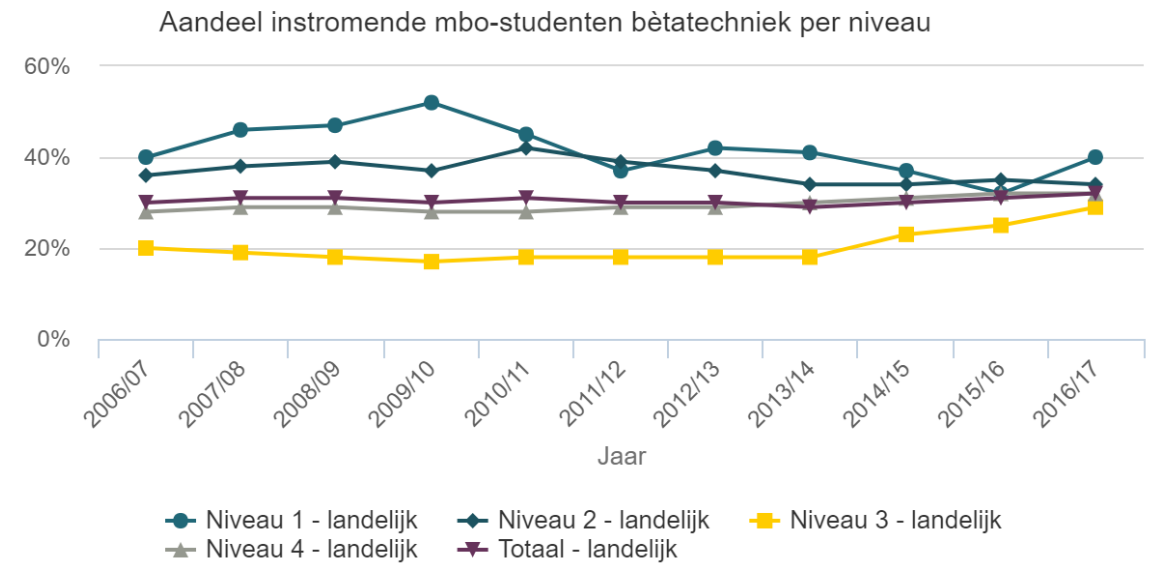
Results and future perspectives (3)

Technology Pact strand 2: Technology education

Higher education



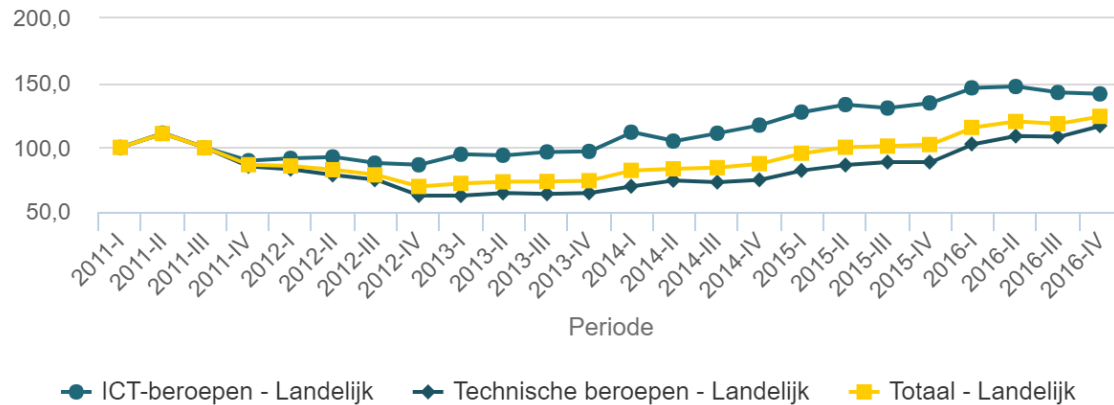
Vocational education and training



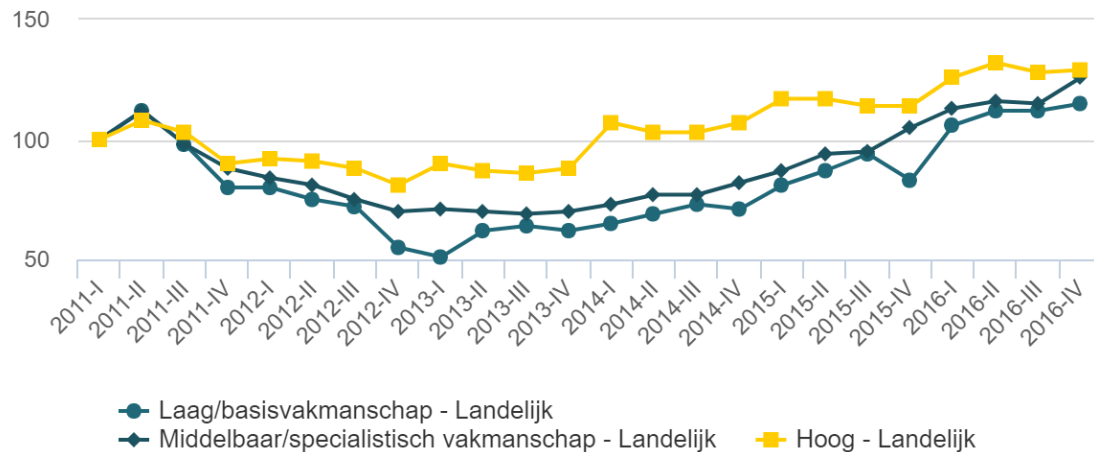
Results and future perspectives (4)

Technology Pact strand 3: Technology jobs

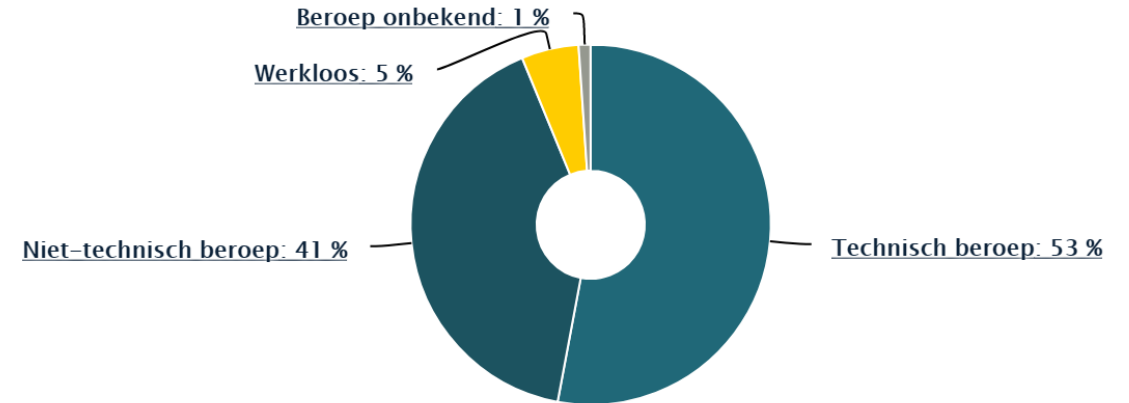
Vacatures in de techniek en ICT



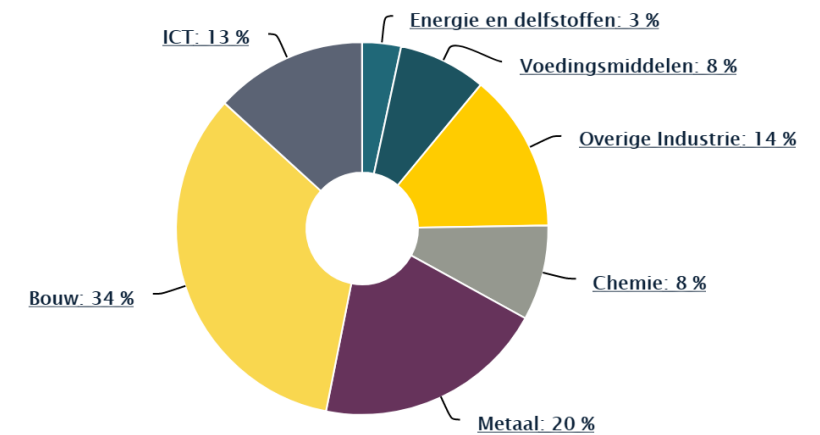
Vacatures in de techniek en ICT, per beroepsniveau



Waar werken technici?



Verdeling banen per technische sector



Results and future perspectives (5)

Challenges

- Teacher shortages & quality
- Fragmentation of initiatives
- Pillarisation / competing policies
- Industry involvement (in particular SME's)
- Continuity / sustainability

Questions

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