



STEM and their Relevance for VET in Germany

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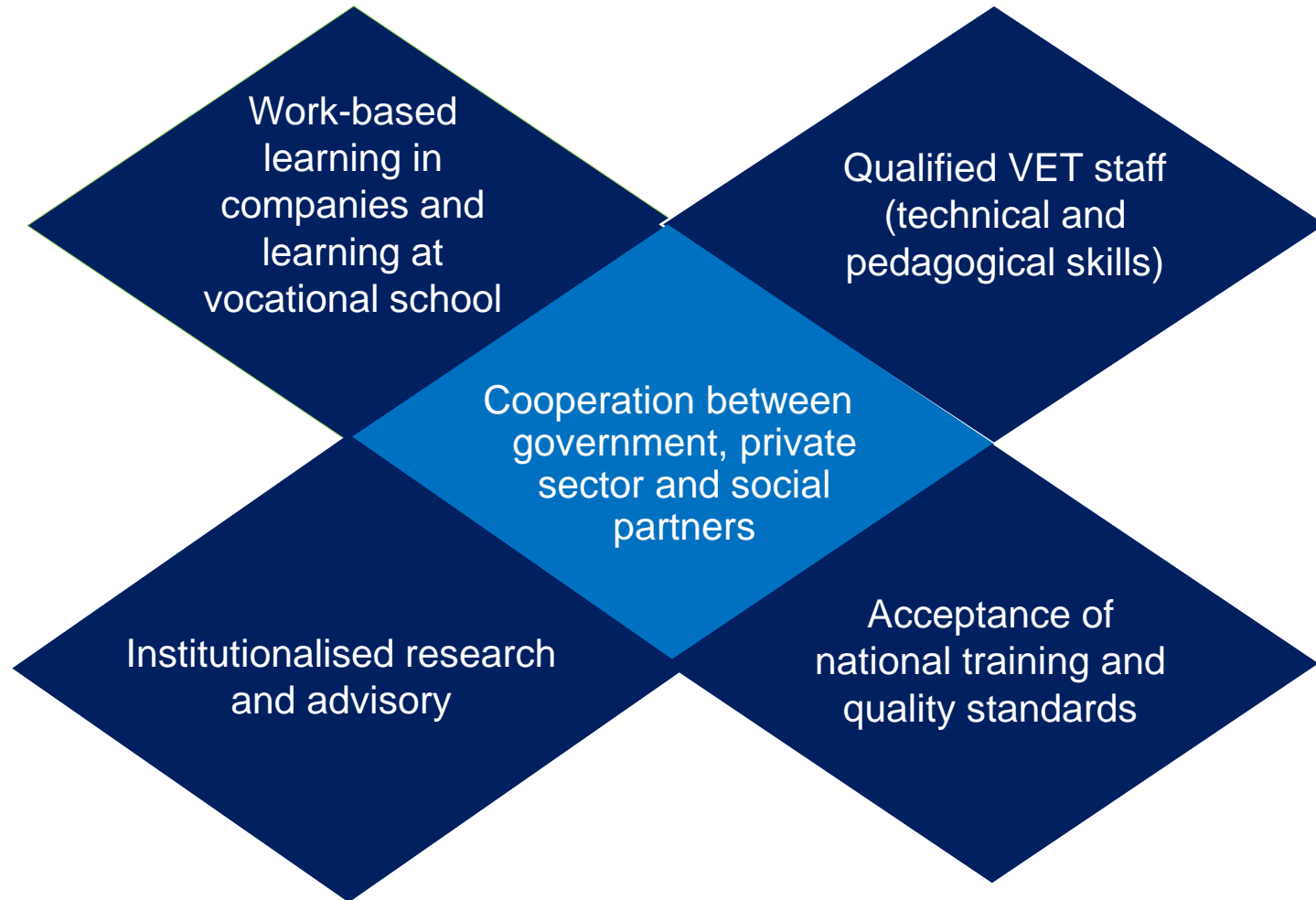
VPET Connex 2017

Hong Kong, 17th June, 2017

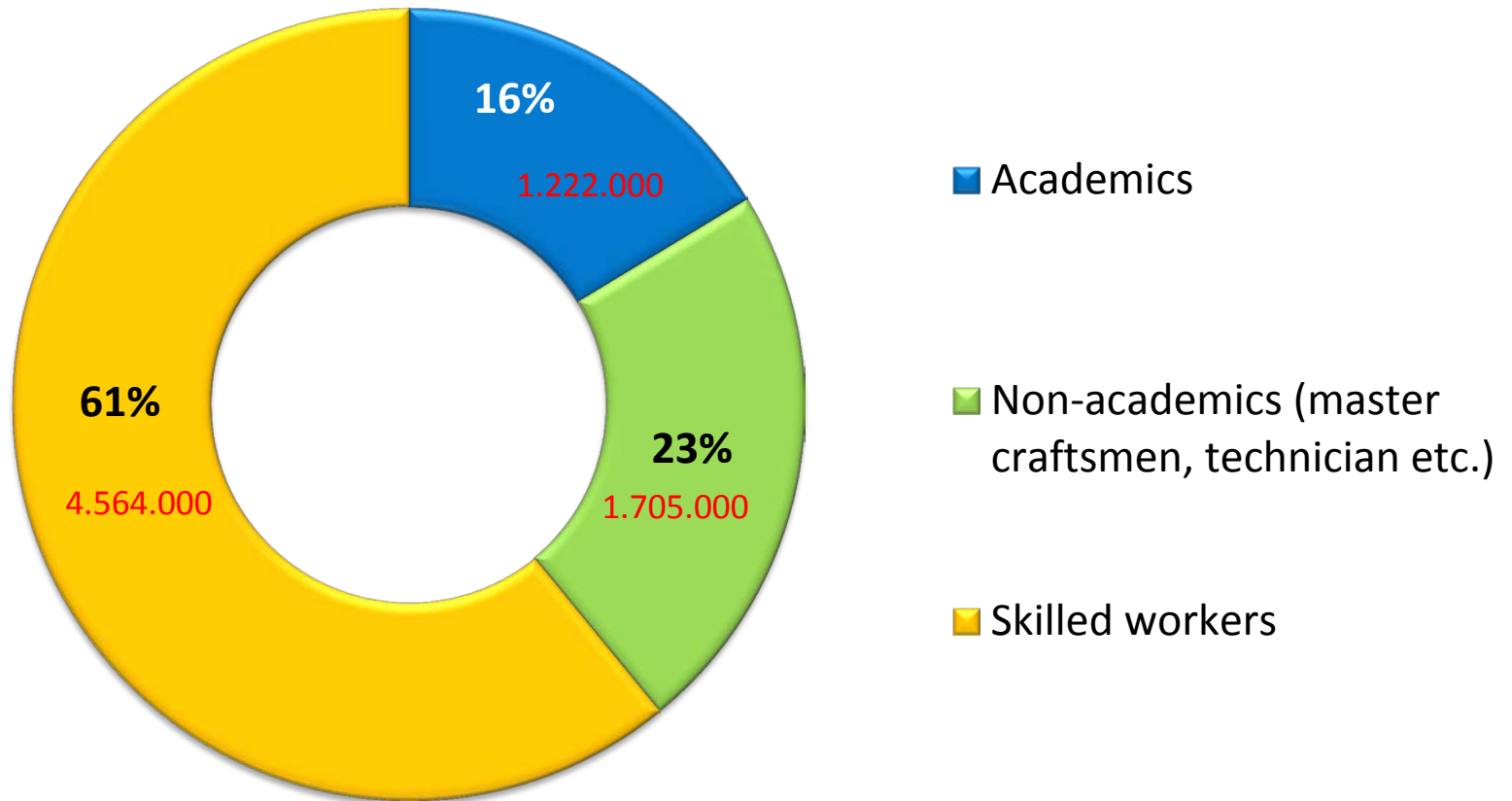
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- Background: The German VET System
- STEM in German VET
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Key characteristics of the German Dual System of VET



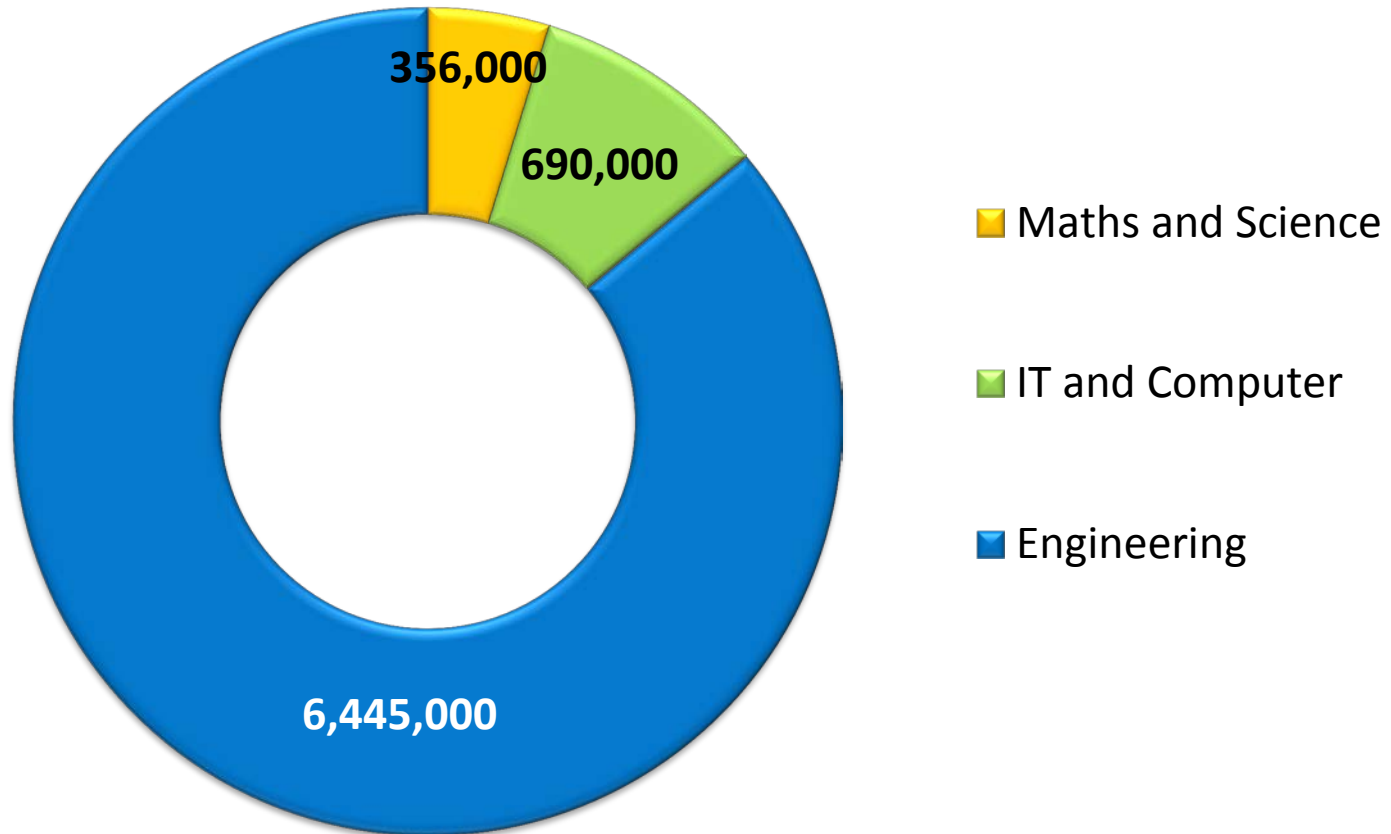
Profile of qualifications in STEM occupations



Source:

Bundesagentur für Arbeit: Der Arbeitsmarkt in Deutschland – MINT-Berufe. Nürnberg 2016, p. 6.

Employees in STEM occupations in Germany



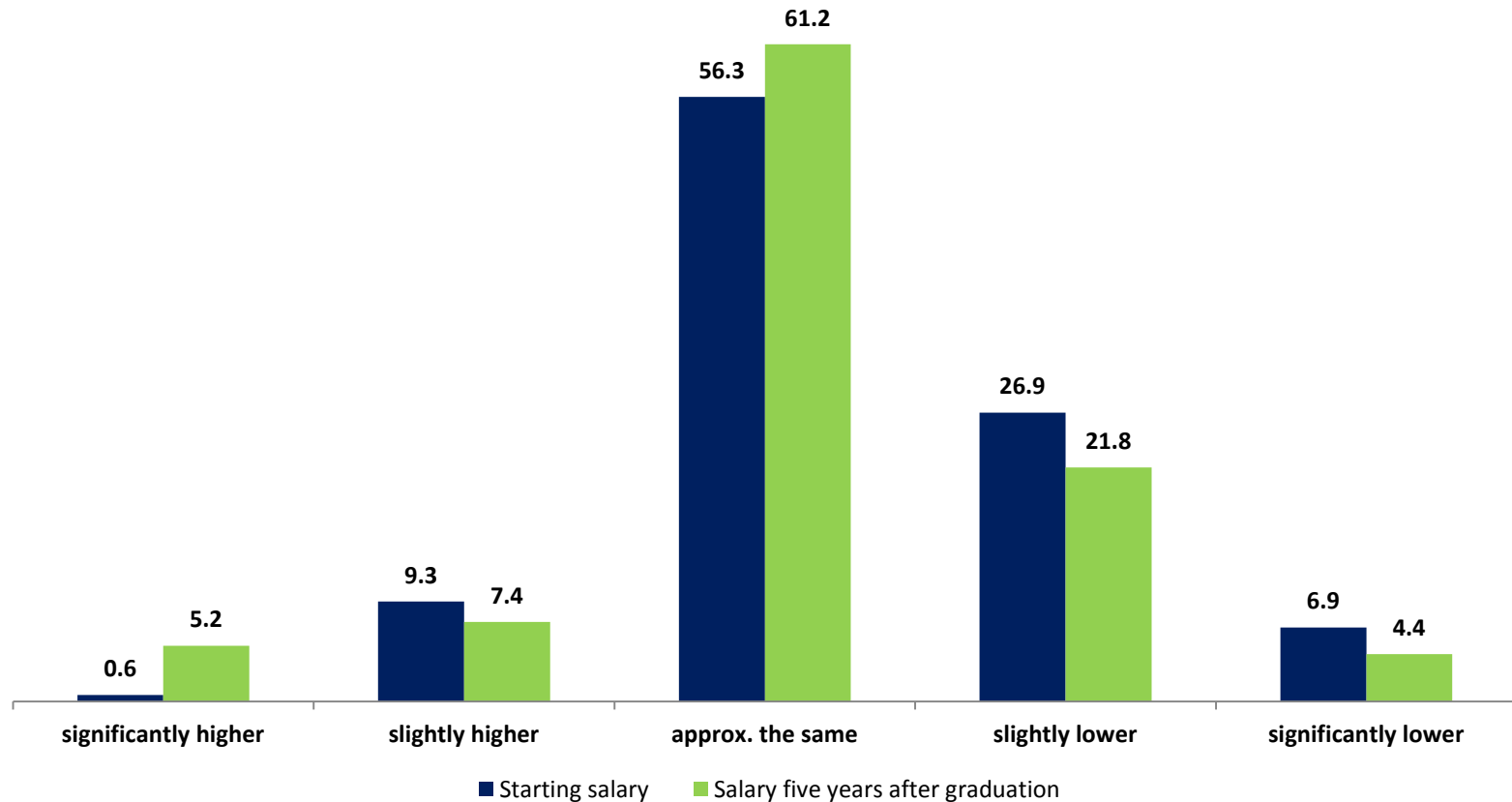
Source:

Bundesagentur für Arbeit: Der Arbeitsmarkt in Deutschland – MINT-Berufe. Nürnberg 2016, p. 6.

Career opportunities

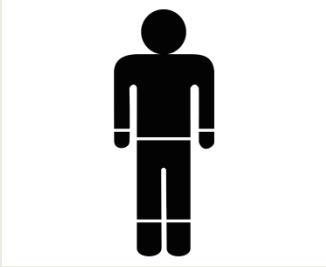


Salary of vocational further training graduates in comparison to bachelor graduates (techn./sci.)

Percentage of companies (in per cent) (only companies with 50 or more employees)



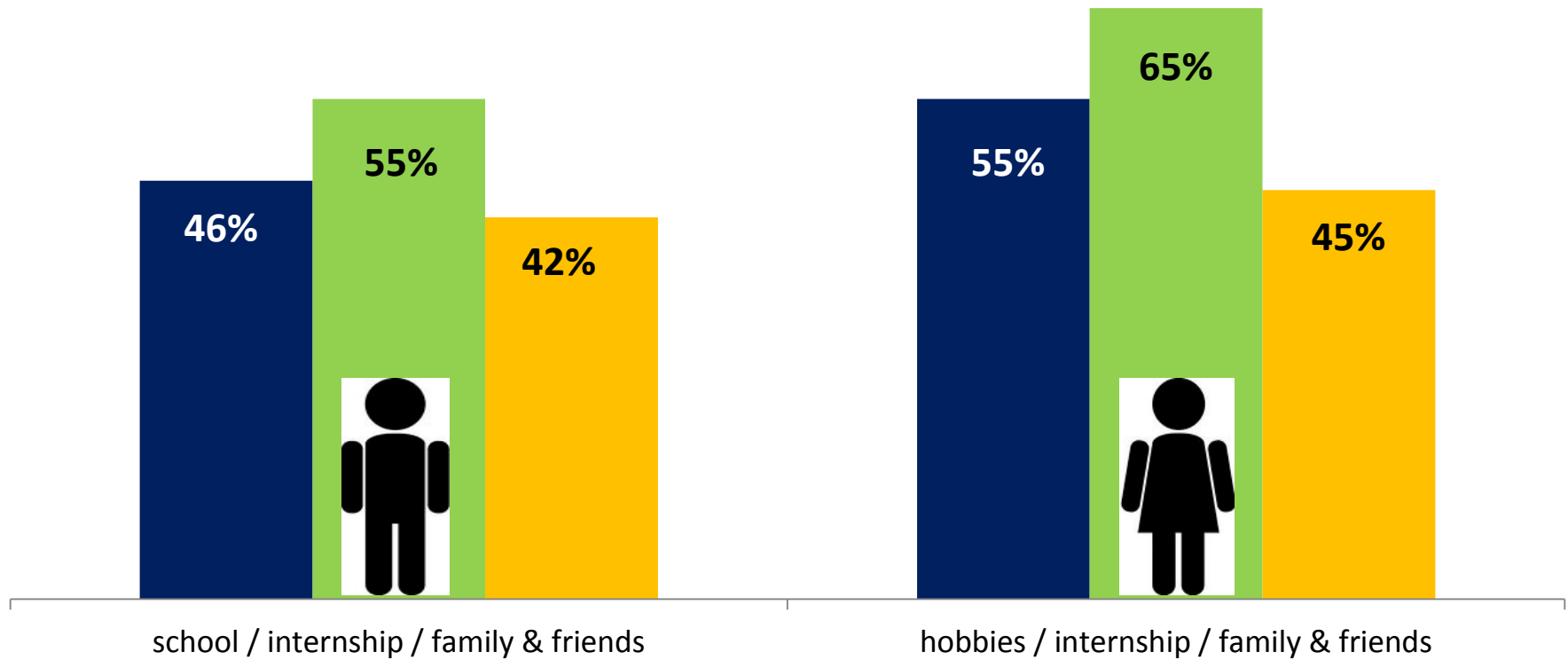
Source: IW: Karrierefaktor berufliche Fortbildung; 2016: 109; <http://www.dihk.de/ressourcen/downloads/iw-studie-karrierefaktor-fortbildung.pdf>

Image and reality of STEM occupations

Students' perceptions		Apprentices' experiences
little contact with people 61 %		Little contact with people 17 %
dangerous 50 %		dangerous 21 %
cold 32 %		cold 8 %

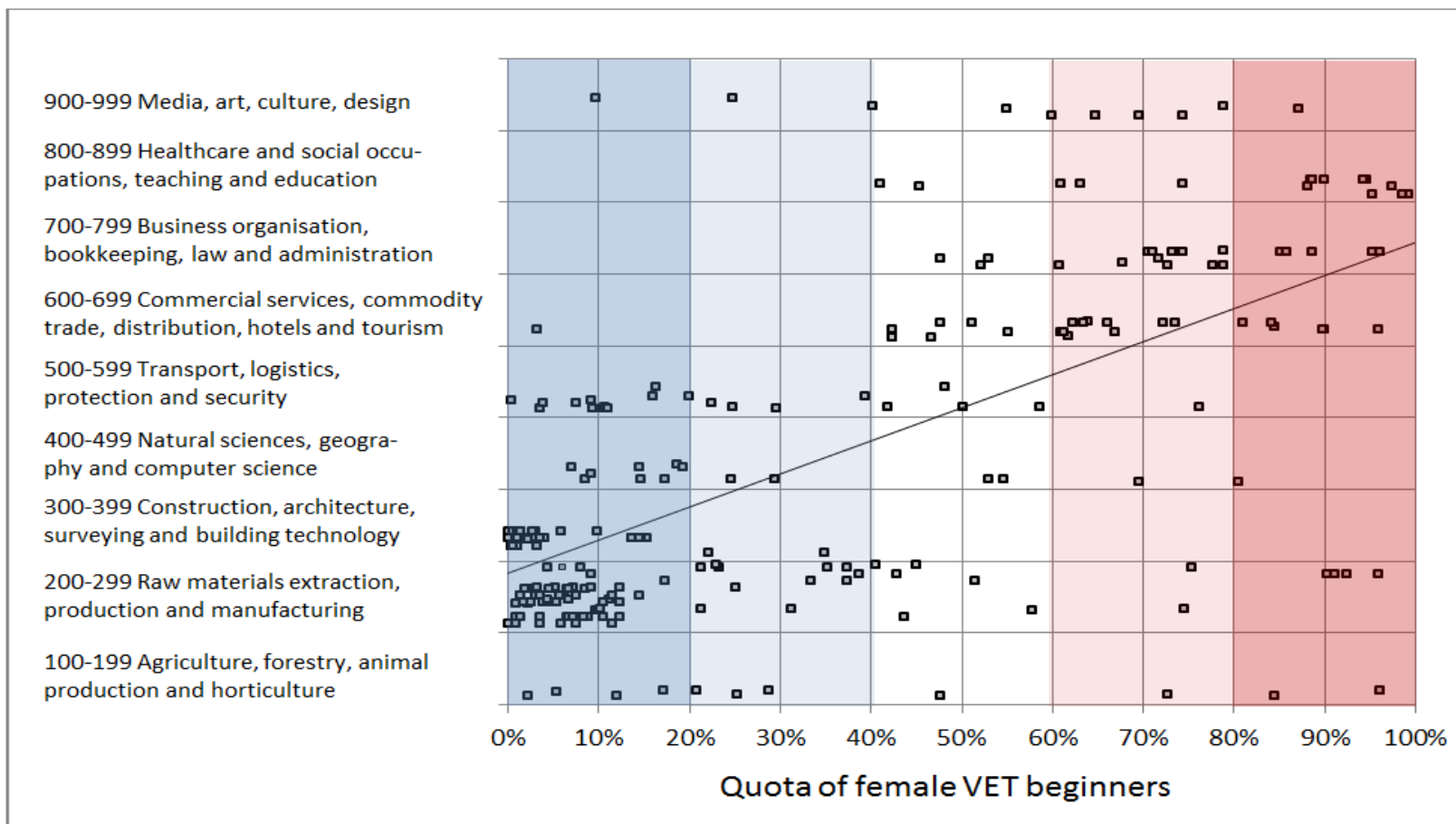
Source: Acatech / Körber-Stiftung: MINT-Nachwuchsbarometer 2015 . Fokusthema: Berufliche Ausbildung. Kurzfassung. Hamburg 2015, p. 7.

Internships: crucial for taking up a STEM career



Source: Acatech / Körber-Stiftung: MINT-Nachwuchsbarometer 2015 . Fokusthema: Berufliche Ausbildung. Kurzfassung. Hamburg 2015, p. 9.

Gender segregation in VET in Germany

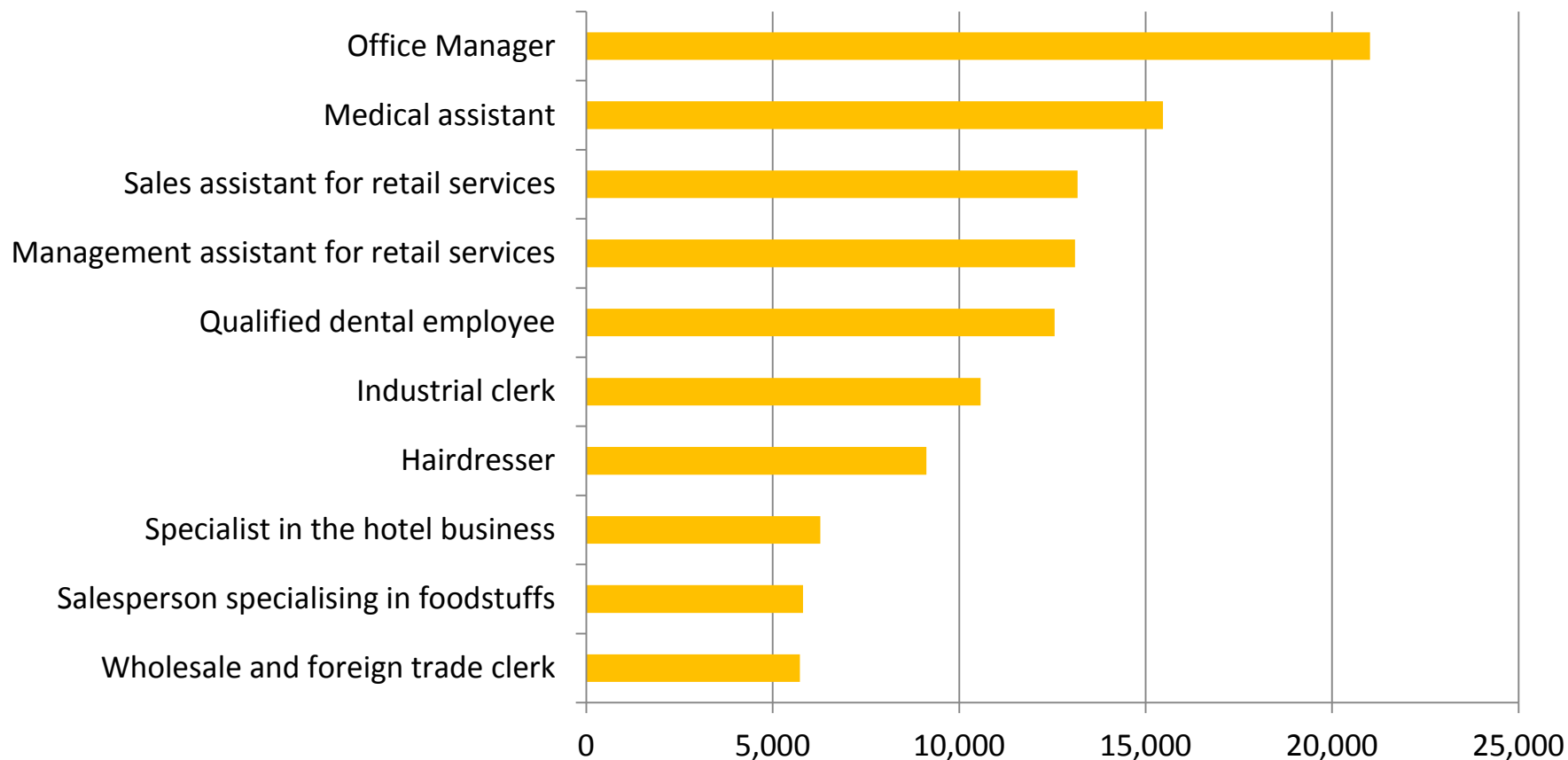


Note: The 238 points mark the position of the different VET occupations. Occupations with the code numbers 100-499 belong to the commercial-technical sector; those with the code numbers 500-999 are service sector occupations.

Female occupations = occupations with 80% or more female trainees; Male occupations = occupations with 20% or less female trainees

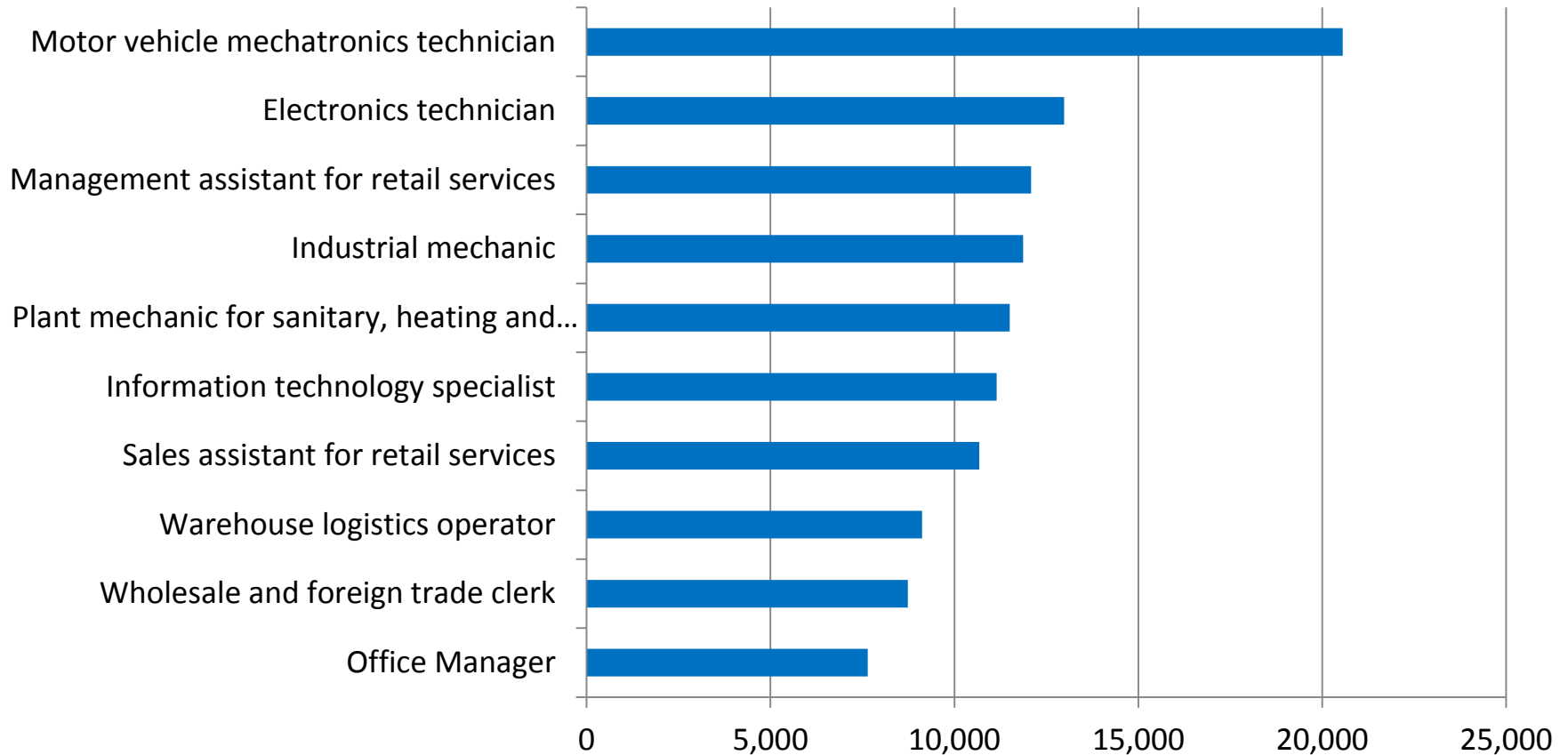
Source: German Federal Statistical Office (2013), BIBB calculations

TOP 10 popular training occupations - female



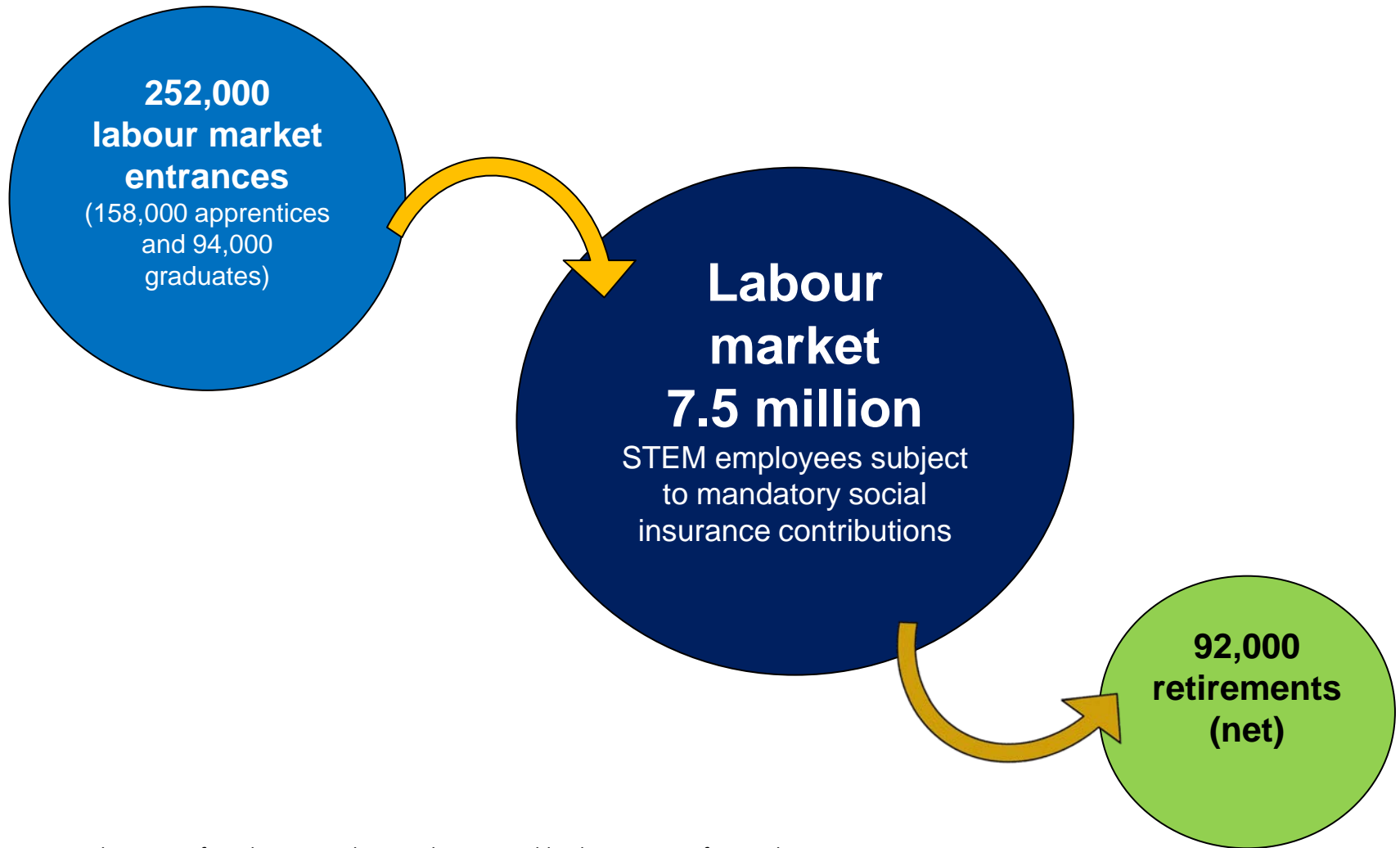
Source: Federal Statistical Office, 2016

TOP 10 popular training occupations - male



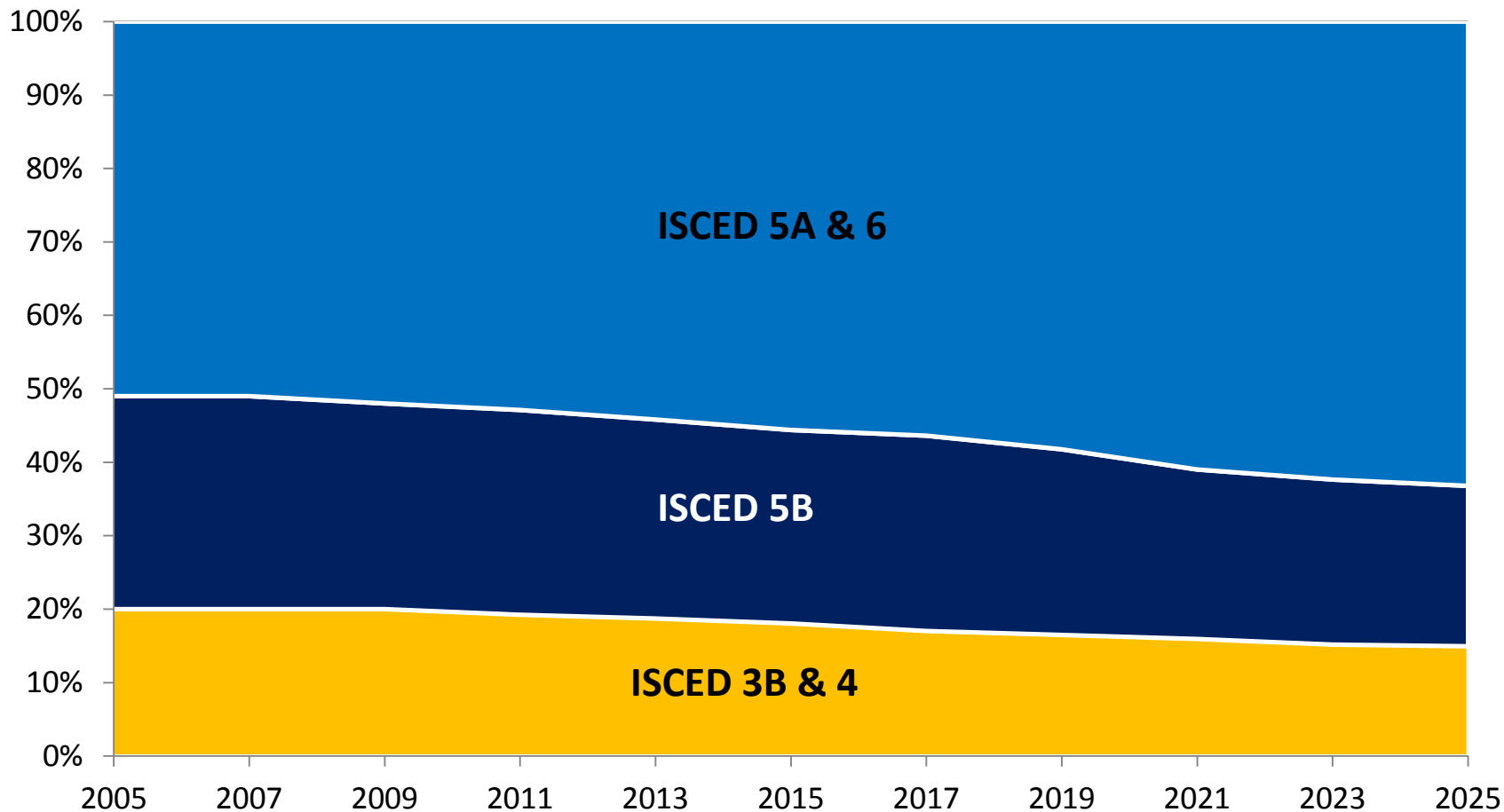
Source: Federal Statistical Office, 2016

Skill shortage in STEM occupations?



Source: Bundesagentur für Arbeit: Der Arbeitsmarkt in Deutschland – MINT-Berufe. Nürnberg 2016, p. 16

Development of qualifications in MINT-professions



Source: BWP 03/2010. p. 42.

Digitization: Hightech in the world of work

- Diagnostic programs in garages / car repairing
- Roof inspection with drones
- Dental laboratory technology with 3D scanning and printing
- Precision farming with telematics and GPS



Many thanks for your attention!

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Further information on VET 4.0:

<https://www.bibb.de/en/49603.php>

