



Structural Models of Occupations and Approach of Adjustments

in Metal and Electro-technical (M+E) Sector in Alignment towards Digitalization / Industry 4.0 in Germany

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Structure Models of Training Occupations

inside of Metal- and Electro-Technical Training Occupations

Mono-Occupations (e.g. by [mechatronics fitter](#))

Occupational Groups

(e.g. by industrial
electrotechnical occupations)

electronics technician for industrial engineering

electronics technician for information and system technology

electronics technician for devices and systems

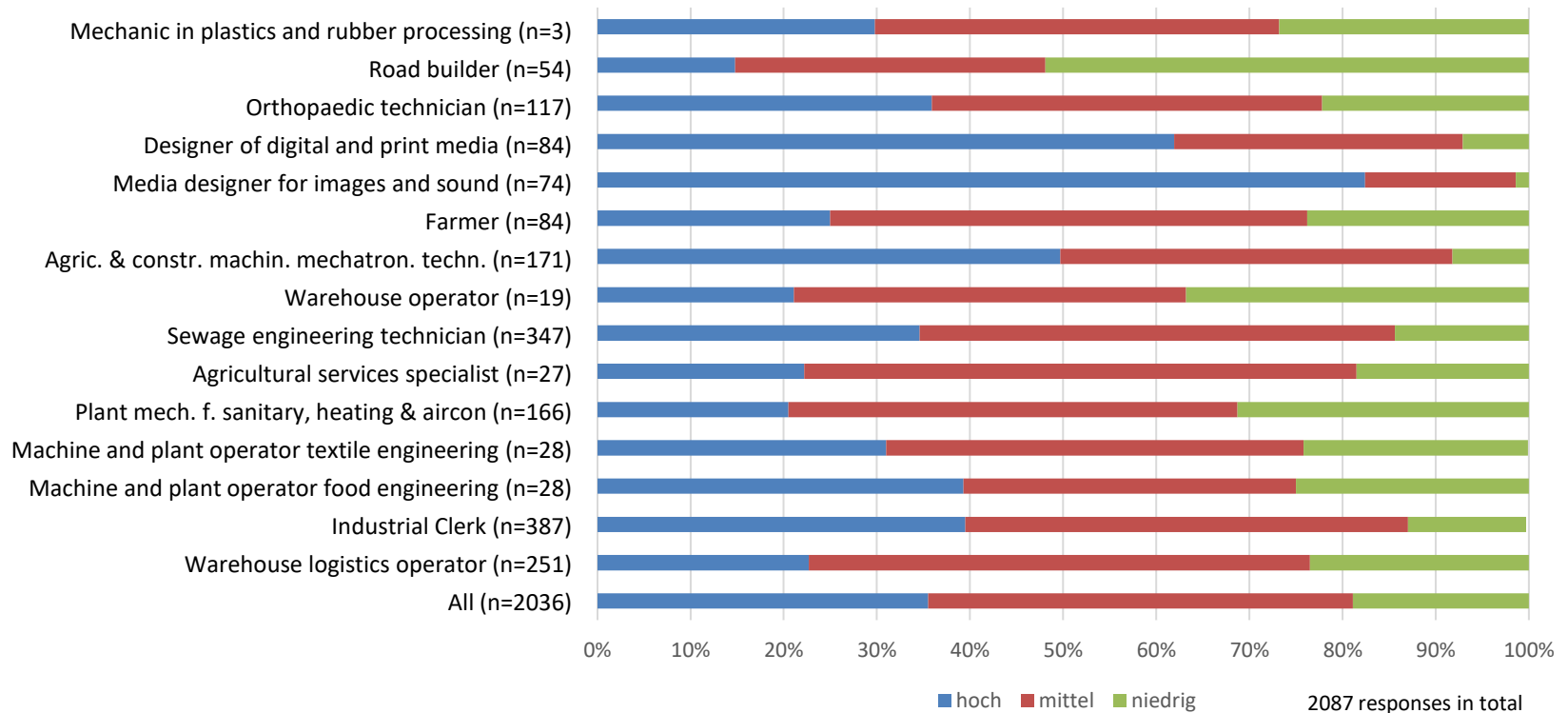
Occupations with differentiations (e.g. by craft electrotechnical occupations)

Single occupation-
oriented
qualifications

Digitalisation Level in Work Processes

results given by Occupation Screenings (2018)...

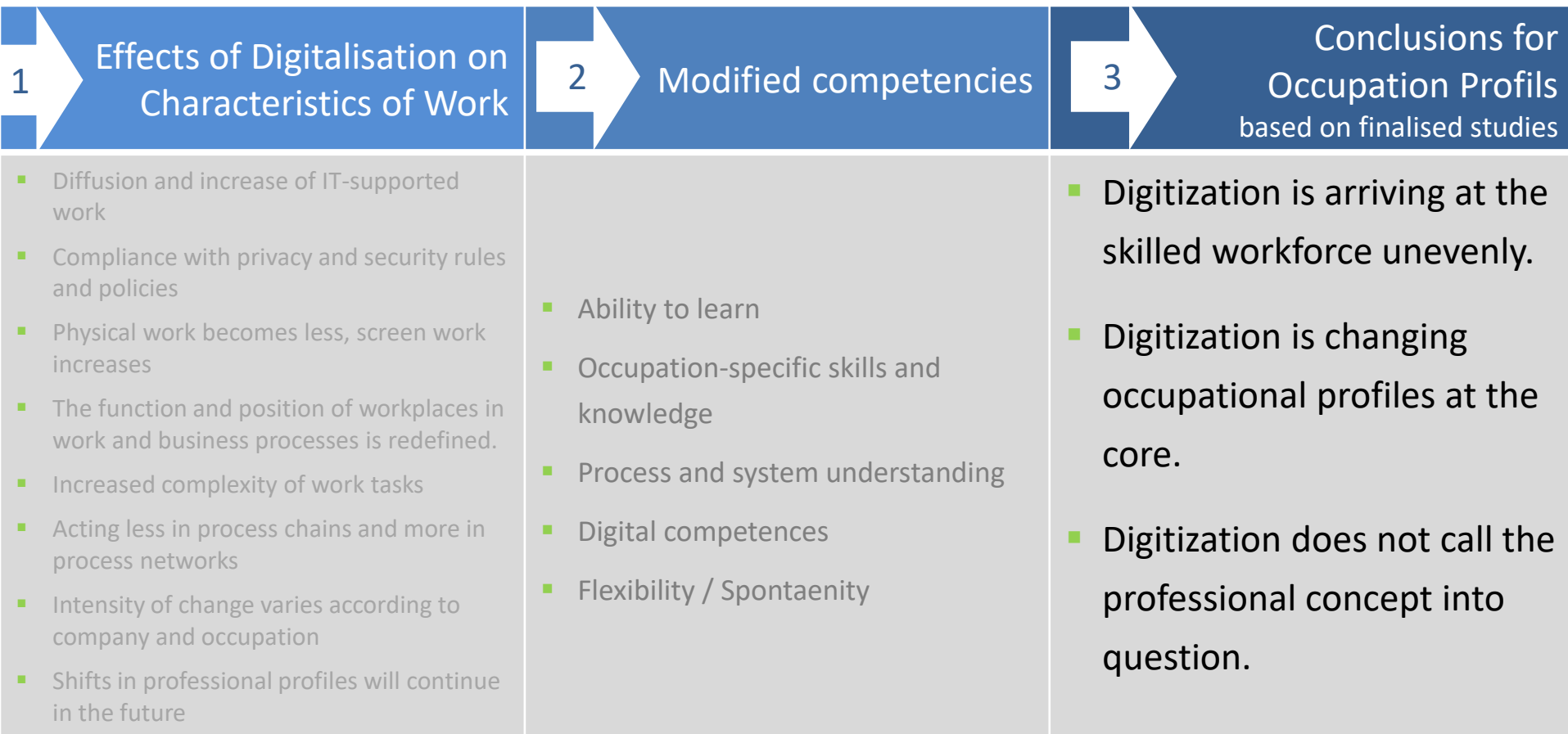
How do you rate the current degree of digitalisation of your company in the work area of [target profession]?




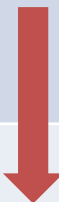
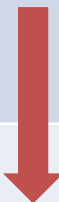

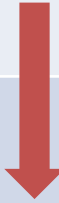
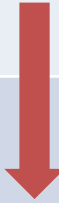
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Conclusions for ...

(based on finalised studies by BIBB, 2019)



Recent Innovation Strategies for specific Training Ordinances

	Agriculture & constr. machine mechatronics technician	IT-Occupations	Industrial Metal + Electro-Technical (M+E) Occupations	Craft Electro-Technical Occupations
2018			Modification regulation for the occupational groups: New job profile position + additional qualifications	Updating the framework curricula for inter-company training in some occupations
2019	Updating the framework curricula for inter-company training			
2020		Restructuring of the occupational group, partial reclassification of occupations and differentiations		
2021				Restructuring of the occupational group, new standard occupational positions, substantially changed occupational profiles, and one new 4.0 occupation.

Today's Regulated Additional Qualifications for Industrial „M+E“ Occupations

Characteristics

Seven Subjects	Programming, Additiv manufacturing processes, Network Technologies, IT-Security, Process Management a.s.o.
Duration, Commitment	8 weeks, optional
Location	Company-based
Examination	In combination with final examination by practical tasks and technical discussion

Future Questions for Reorganization of the (IT)and M+E Occupations

- Which individual occupational profiles are necessary, how are they to be tailored and differentiated?
- Is an even greater differentiation of occupations into conventional and 4.0 occupations necessary and advantageous in the future?
- In which occupational groups will these occupations be combined in the future?
- What common training content should be at the start of training (core competencies/basic training)?
- Which structural elements for differentiation, such as specializations, elective qualifications or additional qualifications, are suitable?

Thank You for Your Attention

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