

# 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)

Group occupationoriented qualifications

**Occupational Groups** 

electronics technician for industrial engineering

electronics technician for information and system technology

(e.g. by industrial electrotechnical occupations)

electronics technician for devices and systems

Single occupationoriented qualifications

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

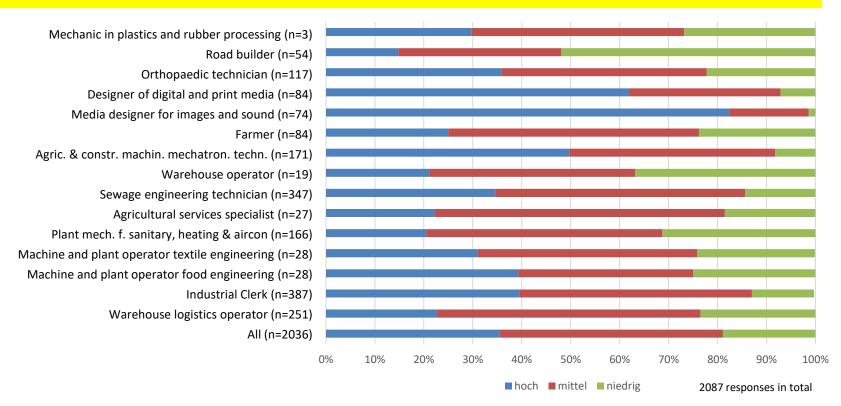




#### Digitalisation Level in Work Processes

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)

Conclusions for Effects of Digitalisation on 3 Modified competencies **Occupation Profils** Characteristics of Work based on finalised studies Diffusion and increase of IT-supported Digitization is arriving at the skilled workforce unevenly. Compliance with privacy and security rules Ability to learn Physical work becomes less, screen work Digitization is changing Occupation-specific skills and occupational profiles at the The function and position of workplaces in knowledge work and business processes is redefined. core. Process and system understanding Increased complexity of work tasks Acting less in process chains and more in Digital competences Digitization does not call the process networks Flexibility / Spontaenity professional concept into Intensity of change varies according to company and occupation question. in the future

#### 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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