



Digitalisation of Apprenticeship in German Companies

*2019 joint Cedefop and OECD symposium
The next steps for apprenticeship*



Agenda / Research Questions

1

Have German companies already digitalised their apprenticeship training?

2

What kind of support do companies wish for?

3

Does the apprenticeship system leave enough scope to keep pace with the digitalisation?



Das Institut der deutschen Wirtschaft Köln e. V.
The German Economic Institute

The German Economic Institute...

- › ... is a private economic research institute
- › ... conducts research in the fields of economic and social policy, labour market, education and society
- › ... implements projects on behalf of third parties (e.g. federal and state ministries, associations or foundations)
- › ... covers as a group with its subsidiaries the whole range of science, education, consulting and communication
- › ... is employer for around 350 employees

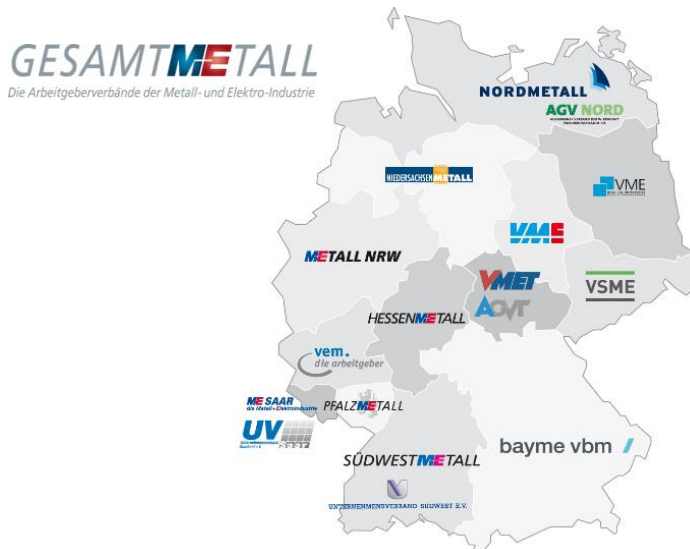


Organisation

› Sponsors:



› Members: 110 associations and businesses in Germany



THIS IS PROGRESS

15 YEARS AGO:

TODAY:



"Tales Of Mere Existence" By Levni Yilmaz

www.ingredientx.com

Recent “History” of Training Occupations

- › 327 state-recognized training occupations
(open, technology-neutral formulations of profiles)



...	
1997	Introduction IT-occupations
1998	Introduction “Mechatronics Fitter”
...	
2017	Introduction “Management Assistant for E-Commerce”
2017 / 2018	Extension of existing curricula Introduction of new supplementary qualifications (e.g. in the metal and electrical engineering industries as well as in the chemical industry)
future	??? ● ● ●

Is more structural
change of the
apprenticeship
necessary?

Survey among German Companies



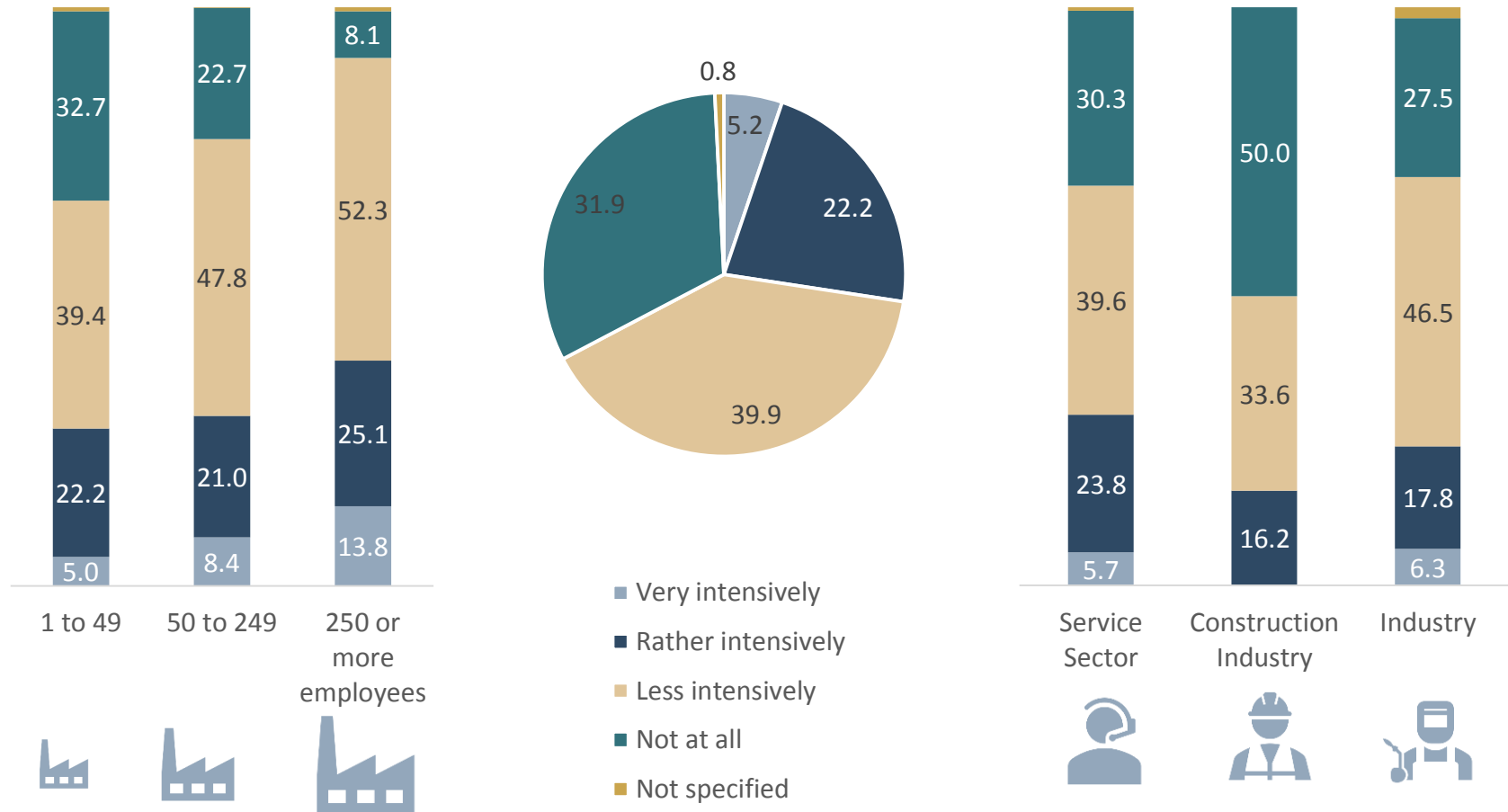
IW-Personalpanel

When?	Mid-October until December 2017
Who?	Companies with at least one employee
How many?	1,022
Representative?	Weighting based on data from the German company register

- › 9 out of 10 companies use digital technologies
 - › Digital distribution channels
 - › Digital data exchange with suppliers, service providers, or costumers
 - › Digital services (e.g. cloud services)
 - › Networking and control of machines and plants via the internet

1 of 4 Companies engage intensively in the Digitalisation of VET

How intensively have you engaged in the digitalisation of apprenticeship?

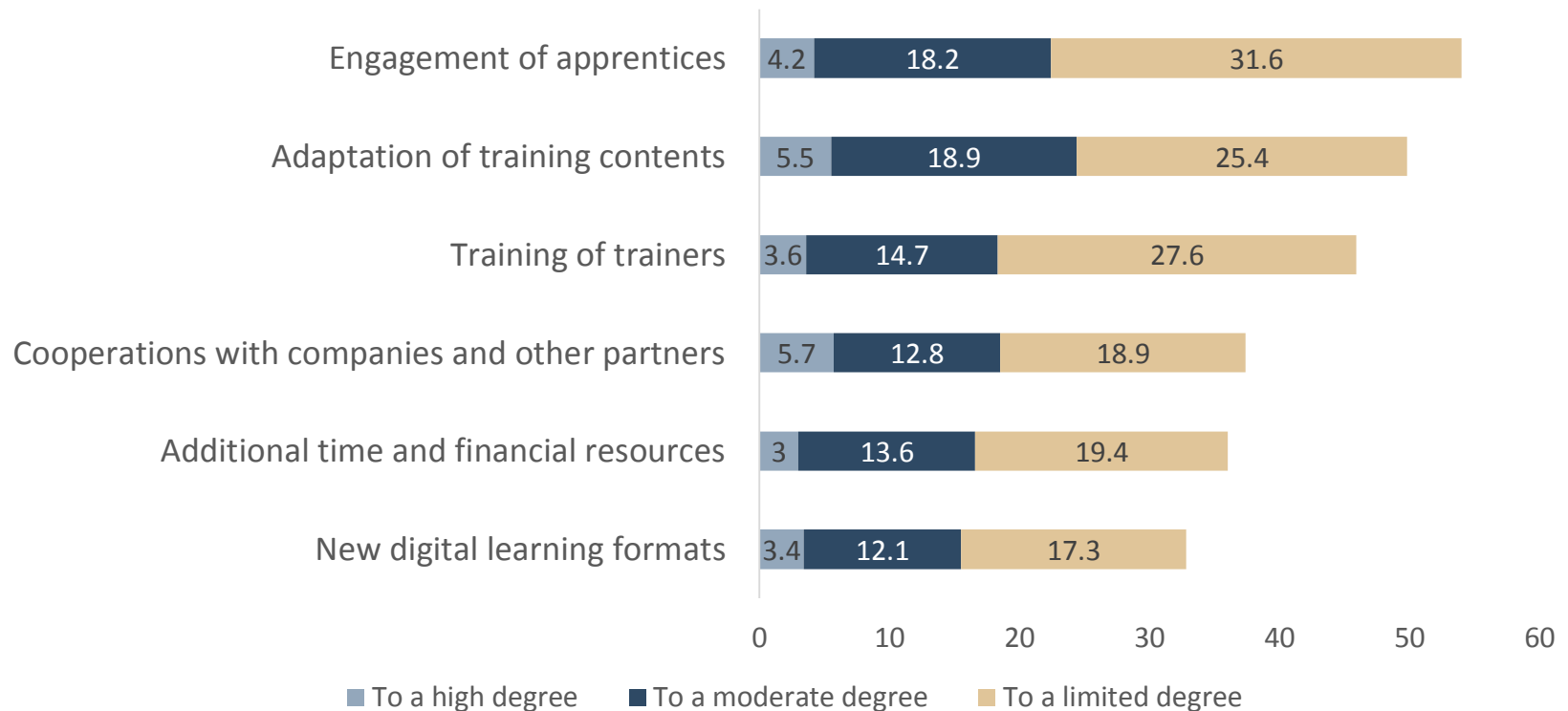


N=830.
Source: IW-Personalpanel 2017; German Economic Institute.

Apprentices drive change

8 of 10 companies have initiated at least one change process

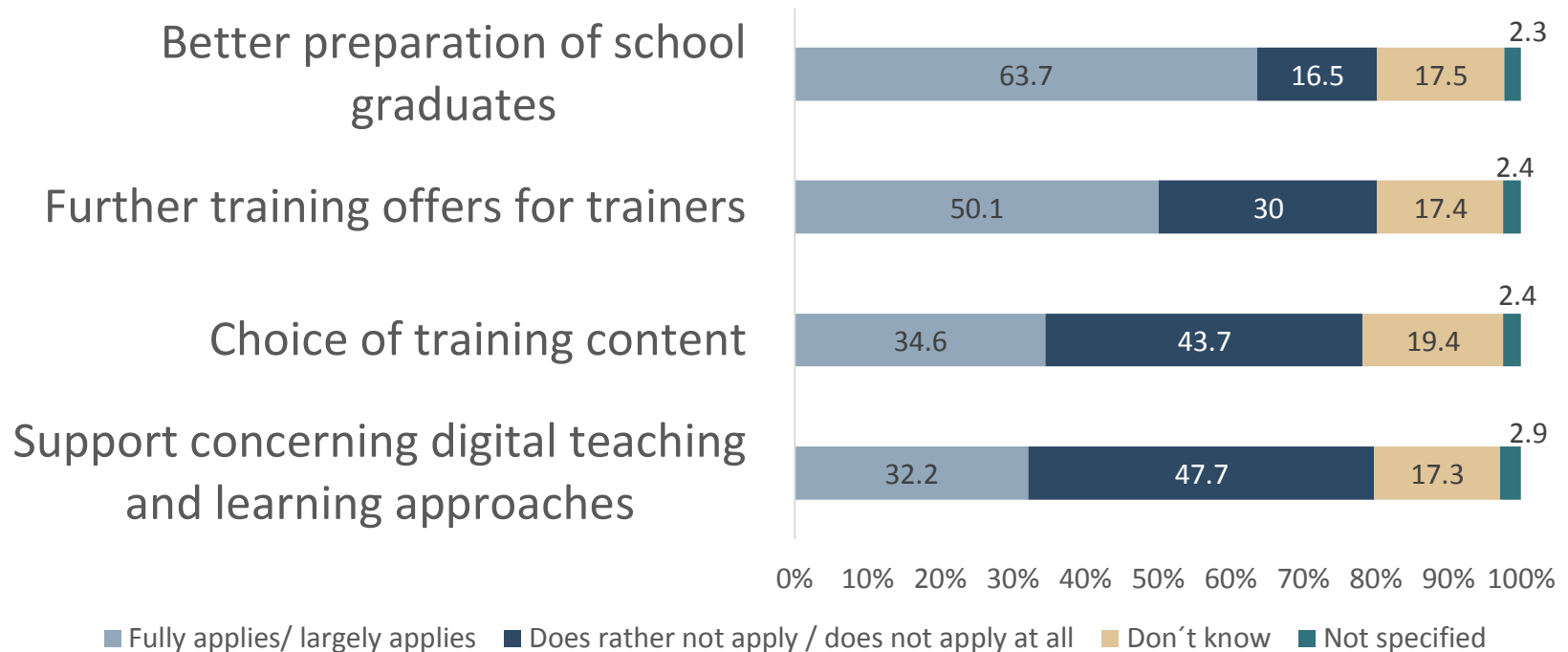
What has already changed in your apprenticeships during the past five years due to digitalisation?



N=839. Weighted results.
Source: IW-Personalpanel 2017; German Economic Institute

Need for Support in the Digitalisation of Apprenticeships

What kind of support does your company need in the organisation of your apprenticeships in the context of the digitalisation?



N=830. Weighted results.
Source: IW-Personalpanel 2017; German Economic Institute.

Cooperation of Learning Venues

Relation between companies and vocational schools

How satisfied are you with vocational schools in the following areas?

› Limited satisfaction with schools

Preparation of apprentices

Number of available teachers

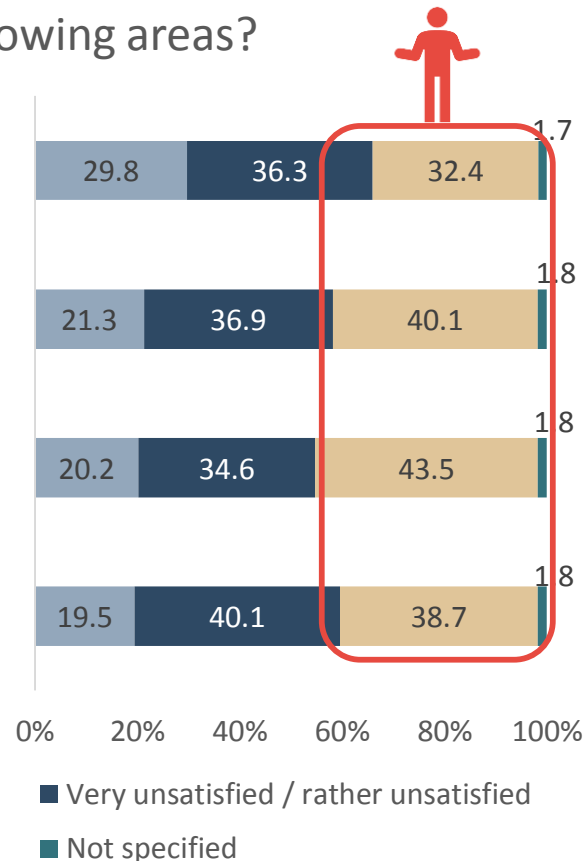
Digital competencies of teachers

Technical equipment of schools

› Large companies more satisfied

› Many companies don't feel able to assess vocational schools
→ *lack of exchange?*

› Anecdotaly: technical and didactic innovation often depend on individual active trainers / principals

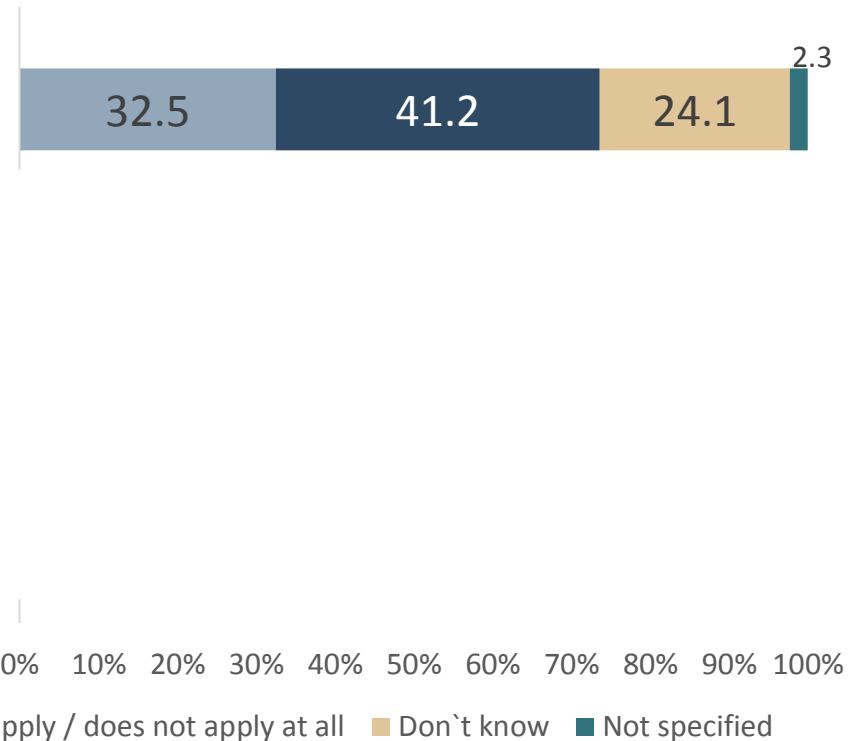


Source: IW-Personalpanel 2017; German Economic Institute.

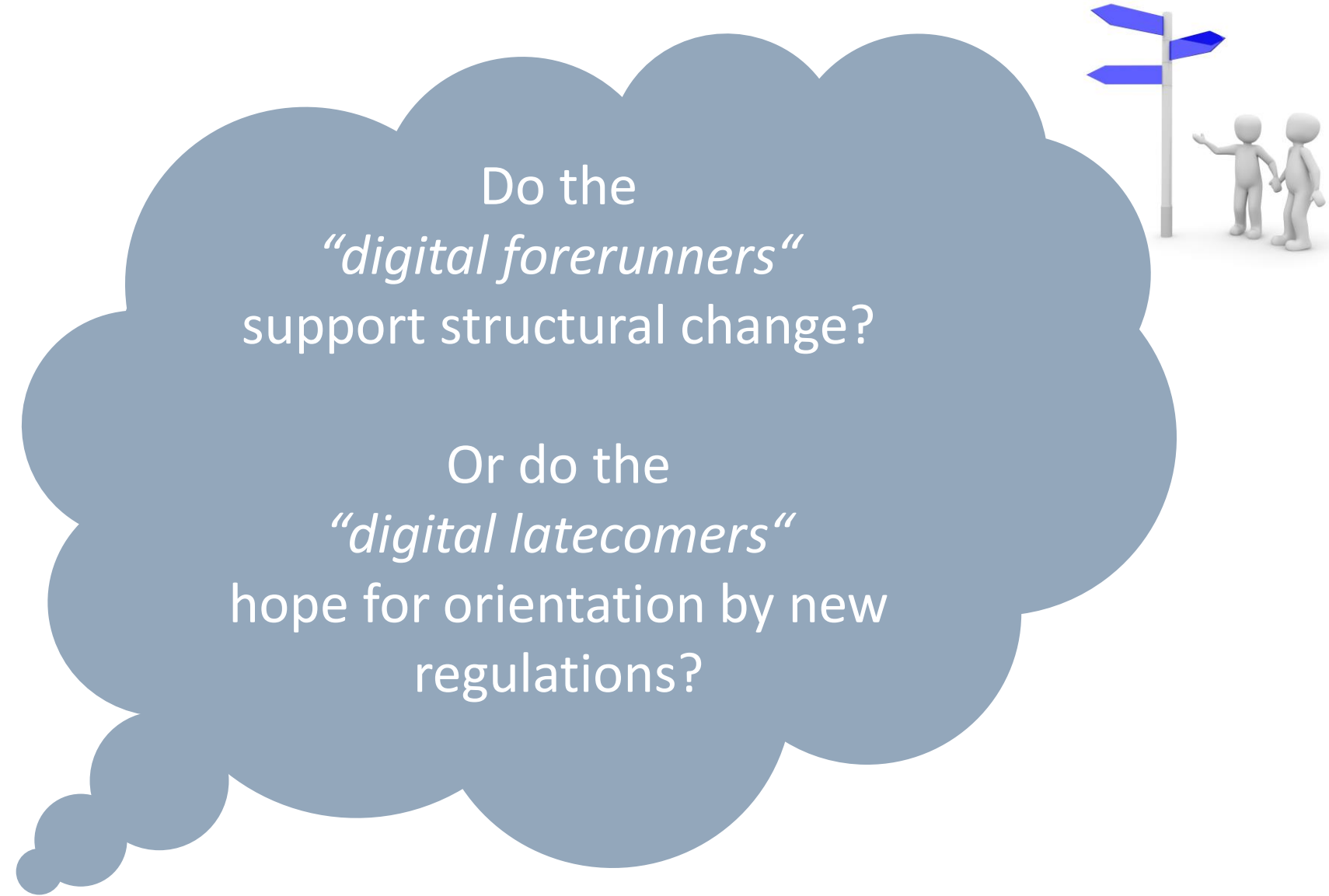
Do we need new Training Occupations?

In the course of digitalisation, do you think structural changes are needed in the apprenticeship system?

New training occupations should be created.



N = 830. Weighted results.
Source: IW-Personalpanel 2017; German Economic Institute.



Do the
“digital forerunners”
support structural change?

Or do the
“digital latecomers”
hope for orientation by new
regulations?

Picture: Pixabay.

Influential Factors on Companies' Desire for New Training Occupations

	Model A:	Model B:	Model C:	Model D:
<u>Company size</u> (reference: 1 to 49 employees)				
50 to 249 employees	0,012	0,037	0,028	0,018
250 or more employees	0,062	0,057	0,072	0,051
<u>Industry and construction sector</u> (reference)				
Service sectors	0,044	0,033	0,066	0,098
<u>Digitalisation index</u> (reference: 0 to 1 digital technologies)				
2 digital technologies	0,021	0,033	0,021	0,011
3 to 4 digital technologies	0.294***	0.307***	0.326***	0.330***
<u>Dealing with digitalisation in vocational training</u> (reference: less intensively)				
Very intensively	-0,023	-0,044	-0,038	-0,019
Rather intensively	0,046	0,046	0,078	0,044
Not at all	0,271**	0,282***	0,209*	0,208**
<u>Need for support</u>				
Further training of trainers	0,204**			
Better preparation of school graduates		0,273**		
Support in the choice of training contents			0,266***	
Support concerning digital teaching and learning approaches				0,226***
Constant	0,140	0,054	0,120	0,136
R ²	0,126	0,126	0,158	0,133
Prob > F	0,00022	0,0116	0	0,0002
F	2,910	2,388	4,368	3,578
N	612	617	607	609

Dependent variable: New training occupations should be created (Yes = 1, No = 0).
 ***/**/*: significant on a 1- / 5- / 10-percent level
 Source: IW-Personalpanel 2017, German Economic Institute.

Conclusion

- › Scope for a more strategic approach to the digitalisation of apprenticeship
- › Cooperation between learning venues need to be improved
- › Significant need for orientation / support (in particular by SMEs)
- › Companies see a noteworthy need for modernisation
 - › Companies with a leading position concerning the digitalisation
(Vision how modernisation could look like?)
 - › Latecomers with little digital experience
(Hope for orientation? Other kind of support?)
- › Dissemination of examples of good practice can motivate more companies to engage in the digitalisation of their apprenticeships



How you can contact me:

Dr. Regina Flake

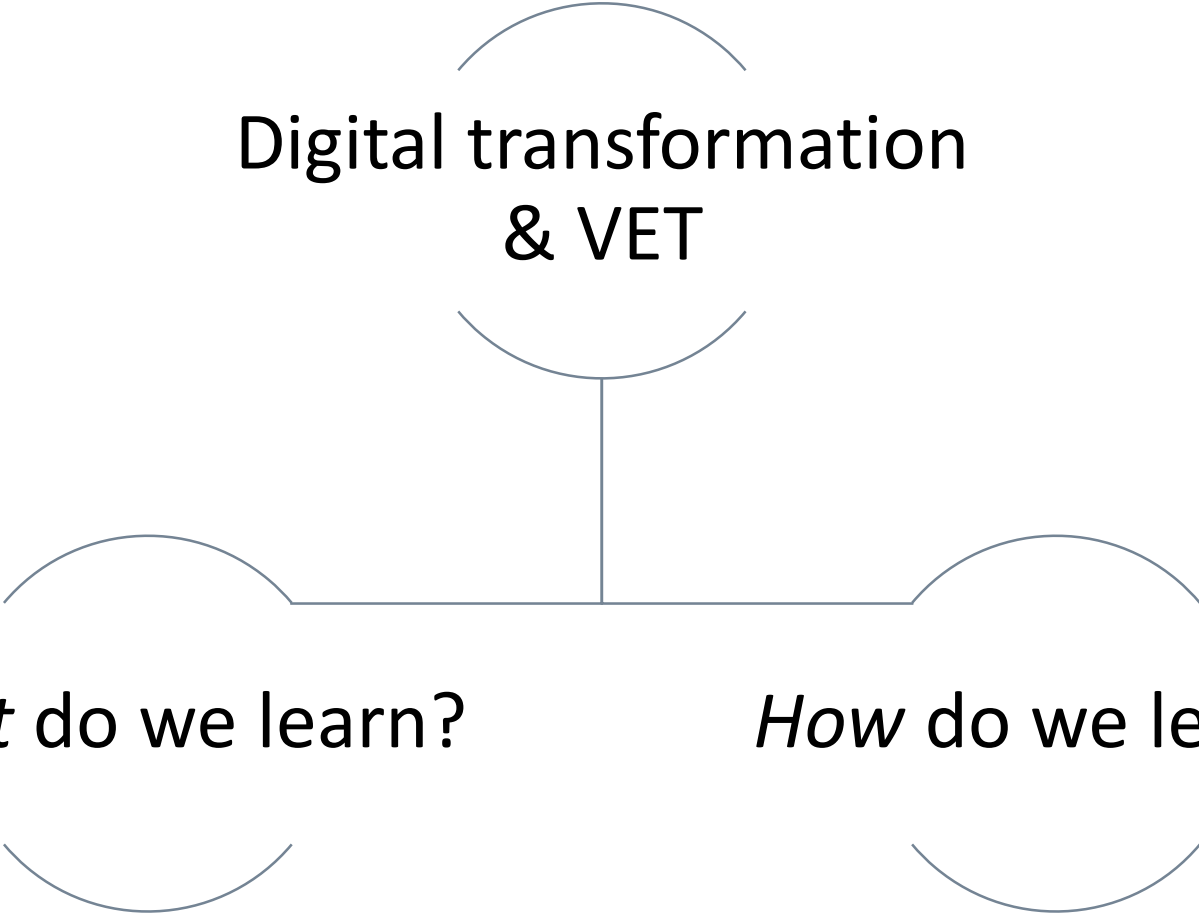
Economist
Research Unit Vocational Education
and Training

☎ +49 (0)221 4981-840

✉ flake@iwkoeln.de

www.iwkoeln.de/en





Digital transformation & VET

What do we learn?

How do we learn?