

Labour market analysis



Team introduction



Alice Fritze

- ❑ Data Analyst
- ❑ Project Manager



Iasemin Gubian

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- ❑ Biologist



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- ❑ Data Analyst
- ❑ Industrial Designer



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- ❑ Data Analyst
- ❑ Statistician

Stakeholder

A large international recruitment agency is thinking of expanding into the German market and wants to find out about potential market areas

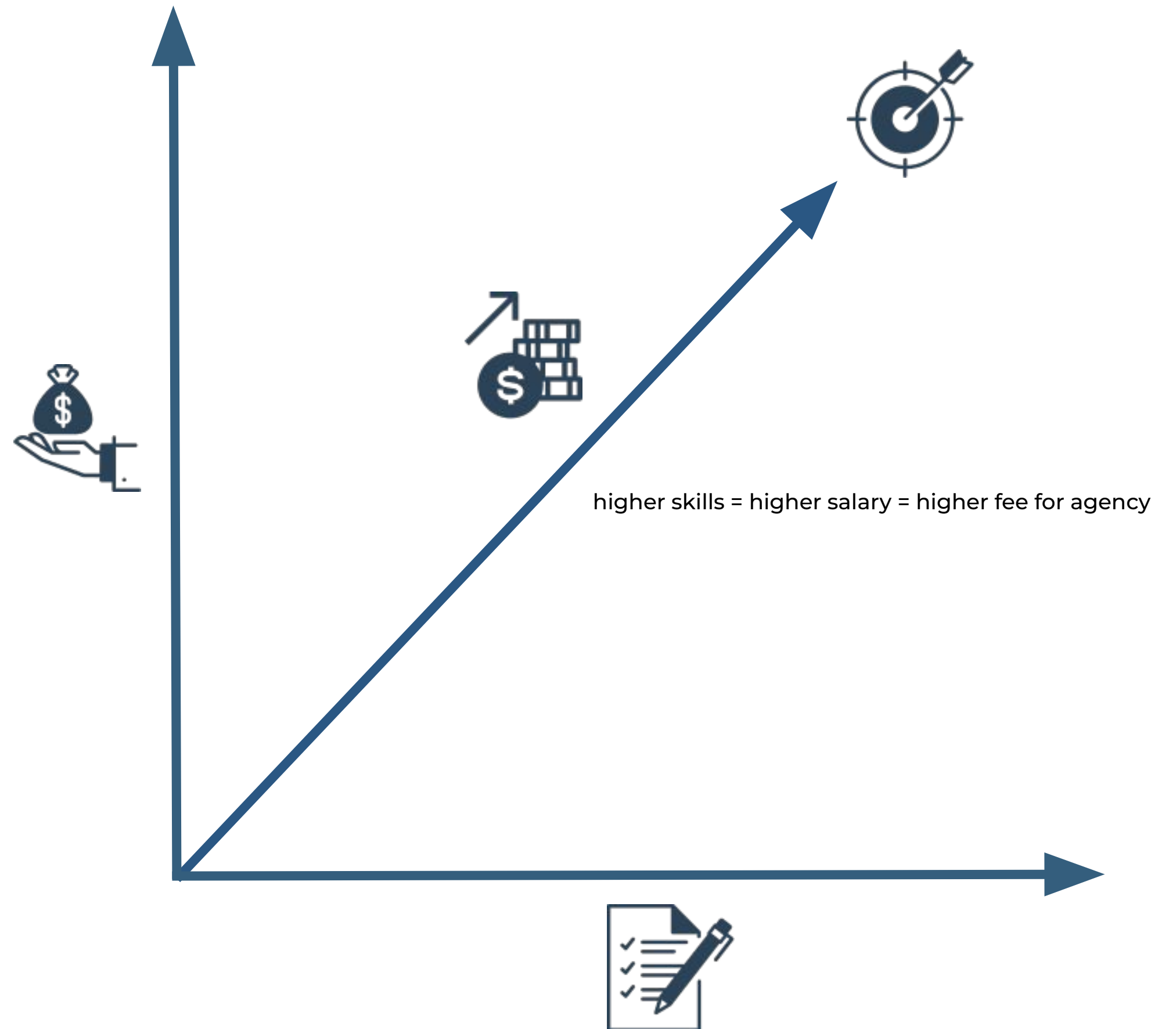


Business model:

How does our stakeholder make money?

Contingency model:

- recruit candidates for success-only fee
- fee: 20%-30% of first-year salary



Business question:

Which areas of the German labour market are interesting to look at?

The labour market:

The labour market is a place where the demand for employees (by employers) and supply of employment (by workers) meet



open
positions



unemployed

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open
positions



large market



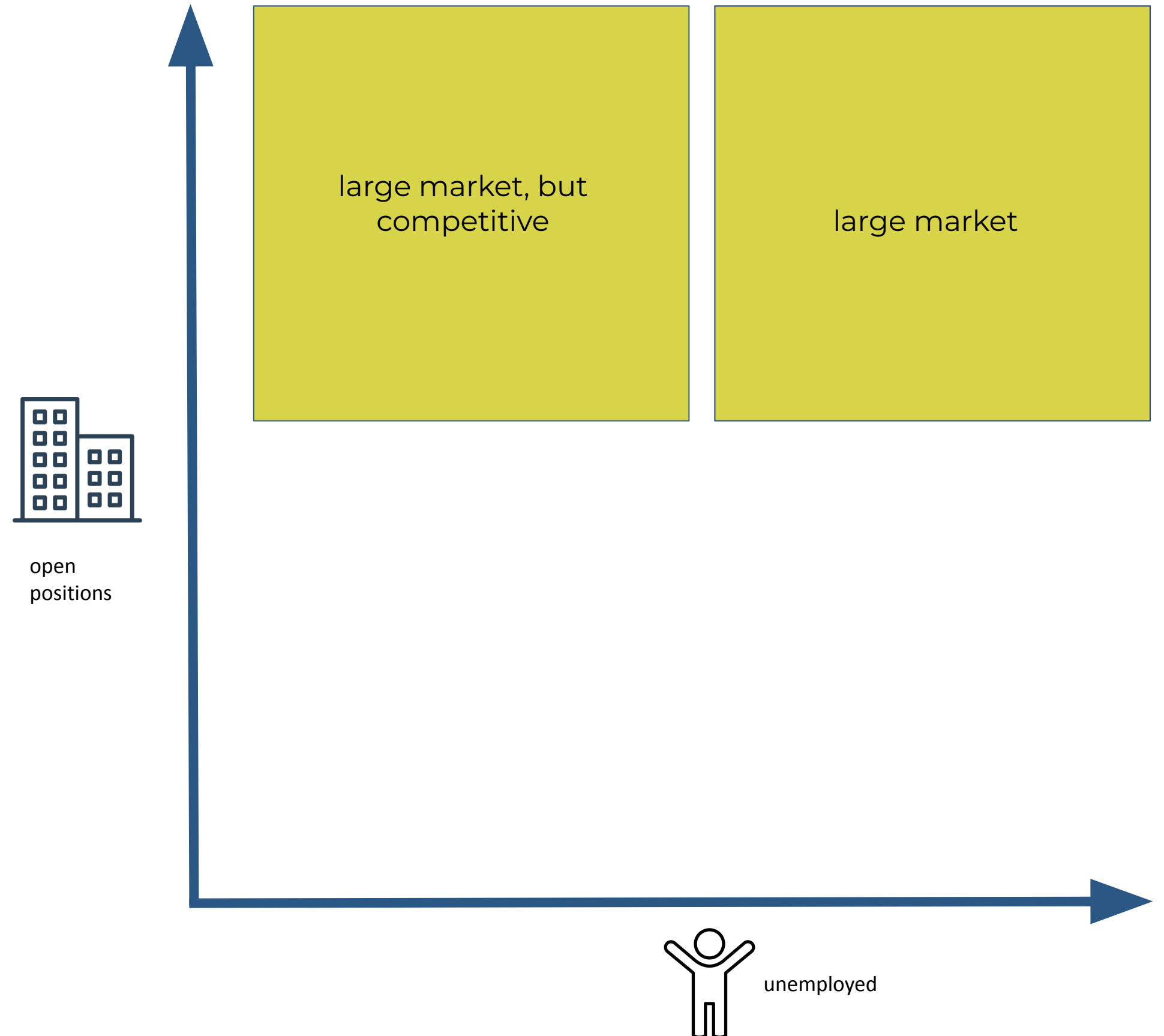
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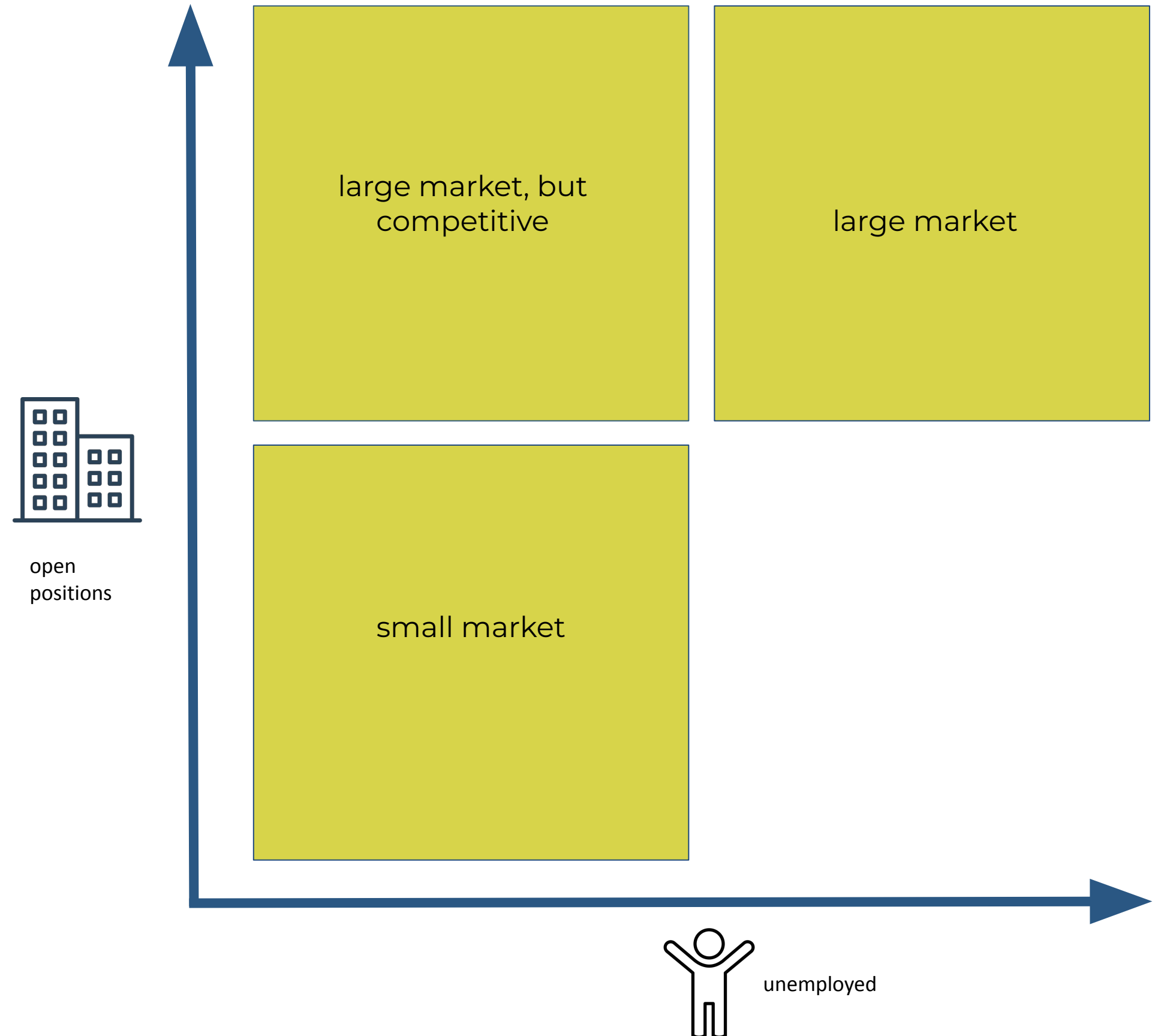


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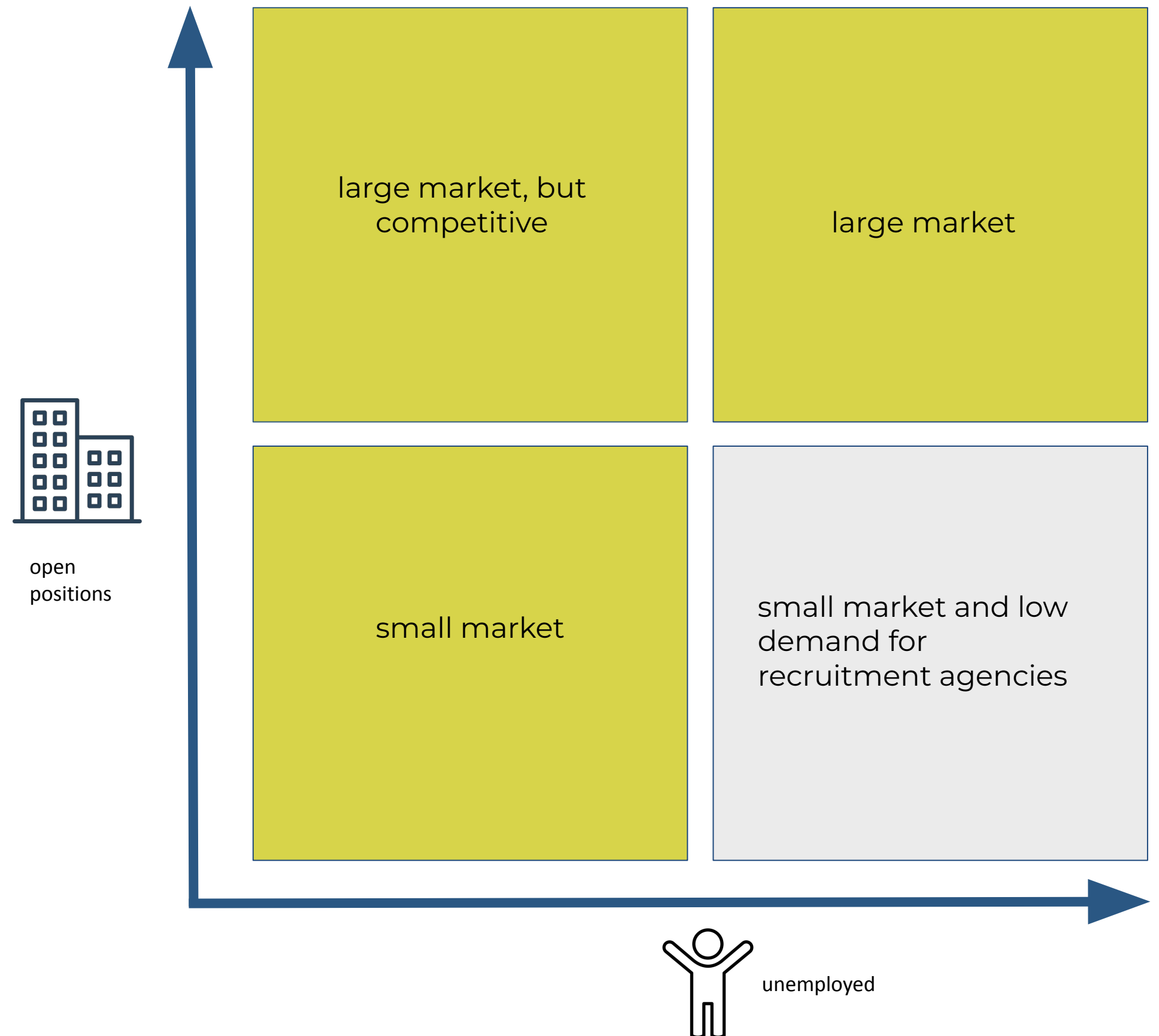


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How can we help as data analysts?

- ❑ Analyse the overall status of labour shortage in Germany
- ❑ Identify which fields and jobs are interesting for further investigation
- ❑ Identify potential labour force groups



Statistisches Bundesamt

GENESIS-Tabelle: 21311-0015							
First-year students: Länder, semester, nationality, sex,							
subject							
Statistics of students							
First-year students (number)							
				Germans	Germans	Germans	
				Male	Female	Total	
WT 2018/19	Baden-Württemberg	SF141	Waste Management	-	-	-	
WT 2018/19	Baden-Württemberg	SF002	African Studies	-	-	-	
WT 2018/19	Baden-Württemberg	SF138	Agricultural Biology	29	49	78	
WT 2018/19	Baden-Württemberg	SF125	Agricultural Econom	-	1	1	
WT 2018/19	Baden-Württemberg	SF003	Agricultural Science	102	151	253	
WT 2018/19	Baden-Württemberg	SF001	Egyptology	11	13	24	

Zusammenfassende Übersichten

6 Bestandene Prüfungen 2021 in den 20 am stärksten besetzten Studienfächern nach zusammengefassten Abs

1. Studienfach	Insgesamt									27	46	73
				Universitärer Abschluss (ohne Lehramts- prüfungen) ²			Promotionen					
	Rang	Anzahl	%	Rang	Anzahl	%	Rang	Anzahl	%			

Prüfungen insgesamt

Insgesamt

[illegible]

Used resources

labour_general_jobs	labour_market_jobs	labour_market_experts	labour_students_subjects	labour_students_narrowed
123 index ABC date 123 federal_state_id ABC federal_state_name ABC professional_area_ID ABC professional_area ABC requirement_level 123 number_of_unemployed 123 number_of_job_seekers 123 reported_open_positions 123 reported_open_positions_moving_annual_total	123 index ABC date 123 federal_state_id ABC federal_state_name 123 professional_area_ID ABC professional_area 123 number_of_unemployed 123 number_of_job_seekers 123 reported_open_positions 123 reported_open_positions_moving_annual_total	123 index ABC date 123 federal_state_id ABC federal_state_name 123 professional_area_ID ABC professional_area 123 number_of_unemployed 123 number_of_job_seekers 123 reported_open_positions 123 reported_open_positions_moving_annual_total	123 year ABC study_field ABC degree ABC gender 123 rank 123 number ABC percentage ABC professional_area 123 percentage_degree 123 number_bachelor 123 number_master 123 number_phd	ABC semester ABC federal_state ABC study_code ABC study_subject 123 Germans_males 123 Germans_females 123 Germans_all 123 Foreigners_males 123 Foreigners_females 123 Foreigners_all 123 total_males 123 total_females 123 total_all ABC professional_area 123 number_bachelor 123 number_masters 123 number_phd



data preparation

data cleaning

data storage

data visualisation

statistics



What does the data show?

Overall status of labour shortage in Germany

What is labour shortage?

When the demand for workers for a particular occupation is greater than the supply of workers who are qualified, available and willing to do that job, there is a labour shortage.

Labour shortage is hardly visible in a general overview



open positions

0.79M

unemployed

2.50M

Germany overall (Nov. 22 - Jan. 23, average)

Labour shortage is less visible at helper level

Experts

Master degree/ PhD

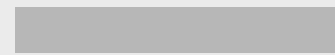
Specialists

Bachelor degree
advanced vocational training

Professionals

vocational training

open positions

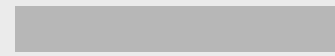


unemployed

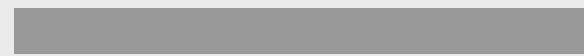


higher labour shortage

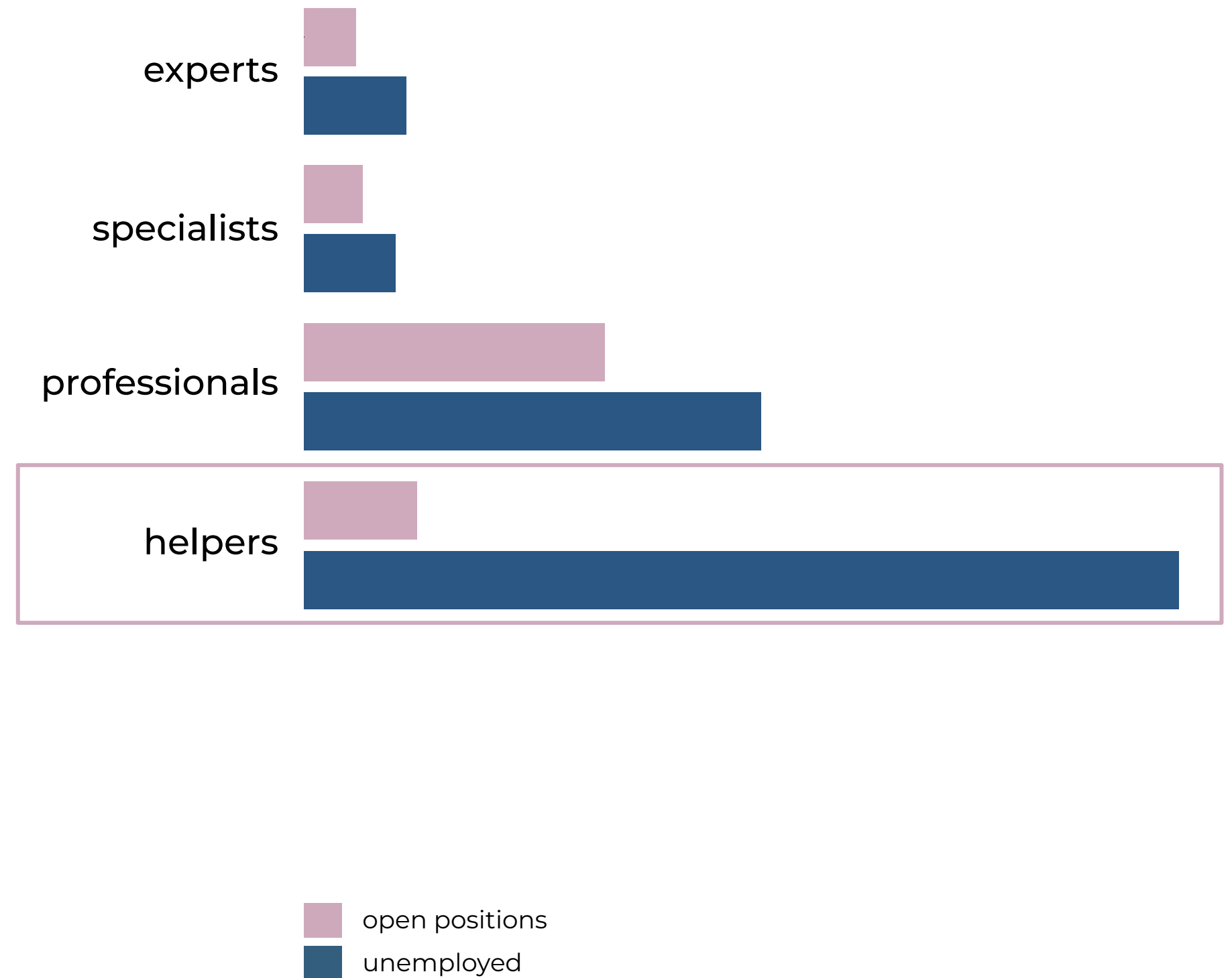
open positions



unemployed

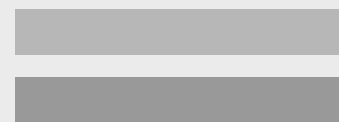


lower labour shortage



Labour shortage is visible in Southern Germany at skilled levels

open positions
unemployed

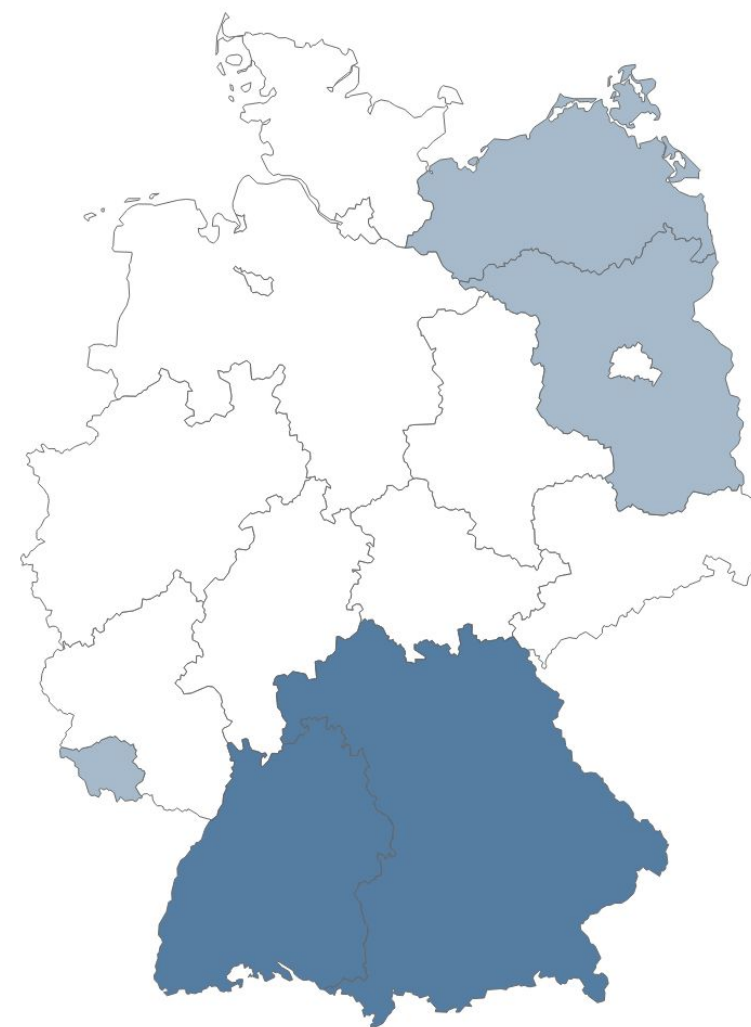


higher labour shortage

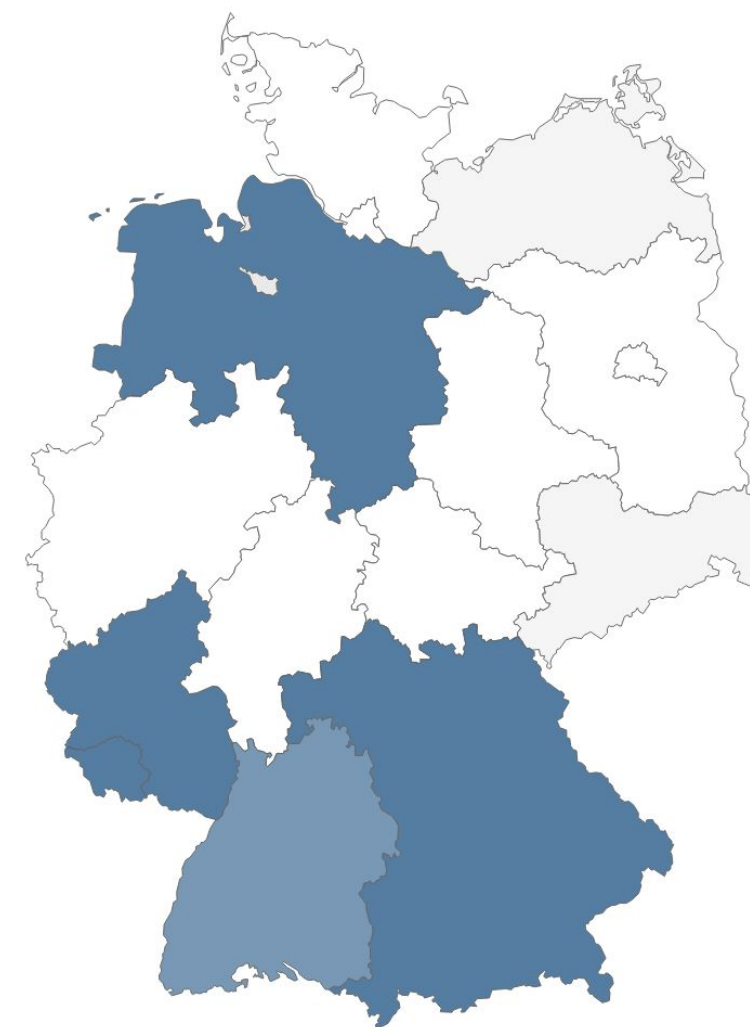
open positions
unemployed



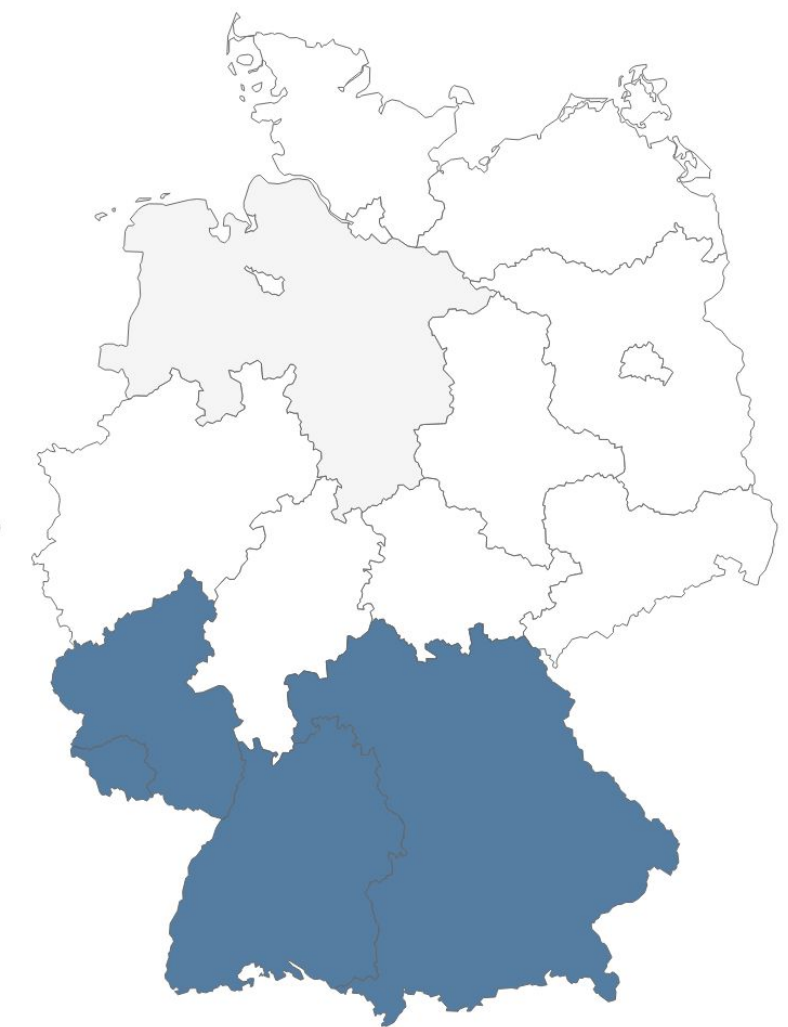
lower labour shortage



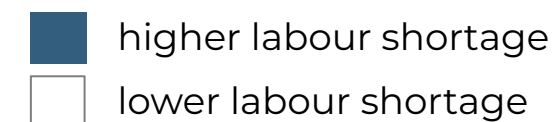
Experts



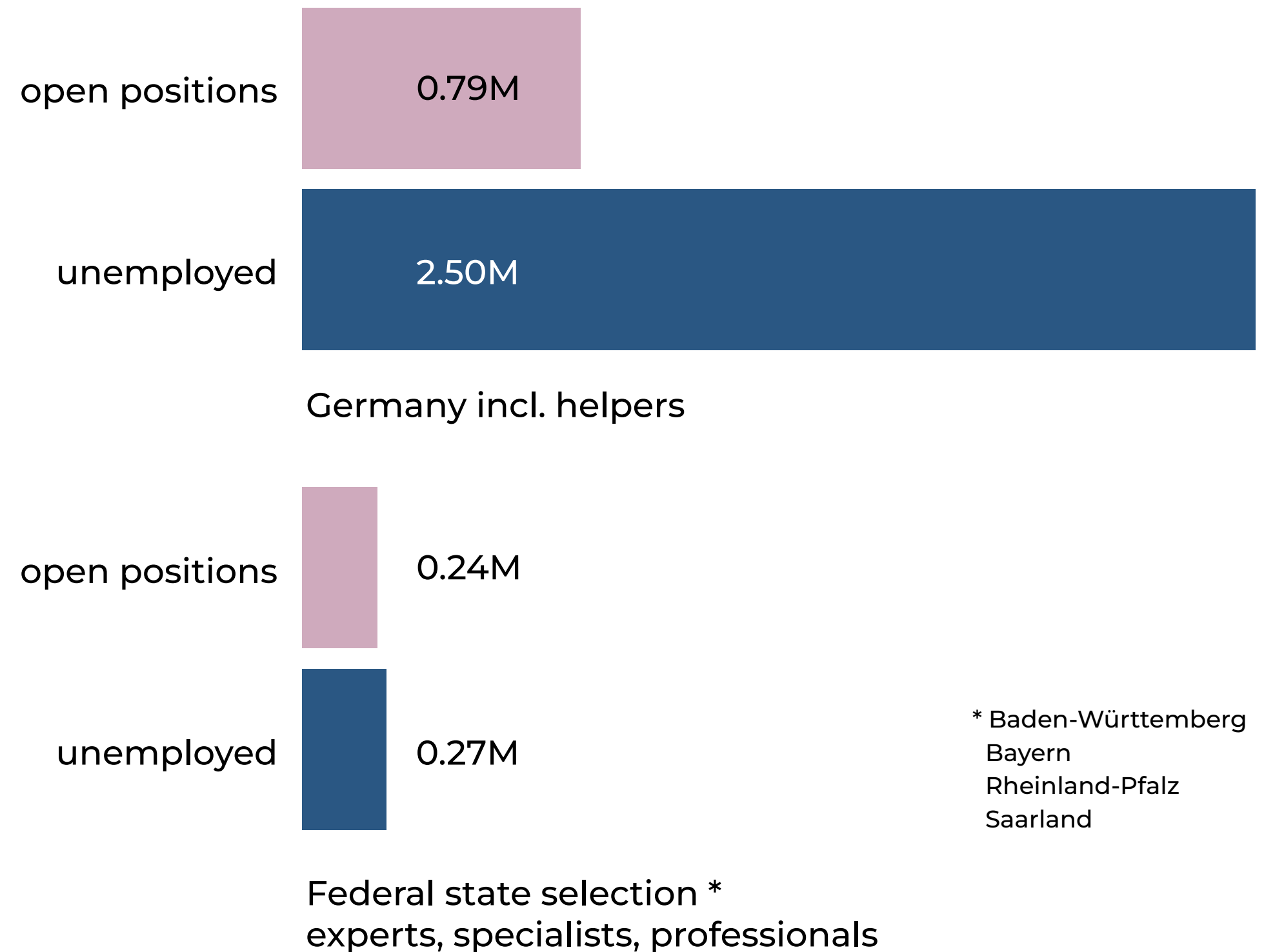
Specialists



Professionals



Labour shortage is visible in Southern Germany at skilled levels



Interim result

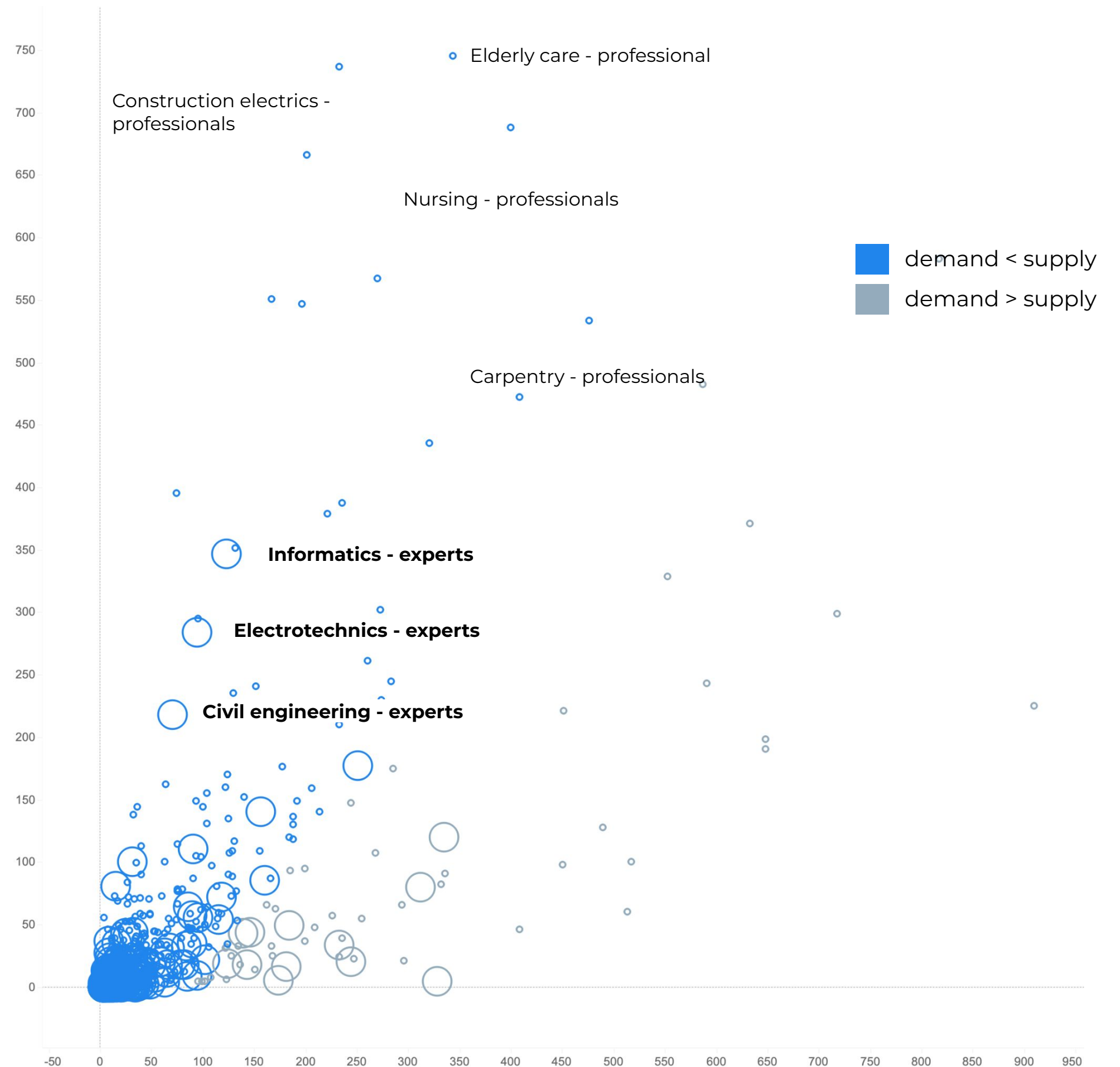
- ❑ Helper level should not be considered for business
- ❑ Southern Germany is a good place to find new clients

Informatics, Civil Engineering and Electrotechnics are the most interesting fields to look at

- ❑ Within the most interesting market areas (the blue area) are only a view jobs fields with the need for highly skilled employees to be found.
- ❑ For further investigation we look into Informatics, Civil Engineering and Electrotechnics

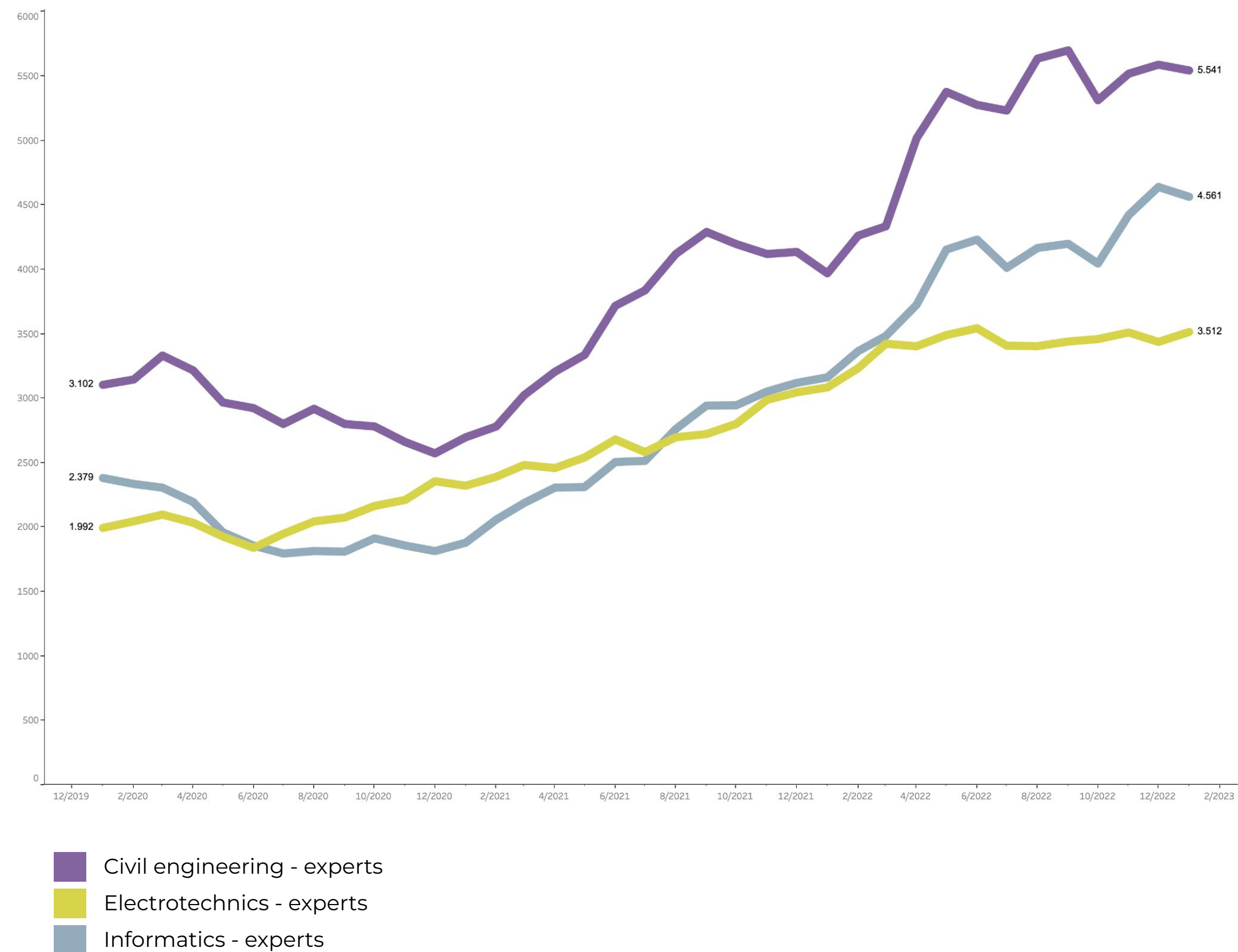


open
positions



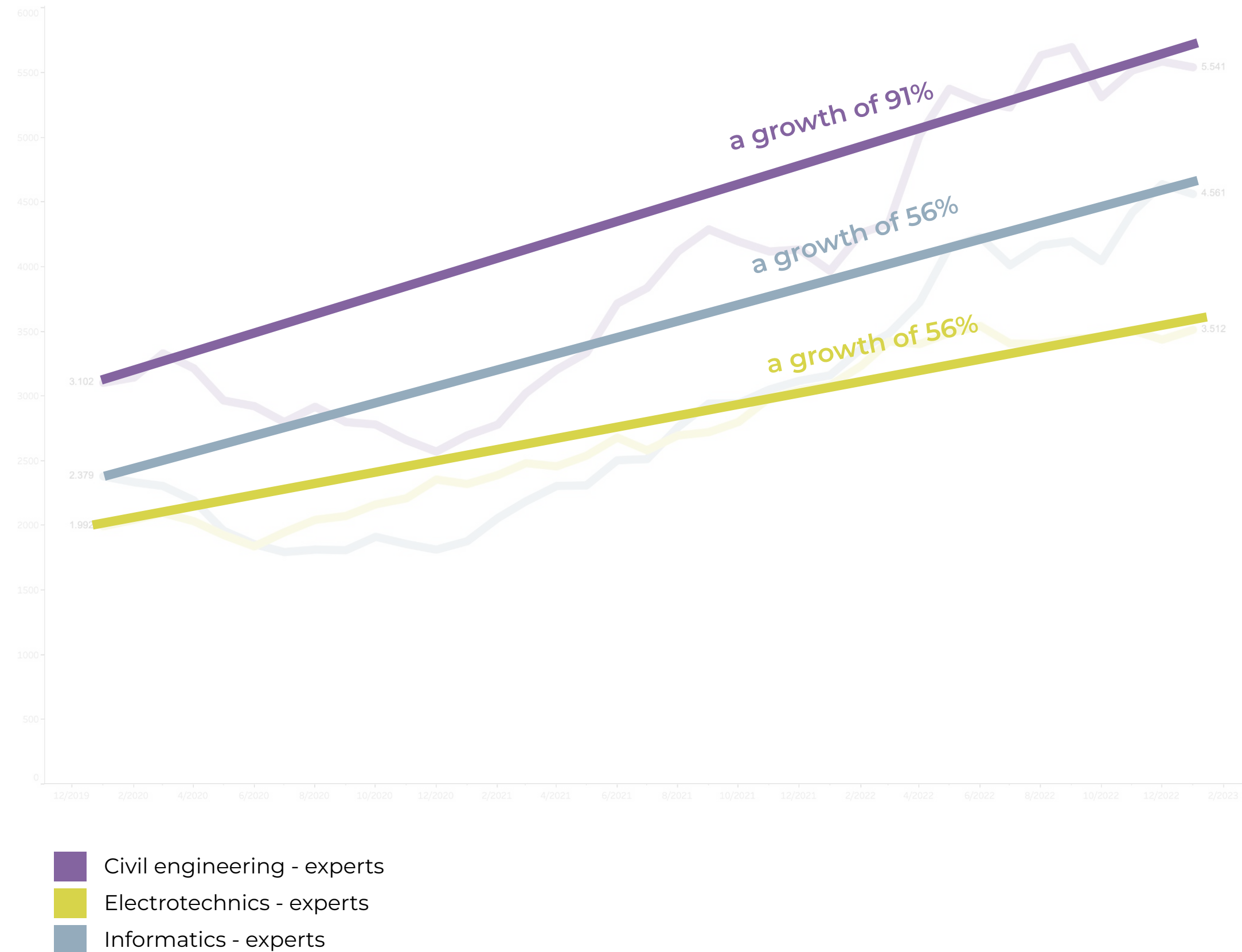
unemployed

**Demand for the selected
job fields is increasing**

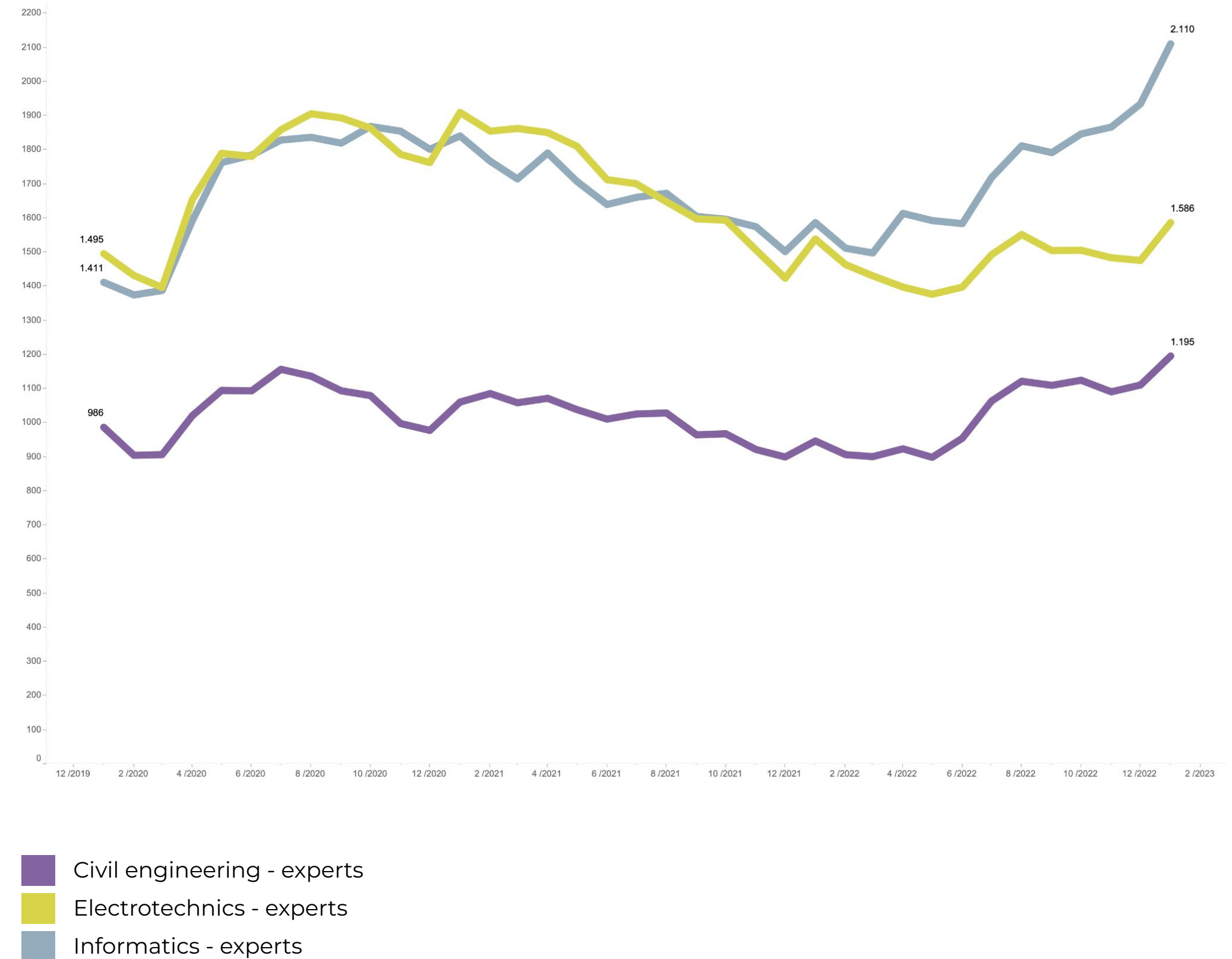


Demand for the selected job fields is increasing

- With 91% Civil engineering is the job field with the biggest growth

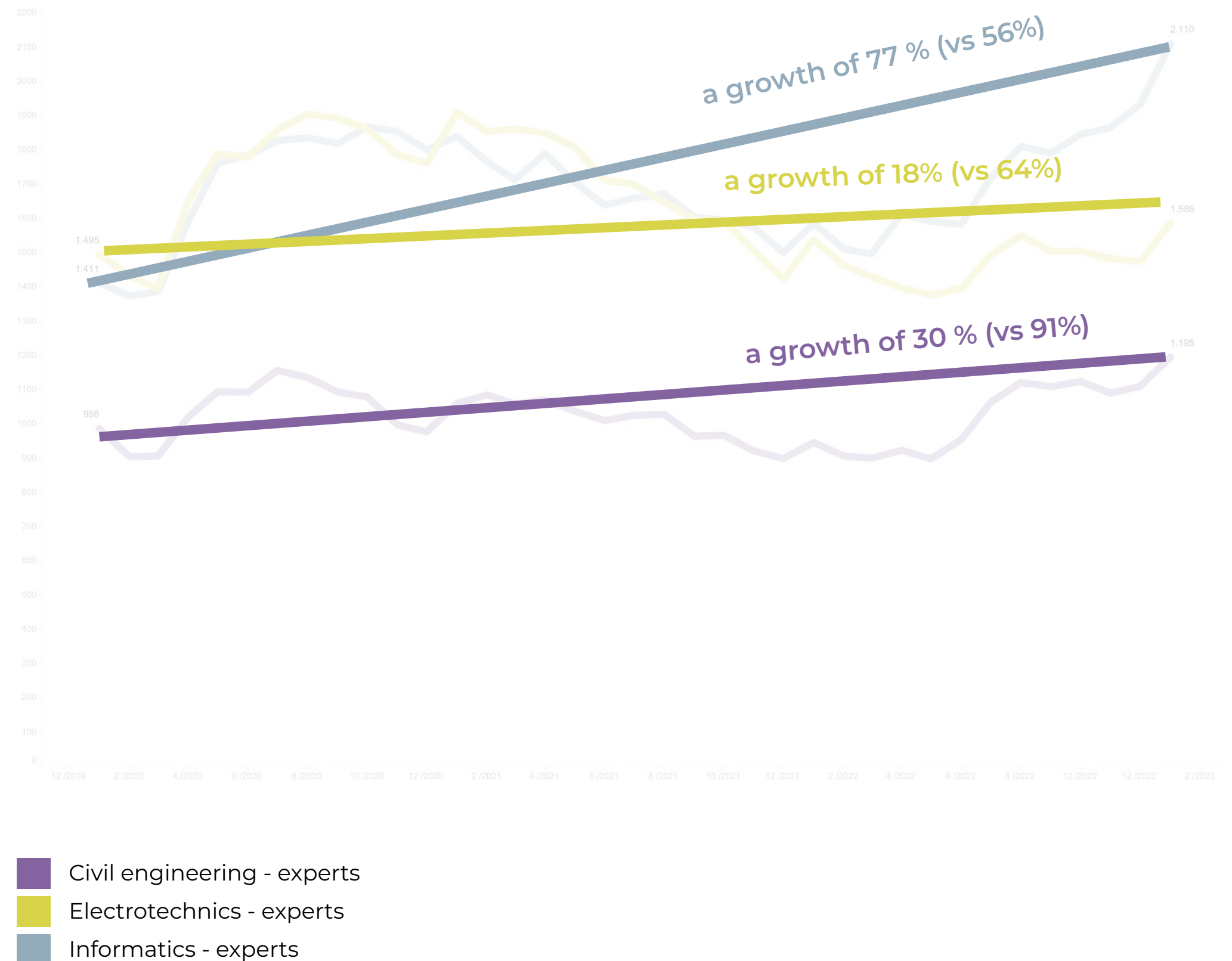


The number of potential labor force is growing more slowly



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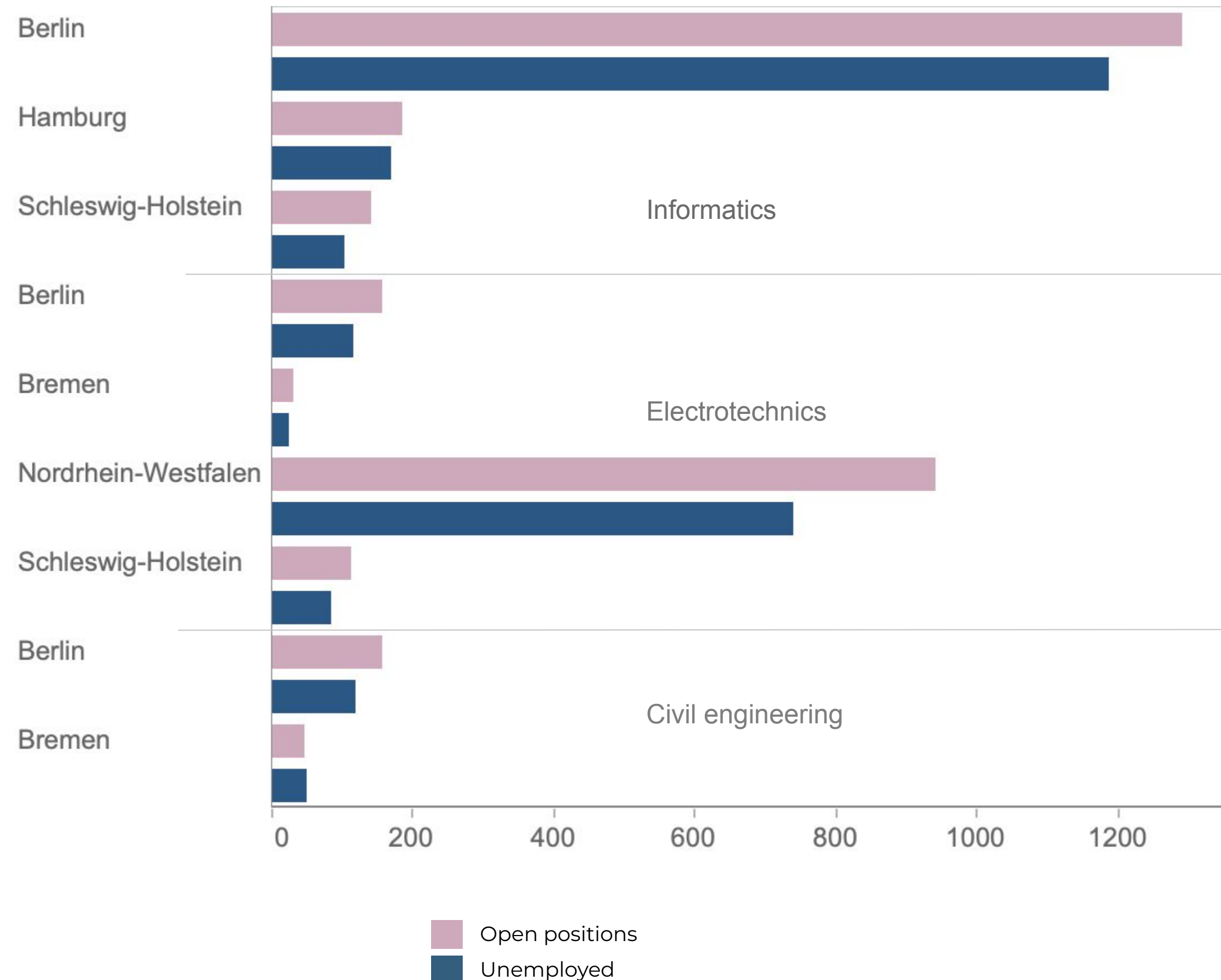
- ❑ Number of potential workforce is growing more slowly than on the demand side
- ❑ Except for informatics, here the growth is bigger than the demand side



Which federal states are interesting for these three job fields?

Based on the number of open positions and the number of potential labour force:

- ❑ Berlin is an interesting market for Informatics
- ❑ Nordrhein-Westfalen is an interesting market for Electrotechnics



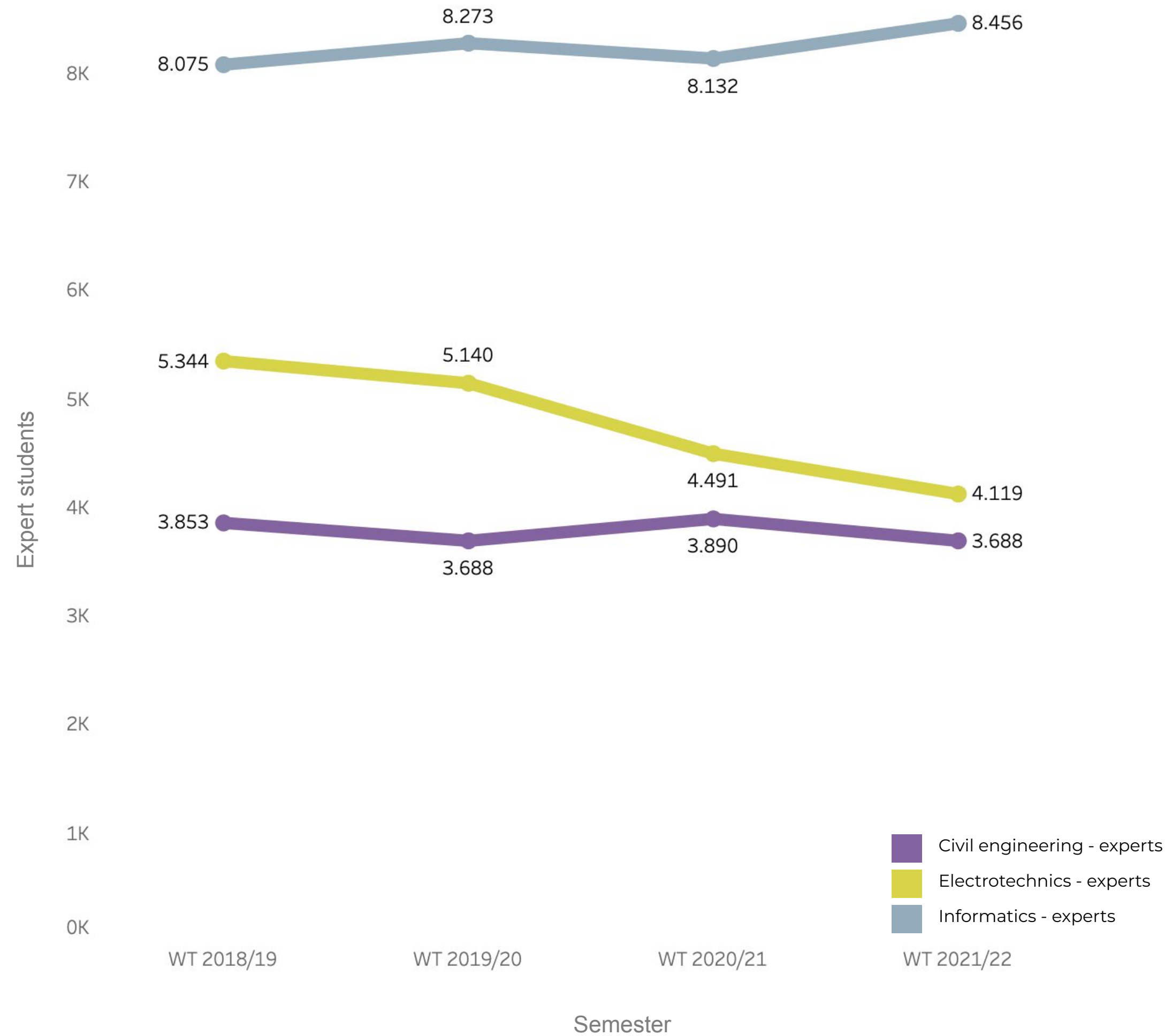
Interim result

- ❑ Informatics, Electrotechnics and Civil engineering are job fields with high potential
- ❑ The trend shows the market will become more competitive
- ❑ Regions with less competitive markets are: Berlin, Bremen, Hamburg, Nordrhein-Westfalen and Schleswig-Holstein

Number of Electrical Engineering students is dropping

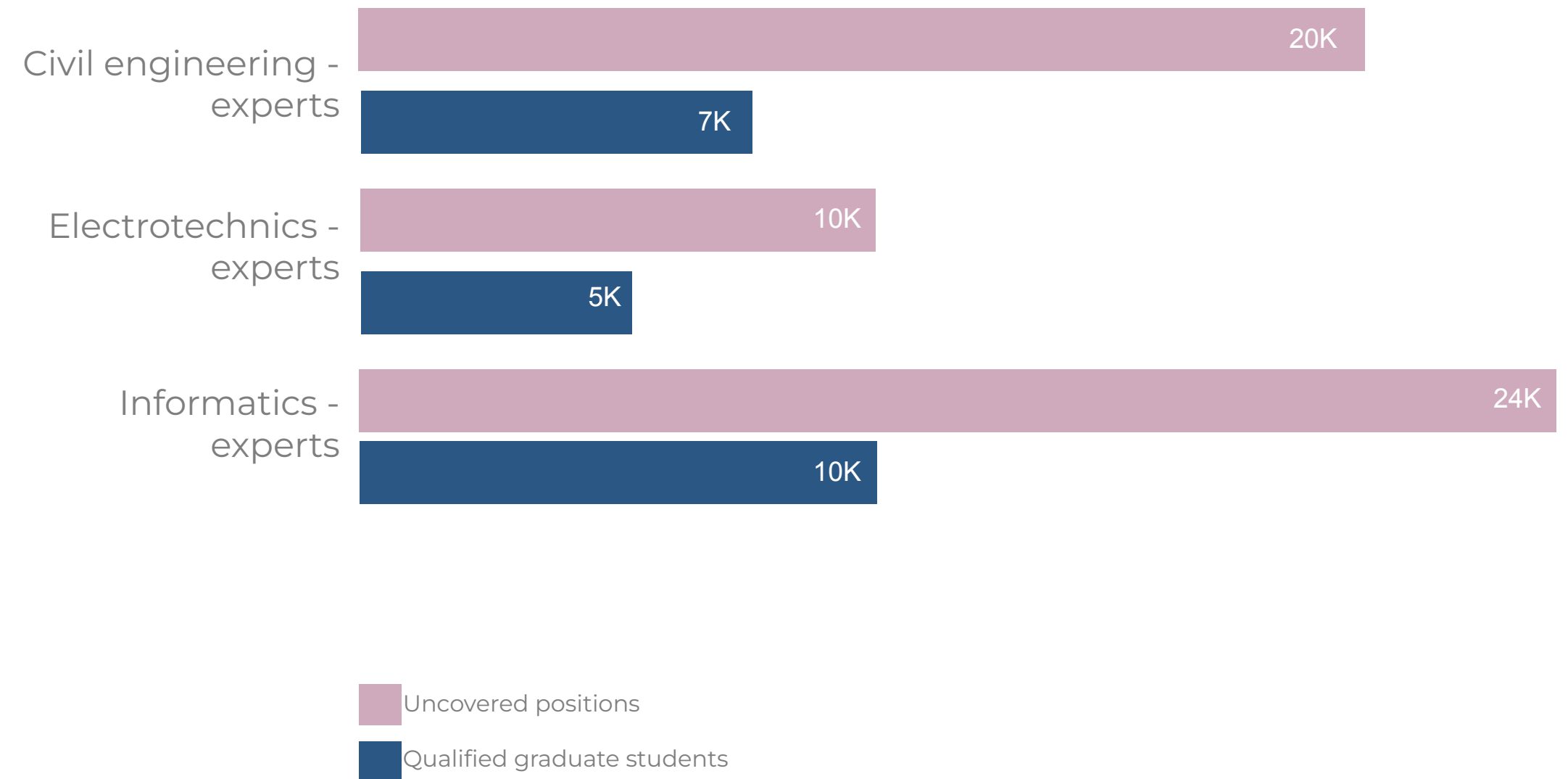
Evolution of students that would qualify for the chosen professional areas

Expert students: students studying a Master's degree or PhD
Potential labour force in an average of 2 years later



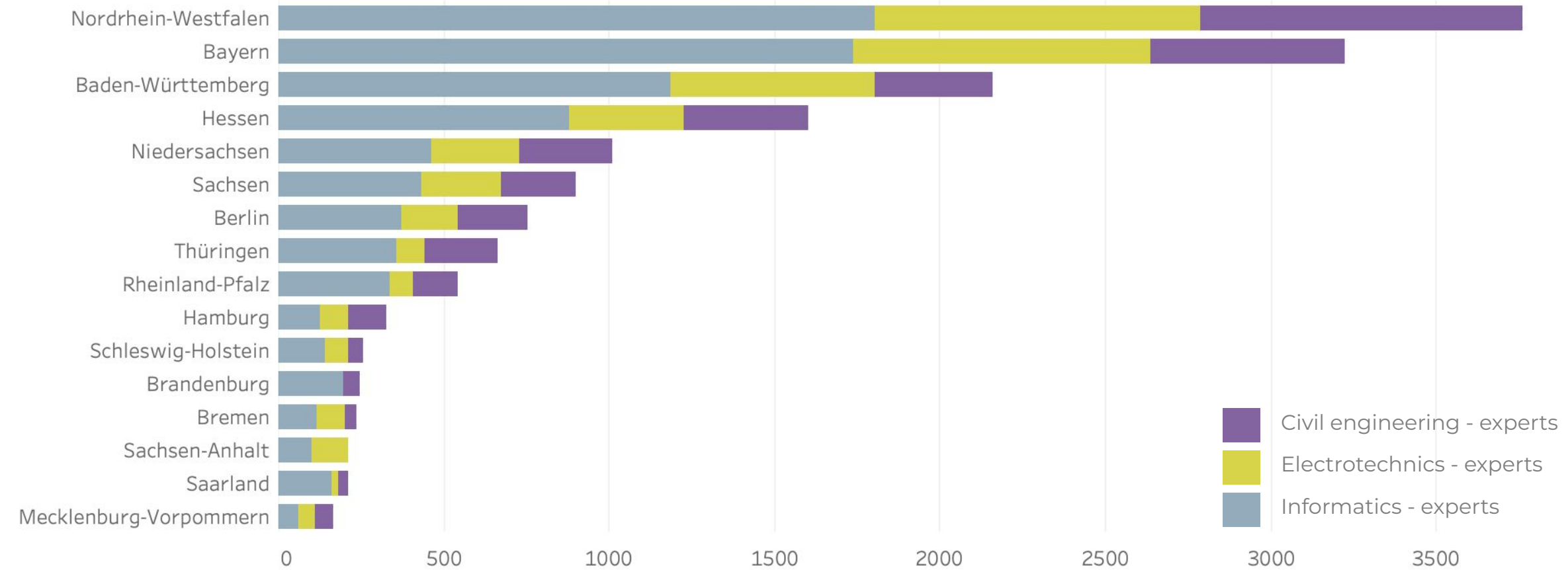
Students would only cover 50% of the job openings

Comparison of number of students qualified for the jobs and number of uncovered positions 2021



Federal States with highest number of students

Number of students per Federal State in winter semester 2021/2022 in decreasing order

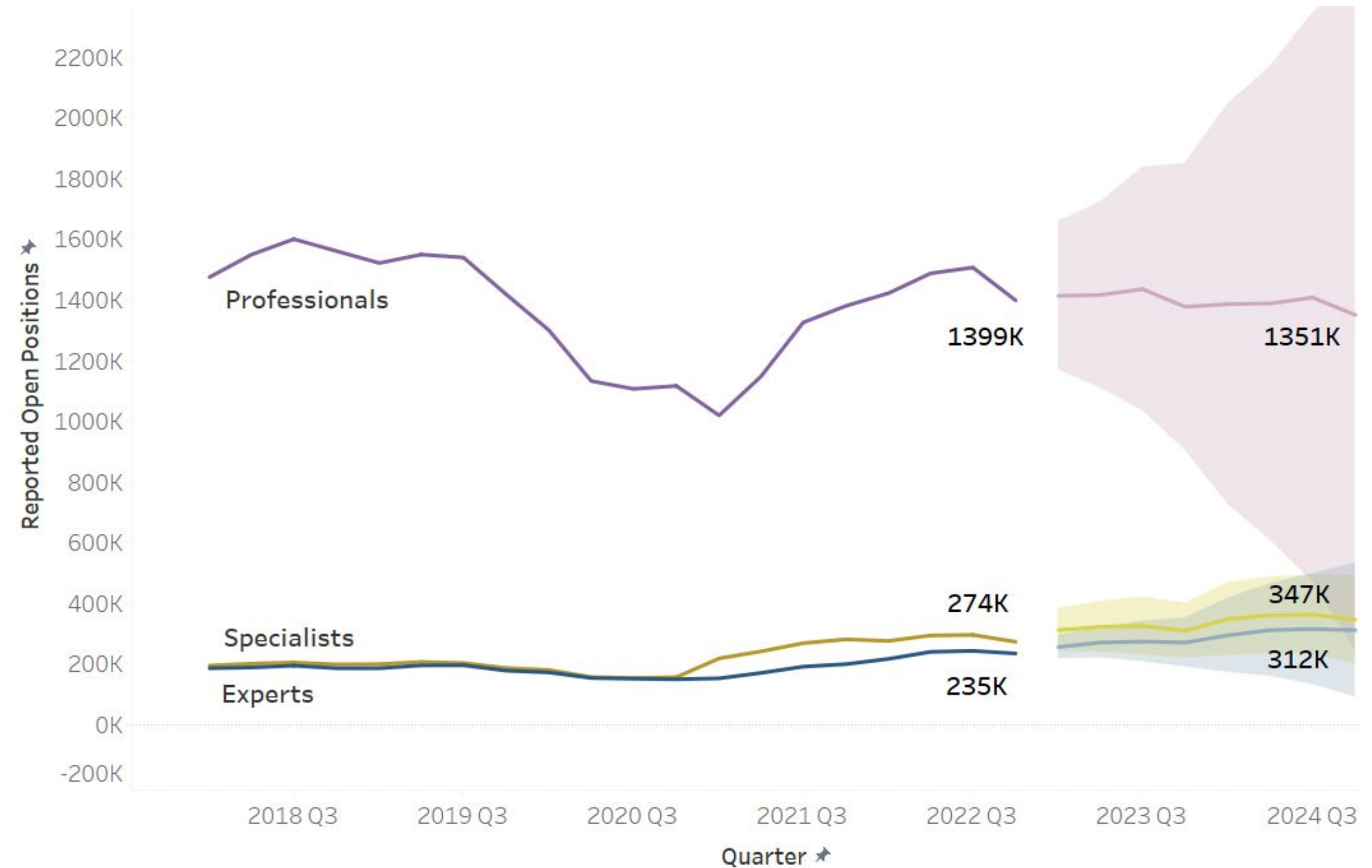


Interim result

- ❑ Number of students in Electrical Engineering and Civil Engineering is dropping
- ❑ The graduate students would only cover 50% of jobs
- ❑ Top 3 federal states with most students are: Nordrhein-Westfalen, Bayern and Baden-Württemberg

The number of open positions shows a positive trend

- ❑ The trend indicates that the number of open positions for specialists and experts might be growing over the course of the next 24 months



Conclusion

- ❑ There is no hint visible in the data that the labour situation of skilled employees eases in the near future
- ❑ The success of entering the German market depends heavily on how well our international stakeholder has access to new talent

Thank you